UNITED STATES DEPARTMENT OF AGRICULTURE

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NATIONAL ORGANIC STANDARDS BOARD

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WEBINAR

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TUESDAY
APRIL 16, 2019

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The National Organic Standards Board conducted a webinar at 1:00 p.m., Harriet Behar, Chair, presiding.

PRESENT
HARRIET BEHAR, Chair
STEVE ELA, Vice Chair
SCOTT RICE, Secretary
JESSE BUIE
SUE BAIRD
ASA BRADMAN
TOM CHAPMAN
LISA DE LIMA
RICK GREENWOOD
DAVE MORTENSEN

EMILY OAKLEY

A-DAE ROMERO-BRIONES

DAN SEITZ

ASHLEY SWAFFAR

NATIONAL ORGANIC PROGRAM STAFF
PAUL LEWIS, Director, Standards Division
MICHELLE ARSENAULT, Advisory Committee Specialist
DEVON PATTILLO, Materials Specialist, Standards Division
MATT PAVONE, Policy Analyst, Standards Division
CLARISSA MATTHEWS, National List Manager

ALSO PRESENT
JULIA BARTON, Ohio Ecological Food and Farm Association
COLEHOUR BONDERA, Kanalani Ohana Farm
ROLAND CARGILL, Product Registration Specialist, Fair Product Inc.
BILLY CARTER, Carter Farms
DAVE CHAPMAN, Real Organic Project, Organic Farmers Association
JENNIFER DANIELS, Windy Creek Farms
NICOLE DEHNE, Certification Director, Vermont Organic Farmers
KATHERINE DIMATTEO, Wolf, DiMatteo + Associates
LINLEY DIXON, Real Organic Project
STEVEN ETKA, Policy Director, National Organic Coalition
RAY FRIZZELL, Full Measure Industries
JAYDEE HANSON, Policy Director, Center for Food Safety
JANE ISELEY, Iseley Farms
KELLY KERSTON, Senior Livestock Certification Specialist, CCOF
JENNIE LANDRY, DSM Nutritional Products
AMALIE LIPSTREU, Policy Director, Ohio Ecological Food and Farm Association
PEYTON MCDANIEL, Hickory Meadows Organics
DANA PERLS, Senior Food and Technology Campaigner, Friends of the Earth
AMBER POOL, Senior Farm Certification Specialist, CCOF
MICHAEL SLIGH, Citizen
JESSICA SHADE, The Organic Center
ALEX WATKINS, Alex Watkins Farm
BILL WOLF, Wolf, DiMatteo + Associates

P-R-O-C-E-E-D-I-N-G-S

(1:00 p.m.)

MS. ARSENAULT: Hi, everyone. Welcome. This is Michelle from the National Organic Program. We're going to get started now. I have top of the hour here.

Just a reminder, if you are not speaking -- and actually only the Board Chair and a couple of other NOP staff members will be speaking -- in the next few minutes, please put yourself on mute.

The background noise is kind of a challenge sometimes, and we've heard people yelling at their dog or their kids. And unless you want the group to hear that, it's best to put yourself on mute.

So welcome. It's the first webinar for the April 2019 NOSB meeting. We have a webinar today for three hours and then the remainder of it will be Thursday. The schedule's not full on Thursday, so we'll be about an hour to an hour and a half on Thursday, if you're

going to join us then as well.

So first of all, we've going to have Paul Lewis, the Standards Division from NOP, officially open the meeting. And then I'll run through a little bit of housekeeping and the run of show for today. And you'll hear from both me and Harriet during that period.

So here's Paul.

MR. LEWIS: Thank you, Michelle. And good afternoon or good morning, depending on where you are timewise. I'd like to welcome NOSB members and the public to today's National Organics Standards Board public comment webinar.

I appreciate NOSB members for participation on this call and for all your hard work and energy and thought serving on the Board.

This webinar provides the opportunity to the public to offer comments to the Board as part of the NOSB's upcoming public face-to-face meeting scheduled for October 24th to 26th in Seattle, Washington. Please consult the NOP website for further information about the face-

to-face meeting.

The meeting we're having today, like other meetings of the National Organic Standards Board, operate under the provisions of the Federal Advisory Committee Act.

I look forward to hearing comments from the public to assist the NOSB in preparing the recommendations to the USDA in response to NOSB work agenda items.

I also want to thank my colleagues, the National Organic Program, in the Standards Division, for all their help behind the scenes to bring today's teleconference to a success.

I'd like to close by turning to Harriet, chair to the board. And Harriet, again, thank you for chairing this webinar. We, again, appreciate all your efforts and your leadership on the Board. Thank you.

MS. BEHAR: Thank you, Paul. Hello, everyone. I'm going to just do a little bit of housekeeping here. All the phone lines will be open unless we start to get a lot of background

noise, and then we'll have to mute everyone. But that, then, does take quite a bit of time to unmute each individual person.

If your phone does not have a mute button, you can press Star 6 to mute yourself, and then Star 7 to unmute.

So first a reminder, you had to have pre-registered in order to comment on this webinar. And I, the NOC chair, Harriet Behar, will announce ahead of time who is going to be the next two commenters on deck as well the previous -- the person who will speak next to just give you a heads-up on when you'll be coming on.

There's also going to be a timer. Michelle, do you want to let people hear that buzzer so they know when their three minutes is up?

MS. ARSENAULT: Indeed. I'm going to --

MS. BEHAR: Okay, thank you, Michelle, for the --

MS. ARSENAULT: Sorry. It'll ring a second time. And sometimes it's hard to hear on the phone, but hopefully everyone could hear that fairly clearly.

MS. BEHAR: Okay. And when you hear that noise please wrap up your comments because you've reached the end of your three minutes.

Board members, if you have a question, you can raise your hand, I believe, or write in -- put it in a question box. And if, for some reason, you can't do either, you can just say you have a question. I will ask for questions after each speaker.

Also, just so everyone knows that this webinar is being recorded and then will be transcribed and will be part of the official record for the Spring 2019 NOSB meeting.

I want to thank everyone, also, for taking the time out of their busy day to make a comment. This is one of the strengths of the National Organic Program, is all of the engagement we receive from the public.

And, I believe, for any of you that are long-time commenters and for first-time commenters, be assured that we, on the National Organic Standards Board do listen to your comments and take them into account when we are making decisions that we know affect your livelihood as well as your lifestyle of promoting organic agriculture and the consumption of organic food and fiber.

So, if for some reason, I miss someone, they're not on the line, I will try at the end to call them again. So, of course, if you're not on the line, you won't know that. But I will try if someone fell off the line or whatever to, at the very end, keep track of who did not fit in their spot and give them a chance at the very end.

So, with that, Michelle, I believe that we can start. Billy Carter is our first commentator.

MS. ARSENAULT: Hey, Harriet? Hang on one second. Just one other note for people on

the phone. We do have a transcriptionist who is taking, transcribing the call. And to start that off, I'm going to read roll call for the board members so I can make sure --

MS. BEHAR: Oh, perfect.

MS. ARSENAULT: -- everyone's present. So, all right. So, Harriet, I know you're here. And for those who don't know, Harriet's the Chair of the NOSB.

And, Steve Ela, are you on the line with us?

MR. ELA: I am on the line.

MS. ARSENAULT: Great. Steve is Vice Chair of the NOSB. And, Scott Rice? You're on the line. Scott, you're muted. Let me unmute you. Scott -- oh, two of us unmuted you, which canceled each other out. There we go. There we go. Scott, you're going to be able to talk now. Scott's the Secretary of the NOSB.

MR. RICE: I am present.

MS. ARSENAULT: Scott, if you're talking, I actually can't hear you. But I see

you.

MR. RICE: Can you hear me now?

MS. ARSENAULT: There we go. Gotcha, excellent. Okay.

MR. RICE: Present.

MS. ARSENAULT: Sue Baird -- thanks. Sue Baird?

MS. BAIRD: Yes, I'm here on my cell phone. I couldn't get access to the Internet, but I have my phone.

MS. ARSENAULT: Okay. That's fine. I can hear you. Asa Bradman?

MR. BRADMAN: Yes.

MS. ARSENAULT: Hi, Asa. We can hear you.

MR. BRADMAN: Hi.

MS. ARSENAULT: Jesse Buie?

MR. BUIE: Present.

MS. ARSENAULT: Gotcha. Thank you, sir. Tom Chapman?

MR. CHAPMAN: Present.

MS. ARSENAULT: Thank you. Lisa De

Lima?

MS. DE LIMA: Here.

MS. ARSENAULT: Hi, Lisa. Rick Greenwood? Rick, I see you now on the --

MR. GREENWOOD: Yes.

MS. ARSENAULT: -- on the list.

MR. GREENWOOD: I'm here.

MS. ARSENAULT: Thank you. Emily Oakley?

MS. OAKLEY: Present.

MS. ARSENAULT: Hi, Emily.

MS. OAKLEY: Hi.

MS. ARSENAULT: A-dae Briones?

MS. ROMERO-BRIONES: Present.

MS. ARSENAULT: Hi, A-dae. Dan Seitz?

MR. SEITZ: Present.

MS. ARSENAULT: Great. Thank you. And Ashley Swaffar?

MS. SWAFFAR: I'm here.

MS. ARSENAULT: Hi, Ashley. Dave Mortensen will be with us. He's going to join a little bit late. He had a faculty meeting. So

he'll be on the line with us.

All right, so, and for those who don't know, we are currently at 14 NOSB members. We had a member resign when he got a new position and had a time conflict. So for this upcoming meeting in Seattle we'll have 14 NOSB members as well as for the fall meeting in 2019, we'll be a 14-member board.

All right, Harriet, all yours.

MS. BEHAR: Okay. Thank you. Yes, I had forgotten the roll call. That's an important thing.

Okay, so we will start with our first commenter, and Michelle does have your phone numbers, hopefully, so if, for some reason, you're on mute, she will try to unmute you.

So the first person is Billy Carter with Peyton McDaniel and Jennifer Daniels following. So, Billy, are you there?

MR. CARTER: Yes, ma'am. I -- yes, ma'am, I am.

MS. BEHAR: Okay.

MS. ARSENAULT: So, Harriet, if I -- can I just interrupt one more moment? If you are on the line with us, to keep background noise down, we'd appreciate it if you could self-mute yourself. That will be really helpful. Thank you.

MS. BEHAR: So, to start --

MS. ARSENAULT: Also, one other reminder for people. If you put us on a hold you usually subject us to muzak, if you're calling from a business. So please don't put us on hold. All right, thank you.

MS. BEHAR: Okay. And I think we're now ready for Billy.

MR. CARTER: Okay. Thank you. So thank you all for your time and, obviously, for the commitment that you made to serve on this NOSB.

And my name is Billy Carter. I'm an organic farmer in Eagle Springs, North Carolina. And on our farm we grow tobacco, sweet potatoes, field corn and small grain organically.

Our first parcels were certified in 1998, but I have farmed since 1983. And we currently have over 1,300 acres certified as organic, of which 220 was dedicated to organic tobacco in 2019.

My comments pertain to using fatty alcohols to control suckers in tobacco. So in order to grow and get yields of high quality desirable tobacco, you have to remove the blooms and also the suckers or axillary buds that develop once that flower has been removed. And fatty alcohols allow us to effectively deal with controlling sucker growth.

And, of course, effectively controlling sucker growth allows for reductions in pests as well as more efficient use of fertilizers. And, obviously, both of those are desirable outcomes in any organic system plant.

And without the fatty alcohol, it would be very difficult for us to produce more than just a very small quantity of organic tobacco, if any at all. And in the past, I have

used both soy bean and mineral oil as sucker control materials.

And both of those materials have proved really grossly inadequate in their sucker control as well as involving many hours of vast and grueling work for my employees to apply by hand.

So we have to go to -- yields better quality tobacco with the fatty alcohol. And it does remove the workers from what is inherently a dangerous job because of the great length of time that was involved to apply those materials in the hottest part of summer -- because it was all done by hand.

And while we would still have some organic production if we no longer had fatty alcohols to use, I'm relatively certain that the number of certified acres on our farm would be drastically reduced.

Organic tobacco projection is with time very great generator of approved growth and that income on our farm. And I'm really proud of

the improvements in the health of our soil and our farm and our ability that we've seen improve because of our commitment to organic production.

And so today, I'd like to make two requests. And I request that USDA grant a temporary allowance for fatty alcohols until the NOSB has a chance to review it, until that's complete.

And also I'd like to request that NOSB and USDA add fatty alcohols to the national list of allowed substances. So, again, thank you for your time and commitment to the work of this board and for considering my comments today. And I'm finished. Thank you.

MS. BEHAR: Well, okay, well stay there, Billy. Are there any comments from the Board? Or questions?

MR. PATTILLO: This is Devon. Do we want --

MS. BEHAR: Okay.

MR. PATTILLO: -- NOP to comment on that, on this at this time? Ms. President?

MS. BEHAR: Well, I'm not sure. I think what you want to know is -- I believe that there is an allowance for the use of fatty alcohols if you have currently been using them for this clock year. Billy, are you aware of that?

MR. CARTER: Yes, ma'am. And, fortunately, we had inventory less than the previous year, so we're in good shape for this year. Our interpretation of it was, if you did not have inventory going into this year, that you did not have the opportunity to utilize it in 2019.

Certainly, after we've used up that inventory, we were concerned that we would not have the opportunity going forward, after this current year. So we were aware that we did have some relief, if you were in the right position, for this year.

MS. BEHAR: Okay. I don't know if Paul wants to make a comment, if he would be able to purchase more for the year?

MR. LEWIS: Yes -- sure, so we'll be talking more about the fatty alcohols this year at the full board meeting. And Dr. Tucker, the deputy administrator of NOP, will be talking more about that at the full board meeting.

MS. BEHAR: So we'll have an answer somewhat next week.

MR. LEWIS: Right.

MS. BEHAR: So, Billy, anybody else have any questions?

MS. OAKLEY: Harriet, this is Emily. I have a question.

MS. BEHAR: Okay.

MS. OAKLEY: Thank you. And, Billy, can I ask why manual removal is not an option? If you could elaborate more on that. Is it mainly an issue of time constraint and worker exposure?

MR. CARTER: Well, actually, we already do some hand removal anyway. But the issue was is that there was no way that you could keep up with -- it is a timing thing. It's a

worker exposure thing.

And it's also a limitation in terms of the quantity that you could grow. It's severely limiting because to really effectively control it by hand removal, that's a job that really needs to be done, at the minimum, once a week for about an eight-week period of time.

And it's just -- it's very onerous. It's very difficult on your health. In fact, just anecdotally, I had one of my best workers, you know, many years ago, before we had fatty alcohols, simply say, you know, he just -- if this is the only work I had for him he'd just have to do something else. I mean, it's just -- it's very difficult work for a long period of time.

MS. OAKLEY: Thank you.

MR. CARTER: You're welcome.

MS. BEHAR: Any other questions from the Board?

MR. BRADMAN: Yes, I have a quick question. You mentioned exposure, I think you

mentioned heat exposure. Are there other exposures that are a concern?

MR. CARTER: Well, of course there's always risk --

COURT REPORTER: Could the speaker identify themselves?

MR. CARTER: -- in tobacco sickness, which is, you know, basically, if you, you know, if you're in a situation where you're either so hot that you sweat, that your body absorbs the nicotine or if you're working with tobacco.

And where, the answer to that is, you know, is to be in protective garb whenever it is wet, and not to be in the field when it's exceedingly hot. And whenever you start eliminating those time periods, it really does make it difficult to be able to hand sucker.

So, yes, we're very concerned of our employees. Now, granted, tobacco sickness is not something that this routinely happens, but you have to be aware of the circumstances that does cause it and be prepared for it.

And, having experience myself, I was working and all a few times. You know, it's -- you're not going to die, but you think you will just because it'll make so nauseated. But, yes, certainly, we are concerned about our employees whenever we think about, when they're -- the amount of time they have to be in the field. Mainly, they're removing suckers.

COURT REPORTER: This is the --

MR. BRADMAN: Thank you.

COURT REPORTER: -- Court Reporter.

MS. BEHAR: What was that?

COURT REPORTER: Hi. Sorry, this is Court Reporter. Would the speakers mind identifying themselves?

MS. BEHAR: Oh -- thank you for that. That was Billy Carter, with Carter Farms.

COURT REPORTER: And --

MR. BRADMAN: And who asked the question, that was Asa Bradman.

COURT REPORTER: Okay, thank you. If they could continue to identify themselves,

everybody that has a question during the course of the meeting, that would be helpful.

MS. BEHAR: Thank you. Okay, Billy. Anyone else on the Board? I do have a few questions. I'm wondering, how many times do you spray the tobacco during the season with the fatty alcohol?

MR. CARTER: It's usually four to five times.

MS. BEHAR: Okay. Can you explain how tobacco fits into your crop rotation?

MR. CARTER: Yes, ma'am. So traditionally, we've been on a three-year rotation. We're starting to gravitate toward a four-year rotation because of additional certified land.

So we're sort of working three from the left. But generally we have sweet potatoes that proceed tobacco in that crop rotation. In between those, between the sweet potatoes and tobacco, will be a winter cover crop, usually cereal or -- but does not include a legume

because, tobacco, we have to be careful about the nitrogen fertility.

After the tobacco, we'll have a cereal grain crop, and it'd typically be followed by summer cover crop with a legume producer and some type of cereal grain, and that'll lead back into sweet potatoes.

And then we have a sort a different rotation where we work through some field corn. And of course, we also work small grain, and some of that small grain is for harvest. But it's typically cereal rye on their farm, where we are using for our small grain, not only for cover crop but for harvest.

MS. BEHAR: And then are you aware if your buyer of your tobacco then sells that as a certified organic product, are there certified organic cigarettes or other, whatever they claim?

MR. CARTER: Yes. Yes, ma'am. Yes, ma'am. They are marketed as a certified organic product. And their facility is, to the best of my knowledge, where we sell our tobacco and where

they process, they manufacture, there's processed tobacco.

And then the manufacturer, their cigarettes is all certified. And the product is noted as organic tobacco whenever it's sold to the cigarette folks, yes, ma'am.

MS. BEHAR: Okay. Well, I don't -- are there any other questions from the Board.

MR. CHAPMAN: This is Tom. I had a follow-up question.

MS. BEHAR: Okay.

MR. CHAPMAN: Billy, does your crop rotation impact your need to use fatty alcohols?

MR. CARTER: Could you restate that question, I think you wanted to ask me? I'm sorry.

MR. CHAPMAN: Yes. Yes, we had a question about your crop rotation. I'm just curious, does that have any impact at all on your need for fatty alcohols in the tobacco production?

MR. CARTER: Well, I was -- no, yes,

I get your question now. Not that I'm aware of. We, see tobacco's actually an interesting crop in terms of you need the proper real amount of fertility to grow a good crop, at least so that they have a process of nitrogen deprivation in order for it to ripen correctly if it's the right type of tobacco. This is not true of other types of other tobacco.

The type we grow does require that. And because of that, we have to be careful about how much the nitrogen's present before that crop, so we do not put a million in our cover crop in the winter before tobacco, whereas we do with our field corn in that sort of rotation than ran.

Basically we try not to, because of our long history of growing tobacco and understanding our soil, you know, we try to be careful about the nitrogen present in that rotation so that we don't have excess sucker growth that requires the use of more hand labor and/or fatty alcohols to try to control the suckers.

So we're mindful of how we've approached the fertility of that crop. And that's one of the reasons that we don't want a lot of sucker growth, because the sucker growth actually takes nitrogen away from the tobacco too quickly and makes it ripen too quickly.

And it requires more fertility up front whenever you're contemplating that you might have more suckers to contend with if you don't control them in order not to have that cost lead to fertility. Sorry, a big complaint for some sort.

MR. FREEMAN: Harriet, this is this is Nick Freeman. I have a question for Billy. Is there an increasing demand for organic tobacco? Do you see that, since you're selling? Are more people interested in it, in growing it?

MR. CARTER: Well, you just -- are more people interested in growing it? Well, there's primarily one new entity that utilizes organic tobacco on a commercial scale in the U.S.

And their domestic business is

increasing. They sold their international brands a few years back and that impacted the overall quantity of organic tobacco that was being grown or just utilized.

But domestic consumption's actually increasing, so we were on a graphic grade page, we plateaued, declined some and we seem to be plateauing again at that level.

MR. FREEDMAN: Thanks.

MS. BEHAR: Okay, just so you know, only the NOSB is allowed to ask questions. Are we done with the board members asking questions? Okay, we're going to move on to -- thank you, Billy, for being patient with all of our questions. Next is --

MR. CARTER: No, I thank you.

MS. BEHAR: Peyton McDaniel is next with Jennifer Daniels and Jane Iseley on deck.

MS. ARSENAULT: Hey, Peyton, if I can just interrupt you for one moment. This is Michelle from NOP. We're getting a little background noise from unmuted lines, so if you're

not talking, please mute yourself. Thank you.

MS. BEHAR: Okay, Peyton, I believe we're ready for you.

MR. MCDANIEL: All right, I'm just going to kind of follow up on what Billy had to say. So my name is Peyton McDaniel. I'm from Eastern North Carolina. I grow about 50 acres of organic tobacco. I grow a mixture of sweet potatoes, corn, soybeans, cabbage and winter squash over the remaining 600 acres.

I've been growing organic tobacco for over ten years now, and it's the most important crop in my operation. Fatty alcohols are essential to the production of organic tobacco. They can free us of unwanted suckers which improve yield and quality, ultimately sustaining our crops.

Again, during this trial, there are different products and none have offered the effectiveness and economic feasibility that fatty alcohols do. Pulling suckers is not a viable option because of time it takes as well as the

increased risk for workers as far as tobacco sickness.

If we're not allowed to use fatty alcohols again for organic tobacco, we're not -- it won't allow me to grow the crop because of increased costs associated with that. And also, giving other countries producing organic tobacco and the upper hand.

They can produce it at a much lower cost and they have the ability to take over our market because our products are too expensive to produce and the companies, they can't afford the process.

I ask the USDA to grant temporary allowance for fatty alcohols until the Standard Board review is complete and also I ask that USDA and NOP add fatty alcohols to the list of allowed substances. Thank you.

MS. BEHAR: Okay, thank you. Anyone on the Board have a question? Okay, I have a question. Peyton, have you been using fatty alcohols so far, and how many years?

MR. MCDANIEL: Yes, I've been using it now for the last, oh, I would say, seven or eight years, as -- a big part of what he did. And so, yes, it's been great, and I hope that we can somehow continue to make this thing work.

And I know that, like you said, with Billy, that we had the ability to use it this year if we previously purchased it, and we do have a lot of inventory for this year.

MS. BEHAR: Okay, any other questions?

MS. OAKLEY: Hi, this is Emily, just a point and reminder. I do wonder if people could state their name and affiliations before they speak.

MS. BEHAR: Okay. So, thanks. Okay, so we're going to Jennifer Daniels. So she's with Windy Creeks Farms. And on deck is Jane Iseley and Alex Watkins. Jennifer, go ahead.

MS. DANIELS: Okay. As you just stated, my name is Jennifer Daniels, and we operate or have about a 250-acre organic farm

that operates under Windy Creek. And we are located in eastern North Carolina as well, in Sampson county.

And thank you for having me or allowing us to be able to share our comments on this because it is important to our livelihood. I am following what Billy and Peyton have already said.

The use of fatty alcohols in our operation is of primary importance. The main reason of that is because tobacco, typically the organic tobacco brings us in triple the revenue that our small grains bring in.

We do typically grow about 40 acres of organic tobacco out of the 250. We grow some sweet potatoes and then we have the grains, wheat and soybeans. And every year we have, we're trying to add a little more produce. And the last two years, we've grown organic pickling cucumbers. And this year we're actually trying to grow some organic jalapeno peppers.

So with all of that in mind, the main

reason we need this fatty alcohol support is to help reduce our labor and time in the field to remove these suckers. We need to be able to do that because those suckers actually attract pests, the way the aphids there, which also damage our tobacco.

And if the suckers remain in there, the energy goes to feeding those instead of the leaf, which is where we actually, you know, make our money, is harvesting that leaf.

So without the sucker control, it's going to damage our yield and our quality of our tobacco, so, therefore, it takes affects our margin of profit.

And in our operation, the labor, hand labor, does actually go in with the crop rotation and it can inhibit it, the more time that we have to stay on top of it and suckling.

Because we typically do the cucumbers that start off in June, and then we'll -- well, where we're just in peppers, the whole time we're growing tobacco, it's harvesting our cucumbers

and our peppers as well.

And managing that labor, so you have time to do all of those things makes a difference. And I personally love the fact that we're feeding people organic food, you know, so that organic tobacco it actually sustains our farms as far as the overhead with equipment and the cost of land rent.

There are a lot of conventional farmers. The organic community is growing in our area, but land rent is, in my opinion, it is high and a big portion of our cost. So the use of fatty alcohols helps make our tobacco more productive as far as claimed income.

I have asked when, about two years ago, when we first got -- oh, I talked too much. Anyway, wrapping up then, I sent an email to NC State inquiring about what in the world we were going to be able to use. And he has told me there is not an effective -- anything else, effectively, that we could use to be able to replace that fatty alcohol.

MS. BEHAR: Okay, well, I thank you, Jennifer. Any questions from the Board?

MR. ELA: Harriet, this is Steve Ela, if I could ask a question.

MS. BEHAR: Okay.

MR. ELA: Given -- and I could have asked this from the previous two speakers as well, but given that, if you -- that you're able to move -- it wouldn't matter if you used that clause, if you had that on hand, if you use it up, will this be a problem for you if the Board doesn't act this in the fall, but you have to carry it over to the spring, a year from now, would that problem inhibit your ability to use this -- you know, assuming we had approval of that. But would it cause a problem, would that be a delay or, in looking back to?

MS. DANIELS: I am concerned with the amount that -- we do have some on hand, but it's a narrow margin for what we'll need. So I am definitely for the temporary allowance if that's possible.

MS. BEHAR: Thank you, Steve. Anyone else from the Board have a question? Okay, I have one question. What type of insects are attracted to the suckers and what materials do you use to control them?

MS. DANIELS: The aphids, they just suck -- anyway, they take the nutrients and basically take the quality from the roots. And basically we don't use anything against them. Just the sooner you can get the flowers and the suckers off, and that actually gets rid of the problem.

MS. BEHAR: Okay, that was Harriet, for the transcription. Okay, anyone else? Well, thank you so much, Jennifer. You did a -- well, the three of you and thank you for their comments, have been very useful on that material.

So next up is Jane Iseley with Alex Watkins and Steve Etka on deck. Jane?

MS. ISELEY: Yes, thank you. I appreciate you all speaking with us today. This, as we've indicated, this is sort of a do or die

project for those of us who grow organic. I've been growing organic for about --

MS. ARSENAULT: Ms. Iseley, I'm sorry, this is Michelle from the National Organic program. Jane, could you just state your name and affiliation, for the record? It's for the transcriptionist that's on the phone with us, and then you can start. And I haven't started your timer yet. Thank you.

MS. ISELEY: Well, I'm short spoken, so maybe I'll be fine.

MS. ARSENAULT: Okay.

MS. ISELEY: My name is Jane Iseley, and I appreciate you all talking with us today. I'm on a farm in Burlington, North Carolina. The family's been here since 1790, and a good part of that time we've been growing tobacco.

I started growing organic tobacco maybe 22 or 23 years ago. I'm my grandfather's only grandchild, and that's the reason I'm farming now. We start with strawberries in the spring and move into vegetables with a farm

market in the summer and then pumpkins in the fall with hay rides and try to get as many people to the farm and encourage the people to come out so that we can build our agricultural base of support.

We also have 150 head of beef cattle. But what pays the bills for us and keeps us farming is organic tobacco. It's -- you've talked about the time involved in it. And I'm a curiosity devil. I've done some work with it.

The nature of the plant is to reproduce seeds, of course. And this is done with a flower. And you break that, what's called topping. And you break that top flower out. And when that happens, that wakes up the plant, and it wants to grow suckers. And each of -- approximately 22 leaves will grow on one plant.

And at that axis, each leaf produces 3 suckers. So that was the reason, when Billy was saying that he had to spray four or five times, that's what we're trying to do, is to get those new suckers taken care of.

So that math adds up to that 20 leaves, and you've got three suckers per leaf. So you're up to 60 suckers per plant and then we have about 6000 plants per acre. We plant them 22 inches apart. So you're at 360 suckers that you've got to deal with per acre.

Now we, as those -- we don't have as much as we used to have. We only have 20 acres. And so that equates to -- we've got 7.2 million suckers to deal with. And you can imagine what kind of labor that takes.

And when you get right down to it, folks, as far as I'm concerned, if we lose this opportunity to control the suckers, I'm out of the tobacco business and basically out of farming. There's no way that we can pay the labor and make it all come out. Thank you.

MS. BEHAR: Thank you, Jane. Any questions from the Board? I have a comment, Jane. I live in Wisconsin, and we used to grow quite a bit of tobacco in southern Wisconsin, mostly for wrappers for the cigars and the

chewing tobacco. There is very little of that anymore. The government bought out a lot of our tobacco allotments.

So to understand the culture, the entire tobacco in a region and that high-value crop that many smaller family farms relied upon to make the farming operation viable. So it may not be in North Carolina, but Wisconsin has -- I actually have a tractor on my farm that came from a tobacco operation.

MS. ISELEY: It's probably a 140 offset motor?

MS. BEHAR: You got it.

MS. ISELEY: Yes, that was the farmer's green. You had to be able to seed that plant while you cultivated. In fact, I guess we were one of the few farms left doing that. We -- I have three 140s. They're great tractors.

MS. BEHAR: Any other comments?

MR. ELA: Harriet, this is Steve Ela. Jane, I'm going to ask you some questions that I asked Jennifer.

If you -- if this product isn't reviewed thoroughly and expediently, do you have enough on-hand for another year at least or do you just have enough supply for this year?

MS. ISELEY: I have enough for this year, and barely enough for this year.

MS. ARSENAULT: Hi, everyone. This is Michelle from NOP. We're hearing some background conversations, so if you are not speaking, please put yourself on mute. Thanks.

MS. ISELEY: Thank you, folks. We appreciate your time. And I hope I get to farm some more.

MS. BEHAR: Okay, thanks. Well, thank you. Okay, next up is Alex Watkins and Steve Etka after that and Amalie Lipstreu. And please state your name and affiliation.

MR. WATKINS: My name is Alex Watkins. I'm an organic farmer from Creedmoor, North Carolina, and I am 48 years old. I want to thank you all today for allowing me to speak.

I have 350 acres of organic land

certified. I'm a 4th generation tobacco farmer. I grow 100 acres of organic tobacco and 125 of organic wheat and 80 acres of soy bean.

I started in 2003 with 10 acres organic tobacco. I increased it to 25 the next year, and then I was sick. I really couldn't plant any more. That was all I could actually attend.

We couldn't keep up with our labor costs and time needed to take care of it because everything was done by hand. And we did reap some soybeans and some mineral oil. Had a lot of issues with it. And when fatty alcohols were allowed, it really helped me to increase my productions.

And I grew, and it also freed me up. And I just want to say if you decide not to allow the fatty alcohols, I think it would be -- it would cut organic production and possibly in North Carolina or, in my opinion, possibly by 75 percent.

And because of this, the wheat prices

and the soybean prices can't sustain us, and we can't keep our land rent paid and land certified because we can only make a small profit on the small grain.

I went to planting wheat and soybeans as rotational crop for tobacco, you know, to also help me do my organic matter in the soil. And I think this would probably be the end of farming for me, at 49, if it was not considered next year because I just couldn't go back, with the labor costs and the fuel costs that we have now, to sustain, to be able to farm.

I just want to thank you all today for allowing me speak, and I would to ask all of you on the Board to consider to allow the use of fatty alcohols for us in the future. Thank you so much.

MS. BEHAR: Any Questions from the Board for Alex?

MS. OAKLEY: This is Emily Oakley. I just wanted to make a comment, thanking all the farmers for being on the webinar, and it's always

very helpful to hear directly from growers, so thank you.

MR. ELA: Harriet, this is Steve Ela.

MS. BEHAR: Any other --

MR. ELA: I'll just ask you some questions that I've actually asked the previous two speakers. I asked, do you have -- how much supply do you have? Do you have enough for this year? And do you have enough for another year, if you need it?

MR. WATKINS: Yes sir, I do have enough for the upcoming 2019 year, yes.

MR. ELA: And what about 2020?

MR. WATKING: No. No, sir.

MR. ELA: Thank you.

MR. WATKINS: You're welcome.

MS. BEHAR: Okay, anyone else? Okay, next up is Steve Etka and then Amalie Lipstreu -- she can tell me how to say her name -- and Julia Barton. Please state your name and affiliation.

MR. ETKA: I'm Steve Etka, Policy Director for the National Organic Coalition. And

I greatly appreciate NSOB and NOP efforts to seek feedback about actions needed to address organic fraud.

NSOB discussion documented addresses a broad list of actions that NOP and Congress should take to address fraud. Areas that should be prioritized, in our view, include, one, eliminating exclusions from certification for uncertified handlers in the international supply chain.

The 2018 Farm Bill gives NOP the core authority and mandate to issue regulations to take this action by December of 2019. And, two, make improvements to the organic integrity database because significant drops in data collection, especially for organic acreage data, greatly impeded the ability to deter fraud.

In addition to the newly appointed enforcement authorities in the 2018 Farm Bill, we are also hearing additional authorities that maybe even by entity include staff sale authority and authority to take action against fraud

involving operations that have surrendered their organic certificates.

We should explore short term administrative solutions to these problems, if possible, because the next Farm Bill process will not start until the year 2022. NOC's written testimony includes a prioritized list of these and other actions that should be taken to deter fraud.

In additional, NOC members recently met with staff from Customs and Border Protection, the lead enforcement agency at the U.S. ports of entry. We were alarmed to learn the CBP has little advance information about cargoes headed for U.S. ports of entry and that additional legislation would be needed to require manifests including those details.

We also learned that CBP has MOUs with USDA that are not procedures used in handling imported agricultural products. There's -- MOUs should be updated to address procedures for imported organic products, specifically --

particularly requires CBP to check organic certificates at ports of entry.

Lastly, we have many domestic enforcement problems as well, particularly in the organic livestock and dairy sectors. And, therefore, we think that we'd like to see NOP issue a final origin of livestock rule that will clarify the requirement for the transition of dairy cows into organic, to take enforcement action against bad actors in the dairy sector and their certifying agents who have not -- who are not following the access to pasture standards and unlikely to reinstate the organic livestock and culture practices rule to require greater consistency in organic standards, particularly with regard to providing true access to the outdoors for poultry.

In closing, in recognition of the need for NOP to have adequate resources to do this work, NOC has advocated for and Congress has provided increased funding over the last couple of years, and NOC is continuing to seek

additional funding for NOP for 2020 as well. Thank you.

MS. BEHAR: Thank you, Steve. Any questions for Steve from the Board? Okay, thank you, Steve. Next up is Amalie, and please state your full name, so I can learn how to pronounce your last name, and your affiliation.

MS. LIPSTREU: My name is Amalie Lipstreu, and I'm the policy director for the Ohio Ecological Food and Farm Association.

First OEFFA thanks the Board for requesting the energy infrastructure on organic farms be added to their work agenda.

While we understand there are a number of pressing issues to be addressed, inclusion of this issue will provide resources for farmers and certifiers, help organic farmers keep their certifications and foster consistent implementation of how these issues are addressed.

Secondly, OEFFA appreciates the work of the Board and the NOP to address the issue of import fraud. OEFFA has provided detailed

organizational comments and you have the opportunity to hear directly from many of our farmers on the importance of this issue and I would say their sense of urgency remains.

We request that rulemaking and process improvements happen in the short term. Our producers and the markets have little patience for belabored politics.

We need rulemaking, and we need discreet actions in the near term including propose a rule requiring certification of handlers who take possession of organic products in unsealed containers, handlers who buy, sell or broker product while taking possession as well as handlers who manage private labels that have an organic claim.

Do whatever it takes to get harmonized tariff codes into aid before the end of this year. The NOP should set up a meeting with International Trade Commission in the coming months to establish an ambitious goal for the number of HT codes that can be completed by the

end of 2019 with at-risk commodities being prioritized.

Recommend the USDA target specific ports of entry for green commodities until Customs and Border Protection has legislative authority needed to gather detailed ship manifest data that will allow for advanced tracking of organic shipments into the U.S.

This will allow for the targeting of staff and resources closest to these ports for review of certification documents. Direct the USDA to raise awareness of organic import fraud agency wide and prioritize inspection of at-risk commodities providing comprehensive oversight and support that will ensure the NOP is successful in their efforts.

And finally, the Board should recommend the NOP pursue legislative stop sale authority in addition to the authorities previously mentioned, for Customs and Border Protection.

We appreciate the work of the Board

and the opportunity to comment via webinar. Thank you.

MS. BEHAR: Okay, any comments from the Board, questions? Amalie, I have a question about the energy infrastructure on organic farms.

MS. LIPSTREU: Mm-hmm.

MS. BEHAR: I'm wondering, what do you see this work agenda item resulting in? Would it be like an instruction to certifiers on how to work with operations that control --- they've been told there'll be a pipeline or something coming through the land and -- with that? Or would that be a rule change? Or what are you looking at?

MS. LIPSTREU: Well, what we're hopeful to see, Harriet, is some guidance on instructions to certifiers so that they have more tools and resources in working with producers that are facing this kind of infrastructure so that they can do what they need to do to protect their organic certification and stay in production.

You know, we brought up the issue of the organic agriculture impact mitigation plan before, which is a tool that's been very successfully, with the Federal Energy Regulatory Commission, with pipeline companies, producers and certifiers.

So I think, you know, some kind of guidance or instruction that can provide tools and consistency will be beneficial in the long term.

MS. BEHAR: Thank you.

MS. LIPSTREU: Thank you.

MS. BEHAR: Any other comments from the Board? Okay, next up is Julia Barton with Michael Sligh and Amber Pool deck. Julia, please state your name and affiliation.

MS. BARTON: Good afternoon. This is Julia Barton with the Ohio Ecological Food and Farm Association. Can you hear me okay?

MS. BEHAR: Yes.

MS. BARTON: Okay, thank you to the Board for your service and for the opportunity to

offer public comment over the phone. We would like to thank the Board, again, for its efforts to add energy infrastructure impact on organic farms to its work agenda.

We see some potential positive outcomes of this topic being added to the work agenda that could include a potential panel discussion, maybe at the fall '19 NSOB meeting, a discussion document that could help unpack the issue.

And as Amalie and Harriet just discussed, we'd love to see an assessment of the utility and applicability of organic agricultural impact mitigation planning for producers as well as an eventual proposed guidance for instruction for certifiers regarding how to work with farmers that are faced with this infrastructure so that certification can be maintained.

We urge the NOP, in the spirit of consistency of enforcement, to support the NOSB as it begins to engage with this issue. As you know, farmers are faced with these challenges

even as we speak.

Further, OEFAA appreciates the NOSB work to address the difficult of GE contamination and its proposal and questions for the community regarding genetic integrity transparency of seeds grown on organic land.

In preparation for this semester's comments, we held two calls with OEFFA grain growers to gain feedback on this proposal. The growers were very clear that the work and financial burden concern them.

They feel strongly that the burden of testing for organic seed should fall on seed companies and that the level of contamination should be provided to the farmer ahead of time so that one knows what one is purchasing. It ought to be printed clearly on the seed tag or invoice.

They also suggested that suppliers stack one sample per lot, which would be far more efficient and effective than analyzing data from each individual grower across the country.

Regarding who ought to compile and

hear the data, OEFFA prefers that the NOP subcontract with an entity to receive and summarize this information for the public. Perhaps, if just in groups within the community even, which are used to this sort of data gathering and analysis would be well-suited to the task.

Most importantly, we must get started with this work so that we can build from the information gathered and address GE contamination in seed across the Board.

We support the initial focus on corn, on transparency and on data gathering to foster the eventual development of special levels for contamination. Given the current climate, we are supportive of the recommendations for the NOP to achieve this brand instruction to certifiers.

We appreciate your efforts, and we urge for a re-movement of this proposal. We wish you a productive meeting in Seattle, and thank you again for your time and your service. Thank you.

MS. BEHAR: Okay, any questions form the Board?

MR. BRADMAN: This is Asa Bradman. I have a question. You mentioned the organic mitigation plan and protecting certification. Do you of growers, farmers who have lost their certification because of issues with energy infrastructure? And can you give some specific examples, just to make it more personal, if possible?

MS. BARTON: Sure, be happy to. And we have several specific examples that we'd be happy to share if you'd like more information on that, Asa.

One comes to mind, in particular, however. We have a grower that's just a little bit south of where I am today, in Apple Creek, Ohio, which is kind of a hilly -- rolling, hilly area, a lot of Amish and Mennonite producers in that area.

And he had a pipeline come through his farm, just two seasons ago. The challenge there

was not that he lost his entire certification of the farm, but that he had to retransition the area adjacent the pipeline because of the materials that were used both in the pipeline's construction and in the management of that area thereafter.

So the company did not adhere to organic production practices in terms of the -- after the pipeline went in and the way that they annexed the land.

So he is currently in -- retransitioning the land near the pipeline. In his case, it was particularly challenging because he was managing an organic dairy herd during that time and the herd had to cross the area where the pipeline was located.

And he had to somehow make sure that the herd was not grazing in that lane where the pipeline, you know, it impacted, if you can imagine, kind of a hundred-foot block where the pipeline goes through, the edge of the lot, on either end of the pipeline.

And he had to make sure that the cows weren't grazing there. So working for OEFFA's education staff, we were able to brainstorm ways to mitigate that, but, you know, they were pretty labor-intensive management strategies when the cows have to be able to get up to the parlor and access water in various ways, meaning being able to access that lane freely.

So this is one example, but we have several others we'd happy to provide to you if you'd like to discuss it further.

MR. BRADMAN: Yes, thank you. That was really informative. And something that might be helpful, which is perhaps you could write up a little report that just gives case studies and --

MS. BARTON: Sure.

MR. BRADMAN: -- even -- I think that'll help guide the conversation and also bring it down to a very concrete, personal level. And that would be --

MS. BARTON: And I'd be really happy to.

MR. BRADMAN: Thank you.

MS. BARTON: Sure. Thank you.

MS. OAKLEY: Harriet, this is Emily. Could I ask a question of the --

MS. BEHAR: Go ahead, Emily.

MS. OAKLEY: Thank you. Could I ask a question of the program to see if they have an update on this work agenda item request?

MR. LEWIS: Thank you, Emily. This is Paul. Yes, we have the work agenda item request. It's still in review, in the clearance process here. Obviously, the requests that come in require different levels of review here in the department.

So it's still in the review process. I don't have anything more to update in terms of timeline.

MS. OAKLEY: Thanks.

MS. BEHAR: Any other questions? I had a question, Julia, on the genetic integrity of organic seed. So I just want to get clear, it sounded like your group of growers are supportive

of transparency. There was some concern if it would make the seed cost more.

But I think we have found that many of the seed suppliers that sell, that are already organic, they already do the testing, so I'm not sure they'll be a greater cost.

But I'm just wondering if they suffered at all by not knowing which is the current atmosphere that they inform in, where they buy a seed and they don't know what they're planting.

MS. BARTON: Yes, Thank you, Harriet. The growers that we spoke with about this issue -- so OEFFA has a very active grain grower's chapter, and I think you all heard several of them in the fall, in the webinar, were able to provide some comment.

We stay in close touch with them on these issues that directly impact their work. And they understand that the costs, specific costs ultimately will alter the farmer. They're aware of that.

They are concerned about that additional cost, but more in terms of the time that they would spend than they were in terms of the cost of kind of the -- that's necessary for the transparency. Because they recommended, like I said in the comment there, let's think this through and, from their perspective, be as efficient as possible.

And they think that we've got a lot of seed for the folks handling that feed, to take the sample rather than for, say, a hundred farmers, to apply for that lot and take a sample. That was one recommendation they made.

They would appreciate knowing upfront what they're paying for. So some of them already buy some of the more pure varieties and pay a premium for those. So they're aware of that concept.

And I think Albert Lea is one of the companies they noted that was providing a more pure corn seed currently. And some of them are already paying for that additional kind of

service that Albert Lea is providing in doing the testing and providing that transparency.

So they were not opposed to that. They just -- they want to see to it that as much of the burden that can be placed doesn't all fall to the farmer. They know they're going to be paying more. They just would like us to be kind of thoughtful and intentional about the profits, that they don't have to do a whole bunch more sample taking and record keeping on their end. So --

MS. BEHAR: But we were kind of talking about --

MS. BARTON: -- their positive about the idea of moving forward. Yes, ma'am?

MS. BEHAR: Well, thank you. And I also enjoyed your written comments on that subject.

MS. BARTON: Thank you.

MS. BEHAR: Any other comments for Julia? Okay, I'm going to move on to Michael --

MS. ARSENAULT: Hey, Harriet? Sorry,

this is Michelle. Michael, if you don't mind me interrupting and stealing -- I won't take your time, actually. I won't start the timer.

I just wanted to do a time check, let folks know, you know, we're an hour in now to the three-hour webinar. Thank you so much for keeping the background noise to a minimum. I appreciate it. It makes my job -- makes my blood pressure stay down, so I appreciate it.

And also, just a reminder to keep yourself self-muted if you are not talking. Thanks, everyone. All right --

MS. BEHAR: Thank you, Michelle.

MS. ARSENAULT: -- Harriet, all yours again.

MS. BEHAR: Okay, thank you. Next up is Michael Sligh with Amber Pool and Nicole Dehne on deck. And, Michael, please state your name and affiliation.

MR. SLIGH: Michael Sligh, former NOSB member. Thank you for your commitment to ensuring organic integrity and trust in the USDA

label, which is at the heart of our success to date.

I'm summarizing my written comments. First, I would like to support the organic tobacco farmers that you heard from earlier today on their essential need for fatty alcohol use in tobacco suckering.

It is urgent that this petition be completed in time this year to allow clarity for the 2020 farming season.

Secondly, I strongly support the NOSB work on new genetic techniques, to continue to move forward and that the existing recommendations moved into guidance to certifying operators as soon as possible. It's critical that we remain proactive to avoid problems in our market as we move forward.

And, thirdly, I want to bring up a larger issue of consistency of our organic conformity assessment system as well as our enforcement and the need for ongoing peer review.

As we all know, the OFPA's promising

key goal was to develop a level playing field where all operators would be held to the same standard regardless of size, geography or approved organic production or processing system.

I remain alarmed that we have yet to deliver on this key goal in several important ways. We continue to have a lack of consistency across inspections, certifications and accreditation as well as the interpretation of regulations across our system for standards that have been approved, especially for large scale livestock systems.

Secondly, the allowance of production systems for which there are no standards, which would include broad categories of hydroponic and container grown production systems which have not --

MS. ARSENAULT: Michael, we just lost you. I'm going to pause your time here.

MR. SLIGH: Hello? Hello? I'm here.

MS. ARSENAULT: All right, we just lost you momentarily, so if you want to repeat

the last few words you said.

MR. SLIGH: Well, I'm not sure where you lost me. I'm sorry that I was lost. It won't be the first time.

I was speaking about production systems for which there are no organic standards. Particularly, my concerns around the allowance of hydroponic and container grown production systems which have not been approved and may not be compliant with organic standards.

Thirdly, the urgent need to publish the 2018 NOP Peer Review Findings and an urgent need to conduct the 2019 Peer Review and strongly urge that the focus be on these issues of consistency.

I also strongly urge all stakeholders to continue urging Congress and USDA to move forward as quickly as possible on implementing new Farm Bill enforcement regulations as every day organic farmers continue to be harmed by employing products that may not meet our strong U.S. organic standards.

This is another example of this uneven playing field that must be corrected. And then, finally, I draw your attention to a infographic which I have included in my written comments as an illustration of how, if our organic integrity and trust is eroded by inconsistency and failure to comply, it all ties together into this larger issue.

I strongly urge the NOSB to take up these urgent issues. Thank you very much.

MS. BEHAR: Any questions for Michael? Michael, I have a question. A case over time, this, the peer review has been kind of a continuous issue that the NOP has not been able to kind of get a consistent flow of this where it just happens every year and it's by the same agency that oversees, so there's continuity.

What do you recommend that the NOP and the NOSB could do to encourage this consistency and improvement in a peer review?

MR. SLIGH: Well, first of all, it is just as important as inspection and certification

and accreditation. It is the only tool that both the NOSB and the NOP have to look at the overall whole system.

And it is the intended by law and regulation to happen on a regular basis, every year, and that those findings will improve our organic integrity and identify those places where we either have gaps or inconsistencies.

My recommendation would be to attempt, in all due diligence, to complete these peer reviews within the allotted year and to get the findings out so that that learning can be built on in moving forward.

I have submitted this infographic to show the importance of how inconsistency can lead to greater chances of fraud and an unlevel playing field for farmers. And so I would urge at looking at 2019 agenda, that that would be a very appropriate area for peer review this year.

MS. BEHAR: Thank you, Michael. And that was a very interesting infographic.

MR. SLIGH: I'm glad you like it. I'm

merely passing this on. And it represents 20 years of international organic conformity assessment and it was developed by the International Organic Accreditation Service.

MS. BEHAR: Okay, anyone else?

MR. ELA: Harriet, this is Steve Ela. I have a question.

MS. BEHAR: Okay.

MR. ELA: Michael, I guess two questions. The first is, at the start you were talking about fatty alcohols and you were urging us to take action as quickly as we can.

What are the -- could you talk about that a little bit more in terms of what the problems are if we aren't able to take action fairly quickly?

MR. SLIGH: Sure. I think, as you heard from the farmers earlier in the call, they're using up what they have. They need to know with certainty that they can continue to grow this crop.

As you heard, it's kind of a lynch pin

in their economic model for organic rotation. And my worry is that, while we had hoped that this topic could have been taken up at this meeting, we understand there were various delays.

And so now you have the petition, but you won't be able to vote on it until the fall. That's about as late as we want to push this thing in order for them to be able to know what they're going to do for 2020.

As you heard, some of these farmers may not even continue farming if they don't know the answer. So I guess, Steve, my concern is I just hate to see this thing get strung out any further than we can possibly avoid because of the uncertainty. They need to know early.

MR. ELA: Great, thanks. Thanks for that. And then my second question is, with regard to hydroponics and container production of not having standard or consistent standards, is there anything particular on that, that you see?

I mean, I know it's a broad key question, but is there anything specifically,

that you're seeing issues on right?

MR. SLIGH: Well, I think the macro concern is that if we are allowing operations to be included in organic that do not have specific standards, then it is very difficult and creates an inconsistent marketplace in terms of inspectors knowing what should be allowed and what should not be allowed.

And the fact there is not specific standards creates this unlevel playing field and a potential for operations to be included that are not compliant with all of the other critical components of the organic regulation such as biodiversity, such as crop rotation, such as building of soil.

All of these are essential components of the organic system. And to allow hydroponic and container operations by some certifiers and not others without any common standards is a recipe for failure to comply. Hello?

MS. BEHAR: Yes, hello. Thank you.

MR. SLIGH: Hello? Okay. Couldn't

tell if I lost you or not.

MS. BEHAR: No. We heard you. Good words.

MR. SLIGH: All right. Keep up the good work. Thank you very much.

MS. BEHAR: Okay. Anyone else on the Board have a question? Okay, we're going to move on to Amber Pool.

MR. SLIGH: Thank you.

MS. BEHAR: You're welcome, Michael. Nicole Dehne and Jaydee Hanson on deck. And please state your name and affiliation. Amber?

MS. POOL: Hi, I'm Amber Pool. I work as a senior farm certification specialist at CCOF. CCOF is a nonprofit organization governed by the people who grow and make our food.

305 CCOF members list horticultural oils on those OSP. These horticultural oils are used for both insect and plant disease management. Horticultural oils are often used in combination with other allowed plant disease management practices to ensure crops are

protected.

MS. BEHAR: Excuse me. Michelle, can you -- are other people having a hard time hearing Amber?

MS. ARSENAULT: I can hear you, but, Amber, if you could get a little closer to the mic, that would great. Thanks.

MS. POOL: Is this better?

MS. BEHAR: Are you on a speaker phone or a headset or --

MS. POOL: I'm on a conference room that has a conference room setup.

MS. BEHAR: Is there any way you could actually get on a handset?

MS. POOL: Yes, I can call you back.

MS. BEHAR: Maybe we should do that because I was kind of catching only every third word or so.

MS. POOL: Okay.

MS. BEHAR: Great.

MS. POOL: I will call back right now.

MS. BEHAR: All right, we'll go to

Nicole next, and then we'll bring back Amber. So, Nicole, please state your name and your affiliation.

MS. DEHNE: Okay, can you hear me? This is Nicole Dehne.

MS. BEHAR: Yes.

MS. DEHNE: Oh, great. Okay. So my name's Nicole Dehne. I'm the certification director for Vermont Organic Farmers. And VOF, we're the USDA accredited certifier owned by NOFA, Vermont. We certify over 700 organic producers just in Vermont.

And I just want to start by thanking the NOSB and all the members for all your hard work and the opportunity to give comment today on a few agenda items.

The first one, I just wanted to say that we appreciate the NOSB adding paper products to your work agenda in a timely manner. VOF continues to stress the importance of this product of small scale vegetable producers in Vermont.

We request that when the NOSB reviews this material, that virgin paper be included as part of that review. This may mean requesting that the technical report includes virgin paper as well as recycled paper.

If additives such as synthetic fibers are a concern, then allowing the virgin paper may offer better control over what additives the paper contains.

And in addition, we ask that the NOSB take a practical approach to reviewing this material, understanding that paper is already widely used in organic systems as mulch, pots, compost, seed stock, et cetera.

Secondly, on vaccines, we appreciate the subcommittee's emphasis on the importance of vaccines to organic livestock producers. We acknowledge vaccines play a critical role in preventing disease.

We believe that the current regulations prohibit the use of vaccines that are produced with excluded methods unless they're on

the national list specifically. Currently, we are reviewing all the vaccines used by our producers to determine if those vaccines have been produced with excluded methods.

We have not found that the livestock producers we certify, which are mainly dairy, small scale beef operations, pork and poultry, have needed a vaccine produced with excluded methods.

But we acknowledge we do not certify large poultry or pork operations, and we understand that there may be vaccines needed by livestock producers in other parts of the country that are not needed in Vermont.

Therefore, we support the change proposed by the subcommittee that would allow producers to use vaccines made from excluded methods when alternatives are not commercially available.

And for clarity, we suggest using a definition of commercial availability that's similar to what's used in seeds and plants and

stuff, so quality, quantity and maybe specificity to a disease or a health issue. And if documentation of commercial availability could include statements from a veterinarian and statements from suppliers of vaccines.

And then lastly, just to remark on the embryo transfer, over the last 15 years we've gotten maybe one or two questions about the use of embryo transfer on organic farms.

So it's always been kind of our interpretation that as long as no hormones were used to synchronize the animals who received the transferred embryo, that the process could be approved. But having said that, we've not had any producer interested in the process who felt willing to take the risk of the transfer, of the embryo transfer without using the hormones to synchronize the estrus.

So I think, therefore, we're kind of sharing our experience that, in -- this technology has not been in high demand nor a necessity for livestock producers in Vermont.

And that's all I've got today.

MS. ARSENAULT: Perfect timing. Oh, Harriet, we have you muted. Hold on one second. I'm unmuting. Sorry.

MS. BEHAR: You muted me??

MS. ARSENAULT: All right, go ahead, Harriet. Thank you, Nicole.

MS. BEHAR: Any other questions from the board? Okay, well, Nicole, you had a few issues that are on the lead on. So thank you for the information on the vaccines.

And, but I want to ask you something about the embryo transfer. So if a producer did approach you and the embryos came from an animal that had been treated with hormones, but the receiving animals had not, that would be okay under Vermont? Is that what you said?

MS. DEHNE: That's, I mean, we never -- that had been kind of our interpretation of it a few years ago when we had been asked that. But we never necessarily had to make a final policy on it because it became a moot point once we told

the producer that they couldn't use any synchronizing hormones on the receiving animal.

So we never really had to make a final policy, but we were leaning in that direction of, well, you know, you could have semen from a non-organic animal, but you know, like you said, collects embryos as well.

MS. BEHAR: All right, but the semen, I don't believe, comes from animals that have been treated with hormones.

MS. DEHNE: Yes, that might be true. But we weren't testing, so it was kind of like an understanding that you weren't starting until they were being placed inside the -- an organic animal.

MS. BEHAR: Right. Has there been any discussion about well if it became less expensive to do this type of embryo transfer would -- is there any concern about the narrowing of the gene pool or whatever if, you know, people are kind of mostly preferring these kind of super animals?

MS. DEHNE: I mean, there might be

that concern. I guess what -- I don't -- it doesn't seem to me over the time that I've been doing this work that it has been a necessity for our producers.

So that was sort of the point that I wanted to make today, was we haven't -- this doesn't come up a lot. In my 15 years of being here, I think we've maybe been asked twice. So it's not -- you know, that could be because people have the understanding that it's not allowed but it's not something I've spoken to producers about, that they've been upset that it's not an allowed practice.

MS. BEHAR: Okay. Any other questions?

MR. ELA: Harriet, this is Steve Ela. I have a question.

MS. BEHAR: Okay.

MR. ELA: At the start of your, of this, you talked about paper products and encouraging us to allow the use of virgin paper, which we're certainly considering.

But I did want to follow up a little more. One of the things we're running up against is finding out that there are synthetic fibers often used in some of these paper products.

So I have two questions. One, do you have any comments about whether we should allow synthetic fibers, plastics, for example, in those paper products or other paper products? And do you think we should just look at paper products or the use of paper in general, for example, paper mulch, other paper planting needs?

MS. DEHNE: I guess my perspective would be that we need to be careful about requiring like a perfect material or thinking that we have a perfect material for use on organic farms.

So, for example, I would liken it to, when our farmers apply a prohibited, you know, fertilizer or herbicide to their land, there's a three-year wait period for, you know, that land can qualify as organic.

Now, we all know that that doesn't

necessarily mean that there are no residues three years after an application of a prohibited substance. But it's sort of the compromise that we've taken to say that this is doable and then this discourages the use of these materials.

So I guess I'm likening that to this idea that, yes, I'm kind of leaning towards there may be some synthetic fibers but, you know, the amount that is actually being applied to the land is not very significant. And I think we need to be careful about being too idealistic and too pure in what we're allowing for farmers to use on their farms.

MR. ELA: And would you have any, given that you think some is okay, would you have any thoughts on how much? I mean, I guess we -- you know, we're trying getting information on that. You know, what are the boundaries?

MS. DEHNE: Right.

MR. ELA: You know, if you allow some synthetic fibers, should it be less than 5 percent? Should it be less than 50 percent?

Less than a hundred percent?

MS. DEHNE: Yes, well, I guess if we're wanting to like avoid a situation like the bio-based mulch, then we should probably look to see what is doable in the marketplace to say, okay, but right now, the marketplace is, like most of these products have 10 percent of synthetic -- of their mass is synthetic fibers.

Then maybe we start there with an encouragement for the market to reduce it to 5 percent. So I think well the idea is to allow these products. So I think we want to do some research to say what's doable for the marketplace and start there, and maybe push the marketplace towards the use of less synthetic fibers once we've granted allowance.

MR. ELA: And then, finally, do you have any sense of whether we should expand the -- you know, other than distribution in paper pots, you know, where paper isn't production made without being necessarily specific to paper products?

MS. DEHNE: Oh, sorry. Yes, you did ask that. Thank you.

MR. ELA: That's fine.

MS. DEHNE: I think, yes, I think that would be good because we're -- now that this paper product issue has come up, we're starting to look at it's exposing other areas that, you know, we could potentially resolve these issues all at once.

So I think it should be an allowance for, you know, paper as a synthetic potentially. It would be a broader and more useful thing for NOSB to pick up.

MR. ELA: Great, thanks.

MS. BEHAR: Okay. Any other questions for Nicole?

MS. ARSENAULT: Harriet, I see Asa's -- this is Michelle. I see Asa's hand raised. I don't know if Asa has a question or not.

MR. BRADMAN: I think Steve kind of asked my question, and I think this will be a big discussion item at the in-person meeting.

MS. ARSENAULT: Okay, thanks.

MS. BEHAR: I don't see the hands.

MS. ARSENAULT: Okay, he put it down.

MS. BEHAR: Okay, Jaydee Hanson with Dana Perls and Marina Abitia on deck. Jaydee, please state your name and affiliation.

MS. ARSENAULT: Harriet --

MS. BEHAR: Yes?

MS. ARSENAULT: Sorry, we're going to go back to Amber because --

MS. BEHAR: Oh, that's right. I forgot about her. Okay, Amber --

MS. ARSENAULT: Amber, did you -- were you able to dial in?

MS. POOL: Yes, I called in on a phone. Does it sound better.

MS. BEHAR: Oh, so much better.

MS. POOL: Oh, okay, great. I tested it before I dialed in.

MS. BEHAR: So you don't have a mouthful of marbles now.

MS. POOL: Oh, okay, great. Okay.

Hi, I'm Amber Pool. I work as the senior farms certification specialist at CCOF. CCOF is a nonprofit organization governed by the people who grow and make our food.

Currently 305 CCOF members list horticultural oils on those OSP. These oils are used for both insect and plant disease management. Horticultural oils are often used in combination with other allowed pest and disease management practices to ensure crops are protected.

Typical brand names that we see farmers using are the IAP High 444 Supreme spray and the IAP Summer 415 spray oils. We don't currently know of any better alternative to horticultural oils.

Right now, 465 CCOF members list pheromones on their OSPs. Pheromones are used in a variety of ways to manage insect populations. Some pheromones are used to disrupt insect mating and others are used to monitor insects present and population densities.

Pheromone use continues to grow in organic crop production as various formulations have been developed for specific target species. Common formulations we see farmers using are Checkmate and Isomate products.

These materials are often the best choice for organic farmers dealing with invasive insects. And I'm complete. So if you have any questions, let me know.

MR. ELA: Harriet I have a question. This is Steve Ela. I wanted to ask on these pheromones, do any of you -- do you allow any of your growers to use sprayable formulations? Or are they all put up in some sort of dispenser?

MS. POOL: I can't - I don't know off the top of my head, but I can definitely get you that information. Most of the ones I'm familiar with are in a dispenser. But I can find out for you if we have any that are sprayed on.

MR. ELA: Yes, I'd be curious if you're able to do that. Thank you.

MS. POOL: Okay.

MS. BEHAR: Okay. We are behind a little bit on time. So just thought I'd put that out there. Next up is Jaydee Hansen with Dana Perls, Marina Abitia on chat. And, Jaydee, please state your name and affiliation.

MR. HANSEN: This is Jaydee Hansen. I'm the policy director at the Center for Food Safety. And I'm I coming through?

MS. BEHAR: Yes.

MR. HENSEN: Okay. First, I want to thank the Board and its committees for all the work that you've been doing.

And I want to quickly highlight just three items. One, we were very surprised at the meeting in October when we learned from the staff of the NOP that the NOP itself was taking off its work agenda EPA.

We had asked that EPA be, continue to do research. But also that other fact suppliers be looked at as well. These chemicals mimic hormones. They're endocrine disrupting chemicals. And we are going to be writing with

other groups to the Secretary of the Department of Agriculture asking that this be put back on the agenda.

But wanted to highlight that this year. This is essentially a loophole because these are used in contact substances, but they move into foods, particularly foods in the dairy range because these chemicals are attracted to fats.

I urge you to go to our comments and look at all of the ways these chemicals can disrupt development, in particular development of fetuses and young children. And I'll stop that there.

We appreciate -- I'll move to excluded methods. We appreciate the materials that the subcommittee comments on, how transposons arrive from environmental stress, et cetera. And, you know, we agree that in the main, they are natural. Barbara McClintock even got a Nobel Prize for her work in this years ago.

But when they are developed with the

use of in vitro nucleic acids, they should be considered excluded methods. That doesn't mean they're natural any more once you've manipulated them with in vitro nucleic acid techniques.

Moving on to cisgenics and intragenics, we support the intent of the proposed definitions, but we urge you to make them a bit more expansive. And we've given you language for that, making clear when this is a natural cisgenic product and when it might be considered a gene-edited product.

We've added something I don't think your folks -- yes?

MS. ARSENAULT: Yes, you've reached your time.

MR. HENSEN: Yes, okay, well --

MS. BEHAR: And thank you. I know you have very extensive written comments. But thank you for all those links.

MR. HENSEN: Yes, thank you. Yes, I would just, in closing, thank you also for your work on silver dihydrogen citrate. It should not

be allowed. And thank you again.

MS. BEHAR: Okay. Any questions for Jaydee?

MR. BRADMAN: Yes. This is Asa Bradman. I have a question. Thank you for your written comments and the review of phthalates. Perhaps you could comment a little bit on the regulations and law within the OFPA and the justification for continuing with our BPA review and perhaps even expanding to other food contact materials.

MR. HANSON: Yes. I mean, you know, one of the problems we have now is that we have not been taking food contact materials seriously enough. And BPA is -- if there is a huge camel in the tent, it's BPA and orthophthalates. These are active chemicals that aren't needed in packaging other than they make inner plastics more pliable.

But, you know, I mean, they're counter to what organic is about, which is not using dangerous chemicals. And these are chemicals

that the more we study them, the more we are learning that at incredibly small amounts they make significant changes.

They are chemicals like hormones that we need to move to get the guidance or, if necessary, the legislative language to exclude from organic.

MS. BEHAR: Okay. Any questions?

MR. CHAPMAN: This is Tom.

MS. BEHAR: Anyone have questions?

MR. CHAPMAN: This is Tom. I have a question. Jaydee, building on Asa's questions about BPA, what information -- what has Center for Food Safety done to survey to determine the usage of BPA in the organic industry? Is it widely used in the organic industry? Do you have any data?

MR. HANSON: Well, we participated in a couple groups in having products tested. In particular, we chose products from Kraft Company that were both organic and non-organic and found that the organic products contained the same

levels of orthophthalates and BPA as did non-organic.

So there's no protection from BPA and orthophthalates just by being organic. The fact that you're wrapping these products in a plastic that does leach is a reason to, you know, totally exclude this from organic.

MR. CHAPMAN: Is the orthophthalates about BPA or was it about phthalates or am I --

MR. HANSON: Orthophthalates, the good news is BPA is being phased out because there's been so much attention. The bad news is orthophthalates are what's replacing it as plasticizers. So you really need to look at both at the same time.

MR. CHAPMAN: Thank you.

MR. HANSON: Thank you.

MR. BEHAR: Okay. Just reminding people that we are getting a little bit behind here. So next up is Dana Perls with I'm not sure if Marina Abitia is on tap. If not then Jessica Shade will come after Dana. Dana, please state

your name and affiliation.

MS. PERLS: Hi. Thanks so much. My name is Dana Perls, and I am the Senior Food and Technology Campaigner with Friends of the Earth. Thank you so much to the Board. And I'm going to provide comments specifically on the materials subcommittee, which was on the heated method.

My comments echo the previous speaker, Jaydee Hanson. We would like to strongly urge the subcommittee to include transposons when produced using in vitro nucleic acid techniques as well as directed mutagenesis, cisgenesis and intragenesis in the excluded methods terminology.

You know, we want to ensure that we have an organic certification that is actually addressing the emerging biotechnologies and the new techniques which are being applied to agriculture that otherwise NOSB in 2016 voted unanimously to update its organic standards to exclude ingredients derived from these next generation genetic engineering and gene editing.

And as the NOSB has already

established, the new genetic engineering techniques are incompatible with organic and sustainable ag. And currently the list of techniques that are excluded methods is incomplete although we are doing a lot of work on them.

So cisgenesis, including when techniques like gene editing are involved, and intragenesis both involve intentional genetic modification and therefore they should clearly fall under the NOSB's adaptive definition of modern biotechnology and should be excluded techniques.

We also note that transposons, as was mentioned earlier, although they may occur naturally they may also be developed in a lab using in vitro nucleic acid techniques, in which case they fall under the criteria for the excluded methods.

So we noted in our written comments, which we submitted, that there is a way that transposons could be more clearly defined so as

to indicate when the method would be considered an excluded method.

And similarly while some mutagenesis arises from things like environmental stress, we note that directed mutagenesis should be considered an excluded method as it also involved in vitro nucleic acid techniques that are not part of the organism's natural evolution.

So we really support the improvements and the updates to the organic standards, which are going to help preserve the integrity of our organic classification. And we strongly urge the NOSB to exclude new gene editing and synthetic biology techniques from organic by updating this list to include the noted excluded methods and the excluded techniques and also to continue this work to include additional genetic engineering techniques. Thank you so much.

MS. BEHAR: The Board?

MS. ARSENAULT: Sorry, Harriet. Go ahead. You were muted there for a moment. Go ahead and say again.

MS. BEHAR: Okay. Thank you, Dana. Any questions from the Board?

MR. MORTENSEN: Harriet, this is Dave.

MS. BEHAR: Hey, Dave Mortensen.

MR. MORTENSEN: Yes. I just wanted to thank the caller for the detailed comments and the written materials. I think it definitely helps us. Thank you.

MS. BEHAR: Dave, you're breaking up a bit. And I'm not entirely sure if it's your line or if it's somebody else. So if you're not talking, please put yourself on mute. Thanks.

MR. MORTENSEN: Okay. Yes, I was just thanking the last caller for the detailed written materials and comments. They were very helpful in us getting the kind of feedback that helps us with the new documents we've been working on.

MS. BEHAR: Okay. Next up, I'm not sure. Is Marina Abitia with us from Porterville Citrus? Okay. We can come back to her at the end. Michelle did send me a note that she didn't see her name or a phone number for her.

Okay. So next up is Jessica Shade and on deck will be Kathleen Mellone and Dallas McCann. So, Jessica, please state your name and affiliation.

DR. SHADE: All right. Hi, everyone. Thank you so much for giving me time to comment. I'm Dr. Jessica Shade, the Director of Science Program for The Organic Center. We're a nonprofit that communicates and conducts organic research.

And we are commenting in support of the continued listing of celery powder on the National List until we can find a commercially available substitute.

And we've been working on this in collaboration with the Organic Trade Association, the University of Wisconsin and several other researchers, growers and processors. But a lot more work still needs to be done, and we need time to do that work.

We worked with the Organic Food Association to convene the National List

Innovation Working Group. And their first priority was to find an organic alternative to conventional celery powder.

We were awarded a small scale Organic and Research and Extension Initiative, OREI, Planning Grant. And then they complemented that with funding from the Farmers Advocating for Organic. And that was enough for us to build kind of the scaffolding for understanding what partners we need to work with, what crops would be most promising to investigate, what data we needed to collect and what research questions were most pressing.

And we also developed a pilot project doing initial varietal testing in organic celery crops and broader testing of production scale organic celery.

We have some preliminary data on feasibility to include in a NOFO for a million dollar OREI grant proposal. So, unfortunately, our OREI proposal wasn't funded last year, but it ranked really highly.

So we're going to be resubmitting that this year. And what we're planning to do is identify a potential variety in management of organic crops even beyond celery that would meet the chemical specifications that we need for curing and can be easily incorporated into the crop rotation system.

We also want to make sure that the crops we choose don't make the meat a funny color or change the flavor profile of the meat. My daughter loves the book Green Eggs and Ham, but the idea of green ham kind of makes my stomach turn.

So crops like spinach with strong green coloring are more difficult to use. We're also thinking about how to make this profitable for farmers. So we're looking at crops that might be an incentive for expanding organic acreage. Plus we want to identify potential challenges that might be associated with the production of a high nitrate crop, especially with things like nutrient pollution.

So all of this to say that, like, any resource project, replacing conventional celery powder isn't a simple task. It's pretty complex and so the timeline is slow, but we're working towards a solution.

We have an amazing multi-regional, multi-stakeholder interdisciplinary team. What we really need to increase the pace of the project is funding, which we're hoping to get from an OREI grant in the next funding cycle. So thank you all for giving me this time.

MS. BEHAR: Thank you. Any questions from the Board?

MR. BRADMAN: Yes. This is Asa. More of a comment. Just as you know, this will be a big item for discussion at the in-person meeting in Seattle. But one thing I've learned in the discussions leading up to this is really the importance of more research and more work on this.

So as a member of the Board, I definitely see the need for more research and

funding for the kinds of work that you're proposing, and I think that would help move things forward. Thanks.

MS. BEHAR: Okay. Anyone else? Okay. Thank you, Asa. Next up, no, Marina. Okay. Next up is Kathleen Mellone with Dallas McCann and Andrew Dykstra on deck. Kathleen, please state your name and affiliation. Kathleen, are you there? If you're speaking, you're on mute.

MS. ARSENAULT: Hey, this is Michelle. I have not been able to locate Kathleen on the webinar or on the phones. I'm not sure if she is on the call with us.

MS. BEHAR: Okay. Okay. Well, I will then move to Dallas with Andrew Dykstra and Roland Cargill on deck. Dallas, please state your name and affiliation. Dallas, are you there?

MS. ARSENAULT: He also may not be on the call with us. I haven't been able to locate him or her.

MS. BEHAR: Okay.

MS. ARSENAULT: I guess that's a unisex name.

MS. BEHAR: From Tannersville, New York. I know where that is. Okay. Well, then it would be Andrew next with Roland Cargill and Kelsey Kerston on deck. Andrew, are you there and can you please your name and affiliation? Andrew? Michelle, do you have his phone number?

MS. ARSENAULT: I see two other phone numbers from the same area code. Andrew, I just unmuted a 360 area code. Was that you? No. I'm not hearing anything. I have not been able to locate him in the phone list either.

MS. BEHAR: Okay. Well this helps make up time, I suppose. But I do want to hear from people signed up. But okay, so next is Roland Cargill with Kelsey Kerston and, no, Andy Hudson, is he?

MS. ARSENAULT: Andy cancelled.

MS. BEHAR: Okay. Okay. So it's Roland Cargill up next, Kelsey Kerston on deck and Jennie Landry after Kelsey. Roland?

MR. CARGILL: This is Roland Cargill. Can you hear me okay?

MS. BEHAR: Yes. Please state your name and affiliation.

MR. CARGILL: I'll do that. My name is Roland Cargill. I am a product registration specialist for Fair Products, Inc. I also serve as a consultant to Green Egg Supply, which is the petitioner for the fatty alcohols.

My comments today will be directed primarily in response to the NOSB's earlier rejection of the petition to approve the fatty alcohols produced in organic tobacco.

The NOSB determined that the use of a synthetic growth regulator in fatty alcohol was not compatible with a system of sustainable performance in agriculture.

This statement by the NOSB was published without any rationale for such a statement. Our response to the statement was that with respect to the compatibility to new sustainable agriculture, which in its simplest

terms is the production of food, fiber or other plant or animal products using farming techniques that protect the environment, public health, human communities and animal welfare.

We also contend that the use of the fatty alcohol product on organic tobacco was compatible with this process and this concept.

Furthermore, since the natural source of the fatty alcohol is derived from palm oil and palm kernel oil, it is certified sustainable. And this fact should support that the fatty alcohol derived from palm oil and palm kernel oil should be judged sustainable.

Therefore, we contend that the fatty alcohol derived from natural sources is compatible with organic agriculture, particularly organic tobacco agriculture.

In addition to the 16 page TAP report, which provided a very thorough and comprehensive review, indicates that fatty alcohols do not, in fact meet -- that do, in fact, meet the Organic Food Production Act criteria for use in organic

production at Section 6517 on the National List.

Specifically, the technical report determined that fatty alcohols would not be harmful to human health or the environment. The technical report stated there appears to be no known detrimental chemical reactions between fatty alcohols and other materials used in organic farming systems.

It goes on to describe that toxicity is moderately low. And it indicates that fatty alcohols are suspected to be of low concern for environmental contamination.

Furthermore, the report defines that there is no evidence to suggest that fatty alcohols cause an increase in susceptibility to human health, infants and children. It explains that no readily observable affects occur in the agri ecosystem and that they're known for their high degree of biodegradability in the environment.

MS. BEHAR: Okay. Thank you. You did reach your three minutes. Are there any

questions from the Board?

MS. BRADMAN: Hi, Harriet. This is Asa. I was on mute. I just have a quick question and maybe it's kind of internal struggle. I'll just make a comment and maybe this is for discussion at another point.

But you mentioned public health and the effects on infants and humans. As a parent with teenagers, I have seen an enormous increase in use of tobacco products and the very serious health impacts of that. You know, of course, what's linked here is a reproductive toxicant. Cigarettes are carcinogens. There are many, many other problems with these products.

I'm kind of, like, torn in a way, perhaps a little heartbroken over this, you know, in terms of the argument and in terms of being able to support other kinds of organic agriculture.

And I'm not sure where that leads us. And I really think we need to focus on the agricultural activity. But since its human

health and environment, I don't think that's so relevant here in the sense that all of us know it is really a danger to public health.

And I know tobacco has a long history and centuries of use. And it's used in many different settings. But there's a level to this that perhaps maybe we can discuss more at the in-person meeting. Thanks.

MR. CARGILL: So was that a question? Comment? Okay. Thank you.

MR. BRADMAN: Yes.

MR. BUI: This is Jesse. Are you familiar that alcohol has been listed in California as a carcinogen?

MR. CARGILL: Listed as a carcinogen?

MR. BUI: Yes, sir.

MR. CARGILL: Not to my knowledge. Fatty alcohols are naturally occurring in the environment in plants. And so in fact, this alcohol is approved as a food additive by the FDA. So I don't. And I know of no published information that says they are carcinogens. At

least the chain links that we're talking about which are C8, C10, primarily --

MR. BUI: Thank you.

MR. CARGILL: -- carbon chains.

MS. BEHAR: Okay. Any other -- okay, thank you. Any other questions from the Board? Okay. Thank you.

MR. CARGILL: Okay. Thank you.

MS. BEHAR: Next up is Kelsey Kerston, with Jennie Landry and Katherine DiMatteo on deck. Kelsey, please state your name and affiliation.

MS. KERSTON: Hello. My name is Kelsey Kerston, and I work as a senior livestock certification specialist at CCOF. I'd just like to thank the NOSB for the opportunity to speak today.

I just wanted to touch on the discussion document regarding vaccines produced with excluded methods. At CCOF, vaccines play an important role in maintaining animal health and are used by the majority of our CCOF certified

livestock operations as a preventative health care practice.

The discussion document proposed three options on excluded methods of vaccines. The individual review of vaccines before at the NOSB. Furthermore, we're concerned that individual reviews could delay producers from being able to administer these vaccines, especially for operations using the less common or custom vaccines.

Option 2, the allowance of excluded method vaccines as a class or a type of vaccines would be a simpler solutions but allows for the possibility of greater use of excluded methods in organic production and allowing vaccines produced to exclude the method if there's no commercial available options to organic producers.

Or the third option, it's a middle ground offered in the discussion document. However, we don't see it as a perfect solution either. Excluded methods are still being defined. And collecting information from vaccine

manufacturers could prove difficult especially if manufacturers are unresponsive when asked to share information about their products.

Our thought is that NOSB should carefully consider the impact as well of each of these options on organic livestock producers with state mandated livestock vaccinations.

For instance, CBSA in California requires cattle entering the space to have histophilus vaccinations. Depending on the options supported by NOSB, if a state mandated vaccination was produced using excluded methods, organic producers could be limited in their ability to purchase out-of-state cattle and also limited in moving cattle in and out of the state.

Other states may also have specific state-mandated vaccination requirements, although I'm not aware of other state requirements.

CCOF does not support the use of excluded methods in organic production. But many organic livestock producers rely heavily on vaccines to ensure the health of their herds and

stock.

In order to have a safe and stable food system, we think the use of vaccines in organic livestock could be essential.

CCOF simply encourages the NOSB to invite organic producers and vaccine manufacturers as well as other potential stakeholders to present further information on this topic at our next NOSB meeting.

Thank you so much for the review of our comments. And if you have any questions, I'm happy to answer them.

MS. ARSENAULT: Hold on one second. Harriet. Sorry, you are on mute again. All right. You are unmuted, Harriet.

MS. BEHAR: Okay. Any questions from the Board?

MS. SWAFFAR: Hi, Harriet. It's Ashley. I have a question.

MS. BEHAR: Okay, good.

MS. SWAFFAR: Yes, so, Kelsey, we kind of struggled a lot with all of the points you

raised. Do you have a suggestion of is there an Option 4 that you would recommend?

MS. KERSTON: Hi, Ashley. We don't have an answer at this time. We're happy that it's being discussed, and it is a bit of a tricky situation.

The third option presented of exploring commercial availability seems like the potentially best option. We just think that there's a lot of potential for unintended consequences just in that most certifies aren't currently going through that process of checking with manufacturers and the fact that it seems that some excluded methods are still being defined.

So we think potentially exploring that option but waiting to suggest anything until that option has been sort of tested out may be the best route.

MS. SWAFFAR: Thank you.

MS. BEHAR: Okay. I also have a comment to review the written comments of Michael

Hanson. He's got some unexcluded methods vaccines. He's got some pretty detailed resources on how to find out which ones are clearly genetically engineered.

So I found that interesting. And maybe you will, too. So those are the comments from Michael Hanson from the Center for Food Safety.

Any other questions or comments from the Board? Okay. Next up -- thank you, Kelsey. Next up is Jennie Landry, and on deck is Katherine DiMatteo and Tom Honingford.

Jennie, please state your name and affiliation.

MS. LANDRY: Hello. Can you hear me okay?

MS. BEHAR: Yes, thank you.

MS. LANDRY: Okay. Okay. My name is Jennie Landry. I represent DSM Nutritional Products, the manufacturer of omega-3, EPA and DHA based products from fish oil.

DSM strongly recommends the relisting

of fish oil to the National List of non-organically produced ingredients in processed products labeled as organic.

The re-listing of fish oil is critical for its continued use as a nutritional ingredient in organic certified products. This is because organic fish oil is not commercially available due to the absence of organic production standards for aquaculture.

When added as a nutritional ingredient to foods, fish oil provides a reliable source of EPA and DHA omega-3 fatty acids that are highly desired by consumers, including those who choose organic products.

These omega-3 fatty acids are sought after because they have been proven to support overall health across several systems of the body, including contributing to healthy brain development and reducing the risk of cardiovascular disease.

Evidence supporting these benefits spans the past four plus decades and remain

favorable. Organic consumers recognize the benefits and should have access to these value-added products.

Fish oil is a naturally sourced byproduct of fish meal in edible canning industries. Despite contradictory statements in the fish oil technical evaluation report, most fish are caught for the exclusive production of oil for use as a nutritional ingredient.

It is highly inaccurate to suggest that fish oil production would contribute to global extinction of fish species.

Fish oil manufacturers, especially DSM, are committed to the responsible and sustainable use of natural marine resources. It's the only business model that ensures continued profitability that only for the fish oil industry but for all value chains and those who rely on them.

One more thing, DSM only considers fisheries who have the proper equipment, practices and procedures and legislative controls

in place to protect their stock. DSM sets expectations for environmental quality, social responsibility and sustainability, which are evaluated during a rigorous qualification process.

Lastly, to address the misconceptions that exist regarding health risks which have been associated with consumption of fish oil, due to the presence of environmental contaminants, fish oil for human consumption follows classical production techniques that include refining, bleaching and deodorization to control the risks of potential contaminants.

Fish oil has been proven to be generally recognized as safe with no FDA questions and all industry leaders who are members of the global organization for EPA and DHA must abide by the contaminant limits that are based on the strictest global regulations.

In closing, DSM strongly recommends the relisting of fish oil to the National List. As a leading producer of omega-3, we understand

that protecting our marine environment is crucial, and we are committed to sustainability now and in the future.

I will conclude by saying thank you to the NOSB for your time and opportunity to provide comments in this webinar.

MS. BEHAR: Thank you. Am I off mute there, Michelle? Hello? Whoa. Michelle, can people hear me? This is Harriet.

MS. ARSENAULT: I can hear you, Harriet, yes.

MS. BEHAR: Okay. Well, I didn't know. You keep putting me on mute. I do have a question, Jennie. In one of our questions in our document, we asked about if there's any limits on possible contaminants and how that purity is assessed and tested and if it is made available to the purchasers of the fish oil.

MS. LANDRY: Yes. So for the first part of that question there's no U.S. regulatory limits on contaminants in fish oil specifically although all industry players in the fish oil

industry follow the GOED voluntary monograph to have compiled all of the restrictive global regulatory limits that are in place and put it together in one monograph.

So members of GOED need to comply to those strict limits. In terms of assessing the purity and ensuring that those limits are met, it's likely individual for each manufacturer industry.

I mean, we, ourselves have a very -- we follow a quality management program, and we have strict quality procedures in place for the evaluation of our incoming materials and then routine contaminant testing. And then we have specifications on all of our finished products, which are available to our customers.

MS. BEHAR: Okay. Thank you. Any other questions from the Board?

MR. CHAPMAN: This is Tom. I have a question. Thank you for responding to our specific questions in your written comments. And we asked, you know, the fourth question was about

how we could potentially modify the listing to control for conservation concerns.

You guys offered four responses. Do you have a preference out of those four options?

MS. LANDRY: The options that we proposed are ones that today we would comply with. I think industry-wide, the one that makes sense to address the concerns that have been expressed previously with regards to the fish oil is that it must be sourced as a byproduct and not a result of direct fishing. That's a fairly straightforward one that has been expressed as a concern. And it's one that the industry already follows.

MR. CHAPMAN: As a follow-up to that, if, like, when we introduce in terms, like, byproduct in direct fishing, those will also have to be defined. Are you guys able to provide suggested definitions for byproduct in direct fishing?

MS. LANDRY: We certainly can put some better definition behind that to support that.

MR. CHAPMAN: Yes. If you could send that through, that would be appreciated.

MS. LANDRY: Yes. Will do.

MR. CHAPMAN: Thank you.

MS. BEHAR: Thank you. Any other questions from the Board? Okay. We will move on to Katherine DiMatteo, with Tom Honingford and Ray Frizzell on deck. Katherine, please state your name and affiliation.

MS. DiMATTEO: Thank you. My name is Katherine DiMatteo. I am the senior associate and partner of Wolf, DiMatteo & Associates, a consulting service to the organic sector since 1995.

We support the relisting of hydrogen peroxide as a disinfectant, algaecide and for plant disease control in organic crop production. It breaks down rapidly in the environment to oxygen and water leaving no residue.

It is a better alternative to process copper products for algae control and to chlorine materials as a sanitizer. As a plant disease

control, hydrogen peroxide based products show good to excellent efficacy under fire, blight, infection conditions in recent field trials at Oregon State University in 2016 and Connecticut Agricultural Experiment Station in 2018.

We also support the relisting of ammonia soaps as a large animal repellent. Yes, there are other alternatives such as fencing, coyote yarn and human hair.

However, for farms with large areas to protect, these alternatives are not sufficient, practical and are cost prohibitive. Other contact repellents like black pepper oil must be frequently reapplied.

Ammonia soaps work, are non-toxic, are readily biodegradable and do not migrate to cause harm to non-target organisms.

We support the review of paper planting aids in organic farming, in particular evaluation of the risks to the environment and human health. We encourage the NOSB to utilize the ASTM D5988 biodegradation standard as one

tool in determining if the paper and the additives used in manufacturing these paper planting aids that they meet National List criteria.

Finally, we support a low vetted National List but not decisions made that take away materials that can provide the needed tools for organic farmers. One material cannot be appropriate for all situations. Removing material from the list based on amount of current use and the consistence of other ordinates that may or may not be as effective is not reasonable.

Farmers need to be able to choose the material that fits their needs when they need it.

Thank you for the opportunity to comment and for your good, hard work for our good health.

MS. BEHAR: Okay. Any comments or questions from the Board? I have one question for you, Katherine. So one thing that we have been doing is not just looking to see if a material is biodegradable but the effect then

that material, as its biodegrading, has on soil biology.

Does this encourage one type of soil microbe to increase over another? Does it cause any kind of nutrient imbalances or whatever?

So I don't think that those biodegradable standards deal with that deeper effect. Do you think that we should be looking at that, or do you think that the soil is resilient enough that it's not so much of an issue?

MS. DiMATTEO: Well, I think this -- I have two answers for that.

MS. BEHAR: Okay.

MS. DiMATTEO: One is that I think that biodegradation standard includes the impact on soil as well, not necessarily the testing of it. There is also testing and certification of impacts on soil that can be done in conjunction with some of these ASTM standards.

So there are two ways in application that you can use it. But just looking at the

standard, you can at least get some criteria and tools that may be helpful in determining these paper pots and other paper planting aids that as you consider them whether or not they are going to impact both in degradation and in environmental impact.

But rather than suppose that there's any one specific testing method or certification that can be used to ensure that, I wouldn't make that suggestion. And I'm not sure that the NOSB or the NOP could, you know, just say one verification system is the only one that's being used. So it may be that you want to include testing as part of the guidance that you give on paper pots and other planting aids.

MS. BEHAR: Okay. Great. Any other comments from the Board?

MR. BRADMAN: This is Asa. I just had a quick question. You're saying that ASTM 6954-18?

MS. DiMATTEO: It's 5988.

MR. BRADMAN: Okay, 59.

MS. DiMATTEO: 5988.

MR. BRADMAN: Thank you.

MS. BEHAR: Okay. Anyone else? Okay. We will move on to Tom Honingford, with Ray Frizzell and Linley Dixon on deck. Tom, please state your name and affiliation.

MS. ARSENAULT: Harriet, we haven't been able to find Tom on either list, the webinar or the phone. So he may not be with us. I also don't see his area code phone number.

MS. BEHAR: Okay. Okay. Well, then, Ray, you're up next. Hello?

MR. FRIZZELL: Can you hear me?

MS. BEHAR: Is that Tom?

MR. FRIZZELL: This is Ray Frizzell.

MS. BEHAR: Oh, that's Ray. Okay, Ray. You are next. But Linley Dixon and Bill Wolf are on deck. Ray, please state your name and affiliation.

MR. FRIZZELL: I want to thank the Board for giving me this opportunity. My name is Ray Frizzell. I'm the CEO at Full Measure

Industries.

MS. ARSENAULT: Ray, this is Michelle at NOP. I'm sorry. You're a little faint. Is it possible that you could get a little closer to the microphone or -- okay? Harriet, are you okay? Can you hear him all right?

MS. BEHAR: Yes. But I'm wondering if you're on a speaker phone if you could get on a handset.

MR. FRIZZELL: I raised the handset. Can you hear me now?

MS. BEHAR: Well, we can hear you. You sound a little fuzzy.

MR. FRIZZELL: Can you hear me better now?

MS. BEHAR: We're getting a little background, I think. Come again, Tom? Sorry, Ray.

MR. FRIZZELL: How about now?

MS. BEHAR: Now we're getting really bad feedback and an echo. If you are near your computer and your speakers and mic are on your

computer as well, usually that's the cause of feedback like that.

MR. FRIZZELL: I'm away from my computer now. Can you hear me better now?

MS. BEHAR: Brilliant. Thank you. All right.

MR. FRIZZELL: I have run a half a mile out of the area.

MS. BEHAR: All right. Well, thank you. State your name.

MR. FRIZZELL: My name is Ray Frizzell. I am the President and CEO of Full Measure Industries, LLC, the organization that has put the discussion in for calcium acetate to be considered by the Board.

Full Measure Industries is a small family run business, and my son Nathan is an owner as well. And he will be going to the Board's meeting in Seattle at the end of the month. And he looks forward to meeting you all there.

What we are looking to do is to get

calcium acetate accepted as an organic material. Calcium acetate is an item that is created in nature specifically by the plant interaction with the microbes in the soil that create the calcium acetate, which makes it an available calcium.

So what we have done is we have taken pharmaceutical grade limestone, and we have created two products that take vinegar, concentrated vinegar, which is acidic acid and a portion of that calcium is created with that vinegar and that converts it to calcium acetate.

Calcium acetate has been found to be an unusually available calcium. And we have been able to make a 30 percent calcium where most other calcium products out there are excluded at 10 percent calcium. This is a huge advantage for organic farmers because you are going to get the benefit of the calcium up into the plants.

And we have research and studies that we have done that Nathan will be bringing to the Board at the end of the month for you to take a look at.

What else do I have to tell you on this? In addition, to being linked as a nutrient, our product also has the ability to help with prevention of sunscald. It has become more and more of an issue for crop growers throughout the United States and the rest of the world.

We've had great success with watermelon growers. In fact, we have watermelon processing companies that refuse to use the clay based calciums or clay-based shade guards because they foul up their equipment and leave residue where our product doesn't do that.

Our product is very easy to apply. You spray, rinse. And growers for the last 12 years have been using our product in agriculture. And we've got numerous requests by organic farmers to have an organic product in the marketplace. And we are now making that effort to make that happen. And I've run out of time.

MS. BEHAR: Okay. Any questions from the Board?

MR. ELA: Yes. This is Steve Ela, I have a question.

MR. FRIZZELL: Yes, Steve.

MS. BEHAR: Hi, Steve, go ahead.

MR. ELA: Could you elaborate a little more on why this product would be essential to organic production? I mean, there's certainly -- it may be slightly different in concentration or form than other calcium products. I mean, is it critical for organic production?

MR. FRIZZELL: I think it's very critical for organic production because it allows for the natural uptake of the other nutrients that are trying to be uptaken by the plants.

And it gives you the ability to move that material into the plant and give them much stronger cell wall development and it gives them crops that resist disease better and are more resilient once it gets harvested and they're put in the supply chain to stores due to the strength of the plant.

MS. BEHAR: Any other questions or

follow-up? Okay. We will move ahead to Linley Dixon is on deck, with Bill Wolf and Dave Chapman on deck. Linley, please state your name and affiliation.

MS. DIXON: Hi. I'm Linley Dixon the associate director of the Real Organic Project. So the Real Organic Project is a farmer-led and grassroots effort to get organic standards back in line with the law.

The formation of ROP is a result of major failures of the NOP, including the failure to enforce the livestock raising standard and implement the origin of livestock rule.

The direct result of these failures is the loss of many organic dairy farms that follow the rules and that were unable to compete under the same label and had misled organic consumers into thinking they were getting the nutritional benefits of real pasture organic milk in the marketplace.

The NOP failed to require real outdoor access for poultry, resulting in the dominance of

mega confinement chicken houses under the organic seal. The loss of pasture and organic poultry production has resulted in the emergence of pasture-based poultry labels, and those are directly competing with the organic label, but they're not using organic feed.

So the integrity of their organic label has been severely harmed by the failure to enforce real outdoor access for chickens.

Both the NOP and the NOSB failed to enforce 20520(c), control fertility and crop nutrient management practice standards again leading to unfair competition under the same organic label.

There are pre-certified berry farmers right now struggling to stay in business because they're losing markets to hydroponic berries under the same label despite extreme differences in cost of production due to the failure to follow soil fertility standards.

ROP is an attempt to restore fair competition under the organic seal. Under the

standards that follow the principle of AFSA (phonetic), of course, the lifeline were providing to farmers under the organic label will be too late for many producers.

Many pasture poultry farms have either long abandoned the field or gone out of business. The same is true for dairy, field grown tomatoes, cucumber, pepper and berry operations are experiencing the squeeze right now.

As NOSB members, we urge you to make the Real Organic Project obsolete by working to prohibit hydroponics and endorse the still standing 2010 recommendation on the requirements to foster soil fertility in both livestock and crop production.

Some have changed the meaning of organic to simply a product that doesn't come into contact with a particular substance. This fails to acknowledge all the prohibited substances that have been used to bring that product to the market.

Consider the chemicals applied to the

thousands of acres of conventional soybeans that are exclusively used to make hydrolyzed soy that fertilizes hydroponic crops.

Consider the prohibitive substances used to produce the substrates that hydroponic crops grow in. The increased use of prohibitive substances for the production of hydroponic crops is a direct result of the NOSB decision to allow hydroponic production without any standards to go with it.

There are many certification bodies that still uphold the soil fertility and crop production principles in AFSA. This is an unfair advantage to those APAs that have chosen to ignore parts of ERSA and go along with management's lack of enforcement of law.

The APAs with integrity who refuse to say if I don't certify them, someone else will, they're losing business.

We are working with some of these high integrity APAs to implement the ROP program this coming season. We have significant farmer

momentum behind us.

Thank you for your time.

MS. BEHAR: Any questions from the Board? Okay. Thank you, Linley. Next up is Bill Wolf, with Dave Chapman and Colehour Bondera on deck. Bill, please state your name and affiliation.

MR. WOLF: Hello. Can you hear me?

MS. BEHAR: Yes.

MR. WOLF: Great. I'm Bill Wolf, and I'm here representing both Thorvin Kelp and Wolf, DiMatteo & Associates, a leading organic consultancy.

I will amplify on our written comments about marine materials. We agree strongly that seaweed harvest must be sustainable, but we suggest a different solution.

My seaweed company only uses certified organic marine algae and would certainly benefit from your proposal to require certification of all marine algae used as crop inputs.

However, we do not support this.

Neither adding individual annotations to the National List nor requiring that input sources be certified is in the best interest of the organic community. Instead, I ask that you consider three overarching principles and comments.

One, apply the organic preference principle to the entire National List that when organic inputs and ingredients are commercially available, they must be chosen first.

Requiring the use of certified organic sources for all inputs when commercially available will solve both discrimination and phase-in problems, encourage innovation and continuous improvement.

This actually can be applied to 601, 603 and 605, not just 606. Although we haven't been the loudest, we've been making this recommendation for over a decade.

Of course, we would also support published and fully vetted guidance documents about inputs and sustainability measurement.

Two, our second issue is we suggest

that the Board triage the issues that are presented to the Board. Only select the core issues that advance responsible organic agriculture and don't overreact to the loudest voice in the room.

Organic regulations can't tackle all social and environmental issues. Farming itself is less than sustainable. There are much bigger organic farming inputs that would not meet such scrutiny from tractor fuel to mined minerals.

Number three, I encourage the Board to get more professional help from the USDA and NOP to study the issues and to help develop your positions.

As an Advisory Board with incredible volunteer citizens, you should demand to have a professional staff to help further gather accurate information and carry the primary burden of preparing your options and position papers.

Thank you for your time. I welcome questions.

MS. BEHAR: Okay. Any questions from

the Board for Bill?

MS. OAKLEY: Harriet, this is Emily. I have a question.

MS. BEHAR: Go right ahead.

MS. OAKLEY: Thank you, Bill, for your written comments on reading materials. And I have been hearing you over the past many meetings about the organic preference being applied to the entire national list.

In terms of how that might spillover into this discussion of marine algae, I have a question. Specifically, if we had some species for which there were no producers entering the marketplace with a certified organic product or a certified organic marine algae species, and that never developed over time but it happened to be a species that was definitely in critical environmental situations in terms of its harvest, how would that suggestion that you are recommending then address the issue of environmental impact and harm and the avoidance of what we are trying to come up with as we

explore this issue?

MR. WOLF: A really good question. Thank you. Well, first of all, history has shown that organic preference does cause this continuous improvement to occur. People innovate and look for opportunities to fill niches. And that has held true across how 606 has been shrunk over the years or changed over the years.

So it would be hard to imagine if that pressure were available that that effort would not occur. Harvesters and processors would look for that innovation and that opportunity.

But assuming that that doesn't adequately address the risk of either damage to the environment from harvest, that can be addressed several ways. But I think that can be addressed through guidance and can be addressed by including in guidance reviews of sustainability of methods of production of all inputs.

I think we are opening the door to some very important issues. But I think going

item by item is scary because it creates an uneven playing field, and it creates a place for the loudest voice in the room as I said.

I think that are some very strong efforts being made worldwide to assure best practices in marine algae harvest. I've been observing that in some places for as long as 37 years in terms of government oversight and the like.

MS. OAKLEY: Thank you.

MS. ARSENAULT: Harriet, you are --

MS. BEHAR: Okay.

MS. ARSENAULT: -- not on mute.

MS. BEHAR: Okay. Okay. Any other questions for Bill? Okay. Next up is Dave Chapman, and Colehour Bondera is on deck. Dave, please state your name and affiliation.

MR. CHAPMAN: Hello. I am Dave Chapman. I am speaking today as Executive Director of The Real Organic Project, and I am also a former member of the USDA Hydroponic Task Force. And I'm also proud of the fact that I'm a

long-time organic farmer.

As many of you know, I participated in a recent OFPA meeting with NOP Deputy Director Jennifer Tucker, and the following items came up that were important.

The pasture rule is not being properly enforced. The NOP acknowledges this and promises to do better. But they have been promising the same thing for nine years since Miles McEvoy announced the age of enforcement.

The origin of livestock rule is languishing in the NOP after passing the NOSB. Without my saying anything, Dr. Tucker said it would take years more to come to an action on this.

Associate Director Tucker said that she has no power to pass new regulations but the OFA members pointed out that she does have the responsibility and power to hold certifiers accountable for enforcing the current rules. This is not being done.

In an earlier conversation, Dr. Tucker

had made clear to NOC that there is no transition time required for hydroponic operations.

In the OFA meeting, Dr. Tucker said that the use of herbicides immediately prior to getting certified would not disqualify a facility from organic certification.

By implication there is also no restriction on the use of prohibited pesticides the day before changing substrate in a conventional greenhouse and then qualifying for organic certification the next day.

There's also no limitation on a greenhouse spraying a prohibited pesticide between crops, changing the substrate and reapplying for organic certification with no transition period. The allowance of herbicides and pesticides in this manner is the logical conclusion for the allowance of hydroponics in organic.

Hydroponic cannot and should not be called organic. These NOP positions are indefensible and unacceptable to consumers. They

are not outlier issues but cut to the very heart of organic. The only hope for the NOP is that consumers don't find out what is being allowed.

We all know this is not a good strategy. Consumers are going to find out if we're going to preserve a meaningful organic program in America, we need to bring great pressure to bear.

If we fail, there will be tremendous damage to caring consumers, the organic trade and to the real organic farmers of America. Ultimately, the entire $50 billion organic industry will suffer.

I urge the NOSB to challenge the NOP's reduction of your importance and to take a more activist role in representing the American people and protecting the meaning of organic. Thank you, and I welcome any questions.

MS. BEHAR: Okay. Any questions for Dave from the Board?

MR. ELA: Harriet, this is Steve Ela. I have a question.

MS. BEHAR: Go right ahead.

MR. ELA: Dave, I just want to follow-up and make sure I'm understanding correctly. So, for example, in a facility with container production, what you're advocating for is that the land that those containers sit on top of should go through the three year transition period. Am I understanding correctly?

MR. CHAPMAN: Well, Steve, what I'm actually advocating for is that America follow the EU standard, grandfather all of the existing container facilities out and require that organic be in the ground.

But if that were not the path that was followed then at the very least, yes, I'm honestly not advocating for just reforming the standards around hydroponics because I don't think if there's a logical path to allowing hydroponics, it's going to end up being very strange compromises.

MR. ELA: Yes. Thank you for that clarification. So are there -- so at this point,

are there farms with containers that -- I mean, you've mentioned -- I'm assuming you have real world examples where an herbicide for example is sprayed and then containers are put right on top of that ground?

MR. CHAPMAN: That has been reported to me, yes.

MR. ELA: Okay.

MR. CHAPMAN: I've been told that by people in Florida and California who are trustworthy people. But I don't have cameras. I don't have people who are willing to come forward because they're afraid of repercussions. But I'm sure if a serious effort were made to research this, the answer would be that it is happening.

I know of one certifier on record as saying they do allow that. And, again, it is the stated position of the NOP that it is allowed, that there is no transition period, and that's what that means is that you could use an herbicide or prohibited pesticide today, change the substrate and tomorrow you can be certified.

And, you know, we do have large greenhouse facilities that were conventional hydroponics that are now becoming organic overnight. So of course they were using prohibited pesticides.

MR. ELA: Thanks, Dave.

MR. CHAPMAN: Yes.

MS. OAKLEY: Harriet, this is Emily. Can I ask a question?

MS. BEHAR: Yes. Sure. Go ahead. Go ahead.

MS. OAKLEY: This is a question for the program. I don't know, Paul, if you're still on, but when I hear this discussion, I think immediately, no, there's absolutely no way that a prohibitive substance could be allowed and then a container could be certified as organic without following the three year transition period. Because in my view it's not the container that's getting certified, it's the land on which the container is sitting.

And I don't -- I think many organic

farmers feel the same that it's the land upon which the facility for a crop is grown regardless of how it's grown or where it's grown that is getting certified. So, Paul, could you please kind of answer some of the discussion that's going on?

MR. LEWIS: Yes. Thanks, Emily. So, yes, I'm aware, Dave, of what you're asking and the communication that we recently had on this.

I've been having conversations with NOP about this in terms of addressing this. We're going to have more to say next week. I know you want to be talking about it now, but I know Jennie will be talking about this next week at the Board meeting. So if you can just hold your question on this, Emily, until next week we'll have more share.

MS. OAKLEY: Sure. I absolutely will. I'll just say, though, that I hope that the clarification can be that the three year transition applies to any producer, land, farm, regardless of what's grown, the size or the

geographic region.

But I will wait to see what happens at the meeting next week to see where we go from there. So thank you, I appreciate getting more information.

MR. LEWIS: And thanks, Emily, for your understanding.

MS. BEHAR: Yes, thank you. Any other questions for Dave? Thank you, Dave.

MR. CHAPMAN: Thank you.

MS. BEHAR: And next up is Colehour Bondera. And I don't know if Tom Honingford, Andrew Dykstra, Dallas McCann or Marina Abitia are there. But if you are, you would be on deck after Colehour. Okay, Colehour, please state your name and affiliation and thanks for getting on the webinar. If he's there? If you're speaking, you're on mute.

MS. ARSENAULT: Colehour, I see you on the list, but we are not hearing you speak. It looks like you're on a headset, maybe if you can dial-in on a handset, or unmute your mic on your

computer maybe. Still not hearing you, but I can see you.

MS. BEHAR: So Colehour, we want to hear you. Maybe he's out snorkeling.

MS. ARSENAULT: Well, Harriet, if you want to run through the few folks that we skipped over or that weren't on the line when we called their name, and that may give Colehour a minute or two to get his audio worked out.

MS. BEHAR: Okay. Marina --

MS. ARSENAULT: Oh, sorry. He's dialing in.

MR. BONDERA: This is Colehour.

MS. ARSENAULT: Hey, Colehour.

MS. BEHAR: Okay, great. Hi, Colehour.

MR. BONDERA: Aloha. I was on the phone saying. I don't know. Let's try again.

MS. BEHAR: Okay. State your name and affiliation.

MR. BONDERA: Again, my apologies. Aloha, NOSB members. My name is Colehour Bondera

of Kanalani Ohana Farm in Honaunau, Hawaii. I want to say welcome.

If you don't know me, I want to thank you all for your service. It's a lot of serious work, which I know as an alum. I was a small scale producer from 2011 to 2016 on the NOSB.

And since NOSB cannot do all that is needed, Dave Chapman took it upon himself to seek integrity and stay true to what organic means, and my sincere thanks to Dave who in my opinion is going to be difficult to follow honestly.

I'm going to start with a few general comments and then end with some specific materials as you are considering.

First, I want to encourage you to remember that with roots back to 1949 that in 1998 a verbiage was put together called the Wing Spring Statement -- Wing Spread Statement, excuse me -- that reads, "When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships

are not fully established scientifically."

All that NOSB is working from, OFPA, is grounded in this concept. And it is important when making decisions that if there is a question raised that seems valid, even if not proven scientifically, then substances are best kept out of organic systems based on the precautionary principle.

With the five year concept of the material being taken off the National List, the sunset clause is for exceptions, which must be few. The NOSB should ensure that exceptions are just that, and not increasing in number or being kept in sunset mode in perpetuity.

As a teenager, one of my earliest memories as I became interested in food choices was related to learning about the animal and synthetic components of gel casings. And in fact this is not already in the past.

The non-organic produced collagen gel casings could be permitted in organic systems is like continuing to permit non-organic seeds for

planting. Please do not allow non-organic collagen gel casings to be added to the list of permitted non-organic materials. Get me out of the early 1980s, please.

Based on health and environmental risks, please reject petitions to add silver dihydrogen citrate and AITT, allyl isothiocyanate, to material listings as well.

Further, having worked directly while they were last reviewed, it is my sincere request that chlorine based sanitizers do not get relisted again still using the excuse of no other options when they are not necessary and/or not safe.

Finally, it is, after so many delays, in my opinion, time for synthetic methionine to sunset off the list of permitted substances.

Changing management practices and breeding choices and/or using natural methionine are all available. As a direct neighbor of mine who raises chickens and eggs here in Hawaii, she practices these behaviors with no problems for

organic chickens or the eggs at all. And even though that's just an example, I think it's vital. Thank you.

MS. BEHAR: Okay. Well, that was jam packed. Any question for Colehour.

MR. ELA: This is Steve Ela. I had a question.

MS. BEHAR: Colehour, just so you -- oh, go ahead, Steve. Go ahead.

MR. ELA: Colehour, with respect to your comment on sanitizers, and given Food Safety Modernization Act regulations, what is your alternative to chlorine materials?

MR. BONDERA: Well, I'm not going to be able to address details of that question. You know, I just remember quite directly from our research, and I'm not going to be able to comment on the Food Safety Modernization Act implications honestly.

But I am just full aware that there are other alternatives. You know, I go to my own personal bathroom, and I pull out my non-chlorine

bleach. And I look and there it is, hydrogen peroxide.

So I think that there are other alternatives that are readily available that can be made use of. And I just think that it's not as simple as we must use chlorine or we can't have organics. So I think it's too simplistic of a summary.

MS. BEHAR: Okay. Any other questions or comments for Colehour? I have one, Colehour, we are going to hear from the methionine task force. And they're going to be talking to us about what natural methionine materials they have tried and why they didn't work, and what they're planning to do.

So I know this has been a long time material that causes consternation on the Board, and we're doing the best we can to get good information on where we go next.

MR. BONDERA: I appreciate that. And I thank you for your continuing down the path in a healthy manner. And I think that needs to be

our shared goal.

MS. BEHAR: Okay. So I am going to ask for the people who were listed but did not speak during their allotted time.

Marina Abitia, A-B-I-T-I-A? Kathleen Mellone, a USC anthropology student? Dallas McCann, Fromer Market Gardens in Tannersville, New York? Andrew Dykstra, an Organic Valley dairy farmer and ex-WODPA President? And Tom Honingford from Hurricane Flats Farms? Those were the people that I have that had signed up but that did not give their public comments. Michelle, did I get everybody?

MS. ARSENAULT: I believe so, yes.

MS. BEHAR: Okay. Okay. Well, I guess I want to say thank you to everyone who is still on the line who participated and gave us some great comments.

On Thursday, same time, same place, we will have an abbreviated, it won't be quite as long as today because we have less of a list. So if you want to hear some more public comments,

the Board members will all be there. And we will be hearing from approximately 10 people on Thursday.

I want to say thank you all and any of you who will be in Seattle, see you in person next week and have a great rest of your afternoon.

Michelle, do you have anything else to say?

MS. ARSENAULT: No. I think you covered what I was going to say. Just that the next portion of the webinar is on Thursday at 1:00 Eastern.

So thank you, Harriet, thank you, everyone who participated. Great job keeping the noise in the background down. And we appreciate it. Thank you, Board members, and we'll talk to you guys on Thursday.

MS. BEHAR: Okay. Thank you. Bye-bye.

MS. ARSENAULT: All right. Bye-bye.

MR. ELA: Thank you, Harriet. Thank

you, Michelle.

(Whereupon, the above-entitled matter went off the record at 3:48 p.m.)

C E R T I F I C A T E

This is to certify that the foregoing transcript

In the matter of: Webinar

Before: USDA/NOSB

Date: 04-16-19

Place: webinar

was duly recorded and accurately transcribed under my direction; further, that said transcript is a true and accurate record of the proceedings.

Neal R. Gross

Court Reporter

UNITED STATED DEPARTMENT OF AGRICULTURE

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NATIONAL ORGANIC STANDARDS BOARD

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PUBLIC HEARING WEBINAR

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THURSDAY
APRIL 18, 2019

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The Webinar commenced at 1:00 p.m., Harriet Behar, Chairperson, presiding.

PRESENT

HARRIET BEHAR, Chairperson
SUE BAIRD
ASA BRADMAN
JESSE BUIE
TOM CHAPMAN
LISA de LIMA
STEVE ELA
JAMES "RICK" GREENWOOD
DAVE MORTENSEN
EMILY OAKLEY
SCOTT RICE
A-DAE ROMERO-BRIONES
DAN SEITZ
ASHLEY SWAFFAR

ALSO PRESENT

PAUL LEWIS, Director, Standards Division, NOP

MICHELLE ARSENAULT, Advisory Board Specialist

P-R-O-C-E-E-D-I-N-G-S

1:00 p.m.

MS. ARSENAULT: Hi, everybody. It's Michelle from NOP again. I have straight up 1:00 o'clock Eastern time here. So, I think we'll get started.

It looks like some -- well, you know what? Actually, let me wait a couple of minutes. It looks like folks are still joining in and rather than have interruptions and have to -- I'm sorry, I can't talk anymore.

Let's give it another minute or two and then we'll get started.

(Whereupon, the above-entitled matter went off the record at 1:00 p.m. and resumed at 1:01 p.m.)

MS. ARSENAULT: Hello, again, everyone. It's Michelle.

I think we're going to maybe get started. It looks like the majority, if not all, of the Board members are here. So, I think we're ready to begin.

So, welcome. We would appreciate it if you could self-mute yourself while we're on the call just to keep the background noise level down. Otherwise, we have to mute everybody at once and then we have to search for the people that are going to be providing comments to unmute them and it just takes a little bit extra time to do that.

So, Tuesday ran really well and background noise was at a minimum. So, I really appreciate that, thank you, everyone.

All right, we're going to get started and, first of all, Paul Lewis, the Director of Standards is going to call the meeting to order and then we'll dive into some logistics.

MR. LEWIS: Thank you, Michelle.

And, good afternoon, everyone. I'd like to welcome NOSB members and the public today to today's, and actually, our second day this week on the National Organic Standards Board Public Comment Webinar.

And, as I said before, I really

appreciate all the work of the NOSB members taking this call and for getting us ready for this public comment webinar. Thank you for all of your work serving on the Board.

This webinar provides the opportunity for the public to provide comments to the NOSB as part of the Board's upcoming public face to face meeting scheduled next week in Seattle, Washington. And, please consult the NOP website for information about the face to face meeting.

This meeting, like other meetings, the National Organic Standards Board will meet face to face and our public webinar operates under the provisions of the Federal Advisory Committee Act.

And, I look forward to hearing comments from the public to assist the NOSB preparing their recommendations to USDA in response to NOSB work agenda items.

I'd be remiss without thanking personally my colleagues in the Standards Division, Michelle in particular, for their work behind the scenes to bring us today's

teleconference.

I'd like to close by turning now to Harriet Behar, Chair of the Board.

Harriet, thank you, again, for chairing this webinar and for your upcoming serving as Chair for next week's NOSB meeting.

MS. BEHAR: Thank you, Paul. It's more fun than it might seem.

Okay, so, I will go through some housekeeping and if Michelle has any points to make after I'm done, she can chime in.

We're going to leave those phone lines open unless there's too much background noise, as Michelle stated. So, if you have a mute, please mute it. If not, you can press star, six to mute or star, seven to unmute.

Just as a reminder, you had to pre-register in order to comment on this webinar. So, as we are going through our 12 speakers, I will announce who's on deck, there's the following two people. So, you'll be ready to join in when the -- when we're done with the

previous person and any questions that the Board might have.

There is a timer which Michelle will show us or sound us when I'm done speaking so that will go off when you have done your three minutes of public comment. And so, when you hear that timer, please, finish up because you're at the end.

Board members, I think it worked pretty good the last time. Just I have a hard time, I don't really see people raising their hands. So, I will just ask for Board members to let me know who wants to speak and then you can ask questions.

It was very engaging on Tuesday and I really appreciate all the input from the Board members.

Just to let you know, this webinar will be transcribed and in print as part of the official public record for the Seattle 2019 NOSB meeting.

And, I just want to say, thank you to

all the public for their comments. It's really important for us to hear from the organic community so we know which way to head on these various issues facing us, materials, and practice standards that we are working on. And so, thank you so much for taking time out of your busy day.

Now, I'm going to go to Michelle and she can let us hear what the time sounds like and she will also do the roll call so you know which NOSB members are on the call.

MS. ARSENAULT: Thank you, Harriet.

All right, I'm going to hit the timer and give us three seconds here. Hopefully everyone can hear that okay. I know when you're speaking, sometimes, you know, it's not as loud as it needs to be.

All right, and I just want to touch on -- Harriet covered pretty much everything, I think. I just want to cover a couple of things.

Comments, our participants are able to chat into the Chairperson which is me and a couple of other staff members. And so, if we

have problems finding you in the list to speak, I may go ahead and send out a chat. So, kind of keep an eye on that.

The chat is not part of the public record. So, we don't accept comments through chat. So, please, don't do that.

And then, just for reference -- (telephonic interference) -- hi, if you're on the phone with us, please put yourself on mute. We're getting some background conversation. Thanks.

The other thing is, on the screen, I have displayed the readytalk.com help. If you're having technical problems, there's readytalk.com or you can dial that 800 number.

I've always had a good response and a good experience with their technical support. So, you can always call that number if you're having any audio problems or trouble with the website.

And, as Harriet said, there's a transcriptionist on the line with us, so the

notes will be transcribed and be part of the record after the spring meeting that ends in April.

All right, I'm going to take roll call of the Board members, so everybody knows who's on the call.

Sue Baird?

If you're speaking, Sue, you're on mute.

MS. BAIRD: So sorry. Yes, I'm here.

MS. ARSENAULT: That's okay.

Harriet is here. Harriet, you want to say --

MS. BEHAR: Yes.

MS. ARSENAULT: Thank you.

Asa Bradman? Asa, I see you, but we can't hear you. So, I think you may be muted as well. Or, you're on a headset, so maybe your mic is not working. So, I see you on there. We'll come back. Just be brief.

MR. BRADMAN: I'm here.

MS. ARSENAULT: Hello, sir.

Tom Chapman?

MR. CHAPMAN: Present.

MS. ARSENAULT: Hello there.

Lisa de Lima?

MS. DE LIMA: Here.

MS. ARSENAULT: Thank you.

Steve Ela?

MR. ELA: I'm here.

MS. ARSENAULT: Thank you, Steve. I see you there.

Rick Greenwood?

MR. GREENWOOD: Here.

MS. ARSENAULT: Hi, Rick.

MR. GREENWOOD: Hi.

MS. ARSENAULT: Dave Mortensen?

MR. MORTENSEN: I'm here.

MS. ARSENAULT: Hello, Dave.

Emily Oakley?

MS. OAKLEY: Present.

MS. ARSENAULT: Thank you.

Scott Rice?

MR. RICE: Present.

MS. ARSENAULT: Hi, Scott.

A-dae Briones?

MS. ROMERO-BRIONES: Here.

MS. ARSENAULT: Hi, A-dae.

Dan Seitz?

MR. SEITZ: I'm here.

MS. ARSENAULT: Okay.

And, Ashley Swaffar?

MS. SWAFFAR: I'm here.

MS. ARSENAULT: Hi, Ashley.

And, for those of you keeping track, I called 14 names. We had an unexpected vacancy on the Board a couple of months ago, so we are a 14 member Board at the moment. We will be 14 for the two 2019 meetings, so in April and October, we'll have 14 members present.

All right, Harriet, I believe it is all yours.

MS. BEHAR: Okay. So, first up is Allison Schmidt. And, after Allison, Berit Dockter, and Deborah Attwood are on deck.

And, I believe that Allison has

PowerPoint.

MS. SCHMIDT: Indeed, yes.

MS. BEHAR: Allison, you can start speaking.

MS. SCHMIDT: Okay. Can you hear me?

MS. BEHAR: Yes.

MS. SCHMIDT: Hello. Good afternoon, thank you for the opportunity to speak today. My name is Allison Schmidt. I'm a marine ecologist and my research focuses on marine plants, including algae and how human activities in Atlantic Canada impact the services that these ecosystems provide.

And, what I mean by ecosystem services are the benefits that contribute to the well-being of all species including humans, that these ecosystems provide through their normal functioning.

And, you can see from the chart that the services fall into four categories. And, algae ecosystems do provide services in all four categories and harvesting algae would fall

specifically into the provisioning category.

Our current economic system does not capture ecosystem services unless they are goods like products, commodities, or tourism.

And, as such, economists have been trying to put a value on all ecosystem services.

And, in 2011, globally, there were estimated to be worth $125 trillion U.S. dollars per year.

MS. ARSENAULT: Allison, this is Michelle. I'm sorry, I'm going to interrupt you. Your slides are not advancing automatically inside the software, so I'm going to have to do it for you.

MS. SCHMIDT: Absolutely.

MS. ARSENAULT: So, that will be me, I'm afraid. Thank you.

MS. SCHMIDT: That's fine, I can do that. So, if you could advance the slides to the next one.

MS. ARSENAULT: Okay, thank you.

MS. SCHMIDT: Okay. So, it pretty

much just states what I said. And, you can see that value there of $125 trillion U.S. dollars per year.

So, if you could advance to the next slide, please?

So, just to orient you to this slide, the pie chart is the percent that each natural ecosystem contributes to that $125 trillion estimate.

And, if you go on, the last shows the size of the ecosystem as a percent of total global area.

If you could advance, again, please?

So, what I want you to focus on are tropical forests and sea grass and algae categories that are highlighted in red.

And, what we can see in the pie chart is that the value of sea grass and algae is comparable to tropical forests. So, when you look at the table, you can see that the area covered by sea grass is an algae is actually five times smaller which means that these ecosystems

are disproportionately contributing services for their size which makes it essential that we maintain their functioning.

Next slide, please?

So, the global monetary value of sea grass is in algae is $6.2 trillion per year which is more than what harvesting and tourism in these ecosystems actually contribute to the economy.

For example, in 2014, marine algal landings in the Canadian Maritime Provinces contributed $1.3 million to the Canadian economy.

Next slide, please?

And, beyond harvesting raw materials, you can see that marine algo ecosystems provide a long list of services that directly and indirectly benefit us and range from providing nursery habitat for commercially important fishery species to oxygen production.

So, keeping this in mind, next slide, please?

The question is, how can we best mitigate harvesting impacts so that algo

ecosystems can contribute or continue to provide a full fleet of services that we currently do?

One way to do this is to ensure that harvested materials conform to the wild harvest standards. And, that wildcrafting standard language be added to the marine algae and their products on your national list.

Next slide, please?

MS. ARSENAULT: This is you last slide, so.

MS. SCHMIDT: It is, yes. Can I finish it?

MS. ARSENAULT: Harriet?

MS. BEHAR: Yes, you can.

MS. SCHMIDT: Thank you.

So, here, I've listed some key aspects that need to be considered within the not destructive to the environment amendment proposed by Beyond Pesticides in their comment posted on April 1st. And, we need to ensure that these points are addressed since they are important in maintaining the long-term health and resiliency

of algo ecosystems as well as the essential services they provide.

And, thank you.

MS. BEHAR: Are there any questions from the Board members?

(SIMULTANEOUS SPEAKING)

MS. BEHAR: And, maybe Emily has a question.

MS. OAKLEY: I do, thank you so much for your presentation.

And, I'm wondering if you feel that the wildcraft standard as it's currently written, I'm not sure how familiar you are with it, but also with the additional language that I know you've listed that Beyond Pesticides put in their public comments, if you feel that this is an adequate start for addressing this issue or if you have other suggestions that were not in the discussion document that you think might also help with protecting marine algae and the environmental impact of harvesting?

Thank you.

MS. SCHMIDT: I think that -- I have read over the language in both the original document of the wildcraft as well as the amendment from Beyond Pesticides.

I think that the amendment that they have written does a good job. It's a good start, but that's one of the reasons why I listed all of those items on my last slide. And, it's also in my written comments that those would be things that need to be considered within the definition that they are proposing.

So, I'm not sure if the language would need to change to reflect some of those points that I'm bringing up, but I think that would be a good discussion for the committee that I saw that you were proposing to put together a committee for the fall. And, I think that would be a good discussion for that group to have.

MS. OAKLEY: So, Harriet, can I ask a follow up question?

MS. BEHAR: Sure.

MS. OAKLEY: So, some people have

expressed concern that a fund buried under the spectrum, one that we don't need any additional regulations or standards because government regulations are currently sufficient or harvesters are following their practices in terms of their harvesting methods.

And then, on the other end of the spectrum, those are concerned that even if we applied organic certification of the rule for the, you know, marine algae ingredients, that would be a not organic crop input product. But that wouldn't go far enough to protecting marine ecosystems.

So, we're trying to figure out, you know, how to wade through those various ends of the spectrum in terms of public comments.

And, I'm wondering if you have any thoughts on that? And, I know that that's a pretty broad question, so if you don't, that's fine. But, I just appreciate that you're on the call so that I can see if you have any thoughts on this.

MS. SCHMIDT: Sure. I think that clarifying the no harm to the environment needs to be clarified in terms of the marine environment because it's not the same as the terrestrial environment.

So, I think that it would be important to make sure that that language be clarified specifically for marine algae.

MS. OAKLEY: Okay, great. Thank you.

MS. BEHAR: Any other questions from the Board?

(NO AUDIBLE RESPONSE)

MS. BEHAR: I have a question. I'm not sure how, but somebody sent me a video of kelp harvesting with something that looked kind of like a vacuum.

And, I just wondered if we should be looking at the types of harvest, too? Because I don't know if that would have, perhaps, a more broad catch than other methods. Because it seemed to just be kind of sucking up everything in sight.

Maybe can you speak to the specific types of harvest if there's more than one type?

MS. SCHMIDT: Yes, I think that when it comes to harvesting, that was actually one of my points that I think needs to be considered within that definition of no harm to the environment is the type of harvest.

Mechanical harvesting, at least in the Atlanta Canada, we had a history with it. And, we have had elimination of rock reed beds in areas that have taken a long time, decades to recover because of mechanical harvesting. So, that's the vacuum like harvester.

There are a number of different kinds of mechanical type harvesting, but any mechanical harvesting tends to do more harm than hand type harvesting.

So, using hand tools, either a knife for cutting it or a cutter rake or some other form that requires actual manpower rather than a machine.

Those would be preferred methods

because they do the least amount of damage in terms of not just by catch, but also damage to the remaining plants that are left behind.

Because, often times, some of these species will regenerate from pieces that are left behind. So, if it's being completely removed, then that makes it difficult for those species to come back in that way.

MS. BEHAR: Are there people currently hand cutting and raking? And, is it kind of environment -- I'm sorry -- economically viable method?

MS. SCHMIDT: That is the only way to harvest rock reed here in Nova Scotia is using a hand rake harvester.

I know that also in British Columbia, they use knife hand harvesting. There's not a lot of harvesting on the West Coast of Canada but what they do harvest usually uses a knife to cut the tops of the large kelp fronds from the surface of the water. And those tend to be more sustainable in the long term.

But that also has to -- there's also the caveat of how much you're allowed to take because no matter what method you use, if you can -- it has to be guided by a maximum amount as well.

MS. BEHAR: Sure.

Anyone else have a comment?

Dan, are you speaking?

MR. SEITZ: I'm not speaking.

MS. BEHAR: Oh, okay. For some reason it's showing up as you are speaking.

Okay, I'm not hearing anything else. Thank you so much and thank you for your written comments as well.

MS. SCHMIDT: Thank you for your time. Have a great day.

MS. BEHAR: Okay, next up is Berit Dockter, Deborah Attwood, and Jane DeMarchi on deck.

Berit, please state your name and affiliation.

MS. DOCKTER: Sure. My name is Berit

Dockter. I represent the International Food Additives Council. IFAC is a global association representing manufacturers and end users of food ingredients including a number of substances that are permitted in organic foods.

IFAC supports maintaining citric acid on the national list at 205.605a. Citric acids serve many purposes, including pH control and stabilization of processed food products as well as extending the shelf-life of fresh fruit and vegetables in addition to cut fruit.

IFAC is not aware of an organic source for citric acid that will meet the needs of organic producers in terms of quantity and quality.

IFAC also supports maintaining lactic acid on the national list. Lactic acid is a natural organic acid present in milk, meat, and beer. IFAC is not aware of organic alternatives to lactic acid.

IFAC supports relisting yeast at 205.605a. Yeast is extremely important to

organic food production, particularly in baking operations. A supply of organic yeast remains very limited and costly which is why we support continued use of nonorganic yeast.

IFAC supports maintaining enzymes on the national list. Enzymes are critical for the production of organic cheeses and dairy products.

Regarding the Handling Subcommittee's request for additional ancillary substances, IFAC provided a list with our written comments.

IFAC supports the continued listing of dairy cultures and micro-organisms. We also support combining these listings under the term Food Cultures.

Without dairy cultures and micro-organisms, many products like dairy foods, breads, fruit and vegetables, and meats would be unavailable to consumers of organic food. We also provided a list of additional ancillary substances for use in dairy cultures and micro-organisms with our written comments.

IFAC supports maintaining potassium

phosphate on the national list at 205.605b. Potassium phosphate may be used to provide a low sodium alternative to health and sodium reduction efforts.

IFAC also supports relisting sodium acid pyrophosphate, or SAPP. It's the only product capable of chemical leavening that is allowed by the National Organic Standards Board. And, leavens bake foods faster than yeast. We are not aware of a comparable ingredient that can be substituted for SAPPY.

And, lastly, IFAC supports maintaining alginic acid on the national list. Alginic acid is important in the stabilization and thickening of many foods. There is not an adequate supply or organically produced alginic acid available, so it remains essential to organic food production.

The seaweed used to produce alginic acid is harvested in a sustainable manner and we're not aware of any damage to local ecosystems.

So, thank you for the opportunity to provide comments and I'm happy to answer questions.

MS. BEHAR: Any members of the Board have questions?

MR. BRADMAN: This is Asa.

In terms of the alginic acid, what's your basis for the statement that it's harvested in a sustainable manner?

MS. DOCKTER: That's feedback we've received from our membership, but I'm happy to follow up if we have additional information to provide you.

MR. BRADMAN: That would be great.

MS. BEHAR: Yes, I second that. If you could get us the standards by which they are harvesting the algae, that would be useful.

MS. DOCKTER: Sure.

MS. BEHAR: Any other -- thank you.

Any other comments from NOSB Board members?

(NO AUDIBLE RESPONSE)

MS. BEHAR: Okay, well, thank you very much, Berit.

MS. DOCKTER: Thank you.

MS. BEHAR: And, for your written comments as well.

Next up is Deborah or Deborah Attwood and on deck is Jane DeMarchi and Francis Thicke. So, Deborah, please state your and affiliation.

MS. ATTWOOD: Can you hear me okay?

MS. BEHAR: Yes.

MS. ATTWOOD: Okay, great. Good afternoon. My name is Deborah Attwood. I'm an attorney with Steptoe and Johnson and I'm commenting today on behalf of PURE Bioscience.

Thanks for the opportunity to provide additional support for silver dihydrogern citrate, or SDC, would be a worthwhile addition to the national list.

For the full 2018 meeting, the Handling Subcommittee recommended that the NOSB should approve SDC for addition to the national list on the basis that it is of low risk to the

environment and human health and would represent a valuable addition to available antimicrobials.

Also, recognizing these benefits, the Subcommittee has now recommended against listing SDC due to concerns about environmental disposal, the alleged presence of nanosilver and the intended use of sodium lauryl sulfate.

PURE Bioscience has provided extensive comments to the public docket that address these concerns. And, we note that there is now no legal or regulatory reason why the NOSB, on the basis of these written comments and other oral comments, could not now approve SDC for inclusion on the national list and for the benefits of organic processes we strongly urge NOSB to do so without further delay.

I'd like to use the remainder of my time to talk about the role of antimicrobials generally.

In an ideal world, there would be no need for antimicrobials in food processing. But, in reality, bacteria such as Salmonella, and

Listeria, and E. Coli naturally are present everywhere, and so far, it has proven extraordinarily difficult to find reasonable and feasible natural methods to eliminate them.

And, these bacteria kill people. But the use of antimicrobials generally helps to reduce that threat. The antimicrobials themselves present a hazard to human health and human and environmental, yes, they do.

But the evaluations conducted by EPA and FDA are not just about recognizing a potential hazard, but about whether the risk from that hazard is sufficiently controlled.

Neither FDA nor EPA considers a products potential benefits as part of a safety evaluation, instead, they only consider whether the intended use of an antimicrobial on food represents a reasonable certainty of no harm.

The expertise of these agencies is recognized in the organic food production as recommendations. NOSB consults with these agencies on the safety of substances for

additional list.

Based on how SDC is intended to be used in food processing facilities currently not in the fields or in post-harvest applications, both FDA and EPA have concluded that SDC does not represent unreasonable risk of harm.

The NOSB has the advantage of being able to consider the benefits of SDC. There is no one antimicrobial that can be or do everything and SDC would simply be an alternative for processors to use as part of their pathogen management program.

It would allow them to conduct better antimicrobial rotation practices and thus reduce the threat of antimicrobial resistance.

It reduces the threat from food borne illnesses.

On these bases, we respectfully submit that SDC would be a valuable addition to the national list.

Thank you.

MS. BEHAR: Thank you.

Any questions from the Board?

MR. GREENWOOD: Yes, this is Rick.

I just had a question. You had mentioned, for instance, that Salmonella is everywhere. In fact, it isn't everywhere and mostly it's controlled by good growing practice and harvest.

So, I don't think that that's always a necessary addition to the processing and it's more of a shotgun approach.

I have some concerns about those kinds of statements.

MS. ATTWOOD: Yes, and then, certainly, there is no intent here to minimize the need for good manufacturing, good harvesting practices. That's absolutely a key and essential component on producing safe food.

You know, use of antimicrobials, it certainly has some issues. They're costly, you have disposal issues.

But the -- unfortunately, the fact still remains that for a variety of reasons,

whether it's through source material such as MRSA or manure, that food borne pathogens still remain.

I mean, if we look at the number of recalls last year, just as one example, related to produce, while, you know, absolutely, we should be encouraging good growing practices, we still want to use additional means to help reduce the impact of food borne illness.

And, antimicrobials, for now, are one method to do that.

MR. GREENWOOD: Yes, what my concern is, sometimes with the use of antimicrobials, people at the start of the food chain get sloppy because they think, hey, I can just let it go because somebody's going to throw an antimicrobial on this at the end.

And, even that doesn't always work because of contact time and how things are processed.

So, I think it's just a slippery slope sometimes.

MS. ATTWOOD: And, that's certainly a reasonable concern. Although I would -- that's not necessarily a rationale for why silver dihydrogern citrate shouldn't be added to the national list.

I mean, that's certainly an important overarching concern. But in terms of, you know, making sure that processors have the necessary tools available to them to produce safe food, antimicrobials, for better or for worse, are very effective, generally.

And, when you properly, also a very good point, when used properly are one tool for reducing that risk.

MR. GREENWOOD: Okay, thank you.

MS. BEHAR: Any other questions for Deborah?

(NO AUDIBLE RESPONSE)

MS. BEHAR: I have one, maybe two. The first one is, can you tell me what other sanitizers have been typically used in rotation? And, what resistance is it trying to avoid by

being part in that rotation? What virus, fungi, or bacteria? Why would it be used in rotation with other sanitizers?

MS. ATTWOOD: Well, so, antimicrobials and sanitizers can be used at a number of different stages in processing. And, each sanitizer may have different approvals from EPA or from FDA.

So, EPA, you know, may have approved it for use only in hard surface sanitizing. They may have approved it for post-harvest use.

Whereas, some sanitizes are approved purely for use in food processing facilities, but only in spray applications or others may be used in dip applications as well. It really just depends on the product themselves.

So, depending on the point at which you are -- you want to use the antimicrobial, you can use one that's best suited to your product, the pathogen of -- I mean, it really just depends on what products you're processing and what issues are of particular concern to your product

and to your facility.

I mean, one, I mean, you know, the pathogens of concern are going to be different for poultry versus produce.

But, I mean, I even noted in a recent, well, I'm not entirely sure how recent it is, but an FSIS Listeria compliance guideline for ready to eat poultry products, they recommend sanitizer rotation as one method to help prevent Listeria contamination.

So, the -- it depends on the products, it depends on the facility, but sanitizer rotation can be used based on the individual approvals for each product.

MS. BEHAR: So, for instance, it's not used specifically in rotation chlorine or peracetic acid or --

(SIMULTANEOUS SPEAKING)

MS. ATTWOOD: I don't know the answer to that question. I -- we could certainly follow up with some more information on what -- would you be primarily interested on product or poultry

or both?

MS. BEHAR: So, both.

MS. ATTWOOD: Okay, yes, we can certainly follow up with some more information on that.

MS. BEHAR: Okay. And then, my other question is if you had a chance to look at the comments of Consumers' Union, Michael Hansen?

He talked some about silver being used in human health. And that there was some concern about carping pathogen resistance and that having it in the food supply when it's also used in human health could be an issue. Have you had a chance to look at those comments?

MS. ATTWOOD: I have seen those comments. And, silver does have -- silver has a long, very, very long, hundreds of years long history of being used in medical applications.

And, actually, that lengthy history is in part good evidence of the fact that antimicrobial resistance to silver is -- it's not easy for bugs to develop because of its centuries

long use, one would think that by now, you might have seen some more resistance developing to it.

The science on antimicrobial resistance is certainly always advancing. I mean, it's a huge issue that the FDA is looking at. And, will continue to evaluate and it wouldn't surprise me if EPA also considered that.

But there are, for a couple of reasons, SDC uses extremely low levels of silver to achieve its technical effect. And so, you're not adding a whole lot of new silver out there into the food supply.

I mean, indeed, we talk in our written comments about how -- what SDC gets out in the environment is actually not really adding to the background levels that are already there.

And then, the other is the evidence for silver actually significantly contributing to antimicrobial resistance has been -- really haven't been demonstrated very strongly. They're -- they've shown some evidence in lab against some organisms, but their primarily not the

organisms that are of primary concern for our purposes.

So, I mean, it is, antimicrobial is a concern for all sanitizers used in food processing but where SDC is particularly concerned, it's on the pretty low risk end of that spectrum.

MS. BEHAR: Thank you.

Any other questions from Board members?

(NO AUDIBLE RESPONSE)

MS. BEHAR: Okay, I'm trying to get back to my list here.

Thank you. And, next on deck is Jane DeMarchi, and Francis Thicke, Elizabeth Miller are both on deck.

Jane, please state your name and affiliation.

MS. DEMARCHI: Hi, my name is Jane DiMarchi. I'm from the American Seed Trade Association. ASTA was founded in 1883 and we represent over 700 member companies involving

seed production, distribution, plant breeding, and related industries in North America.

And, our members produce seed for row crops, vegetables, grasses, cover crops, and, obviously, for the organic food market as well.

I'm going to comment on three different proposals, including the excluded methods, genetic integrity, and also, the NOP guidance of food usage.

In regards to the excluded methods comments, you know, we continue to have concerns about the criteria that has been established for the excluded methods. We know that it is -- that criteria has not been formally approved by the National Organic Program, but it is now being considered in some ways, we're starting to see it in other guidance documents which is of a concern to us.

We know these existing and the allowed methods and some of the methods that have been considered to be excluded or on the list for further consideration of excluded methods, we see

that reduction could really ultimately reduce seed availability because you're potentially excluding methods that are using the plant's own defense mechanism to address pest and diseases.

In the genetic integrity proposal, we are looking forward to the opportunity to participate in the survey proposed. And, you know, we still feel that the marketplace is the best place to address genetic integrity, freshness, et cetera.

And, the many businesses or members are providing testing information to their farmer customers.

Lastly, on the NOP guidance on food usage, you know, you'll note in our comments, we are very strong supporters of using trialing for large scale organic producers versus the catalogue where you're generally just using a small scale.

And, we note that there continue to be some species and crops that do not have true sources of organic seed at this moment. And,

it's likely that that will continue into the near future.

And, lastly, you know, most crops do not have a GMO equivalent and so we are concerned about the requirements for non-GMO declarations if they are not considered to be at risk crops.

And, just noting that AMS is now asserting the bioengineering disclosure regulations which do have a list of bioengineered crops that are available in the U.S. on the USDA website.

And, with that, I will conclude.

MS. BEHAR: Thank you.

Any questions from the Board?

(NO AUDIBLE RESPONSE)

MS. BEHAR: I have a question because I was reading your written comments. And, on the seed genetic integrity document, you used still that the cost of testing would become very prohibitive, but you've just mentioned here that many organic seed suppliers are already doing the testing.

And, really, the main purpose of this proposal was that we had heard from farmers that they are getting rejected at -- when they deliver a crop. And, they don't know if it's happened on their own farms, if they're getting seed that is somewhat contaminated.

And so, they really wanted to have some sort of baseline on what they're starting out with. So, when they sign a contract or trying to get into a certain marketplace that has a tolerance, they know where they're at.

For farmers that are using the seed on their own, they may not care as much for what presence of genetic engineering might be in their seed, but for others, it really makes the difference between a lucrative contract and conventional price many times.

So, I'm just wondering, since so many organic seed producers are already doing this, why would we not want to provide the farmers that information?

MS. DEMARCHI: So, I think one of the

things that we're wanting in terms of price is an additional amount of oversight testing that would be the responsibility of the farmer. And, I think that's one of the reasons why we feel like the survey and additional work on what is the testing program can have a huge impact on the expense.

If you're, you know, is there a requirement that the grower has to do their own testing in addition to whatever the seed company is providing? That's a potential for additional testing, you know, additional testing expense.

You know, there needs be -- really can very dramatically, I think, where different conversations about what all would actually be tested for and that can drive up the cost of testing as well.

So, I think, as I was saying, I think we're open to discussions about making testing data available, but we'd have to be mindful as programs are developed that there is potential costs involved that could add to the testing and

to the cost of the seed.

MS. BEHAR: Okay. Anybody else have any questions?

(NO AUDIBLE RESPONSE)

MS. BEHAR: Thank you very much. Sorry I mispronounced your name.

Next up is Francis Thicke, with Elizabeth Miller and Michael Huber on deck.

Francis, please state your name and your affiliation.

MR. THICKE: Okay, Harriet. My name is Francis Thicke. I'm speaking today on behalf of the Rural Organic Project which was created to bring the organic standards back into line with the original vision of the Organic Foods Production Act.

I'm going to focus my comments on the origin of livestock rule. Today, we have a national crisis in the organic dairy world. Many organic dairy farms are going bankrupt in record numbers. However, the large CAFO dairies seem to have enough capital backing to supply them for

organic dairy crisis.

The family dairy farms where the capital management and labor are embodied by the family are struggling and going bankrupt. I believe that a lot of the blame for this organic dairy crisis should be attributed to a loose interpretation of the origin of livestock rule.

Whereby some certifiers are allowing continuous transition with conventional cows for organic, that has allowed the CAFO dairy industry to grow rapidly and dominate organic dairy markets.

Today, we have a two track system. Some certifying organizations require all dairy animals brought into an organic herd to be organic from the last sort of gestation. Other certifiers are allowing some organic dairies to continuously transition conventional animals to organic.

Even when USDA Office of Inspector General in 2013 published an audit report that stated that certifying agents were interpreting

the origin of livestock requirements differently.

But some certifiers allow producers to continuously transition additional herds to organic milk production while others did not permit that practice. We all know this is wrong, the OIG said that it is wrong. It's time to fix it. Between 1994 and 2006, the NOSB made six recommendations for dairy and origin of dairy animals. By now, we all know what the solution is. In its most recent proposed rule of 2015, USDA actually had it right, but that rule was never finalized.

The 2015 proposed rule stated, quote, once the transition into organic production is complete, the producer will not be allowed to conduct any additional transitions. After the transition, the producer would only be able to expand the number of dairy animals or replace culinary animals on any dairy farm in two ways.

One, add dairy animals that had been under continuous organic management since the last third of gestation. Or, two, transition

dairy animals that had already completed the transition on another dairy farm. So, this is really quite straightforward. The USDA could issue a final rule on the origin of livestock tomorrow and has the will to do so.

Actually, I believe the NOP could fix this problem simply with a directive to certifiers to close this loophole. That would probably be the best route given the current climate against rulemaking in the administration.

And, there are precedents for this kind of action, actually. In 2014, the NOP put out a directive that certifiers could certify hydroponic operations even in the absence of any standards for hydroponic production.

And, in 2013, the NOP unilaterally changed the rules for sunset process without consulting the NOSB or taking public comments. So, it would be really very simple and straightforward for the NOP to put out a directive to all certifiers that continuous transition of dairy animals is no longer allowed.

Thank you.

MS. BEHAR: Thank you, Francis.

Are there any questions from the Board?

MR. SEITZ: This is Dan. Can you hear me?

MS. BEHAR: Hey, Dan.

MR. SEITZ: Hi, Francis, thank you for that comment. And, I think nearly all of us on the Board probably share your concern about the inconsistency and lack of enforcement in these areas. And, you referenced the actions that the NOSB has taken up until now to try to encourage stronger enforcement.

Do you see any steps that the NOSB can take as opposed to the NOP at this point? Or, is it entirely in the NOP's hands to act on this situation? To address this situation?

MR. THICKE: Well, it's actually in the NOP's hands. But, of course, the NOSB can continue to prod them on the, you know, the squeaky wheel gets the grease kind of thing.

It's very straightforward and I'd actually addressed my comments to the NOP and I would hope they would do something. Because we really have a crisis out here. And, we can do something to help that.

MR. SEITZ: Great, thank you.

MS. BEHAR: Any other questions? I have a question for you, Francis. If the NOP does not have a final rule out by 2022 or 2023, what do you think the organic dairy landscape will look like at that time?

MR. THICKE: Well, that all depends upon how the circles of organic milk goes. Right now, we're seeing a trend that were the CAFO core organic dairies are growing and new ones are starting.

And, a lot of that is attributed to the fact that they can continuously transfer animals.

So, if we don't have this stopped, we're going to see a continual growing of the CAFO organic dairies and we're going to see a

loss of the family organic dairies and it's happening very rapidly. It's actually kind of scary out here.

You know, farmers suicides today are twice the rate of Veterans, military Veterans. I don't know about organic dairy farmers, but I presume they aren't immune from that.

MS. BEHAR: Thank you, Francis. And, coming from Wisconsin where there are over 500 big dairy farms, I very much know that this is a crisis. I hear it all the time. And so, I agree that the National Organic Program really needs to look at this and move as quickly as possible, sooner than two or three years from now. Okay, next up is Elizabeth Miller with Michael Huber and Jim Paskind on deck. Elizabeth, please state your name and affiliation.

MS. ARSENAULT: Harriet, I haven't been able to find Elizabeth on the speaker list here. I'm not sure if she's with us today.

MS. BEHAR: Okay. We will come back to her later. So, next up is Michael Huber, I

believe you have a PowerPoint. And, Jim Paskind and Sam Hardin are on deck. Michael, please state your name and affiliation. And, there's your PowerPoint.

MR. HUBER: Thank you. My name is Michael Huber and I represent ICL Specialty Products, Inc. ICL is a manufacturer of food additives and specifically phosphates.

So, today, I will be talking about sodium acid pyrophosphate and potassium phosphates and the benefits and using them in certain applications. And, in addition, more detailed comments will be submitted in writing through the International Food Additives Council.

Next slide, please. So, sodium acid pyrophosphate has a long history of safe use known as grass. It is actually patented in 1938 specifically for chemical weapons.

Aside from being the only chemical leavening agent listed, it's heat activated properties is what makes it really near impossible to use other acids in its place. Next

slide, please.

So, here we see photos comparing SAPP to citric acid. The cake made with citric acid looks like a football. It actually has less color and it's a lot more dense, which is -- may be fine if you're trying to go for a pound cake, or if you like football shaped cakes.

This is due to the fact that citric acid can't really control when its gas production occurs. But that mainly is taking place even before the product goes into the over. And, that's why you need something that will only be heat activated like SAPP.

Next slide, please. So, in biscuits, you also see that citric acid doesn't even really provide any leavening. And, even gets splits in it, although SAPP actually provides a lot of leavening and keeps the biscuit structure intact so you won't have any splits in the biscuits.

Next slide, please. And continuing to list SAPP, you basically you'll offer conventional leavening based products, bakery

products such as tortillas, waffles, cakes, and baking mixes.

Next slide, please. By listing phosphates like SAPP also have grass status and have a long history of use. It is mainly used to provide buffering capacity, but has the added benefit of providing potassium which is, of course, an important nutrient to that.

The alternate added buffering agents, it performs quite well and only in combination with citrates, carbonates seem to have a higher buffering capacity around pH of 6.5. Calcium phosphates also provide for cellular reduction as a function pretty much like a sodium phosphate would, so you could use them interchangeably.

Next slide, please? With potassium phosphates, you could even products whether they are cheese based products like mac and cheese, they can have dairy beverages and plant based beverages and, of course, you get the benefit of having potassium rather than sodium, if you choose to use that. Next slide?

And, that's it. Thank you and if there's any questions I'd be happy to answer them.

MS. BEHAR: Thank you. Are there any questions from NOSB members? Okay, thank you very much.

MR. HUBER: Not a problem, thank you.

MS. BEHAR: Okay, next up is Jim Paskind with Sam Hardin and Jessica Gigot, I'm really not sure if I'm saying that right, on deck. Jim, please state your name and affiliation.

MR. PASKIND: I will. Thanks very much for the time.

My name is Jim Paskind. I'm an executive with Salm Partners, LLC. Salm Partners is a contract manufacturer. We make sausage. Our product portfolio includes many dairy free products, including many all natural sausages. Our sausage products are made with collagen gel as the product casing.

I'm speaking today in support of the

Devro petition to add collagen gel to the national list and in alignment with the Handling Subcommittee's recommendation. My primary purpose today is to summarize the marketplace demand for organic sausages in collagen casing. And, therefore, the growth opportunity for the entire organic meat market.

Collagen casing sausages have basically taken over the fully cooked sausage category, transitioning that category from sausages stuffed in processed pig intestine as the casing. Collagen casing sausage does now represent about half of the fully cooked sausage category. So, they've proven to be consumer preferred.

Regarding organic sausages, all the recipe ingredients, the meats, the seasonings, the condiments, are available as organic ingredients. The options for the casing, however, are much more limited.

Currently, the only casing option for an organic sausage is processed intestines which

is included in the national list. So, while the sausage category has evolved towards collagen casings made from collagen gel, there is no opportunity for an organic sausage made with collagen gel.

Specifically, among the potential market growth opportunities, collagen gel would enable production, for example, of a single species organic sausage such as a 100 percent chicken -- chicken sausage versus the chicken sausage in pig intestine casings. It would also provide the pathway to market a kosher organic beef sausage product.

So, the use of collagen gel will develop what is now the relatively new category of consumer preferred organic sausage. In turn, this will directly increase the market for organic meats, providing added value to the organic livestock grower as well as providing the same sort of value to suppliers or other ingredients used in organic sausage recipes.

So, this approval will benefit both

the consumer with a consumer preferred product and the organic producer community. I appreciate the time today to address the group and glad to answer any questions.

MS. BEHAR: Any questions from the Board members?

MR. BRADMAN: Yes, this is Asa Bradman. So, one, you know, if we list this under 606, we have the stipulation that you will use only the product is not term or available in organic form.

And, I want to, if you could comment on the availability of collagen gel in organic form and then also what steps can be taken to source organic material to make these -- to make the collagen casing?

MR. PASKIND: Sure. I think it is to a great extent or entirely a numbers issue. The availability of organically raised animals to provide the quantity needed of collagen gel is just not available.

Just considering a couple of the

numbers, the -- well, the casing is -- the collagen is a very small percentage of the total sausage. The corium layer in speaking of beef cows and specifically the corium layer of beef hides, is a very small percentage of the total animal weight.

So, right now, it's nowhere near the availability of organically grown animals to provide this. Now, I think part of the benefit of approving collagen gel as on the national list is to grow the organic meat market, because we will grow -- and it can apply beyond sausages, but we will grow the market for this type of consumer product.

Therefore, growing the need or increasing the need for more -- to raise more organic animals. So, we are moving in that direction with this approval but a good way to go to get to get to the point where organic gel, organic collagen from organically raised animals exists.

MR. BRADMAN: Thank you. Something

that would be really interesting to me would be kind of an analysis that kind of puts the numbers on, you know, the availability of organic animals, how, you know, what would be the geographic distribution that would be needed to have actions to their hides and processing and then, you know, are there plants available to actually process them?

It just makes it easier to see as kind of part of this, you know, almost a business plan for what steps can be taken to bring this to an organic resource material?

MR. PASKIND: Sure. So, I understand that. So, a review of availability now versus demand and what it would take to get to a viable level?

MR. BRADMAN: Yes.

MR. PASKIND: Yes, understood. I can -- we can certainly chase that down and provide it. Thank you.

MR. BRADMAN: Thank you.

MS. BEHAR: Any other questions? I

have a question. Can the collagen gel be kept refrigerated or frozen to hold it until there was enough of it to then process? Just wondering if freezing it might somehow degrade it so it could not be like saved up to get enough of it to then make the collagen gel. Do you know about the processing?

MR. PASKIND: Sure, I do. I do. The collagen gel is currently stored -- it can be stored ambient, but it is currently stored and refrigerated.

It does have rather extended refrigerated shelf life, not nearly what it would be if you could freeze it. In terms of freezing, there would be a direct degradation of the physical characteristics. The collagen gel is 96 percent water and 4 percent collagen protein. And, forming ice crystals and then attempting to thaw that product would cause physical separation and entirely eliminate the functionality of the gel.

So, unfortunately, freezing is not an

option. But we do refrigerate it and we do have rather extended shelf life. But certainly not enough to be in a position to, you know, to store enough gel to achieve what you're suggesting.

MS. BEHAR: How long is the shelf life in refrigeration?

MR. PASKIND: I'm sorry?

MS. BEHAR: How long is the shelf life in refrigeration?

MS. PASKIND: We are -- depending on the species, we are in the six month shelf life range refrigerated.

MS. BEHAR: Any other questions from the Board? Thank you very much.

MR. PASKIND: Thank you.

MS. BEHAR: Sam Hardin is up next with Jessica Gigot, I'm saying it like it's French, on deck as well as Harold Austin.

So, Sam, please state your name and affiliation.

MR. HARDIN: Thank you.

I'm Sam Hardin and I'm speaking this

afternoon on behalf of PURE Bioscience. I'm an environmental engineer, I work for Clearwater Consultants in Mississippi and we have a lot of experience in the design and operation of waste water treatment plants, predominantly serving food processors.

We also work from the side of municipalities in working with industry to determine incoming waste loads from cities and from industry on that side.

I understand there's been some previous discussion concerning the use of SDC in produce processing applications which might utilize an onsite zero discharge waste water treatment system.

Now, that is a big umbrella that can describe a variety of waste water disposal systems. But they all have the one thing in common that treated effluent, and I emphasize treated, is applied to the ground for further treatment and eventual return to ground water.

So, the treatment part of any zero

discharge system is typically going to be either aerobic with a small aerator or facultatively anaerobic where any available oxygen is used in treatment.

But, for the most part, bacteria are grown in the presence of no oxygen and organic material which we would consider waste, they consider food and they grow biomass.

Now, SDC is, you know, containing the silver ion is -- it complexes quickly with the organics in the waste water environment. Both the organics present in the raw waste water and in the biomass that's grown during treatment.

What would happen in a treatment system locally would be in the -- would observe the same mechanics that a municipal large waste water treatment system would where basically biomass is grown from waste water and is settled out and contained within the treatment system. And then, the effluent is disposed of elsewhere.

In small systems, that sludge accumulates and it typically accumulates slowly

and then, at some point, it needs to be disposed of. The typical method of disposal will be a suction truck which will vacuum that sludge out and then carry it to a larger treatment facility where it is combined with the sludge handling operation at a larger facility.

So, it's basically kind of a microbiological system that eventually joins its larger counterpart in the form of the eventual waste.

If, you know, following that treatment line through, the silver is basically meeting the same fate in the small rural septic system that it would meet where it discharged directly to the larger system in the first place.

With that, I'll be happy to answer any questions about, you know, what I've just talked about.

MS. BEHAR: Are there any questions from the Board?

MR. ELA: Harriet, this is Steve Ela. I have a question.

MS. BEHAR: Thank you.

MR. ELA: So, just to follow on your train of thought, you're saying that there would be no discharge of the silver to the groundwater, that it would be tied up in the sludge like, for example, in a septic tank?

MR. HARDIN: That's correct. But I might need to elaborate a little more why it wouldn't get to groundwater. Typically, when we say groundwater, particularly as it concerns public health, we're talking about a significant depth that water needs to travel. The level of treatment that a typical waste water would get in a septic system, we would not think of that water as being applied directly to an aquifer being used for a public water supply.

There is further treatment that is applied all the way down through the soil column until it reaches, you know, a depth where it could be used. So, in that line of thinking, yes, the vast majority of silver ion will be in the form of a salt and be disposed of with sludge.

There would be some level of silver that could be expected in the effluent, but in thinking about where it's traveling to, where there is also an abundance of organic material for it to absorb, too, the likelihood that it would be mobile enough to travel all the way to a groundwater source is not of, you know, great concern.

MR. ELA: Harriet, can I ask a couple follow up questions?

MS. BEHAR: Sure, please do.

MR. ELA: So, I hear what you're saying about depth to groundwater, but we know across the country there are areas with very shallow water tables.

So, would this material be restricted in those area where there isn't a significant depth to groundwater?

MR. HARDIN: Typically, constituents which are of great concern in groundwater contamination are mobile in water. In other words, they would stay in the ionic form where

they would be able to basically hydraulically be continuously supplied to the water table.

In this case, ionic silver would simply not be able to survive very long in a mobile phase. It would transition quickly to the stationary phase. The vast majority or that occurring, again, in the treatment system but, you know, in the portion that would make it to effluent, it would, again, be facing the same obstacle in terms of being in contact with a complex environment of materials to absorb to and to precipitate out of.

MR. ELA: And, would there -- we know, especially with the Food Safety Modernization Act now that in some cases, producers field harvested and actually being -- having a sanitizer applied to it in the field, not necessarily, you know, any waste water treatment system being available.

What would be your issue with that? Whether there, you know, there is no waste water system, it's just being field applied?

MR. HARDIN: Well, if you're talking

about the processing of harvested produce, are you saying, and I'm not an expert in produce harvest practices, but are you -- is the idea in your question that produce is processed onsite using water without treatment available?

MR. ELA: No, more that it's actually processed in the field, it's not run through a packing shed. So, in some cases, the sanitizer is not being applied to that produce, you know, with clean water, but with the sanitizer added, but not necessarily as part of the packing house, they're actually out in the field itself.

MR. HARDIN: I understand.

MR. ELA: And, in that case, then it wouldn't be any disposal system available.

MR. HARDIN: It's my understanding that SDC is not approved for that use in the first place. So, that would not be an approved use for the product.

MR. ELA: Okay, thank you.

MR. HARDIN: Yes.

MS. BEHAR: Okay, is there any other

questions?

MR. GREENWOOD: Yes, Harriet, Rick Greenwood.

MS. BEHAR: Hi, Rick.

MR. GREENWOOD: I have a question --

MS. BEHAR: Go ahead.

MR. GREENWOOD: Hi. I have a question for you. I'm very familiar with mercury, another metal, and how it gets magnified in the environment. Are there any studies that show there's accumulation of silver as it goes up the food chain that you know of?

MR. HARDIN: No, I'm not aware of any.

MR. GREENWOOD: Okay. Because, it seems to me, they're very similar in many ways and I was just curious how it could end up being in higher concentrations even though, you know, mercury goes out in very low concentrations sometimes but ends up in high concentration in animals and other forms of flora and fauna. So, I was just curious if you knew of anything.

MR. HARDIN: I'm not aware of any

silver bioaccumulation. And, you know, and I'm familiar with what you're talking about and this is just a conjecture on my part, with silver being, you know, a part of the natural environment, there would be every opportunity for it to -- for it bioaccumulate in organisms.

MR. GREENWOOD: Yes, I would assume so because mercury is also part of the environment from mining and galling and all the other sorts of things, ends up in high concentrations. So, that was one of my concerns.

MR. HARDIN: But no, to answer your question, I'm not aware of any bioaccumulation issues proceeding through the food chain.

MR. GREENWOOD: Okay, thank you.

MS. BEHAR: Okay, any other questions? Okay, next up is Jessica Gigot and up on deck are Harold Austin and Michael Hansen.

Jessica, please state your name so I know if I'm saying it right and your affiliation. Jessica, are you there?

MS. ARSENAULT: Jessica, I see you on

the line on a headset, but we're not hearing you. Maybe your mic is muted. No, we're still not hearing you if you're talking. So, Jessica, if you -- are you there?

MS. GIGOT: Can you hear me?

MS. ARSENAULT: Yes, we can hear you now, great.

MS. GIGOT: Great. Thank you. Great, My name is Jessica Gigot. I own Harmony Fields, a small farm in the Skagit Valley of Washington. We raise certified organic sheep and herbs.

Originally, our farm put in full scale vegetables and fresh culinary herbs. Since the beginning of the farm, we've refocused our goals and we have added a sheep creamery and we produce sheep milk (Telephonic interference.)

We are also considering the production of organic freshly died culinary individual herbs.

I believe in the organic label and the National Organic Program and want to make sure that it continues into the future. I know that a

lot of hard work and that dedication can help to create and implement this important program and I don't want to lose confidence in customer support of all that the certified organic label has come to represent in this country.

I'm also here on behalf of the Organic Farmer Associates as a member of the circle (Telephonic interference.)

This has been the second year in this industry. This organization represents the farmer's life. And I hope that organic agriculture gains more visibility, interest, and (Telephonic interference.)

Key aspects and priorities that are most important to me are natural, organic program integrity, the (Telephonic interference.) hydroponic organic production.

I do not want to (Telephonic interference.) program and its values. And, continue our organic community for Washington State and I want us to (Telephonic interference.) move ahead.

National Organic Program rules needs to be enforced and that all practitioners could (Telephonic interference.) in their sectors.

While actually hydroponic vegetable and herb production may be included in the (Telephonic interference.) food production, I do not believe that these (Telephonic interference.) the core values of organic production.

Also, organic producers that are embedded in their communities and driven by (Telephonic interference.) to not have to take (Telephonic interference.) these facilities.

Organic production is pretty big in this product. I can't say today whether that product is good or bad. I would say personally that it is not organic.

And (Telephonic interference.) you offer inflow and output (Telephonic interference.) impacts the viability of this (Telephonic interference.).

I urge the National Organic Standards Board to, number one, help the National Organic

Program to move the (Telephonic interference.) and recommendations and not allow for the (Telephonic interference.) hydroponics to the federal rule as recommended nine years ago.

I also felt that the National Organic Program to fully implement the enforcement rule of putting (Telephonic interference.) organic and in products.

If I have any time left, I'd like to mention as a small (Telephonic interference.) we're actually moving forward with the animal welfare certification, listed organic certification. At this time (Telephonic interference.) requirement. And, I'm curious about (Telephonic interference.) more dairy or micro dairy operations that are (Telephonic interference.) Thank you.

MS. BEHAR: Thank you. Any questions from the Board?

MS. OAKLEY: This is Emily, it's not a question, it's just a comment. I just want to thank you for speaking as a farmer representative

on that. I appreciate hearing from farmer voices. So, thank you.

MS. GIGOT: Thank you.

MS. BEHAR: Any questions? I have a question. Do you think your customers care if their vegetables are grown hydroponically or in soil? Do they have a preference? And, have it be labeled as organic?

MS. GIGOT: I think there's been a lot of different types of customers. So, the customers that I see at the farmer's market or the (Telephonic interference.) are either interested in knowing the farmer, knowing the (Telephonic interference.)

I think the customers that (Telephonic interference.) be aware of their (Telephonic interference.) organic fruit (Telephonic interference.)

But I feel like there'll be more opportunities for soil farms like ours to succeed economically if certain (Telephonic interference.) to buy organic or (Telephonic

interference.)

MS. BEHAR: Thank you. Any other comments from the Board? Okay, we're going to move ahead to Harold Austin, an NOSB alumni, and on deck is Michael Hansen and he will be our last speaker unless we go back and find Elizabeth Miller. Okay, Harold, please state your name and affiliation.

MR. AUSTIN: Thanks, Harriet. Good morning, Harold Austin, Director of Orchard Administration for Zirkle Fruit Company. I'm an organic consumer and past member of the NOSB, as you mentioned. And, I'm the current Chair of the Northwest Horticultural Council Science Advisory Committee and also their Organic Subcommittee Chair.

I had intended to be at the Seattle meeting in person, but unfortunately, got a family medical issue that is going to have to take and be dealt with. So my plans have had to change.

But I do appreciate the opportunity to

speak to each of you today via the webinar process even though it doesn't allow me to see each of your bright, smiling faces up close and in person. Maybe at the fall meeting.

I hope that you will all enjoy your stay in the Pacific Northwest, home to some of the longest certified organic farms in the nation.

We are proud of where we have come from and we look forward to what the future had in store for our organic stakeholders and our community as a whole.

I'd like to thank you each for all of your service in the organic community and various stakeholders that you each represent, the time and the energy that you have each spent with the preparation of the materials is greatly appreciated.

I have provided written comments in support of the continued listing for all of the materials currently under sunset review by the Crop Subcommittee, especially hydrogen peroxide,

horticultural oils, pheromones, potassium bicarbonate, magnesium sulfate.

These are essential materials for organic tree, fruit, berry, grape growers, not only here in the Northwest, but where ever these types of organic crops happen to be grown.

I've also provided written comments in support of all of the materials listed under sunset review by the Handling Subcommittee, especially for activated charcoal, hydrogen peroxide and peracetic acid.

These are important materials on the handling process whether it be in our organic wine grapes, organic blueberries, or in organic apple, cherry, and handling facilities.

I have also provided written comments on the assessing and cleaning and sanitation materials discussion document.

It's imperative that both of our organic crop producers and handlers have the much needed access to the key essential materials currently allowed for use as listed on the

national list as either a sanitizer or as a disinfectant.

Having adequate flexibility to alter the materials for the resistance management or use the appropriate material in either the dry or the wet side of our organic handling facilities critically important.

Using the long systems approach or the materials I mentioned can also actually be more detrimental for pathogen control and doing nothing at all.

At the end of the day, we have both the legal and moral obligation to provide the safest organic product to the consumer that we possibly can provide.

Again, I wish to thank all of you for all that you do for the organic community as a whole. I know it takes a lot of time and energy away from your jobs, away from your families to be a part of this process. And, I'm eternally grateful that you all are there repressing our organic community.

Thank you.

MS. BEHAR: Okay, any comments from Board members? Questions? Okay. All right, thank you, Harold.

MR. AUSTIN: Thank you.

MS. BEHAR: And, just to let you know that we are considering all sanitizers and actually hoping that our review will make an even a couple of sides within areas with our gaps.

But just help us in our overall review when new products come to us where they sit in the constellation of what we already have versus what we need.

MR. AUSTIN: Thank you.

MS. BEHAR: Okay, and last and not least is Michael Hansen. Michael, please state your name and affiliation.

MR. HANSEN: First, can people hear me?

MS. BEHAR: Yes.

MR. HANSEN: Okay. My name's Michael Hansen. I'm a senior scientist at Consumer

Reports. And, I'll be trying to make three points, you know, from our written comments.

First, for the Materials and GMO Subcommittee, we agree that the proposed definitions of both cisgenesis and intragenesis for the excluded methods terminology chart.

We are supporting those because they're basically similar to the definitions that we suggested last fall.

In terms of transbovines, we also support adding transbovines develop be of use of in vitro and nucleic acid techniques to the excluded method terminology chart since they're clearly not natural because they were constructed in vitro and then inserted into an organism.

However, and this -- there's a mistake in our written comments. We're saying we don't support listing of transbovines developed by environmental stress on the table on not excluded methods because we don't think natural occurring transbovines are really -- they're not a method.

So, they're naturally -- there are

different things that cause them to move around, different forms of stress, whether it's environmental stress or chemical or radiation.

And, those really aren't methods. So, I don't think we should even be considering them. So, and for the same reason, we think NOSB should drop the decision on whether transprotons that whether they're -- the use of chemical or radiation that that would make that use of transbovines and exclude nothing.

And, again, we're saying that since transbovines are natural, they really shouldn't be. They're not really a method.

It's different if you're making them in the lab and inserting them.

And then, on a second point for the Livestock Committee, we're glad that they have begun work on vaccines and organic.

And, of the three proposed regulatory solutions, we support the third one which is to change 2015-105e basically to read that excluded methods except for vaccines provided that there

are no commercial available vaccines that are not products to excluded methods to prevent that specific animal to ease their health problem.

We're also urging NOP to develop a list of which veterinary vaccines have not been produced using excluded methods. And, I think this can start, as we said in our comments, by the updating of this APHIS's current list of veterinary biologic including vaccines product catalogues.

There's already enough information in there to tell that a bunch of the vaccines are GMO. And, I think with a little bit more work, that can be done.

And then, finally, for the Handling Subcommittee, we oppose the recommendation to accept petition for silver dihydrogen citrate because we believe it poses a risk of increasing resistance to antibiotics and silver based medications used in wound management.

We also don't think the technical review has not shown that silver dihydrogern

citrate is essential for organic production and handling.

And, all right, I'll stop there. If you want to ask questions about dihydrogern citrates in response to some of the previous folks, I can talk about that.

MS. BEHAR: Okay. Any questions from the Board?

MR. BRADMAN: Yes, this is --

MS. BEHAR: I said, go ahead, Asa.

MR. BRADMAN: Okay, sorry. I -- yes, yes. You mentioned SDC and that the potential for increased resistance -- antibiotic resistance. And, I've been looking for information on cost resistance, the cost, you know, species, and you know, is it SDC versus other antibiotics.

And, you know, I work with people who are very steeped in issues around antimicrobial resistance, antibiotic resistance, and I haven't found anything to suggest that SDC would increase resistance to other frontline antibiotics. And,

if you could perhaps send us some, that would great.

MR. HANSEN: Yes, I actually, I think the point is is that there is the study from 2015 also clearly showed that for, at least for Klebsiella pneumonia and Enterobacter cloacae that the resistance to silver was high enough that the level of silver in this -- the silver impregnated burn and wound dressings, they could still continue to grow.

And so, those findings, they provide the first evidence of clinical bacteria that are capable of expressing silver resistance at high levels that could significantly impact wound management.

And, since there are many different types of these silver impregnated wound dressings, that nine of them tested two of them max or silver and duplex ad, both contained dianic silver and showed no reduction in bacteria levels after exposure to very high silver concentration.

So, there clearly is that is the concern, that it could select for resistance and become clinically significant bacteria that could adversely impact wound management.

MR. BRADMAN: Yes, that I understand. What I'm -- so there's been an implication in some studies that we're also talking about resistance to other antibiotics. And, that's where I saved my -- and I'm not too --

MR. HANSEN: So, yes, you know, part of the issue there is they should do more metagenomics and stuff because they often have found silver resistance genes, for example, in MRSA and other things.

And, even though the genes are there, in those cases, they remain sensitive for low silver concentrations. And, that was just that one MRSA.

But it is known that they're often found together. Right? So, that the first time silver was really discovered on this plasma PMG-101 from Salmonella which that was resistance to

silver, other heavy metals and multiple antibiotics.

Now, you can have the genes there, whether they're being expressed as high enough levels to cause a concern, that's a different issue.

But the fact that in main management where it's used, it's clear evidence that the ionic silver and selected for enough resistance that the bacteria, even at high concentrations weren't even -- their growth wasn't even decreased.

So, that was, you know, part of the main risk we see.

Now, the fact that there is a linked gene all over the place, you know, I reference that paper from 2005 that had two silver resistant strains of Enterobacter cloacae from infected genes, the nose drops resistant to ampicillin, erythromycin, and clindamyocin.

So, you know, more work needs to be done on that. I think the main concern is with

the gene management. But clearly, these genes are often linked together.

MR. BRADMAN: Okay, thank you.

MS. BEHAR: Okay, Emily?

MS. OAKLEY: No, Asa asked what I was going to ask about. So, thank you.

MS. BEHAR: Oh, okay.

Okay, any other questions?

MR. HANSEN: Can I say one thing?

MS. BEHAR: Sure, I wanted to ask you another question, Michael.

MR. HANSEN: Oh, okay.

MS. BEHAR: But if you -- but on a different topic. So, on silver Dihydrogern citrate, go ahead.

MR. HANSEN: Yes, and that someone had said that there's no evidence that there could be any bioaccumulation, I was just sitting here and Googling and I've already found an article from 2013 called Bioaccumulation and toxicity of silver nanoparticles and silver nitrate to the soil arthropod Folsomia candida. And, I'll just

read the last sentence.

It says, bioaccumulation factor was higher for silver nitrate an average 5.64 than for silver nanoparticles, 1.12). These findings indicate that silver ions are more toxic than Ag-nanoparticles and silver nanoparticles and have a potential -- higher potential to accumulate in Folsomia candida.

And, if you look, there's other studies out there that are looking into the biomagnification issue.

So, clearly, there is something here. If I can find it in, you know, five minutes, people, if they did more study on that, you could dive into that issue more deeply.

So, there is evidence that there is bioaccumulation.

MS. BEHAR: Okay, thank you.

So, I have a question going back to the excluded methods and the naturally occurring transprotons. So, you're saying that's not really a method?

But I would think that a radiation in a laboratory that would cause the transproton, why would that not be a method? Or would that be considered induced mutagenesis?

MR. HANSEN: Yes, that's right. Using radiation or chemicals to do this induced mutagenesis, it's going to be hard to figure out how much of those mutations are being caused by transbovines moving around internally as opposed to chromosomal breaks or other things that we know radiation does and that some of the chemical mutagens do.

So, rather than try to tease those out, we are not saying, don't look at the issue of these induced mutations, just don't necessarily consider there's no need to look at transprotons for that because you're still going to be trying to determine whether, you know, radiation or, you know, chemicals caused too much mutation.

MS. BEHAR: Yes --

MR. HANSEN: And, again, I'd separate

out -- I don't see any study yet which would be able to separate out from all the mutations caused, for example, by radiation, how much is due to the breakthrough to the radiation versus internal movement of transprotons.

MS. BEHAR: Okay. So, then the way that we're looking at it in putting some of this into the induced mutagenesis basket is the way we should go?

MR. HANSEN: Yes, you know, right. So, the only thing that really needs to be considered is when it's constructed outside the cell, then it's clearly a not natural method and that's why those transprotons, yes, those -- that is a method because those were developed to engineer animals.

But the naturally occurring ones, I just don't see them as a method. So, you know, you look at issues such as radiation and chemicals and just determine whether the mutations that are causing, whatever the mechanism. And there might be multiple ones with

these protons. That's a decision that the committee's going to have to make. And that raises some sticky issues, I think, for marketing that need to be discussed.

MR. BEHAR: Okay. Okay, I'm not sure, Michelle, did you find Elizabeth Miller?

MS. ARSENAULT: I don't see the number she provided on the list, but, Elizabeth, are you on the line with us? No? Okay.

MS. BEHAR: Okay, everyone. We, again, thank you so much for being with us for this webinar, for beginning the public comments for the spring 2019 NOSB meeting. We greatly appreciate the Board members and all the participants.

And, for those of you who will see us in Seattle next week, let's hope that it's not raining or we bring umbrellas.

So, with that, Michelle, I think we can close, is that right?

MS. ARSENAULT: Yes, that's excellent. Thank you, Harriet. Thank you, everyone, for

participating. I have to say this is probably the quietest webinar I've ever been on, so I appreciate everyone keeping themselves muted or quiet.

Thank you so much, we'll see you guys next week.

MS. BEHAR: Okay.

(Whereupon, the above-entitled matter went off the record at 2:27 p.m.)

C E R T I F I C A T E

This is to certify that the foregoing transcript

In the matter of: Public Hearing Webinar

Before: USDA/NOSB

Date: 04-18-19

Place: webinar

was duly recorded and accurately transcribed under my direction; further, that said transcript is a true and accurate record of the proceedings.

Neal R. Gross

Court Reporter

UNITED STATES OF AMERICA

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DEPARTMENT OF AGRICULTURE

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NATIONAL ORGANIC STANDARDS BOARD

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SPRING 2019 MEETING

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WEDNESDAY
APRIL 24, 2019

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The Board met in the Courtyard Ballroom at the Renaissance Seattle Hotel, 515 Madison Street, Seattle, Washington at 8:30 a.m., Harriet Behar, Chair, presiding.

PRESENT
HARRIET BEHAR, Chair
SUE BAIRD
ASA BRADMAN
JESSE BUIE
TOM CHAPMAN
LISA DE LIMA
STEVE ELA, Vice Chair
RICK GREENWOOD
DAVE MORTENSEN
EMILY OAKLEY
SCOTT RICE, Secretary
A-DAE ROMERO-BRIONES
DAN SEITZ

ASHLEY SWAFFAR

STAFF PRESENT
MICHELLE ARSENAULT, NOSB Advisory Board Specialist, National Organic Program
DAVID GLASGOW, Associate Deputy Administrator, National Organic Program
DR. PAUL LEWIS, Ph.D., Director, Standards Division, National Organic Program
CLARISSA MATHEWS, Ph.D., National List Manager
DEVON PATTILLO, Materials Specialist, National Organic Program
DR. JENNIFER TUCKER, Ph.D., Deputy Administrator, National Organic Program; Designated Federal Official

ALSO PRESENT
KRISTJAN BREGENDAHL, Devenish Nutrition
HEATHER BURLEY, McDaniel College
ADAM CLINE, USDA National Agricultural Statistics Service (NASS)
STEVE FULLER, Washington State Department of Agriculture (WSDA)
ANDREW MILKOWSKI, Ph.D., University of Wisconsin - Madison
LOGAN PETERMAN, Organic Valley/CROPP Cooperative
ERIN SILVA, Ph.D., University of Wisconsin - Madison
JENNIFER WASIELESKI, Kerry Foods
DAVID WILL, Chino Valley Ranchers; Methionine Task Force

CONTENTS

P-R-O-C-E-E-D-I-N-G-S

(8:32 a.m.)

MS. TUCKER: Okay, good morning everyone. We're going to get started here. Welcome. We are officially opening the spring 2019 National Organic Standards Board meeting.

My name is Jennifer Tucker. I'm the deputy administrator for the National Organic Program, which is part of USDA's Agricultural Marketing Service.

I'll serve as USDA's designated federal official for the meeting. First, thank you for being here and making the trip to Seattle.

I'm going to start by introducing the USDA team. First, next to me here is Dr. Paul Lewis, our Standards Division director.

Also supporting the meeting is our National List manager, Dr. Clarissa Mathews. Clarissa, stand up and wave.

And next to her, Devon Pattillo, our agriculture marketing specialist and policy

analyst extraordinaire. So, say hello.

Okay. Also in the room, we have David Glasgow. David, wave to everyone. David started as NOP's associate deputy administrator in January.

David has attended a couple of NOSB meetings before as he was previously the AMS director of public affairs. David has been with USDA for over 15 years.

Before he came to AMS, he was with USDA Office of Communications, the White House's Strong Cities, Strong Communities Initiative, rural development, and the Appalachian Regional Commission.

He holds an undergraduate in economics and political science, and a law degree.

So, David has been a wonderful addition to the team. I've really appreciated our partnership, so thank you.

We also brought with us Adam Cline. Adam, where are you?

(No audible response.)

MS. TUCKER: There's Adam right there. Adam is with the National Agricultural Statistics Service.

We invited Adam to join us because of the universally strong interest in organic surveys and data quality, both from the board and the community during our last meeting.

So, Adam is an expert on USDA's organic surveys, and will give a talk after my NOP update this morning.

To close the USDA introductions, I want to give a huge thank you to Michelle Arsenault, our advisory board specialist.

As always, this meeting would not be possible without Michelle. She does amazing work to bring us together. So let's give her a hand.

Now, I want to thank the National Organic Standards Board who devote themselves to the organic community every day, and in a multitude of ways.

There are currently 14 members on the board. We had a vacancy when Eric Schwartz left

for a new role earlier this year.

That means we are currently recruiting for five new members of the board. The call for nominations is open, and will close May 20. I'll talk a little bit more about that later.

For reference, even with 14 members, the number of decisive votes needed to send a recommendation to the program is the same as when we had 15 members. Ten votes are needed.

So, here's a quick overview of our three day agenda.

This morning, we'll hear from a very special guest, Steve Fuller, with the Washington State Department of Agriculture.

Then, we'll hear an NOSB update, I'll provide an NOP update, and Adam Cline will speak with the group.

After that, we're going to have a celery powder panel and a methionine update.

These segments really illustrate the unique collaborative relationship that the NOP and NOSB enjoys.

We're trying new approaches together in a way that supports community needs and advances our work in an effective way.

The rest of the day will be dedicated to public comments.

Tomorrow, we'll continue public comments, and then we'll turn to the subcommittees.

This will continue into Friday, when we'll have another panel. This one on biodegradable mulch film.

Again, this is another great example of collaboration, where both the NOP and the NOSB identified subject matter experts to speak to the group about the current research.

We'll close on Friday with administrative activities and a look ahead.

So to close, I'd like to give a special thank you to Harriet, the chair of the board and this meeting. Let's give her a round of applause in advance for the great meeting.

And now, Harriet, I turn the meeting

over to you, and to introduce the board.

CHAIR BEHAR: Thank you very much, Jenny. Hello and welcome everyone to the 55th publically attended National Organic Standards Board meeting.

Yes, we've been through 55 of these already. In the beautiful Pacific Northwest, in the vibrant city of Seattle, Washington.

This time around, it's the East Coast folks who will be getting up in the middle of the night until they acclimate to the new time zone.

The NOSB work is done by a dedicated group of board members, and I would like to let them introduce themselves now.

Please state your name, where you're from, and what seat you hold on the board, starting with Ashley.

MS. SWAFFAR: So, I'm Ashley Swaffar. I'm from Fayetteville, Arkansas. I sit in the farmer's seat.

I work for Handsome Brook Farms and have a small organic vegetable farm in Arkansas.

MR. CHAPMAN: Tom Chapman. I'm from Belmont, California. I work for Clif Bar & Company as a director of ingredient sourcing, and I sit in the handler's seat.

MS. BAIRD: I'm Sue Baird. I'm from Missouri. Executive director of the Mid-America Food Hub, and Mid-America Organic Association. I currently am serving as chair of the CACS.

MR. SEITZ: Good morning. My name is Dan Seitz. I'm a public member on the NOSB.

I live in Great Barrington, Massachusetts, and I work as the executive director for the Council on Naturopathic Medical Education.

MR. MORTENSEN: Good morning. I'm Dave Mortensen, and I, back in August, moved to assume the role of chair of the Agriculture and Nutrition and Food Systems Program at the University of New Hampshire, in Durham, New Hampshire. I am the scientist on the board.

MR. BRADMAN: Asa Bradman, and I'm in the Center for Environmental Research and

Children's Health in the School of Public Health at UC Berkeley.

MR. RICE: Scott Rice. I sit in the certifier's seat.

I'm the external affairs coordinator for the Washington State Department of Agriculture Organic Food Program. And I serve as the secretary of the board.

MR. ELA: Steve Ela, Ela Family Farms in Hotchkiss, Colorado. Western side of the state.

I sit in the farmer's seat, I serve as vice chair, and I am chair of the crop subcommittee.

MS. OAKLEY: Emily Oakley from Oaks, Oklahoma. I have a farm, Three Springs Farm, and I sit in the farm seat. And I'm a full-time farmer.

MR. BUIE: I'm Jesse Buie, president of Ole Brook Organics in Brookhaven, Mississippi. I sit in the farmer's seat, and I'm the vice chair of crops.

MS. ROMERO-BRIONES: I'm A-dae Briones.

I work for First Nations Development Institute out of Longmont, Colorado, but I run the California office, and we serve indigenous producers in Alaska, the mainland, and Hawaii. And I live in Lodi, California. Public seat.

MS. DE LIMA: Hi, Lisa de Lima. I sit in the retailer's seat.

I live in Gaithersburg, Maryland. It's a suburb of Washington, D.C. And I'm vice president of grocery at MOM's Organic Market.

MR. GREENWOOD: I'm Rick Greenwood. I sit in the environmental seat.

I'm a professor at UCLA in the School of Public Health, and I'm a certified organic avocado grower. And I'm from San Diego, California.

CHAIR BEHAR: I'm Harriet Behar. I sit in the environmental seat. And what am I? I'm an organic educator, an organic inspector, an organic farmer, an organic advocate, and organic

consumer.

And I've been to not all, but most of the 55 meetings of the National Organic Standards Board. With that, Scott, would you like to give the secretary's report?

MR. RICE: Sure. Madam Chair, the summary notes of the October 2018 biannual meeting in Saint Paul have been distributed to the board members. Are there any corrections or comments?

(No audible response.)

MR. RICE: All right. I had one comment. I was a little flummoxed by a bit of an anomaly in the transcripts that I found in the fall meeting. I found roughly 19 separate references to beards.

I'm going to get the Livestock Committee to look into that and I'll report back. Thank you.

CHAIR BEHAR: Living beards? Okay, so with that, I would like to turn it back over to Jenny, and she will introduce our first speaker.

MR. RICE: All right. Thanks, Harriet. Back to me.

I have the pleasure of introducing Steve Fuller, the assistant director of Food Safety and Consumer Services Division of our Department of Agriculture.

It's the division in which our program resides. One moment here.

Steve leads the Food Safety and Consumer Services Division, which ensures the availability, safety, and integrity of the state's food supply.

He previously served as policy advisor to the director, working on legislation, budget requests, and policy decisions.

Before joining the director's office, Steve built WSDA's first food emergency response team.

And Steve has a Master's degree in Public Health from UCLA, a Bachelor's degree in Environmental Health from California State University in Fresno. Steve, welcome.

MR. FULLER: Great, well thanks very much for having me. I really appreciate being here.

And I apologize for having my back to all of you, but my intent is to welcome everyone to the meeting.

So, good morning. Thank you so much for coming to Washington state. It's a tremendous pleasure to have the board and all of its guests here with us.

We hold your work in very high esteem. And it's an honor to be able to provide whatever modest support we can to your work.

We're very happy to have our own Scott Rice holding the certifier seat on the board. Scott's a tremendous asset to our program, and we're happy to share him with you.

We have a rich organic tradition here. We trace the roots of Washington's organic sector to a farmer-driven movement in the early 1970s to found Tilth Producers.

Tilth Producers' work over a dozen or

more years led us to the state legislature, passing the Washington Organic Food Products Act in 1985.

The State Department of Agriculture began certifying farming operations to our state standard in 1987 under the leadership of someone you may know, Miles McEvoy.

Today, Brenda Book leads our Organic Certification Program. On paper, I became Brenda's supervisor a little more than a year ago. But I can tell you that in the course of that year, I've come to appreciate that she's just as good at managing up as she is at leading the team under her. I'd describe her less as a program manager and more as a force of nature.

I've become so proud to have a small role on our team. We certify over 1,300 operations of all shapes and sizes to the USDA organic regulations.

Agriculture in this state is a very big umbrella, and we're proud to support both small, diversified, direct market growers,

alongside row crop producers exporting to international markets.

Over 90 percent of the organic apples and sweet cherries that this entire country can squeeze from the earth are grown right here in Washington state.

Now, I hear that cherry harvest may be a couple of weeks late this year, but don't fret. They're still on their way.

By some unjust quirk of latitude, California seems to beat us to market every year, but hang on just a little bit, and the superior Washington organics are on their way.

You know, agriculture in general has some really significant challenges on its hands these days.

For the average farm, revenue is down and debt is up. Most farmers have other jobs off the farm to try to make ends meet.

And when a farmer whose land has supported the family for generations has to sell, I can only imagine the level of heartbreak and

sense of failure. Even though the cause very well may be something macroeconomic, beyond his or her control.

On average, our farmers are getting older. We're having trouble attracting younger people to the profession. And we're losing valuable crop land to urbanization and climate change. And into this fray, steps the audacious idea of organic.

The idea that if we can connect consumers to a production ethic that resonates with them, they might be willing to pay a little bit more for that.

And if we can get our farmers a little better return, well then maybe not so many farms will have to be sold.

Maybe a new generation full of vigor will put their hand to the plow. Maybe farming communities, with their roads and warehouses and schools can continue to be a thing.

But the only possible way organic can keep providing its returns is if people keep

trusting that organic means something.

So, I hope I'm not being cliche by reading you this 1997 quote that I read from Michael Sligh, in his editorial on the original development of the U.S. Organic Standards.

The soul of organics is at stake. If this process proves to be too onerous or false, the soul of organic will be lost. Then, those who love organic will have two choices.

To reclaim the word and the concept, or to find new words and concepts. The future will determine this.

Meanwhile, the central guiding principles for our work, including the evaluation of any proposed rules, should be integrity, fairness, and transparency.

So that resonates with me, and that's why I feel so honored to be able to welcome you to this event in this place.

The board's work here, with broad community input, influencing and sometimes making public policy, can be the embodiment of those

principles.

I have no idea what the board should do with allyl isothiocyanate, but I very much believe in the value of your doing it.

There will be disagreements over the next few days. You will wrestle with hard things, and that's very good.

To the degree that you can all listen, advocate, and for a few of you, vote, with integrity, fairness, and transparency, you will create the value of organic.

So again, welcome. Thank you all for being here. May you do your work with the best that you have to offer. May it begin.

CHAIR BEHAR: Thank you very much, Steve.

MR. RICE: Thanks, Steve.

CHAIR BEHAR: I know Michael Sligh will appreciate that he was brought here through your words.

MR. RICE: Thanks, Steve. I wanted to also remind everyone that WSDA and Tilth Alliance

will be hosting a reception tomorrow evening from 6:00 to 8:00. And that's taking place in the Northwest Room, which is on the third floor. So, just a quick couple floors up above us.

We've got some reminder flyers out on the front table with a reminder of that room, as well. So, it's Northwest Room, third floor. We hope you guys can join us.

CHAIR BEHAR: Sounds like fun. Okay, so now, next on the agenda is I will give the NOSB chair report.

This is my first public meeting as chair of the National Organic Standards Board, and I want to say what an honor it is to work with such a fine group of dedicated board members who truly work to represent their constituency's concerns, as well as the overall health and vitality of organic agriculture, and the marketplace, as we debate and decide materials, guidance, and regulations for submission to the National Organic Program.

I especially thank the subcommittee

chairs, who have put in extra time to make sure that everything goes smoothly and gets done on time.

I've spent many years as a member of the public watching these meetings, and I can say that being on the inside has greatly increased my understanding of the process, both the opportunities and challenges.

There is much positive to congratulate ourselves as organic advocates. The organic market is growing.

Organic consumers have access to food and fiber that is healthier for them and represents so many answers to the environmental challenges we face, both regionally and globally.

More farmers are continually improving their farming systems by adopting fundamental and advanced organic farming practices, providing a healthy lifestyle and environment for themselves, their livestock, and their local communities.

In my mind, there's nothing more beautiful than working with and within the

natural systems that have evolved so beautifully on our precious planet.

This is not an unachievable dream. I see it all the time on the many excellent organic farms and the processors that I visit.

And in my life, I am greatly enriched, both by continually improving my organics farm, my farm's organic system, and biodiversity every year.

But there are dark clouds obscuring some of this sunshine.

Known cases of fraud and subsequent sale of non-organic grains as organic into our markets has highlighted the need to deal with the loopholes and gray areas in our regs, and enforcement is an immediate need.

This fraud has been discovered not only from foreign markets, but also domestically. There is unfortunately a long list of areas where enforcement and additional rulemaking is sorely needed.

Pasture for ruminants, origin of

livestock, outdoor access for poultry and other livestock, questionable uses of various materials, approval of hydroponic operations that do not meet the same standard as soil-based ones, lack of consistency by many certifiers, and the organic certification system needs more oversight and accountability.

Fear that a client might legally challenge a certifier decision has kept both the certifiers and the NOP from regulating to the clear wording and intent in many of these areas.

Instead, allowing clients to massage the regulatory language to fit their own needs and their own operation, and their own interpretation.

This does not hold everyone to the same high standard, and is one of the contributors to our current problematic situation.

The NOP has also limited their own work of what they're going to put to regulations based on the many recommendations given to them

by the NOSB, as well as the work of the NOSB.

Various issues have been taken off the work agenda, or the NOP has decided not to work on implementation of various NOSB recommendations.

Examples of areas that the public has noted in their recent comments include, whatever happened to work on inerts?

You know, why don't we have the animal welfare standards? Why aren't we looking at hydroponic? It's such a different system.

What about BPA in packaging? Why aren't we hearing more about the peer review system of the NOP? And maybe we will. Whatever happened to the apiculture standards? Pet food, and more.

These items were all mentioned many times by various commenters at this meeting, including the former deputy administrator of the National Organic Program, and expressing great frustration.

The public has stated the NOP needs to

develop better systems to address these important areas in a more timely way.

We are a young program in the bigger scheme of things at the USDA. And when we find a gray area or a loophole in the reg, we should be allowed to fix it as soon as possible, before it becomes the norm. Since this reg is still in its infancy, and these problems are bound to come up, and need to be addressed.

So, I think we need special dispensation from this administration to understand that when we need regulations, we need them sooner rather than later because we are so new.

However, our community is tenacious. And I do not doubt that these issues will continue to be part of the conversation until they are resolved.

I can see that the hardworking NOP staff is working towards solving these problems, and I commend the deputy administrator, Jennifer Tucker, for her willingness to engage openly and

transparently with the community.

However, we are playing catch-up in many ways to tighten up the oversight and enforcement of numerous areas of organic production, which is causing hardship in many sectors of organic.

We need to become more proactive to catch the problems before they become the norm. This is the responsibility of both the organic community and the program.

It is obvious we have the passion and drive to keep pushing for consistency in the implementation of the high standards we all worked so hard to develop, and provide the guidance to the National Organic Program.

We are a very unusual agricultural sector. We want to be regulated. We want those regulations to be followed, and we want them to be strict yet practical. I have visited literally thousands of organic farms, and many hundreds of organic processors.

Organic productions is not just

something they do, and not just for the money. It comes from their hearts, and has deep meaning in their lives.

That organic certificate is something they are proud of since it represents their intense commitment and good work that they are doing.

Organic consumers count on us to make sure the food they are getting is what they expect it to be. Organic. The NOSB and the NOP have a responsibility to live up to their trust in our work.

We, the organic community, the organic marketplace, organic advocates, the NOSB, and the National Organic Program cannot let down the consumers and the vast majority of owner-operators on the farms, and processors, who are doing it right, and are now competing with others who cut corners or commit fraud.

We understand there are problems, but I encourage all commenters and board members to keep in mind that we are here to find solutions.

I believe that if we are willing and we work together, we should be able to find a way to improve our rules and enforcement in a more timely way, and honor the hard work and desires of the organic community.

The entire organic community and the marketplace depends on the integrity of the organic label. Without integrity, we are nothing.

Lastly, I sit on the environmental seat of the board, and I continuously find myself in awe of the beauty and diversity of life on our planet.

I've brought along a variety of creatures that each of you should be able to choose from during public comment and after, as well as the board members.

There are little animals. Marine life, farm animals. There's a variety of little finger puppets.

There's wind-up baby chicks, because after all, we are talking about methionine. And

especially, there's some really cute frogs if you go in the bottom of the basket.

So, I will invite -- you know, over in the next few days, but I'm going to pass it around to the board members first so they get their first choice to choose one of whatever calls you first.

So, I brought a whole bowl full. So these are the farm animals, if you're called to farm animals. And there you go. So, thank you for that. Next up is.

(Off-microphone comments.)

CHAIR BEHAR: The chicks are really cute, don't you think? But the frogs are, too. Don't forget about the frogs. Okay, so next up we have Adam Cline.

(Off-microphone comments.)

CHAIR BEHAR: Oh, you're going to? Okay.

(Off-microphone comments.)

CHAIR BEHAR: Okay, I'm sorry. Next up is -- I had it on my -- okay, wrong. All

right, next up is Jennifer Tucker with the NOP update.

MS. TUCKER: Okay, good morning everybody. Okay, let's get started with the National Organic Program update.

I'm very pleased to be here today, and again, thank you for being here.

So first, I always like to open my section by acknowledging our certified organic operations.

There are 75 certified organic farms and businesses here in Seattle alone, and more than 1,400 across the state.

So, if you are one of them, a certified business from Washington state, please go ahead and stand up so we can give you a round of applause.

There you are. Welcome. We're very happy that you are here.

Now, let's take a look at the country-level and worldwide numbers. Our end of 2018 certified operations count was just over 43,000.

So, 43,004 certified farmers around the world. That was approximately a four percent increase over 2017.

That means that more than 1,000 new farms and businesses got certified in the United States between the end of 2017 and the end of 2018, so we're about 27,500 U.S. producers.

So, that pride that people can take in their new certificates, there were 1,000 of those folks who received new certificates last year, so, good for them.

Internationally, we're at about 15,500, which is an increase of just over 700. So, the count of certified operations does continue to go up.

So before I start the formal presentation, I'd like to clear the air. There have been some recent discussions about a conversation that the National Organic Program had with an organic group that visited D.C. a while ago.

The group asked about a scenario

involving hydroponics and container growing. The scenario was pretty specific, so we asked for the specific operation and the certifier involved.

In the absence of a specific case, I allowed myself to get drawn into a hypothetical, which is always risky.

I was sharing thoughts on policy complexities and nuances that can play into any particular case evaluation.

We emphasis that we would evaluate any complaint on a case-by-case basis, and asked the group for the certifier and operation.

The comments in that meeting and the case study itself have since been taken out of context and out of proportion.

The comments were not a judgment on a particular case. They were not a program decision or policy statement.

Whether an operation is soil-based, hydroponics, or container-based, the National Organic Program follows the rules and applies them to specific case facts.

We have since learned who the certifier in question is, and we've engaged with them to learn about what's happening on the ground.

We've also raised specific regulatory questions with our council's office. Those questions are currently being evaluated, and I'm happy to talk about what they are.

Here are some key points. Glyphosate is not allowed in organic production.

The National Organic Program reaffirms the need for all organic operations, including hydroponic and container operations, to demonstrate compliance with the regulations.

This includes confirming that no prohibited substances come in contact with an organic crop, and requiring that production practices maintain or improve the natural resources of the organic operation.

Certifiers are responsible for assessing individual operation compliance with the rules based on site-specific situations.

The work of the National Organic Program is based on regulations and on facts. Bring us facts and give us complaints with evidence.

Large and small, soil-based or not soil-based, we will investigate those complaints using the regulations and the evidence before us.

We do that every day. It's the core of our mission. We know that some in the organic community do not want hydroponics to be part of organic. And there was a 2010 board recommendation on that topic. That recommendation did not have enough details to support a rule.

To further explore those details to support rulemaking, between 2015 and '17, the National Organic Program supported a fair, open, and transparent process to support a task force.

We also supported the board's deliberation on this issue. After a lot of work and time, the community did not reach consensus on specific recommendations for hydroponics.

Therefore, hydroponics and container growing continue to be allowed in the organic program. The program and its certifiers continue to use the regulations and concrete facts to certify and oversee these operations.

Soil-based systems, hydroponic systems, and container-based systems are all accountable to the same standards, and we enforce accordingly.

So now, let's go back to the main presentation. NOP has four key priority areas. Everything we do, all the projects that we select fit into these four areas, and they are all oriented towards protecting organic integrity.

The first goal area is strong organic control systems, which lead to trusted people, processes, and rules.

Our second priority area is farm to market traceability, which supports worldwide supply chain integrity.

Third, robust enforcement. Core to all of our work is creating a level playing field

for all.

And then, fourth, we continue to support the standards and collaborate with the community, increasing engagement and transparency.

All our priorities are oriented around these four priorities, which reflect the needs of organic integrity around the world.

So, we have a lot to cover in a short time, so here's an overview of my update topics.

I'll give some program updates. I'm going to give an overview of the Farm Bill. I'll review the call for board nominations.

I want to talk about organic imports and the enforcement activities we're doing there using risk-based oversight approaches.

I'll highlight our Dairy Compliance Project. We'll talk about the Strengthening Organic Enforcement proposed rule.

I'll be pleased to launch the Organic Integrity Learning Center. And then, we will celebrate our INTEGRITY Data Quality Award

winners.

First, let's start with program updates. Our first update is on origin of livestock. AMS is grateful for NOSB's and organic stakeholder interest in this rulemaking.

A lot of letters have come in very thoughtfully describing the need for this rule. AMS is exploring having a second origin of livestock proposed rule on the fall 2019 OMB regulatory agenda.

So, due to the length of time from the first proposed rule, and changes in the industry, the current thinking is to do a second proposed rule, not a final rule.

We've gotten a lot of feedback on that point. We will continue to explore that within USDA, and with Office of Management and Budget, to determine what our options might be in that case.

However, I can reaffirm that AMS is exploring moving ahead with this rule.

Our second program updates relates to

the National List. The team's doing a fabulous job of moving National List rules through the system.

There was a final rule published on December 27. It had 35 changes. Most of those changes were effective at the end of January 2019.

We have a final rule in clearance right now to implement the fall 2017 NOSB recommendations, and we also have a proposed rule out.

The comments for that closed April 16. That relates to spring 2018 NOSB recommendations. So, you can see these rules.

We'll have shorter rules coming through the pipeline faster to get tools out to the organic community in an efficient and effective way.

Upcoming in development, we have the 2019 sunset materials renewal. That will be a Federal Register notice. We expect to publish that this summer.

We'll have the 2019 sunset material removals. That will be a proposed rule. Recommendations are currently under review.

And then, we will have a proposed rule for the fall 2018 NOSB recommendation. So, we expect to publish that proposed rule this fall.

So, next, I'd like to give an update on our compliance database.

Last fall at our meeting, I mentioned that we had just started building a new database to better align our electronic systems with other federal enforcement agencies.

Our new compliance system was launched in March. And this was the direct result of the increased funding that we received last year.

It is already helping us see patterns across our cases. It's providing more tracking for our investigative reports, tracking our corrective actions from violators.

We are doing a lot of enforcement work. A lot is happening out in the community. We can't always talk about our enforcement

successes.

This compliance database will help us get more visible data to keep the pipeline of investigations moving, and to get you, the community, better information about our enforcement work.

Next, some program updates on staffing. We have some new NOP leadership and staff. I just introduced David earlier as our new associate deputy administrator.

We're also bringing in a trade systems director. He starts in mid-May, and we actually stole him from Customs and Border Protection.

He wants to come over. He grew up on a dairy farm. We wants to come over from CBP to help us understand how to most effectively work with CBP.

And so, I think he'll be a wonderful addition to the team.

We added an accreditation manager last fall, and we finally, woohoo, have a quality manager.

We've been short a quality manager for quite some time, and so, I'm really pleased to have that position filled.

So, upcoming announcements. I'm going to change that to open announcements. We have job announcements on the street right now, and please, please, please tell your friends.

So, Insider came out yesterday. Another Insider came out today.

We are hiring livestock compliance specialists. That's a position that was announced just this morning.

We will hire up to two or three of those. They will be based in Washington, D.C.

They'll do both policy development and compliance and enforcement work, including leading the Dairy Compliance Project.

So, please, if you know qualified livestock compliance specialists, please encourage them to apply.

We are recruiting from across the nation for this, and you do not need to be a

current federal employee to apply.

And so, very important to get the word out. It will be capped at 75 people. So, if you know somebody, please have them get in their application early.

Yesterday, we announced remote accreditation auditors. So, this is new for us.

We're going to hire multiple auditors. They can be based in Washington, D.C., or anywhere in the country.

This is incredibly rare for us to do. Recruiting accreditation managers and auditors is really difficult. It's hard to get folks to come to D.C. full-time.

So, we are experimenting with recruiting for auditors out there in the world.

Now, the government has fairly short time frames on application dates, so please, please take a look at those applications, and if you're interested, and interested in helping spread the word, please do so as soon as possible.

So, anyone who does end up working for the National Organic Program will have the privilege of attending our holiday sweater contest next year. So, there we are. We have a motley crew there.

But, this is the National Organic Program at the end of December at our end of year celebration party.

Happy Administrative Professionals' Day. So, last April, the NOSB also started on Administrative Professionals' Day.

So, that day, I acknowledged and thanked our National Organic Program secretary, Joan Avila, who is fabulous and continues to take hundreds of calls into the front office.

So, this year, I get to say thank you again to Joan.

But I also want to tell you a story about how another administrative assistant is making a real difference in another organic organization.

So later this morning, I'm going to

share that the Georgia Crop Improvement Association is one of this year's winners of our Data Quality Award.

This award is given to the certifiers with the best data quality in the Organic INTEGRITY Database.

When I told the Georgia team about their award, Terry, who is in charge over there, shared with me that Jeanne Gonzales, their administrative assistant, is the person responsible for designing and maintaining Georgia's inputs to the Organic INTEGRITY Database.

Terry shared with me that Jeanne's investment in data and the database is what happens when a person truly believes in and dedicates themselves to a project.

There are administrative professionals like Joan and Jeanne across the organic community who protect organic integrity every day. Let's give them a hand.

Now, let's take a look at the Farm

Bill, which passed in December, so since we've last seen you.

There were a number of provisions directly related to the National Organic Program, so I'm going to review those here.

A number of provisions have already been integrated into our Strengthening Organic Reinforcement rulemaking. That rule was already on the regulatory agenda when the Farm Bill passed.

And so, that rule is integrating and expanding language from the Farm Bill into the rule itself.

So, three areas in particular there are eliminating exclusions, import certificates, and certifier office oversight.

The Farm Bill also called for a collaborative working group between Customs and Border Protection, NOP, and the Animal and Plant Health Inspection Service within USDA.

We have already identified members from that. CBP and APHIS have been

extraordinarily responsive. We have the work group identified, and we'll kickoff in the upcoming weeks.

The next category is technology. In May, we're going to be sending over money to Customs and Border Protection to develop the organic import certificate module in their existing import system.

That will get data into the system from organic trade. We also need to be able to get data out to see what is happening and to pursue investigations.

That requires both Memorandum of Agreement and data access. So, we're working closely with CBP to make sure both happen.

The Farm Bill also included additional funding for an organic oversight system globally.

And so, we are envisioning what that system is. A lot of it will start with the import certificate project.

Finally, there were changes in the Farm Bill related to the NOSB. The call for

nominations this brings includes the changes required in the Farm Bill.

And the Farm Bill also formalized voting rules already in practice with the board.

So, let's talk about the call for board nominations. Nomination period is open. It is due May 20, 2019. It was announced in the Federal Register in mid-March.

There are five vacancies. Up here on the board, we've got environmental protection resource conservation.

Someone who owns and operates, or an employee of an organic farming operation, two people who own or operate, or employees of an organic handling operation, and one person who owns or operates or is an employee of a retail establishment with significant trade in organic products.

And I believe we have a flyer out front if you want more information. It's also posted on the NOSB website. Just search Google for NOSB nomination process, and you will find

it.

So I'd like to take some time to talk about our organic import oversight, some of the risk-based oversight projects we've been working on.

Before I get into that, I do also want to highlight what we're doing domestically, as well. There is domestic fraud, and we are much better able to address that fraud given our current capabilities and tools.

We have built our relationships with the Office of Inspector General. They have taken on a number of cases with us.

What used to take months and years, in terms of investigations, is down to weeks and months. Investigations do take time, and they do take evidence, and we're not always able to talk about that work while it is underway.

It does get communicated in different ways on the website and in the public sphere as word gets out.

Enforcement is central to our mission

and we spend an awful lot of time on it. Our Compliance and Enforcement Division has expanded, using additional support made possible by incremental funding last year.

So, that work continues. It's often quiet, but it is happening.

Let me talk about six specific projects that we're doing related to import oversight. And some of these projects can also relate to our domestic work, as well.

So I'm going to run across these six, from left to right. First, I want to talk about the role of farm-level yield analysis in our approach to import oversight.

We recently completed a 100 percent review of farm-level records coming from three specific countries and three specific commodities in the Black Sea region.

We did this because we've talked a lot about supply chain traceability. And supply chain traceability is vital, but we also must know what's actually happening on these farms.

So, we took a look at all of these farms' Organic System Plans and inspection reports.

In doing this, we found that some yields are much higher. The reported yields are much higher than we would expect, given regional yield statistics.

So, sometimes farms are reporting up to two and three times the average for the region. And that's a problem.

So, we are now investigating that further. We have farm-level data that supports those investigations.

Second, we are continuing supply chain research. We have started a new project to map specific supply chains and relationships that may not reveal themselves by looking at official paperwork.

So, using advanced dark web research techniques, we are finding patterns of ownership and business relationships that may support further investigations.

Third, fumigation investigations. We are continuing to work closely with APHIS.

I'm going to share some more information and success story on that when we get to the next slide. They've been very supportive of our efforts, both in data and on the ground boots efforts.

Fourth, ship-specific surveillance. We do continue to conduct ship-specific surveillance when we get credible and supported information about incoming organic commodities. More details helps.

This supply chain analysis is helping us learn about patterns. And even when everything is confirmed to be organic and in good standing, which it often does, it does signal to the community and that trade that we are watching.

We will ask about any ship at any time, and that surveillance is essential to keeping everybody honest out there.

All of this work has supported our

ongoing oversight and investigations of certifiers, particularly in the Black Sea region.

So, certifiers are investigating their operations, and then we are investigating and overseeing certifiers.

For example, we have found that two certifiers oversee most of the farms that have abnormally high yield figures.

So, we are taking the necessary steps to hold those certifiers accountable for the certification decisions.

They need to explain to us how those yields are as high as they are. Those investigations will continue.

Finally, our sixth project is that we are working with IOAS, which is an international organic accreditation body, to conduct two country commodity studies.

Our goal is to develop standardized approaches for examining high-risk or emerging risks at a commodity level across an entire country.

This will further advance our ability to rapidly respond to emerging concerns.

So, all six of these initiatives have been underway and are continuing. They directly support our investigation and enforcement action.

So, let's take a look at some of the successes. As a result of the new directives on unannounced inspections and residue GMO testing, 100 operations -- about 60 percent of operations in the Black Sea region -- have lost certification. And there is continuous scrutiny of the remaining certified operations.

The impact is real. There's been a reduction in the organic grain and oil seed imports from the Black Sea region in Turkey.

In 2016, those imports represented almost 50 percent of the dollar value of those imports. In 2018, they represented just 21 percent.

In terms of fumigation, we are seeing increased importer awareness, and our partnership with APHIS is working well.

There are shipments that have not been sold as organic. They have been relabeled. So, let me tell you a specific illustration of how this has worked.

In March, the Port of Philadelphia notified the National Organic Program that they had fumigated a shipment of bell peppers that had organic label. The shipment included about 350 boxes.

So, this was actually the second report that we had received from Philadelphia about fumigation, and they included label photographs and supply chain documentation, like invoices.

Unfortunately, the first notice arrived during January, when the NOP was out on furlough.

So, label photographs are critical evidence, but they're actually not included in the text-only automated fumigation reports that come to us from the APHIS database.

So, we were able to use the

photographic evidence and available trade data to identify and contact our bell pepper importers.

The importer reconditioned the peppers. That's the term they use.

By removing they literally removed every single sticker off every single pepper, and replaced those individual stickers with a non-organic sticker number. They also papered over the word organic on all bulk containers.

So, in addition to providing evidence of this reconditioning, the importer also shared that a similar shipment was on route to Miami, and would also be reconditioned to remove the organic claims.

So, to further this work, the NOP has proposed a statement of work to APHIS.

In order to expand this type of information sharing, we want to expand to the ports of Miami and Long Beach, where a lot of organic products come in.

Next, I'd like to give a report out of our Dairy Compliance Project. And this has been

a significant domestic initiative this year.

I'll talk about the process, the policy outcomes, and the compliance outcomes.

First, we'll take a look at the players. Who's been involved in this project? We have AMS auditors and NOP compliance specialists. Our auditors are coming from across AMS, particularly the livestock and poultry programs.

They have a lot of auditors who know a lot about livestock, and we've given them specialized training on the organic standards.

Many of them had done accreditation audits with us before, so they already are familiar with the regulations.

On selected cases, the Office of Inspector General has also gotten involved, as has the Animal and Plant Health Inspection Services. Certifiers have been an important part of this work, as well.

All of our visits for the Dairy Compliance Project have been unannounced. These

have all been unannounced visits. They've occurred nationwide.

They have been single day and multi day, depending on the circumstances of the operation.

We consider the project to be highly successful, and our 2019 program has already started. The unannounced visits will begin actually this week. Our assistant director of compliance and enforcement right now is in the Midwest at a dairy farm.

We have done auditor training with about 17 auditors to lead this program this year.

So, policy outcomes from year one. This was our first year of doing a structured surveillance project in dairy. And we learned a lot about the training needs for our certifiers and operations.

The Pasture Rule is a good rule. It is well written. It needs to be better enforced. And so, there are training needs that need to be done with certifiers in some very specific areas.

So first, we saw some challenges with how the regional grazing season is defined.

That there are some large dairies that are near each other that have very different declared grazing seasons, and we need to have certifiers really looking at what is the regional grazing season? Not just what somebody writes down on an OSP.

We need to carefully teach and review justifications for breaks in the grazing season. So, discontinuous grazing season.

There is an allowance for it in the regulations, but the regulations are pretty specific about the allowance that is provided.

This is an area where we believe more training is needed, both with certifiers and operations, to ensure that those justifications are aligned with the regulations.

We also need to do more training on crop rotations and natural resource management. And we had some observations related to access to shade and water sources.

So, unfortunately, our training in dairy -- we were going to do face-to-face training in January with our certifiers, and it was impacted by the shutdown.

We have talked to certifiers, and certifiers would prefer getting online, self-serve training, so lots of people can take it in their organization to get the word out.

We need to train certifiers to be asking the right questions at the right time, to look for the right things, and to have the right inspectors assigned to the right operations.

So, we will be launching self-guided training in the Organic Integrity Learning Center this summer.

Anyone will be able to register for an account and view that training, both operations and certifiers.

Part of that training will involve some sort of case studies where different parts of the regulations need to be considered against each other.

So, for example, pasture quality changes over the course of a season, and can be impacted by season lengths.

So, your pasture season can directly impact DMI values. It's very important that certifiers know the right questions to ask to consider both of those variables to maximize compliance with the regulations.

Finally, compliance outcomes. We did find that all operations that we visited demonstrated at least 120 days of grazing.

So, even with the discontinuous grazing season, every farm that we visited did meet that requirement.

There had been some rumors that maybe that wasn't the case. It was the case. They all hit the 120 minimum.

All cows got 30 percent DMI from pasture during the season. And so, that was another concern that we had -- was looking at DMI values. All the farms that we visited were hitting that 30 percent.

So, where supported by the evidence, investigations are ongoing. And this is both at the operation level and at the certifier level.

Do keep in mind the non-compliance and adverse action process that we take, both with farms and with certifiers, where there are correctable violations are allowed to correct those non-compliances.

So, certifiers who are found to have gaps in the system will receive a non-compliance in order to be able to correct those gaps, as will farmers.

So, we are continuing investigations. We are taking enforcement action. There has already been a significant civil penalty levied against a livestock operation.

Okay, let's move to our Strengthening Organic Enforcement proposed rule.

You'll be grateful that I'm not reading this list to you, but this is a snapshot of a number of areas that are being considered for the rulemaking.

You will note that this is an update of the last slide I did, and it has changed a bit based on feedback from the community. We had a webinar and have gotten some very thoughtful letters. There's also the Farm Bill happening.

And so, this list is a little bit different than the list you've seen before. But the rule is very, very well underway and we're feeling very good about a fall 2019 publication.

So, can't be more specific than that. This is considered a significant rule, which means that it will go through inter-agency review.

So, agencies like CBP, for example, will be able to read our rule and comment on it, which we think is a very strong benefit. And it will lead to a fall 2019 opening of public comments. That will be announced in an Organic Insider.

So next, our final two updates are really good news updates. First, I am pleased to announce the launch of the Organic Integrity

Learning Center.

So, this is another project that we had just started when we met last fall, and that directly results from the increased funding that we received last year.

The core idea behind the Learning Center is that qualified and trained organic professionals lie at the heart of strong organic control systems.

It is the strong organic control systems that lead to fair and consistent certification, and ultimately drive organic integrity.

So the Organic Integrity Learning Center offers free online training that supports the professional development and continuing education of all professionals working to protect organic integrity.

So the system is live. So, we assign the accounts at NOP, so you're not able to self-register. And that has to do with the way we manage seats.

So, every seat is a subscription service to the learning management system, so we need to register you into the system.

So, the way that this is going to work is that organic certifiers, inspectors, and reviewers, and compliance and enforcement professionals are the target audience.

That may include operations that are interested in understanding how to comply with the regulations.

It can include quality assurance representatives within companies. So, anyone who is responsible for compliance and enforcement of the regulations can get an account.

So, the way this will work is certifiers -- for certifiers in the room -- the primary and secondary contacts the NOP has for you are automatically enrolled.

We have already auto-enrolled the primary and secondary contacts at each certifier. And you will be receiving your account information either later today or tomorrow.

Certifiers are in turn responsible for outreach to staff to get their staff registered. And we have a sort of two-way sign up process for that.

So, for example, groups and certifier groups can send an Excel spreadsheet to us with information to basically do a bulk account assignment to all of their inspectors and certifier staff. The public can also make individual requests for accounts.

So, what I'm asking is if you lead an organization, please coordinate with your group to let them know whether you want them to sign up for accounts individually, or you're going to enroll everybody as a group.

We're going to do our best to manage double accounts.

It will help if organization leaders help work with their organizations to signal whether you want them to register themselves, or whether you're going to do it as a group.

Now, we do have a flyer about this,

and so the flyer is going to be out on the table once we're done here. And I made 200 copies, so there should be enough.

So, it has instructions for how to sign up for an account. Again, the system is live. It is working. And so, we're pleased to get the word out about that.

Again, if you are a certifier lead or a secondary contact, you'll be getting your registration information with login and password today. These login and passwords are for individuals because it does track your individualized learning.

So please don't register a group email address, because then your individual folks won't get credit for the courses that they complete.

So, let's talk about next steps. On the left side is a list of the courses that are in there right now. And so, we have introduction to the organic system, we have sound and sensible organic certification, we have fundamentals of inspection, we have compliance and enforcement,

adverse actions, appeals and reinstatements, and we have import oversight essentials.

This is just the start to launch the system. We are in the process of developing more courses.

So, first stop. I already mentioned dairy compliance. We're doing an entire course on traceability techniques, so that's, for example, how to do mass balance calculations, how to do traceback audits.

There are lots of different traceability techniques that will be included in that training.

We will be doing an advanced inspections training, which will be more investigations focused.

We'll have a material review course, a certification administration course, and a course on sampling and testing.

So, another goal is to deepen our assessments and reporting. This is a very young system, so we've really just started. We didn't

have this even six months ago, so brand new.

Right now, at the end of each lesson, there is a multiple choice quiz at the end of it, and you do tracked for credit on that.

We would like to deepen those assessments so we have better ways of tracing what people really learned and are able to apply.

And we are working on better reports so an inspector can print it out and say, here are all the courses I've taken. Here are the course hours I completed, and my grades on the assessments.

So that is still in progress and is going to be what's happening in the next few months.

So, a number of these courses will launch in 2019, and we're going to continue to develop them. We consider this a long-term investment.

Organic training and education is going to be in the proposed rule requirements related to continuing education and training, for

both inspectors and reviewers, and that makes it super important that we continue to load new content into the training system over time.

So, look forward to getting those accounts assigned, and let the learning begin.

So, for our final topic, I am pleased to announce our Organic INTEGRITY Data Quality Awards winners.

So, a little bit of background here. Let's look at the context behind these awards. Protecting organic integrity requires accurate and timely data from our certifiers.

Unfortunately, data management is often invisible labor. It costs money to do data well. It's a reality of data management -- is it takes a lot of time, and it takes a lot of effort and investment.

So, we, a couple years ago built the Organic INTEGRITY Database's Data Quality Dashboard in order to make data labor more visible and show certifiers the strengths and weaknesses in their data.

So, certifiers can look at a number of factors to see how they're doing with their data submittals in the Organic INTEGRITY Database.

And certifiers have really upped their game on data quality. And so, the investing in INTEGRITY Awards for this year were based on data quality and quantity at the start of 2019.

So, what we were looking for were regular data updates, use of the product taxonomy, the inclusion of acreage and livestock counts, and complete information.

And what we've seen over the last year, since our first round of awards, is that the data quality and completeness has gone up significantly across certifiers.

Certifiers are really coming into their own, both in the frequency of data updates, and in the completeness of the data.

Now, the proposed rule that'll be published this fall will also make some of this reporting mandatory.

So for example, acreage will be a

required piece of reporting, as will item level information in the proposed rule. And so, if you find that data useful, look for the public comment opportunities this fall when that comes out.

And so, now, we're going to do -- drum roll, please, for the winners. Come on, help me out here. All right.

We have eight winners this year, and I'm going to ask them to stand so we can recognize the folks in the room. So, if you are a representative of these organizations, please go ahead and stand up.

California Certified Organic Farmers, CCOF. Where are you?

DR. TUCKER: Stay standing. We've got the Colorado Department of Agriculture. We have the County of Marin Organic Certified Agricultural. Let's give both of them a hand.

We have the Georgia Crop Improvement Association. They couldn't be with us today. But give them a hand. GOA, we've got the Global

Organic Alliance here. Go ahead and stand up. Stay standing.

We've got the New Mexico Department of Agriculture. Unfortunately, they couldn't be with us today, but let's give them a hand. We have One-Cert, Incorporated. So I think I saw Sam here earlier. Congratulations.

And we have Primus Labs. So is Primus here? Let's give them a hand. So congratulations to all of you. This reflects a lot of investment in data quality.

We're going to take a picture with all the awards winners at the break. So if you are an award winner and you want to be in the picture, please meet us at the base of the elevators at the beginning of the break.

We promise it will be quick. But if we all convene quick we can take the picture. So we'll take pictures with the award winners at the bottom of the -- we'll meet at the bottom of the escalator at the beginning of the break.

I just want to note that of these

three -- of these eight winners, only three won it two years in a row. That's how much the quality game has increased, is that there were a number of winners last year that got bumped off the list because some certifiers said hey, we're really going to invest in this.

So we do -- we will continue to award these each year, and it will be interesting to see how the list continues to evolve.

The winners this year met a higher baseline than the winners last year. So I think it's a great example of continuous improvement across the organic community. And there we have it. So that concludes the NOP update, and I am happy to take questions from the Board.

CHAIR BEHAR: Dan.

DR. SEITZ: Jenny, thank you for that very informative report. And I appreciated hearing your perspective on how to regulate the hydroponic operations. I appreciated hearing yesterday during the NOC meeting that you're in a fact-finding mode.

You're trying to understand what's happening out there in the field. And that there's a strong commitment that you have to enforcing the rules, the current organic rules when dealing with the hydroponic operations.

My question is as you do your fact finding and you explore what's actually happening out there in the field, if you discover that there are novel aspects to hydroponics that can't be covered by the existing rules, because many of those were developed with in-soil farming in mind, do you see yourself coming back to the NOSB and working with us to develop additional rules that will address the novel aspects of hydroponics and other ponic operations?

DR. TUCKER: Okay. Thanks very much for the question. There are legal and policy questions. We are gathering information, you have called it well, sir, data gathering mode right now.

The growth of hydroponics and containers has raised some new policy questions.

We do need more information and data in order to make concrete policy decisions based on the reality based facts.

So I think there is -- there's been specific questions about sort of the soil-based aspects of the regulations. And I think in general USDA disagrees that the provisions in the Act and regulations related to soil mean that all soil must be soil-based.

Rather, those provisions apply to the systems that do use soil. And so that is I think an important part of, when we're looking at these systems, that the provisions related to soil apply to soil-based operations.

Now there is the natural resources element of an operation, which involves the entire environment of the operations. That's an important separate component of the regulation.

So there are policy questions. I think we are going to learn a lot. I think if there are areas where the rules are being broken, we're going to take enforcement action.

So if the rules aren't being met, that is a compliance problem, and it needs to be addressed as an enforcement issue. If there are policy inconsistencies and policy questions, generally we communicate those through handbook documents and communication with certifiers on that.

If there are novel policy questions that we feel are best handled at the Board, in the Board forum, we would certainly consider that. The Board had a lot of opportunities to work on this topic, and I'm not sure that a lot has changed at this point.

So right now we have the regulations. We have the Act. And we are able to make judgments about these policy issues. We get complex policy questions all the time at the National Organic Program, and the vast majority of them don't need to come to the Board. That's just what we do every day.

And so we would like the opportunity to do this research. I think there's also some

urgency to answering these questions. And so I think we can do that at the program level effectively and in a transparent way.

CHAIR BEHAR: Steve. Oh, I thought you said -- oh, Emily, and then Dan -- Dave.

MS. OAKLEY: Thank you, Jenny. I was glad to hear you say that all systems are accountable to the same standards. So I'm wondering if you can clarify for everyone that all farm operations, regardless of location, crop, size, or growing system must adhere to OFPA Section 2105(2).

Not be produced on land to which any prohibited substances, including synthetic chemicals, have been applied during the three years -- sorry if you can't hear me, during the three years immediately preceding the harvest of the agricultural products.

DR. TUCKER: Sorry. We are absolutely committed to upholding OFPA. And so I'll say that again. We are absolutely committed to upholding the Organic Foods Production Act and

the USDA organic regulations.

There are questions about the scope of the land requirements for -- and the regulations in 205.202. And so what does define the boundaries of hydroponic and container systems? I think that's sort of an essential question that has been raised through some of the recent sort of policy questions that have come up. And how should certifiers consider those land use histories?

So you're mentioning that three years. How should certifiers consider that land history? So take, for example, in urban agriculture you have a, you know, greenhouse that's built on the roof of a building. There's -- does a three year transition of a greenhouse built at the roof of a building, it's not really applicable. There's nothing to transition.

And so I think that those are the types of policy questions that need to be carefully looked at. We need to understand what's really happening on the ground with these

operations. And we are committed to upholding the Organic Foods Production Act in full.

MS. OAKLEY: Could I have a follow-up to that? So, yes, I understand that's sort of a unique situation. But, for example, you might have a greenhouse that was previously conventional that's transitioning to organic. So I'm hoping for clarity that in that situation they would follow the three year transition period. And I'll just give an example.

My whole farm is certified organic. So if I were to build a greenhouse in an enclosed environment, but I decided to spray a prohibited substance before that on my land, you know, that would seem to be in conflict with what my certifier would allow.

DR. TUCKER: Sorry. You know, one of the reasons I gave the statement this morning was that I engaged in hypotheticals, and hypotheticals are really risky. So I would prefer not to engage in hypotheticals here. We need to learn what specific systems are out

there, what certifiers specifically are doing, and we need to pursue the policy questions that those raise. But I got myself in trouble with hypotheticals last time. So I'm not going to do that.

MS. OAKLEY: One more follow-up? Is that okay? Sorry. Okay. I totally understand that. And I also don't want to put you in a situation of hypotheticals.

And I think though that some of that can be clarified by, as you say, you know, following OFPA with every operation. And I think what would satisfy a lot of concern, at least for me, because when I first heard this situation I thought there is no way that's happening. You know, that's just not allowed. And I think a lot of people would think that initially. Like, that can't possibly be allowed because we have a three year transition period.

So if the program could please clarify, maybe not on the spot right now but very soon after this meeting, that a three year

transition period is required for all operations. I mean, that would really resolve the issue right there.

DR. TUCKER: Yes. We appreciate the urgency with which these questions are being asked, and I am committed to reviewing the policy questions that have been raised and getting clarity where it's needed out into the -- out to the world.

CHAIR BEHAR: Dave.

MR. MORTENSEN: Jenny, I just wanted to come back to Dan's question. I don't -- you know, and when we think about facts and what we voted on and what we didn't vote on, when we voted on the soil versus hydroponic issue in Jacksonville, we did not get into defining what is an acceptable suite of practices, that once we've then decided that hydroponics is going to be in play, we've never had that discussion as a Board. That's a fact.

And it's my view that there are a lot of dimensions. And I've been in probably 30

hydroponic production facilities, most recently two last week. That we would consider, I think, or at least we should discuss. I'm not sure that we would all agree.

But we should discuss whether or not those practices conform to an organic label or not, that have to do with a whole host of issues around plastics, metals, pumps, lubricants, lack of vegetation, lack of bio-diversity, plastic covering the complete ground of a farmed lot, including truck traffic ways with plastic, and no green vegetation.

I think that it's incumbent on the Board to take a critical look at what constitutes the suite of practices that are in play and where are we really going off the rails with a, you know, with a production system that really has -- that really violates many of the principles, I think, upon which the label is granted.

DR. TUCKER: So I appreciate the comment. I'd like the opportunity to learn more about what's happening and then make the best

next steps that we need to take, based on what we learn.

CHAIR BEHAR: Scott.

MR. RICE: Thanks. Jenny, in your dairy compliance project report you mentioned that all of those operations that you looked at were meeting the 120 day minimum, which was great to see. Can you just clarify that is regardless of, like, any confinement period?

DR. TUCKER: Correct. So temporary confinement is allowed as part of the regulations under, again, very specific circumstances. And so that would need -- it's also going to be part of the training. That 120 days was met, even with any temporary confinement due to the allowable reasons in the regs.

MR. RICE: Okay. Thanks.

CHAIR BEHAR: Ashley.

MS. SWAFFAR: So, Jenny, thanks for the program, for updating us on origin of livestock. I understand that the industry's changed, and you need to do a new proposed rule.

But I will say that, you know, we've heard from dairy farmers for quite some time now how much they needed this rule and need it now.

So I would encourage the program to not slow it down like they have in the past, to move this rule through. We hear from dairy farmers every meeting and through the public comment process that they need this out there to continue their businesses. So --

DR. TUCKER: Yes. I think from every meeting, after every meeting I go back to our leadership. And I tell them here are the big topics that were raised. Origin of livestock is clearly something where the message here has been clear that the community is very interested in going to a final rule.

I think one of the questions is -- so when we're looking at regs there are kind of two opposing arguments here. We need the rule quickly, and the industry has changed a lot.

Well, if the industry's changed a lot, that increases the need for public comment in a

second proposed rule because you have market participants that maybe didn't comment the first time because they weren't in the market.

So if you believe that the market has changed, but not in such a way that it fundamentally alters the public comments that came in, we need that feedback.

And so this is where if the community can articulate why you believe, you know, the public, despite the growth of the industry, that the controversies and the comments at the time are still relevant, despite those changes in the market, those are the kinds of arguments that may have more weight.

This is not a program decision, right. This is a decision that will be made by USDA and likely Office of Management and Budget. They're the ones who make these kinds of decisions. But those are the arguments that they would likely be more compelled by.

Okay, you say the market's changed a lot. Why wouldn't you need a second proposed

rule, given those changes? If you can articulate how the market's actually pretty much the same but has increased, and why you're not shutting out -- why we're not shutting out people by not having a second proposed rule, those are important arguments that would need to be articulated.

I will take back the interest in a final rule, back to the administration. I think -- we hear often the need for openness and public comment and transparency. And now you're saying oh, no, no, don't do another round of public comment, and that can be a little bit contradictory in a community that so values public comment.

MS. SWAFFAR: One follow-up to that, Jenny. For the dairy industry, if they feel that, who should they direct those comments to, that they need -- they don't need a new proposed rule, just a final? Straight to the Secretary?

DR. TUCKER: Honestly, on that one, we are the ones who end up writing the work plan

that goes up, and that's where those arguments are articulated. There's a very formal process for all of these. So, honestly, sending letters to me and Paul would be useful.

The best letters are those that are really thoughtful, contain unique information about -- through your perspective and your understanding of the market. Those are the most helpful. Often when they come in from an organization representing a group, those are just -- tend to have more content that we can use in formal documents.

CHAIR BEHAR: Steve.

MR. ELA: Jenny, I'm curious. On the dairy inspections, and I know you can't comment on specific ways you select farms because that's part of your process.

But did that -- I mean, of the -- all the farms inspected, and you said they all complied with 120 days. Was that a cross section of regions, sizes?

I mean, do you feel -- I guess, you

know, there's always concern with big operations versus small, and I know they each have their own issues. But do you feel like you had an adequate cross section of those?

DR. TUCKER: Yes. So I can talk a bit about the selection criteria. So I won't tell you who the farms were, and I'm not going to say how many there were either because those are investigative techniques.

I will share some of the criteria. We are using a risk-based approach. And so I think with respect to dairies, given the complexity of those operations, large operations are particularly a high risk.

I would also say that any operation, large or small, that hovers right around that 30 percent DMI and right around that 120 days, we would consider that to be a risk factor with respect to the regulations.

Operations that have had multiple complaints against them, or compliance history. Now the fact that somebody's had a complaint

against them does not make them guilty.

And in fact, an awful lot of complaints that we get are actually from competitors. And so that is a nature of the business.

And in fact, actually the majority of our complaints are about uncertified operations. So a lot of our enforcement time is actually spent regulating people who are using the organic name without certification. So that just is a little bit of a sidebar.

So but having a history of either compliance issues, where they've actually been issued non-compliances by the certifier. So that is a risk factor.

We did go across the country. So we visited Western dairies, upper Midwest, East, Central. So we've been all over the place. Up here in the Pacific Northwest. We've been around the country. And we'll go to even more operations this year.

So we did take a pretty broad view of

the distribution. So those are some of the factors that we use to make those decisions.

CHAIR BEHAR: Tom.

MR. CHAPMAN: Hi, Jenny. Thank you for sharing that information about the USDA enforcement activities. It's reassuring to see the program working in this space so actively.

And I look forward to seeing that proposed rule in the fall. I just want to continue to encourage the program to advertise and inform the public of its enforcement activities.

In the absence of information I think most folks will generally make up their own stories to connect the dots and generally assume the worst. So that enforcement activity is not occurring or is not occurring at the robust level that it is.

So just want to continue to encourage you. I like the sharing of information here and encourage the program to find -- continue to share in this forum and find other forums to

share that information out to the public, so they can continue to establish, or hold their trust in the organic program.

DR. TUCKER: I appreciate the comments. You know, that was a big take home from the meeting yesterday with the National Organic Coalition, is that we need to do a better job of communicating what we are doing in enforcement.

You know, I'll repeat that actually the majority of our enforcement actions are -- were -- are against non-certified farms. So farms, businesses that are representing themselves as organic without certification. And so that is a top priority in protecting organic farmers who have gone through the certification process.

We have improved reporting on our website, are going to continue to do so. I think that the new database gives us the ability to see patterns in enforcement that will make it much easier to report on those to the public.

We are committed to sharing more within the constraints of investigative techniques and due process. So, and there are some things I'd love to tell you and just can't.

You know, I do encourage folks right now, what we do have posted on our website is we do post, for example, final suspensions and revocations of both certifiers and operations.

We post settlement agreements. We post consent orders. And if you look at the ones that have been issued over the past few months, there will be more coming. So encourage folks to keep an eye on those pages.

You know, again, I can't say hey, look at this page today, you know. But I think there are folks out there who regularly look at those pages. And we are committed to getting the word out, and if you can help us in that, we appreciate it.

CHAIR BEHAR: Emily.

MS. OAKLEY: Sorry. I don't want to belabor the point, and I know that we have other

things to go to. I just want to re-emphasize that consumers understand many things about organic, and things they don't understand about organic are also very vast.

But one thing that they do understand, surprisingly in large numbers, is the three year transition point. And I think that -- I hear you saying you need to do some investigating and see what's out there.

I just want to reiterate that I think it can really be clearly established, not by looking to see what people are doing necessarily. We don't need to engage in hypotheticals. We just need to clearly assert what the rules state.

And I know you mentioned the issue of land. I think it's possible that we could guess that perhaps when that law was written there wasn't an expectation that that might then be produced in a building or in a facility.

And perhaps you're thinking that it -- on land, or the operation, that that might provide different clarity. I don't know. But I

just want to say that for me this strikes at the heart of why I'm here and why I'm an organic farmer.

And I really hope that you can issue clarity on this immediately. Because it is an extremely important issue. Thank you.

DR. TUCKER: Yes. I appreciate that, and I hear you, and we will move quickly.

CHAIR BEHAR: Yes, thank you. I want to say thank you, Jenny, for the wide-ranging amount of work happening at the National Organic Program, and reiterate what Tom said.

I believe both for the trust of those who are doing it right, to hear the work that you are doing, as well as to those who maybe want to skirt around the rules a little bit, to know that they will be caught, or at least they'll have scrutiny. I think that is super important.

So a little bit more outreach on your activities and, you know, that you are going to be out there looking, I think does a lot to deter some of the problems that we have.

DR. TUCKER: Yes. I just want to say I am fully committed to protecting both farmers and consumers.

You know, every time I go to the grocery store, it's inevitable that the person in front of me has an organic product on that belt. They're handing it to the checkout person. And they're making a choice with that purchase.

And I am -- we are all devoted to protecting that choice and protecting the integrity of the seal. So thank you for listening to the update, and looking forward to the rest of the meeting.

CHAIR BEHAR: Let's give Jenny a round of applause. Thank you. Okay. Finally, I can do what I thought I was going to do earlier. I'd like to introduce Adam Cline.

Adam is the head of the Census Section in the Census and Survey Division at the USDA's National Agricultural Statistics Service. Adam directs the day to day operations for the Agency's census of agriculture program and the

organic program. Multiple national level surveys are conducted on an annual basis.

Prior to that Adam worked as a statistician and project manager, where he coordinated data collection and analyzed agricultural data for over 15 years.

Adam is here to talk today about USDA's organic surveys and data quality. Thank you, Adam.

MR. CLINE: Thank you to Jenny and Harriet and the rest of the Board for having me here today to speak about organic data. As far as data goes, organic is still fairly new in the game.

And I fully understand that there is at many times confusion as to what numbers to review and what numbers can be trusted. So I will attempt to clarify that as we -- as well as provide some information on the upcoming 2019 organic survey.

So I will provide some explanations of the different surveys, the different data

sources, as well as the challenges that USDA faces when it comes to capturing these data and how we can succeed in providing accurate and reliable data, as I know the policy changes we all look for start with good data.

Additionally, we recently released the 2017 Census of Agriculture data. And I will provide a couple organic highlights from that.

So we'll start with the NASS producer surveys. The upcoming 2019 survey will be the sixth producer survey that we have conducted. And while all the surveys -- organic surveys we have conducted so far are similar, there are a couple of differences to note.

We receive appropriations to conduct a special study following the Census of Agriculture, and the first was conducted in 2008, and then we did another one in 2014.

2019 will be a special study to the 2017 Census of Agriculture. And I will provide some further information on that on the next slide.

In the in between years of those special studies, NASS has collaborated with the RMA, Risk Management Agency, to conduct organic surveys in direct support of their price selection program.

And while the content for these are similar, we do ask a few more questions on the Census of Agriculture program special studies.

So as I mentioned, the 2019 organic survey will be the next data collection effort conducted and is part of the 2017 Census of Agriculture.

The Federal Register was posted on February 28th, and it will close on April 29th. If you have already provided comments, thank you. And if you would like to provide comments and have not done so yet, there's still some time.

We're currently conducting field testing on some questionnaire changes that we hope will provide more accurate data. Some of these changes include simple wording and section ordering.

We also included some more information on food marketing practices that will correlate closely with the questions that we had on the Census of Agriculture and a 2015 local food survey.

We recently enjoyed meeting with a number of USDA stakeholders, as well as external stakeholders from the National Organic Coalition, to determine the needs of the industry.

And the survey will continue to collect data on production quantity and values, as well as production and marketing practices. We'll begin data collection in December of this year, and we will release results in October of next year.

So along with the producer surveys, we also have conducted the certifier surveys to get certifier, acreage, and livestock data. AMS began this effort in 1992 and followed that by Agrisystems, a private company that conducted it in 1995.

Economic Research Service provided the

longest tenure of data, from 1997 to 2011, before they lost resources to continue. At that time NASS took over for a couple of years in 2014 and '15. And now we've come full circle, and that data will be provided by the NOP through the Organic Integrity Database.

And kudos to the NOP for taking the transition to collecting and reporting the acreage and livestock data seriously. Stacy Swartwood did an amazing job at ensuring all stakeholders were consulted along the way. That included NASS, ERS, and certifying agencies.

Our goal was to create a database that allows the certifiers to report their acreage and livestock data easily and in a structure that will provide data that could be compared to that of the previous efforts of NASS and ERS and others.

The first data report was completed in 2017, and NOP has provided multiple reports since then. While the reporting of these fields is currently voluntary, the stats do show that

participation is consistently increasing.

As you know, there is a proposed rule to make reporting mandatory. And that will go a long way in improving the accuracy of this data.

So with the multiple surveys and data sources there of course comes confusion of which numbers to trust and what do the numbers actually represent.

I'll start with the number of operations. The NASS producer surveys are self-reported and represent certified organic crop and livestock operations that have production in the given survey reference year.

This number does not include processing and handling operations. On the other hand, the NOP operation counts are from mandatory and regulated reporting and do include operations and businesses such as processors and handlers.

Another thing to keep in mind is methodology differences. While NASS may count a single entity with multiple locations as one operation, NOP may count that as multiple

operations, or vice versa.

Next we have the difference in the certifier and acreage livestock data that NASS and ERS have provided in the recent data from the Organic Integrity Database.

A couple of items to note here are that NAS and ERS had very long data collection timeframes. We also had resources to interact with the certifiers.

On many occasions we went and visited the certifiers ourselves, in person, and went through the files and entered the data ourselves from paper. Or they would send us a spreadsheet, and we'd enter it that way. We also have the expertise to review and edit the reported data, looking for duplication or obvious key entry errors.

The NOP currently has limited resources for certifier interaction and data review and must rely on the assumption that the data is being reported and reported accurately.

So to further dive into the challenges

from getting acreage and livestock data from the Organic Integrity Database, first and foremost is reporting is voluntary.

Working in a data collection agency I know first-hand that getting responses on a voluntary survey is very difficult and often requires multiple contacts. And as I mentioned previously, the data issues, such as duplication and key entry mistakes are not corrected.

The record keeping varies greatly among certifiers. While some have very sophisticated systems that sync with our integrity database, others are working off of paper only.

And while this data may be currently a bit less reliable, it does have the capability of being much more accurate, timely, and available to users.

So how do we get reliable, accurate, and timely acreage and livestock data from the Organic Integrity Database? I absolutely believe that we will get there, and there a few steps

that will assist in this effort.

The first is mandatory reporting. More data means better data. NASS and NOP have also begun discussing a data validation project that will allow NASS experts to consult with NOP to ensure reported data is being analyzed and corrected accurately.

And finally, certifier support from you, the industry. Simply talking to the certifiers about the importance of this data will help tremendously.

With these three steps I am confident that in a short time the USDA will have the ability to provide accurate acreage and livestock data.

I mentioned earlier that NASS recently released the results from the 2017 Census of Agriculture. I'd like to point out a couple of highlights from that data.

The first is the number of organic farms and value of sales are up from 2012. The number of certified operations is up 39 percent,

and the value of sales is up 57 percent, at $7.2 billion dollars.

The other takeaway is that the organic producer is younger and more likely to be a full-time farmer than those -- than non-organic farmers. As you can see the average age of the organic farmer is 51.3, while all farms is 57.5.

Another interesting highlight is that 64 percent of organic farmers noted that their primary occupation was farming, comparted to 42 percent of non-organic farms.

So thank you again for having me and allowing me to speak about USDA's organic data. I hope I have cleared up a little bit of confusion when it comes to all of the different numbers out there.

CHAIR BEHAR: Any questions from the Board? Emily.

MS. OAKLEY: It's really just a comment. I just want to say that I find this data very helpful, and I appreciate its collection. I know that it's hard to get data

from farmers. But I think it's a great tool.

And it's a bright spot in terms of data collection and what can be gained from it. And also, your staff is very accessible, in terms of mining through that data for more details. So thank you.

MR. CLINE: Thank you.

CHAIR BEHAR: Steve. We're not done yet.

MR. ELA: With total sales going up, what, from, what was it, $7.1 billion from two point -- I can't remember the numbers. But did you, obviously -- and the number of farms went up.

But is income per farm up as well? Or how does that, I mean, in those smaller, I mean, I know those are kind of micro details. But where are you seeing that trend going?

MR. CLINE: Well, the average, the row just below that $7.2 billion average value of sales per farm, went from 401, or went from 218 to 401, up 84 percent.

But, you know, what it doesn't show is, you know, the size of that farm. And there's a number of other things that are in that data point that really kind of skew that number. It's hard to really look at just that one single data point and really make a decision on it.

But I think in the end it increased, you know, per farm. And, you know, whether it was that drastic for all size of farms, probably not. But --

MR. ELA: And do you have any -- I can't remember the questions, it's been long enough since I filled them out. I hope I did. But that would be gross income per farm. Any information on net income?

MR. CLINE: We don't have it for strictly just the organic farms. We do have it for the overall farm. But not just only organic sector.

CHAIR BEHAR: Any other questions? Dave.

MR. MORTENSEN: Yes. I also wanted to

thank you. That's really interesting data and a summary. I was curious, is there any way of linking the data that you're collecting here, or maybe it's already in the data set, based on the acreages that you're reporting in transition, where you could probe the data set to determine whether farms are increasing in size?

What the nature of changes in farm number and size are as a function of production type? Those are some of the sorts of things that could help inform the Board on some of the thinking about, you know, are dairy operations getting much larger? Do we have a bi-modal distribution emerging in agriculture, or things like that?

I was just curious. I know MacDonald and the Economic Research Service published a really helpful guide on how farms' size is changing. And then he argued how practices that go along with farm size change almost in lockstep. And I was just curious if we could do that with this data.

MR. CLINE: I feel that we could do it with, you know, some of the overall data we have for all farms. You know, with the census the organic section is really just two questions.

It's, you know, are you certified, exempt? Do you have acres in transition? And then your total value. So we're really limited on what we can do with that, with the organic piece.

MR. MORTENSEN: And the details of the production --

MR. CLINE: And the details of it.

MR. MORTENSEN: -- system.

MR. CLINE: Yes. And we do try to, you know, with the 2019 survey coming up, we try to ask some, you know, probing questions on what their future plans are and what they're -- if they're going to enter or exit any -- in the next five year. And so we do try to get a little bit of that information there.

MR. MORTENSEN: Okay. And one other question. Is the data publicly available to the

group here? All of this data? Or not yet?

MR. CLINE: 2017 Census?

MR. MORTENSEN: Yes.

MR. CLINE: Yes.

MR. MORTENSEN: It is? Great. Thanks.

MR. CLINE: Yes. It's on the -- if you go to the -- well, I don't have it on there. Sorry. It's AgCensus.USDA.gov, I believe.

CHAIR BEHAR: Rick and then Jesse.

MR. GREENWOOD: Yes. Question. Can you do production by a particular commodity by acre? And what I'm interested in, my commodity is avocados.

There's always talk that organic groves are less productive. But I'd like to be able to see if you could get a dollar value per acre for conventional versus organic.

MR. CLINE: We -- you can compare it a little bit just from our -- from the different surveys that we've done. And I know that ERS has actually tried to do some conventional versus

organic price research as well.

It wouldn't be from the 2017. Because we only have the conventional. Well, the organic commodities are included in the conventional, but it's not broken out by organic. So we can't get -- you can't make that distinction from the census of organic and conventional to get to that price difference.

MR. GREENWOOD: Okay. Thank you.

CHAIR BEHAR: Jesse.

MR. BUIE: Yes. In reference to data accuracy, this is just an aside. I notice that during my most recent inspection that the inspector made a real effort to really document my acreage.

And we spent a lot of time going over exactly what I had and what the plans were. So, you know, that gives me encouragement that this is a, you know, data is moving in a accurate direction.

MR. CLINE: Yes. That's good to hear.

CHAIR BEHAR: I have one comment and

maybe a question. In the State of Wisconsin, I am on the Wisconsin Organic Advisory Council, along with someone else in the audience.

And we have been kind of struggling about the economic impact of organic, especially, you know, there's kind of this gap between we know what the sales are of organic products, you know, in stores.

And we know what the farm gate prices are. But there's this whole gap there in the middle that, trying to understand like what the multiplier effects might be for organic.

You know, there's -- in conventional world they'll say, you know, every ten cows is one, you know, person employed or whatever it might be. But we feel like there is more economic activity around organic because of the somewhat higher price and the need for more labor and that sort of thing.

Is there any way to distill any of these statistics to help understand if, you know, an organic farm in the neighborhood is generating

more ripple effects throughout the local economy than perhaps a conventional farm?

MR. CLINE: Yes. That's a great question. You know, I know AMS does a lot of their own kind of that retail price for organic. And, you know, what we're getting is really what the farmer is receiving.

So what happens kind of in between there, it's hard to say. And, you know, something to think about for sure, if there's some type of questions or some set of questions we could add in there to maybe get to that.

CHAIR BEHAR: Okay. Thank you. With no other questions, I say thank you to Adam.

MR. CLINE: All right. Thank you.

CHAIR BEHAR: Okay. So we are scheduled for a break, and I just want everyone to know that we are three minutes early. So we'll see if we can hold on to that one. So we will come back at 10:45 a.m.

(Whereupon, the above-entitled matter went off the record at 10:27 a.m. and resumed at

10:48 a.m.)

CHAIR BEHAR: Okay. Thank you, everyone. We are now going to move into a discussion on celery powder with the panel. And I'm going to turn this over to Asa Bradman, who is the Chair of the Handling Subcommittee.

MR. BRADMAN: Thank you. I'm pleased to introduce the session today addressing celery powder. And also just to provide a little context, celery powder, as many of you know, is a material that is in many ways essential for curing organic meats as an alternative to synthetic nitrate and nitrites.

And this material has been on the National List for a bit over ten years now. It's gone through one Sunset Review and is now going through another Sunset Review. And as you know, it's listed on 606 as a non-organically produced agricultural product, allowed in processing.

And it's kind of a, really a test case for how we can take important and critical organically or agriculturally produced materials,

and get them off 606 and into -- and sourced organically.

So this discussion really is a time to evaluate this material, which in many ways is critical to a large industry related to organic production. But at the same time we would like to kind of extend the full range of materials used in producing meat products to organic sources.

First, I want to thank the panel member. As part of this Sunset Review we felt like this was such a critical material it would be better to have an in person discussion with experts, rather than a relatively brief Sunset Review.

So I want to thank the panel members for their volunteering to come and attend this meeting and educate us on this issue. And also I want to thank the National Organic Program for sponsoring this, allowing the NOSB to convene this panel and have this discussion.

So I won't speak too long here. I

want to turn it over now to Dr. Mathews, who will be introducing the panel members and reading the bios.

And then we'll follow along with the first series of presentations by the panel members and then opportunities for discussion and questions by the Board.

I want to say one thing. We want to limit questions during the presentation period only to very brief clarification questions about the content of a specific, any specific points raised in the presentation and then save more broader discussion or in depth questions for afterwards. Thank you.

DR. MATHEWS: Thank you. Starting with our first panelist, I'll be introducing in the order in which our panelists will be speaking today.

We have Erin Silva, an assistant professor in the Plant Pathology Department at the University of Wisconsin Madison. Dr. Silva's research and extension program focuses on

sustainable and organic cropping systems, including cover crops and cover crop based no till production, variety selection in organic environments, and the impact of organic management on slow biology and physical properties.

She teaches food sustainability and climate change and organic system health. And she has launched a comprehensive organic grain training program for farmers in the upper Midwest. Dr. Silva also serves on the Wisconsin Organic Advisory Council.

Jennifer Wasieleski holds a bachelor's degree in microbiology from the University of Minnesota and a master's degree in food science from the University of Illinois.

She's currently the RD&A Director for the Food Protection and Fermentation Department at Kerry in Beloit, Wisconsin. Ms. Wasieleski leads a team focused on developing clean label solutions to replace chemical preservatives in a wide variety of food products and has been a key

participant in celery power working group initiatives.

Logan Peterman has a background in ecology, statistics, and research design. He grew up on an apple orchard in central Wisconsin and has worked in the organic sector for a decade advising state, federal, NGO, and private organizations in data analysis and research interpretation and application.

Mr. Peterman currently serves as the Director of Agricultural Research and Analytics at Organic Valley, America's largest cooperative of organic farmers, representing more than 2,000 farmers in 36 states. Mr. Peterman chairs the Science Committee for the Organic Center and serves as an active member of the Board of Trustees.

And Andrew Milkowski holds a bachelor's degree in chemistry from the University of Illinois and a PhD in biochemistry from the University of Wisconsin.

Dr. Milkowski conducted research on

food chemistry, ingredient technology, sensory evaluation, product quality evaluation, shelf life measurement, nutritional labeling, and food safety for Oscar Mayer Foods.

He retired in 2006 as a Kraft Foods Fellow after 29 years with the company. Dr. Milkowski is currently an adjunct professor of meat science at the University of Wisconsin and a member of the University of Wisconsin Madison Food Research Institute Executive Committee.

Thank you to all of our panelists. And we'll begin first with a presentation by Dr. Silva.

DR. SILVA: Thank you, Dr. Mathews, for that introduction. And thank you to the Board for allowing me the opportunity to speak about the research we've done over the last, gosh, you know, at least four years now, and talk about what we've learned in terms of producing an organic celery powder alternative. It's really -- it's been an exciting project, and I've learned a lot along the way.

So as Dr. Mathews said, I'm at the University of Wisconsin Madison. I'm an assistant professor in organic and sustainable cropping systems. And I've worked in organic vegetable production for about 15 years now.

So my expertise is really more holistically in organic production. I'm not a nitrate expert. I'm not an expert on celery production, but looking more at how to grow organic crops, what are the opportunities to grow organic crops in different regions, and how do we optimize different production aspects to get the quality that we're looking to achieve from that product.

So I'm going to start, and this is a little hard to see on this. But I just want to put some context on our efforts. So I was pulled into this project back in 2015 and pulled into it from a working group that was organized under the Organic Trade Association.

And it really was looking to address in a very systematic way how to, with

collaboration from universities, with USDA, with industry, how to find a solution for an alternative, organic alternative to celery powder.

So it really has been a very collaborative, participatory, grass roots movement to find an alternative. So getting together, discussing the issue, discussing where our state of the knowledge was, and then generating a plan for research, and requesting funding to conduct that research.

So initially that funding came through an OREI, a USDA Organic Research and Extension Initiative planning grant, which was extremely helpful to better understand the landscape, to understand where the bottlenecks were, to understand who the key players were.

Securing that grant, and with additional funding from Organic Valleys, Farmers Advocating for Organic fund, and with in-kind donations from industry, such as Kerry, we were able to collect some preliminary data.

And with that preliminary data have been attempting to apply for a larger research grant, again from the Organic Research and Extension Initiative.

You know, we've submitted that proposal a couple of times. Have gotten extremely, extremely good reviews back. But unfortunately that program is extremely competitive. So have not got funded yet for that full proposal. But next week we'll be submitting that proposal again. And hopefully third time is a charm on that one.

But regardless, what I'm going to be presenting to you today is the research that we have conducted with the initial funding, which I think has gotten us quite far in terms of understanding and making progress in terms of finding an organic alternative.

So I'm going to through, we were give questions by the Board. So I'm going to go through systematically what those questions were and what I'm able to contribute from the work

that I've conducted since 2015.

And the first question was compared to growing celery for vegetable production, is the increased use of synthetic nitrogen fertilizers required to produce source plants with enough nitrate for celery powder production?

And, you know, this, as part of that initial planning grant we did do interviews with different industry players and different aspects of the celery powder chain, and unfortunately this was not a question we were able to get a definitive answer to. And it was -- there's not a lot of publicly available data on this.

I do have to say that Jeff Sindelar, who is a professor in the Animal Science Department, who has done a lot of work in terms of natural curing products, it's his understanding that there are specific recommendations for the production of celery powder for juicing as a meat curing agent. We don't know specifically what those recommendations are or if they're calling for

excessive use of nitrogen fertilizers.

But regardless to say, and I think this is important in the context of what we need to accomplish to get to an organic alternative is it is different.

There is different production parameters for this product versus celery that's grown as a fresh market vegetable crop. So no specifics but knowing that there are different recommendations there.

So the third question is really where I'll spend my time. Since 2015 what progress has been made on the production of organic celery for powder production?

So this is where the majority of my investment has been. So like I mentioned, our current grant funding to date, we did obtain an Organic Research and Extension Initiative planning grant. We applied in 2016. That was awarded in June. Those efforts have been led by UW Madison.

But we did receive some very important

and generous funding from Organic Valley's Farmers Advocating for Organics fund, which allowed us to move this work even further from that initial planning grant.

So our experimental approach. Again, we did a comprehensive survey of what the state of the industry was, what were some of the key questions in terms of how to produce organic celery for a curing powder.

So we looked at several variables that we knew could potentially influence the amount of nitrate within that product. That was variety selection, what types of celery were we growing, fertility management strategies, the farm environment, the harvest date of the product, and then looking at an entirely different alternative to celery, looking at yellow and white beets as an alternative plant source.

So we had a core experiment that was conducted at certified organic land at the UW West Madison Ag Experiment Station. This land has been certified for over ten years. It's been

managed per very sound organic practices using good fertility practices, good rotation practices.

We're certified by MOSA. So we get the same checks as any farmer would. This particular plot of land was under a vegetable rotation with extensive cover cropping done for soil building, 3.5 percent organic matter. It was a silt loam soil

And we fertilize annually using pelletized poultry manure, aiming for about 125 or 120 pounds of nitrogen per acre, estimating about 50 percent of that N will be available in a given year.

We had three replications in a split plot design, with the celery planted as eight week old transplants, drip irrigating as needed, and harvested in late September. So really trying to do what we thought were best practices to obtain a quality crop.

We then juiced and froze the samples at UW Madison, aiming to do that within 24 hours

of receiving the samples. And then the samples were sent to Kerry Ingredients for further testing.

So what did we find? So getting into the nuts and bolts of where we are right now at 2019. So these were the nitrate concentrations of the organic celery samples by variety.

Again, knowing that different crops will differ in their nitrogen, nitrate concentrations, depending on what the genetics are.

So these are all organically produced varieties. We got all organic seed from any of the varieties that we chose. These are standard cultivars that are used by the industry.

These are two years' worth of data, 2016 and 2017. My understanding, talking to Jennifer, is the threshold that we're looking at is about 12,000 ppm.

So the samples varied in terms of how close they came to hitting that threshold. Some exceeded that threshold, and some came under that

threshold.

But a couple of things to note. That indeed we did see differences in nitrate concentrations depending on variety, which offers an opportunity for optimization by looking at what variety is going to consistently produce the highest amount of nitrates.

Again, we are not excessively fertilizing these plots. We're fertilizing them as we would per standard vegetable recommendations. So we're not dumping on extra nitrogen on these by plots by any means.

But I do want to note that there's a great degree of variability from year to year. We only had half the amount of nitrate from that high nitrate producing variety, Tall Utah, in 2017 versus 2016.

So this is something that we definitely need to understand, what is that source of that annual variation, because we did not alter the production practices from 2016 to 2017.

Some of these varieties, like safir, this was actually kind of interesting because this was a variety that we chose because it's actually an Asian variety that's more used as an ingredient for soups, or more of a flavorant, versus a fresh market variety. But actually, that was very, very low in nitrate, which differed from these more typical fresh market varieties.

This is a graph showing effective time to juicing on nitrate concentration, so one of the things we were concerned about, just in terms of the logistics of what this industry would look like if we had an organic source of celery.

The bars here, this is 1-1/2 days post-harvest, 5 days post-harvest, and 8 days post-harvest. There was no consistent trends here, depending on the variety, it differed in terms of whether time from harvest to juicing actually increased or decreased the level of nitrate, so again, this is another aspect in terms of optimizing the production chain that we

need to understand as we go further into developing an organic alternative.

We also looked at harvest date, so looking at the literature and seeing what scientists have done to understand what influences nitrate concentrations in vegetables.

And interestingly, the vast majority of literature focuses more on lowering nitrate concentrations, because typically, we're looking at keeping concentrations low in plants versus increasing them, but, you know, looking at light conditions certainly influences nitrate variety, nitrogen fertilization, but also, where that plant is in maturity.

So we looked at impacts of harvesting early, 145 days after initial seeding, versus late, 171 days after initial seeding, and again, there were very inconsistent results, depending on variety.

So this is where more work needs to be done to identify what is the most consistent high-producing nitrate variety, and then within

that variety, determine what is the best management of that variety in terms of post-harvest and harvest date.

Again, our focus was to look at, what are the nitrate concentrations being responsible in terms of the nitrate or nitrogen fertilization strategies we're using, but we also wanted to see if we split the nitrogen applications, if that influenced the nitrate levels in the organic celery.

So we did this for two years, doing two different strategies. In 2016, we used a foliar feed with a fish fertilizer. So we applied the nitrogen directly to the above ground parts of the plant.

We did not see a difference of anything and these were not statistically different, but if anything, we saw a trend to the unfertilized plants having a higher level of nitrate.

So in 2017, we took a different strategy, and instead, side-dressed the plants

with pelletized poultry manure, and we saw a slight increase, but not significantly so.

So at this point, we're not able to dial in on a specific fertility management program using split applications that would significantly increase the amount of nitrate in the product.

We also did some on-farm sampling as well, and Harriet might recognize some of these names of these farms that we -- that generously provided us samples and these are all organic farms around the Madison area.

Very good organic farms using sound organic practices. We did this for two different years. The first column here is 2016, the second column is 2017.

Again, you can see this variability that, in 2016, overall, we had higher concentrations versus 2017, so there's some influence of environment and weather conditions between years that's influencing those varieties, but the other thing I want to know, and again, is

just the huge variability in nitrate levels that we're seeing, depending on where those are grown.

Interestingly, our experiment station consistently gives us the highest levels of nitrate, which I'm not sure if we just spend more on inputs, but our soil type, or why we tend to consistently produce more higher levels of nitrate in the plant.

Just some notes here in terms of some of the varieties that were used in some of the fertility strategies, composted poultry manure, CPM, but the farm that was using cover crops as well. This is a not-replicated design. This is just more of an exploratory set of data, but it is kind of interesting to see these trends.

We also got, in 2016, a sample that was sent out to us from California, just to see what the California environment might produce, but again, I just want to highlight that we're looking for a 1200-ppm threshold here.

So sometimes we are able to achieve that minimum threshold and sometimes we're not,

so there's a lot of work we need to do to better understand this source of variability that we're seeing between farms, between environments, and between years.

So for the last question, are there commercially available agricultural products produced alternatives to celery powder, what is our experience with them, are they organic, does their use vary by application, and are they more effective in one application compared to another?

And my contribution to this question would be the data that we obtained using organic beet as an alternative to organic celery, and I believe Jennifer's going to talk a lot more about what the different plant-based alternatives are and why they -- or why not they may be appropriate.

But I just want to note that these were not any better in terms of accumulating nitrate than celery, and they do have other aspects that may make them less suitable in terms of imparting other flavor profiles to the cured

meat product that they may not necessarily be appropriate or any better, more suitable, than celery as we're looking to doing organic production chain for celery as the primary source of natural curing powder.

So for our continued work, again, like I mentioned, we are submitting, next Thursday, that proposal for a third time, because we would like to build off of this work. We feel like we've learned a lot.

We've developed a very strong collaborative team as part of this proposal. We have Jeff Sindelar, who's an expert in natural curing, we have myself, we have a collaborator from the University of Florida to bring in a different environment, and we have an Ag-economist that's going to look at more of the economics of production and look at more of logistics of supply chain.

So we have a very strong team that we've assembled, we regularly meet, we talk about what we need to do in our progress. It's been

frustrating that we have not gotten this larger amount of funding to be able to push this project forward, but we do feel like we've achieved a lot with the initial minimal amount of funding that we have had and understand what we're facing and what challenges we need to overcome to get this organic celery powder alternative.

So with that, we can pass it on to the next panelist.

DR. MATHEWS: Thank you, Dr. Silva. To the board members, we have just one minute if you have any immediate questions for Dr. Silva. If not, we'll move onward.

MR. BRADMAN: Just clarification questions.

CHAIR BEHAR: Will you be able to do any studies this summer or is it totally dependent on the incoming grant?

DR. SILVA: At this point, it's dependent on funding and so we hadn't planned on doing anything else this summer because we won't find out about the outcome of this submission,

probably, until July at the soonest.

MR. BRADMAN: Emily, just --

MS. OAKLEY: Do you think there's a chance that the variation in levels between years was related to rainfall levels?

DR. SILVA: Yes, I mean, I definitely think that that could be a primary driver. And it may be also interesting to dissect the weather data a bit more and look at cloud cover, or days of sunlight, looking at soil temperature and soil biological activity may be impacting mineralization.

There's a lot of different aspects that we need to put together, but certainly, I think rainfall could be a primary driver.

DR. MATHEWS: Thank you. Now we'll move to the presentation by Ms. Wasieleski.

MR. WASIELESKI: Thank you. I'd like to take this as an opportunity as well to thank all of you for allowing me to come here and present to you on the data.

Since the celery powder working group

has been formed, there's been a lot of great work, and I'm really excited to share my learnings with you alongside the other panelists here today.

And so as I was thinking about a title for my presentation I felt it was important to take a step back and really think about what the goal is of this project, and it really is not just around celery powder, but, on a larger picture, growing the market for sustainable, profitable organic vegetables.

And so to start, I'd like to share this illustration with you of the celery cycle. So there's a number of different steps that are involved in the supply chain in order to create celery powder that can be used in organic meat production to make bacon, and hot dogs, and ham.

And so all of these steps in the process provide -- you know, have their own unique hurdles that need to be overcome. And ultimately, our goal is to try to figure out how we can develop a robust and sustainable process

so that we can get the organic celery grower into this cycle.

So the first question that I'll begin with is on strategies to produce organic celery powder that's standardized to consistently meet the safety and other requirements of the meat processing industry.

And so in order to develop a strategy to create an organic celery powder, there's a number of boxes that need to be checked, and to date, the large majority of the work that Erin's presented on has been focused on the cultivar as well as the different growing practices that are needed to achieve the high nitrate levels.

The reason these nitrate levels are important is because you're putting an agriculturally produced product, you know, a vegetable, celery, into meat that's not a common flavor that goes into meat products.

And so the higher the nitrate levels we have, the less celery that goes into it, and so that means it's less impact to color and less

impact to flavor to keep the desirable flavor and organoleptic properties that we like in our cured meats.

But there's other boxes that we need to continue to focus our research on, definitely around the juicing process, identifying where the juicer is in location to where the crops are.

So there has been some work done and we believe that there is enough acreage available, but that acreage needs to be in a proximity close enough to a juicing facility, because we know that raw celery does have a short shelf life, and we also need to understand, how short is that shelf life, how many days, depending on the variety, can it be held before it needs to be processed, or do we start losing nitrate levels because the normal enzymes within the plant are continuing to operate until the celery is blanched?

And then once we identify, you know, the distance that's needed, the shelf life of the celery, the next hurdle that needs to be overcome

is, is the juicers that we've identified, will they have capacity within that limited timeframe to start harvesting these vegetables?

Because I'm sure at that the same time that celery is coming out of the field, so are lots of other vegetables that they're currently processing.

And so we need to make sure that there's also a juicer with the appropriate amount of capacity.

Moving into the fermentation step, which is an area that Kerry and other suppliers participate in, there's also some questions that have come up in the research that surprised us about whether the bacterial strain has the capability to convert the nitrate to nitrite in these organic varieties.

And this step is actually really important and critical to creating a standardized meat -- or standardized product for the meat processors so that they're delivering the correct amount of nitrites into their meat to make sure

that their food product is, in turn, a safe food product for consumers to eat.

And then obviously, because this is an agricultural product, we can't expect that 100 percent of the time, that all of the celery that's grown is going to meet these requirements.

And so I think the most critical part and the critical box that needs to be checked in order to have full success in this process is, where is the outlet for the celery that doesn't meet the nitrate characteristics or won't be able to convert?

And hopefully, we'll be able to find a cultivar that is suitable for celery powder production, but is also suitable for, say, other industries, like the fresh market or even culinary applications.

But we do need to be mindful that, you know, growing celery for culinary applications, for whether it's color or flavor, may not be an ideal attribute for meat production, but it's important that we find that outlet to reduce the

amount of risk to the organic grower.

Is an increased amount of synthetic nitrogen fertilizer required to produce plants with high nitrate levels for celery powder production?

So we do know that there's a question out there as to whether conventional celery growers, the suppliers that we're currently using today, if they just apply fertilizer prior to harvest, and that's how they achieve their high nitrate levels.

And so Kerry had worked with a conventional celery grower to do a small plot study, so they were growing -- the celery variety here is used in the fresh market, and we asked them to apply a handful treatment of urea at the time that they would harvest their crop.

And so as Erin had mentioned, we take eight-week old seedlings and transplant them into the soil. At that point, the growing cycle is about 90 days.

And so in this particular crop, at 95

days, that's when they would have deemed their crop at full maturation. And so they measured -- they gave us samples so that we could measure the nitrate levels, they applied a foliar feed, and then we monitored it at Day 96 and 97.

And we were actually surprised to see that there wasn't a significant impact on the nitrate levels. However, it was really interesting to see that the nitrate levels were almost double at Days 75 and 81.

And so my first thought there was, was there a significant amount of rainfall that reduced the nitrate levels of the plant?

So we looked through the historical weather data and there actually wasn't a significant difference in the rainfall levels. Between Days 75 and 81, there was just less than an inch of rainfall, and between Days 81 and 95, there was just under an inch and a half, so not a significant difference there to explain why the nitrate levels had dropped to almost half.

But I would suspect that knowing that

as in the last month of maturation of the celery plant, that's when it takes up most of it growth, that it was probably converting the nitrates, at some point, to other compounds that are needed necessarily for its growth and development.

And so I think an area that our next research will focus on is not necessarily thinking that it's all around the foliar feed application, but is a strategy to continue to monitor the levels as it approaches maturation and find that sweet spot between plant size, even if it means sacrificing some pounds to achieve the high nitrate levels that are needed.

Since 2015, what progress has been made on the production of the organic celery for powder production?

So Erin had obviously shared a lot of the data that she did on the growing side with the different vegetables. From the Kerry side, she also shared some of the samples that were grown at the West Madison Agricultural Research Station.

And I'm only showing the data of the four varieties that had been grown both in 2016 and 2017. And so we had taken this juice and we had put it into our fermentation process, and in 2016, we had seen that, if not all, the majority of the nitrate had been successfully converted to nitrite by the bacterial strain that we're using.

But in 2017, we didn't see the same trend and this was actually really surprising to us, because this was the same varieties, grown in the same field, under the same growing conditions, you know, Erin had said that they standardized it to the same nitrogen levels, and fertilizers and nutrients at the start, yet, there's a significant difference in the percent conversion.

And so we had discussed that there could be, in future research, we need to better understand the bacterial nitrate reductase enzyme. Are there certain cofactors needed for that enzyme to work or was there an unintentional inhibitor that was added between 2016 and 2017

that could have accounted for this difference?

So I don't see this as a significant setback, but it's just a point that highlights the complexity of this process as more than just, can we grow celery organically, because we know we can for the fresh market, but the characteristics that are required to create the consistent and safe product for meat processors involves a bit more complexity than it originally looked like from the beginning.

Are there commercially available agriculturally produced alternatives to celery powder? And so over the years, Kerry has tested, as we come across suppliers that offer different high-nitrate vegetable sources, whether it be conventional or organic, we do request samples.

And so we've tested a number of different products. Unfortunately, you know, most of them either had issues with nitrates or there were issues with the conversion.

There was one vegetable that did make it through the first two qualifying

characteristics, however, once it got put into meat applications, we realized that it had a strong negative flavor impact.

And when I was talking with Andy and Erin about that, they pointed out to me that it makes sense because Chinese cabbage is a cruciferous vegetable, which has high sulfur compounds, and so going forward, we would try to avoid that family of vegetables when we're looking at alternatives going forward.

But these challenges that we face in terms of nitrate levels, conversion, flavor, color, we put Swiss chard into meat applications and it has seen impacts on the color.

This is why celery is still the chosen vegetable and why it's the ideal vegetable, because it has the high nitrate levels needed for functionality, but low organoleptic impact in meat.

And lastly, if not enough organic celery is being produced to support the meat industry, why not?

And so I bring it back to this celery cycle and like I had mentioned before, we believe that there's enough organic celery -- or organic acreage out there to grow celery, but that there's other areas that we need to investigate further so that we can create this robust supply chain so that it reduces to the risk to the organic celery grower in creating a sustainable, profitable process for them to create celery powder.

And so with that, I conclude my presentation. I do want to say thank you for allowing Kerry to be a strong industry partner in this area.

I do believe that we will find a solution with the proper time and adequate funding, and in collaboration with all of the groups that I have on this slide here, but it's been really exciting on the progress that we've made and we're continuing to looking forward to working together.

DR. MATHEWS: Thank you, Ms.

Wasieleski. To the board members, we do have two minutes if you have questions for brief clarifications.

MR. BRADMAN: Harriet.

CHAIR BEHAR: Could you, in a short way, explain the fermentation process that you do and what properties does it impart to the celery powder that's part of, you know, when you're using it for curing meat.

MR. WASIELESKI: So the main purpose of the fermentation process is just to take the nitrates and convert them to nitrites.

So before a pre-converted product came out on the market, meat processors would be just putting these vegetables into their meats, as well as the starter culture that has that capability, but if you have issues in your processing, your temperature control isn't as tight, you can have inconsistent results, and that's where this pre-converted product provides a benefit to the meat processors, because they know that when they put this product in, they're

delivering exactly the amount of nitrite that they need for the safety of the product.

Whereas, if they did the conversion process in the meat itself, there's a lot of variability that can happen.

MR. ELA: Is there any evidence, I mean, obviously, in 2017, with the nitrate levels being lower, is the conversion process concentration dependent at all?

MR. WASIELESKI: It's not. No. So we can run the process at any -- either really dilute or more high solids, so we don't feel that that's a part of it, but there's -- yes, there's definitely something interesting going on there.

MR. BRADMAN: Rick, and very briefly, and this'll be the last question.

MR. GREENWOOD: Yes, just a quick question. Do you add standard microbial cultures? Do you have stock cultures that you use or do you just use natural fermentation?

MR. WASIELESKI: So we use cultures, specific cultures, so in the process, we would

sterilize all of the raw materials going in, and then add our specific strain.

MR. GREENWOOD: Okay. Do you try different cultures, over time, do you get better conversion?

MR. WASIELESKI: We have looked at -- there's a number -- there's, like, three strains that I can think of that all our capable of converting nitrate to nitrite, but we haven't seen any differences between the conversion, and we did test those different strains, with the material from 2017, but didn't see any differences.

MR. GREENWOOD: Thank you.

MR. WASIELESKI: Although, sorry, I will comment on that, if you look at the actual genetic makeup of the strains, they all have the same nitrate reductase enzyme within them, even though they're different stains, they all have the same. There's four different nitrate reductase enzymes and they all have the exact same one.

MR. GREENWOOD: Okay. What genera are they in?

MR. WASIELESKI: It could be micrococcus or staphylococcus.

MR. GREENWOOD: Oh, okay. Thank you.

MR. WASIELESKI: Yes.

DR. MATHEWS: Thank you. We'll hear next from Mr. Peterman.

MR. PETERMAN: Just making sure I'm on here so I don't blow everybody out of the room. Good morning, all, and again, like the other panelists, I'd like to thank you for the opportunity to have this discussion.

We've been working on this for some time. Organic Valley has certainly has a concern, and I should probably clarify that Organic Valley is actually a brand name owned by the farmer-owned cooperative, CROPP Cooperative, and that cooperative also owns a wholly-owned subsidiary, the Organic Meat Company.

So if you hear me rattling off acronyms without realizing it, OMC stands for the

Organic Meat Company and is where our primary interest in celery powder lies.

The first question I'd like to address is, is celery powder, conventional celery powder in particular, still an essentially ingredient? And the answer is, unequivocally, yes.

It is the, essentially, the only ingredient that we have access to that can fulfill the FSIS food safety requirements and I think that it warrants mention of the stakes that celery presents from the standpoint of cured meat.

As you can see in that third bullet, cured meat products represent nearly 25 percent of the Organic Meat Company's gross revenue. And beyond that, the organic meat industry has been growing consistently over the last 20 years.

And in 2017, the OTA reported that all organic meat sales amounted to about $1.1 billion and they've got a couple of subdivisions in there that I think are very helpful.

We estimate that almost our entire

pork sales revenue is in cured products that use celery powder and on a national level, those pork sales amount to about $32 million annually.

Sausage and deli meats, which would also be heavily dependent on celery powder in this context, amount to about $119 million, and beef, which would have a smaller component, but certainly would have some, amounts to about $263 million.

So you can tell that de-listing conventional celery powder without an organic alternative would be very destabilizing move in the industry as it stands now, and it's certainly an area of great concern for us.

So I found myself thinking, you know, about the questions that all of you might have in your minds, and one of the first ones that came to mind was one that I carried for about the first year working with this group, and that was, why isn't the market just answering this demand, right?

These are large industries, right? I

mean, millions and millions of dollars. And what we found through this process is that there are numerous constraints on this product that have been limiting it.

Jennifer very eloquently put many of them, in terms of the conversion rates from nitrate to nitrite. These varietal differences that Dr. Silva mentioned, are extreme. And in some cases, you know, we're still trying to understand why they exist.

The fertility and the regional variation, as we saw from year-to-year, even seasonal, but within OMC, the other thing that I started to recognize was that the sensory panel approval is also critical, right?

So as we start looking at alternatives and even within organic celery powder itself, we still have to get this out in front of consumers, we still have to ensure that the ingredients that we are including are not compromising the quality of our products that consumers then buy and ultimately associate with our brand.

So with all of these constraints, there's inherently a great deal of risk for anyone that might be looking to get into this market, might be looking to fill this demand.

And the financial risk to the farmers, I think, is fairly apparent. They would very likely be under contract with an organization like Kerry, and it's going to be really hard to get a farmer to sign-up when they don't have varietal recommendations, they don't have fertility recommendations, and even if they follow those things to the T, to the best of our knowledge, we may see seasonal variation that would essentially put that entire crop below specification.

Beyond that, the financial risk to processors would also be considerable. An alternative to that circumstance where the farmer takes the risk, a processor might contract and say, you can have a flat rate, right? We won't -- if it doesn't meet spec, we'll take that on.

We've seen that in the seed industry.

Unfortunately in this case, you have -- that amounts to a great deal of risk because not only is the processor then taking on the production risk, but they also have the risk of that product not necessarily being consumed or utilized in the way that they think it will be.

So the demand for that organic celery powder on the other end is also not assured. And then finally, the product is used in extremely small amounts.

The recommendation that our certification department gave to me was approximately 0.4 to about 0.9 percent of the green, what is the called the green weight. So it's a by-weight calculation, but it essentially amounts to ounces per 100 pounds.

So it's a very, you know, small part, but also, a very critical part of the process. And then that, in and of itself, dictates that the gain for processors or farmers in this context is fairly limited.

So you're essentially, in this case,

asking farmers to adopt a crop that they may or may not already produce, and the profit on the other end, certainly, doesn't justify the risk.

And that's why we find ourselves, I anticipate, in this circumstance where it kind of languishes in-between a market-driven investigation and a grant or public research investigation.

I bring all of this up because I think it bears heavily on a number of products that are currently listed on the 606. I think it's a problem we're going to see ourselves finding in the future, and that we probably need to work to identify, where are these products that don't necessarily represent a large enough opportunity for the market to get traction, develop a product, and then move forward on the basis of the risk.

And finally, I just wanted to mention, and it's been covered by a number of the other panelists, but is the use of synthetic nitrogen increasing the conventional celery production.

As Dr. Silva reported, our experience engaging our farmer network is that the contracted growers have been very unwilling to share in-field practices, so it's largely speculative from our perspective.

We don't really have data, and, you know, it also, to a degree, seems somewhat beside the point. From our perspective, we would maintain and pursue an organic source of this material regardless. It just, as a measure of integrity, and as Jennifer very eloquently pointed out, as a way to expand organic vegetable production and demand.

So I will leave it there.

DR. MATHEWS: Thank you, Mr. Peterman. To the board, we have time for clarification questions.

MR. BRADMAN: Harriet?

CHAIR BEHAR: Where is the conventional celery grown for celery powder grown?

MR. PETERMAN: Great question. We

identified three major regions that we looked at through the Working Group. Florida, the upper Midwest, and California are the predominant areas.

MR. BRADMAN: Steve?

MR. ELA: So, don't the same problems exist in the conventional celery powder thing as in the organic?

Don't those growers take the same risk because there's the same problem with alternatives if they don't meet spec? Or how do they control that?

I guess I'm not clear where that break is, between conventional and organic.

MR. PETERMAN: It's a good point and I think that it relates to scale of these industries. So, if you look at the conventional industry, whether it be conventional meat curing or other uses for that celery powder, you have a much larger pool of potential buyers and also potential demand.

So, as I mentioned in the organic seed

issues where we've seen this, it is also an element of companies that do not entirely produce organic products.

There are many, many companies that are producing conventional products and then they open up organic lines.

And so we see that the organic demand is enough to get their attention but not necessarily enough to justify that either business unit or that new product development.

DR. SILVA: Could I add to that as well? So, we did not do within our experiments control plots with conventionally grown celery.

It was really our intention to optimize the organic system but in terms of nitrate or ammonium availability, crop available nitrogen, it's going to be significantly different in organic because it's going to be a biologically driven process that's going to be mediated by a variety of environmental impacts.

So, I think that that could be a key aspect of why. And again, it's very speculative,

but why they may have a more stable system in conventional if they're using synthetic nitrogen where that aspect of uncertainty is taken out.

MS. WASIELESKI: Sorry, and I'll also add that when it comes to the conventional growers, they've been doing it for at least the past decade. We've only spent since 2015 researching this topic.

But to Logan's point, there was a large enough market demand for them to want to develop that themselves, whereas, the demand on the organic and the usage levels are so low that it really needs to be an industry research project as opposed to the industry doing the research.

DR. MATHEWS: Just as a reminder, we will have an extended Q&A session following our final presenter.

MR. BRADMAN: Exactly, so these questions should be just clarification. Let's move to the next presentation.

DR. MATHEWS: Okay, thank you, and

finally, we'll hear from Dr. Milkowski. Your slides are ready.

DR. MILKOWSKI: Thank you very much. Okay, now we're on. Thank you very much for the ability to comment here.

My friends here to my left have really answered most of the questions concerning production and the generation of nitrate and nitrite in celery powder.

I think what I will do in moving along is to respond to some of the questions a little bit that were directed towards me. But the last question, which I'm the sole responder to, is the one that I'll spend the most time on.

And I have that listed here as human nitrogen oxide physiology because it's very interesting and reinforces the complexity of nitrate and nitrite and where does it come from, where does it go? And all of that.

So, first question is, is non-organic celery powder still essential for production of non-processed meats? I'm not aware of anything.

I think they have answered the question much better than I could.

I would tell you that from the perspective of a meathead like me who would be more focused on making the meat product, nitrite and nitrate are the same ion regardless of the source.

And through thousands of years of the development in curing meat products and the increase in scientific knowledge in the twentieth century, we know that in order to properly cure processed meats and get the benefits that we want in terms of pathogen safety and the color that characterizes these products, we need about 80 to 200 parts per million on a meat basis going into that mixture.

And if you apply a dilute source, you need lots of it. If you apply a concentrated source, you need less of it. So, if you take pure nitrite and nitrate, you would be talking about 0.01, 0.02 percent.

If you are talking about the celery

powders, you need 100-fold of those types of levels. And this is what's going on in the biochemistry there in that we characterize it by a cured meat color, which relates to nitrate reacting with myoglobin.

There is a lot of oxidoreductive chemistry going on in its conversion to nitrite and a rereduction of the myoglobin, the iron in the myoglobin, to an iron plus two state, which will then also be coincident with formation of nitric oxide, a gas.

So, we go from NO3 to NO2 to NO. Two charged compounds to an uncharged molecule and they become increasingly unstable as you move down that pathway.

The half-life of nitric oxide and biological tissues is a few milliseconds. It's going to react with something and typically sulphidal groups or with the iron in a heme group.

When it binds to a heme iron in the plus two state, you get a nitrosohemochrome,

which is the characteristic pigment that we call cured meat.

And from that we get the benefits of color, we get an antioxidant effect, and we get very important antimicrobial effects in terms of we have a more stable system with respect to potential for botulism growth under anaerobic conditions or clostridium perfringens growth if you're cooking a product and then trying to chill it and not have perfringens spores be activated by cooking and then grow out and cause problems.

And it has in the last 20 years been recognized that it's an important factor in the safety system for listeria monocytogenes in processed meats.

And that nitrate and nitrite can come from either celery powder or a purified source. Question 4, are there strategies to produce organic celery powder that's standardized?

I'm totally unqualified to answer that question so I'll have to defer to my colleagues here. And are there other available

alternatives to celery powder? Well, we've heard about a number of them.

In the 40 years that I've been involved in nitrite and meat curing, a number of high nitrate vegetable sources have been identified. These have all been reported to have north of 1000 ppm of nitrate in them on an as-is basis.

And when they've been tested in one way or another in a meat product, there have been problems in the quality of the meat product. And so any further work has been discontinued, which I think is consistent with what you've heard.

And then the last question that perhaps we'll spend the most time on is what's the latest information on human health risks of nitrates and nitrites present in processed meats from either the synthetic or organic or plant-based sources?

So, I'm sure all of you are aware that IARC, the International Agency for Research on Cancer, classified processed meats, which may or

may not be cured, as Group 1 carcinogens, meaning that they consider them to be a cancer hazard.

And in the final report that they issued, I would note that in all of their work, they were noting that cured meats are a minor source of nitrate and nitrite in human physiology, which I'll expand on. And they also indicated that the source doesn't matter in this case.

Although, if we go back 30, 40 years there was a great controversy around nitrite and its safety, our modern knowledge is that these classifications are probably due to some other mechanism and it's not likely to be the nitrite and nitrate.

However, there is this persistent feeling that that's what it is. But I'm here to tell you that it's very likely not for a number of reasons that we were totally ignorant of 30 or 40 years ago. And that is nitrogen oxide physiology.

When I was in graduate school and we

were being taught about metabolic control, there was a factor called the endothelial relaxation factor that lowered blood pressure, relaxed smooth muscle and so forth. And it was very mysterious, nobody knew what it was.

Well, in the mid-1980s it was discovered to be nitric oxide, that same compound that is forming the nitrosohemochrome pigment in cured meats, and that there is a pathway in the human body to take the amino acid arginine and to do a six electron reduction and convert it into nitric oxide.

And it has profound physiological effects. Everything that allows us to live is in some part touched by this. It's involved in blood pressure control, in memory, in immune response, wound healing, all types of functions in one way or another.

And what's become realized now is that there is a nitrogen oxide in human physiology where nitric oxide is synthesized in the body, it is ingested in the form of nitrate and nitrite

from dietary sources, it's recycled in the body through saliva, and we have a huge exposure to nitrate and nitrite that is entirely natural.

In fact, our largest exposure to nitrate is from vegetables. And this is a summary of some of that work that's been updated to reflect that.

So if you were to look at the human diet formation or exposure to nitrate and nitrite, we would get up to 220 milligrams per day for an adult coming from the diet, except for cured meats.

Nitrite would be very, very small, 0.7 milligrams. The exposure to 75 grams of cured meats, which is a fair amount, provides up to 6 milligrams a day and next to nothing, 5 to 6 milligrams a day, of nitrite.

Water with residual, water -- nitrate in water and lower levels of nitrite is an important source because we drink a lot of water. And saliva is an even more important source because of the recycling of nitrate in the body.

And the endogenous synthesis of nitric oxide is about 1 milligram per kilogram of body weight. And that winds up being broken down into nitrite and nitrate and then are converted, and is both excreted and recycled into saliva with all of the exogenous sources.

And so nitrate is secreted in the saliva so the salivary glands actively accumulate nitrate from blood plasma as it's circulating. And about 25 percent of the circulating nitrate winds up back in your mouth and is swallowed again as nitrate is recycled.

The bacteria in your mouth are likely to have some level of nitrate reductase activity and that will form nitrite. And roughly 20 percent of the nitrate that's secreted in the saliva goes into nitrite.

And then people swallow that nitrate and nitrite and in the acid environment of the stomach, that nitrite may be converted some to nitric oxide but it also has a biological function.

And you would wonder why in the world would we have this pathway for us to recycle all of these nitrogen oxides if it wasn't beneficial?

Well, there have been a number of studies that if you take gastric juice and supplement it with nitrite, it is much more inhibitory and bactericidal towards a number of the pathogens that we're inevitably going to swallow whenever we eat any food, especially raw commodities.

And so there's a proposal that this is a form of human innate immunity, which I find is fascinating. And I tell students that if you think everything's been discovered, think again.

This was totally unknown 30 years ago. So, in our lifetimes this is a great new discovery.

And so with that, I think I'm going to stop so that we can take on questions. And perhaps later during the question-and-answer period or if the Committee would like to look at it later, I'd suggest you test your own salivary

nitrate and nitrate levels.

I have these little test strips and the process of doing that would be to wet your finger, put it on the pads of the test strips, and then read them against the scale on here. And I'll leave this with you and you can do that.

And you will be surprised that the younger you are and the more vegetables that you consume in your diet, the higher the nitrate and nitrite will be.

If you use a lot of antiseptic mouthwash, you will probably see a low nitrite level because that is inhibiting the commensal bacteria in your oral cavity, which would be doing the reduction of nitrate to nitrite.

So, with that, I will end and thank you very much.

DR. MATHEWS: Thank you, Dr. Milkowski. To the Board members, do we have any very brief clarification questions for Dr. Milkowski before we move on to the Q and A session.

MR. BRADMAN: Harriet.

CHAIR BEHAR: Why is it that nitrate and water is hurtful to especially babies and pregnant women, but consuming nitrate in food does not have these same blue baby effect, for instance?

DR. MILKOWSKI: Okay. Newborn infants have a high residual content of fetal hemoglobin in their system, which if you think about it biologically it's designed to bind oxygen more strongly than the oxygen in the blood of the mother. So the gradient for oxygen transfers towards the fetus prior to being born.

After birth, that is replaced by what you'd say is normal human hemoglobin. Fetal hemoglobin is very sensitive to nitrite. That's one factor. The second factor is that the gastrointestinal tract of the newborn is virtually sterile, but as it gets colonized by bacteria, there will be bacteria in the intestinal tract that will reduce nitrate to nitrite.

And so they are explicitly sensitive to having nitrite bind to their hemoglobin, and in essence create anoxia for them. That's a problem through about six months of life, and that's why we have so much medical concern about that. When you have adult human hemoglobin, this pathway is pretty innocuous.

So the toxic dose for nitrite in humans gets to be very, very high, although there is one.

MR. BRADMAN: Looks like we should open it up now for broader discussion.

CHAIR BEHAR: Okay.

MR. BRADMAN: Okay. So at this point, we want to open up the Board to ask any questions related to the presentations, and also on discussion related to the sunset and how to move this forward. I think both David and -- had a question and also Dan.

DR. SEITZ: Can you give us some background material. Are there methods apart from celery powder that are used to cure meats,

and also or also going back traditionally, I imagine there have been cured meats for centuries, perhaps millennia, I have no idea. What were the methods that have been used traditionally to cure meats?

DR. MILKOWSKI: So I'm not aware of any fractions of celery, but let me go back to the historical context of curing meat. The word for sausage in Greek is related to botulism.

It was just by experience and coincidence that in preserving meat by salting a millennia ago, meat that happened to be -- or salt that happened to be a particular salt called saltpeter, potassium nitrate, was very, very effective at preserving meat when you salted it, to dry it out, to keep it from spoiling microbiologically.

That coincidentally turned it pink, and that association was a way to recognize that you didn't have a preserved meat that would be toxic to you if you ate it. In societies where food was scarce, that was an issue. Today, we've

worked out a lot of the science and we certainly have a lot further to go.

But the findings that nitrate gets converted to nitrite and where that pathway is early 20th century, and regulations and knowledge about using nitrite as the curing agent, which is more efficient and we can use less of it. Those were initially developed in the 1920's, and then refined in the late 1970's.

DR. SEITZ: But I mean is, can you take pure nitrite, I'm not a chemist, so I don't know if there's such a thing as pure nitrite that you can add to meat, or does everyone use something like celery powder that --

DR. MILKOWSKI: Oh no. Most of the meat that's conventionally produced is cured with nitrite and some with nitrate. It's the -- the process is if you cure with nitrate, if you want to say produce a ham, it will take you three to six days.

If you use sodium nitrite, it will take you less than a day, and it's simply that

reduction of nitrate to nitrite as a time factor.

MS. WASIELESKI: On that though, what I will say is in the last decade, there has been an increase in consumers demanding food ingredients that have clean label and recognizable ingredients. So that's why the demand and why celery powder has started to be used, because consumers recognize that ingredient as opposed to sodium nitrite.

If you do go to the grocery store and look at those meats that are produced with sodium nitrite, compared to the meats that are produced with celery powder, you'll see that there's a lot more than just that ingredient that's been replaced or removed to create the cleaner label food products.

MR. MORTENSEN: Thanks for the presentations. I had two unrelated questions. The first one had to do with most of the data that Aaron and Jennifer, that you guys were presenting was in parts per million concentration, and I was thinking to myself you

have concentration by mass to get the total amount of whatever it is that's coming into the processing facility, right.

So you could have 400 PPM in 2017 and one quarter of the amount of celery mass, and then it's -- and then you're compounding the loss of the nitrate in the celery processing line. So my question is how critical -- maybe you spoke to this, but I wasn't really hearing it. How critical is it in the fermentation process that something comes in at 400 PPM or 2,000 PPM, when the end product of the celery powder is a dry powder with, you know, with some amount of the transformed nitrite in the powder?

MS. WASIELESKI: Yeah. So the reason that we focus a lot on PPM is because in the meat regulations, the minimum amounts or maximum amounts that they're allowed to use are in the form of PPM. But at the levels that we're trying to target here, on a percentage basis it would be .4 to .9 percent. But that's at the targets we're trying to meet.

If you met a third of that level, then you would be adding 1.2 to 2.7 percent of the product if it had a lower nitrite level coming out of the fermentation.

So the target levels that we're looking to achieve actually have nothing to do with the fermentation aspect, but how much of the actual celery biomass you're going to be putting into the meat product, and whether that's going to start having a color or an organoleptic issue in the meat application.

MR. MORTENSEN: Okay thanks. That's very helpful, thank you. The second question had to do with Logan's comments that, you know, this is just the first of a number of kinds of natural ingredients, where the economic incentive may not be there for any one or several companies to pursue this.

And OREI is one of the funding paths, and that's cool. USDA also has programs like the Small Business Innovation and Research Program and other things that are explicitly targeting

this, it seems to me this sort of application, a sort of a smaller application that might result in something bigger but maybe not.

I was curious if that has been explored as a mechanism for bringing industry or two partners together to do something.

MR. PETERMAN: So it's a great point. To my knowledge, we haven't applied for an SBIR. We essentially initially used the farmers advocating for organics as that pilot funding, along with the OREI planning grant, so it was -- but similar, similar circumstance, that that organization is a farmer-appointed board within Organic Valley, that then makes the planning decisions, but the awards are below $50,000.

So at this point, I find myself wondering if we've -- if we've exceeded the range of an SBIR grant, just because of the variability, because the questions that we're finding ourselves asking are pretty large in scope. But great suggestion and certainly worth looking into this round.

MR. BRADMAN: So I'm going to intervene here and follow up one of David's questions, and then we'll have Tom, Harriet and Steve. About the parts per million, is it parts per million of the solid, the whole plant, or is it parts per million of the juice, or is it parts per million of the fiber that's the most important piece? And because you talked about getting it to a juicing facility.

So it wasn't clear to me whether you're actually grinding up the plant drying and grinding up the plant, or whether you're perhaps evaporating the liquid fraction and therefore maybe in concentrating the nitrate and nitrite?

MS. WASIELESKI: So when we refer to parts per million, we're talking about parts per million of nitrate or nitrite. So it doesn't matter how much celery fiber versus celery liquid that is in there; it's whatever the nitrate or nitrite concentration is. So I would --

MR. BRADMAN: So the concentration as a substrate. So you're talking about the whole

plant?

MS. WASIELESKI: We would expect that the juicers are using the whole plant, because that's the most economical. So I know in fresh market that they would cut the leaves off the top, but we would expect because the leaves do also contain high levels of nitrate, that they would be using the whole plant.

I think based off of the different -- the slide where I said that we had evaluated different sources, I think that there's probably some suppliers who are separating the solid plant portion from the liquid portion.

I also think that there's some who are just grinding them up and drying the whole plant. So I think it depends on the company and their process.

MR. BRADMAN: Okay, Tom.

MR. CHAPMAN: I'm thinking about your question too. I'm not sure. Did you get it fully answered?

MR. BRADMAN: Not quite actually.

MR. CHAPMAN: But I mean is that on a dry basis or a wet basis that you're measuring it? I mean I guess couldn't you take the juice and evaporate it in concentrate?

MS. WASIELESKI: Yes, you can. But what needs to be delivered into the meat product is a specific PPM amount. So if you have a liquid at 50 bricks, you might be adding one percent of the celery product. But if it was dried, so then you'd assume 100 bricks, you might be only delivering half a percent of that celery product.

So the -- it's the concentration of the nitrate in the product. It doesn't matter whether it's diluted or concentrated. You still have to deliver that same amount of PPM. But the percentage of the celery then changes.

MR. CHAPMAN: In the meat application?

MS. WASIELESKI: Correct.

MR. CHAPMAN: So I think maybe that's the confusion. In the farm side, the celery itself coming out of the farm, is concentration a

way to increase nitrate content that would be a viable method?

MS. WASIELESKI: No, because you would -- all you're doing is evaporating water. You're still --

MR. CHAPMAN: And you do that later anyway? Is that why or --

MS. WASIELESKI: Right. So if you -- if you have something that's like when you concentrate it, either through evaporation or drying, all you're doing is removing water. You're not actually increasing the amount of nitrate per bricks of celery or for salads, amount of celery.

And so we -- we would receive say a concentrated liquid, because the benefit of concentrating the liquid increases the stability of the raw material. So if you think about meat is produced year-round, so we have to produce our ingredient year-round. When you juice celery, it's around four bricks.

That four bricks liquid has a really

high water activity, and unless it's aseptically packaged and stored that way, you're going to have challenges with microbial control. So usually the products that we receive are in a concentrated form or a dried form, so that we can store it because, you know, celery is at least in the Midwest only one growing cycle per year.

So that that can all be generated and then stored for nine months as we continue to work off the supply.

MR. CHAPMAN: Good answer, but that wasn't my question. But did that answer yours?

MR. BRADMAN: I think it does. Basically what we're saying is we can't remove water and concentrate the nitrate to the point where it's functional for the project.

MR. CHAPMAN: So I have two questions. I was just trying to follow up on yours. I think they're quick, but the first one is we received some public comment talking about the use of nitrate in meat products and suggest that we can -- and you guys presented information about its

application, and it's a 200 parts per million range.

And we had someone that had commented that we should compare it to drinking water requirements at ten parts per million, and I want to know how relevant that comparison is, if it's relevant at all.

DR. MILKOWSKI: Well, that's a safety requirement related to drinking water that's consumed in large volumes, and you also have the concern about very young children. So I don't think it is directly comparable to that.

The stoichiometric amount, you know, the nitrogen attached to that iron is really about the equivalent of one to three parts per million of nitrite going in. However, the efficiency of getting it to that point is so low that you have to start with a higher amount.

Those levels are regulated through USDA. It's in 9 C.F.R., and for ground products, comminuted products which is the definition, the maximum allowable is 156 parts per million of

sodium or potassium nitrate, nitrite on a meat basis. So you subtract any of the other things that you might add in making the product. Any added water, any added sugar, spices and so forth.

If you have a whole muscle product where you have to worry about diffusing the material through a mass of the tissue that's not been disrupted, 200 parts per million are allowed. The one exception to that is with bacon, which is a special different product and is one product that was deemed to have a nitrosamine formation risk during the reviews in the late 1970's into about 1980-81.

The requirement for enduring in bacon is you must use 120 parts per million, no more, no less of sodium nitrite or sodium nitrate, and you must use 550 parts per million of sodium erythorbate, which is vitamin C, or the stereoisomer sodium erythorbate. The reason for that is when bacon is fried at high temperatures, you do have the risk of forming nitrosamines.

And so the ascorbate or erythorbate are there because they are very potent nitrosamine formation inhibitors, and the nitrite is lowered compared to the other products because that was a happy place to be when this evaluation was done at that point. To still allow you to make a product that was functional and would be accepted by consumers, yet add a minimal risk of forming nitrosamines.

There's some other language in that regulation around nitrosamine monitoring with a protocol that defines testing for nitrosamines in fried bacon. They have a specific period after production too, which is 21 days and a frying protocol and limits for nitrosamines that would be detected to consider that product safe.

MR. CHAPMAN: Thank you, and my second question is in your guys opinion, if we were to remove or recommend the removal of celery powder from the National List now, what would that impact be on the work you discussed? Would it accelerate or decelerate resolving the barriers

to producing an organic celery powder?

MR. PETERMAN: That's a good question. You've got us thinking. I think the immediate -- I think the immediate response in the industry would probably be to destabilize development of new cured meat products because of that liability. Then from there, I think I would anticipate anyways pretty high variability in the way that the companies reacted.

Some may sort of steer into that skid and say, you know, we're going to trust that this is going to happen. Others may shy away, depending on how many other products they've got in their portfolio. So I think it's going to be a mixed bag, but I can assure you that it would be -- it would be a lot of anxiety.

You know, I mean in the industry I think there would be a lot of anxiety. There would be a lot of destabilization. In terms of accelerating/decelerating the work, at this point I don't know how much effect it would have on the work. You know, I can't say assuredly that it

would go one way or the other.

There may be certainly more interest in driving the research forward, but at the same time if you have people, if you have companies that are reducing their product investment in cured meats, there's going to be less income and less drive to pursue that ingredient.

So again, I think it's going to be a real mixed bag. You may motivate, you know, one or two companies to come forward and say we want to help with this, you know. We may also inadvertently motivate a number of folks to sort of step away and actually reduce demand for the product, and make it harder to bring it out.

DR. SILVA: With any research, we need the research, the financial investment. So we've, I feel we have been as aggressive. I will look into Dave's SBIR suggestion and see if that's another potential source. But that's a factor that is going to be a reality of driving this forward no matter what.

And then we're also under the reality

of this being an agronomic system where we're -- to be able to collect data, we have to wait the season and then evaluate and look at new factors. So there's those continued feedback loops and the reality of having this be a crop that's grown in the field and having to wait that time to harvest, and there's really no way to accelerate the growth of the crop.

So but in terms of, again I think we've been successful with obtaining initial funding that's definitely gotten us a lot further ahead, and we've -- hopefully we will be able to push this forward. I just don't know in terms of an approach or trying to make this a more critical issue, if that would spur on further investments.

I think I can divulge this. In the reviews of the projects that we have put forward, there was definitely a recognition that this is an important issue. It's a critical issue. It's a critical aspect of organic and even supporting the other aspects of organic industry like the

organic dairy farms, where that's an important part of the economics of that industry.

So I think that there is a realization that this is an important issue. We need to find a solution, but bringing all these pieces in place in terms of partners and field sites and funding is just taking some time.

DR. MATHEWS: Thank you. Board members, we're at the five minute mark just for time management here.

MS. WASIELESKI: And I think the complexity of the supply chain. I mean if I go back to the celery circle slide, I would say that depending on how you look at it, there's probably three or four specifically different types of companies that are involved in it.

And so if removing it from the list ultimately impacts Logan's business, he's three steps removed from the grower. So to try to explain to a grower, you know, you need to take this risk on to grow this vegetable that we don't know the variety, we don't know the fertilization

practices and, you know.

Between them, the juicer, a company like Kerry and Logan, who's going to accept the risk, and how do you get all four of those people together and linked together and say yeah, we're all going to accept the risk and if your field fails, he's going to pay for some of that too.

I think that type of connection certainly doesn't happy today in the conventional industry, that each company kind of operates separately and you kind of know the people below you and above you. But that Logan isn't necessarily working with the growers that I'm sourcing my juice from, and neither are we.

So I think that because of that, you know, disjointed, so many different companies involved, if at any step in that chain there is a company or the companies aren't willing to take on that risk, it's just going to fall apart.

MR. BRADMAN: Harriet and then Steve, and then also if we go a little bit over, we'll just shorten our lunch so we won't ruin the

afternoon schedule. I hope no one's going to shoot me for that.

CHAIR BEHAR: I have somewhat, I think somewhat short questions, two. Do they allow sodium nitrate in Europe? I believe they do eat quite a few cured meats, especially in Northern Europe, and the second question is in the subsequent OREI grant, do you have any cooperators on the conventional side?

It's somewhat disturbing to me that there's a lot of knowledge on how they grow it and then we're just starting from scratch on the organic side, not understanding their varieties, their fertility management, their harvest times, I mean all of these things. I'm just kind of wondering too if there's other universities that have worked on the conventional side, where at least maybe we would be a few steps ahead.

So the first question is what do they use in Europe, and the second is what about future study?

DR. MILKOWSKI: Yes, the nitrate and

nitrite are allowed in Europe. In the European Union, there is an E number assigned to those two ingredients.

CHAIR BEHAR: I guess I meant in organic. Do they allow sodium nitrate in organic? I believe they do. No?

DR. MILKOWSKI: Yes, they do.

CHAIR BEHAR: Well Logan? I don't know.

DR. MILKOWSKI: So organic nitrite and nitrate?

CHAIR BEHAR: Do they allow sodium nitrate in organic cured meats in Europe?

DR. MILKOWSKI: Oh, in those products? I don't know that particular question. They do use it in conventional products, and there are regulations concerning its usage level. I think there may be some publications from the EU that talk about that.

MS. WASIELESKI: I do think though there's -- I don't know about organic meats in Europe, but there's a distinct difference between

the organic in U.S. regulations is because of their E number system. Even if they were to add celery powder, they would still need to label it with an E number.

And so in the U.S., one of the benefits of using celery powder is for the clean label declaration, whereas in Europe that benefit doesn't exist between the celery powder and the sodium nitrite curing salt.

CHAIR BEHAR: And the university, the further research? Is there any way to have some conventional collaborators that maybe will help us move along, in understanding how to get the correct nitrate levels?

DR. SILVA: We are partnering with University of Florida to bring in some different perspectives in terms of celery growing. It's been hard to connect, for whatever reason, with the conventional industry. But bringing in our collaborators and the expertise from the University of Florida, we're hoping to be able to gain some of that knowledge that you're talking

about.

MR. BRADMAN: Steve.

MR. ELA: I have to keep the trend to two questions, but in the nitrate/nitrite conversion, I mean you mentioned the one that there are four enzymes or whatever that change that. If you add that celery powder that is poorly converted like from 2017 to a meat, do those meats have those -- I mean does that continue to convert, or have you fermented it to its maximum point and it's done?

MS. WASIELESKI: So I'll admit that I'm not an expert on enzymes. I just know that when we were trying to investigate where these issues came from and we looked at the genome sequencing of the available bacterial strains, that they all fall under this one specific nitrate reductase, as opposed to the others that are available.

Where they come from, I don't know. But in terms of the bacterial strains that we use, and if you were to put that celery powder in

in its nitrate form into a meat with those same starter cultures, because they're the only cultures, they're the cultures that would be approved for use in meat, you would still see that inconsistent conversion, and then potentially not be delivering the appropriate amount of nitrate PPM subsequently to make a safe food product.

MR. ELA: And then my final question goes back to Andrew. So I didn't, and maybe I missed it, but so between the research over the last 30 years, where we show that nitrates and nitrites are cancer-causing agents and that our body is really good at recycling them and they have these gastrointestinal benefits, where does the health data fall?

DR. MILKOWSKI: We're a curious species. We have on one hand a number of people who are very, very suspicious of nitrite and nitrate and their exposure in their diet, and we have all this newer information that says well, maybe we shouldn't worry about it.

It's more of a sociological question than a scientific one. I can tell you that if you went to clinicaltrials.gov, you'll see hundreds of studies going on to use different forms of nitrite in nitric oxide delivery drugs to treat human health conditions, including direct sodium nitrite.

There are few notable things that we've known about on nitroglycerine, which has been used since the 1860's to treat angina, is a nitrite and nitric oxide delivery drug that relaxes muscle and it allows better heart perfusion.

Another one that's more recent is Viagra, which has a targeted tissue for release of nitric oxide to give its biological effect. Yet on the other side, we worry about it. The last thing I note is if you go to a drug store and go look at the toothpaste aisle and pick up any tube of toothpaste that has a designation for sensitive teeth, you'll find that on the ingredient list is potassium nitrate at five

percent, which is 50,000 parts per million.

Now we don't swallow nitrate, but some of it is going to be swallowed and with our ecology and oral cavity, we're going to generate some nitrite and expose ourselves to that too. So I don't understand the psychology and sociological of the conundrum we're in, but that's where we are.

MR. BRADMAN: I think we're going to get close to wrapping up. But Tom, could you answer a question. I think we've talked about this before, but nitrate, sodium nitrates are allowed in Europe for organic meat; is that correct?

MR. CHAPMAN: I'd look to the certifier on the panel to answer that question. That's my understanding, is that the nitrates are allowed to cure meats via the EU regulations.

MR. RICE: Yeah. I just looked at the sunset that we had in the packet. Sodium nitrate is allowed for meat products, but yeah.

MR. BRADMAN: All right. Well, I

think we're a little bit over time but not too badly right now, so it's time to wrap up. If there are any last minutes questions, or if not, I want to thank the panel again for this presentation, and I think this is such of an important issue for important, you know, a huge portion of the organic industry.

This is a really, been a valuable discussion, and again thank you to the NOP and the program for supporting this discussion. So Paul.

(Applause.)

DR. LEWIS: I want to just echo the remarks here by Asa. I want to thank Asa and working with us in the program. Also Clarissa for helping facilitate this panel. You know, we've been working for some time in terms of developing this panel, in terms of dealing with some challenging technical issues.

I think we can all look about this as a success in terms of bringing people in, talking to the Board and really help facilitate a

conversation to help the Board do its work as part of a sunset review. So Asa again, thank you for helping working on this.

MR. BRADMAN: Thank you.

CHAIR BEHAR: Okay. With that, we will take a lunch recess, and I will keep us back, coming back at 1:45 for the methionine update, and then we will go to Public Comments. So thank you.

(Whereupon, the above-entitled matter went off the record at 12:25 p.m. and resumed at 1:47 p.m.)

CHAIR BEHAR: Hello, everyone. Board members, please take your seats. Everyone looks pretty good here. Okay. We are starting the afternoon session of our first day of the 55th in-person NOSB meeting, and what we're going to start with is a methionine update, and I'm going to turn it over to the Livestock Subcommittee chair, Scott Rice.

Methionine Update

MR. RICE: Thank you, Harriet. If

you've been coming to these meetings for any length of time or any of the last 54, you've probably uttered or heard the words methionine, DL-methionine or some variation thereof, and you'll no doubt be familiar with our discussions regarding DL-methionine in organic poultry diets.

We're continuing that discussion this afternoon, and are fortunate to have with us three individuals to give us an update on where things are at with the Methionine Task Force. We have Dr. Kristjan Bregendahl. Dr. Bregendahl grew up in Denmark and has lived in the U.S. for more than 25 years.

He has a Ph.D. in Animal Nutrition from Iowa State University, and after a post-doc at University of Guelph in Canada, served as an assistant professor of Poultry Nutrition at Iowa State University. He taught nutrition classes there and conducted laying hen nutrition research.

Dr. Bregendahl is the author or co-author of 22 peer-reviewed scientific journal

articles, two book chapters in a college level animal nutrition textbook. After leaving academia, Dr. Bregendahl has spent the last ten years as a poultry nutritionist with specialty in laying hen nutrition.

He provides nutrition and management consulting for conventional and organic laying hens, and works with independent organic producers, companies and feed mills. Welcome, Dr. Bregendahl.

We also have Heather Burley. Heather is currently a lecturer and lab coordinator in the Biology Department at McDaniel College in Westminster, Maryland. She completed her master's and Ph.D. work from 2007 to 2012 at the Pennsylvania State University in the field of Poultry Nutrition specializing in projects focused on amino acid nutrition and the study of potential alternatives to synthetic methionine in organic laying hen and broiler chicken diets. Welcome, Dr. Burley.

And to kind of give us some historical

perspective and a general update on the Methionine Task Force we have David Will, who serves as the chair of the Methionine Task Force. David with Chino Valley Ranchers, and with that David, I'll pass it over to you. Thank you all for being here.

MR. WILL: Thank you very much. I don't know. Is this -- there it goes. So I just have a real quick two little presentations that will take very quick, as soon as they get up, just to give you a little history and background so you can see where we are as a group and where we are an industry, and then we'll let the experts who you guys graciously brought in to discuss this.

We appreciate the invitation of the chair to come in. Just to give you a quick update, you know, we have to be a certified organic feed. We can't use animal proteins due to the National Organic Program rules. So that's kind of where the need for this synthetic methionine came in.

What goes forward, Michelle. There, okay. The Task Force was actually formed in '07, and then we are an industry group put together. We are funded through ourselves. We represent about 85 percent of the organic layers in the United States. It may be a little higher than that.

We represent everything from pastured to small independent family-owned and operated farms to larger scale producers, and we also have three of the probably largest broiler people a part of us. No turkeys. So if you know any turkey people, we'd love to talk to them.

We've researched, we've done some trials and we've given regular updates to the NOSB. We've done some work by Organic Valley. They did some milk whey protein, some potato starches and a high methionine corn study that they funded and did some work with.

Then through our company, we did a no outdoor access, non-methionine ration for an entire flock that went to 65 weeks of age. We

looked at mulberry leaves as a source because silkworms, as you hear, are a great source of methionine, and they're a single feed ingredient, and then also brazil nuts.

As a Task Force, we funded a high methionine corn trial that took about three years. We're still in the process of using that and we've got a field study growing some corn this year for some independent small producers. UC-Davis did a two year a black soldier fly study.

You'll see some information on that coming out. They're publishing, so expect something quickly, and then we're funding a literature review. The UC-Davis study was, took 80 birds for 65 weeks of age. We funded 67,000. That was their study goals. It's in your pack.

The big thing about it was if you took the 14 million layers, it takes about 910,000 pounds per day of black soldier fly to feed them when they're young, and as they get older it goes to about 238,000 pounds. But that's as a dried,

so you need to multiply all those by seven, and then the next one real quick.

You know, just skip it. Let's go to the experts, because you're -- they're better off with this anyhow, and I met my two minutes. It's in your packets if you want it.

DR. BREGENDAHL: Well, thank you for having me here today. I'm going to talk about the need for DL-methionine in organic poultry diets, and just to give a little background about amino acids is that we put protein in diets for birds, but bird actually need amino acids, not the protein in there.

And there are 12 amino acids, well 20 amino acids in protein, 12 of those that must be fit into the diet. The thing about these 20 amino acids is that they need to be fit in different amounts.

Birds need in different amounts, and as far as the traditional, the classic way of looking at this, this is a stave barrel here, which each stave here would be like one of the

amino acids, and you can only -- and this barrel here, it can only hold water up to the lowest stave.

That's part of the production welfare of birds here. You can only have production up to the lowest amino acids in the diet here. So that's the first limiting amino acids, it's the lowest stave in there, and that one is methionine for poultry. It doesn't really matter how much of all the other amino acids are in there. It's the first limiting amino acid that kind of runs the show, and that's methionine for poultry.

All right. So that's why we're here talking about in part about methionine. So this is what I do for a living. I make organic laying hen diets, and this is what laying hen diets would look like here. Typically, in the areas I work, Midwest, we've got corn and soybean meal, so that's what I use.

And I put in two pounds of methionine in here. I do this to meet the requirements for methionine, which is shown at the very bottom

there. So that's how much methionine you should put in there, and I can get that corn soy and the DL-methionine.

If we work to make the same diet here meet the same amino acid requirements here without DL-methionine, I would have to increase soybean meal by quite a bit to get the methionine in the diet here, to make the methionine 16 at the bottom there equal.

Well, that's a lot of soybean meal I have to put in there, 250 pounds a ton. That's a lot, and the protein goes up from about 18 percent to 22-1/2 percent, just to get that methionine, extra methionine in there. The flocks I usually work with is around 20,000 hens. So that's individual organic producers.

And so if I had to do this for them, one flock with 20,000 hens, I would need another 100 tons of organic soybean meal per year to feed this flock here. To grow 100 tons of soybean meal, you need 100 acres of organic land, just to get the methionine in here.

The use of protein in diet comes with some issues too, because the excess protein can't be used by the animal. It's back to that barrel again here. And so when you feed excess protein to birds, you end up with wet litter, basically because birds have to drink more water to get rid of that extra nitrogen in there, extra protein.

That usually leads to ammonia issues, footpad lesions, burns on the feet. If you have high enough ammonia in the barn, you see blindness and respiratory issues, e coli peritonitis, mortality that comes with that. So there are some issues with extra protein, other than just the land needed to grow it there.

So if we can't use methionine, you know, what can we use instead? Well so what we need in the DL-methionine is the methionine itself. So I put methionine levels in here and corn soy, just as an example here. But what also matters is the amount of lysine of the other amino acids, right.

So I put lysine on here, but I could

have put total protein as well here. But the ratio, the balance between those two amino acids is what's important when you formulate the diets. So we could use corn, high methionine corn. As you can see it has more methionine, but it also has more lysine, it has more protein.

So I kind of end up with the same issue as before. I just put more protein in the diet, it doesn't really help anything. Some of the other ingredients that are available, sunflower meal, canola meal, linseed or flax meal, same thing. They've got pretty good methionine contents but they also are high in lysine. So it doesn't help anything from a formulation standpoint. I still end up with high protein diets, way more than I need.

There has been some interest in insect meal. So here's silk worm and black soldier fly larvaes, and you can see they have high methionine, but again they have crazy high lysine, so the ratio between those are actually not very good. So they don't really help either.

The only thing I found so far that seems to work in literature, at least I found in literature it's not commercially available yet, but that's Brazilian tree nut protein powder. You can see that has a really high methionine. It has a pretty high lysine too, but the ratio between those is really good. It's way high in methionine.

So that would probably work if it wasn't because it was grown in Brazil and it would have to fly to Iowa, Indiana where we feed the stuff. So you say well, let's just not put methionine in there and leave the protein where it is.

So here's back to the same diets again, 570 pounds of soybean. Now in both of them, I don't use methionine in the one on the right. So now I come up with a methionine-deficient diet, and so this is, you know, maybe a little extreme here. But you could maybe put it a little higher, but my point here is that you end up with a deficient diet that's too low in

methionine for the bird's needs.

And so, you know, we need all these. I mentioned before the methionine kind of runs the show here. So the methionine, that level here, kind of limits everything now. And so when you have a marginal methionine deficiency in here, you get some production issues. The birds need this methionine to produce eggs and also to have a nice egg weight.

But for perhaps what more importantly what you see is you get some issues with animal welfare. I see these in flocks here that are fed low methionine diets. I see those on the farms I feed right now, where you get these poor feathering, because feathers are high in methionine.

Birds actually will get aggressive and other animals too if there isn't enough methionine in there. So they kind of start pulling feathers. They might even peck each other and die from this. So they kind of -- they need that methionine there for welfare and for

production both. With that, I will let Heather speak here.

DR. BURLEY: Thank you very much for having me. I'll wait til they get loaded. There's a little bit of overlap in the beginning here, but I'm going to try very hard to boil down my last kind of decade of between research and literature reviews on different ingredients and strategies and things that we've looked at as replacements to synthetic methionine.

So I'll talk a little bit less about the metabolism, since that was covered. So as I said, I'll kind of breeze through this, that methionine is one of ten plus essential amino acids for poultry, and these are the building blocks of poultry.

So my analogy is kind of like when you're building a protein, it's like building a full size puzzle, and when you're missing one essential amino acid, it's like missing one of those puzzle pieces, and that's going to lead to those deficiencies that he just talked about, in

terms of the loss of feather coverage and feather pecking and cannibalism, and reduced weight, growth and egg weight.

Then if you have that excess protein that he talked about in formulation, it's like you have the full size puzzle, but you have all these extra puzzle pieces that you can't include in anything, so they excrete it through their urinary system and it causes manure moisture, footpad lesions, breast blisters, increased ammonia and air, which is bad for the birds and for human health workers.

So there's a lot of down sides to both of those situations, and poultry, like humans, like swine, are naturally omnivorous. So when they're fed plant-based diets, these are considered what are known as incomplete proteins for poultry.

So they're not providing that complete complement of all those amino acids that they need like animal proteins would. So since organic birds are fed entirely vegetarian diets,

it's very challenging to find alternatives to synthetic amino acids without those meat-based ingredients.

So I'm going to cover four different categories very, very quickly. One is looking at alternative breeds, alternative feeding strategies. I was asked to cover pasture as an alternative, and a little bit on ingredients. But again that was covered, so I'll kind of devote a little more time to the other three.

So one thing we looked at in some of the literature review that I did was looking at breed alternatives. So the bottom line for this one is that there are different categories of poultry. So laying hens, broilers, turkeys, etcetera, that do differ in their amino acid needs based on their age, size and the purpose of them.

So they need to build different proteins for meat, versus different proteins for eggs. So they do have slightly different amino acid needs. But when you consider a category of

poultry, so your laying hens or your broilers, within that category they don't differ in the ratio of amino acids that they need.

So you still need those same puzzle pieces to build that whole puzzle. You still need to build that whole barrel that he talked about. So commonly or more commonly used in Europe, there were these slower-growing strains that are studied.

So these grow out for 12 weeks, instead of the typical five to seven weeks of conventional breeds, and they do have lower daily amino acid requirements, but it's mainly due to their lower growth and their lower production rates. One of the big things with these is that these breeds are not readily available in the United States right now.

So this is not something that could happen overnight for that sort of thing, and they do take twice as long as grow out as well. Then there is a couple of different alternative feeding strategies that were looked at. One was

lowering dietary energy to kind of influence the birds to eat more, to try to make up for marginally methionine-deficient diets, and it was not found to be effective, to make up for methionine deficiency in any remarkable manner.

Another thing that they looked at in another study was giving the birds a choice between energy-rich ingredients and protein-rich ingredients for them to try to naturally select for methionine deficient diets, but instead they kind of went for the more tasty corn-based ingredients for the high palatability. So that was not effective either.

So a whole bunch on pasture and forage. So for this one, pasture intake for birds is actually quite low. It's only about two to eight percent of the diets. They are consuming some grass if they're out on pasture, but it's not a significant amount.

Palatability of plant species differs. So their consumption of it greatly would differ based on whatever pasture is available. One big

thing is the moisture level of the grass. So with the -- as is wet grass, methionine is actually very low in the sources. So it's not providing a very significant source, because most poultry feed is dried, it's fat-extracted, things are done to enrich those nutrients, which pasture does not have.

The digestibility for birds is also very low, because like us and like swine, we cannot digest pasture. So ruminants such as cattle and goats can; they have adaptive mechanisms, different stomach systems which have bacteria that can digest it, but poultry cannot do that. Pasture is also not available in cold, winter months and you need pasture rotation to prevent burnout from the type of manure that they have.

And insect and worm consumption we also looked at because this question came up, and that is also very low. It's only about .42 percent of crop content, so the crop is an outpocketing of the esophagus that was sampled,

and the percentage in there was very low. So they are eating insects, but it's very low consumption.

Then you also have that potential disease parasite risk from them being exposed to soil and insects.

So ingredients were kind of covered, but we've looked at a whole list, a whole slew of different ingredients that range from all the way as high as this brazil nut meal, which is one of the studies that I did.

But again, these are only found in specific countries on these very well-established trees. So this is a very finite available ingredient. It's really not practical for the large scale we need it at.

There's other more animal-based sources such as dried egg and milk powders, which there's no organic allowance for because they're animal products. Fish meal is also very low availability and could have palatability issues at high levels for eggs and meat products.

Potato protein and other ingredients have anti-nutritional factors that interfere with digestions, and a corn gluten meal is not organically available.

Sunflower seed meal, again limited for organic and has that issue with the methionine/lysine ratio. The same thing with those black soldier fly larvae. So the kind of take-home note is that many things have been investigated. Some have some promise, but all of them do present challenges and the availability is one of the big aspects of that.

So my big take-home messages are insufficient methionine leads to issues. Extremely high crude protein diets leads to different issues, both of which impact the health of the birds. Right now, there's no single strategy or ingredient that's been identified or a combination of methods that can fully replace the need for synthetic methionine in organic poultry diets, despite extensive research over the past decade.

Pasture access does not provide any aid in meeting those methionine needs. So my recommendation at this time would be to continue this average lifetime allowance for organic poultry until an effective alternative can be identified. Thank you.

MR. RICE: Thanks very much to the panelists. It looks like we have some questions. Harriet and then Emily.

CHAIR BEHAR: I have two questions, because that's what we always do now. The first one is have you tried some of them in groups? So I know like if it's something's kind of low in lysine and high in methionine, because it seems like you're trying single ingredients to replace the synthetic, and I'm wondering if blending a few together might be good?

And then the second question is in the Organic Valley written public comments, they talked about a product called Methiomax, and I'm wondering if any of you know about that? It's an herbal -- I don't know. I was talking with David

Bruce. It's kind of -- it's herbally-based. I don't know how it's made or what other ingredients are in there, though it looks like it's just three herbs.

That enhances methionine somehow, so then you need to use less. So I'm just wondering if you know about that. So the first one is have you tried blending agricultural products, and the second is about this product Methiomax.

DR. BURLEY: All right. I'll do one take on it and then I'll see what I can add. So the herbal methionine I did look into for one of my literature reviews, a couple of different papers, and I saw a couple of different issues with it, the main one being that I did notice that they wrote it was -- it consisted of several herbs.

But in many cases, they did not list what those herbs were, and I could not find what the source was, what the plant was, any details on it or even sometimes what country it came from. Another issue was a lot of those papers

came from the same company that was also selling that herbal methionine.

So I have not seen anything that would lead me to believe that it is a strong alternative source at this time. A lot of the studies that I read through, they were also using other ingredients that were higher in methionine that were not necessarily organic to balance those diets. Do you want to take the next?

DR. BREGENDAHL: Yeah. This the combination of the various ingredients, and that's what we do in practical diets. I just showed corn and soybean meal here. But in reality, we will add a little bit of sunflower meal, a little bit of canola meal if it's available at the feed mill.

But because the methionine might be high in there, but again it's all the amino acids that matter. So we still have a lot of protein in those diets. Lysine is not the right, is not low enough in there. So it doesn't really help much over just straight corn and soybean meal.

CHAIR BEHAR: I just want to tell you that I was able to find the herbal ingredients in that, and it's andrographis and tulsi and neem. It said 40 percent andrographis, 30 percent tulsi. I mean they gave the Latin names. I had to look it up and I said well the first two I'm growing right now in my greenhouse and I'll have out in my field this summer. I've grown them for years.

I don't grow neem. I don't quite have the right climate in Wisconsin. But I was just interested in, you know, that possibility. It was kind of an interesting -- and it was part of the public comment from Organic Valley.

MR. RICE: Emily.

MS. OAKLEY: Thank you. So this was a question about the worms and insects that were .42 percent of crop contents on pastures. How many studies was that referencing, and is there information about the type of forage on that pasture and the frequency with which the birds were rotated or moved to fresh pasture, and does

that affect the outcome?

DR. BURLEY: This was a very limited study. I have not been able to locate another study similar to that, getting that exact information. This was done by a master's student at Penn State slightly after I graduated from the program, and I dug back to her study. She did not publish the work, but she presented it, the findings in a poster session at a conference.

And she had done the pasture quantification and insect and just anything that was in those crop contents. So I believe for that study, the pasture was not rotated. So that might make a minor difference.

But again -- and this was during the summer. So it would have been when there was a heavily populated insect population. So that would probably be even lower in winter months I would imagine. But yeah, this is only a single study. So there could be more research in that area.

MR. RICE: Next, we had Dan.

DR. SEITZ: My question is similar to Emily's. I've read about and have talked with small scale egg producers, who rotate their hens to follow the -- follow their ruminant animals, and time their pasture to correspond with the development of grubs due to manure and so forth.

I was wondering if producers like that have the same problems as producers whose hens have the same type of methionine deficiency problems as large scale producers?

MR. WILL: Yeah, I'm not familiar with that. I can't answer that.

DR. BURLEY: I would imagine that they're also supplementing them with additional feed. I wouldn't think that they'd be able to support the production of those birds or, you know, just maintaining their growth or body size. Was this for layers or broilers? I imagine it was layers.

DR. SEITZ: Layers. I believe so, yeah.

DR. BURLEY: Layers, yes.

MR. WILL: Dan, I'll just throw one thing in there, that of the three largest pastured producers out there, and I mean largest as far as bird count, most of them operate on very small, independently owned and operated farms, they're all members of our Task Force.

DR. BURLEY: Another issue with the insects consumed from field and pasture that we didn't kind of touch on in the presentation is that the ones that are fed as a meal are dehydrated. So the moisture stayed down and we're actually concentrating the protein and we're concentrating the methionine content.

So they're much richer in that dried form than they would be out in the field. So they're not contributing as much to the methionine as they would be as a meal.

MR. RICE: And finally Ashley?

MS. SWAFFAR: Thanks. Dan, you can ask me that question during our Board deliberations, because I've worked for two of the three of those pastured companies. But I do have

a question, a follow up on the alternative breeds that you talked about. Are there alternatives for layers or broilers? You kind of went over that pretty quick, and then could you explain a little bit more on the difference between the daily lower rates for the slow-growing birds? I'd just like to -- you touched very quickly and that's a huge topic.

DR. BURLEY: Yeah, yeah, yes. It is a very huge topic, and I had only a few minutes. So there were both laying hens and broilers. The laying hens just produced less eggs and broilers in general just took longer grow-out times, as kind of the generalized statement there.

So you can feed slightly lower levels on a daily basis because they don't have as high -- you're not putting on as much muscle per day or you're not producing as much of those egg proteins per day. So it's lower production that you're trading off for providing lower methionine.

DR. BREGENDAHL: And also if I may,

just remember that you have to also feed those birds, those broilers longer, right.

DR. BURLEY: Yeah.

DR. BREGENDAHL: So that your total feed use probably is the same as the faster-growing one.

MS. SWAFFAR: Yeah. That was going to be my follow-up as overall, the birds still probably would ingest the exact same amount of methionine over --

DR. BREGENDAHL: It would still be a longer period, yeah.

MR. RICE: We need to wrap it up here pretty quickly. Dave.

MR. MORTENSEN: Yeah, just to follow on Dan's question. I have an impression, but I'm not an expert in this area, that there is a scale of dependency. The larger the flock, the less likely they are to get out into a pasture, and this is based on listening to growers talking about this.

And therefore the more likely they are

to need to be sure that critical amino acid concentrations are met by supplements rather than some other form. Is there any truth in that?

DR. BREGENDAHL: Yeah. From what I see in organic flocks, they do have outside access obviously, and there are birds outside. But most of the chickens are actually inside the barn. They don't necessarily go outside even if they can.

I work with a certain producer that requires the pasture feedings. So they have really big doors, they must, so they can't go out. So there's fewer, a little more birds going outside but they're still, I say, no more than half of the birds are outside at any one time.

MR. MORTENSEN: I would say that I did, just like two weeks ago I was listening to a guy who has small flocks, but not tiny flocks. Like you know hundreds, not like the 20,000 bird flock you showed, who had the birds out because of the way they were being managed.

They were out -- he was ensuring they

were outside by design, and doing rotational grazing in the way that Emily mentioned. So I had the impression he was of the opinion that you needed less supplements when you managed the birds that way. I'm just trying to --

MR. WILL: Dan, I'll add two things to that. First, our company has 50 producers that have 2,000 or less birds. The majority of those are organic and on five foot per bird or more, outside access in a very wet climate. So they have good growth outside, good access.

They all use synthetic methionine in their rations. Part of that is because the birds are conditioned from day of age when we can't let them out to know where their food comes from. As you saw on the one slide early, only two to eight percent of their nutritional consumption comes from the pastured area. It's kind of are you going to eat in a restaurant or go field strip and kill your own cow?

The birds are kind of conditioned to where their food comes from and what it looks

like. And then second on that is annual. This is seasonal. There's a lot of great areas we can grow a lot of good pasture area, but they're also under three feet of snow part of the year.

So they're forced into that. But even the people who are all small producers, all of them still use the average on their flocks.

MR. MORTENSEN: Thanks.

MR. RICE: Thanks everyone for the comments and to the panel for joining us. I really appreciate that and thank you for making the effort to be here. We're going to need to move on.

(Applause.)

CHAIR BEHAR: And enjoy your chickens.

(Laughter.)

CHAIR BEHAR: Okay. So we are going to move to Public Comment, but first I will kind of pass on some information. The National Organic Standards Board's conflict of interest policy can be found in our policies and procedures manual. Prior to this meeting and

every meeting, a spreadsheet of all the proposals and discussions documents is distributed to the Board members.

They are then asked to declare any conflicts of interest in writing to the NOP. At this time, no conflicts of interest were disclosed, and in the interest of public transparency, I ask any of the Board members if they have any conflicts of interest on any of the items that are up for vote or for discussion at this meeting.

(No response.)

CHAIR BEHAR: Seeing none, we will move on and we will not do that before every Subcommittee. We've done our work. So we're going to move now to the Public Comment portion of the meeting. Public input is an essential part of the NOSB decision-making, and be assured that we do listen and depend upon your ideas and suggestions.

We have already held two public comment sessions in a webinar conference call

type format for the spring 2019 meeting. All persons wishing to provide public comment sign up prior to the meeting and speaking slots are assigned on a first come basis. When we hit our limit, we put people on a wait list in case there are cancellations.

Comments are limited to one per person for each NOSB meeting. So if you spoke at the webinar, then you cannot speak in person here, and we take as many written comments as you want to give us and sometimes we get buried. But it wasn't too bad this time. As well proxies are not allowed.

If we call your name and you're not in the room, we'll try to come back to you if time allows. We're going to try to have everyone who's on the schedule for today speak today. We may cut out some breaks or go a bit late if we run long, so we really would like, we know that many people are leaving, and so to stay on our schedule we'll run everyone today who is signed up for today.

For members of the public, if you have to talk to someone next to you, please take that conversation outside. Everyone, Board members and the public, please silence your cellphones and your computers so that we can clearly hear the speakers who are providing comment without distractions.

You can take photographs of speakers, but please do it in such a way to not disturb that speaker or the Board and, you know, stay kind of behind the table and the tapes there. Okay. I am going to -- each speaker has three minutes, and I'm going to ask Michelle to go over the --

It's a little bit different than we had in the past. There is a three color. It's green, then it goes to yellow and then red, and I believe there's actually a clock in front of you, right?

MS. ARSENAULT: That's correct. So for people that have commented in the past, there's a new timer on the podium and there's a

countdown clock, so you don't have to remember what the colored lights mean, and it has a less obnoxious beep than it has in the past.

CHAIR BEHAR: So there's no beep at the end?

MS. ARSENAULT: There is a beep; it's just not a loud buzzing noise.

CHAIR BEHAR: Great, okay. So --

MS. ARSENAULT: One other thing. So it will beep when you reach your three minute time limit, and then it starts counting up so you know how far you've gone over.

CHAIR BEHAR: Okay. So when the red light comes on and the beep starts, you can finish that sentence, but please refrain from taking more time than that. We have many speakers to listen to, and only a limited amount of time. We ask that the commenters start with their name and affiliation at the beginning of their public comment.

If any member of the Board has a question about the affiliation of the speaker,

please hold that question until the end of that speaker's comment. Once the commenter has completed their three minutes, I will then ask the Board members if they have questions for that individual speaker.

Lastly, individuals providing public comment to the Board are asked to refrain from public attacks that might impugn the character of any individual. If I hear that type of speech, I will interrupt the speaker and ask them to refrain from that activity.

So I will call on the person who's the next speaker and also the person who's on deck. The on deck person will sit in the chair next to Michelle, and you can then feel free to take one of the animals on the table, to share the great biodiversity that we have. So first up -- yep, another point Michelle?

MS. ARSENAULT: Can I just say one thing? I have one video for today's commenters, and no other PowerPoint presentations. If you think you have PowerPoint presentation for today,

I don't think I have it, so come see me.

CHAIR BEHAR: Yes Dave?

MR. MORTENSEN: Some of us are just mildly hearing challenged. These mics are highly directional, so if you could -- if you're tall, move it up or otherwise we don't hear very well. Thank you.

CHAIR BEHAR: Okay, thank you for that Dave. Okay first up is Kiki Hubbard, with Lynn Coody on deck, and Lynn there are border collies over there for you. Please state your name and affiliation.

Public Comment

MS. HUBBARD: Good afternoon. My name is Kiki Hubbard. I'm the Director of Advocacy and Communications for Organic Seed Alliance. We are a mission-driven organization that works nationally to ensure that organic farmers have the seed they need. Our home office is in Port Townsend, Washington, so welcome to our backyard.

My comments are going to touch on two topics today. First, OSA appreciates the

Materials Subcommittee's work to provide further clarity on excluded methods. We are generally supportive of the proposal on the agenda, and we offer detailed recommendations in our written comments for further strengthening this document.

The science involved in this particular area of the Subcommittee's work requires a steep learning curve to be sure, so we applaud these efforts and want to underscore the importance of this work to the growth and integrity of organic plant breeding and organic seed production.

Secondly, OSA appreciates the Materials Subcommittee's work on the challenging issue of genetic integrity and transparency in the seed supply. We very much agree that testing for and monitoring the presence of genetically engineered material in seed use by organic growers is important, and we share the Subcommittee's concerns that some organic farmers are facing real market problems because of GE material in their seed and crops, despite their

best efforts to avoid it.

We remain concerned, however, with the general approach outlined in the proposal that was presented last fall, which would require organic farmers as part of a pilot project to request detectable levels of GE materials in the seed they're sourcing.

This project appears to try to achieve two goals, both to collect more information to understand the problem of contamination, and to establish a reporting protocol in the marketplace. In our view, it's necessary to decouple these efforts because the current approach is trying to understand the problem at hand, while at the same time trying to solve it.

Because organic field corn represents a very small fraction of overall corn acreage in the U.S., organic field corn producers have limited choices in organic seed in conventional untreated options, and much fewer options in varieties that are actually bred for organic production systems.

We remain concerned about implementing a pilot project outside of an expert body. We are also concerned about implementing a project without data that helps us understand what the feasibility as well as potential unintended consequences, including fewer organic seed varieties available.

We believe data collection needs to happen, and that it should happen in a systematic and scientific way, and that this collection should be not put on -- should not be put on the backs of organic farmers and the certification and enforcement system.

We're very hopeful that we can find a path forward that both supports more transparency in the seed marketplace, while encouraging much needed investments in organic seed production. Increasing the availability of organic seed will lead to more organic acreage, more organic farmers using organic seed that wasn't produced in conflict with organic principles and -- wow, this is a new system.

(Laughter.)

MS. HUBBARD: All of these factors strengthen organic integrity overall, and we shouldn't lose sight of that bigger picture as we grapple with this challenge. Thank you.

CHAIR BEHAR: Hi Kiki.

MS. HUBBARD: Hi Harriet.

CHAIR BEHAR: So the discussion document from the fall and this one does not stop any farmer from using any corn seed with any limit of genetic contamination.

So I'm just not sure if a farmer wanted to buy a certain variety, knowing that it is high or not high or whatever level it is of having genetic contamination, I just am not sure why that would stop them from using it if they were not trying to get into a market that required less?

MS. HUBBARD: I don't believe that any of our comments spoke to a concern like that Harriet, to be honest. So I'm not concerned about farmers feeling discouraged from using a

particular variety, if that's what you're getting at.

We are very concerned based on preliminary conversations with seed companies and other stakeholders, including certifiers, that there needs to be a lot more information collected before moving forward with confidence with this type of a pilot project.

We are concerned about the unintended consequences of this establishing a de facto threshold that organic seed companies, despite their best efforts, might not be able to reliably meet, and therefore produce fewer organic seed options for the marketplace.

We're concerned that it sets a bad precedent of keeping the costs associated with contamination, the responsibility of identifying the problem and then dealing with it on the shoulders of the organic community alone. We have a number of concerns that OSA has outlined in previous comments. The one that you're speaking to isn't necessarily a concern of ours

at this time.

CHAIR BEHAR: Okay. I guess what I'm hearing then is that perhaps the seed producers would not produce the seed because there's concern that they might not be able to sell it if it had a high GE content.

MS. HUBBARD: Gosh. Well first of all, most seed companies are testing. Organic seed companies are often redirecting seed lots that test high in contamination to the conventional seed marketplace. They're already dealing with the problem internally, because they care about the integrity of the organic label and want to meet the expectations of their customers.

We don't know. I can't answer your question because we don't know. We need more information. We need seed companies to respond to both the feasibility of this proposal and any ways that it could affect the way they operate, and whether it's even feasible to achieve current expectations when it comes to levels of

contamination.

CHAIR BEHAR: Sue.

MS. BAIRD: Hi. Thank you for this presentation. You're saying that you would like to see it decoupled. So would you have a plan, a proposed plan that would implement the decoupling, a plan that would say we're going to test for two years or three years or -- do you have a plan proposed, since you would like to see that done?

MS. HUBBARD: Yeah. In previous comments by Organic Seed Alliance, as well as previous discussion documents by the Materials Subcommittee, going back I think six or seven years, when the focus was more on exploring whether it was feasible to establish a threshold at the seed level, we have long called for a task force made up of experts that could collect this data so we have a baseline to really understand the problem to begin with, and then to inform what is feasible on behalf of the organic community for addressing the problem of genetic

integrity.

And so we very believe we need to be calling for a body of experts, be it a USDA task force or another body of experts, to carry out the much-needed research and data collection. I think a lot of these companies would provide years of testing data under a non-disclosure agreement.

So there's one idea. Moving forward, there are other low-hanging fruit opportunities such as really educating organic growers who are supplying to a sensitive market to be asking these questions of their seed suppliers. There should be more transparency. Some companies are already doing it.

Let's encourage growers to ask those questions, as some of them already are, and to remind them that integrity begins with seed. And also we support the Organic Trade Association's recommendations to move forward with guidance for certifiers, to help them understand the best practices involved with testing protocols for GMO

contamination. Those are just a few ideas.

CHAIR BEHAR: Sue.

MS. BAIRD: Yes. Do you think that it would be a deterrent if this was passed, and we would require the farmer to incur the cost of genetic testing? Would it be a deterrent to a farmer to have to pay that cost, and would it be by lot or would it be by the season?

MS. HUBBARD: So we are very -- we are very opposed to the particular part of the proposal that would require organic farmers to do their own testing should their seed supplier not provide detectable levels of the seed that they're buying. We do not think that is fair, and we do think that added burden could deter organic farmers in ways that are not supportive of the ongoing growth and success of organic agriculture.

CHAIR BEHAR: Emily.

MS. OAKLEY: Do you have some specific examples or suggestions for ways that we can encourage farmers to ask their seed companies to

provide that information if it's not actually stipulated as a requirement?

MS. HUBBARD: That's a great question, Emily. Again, off the top of my head I think it's going to need to come from the certifying and inspecting community, perhaps from extensions who are fielding these types of questions from buyers. I think it's -- there are a number of ways to encourage that.

I think at this time, given all the unknowns, it's not wise to require that of all growers, especially since not all growers are supplying to a sensitive market. That is not to minimize the importance of that information. We are certainly not advocating for ignorance here.

We are advocating for a cautious approach in a way that keeps the big picture in mind, and that doesn't further burden organic farmers and further limit organic seed options available in the marketplace.

CHAIR BEHAR: Thank you, Kiki. Next up is Lynn Coody, and on deck is Roland

McReynolds.

MS. COODY: Hi. My name is Lynn Coody and I'm presenting comments for the Organic Produce Wholesalers Coalition, seven businesses that distribute fresh organic produce across the United States and internationally. In our comments to the NOSB, we express our own ideas and also provide a conduit for the voices of the many certified growers who supply our businesses.

OPWC has provided detailed comments on 14 of the 2021 sunset materials. We solicit comments from growers and handlers, and present their own words in our comments to show how these materials are currently used and needed in the produce sector.

OPWC thanks the Subcommittees for their work, and we agree that with almost all the recommendations for this meeting. However, our written comments do address some points of disagreement and today we'll focus on three of these.

First is assessing cleaners and

sanitizers. We do disagree with many points in this discussion document, as well as a decision to move forward with a TR prior to presentation of this topic to the public. My colleague, Mike Dill, will address this in more detail.

AITC. OPWC asserts that the long-term reliance on regulatory exemption for the use of conventionally sourced planting stock blocks continuous improvement in production of organic crops that are propagated through nursery stock.

Unless organic standards can provide practical methods of protection against spread of diseases and nematodes via planting stock, there is no incentive for nurseries to grow varieties that are specifically oriented to the needs of organic production systems and the organic marketplace.

In response to a question about phytosanitary programs at the last Board meeting, our comments present our research on potential for AITC for making incremental improvements in nursery stock production. We urge the Board to

approve AITC with the annotation only on nursery stock subject to phytosanitary programs, and to add a research topic to find other possibilities for organic nursery stock to comply with these programs.

We respectfully disagree with the Crop Subcommittee's recommendation not to list ammonium citrate and ammonium glycolate. We reviewed the technical report and the Subcommittee's evaluation checklist and found the recommendation is not well supported by these background materials.

OPWC supports listing multiple types of chelates so that growers have the opportunity to determine which works best in their specific conditions of soil type, soil temperature, water availability and crop mix.

The TR supports the idea, stating the presence of other approved chelating agents on the National List does not make the petition's substance unnecessary. Further, we concur with the TR statement that the effect of chelation

becomes more dramatic in alkaline and water-deficient settings, and note that many fruits and vegetables that enter the organic are grown in areas subject to these conditions.

We urge the Board to take another look at background documents on these materials when considering the Subcommittee's recommendation. Thank you.

(Laughter.)

CHAIR BEHAR: Any questions for Lynn? Ashley.

MS. SWAFFAR: Thanks, Lynn. I thought no one was going to ask you a question there. So I do have a question about the sanitizer and discussion document, and I'll ask Mike some more detailed stuff there. You had put in your comments that you were concerned with the intended outcome of this evaluation system. Do you see how we could use this -- how would you see that we could use this document looking at sanitizers?

MS. COODY: I think I'd rather answer

the question a little bit differently than that. We had, we had a lot of concerns about not only the content of the specific document, but the concept behind it, as far as trying to define sanitizers in terms of uniqueness.

First of all, that was not a defined term in the document, and secondly we are unclear how the -- why the idea of uniqueness is so important in sanitizers, when we know that they must be rotated in order to prevent their -- well in practical use, they need to be rotated, and that there are so many widely diverse situations in which they are used.

So we're seeing that actually, instead of looking for uniqueness, we need to try to understand more like what is a range of things that we need and what types of things in general. What are the situations in organic processing, livestock and crop production where sanitizers are needed, and why are they needed?

So we feel like we're starting at the wrong point with this paper, and we need to like

have a very different concept for trying to understand the use of sanitizers in organic production systems. We note that sanitizers are used in every scope, and I would contend in almost every single organic operation.

So any, any effort to regulate sanitizers has to really take into account all of the impacts that this would have on all the many, many organic operations.

CHAIR BEHAR: Dave was first, and then Emily and Jesse. Emily and then Jesse.

MS. OAKLEY: Okay, just to clarify, we were trying to decide who got to go first. Just to clarify, the intent of this technical review is not at all to take away sanitizers. It's not to limit them. It's not to try to make it more difficult for producers.

In fact, I think it compliments a lot of the concerns that you said you were worried it wouldn't do. That's in fact I think why we're trying to get this technical review. So I just wanted to assuage your concerns on that front,

and it is absolutely not the case for everyone who's coming forward in the future, that the intent is to limit people's tools. It is to try to help us determine as we get these materials, where their necessity falls.

Because right now it's sort of happening and I don't want to say like in a vacuum, but to some extent it is, because it is hard to evaluate them based on this holistic approach that we don't really have at this point. A lot of them are not getting passed, and perhaps this would actually change some of that.

CHAIR BEHAR: Jesse.

MR. BUIE: On AITC, can you address the variability and the effectiveness of AITC across these various nematodes? The TR talked about how the effectiveness was so variable.

MS. COODY: Okay. Thank you, Michelle. The number of nematodes and diseases that are addressed by phytosanitary programs are vast. So of course you would expect certain variability because each nematode is affected

differently by any given material.

My interest in a material like this is not so much exactly which nematode that it's going to be effective for, but rather that it could help organic growers. So you're talking about a grower trying to produce organic nursery stock for use by other organic growers.

I think that they are still, they are still subject to phytosanitary programs that require a very high level of cleanliness before the nursery stock is moved to another area. So AITC is not, would not in my view be a perfect material for every single, compliance with every single phytosanitary program.

You would have to pick and choose to see which ones it would work for. So it might work for blueberries in Oregon, but not so much for, you know, garlic in Arkansas. You'd have to be careful. You'd have to choose and see which ones it would work for.

MR. BUIE: Yes. It seems that the concentration needed for the various nematodes

has not been determined yet is what I'm saying. Is that --

MS. COODY: Yeah. From the TR, there was, there was -- yeah. There's not a lot of research on how this could work. But I think that we need to take incremental steps forward, with trying to provide tools for organic nursery stock production, because otherwise, we sit here with problems where there's no path forward. So I think that approving this with the annotation, as I said, for use only in the case of phytosanitary programs would allow for a tool that could allow experimentation and could allow for just steps forward in production of organic nursery stock.

We dealt with this before, where when we had our famous debates about antibiotics for fire blight, the main fix was let's have different -- let's have different types of varieties developed for organic production, and that was a 20 year horizon, and then at the end of the 20 year horizon we get stymied by

phytosanitary programs. So I'm looking at kind of a longer-term approach to trying to solve a really difficult problem of this organic nursery stock.

I don't know that AITC is -- it's certainly not a panacea for all problems with organic nursery stock. But I think it would be an incremental step to give growers something to try. Additionally, it would not necessarily -- it wouldn't be a substitute for allowing full compliance.

What it would do would be to provide a tool for reducing the amount of nematodes and diseases present. That's all it can do. It's not going to be the same as using methyl bromide, that's for sure.

CHAIR BEHAR: Dave is next, and then Tom.

MR. MORTENSEN: Yeah, and Lynn I think, I think Jesse's point also applies to the ammonium citrate and glyconate examples. Over the past two years or so or something like that

we've realized that we really need to knuckle down on asking for efficacy data, as opposed to saying to an applicant saying or someone defending a sunset, you know, it works or, you know, it might work in the Pacific Northwest under this or that condition.

MS. COODY: Right.

MR. MORTENSEN: So I think as we go forward, we have to continue as a community to insist that we have some sort of, whether it's farmer to farmer on farm trial data or some kind of data, so that we can determine that we're not just, you know, just adding things to the list where we actually don't have compelling evidence that they're even worth buying.

MS. COODY: Uh-huh, although I remind you that efficacy is not an OFPA criteria. So it does play into kind of a risk-benefit analysis, but it's not an OFPA criteria.

MR. MORTENSEN: But I also think that we are not, at least we're not wanting to add things if we don't have evidence that they're

going to do good.

MS. COODY: Yep, yeah.

MR. MORTENSEN: So that's just a working principle that we're using.

MS. COODY: I hear you.

CHAIR BEHAR: Okay, Tom.

MR. CHAPMAN: SDC. Should I ask you or should I hold it for Mike?

MS. COODY: If it's not too technical you can ask me.

MR. CHAPMAN: Did you see the petitioner's public comments about applicable areas and applications like that they did not think it was applicable for field applications based on the licensing.

Did you find that sufficient to meet your concerns about this material? And as a second part to it, if we were to annotate to restrict its usage to say municipal water systems, would your position on it change?

MS. COODY: Yeah. It does change. OPWC was the one if you remember at the last

meeting, we were the ones that pointed out that tough language in the EPA background documents, and also expressed concerns about its use outside of municipal systems.

So I did read that petition information again very carefully, and I did note that it was not -- they said it was not registered for those uses. If it were clearly annotated, then it would change my position. I feel like SDC has some good benefits as far as a sanitizer because its mode of action is so different than the ones that we have now.

So if there could be annotation crafted, I would feel good about it. Our written comments do say we regretfully wish we could have sanitizers that have different modes of action such as SDC and, yeah. So an annotation could work from my perspective, and that's about as technical as I can get on that one.

MR. CHAPMAN: Just as a quick follow-up, the human health concerns, the fate of some of the other environmental concerns, do you think

those are outweighed by the benefit if we do, you know, resolve this issue about municipal waste?

MS. COODY: Well actually, some of the information that was presented by other public commenters in the webinars was compelling to me in that they said even for the case that it was going into a septic tank, that the sludge would be taken away and then treated independently as it would be treated as in a municipal system.

So that was new information to me. I'm not an expert in sludge treatment, believe it or not, but I thought that was pretty interesting information, and I felt like it was kind of confined, and if it were additionally handled with an annotation to make sure that it was handled carefully, that's okay.

That to me, there again the efficacy of the sanitizer having another mode of action, that's pretty important to me. So I feel like the risk benefit is creeping along to the positive side for me.

MR. CHAPMAN: Thank you.

MS. COODY: That's not very technical, but that's kind of what I can tell you.

CHAIR BEHAR: Okay.

MS. COODY: Okay, thanks a lot.

CHAIR BEHAR: I just have one short comment and I have a question. I received a Stark Brothers catalogue in the mail, I don't know if anybody knows them, it's kind of a homeowners fruit tree. They ship fruit trees all over. They had a huge insert full of organic fruit trees, certified organic fruit trees. So they have figured out a way to be able to meet some phytosanitary.

I don't know where they're growing them or whatever, but there was at least 20 or 25 different varieties of organic fruit trees for home gardeners to purchase, and I was thrilled.

MS. COODY: Well each state has different programs for each individual type of crop. So like Oregon has blueberry phytosanitary programs. They're extremely diverse. So depending on where they're growing and where

they're shipped to, the programs are different.

So I can't speak for Stark Brothers but yeah, I'm happy they're giving organic growers -- organic trees for home growers too.

CHAIR BEHAR: Thanks Lynn.

MS. COODY: Okay, thanks everybody.

CHAIR BEHAR: And so next is Roland McReynolds. I'm sure he has nothing interesting to say, and then -- so we won't have any questions, and then Cathleen McCluskey. No offense, Roland.

MR. McREYNOLDS: None taken Madam. Madam Chair, members of the Board, thank you very much for the opportunity to speak with you here today. My name is Roland McReynolds. I'm the executive director with the Carolina Farm Stewardship Association.

We're a 40 year-old farmers organization working to build a sustainable, regional food systems in North and South Carolina that is based on organic farming and local food, and I'm here to speak to you today in support of

the petition that has been approved for your review, to add fatty alcohols to the National List as an allowed synthetic for use in sucker control in the production of organic tobacco.

There are approximately 220 organic tobacco farmers in the United States, and people representing 169 of those farms signed a petition in support of the materials petition, and requesting that you make a temporary allowance for continued use of fatty alcohols in organic tobacco until you make a final decision on the materials petition.

You received at least 26 written and oral comments from organic tobacco farmers in the docket for this meeting, requesting the same two actions. The average organic acreage of these family farms in North Carolina is 54 acres. These are the mid-scale family farms that are disappearing in America today.

These family farmers have made clear in their comments why sucker control is such a critical issue for their farms, and how fatty

alcohols address their needs. You received comments from faculty at NC State University documenting their research that is no non-synthetic material available that provides adequate sucker control in organic tobacco.

You've heard from farmers that the alternative of hand suckering tobacco plants is economically unfeasible and unhelpful for farm workers. Organic tobacco pays the bills for these family farmers. It allows them to accept greater risk on other organic row crops and achieve the soil health and ecological benefits of soil-building crop rotations without putting their families' livelihoods at risk.

Organic tobacco has converted thousands of acres to organic production in the Carolinas. You've received comments from other actors in the organic food supply chain in the Carolinas about how organic tobacco farmers have become the backbone of that supply chain. The crops these farmers grow in rotation with their organic tobacco have made our region a leader in

organic sweet potato production, have helped launch North Carolina in the top ten in value of organic production, and have fueled a market for locally milled and locally consumed organic cereal grains.

All of this has been made possible by the availability of fatty alcohols for sucker control. These farmers have relied on this product for the last ten years. It is essential not only for them, but to the organic food system in the Carolinas.

If you did not take up the materials petition at your fall 2019 meeting, then next January when these farmers are offered tobacco, organic tobacco contracts, they will not know if they can meet those contracts.

And they will be faced with the decision about whether to stay in organic agriculture or not. That is why it is so critical that you at this meeting make a recommendation to the NOP to grant a temporary allowance for fatty alcohols in sucker control in

organic tobacco, until such time as the materials petition receives your full consideration. Thank you.

CHAIR BEHAR: Thank you, Roland. Any questions? Emily.

MS. OAKLEY: Thank you for your comments, and I just wanted to just say that the webinar and the written comments were very compelling, and it's very helpful to hear from the growers.

However, my concern is that the essentiality is based on economic need, and in my own experience I've grown organic blueberries in a place that they really didn't apparently like to grow.

And for the first time I understood why people loved herbicides, although I've never used one. I could understand why they make crops economically viable, and organic blueberry growers in my state all use herbicides, because that is what makes it an economically viable crop in my area. I actually no longer grow

blueberries.

So I'm wondering if you think that economics really is a compelling reason for us to list an ingredient, especially a synthetic for which we have a high threshold for review?

MR. McREYNOLDS: Well, I think that the technical evaluation report that was prepared in 2016 for a prior petition on this material definitely identifies that the evaluation criteria in 6518(m) are satisfied, you know. This does meet. It is -- the toxicity and mode of action is -- it breaks down very easily in the environment.

The probability of environmental contamination during its manufacture, use is very low, according to the TER. EPA calls it a safer choice.

It states that although there can't -- there are no human health risks of concern and it has -- and it is a benefit for worker safety, right, because they're not having to go into the field in the hot summer sun and subject

themselves to dermal contact with the plants, and so avoid green tobacco sickness.

So it is -- the essentiality economically is, I believe, a fundamental factor that has not been brought forward. But I do think that the technical review that you've received so far definitely demonstrates that this meets the requirements for addition of the material to the List.

CHAIR BEHAR: I see Jesse and Steve.

MR. BUIE: Just a comment. Do you think that to further this discussion, if we decoupled tobacco from fatty alcohol, that would make this discussion a little bit more palatable?

MR. McREYNOLDS: I'm not sure I'm following. I mean I believe -- the petition is limited to the use of this material on tobacco, not other crops.

MR. BUIE: Right, right.

MR. McREYNOLDS: Is that what you're getting at or --

MR. BUIE: Oh no, no. I'm just saying

--

MR. McREYNOLDS: Because I'm not sure that OFPA, you know, gets to whether or not, you know, we like the crop.

MR. BUIE: Oh no. I'm talking fatty alcohol. That's what I was saying.

MR. McREYNOLDS: Right, okay. I'm not sure I'm following.

MR. BUIE: Okay. I'm just saying if we focused on fatty alcohol and not tobacco, would that -- that's the question.

MR. McREYNOLDS: Right. It's difficult for me to decouple that, yes. I mean I -- in terms of the impact that it has on these family farmers, it is -- this is the crop that makes their rotation economically viable.

CHAIR BEHAR: Okay Steve, and then Dave.

MR. ELA: I think what Jesse's asking is there's been some discussion of -- people have various views of tobacco.

MR. McREYNOLDS: Sure.

MR. ELA: But our discussion is really about fatty alcohols. It's not about tobacco, just like it is for any material.

MR. McREYNOLDS: Yes, yes.

MR. ELA: So I think that's where he's getting at.

MR. McREYNOLDS: Okay. I apologize.

MR. ELA: One thing I wanted to ask some follow-up on from the webinar, and I don't know if you can speak to it, is one of the presenters noted that their insect problems went down using fatty alcohols versus hand sucking, and it was because they understand the aphids tend to be attracted to the suckers, and if they're removed then you don't have to spray or do you have aphid issues?

MR. McREYNOLDS: I believe that it's not that -- it's the topping of the plants that reduces the aphid issues, because there's no flower to attract them, and regardless of whether you do it top, by hand or with a material, that's still the effect. It's then it forces -- the

topping is what forces the sucker growth, and that therefore that makes the necessity of suckering.

MR. ELA: But the aphids were attracted to the sucker as I understood. So if you didn't have suckers, then you didn't have as many aphid problems?

MR. McREYNOLDS: I believe yes, that's correct.

MR. ELA: Okay. I just wanted, because I think that deals a little bit with it's not just economics. It actually does help reduce the potential of another insect.

CHAIR BEHAR: Dave.

MR. MORTENSEN: Yeah. Roland, I also wanted to just say thank you to you and the many others that have spoken and to the farmers, because I'll tell you. The last time we looked at this, we had very, very little input from farmers, and the idea as we were saying before about efficacy and need is definitely part of something that we're all thinking about when

we're looking at these things. So the case is made in a much more compelling way this go-round.

MR. McREYNOLDS: I appreciate that. Certainly, it's been -- the farmers that we work with have been very responsive to this, to this risk that they're facing, for sure.

CHAIR BEHAR: And I guess I would just say too that it was very compelling on the webinar to hear about the need for it in a crop rotation, and in Wisconsin we also have a tobacco culture and understand that that is a very high value crop in rotation, and whether you like tobacco or not, it is a legal crop to grow in the United States. And that's it. Okay, thank you Roland. Next.

MR. McREYNOLDS: Thank you all very much.

CHAIR BEHAR: Next up is Cathleen McCluskey, with Alan Lewis on deck.

MS. McCLUSKEY: Good afternoon. My name is Cathleen McCluskey, and I am the Communications and Outreach Associate for Organic

Seed Alliance. We're a mission-driven organization that works nationally through research, education and advocacy to ensure organic farmers have the seed they need.

My comments will touch on the Crop Subcommittee proposal to strengthen the organic seed guidance. OSA supports the Subcommittee's revised proposal, and we are pleased to see past public comments incorporated into the most recent version.

The Subcommittee has put forth four years of hard work into this document, and we're grateful for the progress demonstrated in the latest version. In our written comments, we provide additional suggestions for the Subcommittee and NOP to consider, as you finalize and implement these final recommendations.

Improving the sourcing of organic seed will have far-reaching impacts far beyond helping organic growers meet a regulatory requirement. More consistent enforcement and more sourcing of organic seed will lead to more investments in

organic plant breeding and seed production, and ultimately more high quality varieties available for organic farmers to choose from.

We believe it's imperative to the success of organic farmers that they have many options of high quality seeds and cultivars bred for organic systems. In particular, we appreciate that in this proposal the Subcommittee has emphasized the quality of seed searches, the need to encourage timely seed ordering, and the importance of demonstrating measurable increases in organic seed use over time.

We also appreciate the additional language that clarifies what constitutes a non-compliance, in addition to the language that clarifies the role variety trials can play in identifying equivalent organic varieties, given the enormous value the trials and the resulting data provides growers.

We also support the language that calls for growers to engage their current non-organic suppliers in dialogue about their desire

to purchase equivalent organic varieties or cultivars. We see this recommendation as helping demonstrate the market demand for organic varieties and cultivars to seed suppliers.

Further, the documentation of these requests may serve useful to encourage both non-organic and organic suppliers to invest in organic breeding and production to serve the need of organic producers. We hope to see the NOSB pass this proposal at this meeting, and encourage the NOP to swiftly implement these recommendations.

This improved guidance complements the seed regulatory language approved by the NOSB last year, which will require demonstrated improvement in sourcing organic seed and planting stocks on an annual basis. Together, these actions represent a milestone.

We view this evolution in organic seed policy as a significant step towards a future where the integrity of the organic label is stronger because the critical first link in the

organic production chain, the seed the farmers plant, is also consistently organic. Thank you very much for your time and for your service.

CHAIR BEHAR: Any questions? Thank you. We did work hard on it, so thank you for noticing.

MS. McCLUSKEY: Yes, thank you.

CHAIR BEHAR: Okay. Alan Lewis up next. Please state your name and affiliation with Zea Sonnabend on tap, on deck.

MR. LEWIS: Thank you Harriet and Jenny and Board members. Alan Lewis, Natural Grocers. We're up to 150-some stores, 19 states west of the Mississippi, and as a starting point we still only sell certified organic produce. I'm here again talking yet again about hydroponics, because there's housekeeping to be done.

We don't have labeled hydroponics. So it's coming in on the trucks and we don't know whether it's hydroponic, grown in water, whether it's actual -- excuse me, but actual certified

organic grown in soil. You have to imagine that it's 5:30 in the morning. You're 18 years old, you're a little hung over, and you're pulling 500 cases off.

We already have huge problems knowing whether it's really certified organic or not due to unlabeled cases and missing logos and bad invoicing. So we don't know what to tell our people. So I'm going to make a proposal here today, which is that there are three triggers, potential triggers.

Are the items in that case potentially hydroponic items, things like berries, tomatoes, peppers. Are they with brands that are known to be grown without soil, and the last trigger would be a certifier known to certify hydroponics. Somehow in there, you have a trigger so I can tell that young man or woman at 5:30 in the morning if you see these, then a placard goes on them in the store and it says may be grown without soil, because consumer trust and transparency remains critical.

And in the hydroponic world, not only is it unlabeled and undisclosed, but their practices and inputs are largely trade secrets. So it's really incumbent on the retail industry to be a last line of defense here, to make sure customers maintain their confidence.

Now customers are going to see the placard, and they're going to have questions. So a bit tongue in cheek, let me give you five things that the organic or the hydroponic industry presented over the last five years as reasons to promote hydroponic.

One, improve the appearance and lower our dependence on an environment by not having soil, insects, wildlife, bugs, rain, sun or wind or snow. Two, school the organic Luddites who fear new technologies. Three, reduce the number of inefficient small holder soil-based farms. Four, avoid the dark arts and black magic, quote-unquote of soil biology, and lastly, keep food away from dangerous soil microbes.

It leaves me a little bit speechless.

I think we will help the hydroponic people work on their messaging before we take those five points to our consumers. But in all seriousness, we have housekeeping to do because hydroponic needs to be labeled if the organic seal is to incorporate it and maintain the confidence of consumers in the seal.

Give them the choice, give them fully informed choice. I yield the rest of my 12 seconds. Thank you.

(Laughter.)

(Applause.)

CHAIR BEHAR: Thank you, Alan. Questions from the Board? I have one. How do you know that your consumers don't want hydroponic organic?

MR. LEWIS: Harriet, I don't know. I don't assume, but I do know that some would clearly not choose it if they had a choice.

CHAIR BEHAR: Dan.

DR. SEITZ: This is actually a question for the program. When we were

discussing hydroponics previously, the question came up of -- the mic's on, or at least there's a green light.

FEMALE PARTICIPANT: I can hear you.

DR. SEITZ: Okay. Maybe I'm not directional enough. When we were discussing hydroponics previously, the question came up about whether you could have a supplement label that would identify a product as organic and hydroponic.

I never understood if that's something that is allowable under the organic law and regulations. Is it something that's not addressed at all? I just was wondering about the feasibility about that, if it ever seemed like a prudent idea from the standpoint of transparency and consumer knowledge.

DR. TUCKER: Okay, thanks for the question. We support opt-in labeling as long as the labeling is truthful. So for example, there are a number of wrap-around we'll call them labels, that could be considered, for example,

organic something. As long as the organic claim is truthful, that the operation is certified.

So somebody could advertise themselves as certified organic hydroponic or certified organic soil-based. But we support opt-in labeling to help people differentiate their product through truthful statements about it.

DR. SEITZ: Sure, and just from a theoretical --

DR. TUCKER: We don't do hypotheticals.

DR. SEITZ: We don't do theoretical questions, but rather a legal question.

(Laughter.)

DR. SEITZ: I understand that you might prefer a opt-in label, but could just -- could a segment of the organic industry be required to have an extra descriptor?

DR. TUCKER: So to require somebody to put on a label, so non-optional, would require a change in the regulations. So that would be -- in all seriousness, that would require regulatory

change to impose that label on someone. Yeah, that's why we support opt-in labeling. It's much more positive, yeah.

CHAIR BEHAR: Anyone else? Thank you, Alan.

MR. LEWIS: Thank you.

CHAIR BEHAR: Oh there was? I'm sorry, Tom.

MR. CHAPMAN: Hey Alan. So I'm looking at your comments from the Jacksonville meeting, and you were asked questions directly about supporting an organic hydroponic label at that time, and you stated quite clearly no, you don't support it. What's changed? Why do you support it now?

MR. LEWIS: What's changed? About I think two years ago, Sonny Perdue, our Secretary of Agriculture, stated unequivocally that hydroponics could be, could use the organic seal that you see on the screen. So we as a retailer that only sells certified organic, and the structure coming in from Albert's, organically

grown and the hydroponic is undisclosed, we don't have a choice right now, and neither do our consumers.

So it was never being against hydroponic. It was this confusion that's now created between vastly different scales, different economies and different practices and different inputs, that have created really two brands under one seal.

CHAIR BEHAR: Thank you.

MR. LEWIS: Thank you.

CHAIR BEHAR: Zea Sonnabend is next with --

MR. BRADMAN: Harriet, I just have a quick comment.

CHAIR BEHAR: Okay.

MR. BRADMAN: Sorry. I just want to say I agree. There needs to be some resolution to this issue, and I think labeling is one approach that we should consider, and also developing concrete standards that address the different production systems. I hope that's a

discussion that as a community we can have and move forward on.

MR. MORTENSEN: And I enthusiastically feel the same way about that.

CHAIR BEHAR: Okay. We're going to move ahead. Oh, you want to say something else.

MR. LEWIS: Can I go?

CHAIR BEHAR: Yes, you are excused.

(Laughter.)

MR. LEWIS: Thank you.

CHAIR BEHAR: Zea Sonnabend with Phil LaRocca on deck.

MS. SONNABEND: Good afternoon everybody. Zea Sonnabend from Fruitilicious Farm and CCOF, and a former NOSB member. I'm going to speak today about excluded methods, genetic, whatever you call it for seed planted in organic ground and the seed guidance.

Starting with the seed guidance, we're very happy to see that this is going to move forward as something that I initiated when I was on the Board and now it looks like it's reaching

its summation, and we do recommend passage at this meeting.

In our written comments, CCOF proposed a few little wording tweaks, including especially the planting stock language about the vegetative harvest of parts of planting stock, which shouldn't be a substantive change and you should be able to do.

We also pointed out that doing your own variety trials is not the only way to access variety trial information. You can go to Field Days, you can talk to your farm advisor. You can go to your neighbors. It's not just your own variety trials as a variety trial sufficiency, but these are very small things that we hope you don't let this hang you up from passing the document.

On the excluded methods terminology in general, this is also something we initiated from the Board and we realize that this what -- we did all the things that were very clear at the outset, and the things that are left are very

complicated and confusing.

So we do urge you to take your time, and I'm sure, I did not read all the public comments this time, but I'm sure you got quite a few with an unclear message about the docket, you know, what you've proposed so far as far as the embryos and mutagenesis. I just urge you to take your time to work through all the issues, but keep working on it because it is very important work.

On the genetic integrity of seed grown in organic, this was very unclear what the goal of this was as stated in the document, and it's become a little more clear from talking to people. But I see that it needs to be reworked to state what a clear goal is.

In general, we agree with a lot of Kiki's comments, although we do think a pilot program could work if only to see how many entities would voluntarily disclose on a seed bag, because we do think that disclosing on a seed bag is an end goal that we should look

towards, because that's the only way we're going to be able to stop things from becoming more contaminated if we can finally get to the point where we know what we're starting with for contamination.

So an absolute requirement at the beginning isn't necessary, and I don't know the logistics of how you'll get there. This is why we wanted to have a seed purity task force, so that people with more expertise could hammer out these details of how you could conduct such a pilot program. So thank you very much

CHAIR BEHAR: Questions? Sue.

MS. BAIRD: Thank you, Zea. My question for you is, if we implemented a pilot program and we would require the organic seed companies to disclose on their seed label the genetic materials within it, at least in the mid-west, many of our grain farmers do not choose because of contracts or because of just climate differences, to use organic seed.

So how would the fact that we have no

control over non-organic seed companies, if we're going to require --

MS. SONNABEND: Well --

MS. BAIRD: -- organic seed companies to have this --

MS. SONNABEND: But see, I'm not, if you're talking about a pilot project, I'm not talking about requiring necessary right at the outset. But why don't you see, why don't you put it out there and say, well, let's have this pilot program.

The only thing you're required to do is ask if your company will disclose it. Organic or not organic seed, the farmer only has to ask.

So if you ask, there's no harm in that. If they say no, you're not penalized. And if they say yes, you get the information.

And along with asking, the farmer would then have the choice to either plant that seed or not, or to perform their own testing at their own expense or not. And they just would tell you, they could tell the inspector or the

certifier that they did that.

So then you could at least get some information about how many are willing to do that and how many aren't. Because right now, you don't even know what the universe is.

And we, by no means, want to jump right into everyone has to do this. And we don't want to restrict the amount of varieties that growers have. I mean, that's very, very clear, because genetic diversity is paramount in keeping our germplasm good.

But at least you could have a pilot that you saw what was going on out there, somewhat.

CHAIR BEHAR: Dave.

MR. MORTENSEN: I think we are all in agreement that we want to get somewhere with this. And I think that's what you're saying, Zea.

I mean, we've had genetically modified corn since 1998. And our poor organic farmers are living in a matrix of 90 plus percent GM corn

grown around them.

MS. SONNABEND: Yes.

MR. MORTENSEN: The longer we put this off, I think the longer it is that we just continue to scratch our head and wonder where are we with this.

MS. SONNABEND: Right.

MR. MORTENSEN: So, the Board is feeling a sense of urgency that we get on with it. And I know you, and others, Kiki and others, agree with that.

It's, like I said, a question of how we get there. But I think some of the suggestions have been very helpful.

MS. SONNABEND: Yes. I mean, it's similar to right now, you're required to use organic seed. And if you can't get organic seed, you're at least required to ask if they have organic seed.

So you can ask for a disclosure of genetic content and see if you get it. Like some people have said, some companies have the

information, and some will disclose it. Especially if, it's not like they have to disclose it to the public.

You'd be disclosing it in confidence to your inspector and it might go into your report, but it doesn't have to be public information necessarily.

CHAIR BEHAR: Sue, and then that will be the last person.

MS. BAIRD: Yes. Could it perhaps be crafted such as commercial availability that handlers do, they don't, or especially pesticide, herbicidal people, they don't want to discuss or disclose their formulation, but they will to the certifier because it's protected. Maybe we can do that same kind of thing with the genetic.

MS. SONNABEND: Yes. It's the same thing, if I'm not, don't grow vegetables but if I do and I have the best tomato, I don't want everyone else to know what variety I'm using.

So I'll tell the inspector what variety I'm using, but I don't want that in, to

the public. And it's really no different than any amount of confidential information you tell your certifier, which is really quite a bit.

CHAIR BEHAR: Just for clarification. It was never considered to be public, the information for the data collection, it was going to be anonymous. It wouldn't have --

MS. SONNABEND: Yes. The thing is --

CHAIR BEHAR: -- tied to a seed company, tied to a grower.

MS. SONNABEND: Right.

CHAIR BEHAR: Anything like that.

MS. SONNABEND: But the seed companies still have to be reassured of that. And the growers too.

CHAIR BEHAR: Right.

MS. SONNABEND: So yes.

CHAIR BEHAR: Right. But that was what --

MS. SONNABEND: I know.

CHAIR BEHAR: -- the idea behind it, was not to have it be a list of this variety,

this lot was, had this --

MS. SONNABEND: Right.

CHAIR BEHAR: -- not available. Okay, anybody else? Thank you, Zea.

MS. SONNABEND: Thank you.

CHAIR BEHAR: Phil is next. And don't get yourself an animal there, Phil, he's sitting with the wrong chair.

MR. LAROCCA: I don't want animals already.

(Laughter.)

MR. LAROCCA: Thank you.

CHAIR BEHAR: And Peter Nell is on deck.

MR. LAROCCA: Good afternoon. Phil LaRocca, I'm the owner of LaRocca Vineyards. I'm also the chairman of the board for CCOF and I'm proud to say that this is my 45th year as an organic farmer.

And I had totally different thoughts to express to this Board till about ten days ago, when I saw emails coming in saying that it was

okay for a container grower to herbicide his ground, put a piece of plastic on top of it and then grow inside a container. I got to be honest with you, I was actually shocked.

I've been around this industry, like I said, for 45, I was certified back in '75. So, I had a conference call scheduled with our executive director and sure enough, she confirmed that the NOP does accept this. This is wrong. I'm sorry, but it's wrong.

I know yesterday at the NOC meeting, the argument from the NOP was that it does not make contact with the food. Well, I've had three different ranches over the past and one of them I leased.

And I had a, my landlord hated weeds. And this guy begged me to spray the roads. No way in hell would I allow any of my fruit to touch the road, but I had that entire property certified, as most growers do.

So, to see this exemption here is just beyond me. This is, the whole system should be

certified organic.

I'm sorry, having a piece of plastic in between, you take that plastic off, there's going to be residue of glyphosate for years down the road.

Which also, let's address, somebody brought up here earlier the idea of the plastic. So if you're a row crop grower, even a fruit grower, strawberries for example, that uses plastic mulch, you have standards in the rule that you have to follow. These people don't.

What are we doing with all this plastic? We talk about climate change, that's a problem. But also, our landfills are just filling up. We have plastic up the gazoo.

So this is just a little side note, you know. From being over the years when I was heavily involved in certification, I used to see this and it would fry me.

For example, rice farmers. If conventional rice tanked and organic rice was high, you would get a grower come in and he would

put so many herbicides on that field to hold him for the three years, go in, and after the three year period, which was great, we at least had three years of no contamination to the earth, but as soon as that price changed, this goes back to your introduction here, which was quite eloquent and passionate, I thank you for that, they were gone.

So, let's certify the whole process. The whole property, just as every other organic farmer has to do. And let's put some standards on what they're doing with that plastic. Thank you.

(Applause.)

CHAIR BEHAR: Thank you, Phil. Any comments from the Board, questions? Emily.

MS. OAKLEY: I guess you're not surprised that I heartedly agree with you. I did just want to confirm that I heard what you just said right.

You said that you spoke with CCOF's executive director and that they confirmed that

the NOP accepts --

MR. LAROCCA: That's what --

MS. OAKLEY: -- this practice?

MR. LAROCCA: Yes. And I believe Jenny agreed to that yesterday.

MS. OAKLEY: Could I ask Jenny to comment on that?

DR. TUCKER: Yes. I would say again that my comments at the time have been taken out of context. It was a hypothetical in a meeting.

I asked several times for the name of the operation. This has not been a program decision, it is not a policy, it has not been a decision about any particular farm.

So, we are doing data gathering --

MR. LAROCCA: No, no, no.

DR. TUCKER: -- we need to go back. But NOP has not made any kind of policy statement to this effect.

MR. LAROCCA: I'm sorry, then I misunderstood you. Yesterday I think you said, if there was no contact with the product that was

growing and therefore it was okay. Maybe I misunderstood you. If I did, I apologize.

DR. TUCKER: So when I was talking about the hypothetical --

MR. LAROCCA: No, this wasn't the hypothetical, this was yesterday at the NOC meeting, Jenny.

DR. TUCKER: Okay, I think I, at the NOC meeting yesterday I said that we had not made a program decision on this. I said there were a number of policy questions. But I wasn't answering any of those policy questions.

MR. LAROCCA: Okay.

DR. TUCKER: So, there were a number of policy questions related to land use histories, related to methods of separating organic from non-organic. I mean, there are split operations.

The same kinds of questions come up of how do you separate out of complete parcels apart at an organic farm.

In this case, there are questions

about the land use histories and what certifiers are expected to do. And what 205.202 really speaks to, related to land management.

Again, I shared a number of questions yesterday. There has not been any policy decision here or any determination on a particular farm.

I made the mistake of speculating during a meeting on potential legal hypotheticals, and I will not do that again.

MR. LAROCCA: Okay. Well, this is a direct question. You're saying there is no rule that says you can or cannot glyphosate and then put plastic and then grow on it?

DR. TUCKER: I said, we're gathering information about what is going on out in the world.

MR. LAROCCA: Okay.

DR. TUCKER: You cannot apply, glyphosate is not allowed in organic production --

MR. LAROCCA: I understand that.

DR. TUCKER: -- period.

MR. LAROCCA: And that's why I came up here to speak.

DR. TUCKER: Yes. Glyphosate is not allowed in organic production, and I will keep on saying it.

MR. LAROCCA: What if there's a piece of plastic between it?

DR. TUCKER: I'm not going to engage in hypotheticals.

MR. LAROCCA: Okay.

CHAIR BEHAR: Okay, so we are on to --

MR. LAROCCA: Thank you.

CHAIR BEHAR: Thank you, Phil. You sure you don't want to take a lobster or something over there.

Peter Nell, please state your name and affiliation, and Tom Harding is on deck.

MR. NELL: As a tall person, Dave, am I okay with the volume? Okay.

So, hello, my name is Peter Nell, I work for CCOF. Today I'm commenting on the

materials subcommittee's discussion document on marine materials.

First, I would like to praise NOSB for the well written and thoughtful discussion document. The discussion document addresses many concerns posed by organic stakeholders. It also further explains NOSB's thoughts behind ideas of requiring certification of marine materials used in organic crop production inputs.

I would also like to express appreciation to the NOSB for considering the impacts of nonsynthetic inputs. These substances are not given the same attention synthetic substances are through the sunset review process.

However, CCOF does not support requiring organic certification under the wild crop standards, for marine materials used in organic crop production.

I'd like to also say though, we do support NOSB's continued work on this. We support convening an expert panel at the fall meeting, like what was proposed.

We would also recommend that NOSB form a taskforce or a working group of some sort, with diverse experts in these fields, to determine which species of marine algae are most at risk and prohibit those specific species from use in organic crop production.

Those experts should work closely with NOSB throughout the development of any and all proposals and recommendations on this topic.

Importantly, NOSB should also consider the precedent it may set regarding organic certification of marine materials. Other nonsynthetic inputs used in organic crop production, such as peat moss or mine minerals, also have negative environmental impacts.

Should NOSB recommend certification of marine algae, a lengthy phase-in period will be required. This phase-in period should account for the impacts to organic crop producers, organic crop input manufacturers, marine algae harvesters and NOP and all of you guys, in developing and refining this complex guidance,

instruction or what have you.

I'm happy to ask, or answer any questions. Hopefully not ask any. Thank you so much.

MR. ELA: Questions for Peter? Emily.

MS. OAKLEY: Surprise. Okay, so thank you so much for speaking on marine materials. And I have a question for you and then a question for the program. Or I guess a comment for you.

MR. NELL: Sure.

MS. OAKLEY: A lot of people have expressed concern about the potential for a precedent setting that this might create, and I tried to address some of that in the discussion document in terms of this being a unique situation where we're harvesting an organism from a wild native ecosystem, a native organism from a wild native ecosystem. In this case a plant.

And I was discussing this with a fellow Board Member earlier, maybe another analogy might be, if we culled and harvested deer for bone meal or for blood meal, which is, I mean

obviously, kind of an exaggerated example, but can you see or would you agree that there might be a uniqueness in this situation that might not be the same for other naturals?

Although I do agree with you that they deserve more examination to make sure that they're meeting that OFPA criteria, but that this doesn't at all lead to a statement that all naturals should be required to be certified organic or that that's the correct approach for addressing environmental issues in every case?

MR. NELL: Yes.

MS. OAKLEY: Is that too long of a question?

MR. NELL: No. No, I think it was a great question. And I want to really commend your work on this, Emily.

I think, I think you wrote the discussion document and I think you did a really great job addressing a lot of the concerns that people have, including the CCOF.

You're right that this is a unique

situation. And for that reason, we would love for you guys to continue to work on it. I think if you can build a really solid case then obviously it makes sense.

Especially given that crop inputs for livestock, you know, there is reasons why it does make sense. So, yes, sure.

MS. OAKLEY: So, could I just ask this question of the program, just because that will help the many other commenters who did provide written comments about a taskforce, which I found really interesting that that came up by over half a dozen people on their own, it was not in the discussion document.

So, just a question. If the taskforce is something that the program would see as feasible for this, following an expert panel in the fall?

DR. TUCKER: I think we're interested in learning what happens in an expert panel, and we'll take it from there.

MR. NELL: Us too.

CHAIR BEHAR: Okay, anyone else?

MR. BRADMAN: Just a quick comment. I think it's really important that you brought this up about peat moss and other materials, and really all inputs that have an impact on the environment, we should consider.

I mean, one relevant to this of course is the liquid fish products and whether wild fish are being harvested exclusively to transfer nutrients onto land to grow food. I think peat moss is a good example of something that we should evaluate.

And marine materials is particularly complex. We have issues of climate change. We don't even know if the current science would be meaningful about what's going forward.

And this could be a situation where we may want to basically even take any use of this material out of an agricultural system just because we don't know what the impacts are in the environment.

So, I just want to reiterate, I think

these are really important issues. And with the changing world, we have to think carefully about how we move ahead with them.

MR. NELL: Yes, if I can respond, I think you put it really well, Asa. In our spring, sorry, this is spring, in our fall comment, we included a little brief section that talked about how we should, you all should consider whether all ocean-based inputs should be moving towards a third-party verification system.

So that would include those liquid fish-based, fish meal, things like that. I think that's an important aspect that could also be included in a further examination, through a taskforce, working in conjunction with NOSB members.

CHAIR BEHAR: Okay, moving forward. It's okay? Tom Harding is next. Thank you, Peter. And Tony Schilter is on deck. And just a time check, we're about a half hour behind.

MR. HARDING: Good afternoon. I want to thank the Board and the NOP for your

continuous good work.

I represent the Green Ag Supply, the petitioner of fatty alcohols for the use in organic tobacco production.

Recently we supported and submitted to the NOP, and it has been moved forward, a revised petition based on the input we received from the NOSB. Including having major data supporting the alternative, meaning fatty alcohols against the alternatives that were recommended.

It's really important to us that we move forward with the idea that fatty alcohols are very important. It's not just about essentialities, it's also about the health and welfare of the workers and the green tobacco disease, a number of other things that happen within that system. It's also the most environmental choice.

So, I want to mention just briefly, some important things. Plant sucker control is essential to the organic tobacco production and leaf quality, and there is no acceptable

alternatives.

Without the availability of fatty alcohols, organic tobacco will not be a viable crop for century-old family farmers and will lose all organic cash crops within that rotation.

Loss of fatty alcohols will cause a huge economic, huge economic damage to the organic family farmers, estimated, just in our region, around $23 million. That doesn't include all the way to Tennessee.

When this revised petition comes before the crops subcommittee, and subsequently the NOP, we hope that you will not only ask us for any further questions but consider that it's not just about essentialities, it's about health and welfare.

We are asking you to revise, to read our revised petition thoroughly, to incorporate all of the data that we have supported. We are passing around my comments, along with the data from North Carolina State University, supporting the research done, and the trials that were done

specifically for alternative materials based on the NOP.

We are available at any time to answer any of your questions. You've heard some of our farmers on the webinars.

I think we've been very clear, it's not a material that we can choose otherwise, it's a material that has been very beneficial to family farms, to the quality. Which raises by -- and not only the economic benefits, but the whole health and welfare of the system. And has huge environmental impact that's positive.

We encourage you to move forward with this. We hope that if there are any questions that come up, that you in fact will ask us. And we plan to have our growers very active when this material comes forward for a final vote.

I thank you very much, continue the good work.

CHAIR BEHAR: Any comments, questions?

MR. BRADMAN: I have a comment and question.

CHAIR BEHAR: Asa.

MR. BRADMAN: Can you clarify your use of the words, health and welfare?

MR. HARDING: Yes. When suckering and topping happens in tobacco, when you do it by hand, what happens is workers have to go in there, they're exposed to that tobacco leaf.

They have to top, and they will be touched, and then they apply, in a very old fashioned way, versus using boon sprayers and things like that. So it does have a health and welfare benefit.

There's a safety issue involved. But it's been going on for centuries. This material has helped us to prevent that from occurring, and no longer will that practice, has that practice been used, where we're allowed to use fatty alcohols.

MR. BRADMAN: Okay, so you're using that in the context of occupational exposures to the poison, essentially, that's produced by the tobacco?

MR. HARDING: Correct.

MR. BRADMAN: Okay. Not more broadly?

MR. HARDING: Pardon me?

MR. BRADMAN: Not more broadly? I mean --

MR. HARDING: No.

MR. BRADMAN: Thank you.

CHAIR BEHAR: Emily.

MS. OAKLEY: This may not be for you, but I didn't want to belabor it with Mr. McReynolds.

It sounded like he was saying that there have been some growers who have been using this material already for a number of years, maybe up to seven or more.

Do you know the process by which it happened that they were using a material and then it became petitioned after such a long history of use?

MR. HARDING: There was a request to certifiers, three of them in fact, and they approved the material based on the fact that it

has been classified for decades as a natural fatty alcohol. When it was reviewed, they came back and said, well, it just crosses the border in the esterification process that in fact it is a synthetic material.

Subsequently, we then prepared to petition. And we went forward with the first petition.

But it has been used and it will continue to be used until we're told not to. Although we have advice and we've asked for a continuance this year.

And we hope if this petition is approved, that we will continue to use it through that process. And the benefits far exceed anything with that.

Now we've had a discussion with all of those certifiers, and we're still looking for alternatives. We've found nothing, Emily.

CHAIR BEHAR: I have a question.

MR. HARDING: Sure.

CHAIR BEHAR: Would you prefer we

continue discussing this for a few more meetings or would you like us to go to a vote in the fall?

MR. HARDING: Well, let's go forward.

CHAIR BEHAR: Why would that be important to you?

MR. HARDING: Well, because the next season will be in question and that's very important to us. So we need to have some determination.

I won't want to add to that. I want to go forward, but I want to make sure we have a balanced and thorough review and that in fact we look at it, not simply as tobacco, but as a crop production aid that's very important to the family farm.

So, some people say, well, if it was marijuana it would be okay. No, it wouldn't be okay. The fact is, it's very important that our family farms have a choice, that it's working for them and has proven to be beneficial.

CHAIR BEHAR: Dave.

MR. MORTENSEN: Tom, how would you say

this process has worked for you?

I personally think that our asking for farmer input and efficacy data was a reasonable thing, and then you come back and now we've heard a great deal more this go-round.

How has the review process worked for you?

MR. HARDING: Well, obviously, it's been very difficult for us. Because, first of all, I'm under the impression that certain of the questions you asked, and we answered, you did not get that information. I can't verify that any way, shape, or form.

The other thing is, is that when we asked for the continuance the last time, the reasons was, and why you didn't hear from growers is because we couldn't get on the public comments agenda because we felt in-person testimony was really important.

So, specifically, the processes work. I think we've been, we've all benefitted from it. It's given you a lot more information to

consider.

You know, fair and balanced is all we're asking. And so, I would say, overall it's been good for everybody.

MR. MORTENSEN: All right, thanks.

MR. HARDING: And I thank you very much.

CHAIR BEHAR: All right, thank you, Tom. Next up is Tony Schilter with Ryan Mensonides on deck.

MR. SCHILTER: No, Bert Haugen. We're both dairy farmers. He milks 300 cows about 50 miles south of here, I milk 250, a hundred miles south of here. And we both have to go because we both have to run farms and we need to be there tonight and tomorrow morning.

He's here to correct me if I say something wrong.

(Laughter.)

MR. SCHILTER: My story, what happened since 2015 we entered a, in 2007 we entered, both him and I entered the organic field and we were

shipping to Horizon and things went well for a while.

And there was a law implemented in 2002 called point of origin that I think is being highly abused. And it's really making it difficult for us to keep farming.

And how to explain all that would be to tell you that with the animals that I calve every year, and he calves every year, that calf, when it's born, is organic. And there is people, farms, that take that calf, sell it to somebody else or give it to somebody else and they go into the feedlot. And at the time of the third trimester, they bring it home and they breed that cow. And by the time that cow comes into gestation, she is supposedly organic.

Very, very hard on the person that him and I, and a few other people in this room, to keep that animal organic is very, very much more expensive for me than it is that individual that puts them in the feedlot.

If we don't, due to this we have an

oversupply of milk. And personally I, he's lucky. He did something four years ago, he left Horizon and he went with another company called Organic West, and I didn't. And I stayed with Horizon.

And through all this process, Horizon is a given name that I'm sure that everybody sees it on the grocery shelf. And, geez, I lost my train of thought. Three minutes already?

CHAIR BEHAR: One minute left.

PARTICIPANT: Two.

MR. SCHILTER: Oh. They were bought out by a company called Danone, and I became a number on a board in France. And through all, to make a long story short, they cancelled my contract last January 1st.

And I've always been a member of a Co-op here in the Pacific Northwest called Darigold. There was seven other producers that were in the same situation that I was, and through that transition and everything, Darigold took it upon themselves to start a pool within the pool. And

we seven producers belong to that pool.

And Darigold sells whatever milk, mind you we just started January 1st, mind you, they sell whatever milk they can organically. And the rest will go on the conventional market.

And if you guys would just implement the rule that's in place and have the certifiers do what you're supposed to do, in my opinion, it would alleviate the surplus we have. And break even for me is about $2,300 a hundred weight, I'm getting $1,900 right now within that pool. And it should be around $27 or $28.

And I think that if you guys implemented that point of origin law that is in place, that we would all benefit from it. And the exodus of the farmers would stop.

I'm not, public speaking is not my strong suit.

MR. HAUGEN: But he's better than me.

(Laughter.)

CHAIR BEHAR: Okay. Well thank you. Thank you for speaking from your heart.

(Applause.)

MR. SCHILTER: I'll answer questions.

CHAIR BEHAR: The Board have any comments? Dan.

DR. SEITZ: I just want to thank you and say that I think all the Board is concerned about producers who don't really produce in accordance with the spirit of organic. And we'd like to see a level playing field and an up leveling of practices.

MR. SCHILTER: That's all I'm asking.

DR. SEITZ: So thank you.

MR. SCHILTER: Level playing field.

CHAIR BEHAR: Okay, thank you.

MR. SCHILTER: Okay.

CHAIR BEHAR: Next up is Ryan Mensonides. I hope I'm saying that right. And Christie Badger on deck.

MR. MENSONIDES: Mensonides, you were pretty close. That's actually impressive. I'll give it to you.

I have a dairy, my wife and I have a

dairy just east of here. I'm just going to read you off some statistics. And they're as close as they can be since the census of 2016.

We typically need about a ten percent growth within the dairy industry to maintain the purchase of milk. Since this rule did not get implemented on the origin of livestock, there was a massive abuse from this rule.

And essentially, we have seen about a 25 to 30 percent growth in cattle, which is outpacing our growth in milk sales.

So here's my numbers, personally. I've had a 48 percent loss in equity. I've lost about $500,000 in equity in the last two years. I've gotten a 33 percent drop in my pay price.

Last year alone I lost $150,000, which equates to three years' worth of profit previously. And it's because we have an oversupply of milk.

The only stats that are important to me is, I've got 90 vendors that rely on me, one of which is my brother. I've got four employees

that will lose their job. I've got one disabled father that lives on my property, four kids that lose a house and a wife that's put up with a bunch of crap for seven years for nothing.

So I'm going to leave you guys with a video of, this is what we're losing if you guys don't follow through with this rule on origin of livestock.

One dairy of mine, BJ's and Tony's, is being replaced a year. There is, one of our dairies is equivalent to, the number of cows that have come on is equivalent to 140 of our dairies a year. It's outpacing and it's because of the fraud. Go ahead.

(Video played.)

CHAIR BEHAR: All right.

(Applause.)

MR. MENSONIDES: Does anyone have any questions?

CHAIR BEHAR: Emily.

MS. OAKLEY: Just a clarification that this Board doesn't have control over whether or

not the origin of livestock gets implemented. So, wanted to just give the program a chance to comment on that.

DR. TUCKER: So thank you both for your comment and for your story. I heard you speak yesterday too.

Origin of livestock, the agency is open to that being added to the regulatory agenda, which would mean that a rule would move forward. We've heard a lot of comments here about interest in moving to a final rule, so it would be implemented as soon as that rule, with a publication of that rule. And we will see if that's possible.

If that's not possible, we will have what's called a second proposed rule to get more comments from the public, to make sure that that final rule incorporates the public's view. So thank you for your comment.

MR. MENSONIDES: Can I add one thing? I know my time is up, but if this is going to be a one to two to three year process, I'm out of

business. I've refinanced twice in the last three years, I can't do it again. My equity has dropped in half.

You guys, there has to be a sense of urgency. Your boss needs to know this. We're going out of business. And I don't have another year for this to sit in a committee. I don't.

And I lose my home if we do. So I just want to make sure you guys are aware of that. And I appreciate the time. Thank you.

CHAIR BEHAR: Thank you. Okay, next up is Christie Badger with Albert Straus on deck.

MS. BADGER: My name is Christie Badger. I'm here representing NOC.

I wanted you to know my family lost our dairy this year, so this is very hard for me. I've changed my comments a bit based on what I need people to hear.

I'll start by saying a public thank you to the National Organic Program for reinstating the posting of the subcommittee notes. And a further thank you for the expanded

use of the open docket as a means of communication.

We encourage the continuation and expansion of this practice as a way to begin to address perpetual delay in published materials that create a shortened comment period through the publication of discussion documents and proposals to the open docket, as they become available from subcommittees. A repeated request.

When I opened my comments, I used to say that I was excited to be here and excited to be a part of this process. And while I still feel this way on the whole there are times when my resolve to being excited is being tested.

NOSB work agenda. During the fall 2018 NOC pre-NOSB meeting I asked the following question, stakeholders are feeling pressure to agree to documents that they have reservations about, out of concern the item will be pulled from the work agenda, can you offer any reassurance that this isn't the case?

I was in fact reassured that this was not the case and told by Dr. Tucker, "I do not think that disagreement on a particular item would discourage us from putting it on the work agenda."

During the introductory comments today, and in the NOC meeting yesterday, we were told that the NOSB had the opportunity to discuss hydroponics between 2015 and 2017, but it was pulled from the agenda due to disagreement within the organic community.

NOP priorities. At yesterday's meetings, and again today, we've heard repeatedly that the NOP, that the NOP, must work quickly to address issues within hydroponic certification. This is a program priority. Even without clear stakeholder consensus.

While there is large stakeholder agreement that this issue of hydroponics and container growing are priority issues, I'd like to be clear in my statement that we are not in agreement to surrender our voice to the program.

Since 2010 we have been unable to get the origin of the livestock rule passed. This is not a program priority, despite clear widespread stakeholder consensus.

It is beyond frustrating that somewhere along the line the USDA and the National Organic Program decided that their priorities outweigh the priorities of our existing organic farmers.

CHAIR BEHAR: Comments or questions? I want to tell you, Christie, myself, being an organic inspector, I understand the emotion behind seeing these beautiful farms go out of business. Emily.

MS. OAKLEY: This isn't a question, this is just a comment that it is very hard not to cry from these stories. And it is very frustrating to sit on this Board and feel like your hands are tied over very urgent issues and having farmers in a serious predicament, as someone who sits on the farmer seat.

It is a very disempowering and very

frustrating experience and I echo your sentiments.

MS. BADGER: Thank you.

CHAIR BEHAR: Thank you, Christie. And we have Albert Straus next with Bob McGee on deck.

MR. STRAUS: Hi, my name is Albert Straus. I'm founder and CEO of Straus Creamery and I have an organic dairy.

We just celebrated our 25th year and I feel we're in a crisis. I feel that family farms in our community are disappearing as well as our rural communities.

And I think one thing that Ryan didn't say is that farmers don't pay themselves. They don't pay themselves to manage their own business. And when they lose everything, they lose everything.

And I think that's something that we really, we need to point out. There's such a disconnect between consumers and the public and farmers that we need to really look at how can we

work together, educate and really help everybody working towards the same conclusion.

I heard Jenny say that there's, something had changed in the origin of livestock that, in organic dairy, that we need to reevaluate. And I think nothing has changed in organic dairy, we're still in the same crisis that we've been, and nothing has happened in the origin of livestocks.

Also, as a longtime dairyman, I offer to review the dairy compliance training document because I feel that there's things that we have knowledge, as dairymen, and I want to offer my experience and see if there's things that we can do to help strengthen the training document.

So, with the organic integrity at risk, I think that retailers and brands need to work together to say we're not accepting milk from dairies that don't meet the regulations, as we interpret them, and keep the organic integrity.

I'm approaching the retailers and

brands and see how we can work together to keep those out.

Also, we need to train certifiers to kind of be consistent, as well as inspectors, to be trained on dairy, but also look at metrics. What dairies are reporting as metrics for farms.

We don't measure crops as, excuse me, we don't measure pasture as a crop. I'm doing it on my farm by a rising plate meter, and we have it all recorded in our computer so we know exactly how much dry matters come from each cow.

We also, dairymen don't, they estimate what they're feeding their cows. So the other 70 percent is an estimate, it's not, I have an actual dry matter per day, per cow, that I get, which I've testified before.

So, I think there's opportunities to have metrics and measurements that dairymen can report that inspectors can verify to and so we can work a lot closer together. Thank you.

CHAIR BEHAR: Any comments? Ashley.

MS. SWAFFAR: So I got two different

questions. First question, you're about the only livestock producer that said they don't want vaccines available, made from excluded methods. Do you know if the vaccinations that you give your cattle are in fact not made from excluded methods?

MR. STRAUS: Yes. We have to verify with our, the companies that we buy them from that they're not made from it and get letters from that.

MS. SWAFFAR: And are any cattle vaccinations made from excluded methods, do you know?

MR. STRAUS: I think there are, but I can't name anything right now.

MS. SWAFFAR: Okay. One more question. On iodine, we saw a lot of folks say that we should do an annotation with NPEs restricting iodine made without NPEs. Do you have an opinion on that?

MR. STRAUS: I don't have anything right off the top of my head. Thank you. Thank

you.

CHAIR BEHAR: Thank you, Albert.

MR. STRAUS: Thank you.

CHAIR BEHAR: I remember 26 years ago, when we first met, and I just say that you were kind of a star there in the organic dairy world. And you've put a lot of effort into having a value-added product. And in some ways protect your market.

But there's a lot of farmers that are reliant on a buyer who, on a whim, can send them packing.

MR. STRAUS: And I think as has been stated, there's a lot of dairymen that have called me because they've lost their contracts, they're about to, the price is so low that they can't even make, they can't make it after the pasture season.

So I've had at least a half dozen farmers call me and say desperately they need someone to take their milk. And I can't take everybody's milk. But thank you.

CHAIR BEHAR: Okay. Next is Bob McGee with Jenny Cruse on deck.

MR. MCGEE: Good afternoon. My name is Bob McGee and I'm the president of Straus Family Creamery.

I'm here representing nine family farms, and a tenth joining us in July. A younger farmer, which we're very excited, is coming onboard bringing an idle farm back into production.

First of all, I do want to thank the NOSB and the NOP. There are a lot of good things that are happening and we shouldn't lose sight of that. It is appreciated.

At the same time, when I asked our farmers what's the one thing you would like me to convey to the NOSB, and more directly to the NOP, not surprisingly it was around pasture standard enforcement and the origin of livestock.

Some of what I'm going to share is going to be duplicative, and I apologize for that but, Jenny, I think I heard you asked, you wanted

to hear more public input about this, so, I'm going to fulfill that wish for you.

One of the things I've heard the last two days is a reference to changes in the industry that make it necessary to have a second origin of livestock rule. I've checked the website, I've checked a couple of places, I can't find what those changes are.

You asked us this morning to give you feedback if we had a different point of view about those changes. If you could communicate those to the community, we'll be able to do that, but right now it's not clear what you're asking us to comment on.

The idea of starting all over again probably means a one, two, three, maybe even four year process for a new rule to come forward. Changes will happen in the industry, in that time span.

Are we going to hear in 2022 or 2023 that there are changes in the industry, so we again need to go back to rulemaking to find a new

rule.

Finally, as has already been stated, many farmers don't have two to three years to wait. Some are going to go out of business, which will lead to consolidation in the milk industry, which is already creating challenges for us as a community.

Others will decide that they're going to take advantage of the cost benefits, being taken advantage of by other suppliers.

When we get to that new rule, are we going to hear the genie is out of the bottle now, and there's no way we can turn back and be unfair to those operations?

I think most of us in this room feel pretty confident that we're going to have our jobs in the next two to three years. As Albert said just a minute ago, we're hearing from farmers that aren't sure what's going to happen in the next two to three months, after the end of the pasture season.

So what am I asking? I'm asking a

greater sense of urgency than has been apparent, up until today, to bring forward the 2015 rule. The community came together, talked about what needed to be changed, collaborated, brought together suggestions and then it stopped. Thank you.

CHAIR BEHAR: Questions from the Board?

(Applause.)

CHAIR BEHAR: Thank you, Bob. Questions or comments from the Board?

Jenny, do you want to have a reply? You don't have to. I don't want to put you on the spot.

DR. TUCKER: I'll be more specific. A few commenters have asked about, what additional data would be needed.

Again, we will, a key message coming back from this meeting for our leadership is the strong, strong desire to move directly to a final rule. To give, instead of a second proposed rule for organic, for the origin of livestock, our, I

call to him, our wonderful policy analyst over here, Devon, has been sending some data here.

And so, just to provide some of the changes in the industry that we are talking about here, according to the NASS data, so that the data used in the 2015 proposed rule said there were about 1,848 organic dairy farms. The 2016 data actually indicated that that increased by 38 percent, up to about 2,560.

So those are the kinds of data points that an organization like Office of Management and Budget would look at to say, okay, how has the industry changed since the proposed rule.

It is unusual to go this long between a proposed rule and a final rule. It's just unusual.

We will, I commit to going back and talking about the possibilities of going to a final rule. Changes in the industry, such as growth, an increase in the number of organic farms, we saw an increase even from 2017-2018 in total organic farms, those are numbers that

matter to folks over at the Office of Management and Budget.

And so, again, we will take the message back. These are decisions that are made at sort of an institutional level.

And I hear the urgency coming from the commenters in this room and will communicate that back. And thank you to everyone who has commented.

CHAIR BEHAR: Steve.

MR. ELA: Jenny, just to reiterate what you said this morning, I know not everybody was here, but you said comments that the industry hadn't changed or, I'm going to struggle with the words here, should be addressed to you or the program?

I mean, public comments that, to go ahead and continue with the rule and that changes in the industry aren't substantiated might be important, is that correct?

DR. TUCKER: So, explanations as to why it would be appropriate to move ahead to a

final rule, rather than a second proposed rule. So there is legal risk in moving to a final rule after so long after a proposed rule.

Somebody could say, well, I didn't get a chance to give public comment, that was four years ago, and look how much the industry has grown, I should have had an opportunity to give my comments and I didn't get to do that.

And those kinds of legal challenges are something that administration is going to take very, very seriously. And I would take very seriously because it would prevent a rule from being implemented.

And so, those are the kinds of things we have to think about in these kinds of questions. So, I think articulating why the problems are sort of the same, why the challenges in the proposed rule remain the same, reiterating the, there was actually a fair amount of agreement on the proposed rule, so reiterating that people still agree with the same comments that they made four years ago, those could help

us in making that argument of going to a final rule.

Again, if you send those to me and Paul, we're the ones that pull together all the documentation to support these proposals. It is ultimately not our decision, but we will try and shape that as well as we can.

I would love to go to a final rule, believe me. That would be, I would love it. There's no resistance from here.

And, we have to follow, we have to follow the rules. We all want us to follow the rules. This is a different kind of rule that also has to be followed.

MR. MORTENSEN: Harriet, I just have --

CHAIR BEHAR: Oh, Dave.

MR. MORTENSEN: I guess the other thing that we're hearing, and we heard in the webinar and we heard here, and I hear where I am in New Hampshire and I was hearing it in Pennsylvania before I moved in July, is that the

change that's happening, that folks are telling us is happening and why it's so much more urgent, is the whole structure of dairy is changing as we lose small and medium sized farms and we have an increase in the number of very, very large dairies that are exacerbating the problems.

So the longer we wait, the lack of implementation in the rule is allowing these large farms to get larger and is making it more and more difficult for the medium and smaller sized farms.

(Applause.)

CHAIR BEHAR: Okay. So, Michelle reminded me that not everyone has an iron bladder and maybe we want to, maybe how does the Board feel? Would they like to take, I'm seeing some yeses.

But I'm going to keep it to ten minutes. And if I'm even here alone I'm going to start. Okay, so, Jenny, sorry, we're going to go to a break.

MR. CHAPMAN: Can I ask where we're at

in the agenda?

CHAIR BEHAR: We're about a half hour behind.

MR. CHAPMAN: Okay.

CHAIR BEHAR: And so Jenny Cruse up next with Pryor Garnett on deck. And ten minutes, which is 4:25. So, everybody back here at 4:25.

(Whereupon, the above-entitled matter went off the record at 4:15 p.m. and resumed at 4:25 p.m.)

CHAIR BEHAR: Okay. Please take your seats. Okay. We are about a half hour behind. So we're staying about the same amount and not really catching up. So Jenny Cruse is next with Pryor Garnett on deck.

MS. CRUSE: Good afternoon. I'm Jenny Cruse with the Accredited Certifiers Association. The ACA represents 58 USDA-accredited certification agencies and agencies in the process of becoming accredited.

First, I'd like to address the Crop

Subcommittee regarding the proposal for strengthening the organic seed guidance. For the most part, we really support the proposal as written and feel that it lines up nicely with ACA best practices that have recently been drafted on issues related to organic seed search requirements.

Our members have expressed one main concern with the proposal. And that has to do with the amendment of NOP guidance 5029 Part 416, which says use of non-organic planting stock to produce organic crops is subject to commercial availability as per 205.204(a)(1).

If planting stock is from a non-organic source and is used to produce perennial crops, then that planting stock may be sold, labeled, or represented as organic planting stock or an organic vegetative crop only after 12 months of organic management.

205.204(a)(1) says that non-organically produced, untreated seeds and planting stock may be used to produce organic

crop when an equivalent organically produced variety is not commercially available.

Some ACA members found the guidance revision to clarify 205.204(a)(1), but others found that it seemed to be in conflict with the standard. So I think a lot of the question has to do with the definition of vegetative crop and what that means.

I'd also like to address the Livestock Subcommittee on the topic of vaccines from excluded methods.

We appreciate the time that the subcommittee has put into the topic. We didn't feel like we could support any of the three regulatory solutions as discussed without gathering more information first.

Option one, adding individual vaccines to the National List is not ideal because of the amount of time that would pass as specific vaccines were added to the National List and the effects on producers in the meanwhile.

Option two enables a broad allowance

of excluded methods in vaccine production, which doesn't sit well.

Then there's option three, which would include a commercial availability provision. The ACA would likely support this option if certifiers can make clear determinations about which vaccines have been produced with excluded methods.

Publicly information, publicly available resources that have been suggested in the past do not seem to provide the information that's needed. And historically, certifiers have found it difficult to obtain the information directly from manufacturers.

We are renewing some attempts at this to see if the information seems to be obtainable and plan to report back when the discussion comes back around at the proposal stage.

The main thing is we don't want to support a requirement that doesn't end up to be possible. So we're glad to have the time to do a little bit of ground-truthing first.

Thank you again for your work and for the chance to provide comments.

CHAIR BEHAR: Any comments from the Board? I have a quick comment. Can I contact you before we go to proposal and see what your research has done as far as finding?

MS. CRUSE: Yes, please do.

CHAIR BEHAR: Okay. I know where she lives.

(Laughter.)

CHAIR BEHAR: Okay. Next up is Pryor Garnett, and on deck is Aimee Simpson.

MR. GARNETT: Thank you all for the opportunity to provide comments here today. My name is Pryor Garnett. And I grow certified organic grain on 85 acres in western Oregon.

These comments are in my individual capacity, although I chair the policy committee over the Organic Farmers Association.

I'd like to comment today on contributions that organic agriculture can make toward mitigating climate change and action

needed from the NOSB and the NOP to further organic's contributions. And I'd like to thank Harriet. I have chosen a polar bear.

Greenhouse gases in the atmosphere are the principal drivers of climate change. And reducing new emissions and removing greenhouse gases are both necessary to mitigate climate change. Organic agriculture uniquely does both and can be agriculture's key contribution to mitigating climate change.

Organic reduces greenhouse gas emissions by eliminating the use of nitrogen fertilizers and other chemicals. Now right there it makes a meaningful contribution toward mitigating climate change, slowing the emissions.

Even after accounting for reduced yields and increased tillage per acre, organic has lower emissions per pound of food produced.

Instead of nitrogen fertilizers, organic ag relies on nutrient cycling with a robust soil ecosystem creating lots of organic matter, containing lots of organic matter, plant

residues created from carbon dioxide removed from the atmosphere through photosynthesis. We all know this.

So organic's biggest, bigger contribution to mitigating climate change is removing CO2 from the atmosphere and sequestering its carbon in the soil.

We know that soils in organic farms have 13 percent more organic matter than conventional farm's soils. And 1 percent more organic matter per acre represents 21 tons of carbon dioxide removed from the atmosphere.

And that's where the NOP and the NOSB need to act, because where plants are grown without soil there's no carbon sequestration.

Practices which grow plants separate from the underlying soil, hydroponic, aquaponic, aeroponic, containers in general, don't sequester atmospheric carbon in the soil. And they don't foster soil fertility as required by OFPA. They may be good, say, no pesticides. But without roots in the soil, they are not organic.

Indeed, there's a strong case for removing the ponics and containers from eligibility for organic certification based on their elimination of fertile soils, the loss of beneficials in habitat, and problematic disposal of containers and fabric.

Consumers associate the organic label with chemical-free produce, natural biological processes, and healthy soils, and hopefully soon with progress toward mitigating climate change.

I, therefore, ask the NOSB to reiterate its 2010 opinion that hydroponic agriculture is not eligible for organic certification and to extend that opinion to aquaponic, aeroponic, container, and any other practice where plant roots are not in the soil.

And I ask the NOP to impose an immediate moratorium on certifying those practices as organic. Thank you.

CHAIR BEHAR: Thank you, Pryor.

(Applause.)

CHAIR BEHAR: Do I see any Board

comments, questions? Thank you.

MR. GARNETT: You're welcome.

CHAIR BEHAR: Okay. Aimee Simpson is next with Amanda Fulmer on deck.

MS. SIMPSON: Thank you for this opportunity. My name is Aimee Simpson. I am the Director of Product Sustainability with PCC Community Markets.

Retailers occupy a unique space in the organic marketplace and community as we are the interface between producers and consumers.

Within the space of retailers, we like to think that PCC is unique as well, given that we are the largest member-owned food cooperative in the country with 66,000 members, 11 stores, soon to be 15, and a passionate customer base.

Just as our customers rely on the organic label, so too do we. This is why we are a certified organic retailer, ensure that 95 percent of our produce is organic, and have pledged to add 1,000 organic SKUs to our shelves by 2022.

We want to see organic grow. But this is not to the detriment of the standards and consistency that we and our customers rely on.

As discussed in our written comments, there are a number of issues concerning organic integrity, some addressed on the Board's agenda, but most absent, that need attention.

First, the NOP must finalize the origin of livestock rule. This is not a case where the organic community is not asking for public comment. We've already provided it.

The NOP made the improper decision to delay rulemaking. And there is no time to waste. An already-vetted rule should be finalized at the earliest convenience.

Second, hydroponically-produced crops should not be certified organic. Soil matters to organic production, now even more so with the promising research, as just discussed earlier, showing organic farming's potential to combat climate change.

Finally, many of these and other

issues seem to stem from a common and overarching problem, organic certifiers need to be better aligned.

OFPA was established to bring consistency and unification to a patchwork of organic standards, labels, and certifications. Now consumers and retailers are increasingly unsure of what the national label means and are left to investigate individual certifier standards that are not transparent or easily ascertained.

And this last piece that causes the most concern for us, because we must answer to our members on these very issues and the many issues discussed here today.

Here is just a sampling of some of the questions we receive on a continuing basis. Are PCC department buyers aware of the infiltration of non-organic feed fed to animals? Why does organic butter have natural flavors? Why isn't there any organic local honey? And my personal favorite, how reliable is the organic label?

Focusing on this last question, how would you answer it? PCC continues to believe the answer is yes. But the increasing amount of exceptions and here is what to look for beyond organic not only make our job harder, but raise concern.

Too often we have to note that NOP has elected not to address the problem, ignored recommendations from this Board, or taken a position completely at odds with OFPA. Too often we are having to do the work of the NOP in creating our own standards to fill the gaps.

PCC is grateful for this Board's incredible investment of time and energy on so many of these issues and recognize that much like PCC as a retailer you are the interface between the public and those responsible for upholding the organic standards.

But just as our customers ask us to keep the hard questions, we must ask you to keep doing the hard work and pressing for the strongest and most consistent standards. Thank

you.

CHAIR BEHAR: Thank you, Aimee.

(Applause.)

CHAIR BEHAR: Dan?

DR. SEITZ: Holding a consumer seat on the NOSB and also being a board member of a food co-op, I've always taken it for granted that the consumer really does equate organic with in-ground production, partly because any time I've ever walked into a grocery store I see pictures of farms and I've never seen a picture of an industrial hydroponic operation.

But I -- you just said that that's what your, what consumers are expecting. I've only had an impressionistic feeling. Is that something that you have, you can speak confidently about based on any research that you've done?

MS. SIMPSON: Yeah, I mean, it doesn't take much research. We get questions daily. I mean, literally, these were just three questions of the many that we receive.

And we frequently receive comments that say we do not support hydroponics being labeled organic. We believe that soil should be, you know, it matters to organic, that we believe in fostering fertility.

And a lot of this is driven, you know, by the science that was just discussed earlier, that now there's this great connection between, you know, the possibility of organic offering solutions to the climate change problem and the fact that agriculture has really struggled with how to become a part of that conversation.

And we have a very driven, passionate, educated member base who, they're aware of these issues. And they not only want to support family, independent farms and that concept of what they have always associated with food, but now knowing what we know about the science, that's becoming important to them as well.

So we are attempting to label hydroponics that are organic. But that's very difficult. And we'd rather just not see them be

a part of organic.

CHAIR BEHAR: Okay. Thank you. I don't see any other comments from the Board.

MS. SIMPSON: Thank you.

CHAIR BEHAR: Next up is Amanda Fulmer with Kyla Smith on deck.

MS. FULMER: Hi. Thank you for this opportunity to address the Board. My name is Amanda Fulmer. And I'm here in my personal capacity as a consumer and a PCC member.

I'll keep my comments brief. They concern the inclusion of so-called natural ingredients in organic foods.

It's my basic position that natural ingredients labeled as such should not be permitted at all in organic foods. I personally would rather they not be included at all on any label, but especially I think it's important they not be part of organics.

Transparency and documentation are a few of the core tenets of the organic movement. They're simply core principles for anyone who

cares about organics.

Natural ingredients are really the black box of ingredient labels. And they may hide ingredients that people may want to be aware of.

Certain things that could be labeled as natural ingredients, which could be just about anything, might include sources that, foods that are sourced that might not be appropriate for vegetarians or people following a kosher or halal diet, for example.

They may not be appropriate for people with certain allergies. My children have a number of friends with sesame allergies, for example. You see a lot of labeling for other allergens. But sesame, despite being one of the top ten allergens in the United States, is not typically required to be labeled.

If it says natural ingredients, our friends fear that it might include sesame, that it might not be appropriate for their children. And there's simply no way to know.

Although natural ingredients are, of course, required to be generally regarded as safe, consumers might have personal concerns about safety, but they have no way to find out more.

People might have environmental concerns based on the particular ingredients. But, again, there's simply no way to know.

So I just want to state my position that natural ingredients have no place on labels at all. Why have ingredient labels if there is this black box? But especially with organic foods, it seems to be important to hold ourselves to higher standards, especially regarding transparency.

CHAIR BEHAR: Comments? Lisa?

MS. DE LIMA: Hi. Can you just clarify when you say natural ingredients what you're talking about? Are you talking about natural flavors?

MS. FULMER: Yeah, so there might be natural flavors or natural colors. I was

actually the consumer who submitted the question about butter that was referenced in the previous presentation. So that would be one example. When you buy butter, it says, most brands, most organic brands now say natural flavor on the ingredient label.

CHAIR BEHAR: Tom?

MR. CHAPMAN: So natural flavors are regulated by the FDA. There is a definition for them. I believe colors have to be labeled with their source, but I could be wrong in that regard. But you're talking flavors and colors, not ingredients per se. Is that correct?

MS. FULMER: Yes, that's correct.

MR. CHAPMAN: Okay.

CHAIR BEHAR: Anything else? Sounds like the Board has to go to a grocery store and look around at those labels. Okay. Thank you. Next up is Kyla Smith with Eric Mandel on deck.

MS. SMITH: Good afternoon. My name is Kyla Smith. I'm the Interim Co-Executive Director at Pennsylvania Certified Organic. PCO

certifies 1,600 operations throughout the U.S., around 1,600.

I'll be commenting on the Crop Subcommittee's proposal on strengthening the organic seed guidance and on the Material Subcommittee's cleaners and sanitizers discussion document.

First regarding the seed guidance proposal, I'll focus my comments specifically on the proposed addition to section 4.1.6 to include the phrase, quote, or on organic vegetative crop only, which would require organic management of non-organic perennial planting stock for 12 months in order for the vegetative crop material to be sold as organic.

The intent of this inclusion, as well as what is meant by vegetative crop, is unclear and seems to go beyond the seeds and planting stock practiced standard regulatory language.

205.204(a)(4) specifically addresses the management of non-organic perennial planting stock, not the crop. If the operation, if an

operation plants a non-organic perennial planting stock and then wants to sell the perennial planting stock as organic, then that planting stock must have been managed organically for 12 months.

Meanwhile, 205.204(a)(1) addresses the management of the crop from annual or perennial planting stock and does not include a 12-month organic management timeframe.

Additionally, the proposed rule introduced the new term of, quote, vegetative crop, which does not meet the definition of planting stock.

If the intent of the proposed language is to require the 12-month organic management of perennial planting stock to sell the crop, whether it's the fruit, nut, shoots, or leaves, then this would require a rule change.

PCO requests that during the revision process of this guidance that the program clarifies exactly what is and is not allowed to be sold, labeled, or represented and when in

order to be compliant with both 205.204(a)(1) and (4).

We thought the original publication of the seed guidance did clarify this to the industry. But perhaps there is still the need for further clarification.

Second, I'd like to briefly address the cleaners and sanitizers discussion document by simply encouraging the Board to include in your discussions on this topic how and/or if inactive ingredients in these products should or should not be reviewed. Certifiers are not aligned in their material review process, with some reviewing inactive ingredients and some not.

Thank you all for your service on this Board and for the opportunity to comment.

CHAIR BEHAR: Comments, questions? We're good.

MS. SMITH: Thanks.

CHAIR BEHAR: Thank you, Kyla. Okay. Next up is Eric Mandel with Leslie Touzeau, I'm messing that one up, I'm sure, on deck from QCS.

MR. MANDEL: Okay. Well, thank you very much. Appreciate the time to speak. And thank you all for the hard work that you do. We do appreciate it.

I'm speaking as an interested consumer on my own. I am a proud member of Puget Consumer Co-op as well.

And I just wanted to ask that you continue in your work to prioritize and emphasize both transparency in all the labeling and all the work that's being done throughout the system to bring it to consumers so that consumers have the ability to make choices that are informed choices.

And I know a lot of your work is on that. I'll give some examples where I think it can improve.

And the other thing that I ask that you continue to emphasize is public health and the outcomes associated with the decisions and the recommendations that you make.

On the transparency side of the

equation, two things I know you're, you either have been grappling with or are being asked to are dealing with hydroponic labeling. You've heard earlier speakers talk about that.

I do think that most consumers assume that organic is talking about farms, soil, the whole system that produces food in that way and that hydroponics, whatever its pros and cons, should at least be acknowledged and labeled as such so consumers can know that. And I would urge you to continue to push for that in mandatory labeling until that's clarified.

Other speakers have also talked about the issues around natural flavors. I know from research there's very little difference between natural and artificial. But I think, again, consumers deserve the information. And I would urge organics to phase that out or at least label what is going into them to the extent that it's possible.

And then on the public health side, I think one of the things that really you should

reemphasize is the BPA packaging. For some reason, that's been deemphasized. And I don't understand that. I think it's a significant potential issue, so please push that forward.

And the other one that I would ask about is pushing, again, to include having the impacts of fracking, which I know is beyond your bailiwick.

But as far as it impacts organic farms in terms of the ground water and other impacts to those soils, I think that's very important and we need to protect our food system. And that's a big part of it. Thank you very much.

CHAIR BEHAR: Thank you. Any comments or questions from the Board? Emily?

MS. OAKLEY: Just a question about BPA and its status since it was brought up for whomever that might be either --

CHAIR BEHAR: With the program?

MS. OAKLEY: -- the subcommittee or the program --

(Simultaneous speaking.)

CHAIR BEHAR: Would the program like to address it?

DR. TUCKER: So the status of that work agenda is that it had been on a sort of holding. And we have deprioritized that work agenda. There are a lot of critical topics being addressed by the Board right now, including the integrity of imports. And so we have deprioritized that item for now.

MR. MANDEL: Disappointed.

CHAIR BEHAR: Any other comments? Thank you. Okay. Let's see. Where am I? Leslie, can you say your name, please --

MS. TOUZEAU: Yes.

CHAIR BEHAR: -- and your affiliation?

MS. TOUZEAU: Good afternoon. My name is Leslie Touzeau.

CHAIR BEHAR: Okay. And then Abby Youngblood is on deck. Thank you. Go ahead. I just wanted to know how to say your name.

MS. TOUZEAU: Sure. You were close. I'm the Material Review Specialist for Quality

Certification Services or QCS. QCS is an accredited organic certifying agent of the USDA.

So thank you for this opportunity to provide comments pertaining to the petition to add fatty alcohols to the National List of Allowed and Prohibited Substances. QCS strongly supports the addition of synthetic fatty alcohols to the National List at 205.601.

QCS certifies over 50 organic tobacco operations across the country. Prior to the 2017 petition to add fatty alcohols to the National List, numerous organic certifiers determined these substances were non-synthetic.

All QCS-certified organic tobacco growers use them for sucker control. QCS recently surveyed the tobacco operations we certify about their use of and reliance on fatty alcohols. All 28 respondents indicated that fatty alcohols were critical to the success of their organic tobacco operations and without them they may be forced to discontinue organic farming.

Without fatty alcohols to control suckers, producers would be back to the slow and costly practice of suckering with vegetable oils or by hand. Our clients were unanimous in their agreement that there is no effective alternative to fatty alcohols.

Vegetable oil, as the only available non-synthetic alternative to hand picking, does not adequately meet the needs of organic farmers. If applied more than once, vegetable oils can cause leaf drop, plant burning, or otherwise damage the tobacco crop.

Suckering by hand is also not a feasible alternative as it requires a significant amount of additional labor. Our producers agree that the chance that they could find reliable help due to this laborious task in the hottest part of the summer is diminished by shrinking rural economies and limited labor availability.

Several producers noted that labor costs would not allow them to sufficiently hand sucker their crop, leading to lower yields and a

lower quality product.

A QCS inspector noted that inspecting tobacco farms for the last three years is like watching the slow death of an industry and of a region.

Many of our clients have invested heavily into their organic operations only to experience cuts to contracts followed by the current prohibition of fatty alcohols.

One of our growers mentioned that organic tobacco is what has enabled his family to make the transition into organic production and explore the production of other organic crops. For others, organic tobacco is not only essential to the profitability of their farm, it is also important to the economy of their region.

Many organic tobacco farmers don't have access to alternative markets. They cannot turn to vegetable farming because there is no market to sell organic vegetables.

If fatty alcohols continue to be prohibited, it is very likely that our organic

tobacco producers will be forced to discontinue organic farming altogether.

On February 11, 2019, QCS received confirmation from the NOP that a use-up period would be allowed for our producers who had existing supplies of fatty alcohols.

We urge the NOP to extend this use-up period until the NOSB has made a final recommendation on the petition.

QCS hopes that the NOSB recognizes the urgency of this issue and promptly recommends adding fatty alcohols to the National List as farmers' livelihoods are at stake. Thank you.

CHAIR BEHAR: Any comments, questions? Steve?

MR. ELA: So we allowed the use-up for this year. I mean, use-up generally is using up materials on hand. What does that mean for the growers for next year, for the 2020 season?

MS. TOUZEAU: Right. So right now we are asking to extend that period to have a temporary allowance so that farmers for next year

would be able to purchase the products to, for the 2020 season.

CHAIR BEHAR: Anyone else? Okay. Thank you.

MR. MORTENSEN: Yeah, I just wanted to --

CHAIR BEHAR: Oh, I'm sorry.

MR. MORTENSEN: -- just say thank you to Leslie and to the others that have brought the kind of information that we needed the last go-round. So this has been very helpful. Thanks.

MS. TOUZEAU: Yeah, thank you to you as well.

CHAIR BEHAR: Okay. Thank you. Next up is Abby Youngblood, and on deck is Anne Ross.

MS. YOUNGBLOOD: Hi. I'm Abby Youngblood, Executive Director at the National Organic Coalition. And thank you, NOSB members, for the work that you do to protect organic integrity.

NOC is deeply disturbed by the lack of consistency across certifiers. A primary goal

for the organic law was to create a level playing field for organic operations regardless of size, geography, or production system.

But we're falling short in several key areas on outdoor access for organic poultry and on the continuous conversion of conventional dairy livestock into organic herds or origin of livestock.

We appreciate that the NOSB has taken a stance on these issues and put forward resolutions.

The lack of clear standards for hydroponic and container systems is another area that requires the Board's attention. We urge the Board to call for a moratorium on the certification of new operations given that the current situation is opening organic up for abuse.

We also urge the Board to pay close attention to the annual peer review audits of the National Organic Program. The lack of consistency across certifiers points to serious

problems in the NOP accreditation process. And the peer review audits are a mechanism to gauge the health of the NOP.

NOC supports the NOSB proposal to add energy infrastructure impacts to your work agenda. And we urge you to bring together a panel of experts and affected organic growers at the Pittsburgh NOSB meeting this fall. That region has been severely affected by this issue.

We think this panel is a good first step and will inform an NOSB discussion document on this topic.

On excluded methods and induced mutagenesis specifically, we're grateful for the Board's continued efforts to move this work forward.

We need more input from stakeholders to understand how frequently this method is used in plant breeding. We encourage the NOSB to work closely with the Organic Seed Alliance and other plant breeding experts to come up with a plan to move this work forward.

We're concerned about the chilling effect on organic breeding if this method remains on the TBD list long term. And we also agree with Zea's earlier comments about ensuring due diligence with some of these methods that have a long history of use, including induced mutagenesis.

On nutrient, vitamins, and minerals, NOC opposes the relisting with the current annotation because it's used by some food manufacturers to justify adding synthetic and non-organic ingredients to organic foods when they do not appear on the National List. This includes several additives that have been reviewed and rejected by the NOSB.

Synthetic or non-organic additives used for nutrient fortification should be limited to those that are essential because they're required by law. Thank you for considering my comments.

CHAIR BEHAR: Okay. Tom and then Dave.

MR. CHAPMAN: Hi, Abby. I have a question for you on your fish oil comments. You guys wrote NOC doesn't support relisting fish oil due to concerns related to environmental impacts and ecological sustainability. But in 2018 in the fall, NOC supported the relisting of liquid fish products.

I guess I'm curious to know what's the difference in terms of environmental impacts and ecological sustainability concerns between those two products.

MS. YOUNGBLOOD: Let me consult with our membership and our NOSB consultant on that comment and get back to you.

MR. CHAPMAN: Okay. Thank you.

MR. MORTENSEN: Abby, I was wondering if you could say a little bit more about the moratorium idea that you mentioned at the beginning of your comments.

MS. YOUNGBLOOD: Sure. I mean, I think this idea has been out there for a while. We've been asking for this for a while.

And, you know, it's a recognition that if we allow the continued certification without standards in place that we're on this slippery slope without clarity. And, you know, in fact, we would ask certifiers to step up to that call as well given the uncertainty right now.

MR. MORTENSEN: Thank you.

CHAIR BEHAR: Anyone else? Thank you. Thank you, Abby, wide-ranging comments. Anne Ross is next with Carol McRoberts on deck.

MS. ROSS: Good afternoon. My name is Anne Ross. I'm an attorney, and I hold an advanced law degree in agricultural and food law. First, I want to thank you very much for your time and your service to this Board.

For the past two years, I have worked as a farm policy analyst for the Cornucopia Institute. My primary responsibility has been to work on import fraud.

It's hard to believe that the time has passed. But at my first NOSB meeting in Tucson, I stood before the Board with a petition in hand

asking that the NOP take immediate action. The action requested was that the NOP address on an expedited basis the regulatory loopholes that have contributed to fraudulently labeled organic grain imports crossing U.S. borders.

Two years later, I still get calls almost every week from U.S. organic grain farmers asking what's happening and what's being done. They tell me about their struggles and how they just want a level playing field. I tell these farmers there's progress thanks to the efforts of many people in this room.

The 2018 Farm Bill provisions are positive developments, and rule drafting is underway. But we cannot rest here. Additional work is needed, and it has to start now.

First, I encourage the NOP to take all steps necessary to attain Stop Sale authority. Stop Sale authority would allow the NOP to prevent fraudulent organics from entering the stream of commerce. Ultimately, one cannot effectively enforce what one cannot stop when no

other agency exercises that role.

Stop Sale authority is a powerful deterrent and protects the organic market. The NOP should work with Congress to address any due process concerns and statutory hurdles.

Second, when a foreign certifier has been penalized by regulations, by regulators in other countries, this ought to immediately trigger an investigation of that certifier in any of the implicated operations it certifies to establish organic authenticity of those imported products.

As stated in my written comments, earlier this month the EU limited the authority of a foreign certifier to certify products in several high risk countries, the reason, fraud. Where is that product headed now? And where are those operations turning for certification?

Third, weak penalties for regulatory violations are no match for bad actors with deep pockets. We all know fraud is about money. And as long as cheating is cheap, the conduct will

continue.

Fines need to be meaningful, otherwise those operations intent on committing fraud will continue to conclude the rewards of cheating outweigh the risk of getting caught.

I strongly urge the NOP to not only impose aggressive fines under the current regulations, but to work with Congress to impose greater penalties.

Thank you for your service. And I'm happy to answer any questions.

CHAIR BEHAR: Anybody here on the Board? Thank you.

MS. ROSS: Thank you.

CHAIR BEHAR: Very good comments. Okay. Next up, I think we have a little treat here, Carol McRoberts and Jay Feldman on deck.

MS. McROBERTS: Good afternoon, all. Can you hear me? We're the Seattle Raging Grannies, and we're going to sing a couple of songs. The first one is the signature song, and our second one will be a restaurant that no one

should eat in.

(Singing.)

MS. McROBERTS: We understand that fracking is very bad for the earth around it, and we think that maybe some of the food served at our restaurants may be growing there.

(Singing.)

CHAIR BEHAR: Thank you. Tom has a question.

MR. CHAPMAN: I think a statement, really. I think John Ashby has been replaced.

(Laughter.)

CHAIR BEHAR: Thank you very much. And someday I'll be a member of the Raging Grannies. Okay. Jay Feldman is ready to roll.

MR. FELDMAN: I have a tap dance for you guys.

CHAIR BEHAR: Okay. And Kate Mendenhall is on deck. Don't forget to get your animal, Jay.

MR. FELDMAN: I'm Jay Feldman, Executive Director of Beyond Pesticides. So,

yes, we're here to celebrate organic after that presentation. Our goal is to ensure its alignment with the principles in the Organic Foods Production Act, but we have serious challenges. Congress created the NOSB to provide leadership and forward movement, not simply to protect the status quo. We have to embrace continuous improvement across the board. We have to grow the organic market exponentially. To do this, we have to ensure public trust in the organic label. We must be transparent. Ultimately, we are only as strong as our weakest link.

Organic stands at the threshold of the future. The context in which we are working on organic falls at the intersection of human health and environmental protection. It is our only hope for the future.

Organic addresses the climate crisis by adopting soil-based practices embedded in the Organic Foods Production Act. Organic must support a system that protects and enhances

biodiversity and staves off the insect apocalypse.

But if the public does not support organic, then none of this much matters. And the only way the public will support organic, pay premium prices, understand that their investment in the future is important is if there is transparency and trust in the process.

Standards must be in compliance with the Act. NOP must implement NOSB decisions on the National List. There must be rigorous enforcement, and organic certifiers must operate under uniform standards that are seen as transparent in their methods and free of conflict of interest.

One more thing. It feels sometimes that independent science, hearing both sides of an issue, identifying hazards of materials is somehow an attack on organic, when in fact it strengthens organic and is compliant with the law. So here are four things: The program should be able to clearly articulate the law and the

rules. It has not been true for glyphosate. The lack of clarity we heard today about specific container operation scenarios, not abstract, damages organic and the label.

Two, it is painful to see the lack of action on previous Board decisions, as a former NOSB member. Inerts review, animal welfare recommendations, access to pasture, origin of livestock, BPA in packaging, infant formula, remember corn steep liquor, sodium nitrite, methionine. The European Union does not allow the use of synthetic methionine in organic poultry but does require more space for birds, fewer birds per house, and more access to the outdoors.

Three, identifying cutting-edge issues like you're doing on sanitizers, marine materials. Keep doing that. We appreciate your efforts to evaluate and find solutions to problems.

Hydroponics. Labeling is something you can address with annotation.

And finally what more can you do as NOSB members? Exercise your statutory authority to advise the Secretary of Agriculture. Get together as a group or individually, as small as a subset of this group, and tell the Secretary of Agriculture what you've heard here today.

Thank you very much for your service.

(Applause.)

CHAIR BEHAR: Thank you, Jay. Jay, can you tell me are you a membership organization, Beyond Pesticides?

MR. FELDMAN: Yes, we are.

CHAIR BEHAR: And how many members do you have?

MR. FELDMAN: Well, we have, we have a network of 50,000 people. In terms of paid membership, we have about a thousand groups, so we stress group memberships, local community-based organizations. But our strategy is to bridge farmer and consumer interests, which I think are aligned in terms of advancing organic. But we believe very deeply through this

membership that exercising local democratic involvement in the marketplace and through the public hearing process in terms of what you're doing and being represented by the stakeholders, every one of the stakeholders on this board, is essential to our membership voice.

CHAIR BEHAR: Thank you. Okay. Kate Mendenhall is up -- oh, I'm sorry. Emily? I'm sorry.

MS. OAKLEY: Sorry. Just a question about marine materials. Thank you for your detailed comments. They were very thorough. I understand why Beyond Pesticides is suggesting an annotation in terms of specific detailed language for regulatory purposes, but I'm wondering if you would consider an annotation requiring organic certification in the future. If you're not prepared to answer that now, that's fine. But I'm just asking for that consideration.

MR. FELDMAN: Well, as you know, Emily, I think part of this process is finding a compromising common ground. Your discussion

document and the work of the subcommittee I think identifies a key issue that we must address. Consumers care not only about what they put in their mouths, but they care about how their food is grown and what impact it has on the environment. So we need to get to a compromise that advances this.

We at Beyond Pesticides feel that annotations are the best way to ensure that the voice of the NOSB, whatever compromise that may be, is enforceable. And enforceability is key in coordination with certification. So to the extent that those work in tandem, we're all in. We support that and your efforts. Thank you.

CHAIR BEHAR: Dan.

DR. SEITZ: Jay, I didn't understand the point you made about annotating hydroponic-produced products.

MR. FELDMAN: Well, again, you know, the question is if hydroponics is established as allowable under organic, which it has been, the issue is what materials are used in hydroponic

and to what extent you require the disclosure of those materials on hydroponic products. So to the extent that a user or a producer of hydroponic crops are using inputs that are allowed by the National List, you have the authority as a board to require annotations of those materials when used in different sites. You know, if it's a particular use pattern or a particular site, a particular crop. And in this case, I would argue that it's a particular method of farming that really does require, I believe consumers want to know that this is part of an organic operation. I'm sorry. A hydroponic operation.

So that gives us, you know, we have a lot of authority, you guys, as a board, over this National List and how you convey the use patterns that you've permitted under the law. You can require all kinds of specific disclosures along with that use pattern.

DR. SEITZ: Great. Thank you. I'd be curious to hear from you in the future, perhaps

some specific example of wording that you might have as an annotation for that.

MR. FELDMAN: Okay, sure. Thank you.

CHAIR BEHAR: Anyone else? Very good. Thank you very much, Jay. And I didn't see the tap dance. Kate, you're up there. Next up is Dave Colson on deck.

MS. MENDENHALL: Thank you, members of the National Organic Standards Board, for the opportunity to speak before you today. My name is Kate Mendenhall. I'm the Director of the Organic Farmers Association, and I'm also an organic farmer in Northwest Iowa.

Founded in 2016, Organic Farmers Association provides a strong and unified national voice for domestic certified organic producers. We are led and controlled by certified organic farmers. Only certified organic farmers drive our policy positions and our policy work agenda. We have farmer members in 48 of the 50 states.

Organic Farmers Association greatly

supports the work and the role of the National Organic Standards Board and finds your role paramount in maintaining integrity in the USDA organic label. Organic farmers were active in every step towards building our national organic movement and market, and we believe that organic farmers deserve a driving seat in setting the future of the organic label.

Our 2019 certified organic farmer policy identified five top priorities from the wider certified organic farmer community, feedback that extends beyond our membership and invites all U.S. certified organic farmers to participate. This winter, organic farmers ranked the top five priority issues as organic import frauds, number one; number two, NOP enforcement to ensure organic integrity; number three, prohibiting hydroponics in organic production; number four, pasture rule enforcement; and number five, organic dairy standards and enforcement.

We urge the National Organic Standards Board to reaffirm their October 2018 resolution

regarding origin of livestock, urging the NOP to move to a final rule in 2019 immediately.

Number two, encourage the NOP to issue training and guidance for risk-based certification oversight in organic dairy, focusing on operations on the margins of the 30-percent DMI rule and dairies with a thousand or more milking and dry cows.

Number three, call for the NOP to issue an immediate moratorium on any new hydroponic operations and return this issue to the NOSB work agenda as a top priority. OFA believes that the NOP should implement the 2010 NOSB recommendation to not allow certified organic hydroponics, but we recognize that there is an immediate urgency to put a moratorium on new hydro operations so that we can have more conversation and consensus within the organic community.

The current lack of uniform standards implementation and enforcement of hydroponic certification is publicly undermining the

integrity of organic farmers nationwide. The lack of clarity around a three-year transition following the use of a prohibited substance is unacceptable. This ambiguity to a clear rule enforced throughout the life of organic certification calls to question the integrity of the entire NOP program.

Thank you for the opportunity to address you today.

CHAIR BEHAR: Emily.

MS. OAKLEY: Could you elaborate on what you mean by a lack of clarity around a three-year transition period following the use of a prohibited substance?

MS. MENDENHALL: Yes. I think the question has been asked many times today, and I think, you know, in one case, there's a hypothetical but farmers need to be able to call their certifier and get a clear answer on whether or not a practice is allowed or not allowed and certifiers need to have clear direction from the National Organic Program about whether or not you

can spray a prohibited substance and their certify your hydroponic operation without any transition. That is not a hypothetical. That is a direct question that requires a direct answer.

CHAIR BEHAR: Jenny.

DR. TUCKER: I want to clarify here that, again, I want to state incredibly clearly glyphosate is not allowed. And right now we have no specific case that is giving allegations of what is being talked about, this idea of glyphosate being put on the ground and then some kind of plastic there and then immediately covered. We do not have a specific case, so we have learned about one operation and have investigated. We have talked to that certifier about what is happening on the ground.

We need specific cases where somebody believes the regulations have actually been broken on a farm and has evidence. So that is, when I talk about we need more information, that's what I'm looking for is case-specific information that we can then evaluate against the

regulation.

So glyphosate is not allowed. We are looking for specific cases, actual on-the-ground realities where people know this is happening, so that we can investigate it and evaluate it against the rules. Give us a case, and we will enforce.

MS. MENDENHALL: Could I respond? Clarify?

CHAIR BEHAR: Yes, you can respond, Kate.

MS. MENDENHALL: So I think that hopefully it's clear and will always be clear that any prohibited substance will never be allowed in organic production. If we're at a point where we're debating that, we have a very serious problem on our hands and we have no organic program.

The question is clearly, if a prohibited substance is applied, can I certify my hydroponic production the next day? That is not a hypothetical. We need really clear instruction

about the transition period for a farmer growing in the soil and a farmer starting a new operation right next door. Can they spray a prohibited substance and then call their certifier and get their certificate?

DR. TUCKER: We know of no certifier that is allowing that scenario, so again, if there is a specific case, then please, please bring it to us.

MS. MENDENHALL: That kind of ambiguity leaves a lot of discontent.

CHAIR BEHAR: Okay. Thank you, Kate.

MS. MENDENHALL: Thank you.

(Applause.)

CHAIR BEHAR: Up next is Dave Colson with Christopher Peterson on deck. And after Christopher, we have three more commenters.

MR. COLSON: Good morning. My name is Dave Colson, and I have a certified organic farm in Durham, Maine and work as the Director of Agricultural Services for the Maine Organic Farmers and Gardeners Association. My job is not

to do the certifying of farms but to assist them in their production and marketing processes and to help them to understand and meet the regulations of organic certification.

MOFGA first began certifying organic farms in the 1970s. At first, we only certified crop production but later added dairy and other livestock, processed products, and maple syrup. These days, it's easy to dismiss the early certifiers or anything that came before the national rule, but many years of discussion led to the development of what became the national rule in the organic standards as we sought to develop and articulate a vision of organic production.

One of the things I appreciate about the way the rule is written is how each section starts with the affirmative methods of organic production. For instance, 205.203 on soil fertility and crop nutrient management begins with the producer must select and implement tillage and cultivation practices that maintain

or improve the physical, chemical, and biological condition of soil and minimize erosion. The producer must manage crop nutrients and soil fertility through rotations, cover crops, and the application of plant and animal materials.

The rule goes on to describe crop nutrient management that does not contribute to contamination of crops, soil, or water by plant nutrients. And finally, crop nutrients that are allowed when included on the National List of synthetic substances.

What I would like to highlight today is that these cultural methods are often overlooked in favor of inputs when debating what may be used in organic production. And I would point out that these meetings are largely about what is on the National List, but most of the organic growers I work with rely on using and developing those cultural methods. In this decision process, we never considered actually removing plants from their interaction with the soil. That seemed inconsistent with the cultural

growing practices defined in 205.203.

Cultural innovations such as these and others are the heart of organic farming. I speak about it today because I don't want this to be lost in the discussions and disagreements over what products are on the National List. Organic farming is about living within the natural environment and learning to adapt our growing to its demands. I want to remember today the certified organic farmers around the country who farm by following these important cultural processes that incorporate the natural benefits of growing in soil.

Therefore, MOFGA supports a moratorium on certification of new container and hydro operations until the details and possible standards for such production are developed. Thank you.

CHAIR BEHAR: Thank you, Dave. Any questions or comments from the Board? Emily.

MS. OAKLEY: Yes, I don't really remember in previous meetings hearing so much

about a call for a moratorium on hydroponics, and I don't know what's happening within the stakeholder community, if this is sort of a natural progression or, you know, it's coming spontaneously or if there's a conversation taking place. But I was just wondering if you could elaborate more on that.

MR. COLSON: Well, I first kind of got aware of this discussion back in the meeting in Vermont, and I think that was in 2015. And at that point, that was the first that I heard about a call for a moratorium at that point. And some certifiers have honored that. I think the nuance of how that goes about has to do with not feeling like we do have standards that we're able to certify to. It seems to be picking and choosing from different parts of the rule.

So MOFGA right now does not certify hydroponic or container production, and we feel it's important that those standards, if hydroponic is going to move forward, need to be developed so it's clear what it is we're actually

certifying.

CHAIR BEHAR: Emily.

MS. OAKLEY: Is it possible to kind of jump back to the previous commenter's comment, or is that not appropriate?

CHAIR BEHAR: No, you could.

MS. OAKLEY: I just wanted to say that I hope, Jenny, that there are no producers that are not following that three-year transition period. I hope actually no one will be able to give you an example of that taking place because I hope that that isn't happening within the organic system. So I hope there isn't even a need for someone to do that. I'm just asking and I think people are asking for clarity that that isn't allowed, and I understand your position but I just wanted to state that I hope that we can't even find an example because it's not taking place, and I would like that clarity at some point in the immediate future, if possible.

CHAIR BEHAR: And I want to say, Dave, too, as an organic educator, the input

substitution, when someone comes to me and asks about transitioning to organic, the first question is, you know, where is the organic herbicide or, you know, and the inputs, and we go through the systems-based approach to farming. And most of the time, they're quite excited about it because it means less cost of inputs, but it also means, too, that they have a much more intimate relationship with their entire operation and they gain so much from being part of their farm, rather than doing to their farm.

MR. COLSON: Yes. And I agree. One of the things that we used to do before the NOP program, which I know is not really relevant so much, but we had, rather than what was allowed and what was not allowed, we had not allowed, sorry, prohibited, allowed, and recommended. And often, what we now see as those cultural practices that are embedded in the rule that often don't get talked about a lot because we all accept them as the proper practices to use, those were the recommended practices and they became

the ideal to which we would try and move farms towards.

CHAIR BEHAR: Thank you. Oh, Ashley.

MS. SWAFFAR: Hi. So you had asked for a moratorium on hydroponics because we don't have standards. Would you also support a moratorium on apiary production, honey production, because we don't have standards, mushrooms --

MR. COLSON: Well, in effect --

MS. SWAFFAR: Wait. I'm not finished. You know, and then you also referenced how people pick and choose what part of the rule to follow. We also saw throughout the hydroponic things a lot of questions. I asked commenters about growing tomatoes in greenhouses. They don't rotate crops, so they're picking and choosing rules to follow there.

MR. COLSON: That's a lot.

MS. SWAFFAR: Yes, yes.

MR. COLSON: And so I agree with most of what you're bringing up. Apiary standards, in

effect, we have a moratorium on it because I think there's only two or three in the country that can meet the standard. The rotation with tomatoes, I do recognize there are some small growers that only have one house, and they are growing tomatoes continuously in that house, although what we try to move folks towards is either multiple house or a moveable house so that they do have a crop rotation of some kind.

So I would agree with you. I think in some of those cases it would be worthwhile to have a moratorium on some of those pieces in order to articulate exactly what we're talking about in terms of the standard we're hoping people will meet.

MS. SWAFFAR: You referenced apiary standards and two people meeting them. What standard are your referencing?

MR. COLSON: Well, we do have honey standards from what I understand.

CHAIR BEHAR: We have an NOSB recommendation, but it has not been implemented.

MR. COLSON: Okay. Thank you for that clarification.

CHAIR BEHAR: But I do know that there are some certifiers who are referencing that, you know, as their own.

MR. COLSON: I thought there was a certified beekeeper in New Mexico.

CHAIR BEHAR: There are certified. The NOP does allow operations if they can show that it meets the current rule to be certified organic, and I know of a few. So various certifiers use various rules, you know. Some of them are following the recommendation and some are not.

MR. COLSON: And we at MOFGA did have a honey standard at one time, and the way we went about that as we asked the honey producers to come to us and produce a standard that we could certify to. We didn't certify until we had someone develop a standard that we could work on, and that's part of what I'm talking about. I think to allow things to move ahead before we

have a standard that's nationally recognized does not seem to be in the service of the national organic program.

CHAIR BEHAR: I had Scott next and then Tom and then Ashley.

MR. RICE: To respond to Emily's response to an earlier comment, I just wanted to touch on, you know, when the sort of word came around about glyphosate use on a piece of land and then that going straight to organic production, that was quickly a conversation with my colleagues in the Accredited Certifiers Association and had a fairly participatory and robust kind of dialogue on that over email of, hey, are you doing this, is this something you would allow? And there was no answer that said, yes, we would do that. It was the complete opposite and very consistent of, no, this is not something that we would allow. And I just wanted to make that clear.

As Jenny notes, there's no case that we, of course, could look at and kind of dig

into, as we often like to as certifiers. But it's the mission and kind of vision of the Accredited Certifiers Association to have consistency in standards, and on this particular issue I saw that consistency quickly and pretty loudly.

CHAIR BEHAR: Tom and then Ashley.

MR. CHAPMAN: Sorry to dig in on this one, but, I mean, there's a lot of production environments that don't have standards as outlined right now in the national organic standards. Apiculture is one of them, fungus production is another, aquatic plant life is a third. I could probably continue listing several more. Does MOFGA certify any of those operations --

MR. COLSON: Of course. You know we do. We do aquatic plants. Absolutely.

MR. CHAPMAN: Yes, and mushrooms.

MR. COLSON: Yes, and mushrooms.

MR. CHAPMAN: Then how does that align? There's no production standard there.

MR. COLSON: Oh, I agree. Yes, it's an inconsistency in my presentation definitely. That does not necessarily negate the need for consistent standards.

MR. CHAPMAN: I agree with you there.

CHAIR BEHAR: Do you have something to say Ashley, or are you okay?

MS. SWAFFAR: I was just going to say an NOSB recommendation is not final rule.

CHAIR BEHAR: Yes, I think we all understand that. Emily.

MS. OAKLEY: Just a clarification. I think when MOFGA is certifying aquatic plants, they are following the wild crop standards. I mean, that might need way more elucidation than it currently has. Like, I definitely agree with that, and I think we've heard that in a lot of the comments, but that is the standard that they are certifying to.

MR. CHAPMAN: Can I ask a follow-up question to that?

MS. OAKLEY: To me or to --

MR. CHAPMAN: To Dave. Does your sea vegetable questionnaire involve cultured products?

MR. COLSON: I'm not conversant enough in that to be able to answer directly, but I can try and find that information.

MR. CHAPMAN: If I have it up in front of me, can I answer it for you?

MR. COLSON: Absolutely.

MR. CHAPMAN: It does.

MR. COLSON: It does?

MR. CHAPMAN: Yes.

MR. ELA: Say that again, Tom.

MR. CHAPMAN: The MOFGA sea vegetable addendum for certification also handles cultured sea vegetables, which would be not wild crop.

CHAIR BEHAR: Dan.

DR. SEITZ: I just want to comment that I can see that someone might in good faith take a position that may have some inconsistencies. So if you take the moratorium, for example, around hydroponic, the possibility

of new systems being carried out in wildly diverse ways and having an enormous economic impact on existing operations may warrant a moratorium in a way that a much smaller corner of the organic sector may be able to tolerate some inconsistency. And I can also imagine that certifiers might, in a sense, exercise extra care in an area where there may not yet be standards.

And I think all of us, in principle, want to see consistency, but I think it's no accident that there's a famous quote that would say foolish inconsistency is the hobgoblin of small minds. I think the point there being, I think here it's not a foolish inconsistency. We strive for consistency. But the fact is in any situation like this where there's such a vast amount of information in situations to address, complete consistency is not possible.

MR. COLSON: Yes, and I would just comment that farmers are innovative folks, organic especially, and there are reasons that folks have moved in a variety of directions. And

I think the raising of kelp would be a good example, in that originally kelp was not considered a food additive, and that's why the need to certify came into place, as you know. And so there was a quick push to develop a way to allow a use that had already been ongoing, and I do recognize that. And then that couples on with the idea of, well, if we're depleting a natural resource, how can we do it in a better way?

So I'm not saying that that's the way to go. I think the idea of a moratorium or a pause when some of these things change so that the process that's being used right now for marine materials can be gone through so that we aren't then catching up with ourselves after the horse is out of the barn. And I think that's where we're consistently finding ourselves in a lot of these pieces right now. So that's where I think the pause or the moratorium might be worth considering on some of these things.

CHAIR BEHAR: Okay. Thank you, Dave. We'll keep moving here.

MR. BRADMAN: Sorry. I'm just going to restate my earlier comment. You know, I'm not sure where a moratorium fits in or not, but I really think it's essential that we develop standards and that we really think about what it means to produce food in different ways and that, I just think that's extremely important and that, as a board and as a community, we need to work towards that.

CHAIR BEHAR: Thank you, Asa. So next up is Chris Peterson, and Andrew Dykstra is up next. And thank you, Chris. My chickens enjoy the feed from your mill.

MR. PETERSON: Thank you. My name is Chris Peterson. I represent Cashton Farm Supply. We're an organic feed mill in Cashton, Wisconsin. We've been in business for over 30 years, and we've been working on organic feed for over 20 years. We've got about 40 people that work for us and really appreciate the work that's done to support the industry because it is the industry that we focus on. We don't do conventional.

We're not using it as a segment. It's 100 percent of what we do.

We deliver bulk feed in our area. We're located in Southern Wisconsin. We hit most of Wisconsin, Southern Minnesota, Eastern Iowa, with our bulk trucks, and we're serving a lot of customers that are going to be feeding 1,000 to 8,000 laying chickens typically. We're mostly in the laying hen market.

In addition, we ship a lot of bagged feed either direct to farms, or we have a network of 19 independent farm stores and five cooperative stores that we ship bagged feed and sell bagged feed through. Obviously, that's going to be usually a smaller farm that's got chickens as part of a diversified organic operation. They might be doing vegetables, they might be doing dairy, and the hens and the broilers are there to supplement their farm income.

We do encounter -- I should say I'm here to support listing of synthetic

DL-methionine and at the average rates throughout the life of the flock. We do see when we're feeding in a bagged ration a 17-percent protein ration with two pounds of methionine per ton. We do see feather pecking and aggressive behavior, which we attribute to a lack of methionine in those birds.

And our bulk producers, when they bring a new flock in, they're usually going to be going to, like, an 18-percent protein. If they've got a flock that's coming out of the grower barn with a lot of variation in the bird weights, they might be going to an 18.5 or a 19-percent even to try and grow those birds out, and the ammonia becomes a major problem in a hurry. Anytime from late August all the way through until mid-May, we'll have barns that have a lot of problems with ammonia because they're overfeeding the protein when those birds go in.

We do have people that, I should say right in our neighborhood we've got a lot of 2,000 to 5,000-bird barns. They do have really

good outdoor access, and the chickens do go out in the pasture, but they still have these ammonia problems. We have people that do birds on pasture, usually smaller operations, a couple hundred birds. And, you know, they can sometimes, for short periods of time, get the birds to subsist on the pasture, but we have a really short season. We had ice on the ground here about two weeks ago. By the time we get to the middle of July, the pastures are starting to slow down in their production. And they do see, whenever those birds get inside, they do see that issue with increasing protein makes the litter messy, a lot of ammonia. If they've got a few hundred birds, they will try to supplement that protein because they see they need the protein. So we don't see that that small-scale production exempts people from issues with methionine.

Thank you very much.

CHAIR BEHAR: Any questions from the board? I have one. How are you working with the new methionine annotation where it is so many

pounds over the life of the bird --

MR. PETERSON: We're just starting with that because most of our producers have just gotten documents from their certifier. These flocks run for about 14 months, so obviously a flock that's already in, they're not averaging yet. So people are trying to work out how they're going to feed those, working with their certifiers to get a plan in place, get it written to their system plan, and actually start doing it. We have nobody that I know of that's really started doing it yet. But the people are working on that, and I think what we're looking at is averaging based on the requirement of the bird because right now, if you go back to where we have just a flat two-pounds per ton limit, you know, you're looking at the limit is flat but, based on what the bird requires, you're starting out at a low level and then increasing as the flock gets older and people see these issues resolve themselves as you get to the end, where you're feeding more of the requirement because

the bird's requirement is coming down.

So right now the people that are starting to work on it, they're kind of looking at how do we get that line to flatten out when we consider it as a percentage of the bird's requirements so we're not starting out at a low restriction and coming upward. It's still the restriction even under the average. You're still at a restricted level, but they're trying to get the restriction to be even to the bird's requirement throughout the flock, so you'll get a little more methionine early on.

CHAIR BEHAR: So are you responding to their request, or are you working with them in the ration development?

MR. PETERSON: So far, we're responding to their requests, but they'll have a breed spec based on the birds they've got, and we can ration it based off their breed spec.

CHAIR BEHAR: I know that certifiers are looking at how to actually be able to document that this has occurred, and so as an

organic inspector, I know I'll be looking at a lot of invoices and tags and trying to figure that all out.

MR. PETERSON: And from the producers, they're, you know, nobody is doing it yet, so people want to, they don't want to jump right in because it's not like your calcium where you can ration it up and down and if it's off a little bit you just fix it. They want to know where they're going to be, and so they need a plan, but they're getting there. And I think, once they get to doing that, I think most people are going to start out with trying to take it as a percentage of that bird's requirement and see how it works and go from there.

CHAIR BEHAR: Okay. Emily has a question.

MS. OAKLEY: It's actually just a comment that I just see this as a positive example of continuous improvements within the Board's work, and I thank the Livestock Committee for looking at this issue. Yes, I just think

this is a bright spot in the organic process of continuous improvement.

MR. PETERSON: I don't think I got it in there. We really do support coming up with something that is national because we don't dismiss the concerns that people would have over the synthetic methionine. It's not something that we dismiss. We talk to those customers every day. We have people that, I had a customer that's good friends with my cousin call, and this was quite a while, but he said we talk about methionine and he said how come I can raise my chickens and not have any methionine? I said, well, you do, it's in the, you know, but he never had the label and he didn't know that it was there.

So we don't miss that risk of using it. We want the natural alternative. But it also has to be something we can use and be legal, for one thing, but also that we can use a sell a product that will work for people.

CHAIR BEHAR: Okay. Thank you.

MS. SWAFFAR: I have a question.

CHAIR BEHAR: Oh, now Ashley has a question. I just want to say we are not too far behind but --

MS. SWAFFAR: I have one question. One question.

CHAIR BEHAR: Okay.

MS. SWAFFAR: Just for reference, what is the most expensive ingredient pound-per-pound in your feed ration?

MR. PETERSON: I'd have to look into that. I always think of the macro ingredients, so you're looking at the soybean meal, flax meal, but your trace minerals are going to be higher.

MS. SWAFFAR: Methionine would be probably one of your most --

MR. PETERSON: It might be. Honestly, right now, I couldn't tell you what the methionine costs in our rations, but I know you know so --

MS. SWAFFAR: It is. It's the most --

CHAIR BEHAR: Thank you, Chris. And

say hi to Ernie for me.

MR. PETERSON: I will do that. Thank you.

CHAIR BEHAR: Okay. Andrew Dykstra and then Pete Zambetti is on deck, and then Laura Batcha will be our last speaker after that.

MR. DYKSTRA: Hello. This is my first NOSB meeting. I didn't know what to think when I was going to get here. I was here yesterday and today, and I'll be gone tomorrow. I was absolutely encouraged by what I saw and heard and everything that happened yesterday. I think the whole organic industry is completely unified, except I was actually disappointed as to what was happening there in Washington, D.C. In fact, they told me to be polite, so that's all I'll say about that.

I'm an organic dairy farmer. I was one of the first ones in Washington state. Actually, about ten percent of us dairy farmers from the state of Washington that are organic will be coming through here and plus the one from

California.

So I had some stuff written down and didn't know if it was going to be good. But now that I've thought about it from yesterday and today, I think it's 100-percent valid. Anyway, I'm grateful to have a chance to comment.

Our family has been farming organically since 1989, since 2004 in the dairy industry, organic dairy industry. The third generation is making a stab at it now. One of my sons is a mechanical engineer, and the other one has a degree in agronomy. So I'm not coming with a lot of verbiage or proposed regulations. I'm here to speak to the origin of livestock, just like everybody else, and the integrity of the organic seal.

I really hope that the unification of the organic industry that was created by the Idaho issue will actually help us out. Now we just need the will to solve the origin of livestock issue. We need the will to get everybody to be playing by the same rules. Right

now, I don't think we have the will.

I will fight for the integrity of organics as long and as hard as I can. But, you know, when the rules are done, I'll abide by them. Hopefully, it's not a watered-down product.

Back when we were still conventional, we missed 90 days of milk chuck one winter. Why? Because 95 days were decided, or 90 days were decided by the Russian State Supreme Court that milk was not an agricultural product under the Perishable Commodity Act of 1937. That's about as nonsensical as what Idaho state allowed regarding the origin of livestock and Washington, D.C.

After financing and refinancing, the expiration of depreciation, and so forth, it took us about ten years to get out of that hole. What is happening to the organic dairy industry right now will also take ten years for dairy farmers to get out of. Why is it the whole ten years? The USDA NOP is in park regarding the origin of

livestock. Somebody once told me God can't steer a parked car. Well, we can't steer the NOP. Why? Because the NOP is in park. So with verbiage of regulation and the will to get out of park isn't there, in my opinion.

It's not this administration or the last administration. Origin of livestock has been a frontrunner for dairy farmers for years. So please, let's not keep blaming Trump or Obama. Take ownership. This is a generational problem. Take the NOP and put it in drive. Once we're in drive, we can discuss language and regulations. Until then, smoke is blowing out of the exhaust, it's coming out from under the hood, the engine RPMs are at 9,000, people are seat-belted, but the transmission is still in park.

Nobody can defend what's happening to the consumers today. I would dare anybody to be able to defend it to the consumers.

The hole that we created, the ten-year hole that we created now is by having the transmission in park. Thank you very much.

CHAIR BEHAR: Thank you. Any comments?

(Applause.)

CHAIR BEHAR: Any comments from the Board? Thank you, Andrew, very much for coming away from your farm. I know that is a difficult thing when you're a dairy farmer. And I also know how hard dairy farmers work.

Okay. Pete Zambetti is up next with Laura Batcha, our last speaker of the day.

MR. ZAMBETTI: Good afternoon, everybody and thank you for your time today, and thank you for the hard work you do. My name is Peter Zambetti. I'm a representative of Capsugel, a manufacturer of capsules, and we're here to talk about the fact that, talk about to the NOSB for allowing to add pullulan to the National List of 205.605 as an allowed nonagricultural, nonsynthetic ingredient used in tablets and capsules so they can continue to be made with a category in the organics system.

Just an opportunity to review some history. In 2004, Capsugel, the company I work

for, submitted a petition that was put on hold and never acted upon. In 2018, the Handling Subcommittee found the petition sufficient. So in fall of 2018, a full Board discussion happened and several certifiers and manufacturers wrote to support this effort. The Handling Subcommittee also recommends adding pullulan to the National List.

So I know those things have already been said. I just want a little further information on this. Today, there's no other NOP-compliant vegetarian option that exists for encapsulations. There are some organic gelatins available but not nearly enough to satisfy the demand of either the organic consumer or the organic vegetarian consumer.

Capsugel continues to work to make a truly organic pullulan capsule, but it will be years until this is commercially available and quantities exist to suffice the market integrity.

So now I will also make myself available for any questions, and any questions

that are really hard I'm going to defer them to the Organic Trade Association who helped us with this petition. So thanks very much.

CHAIR BEHAR: Well, I thank you very much for finally helping us understand how to pronounce pullulan. So we all have to practice that.

MR. ZAMBETTI: That's all right. Tomato, tomato, it's the same thing.

CHAIR BEHAR: Well, we did butcher it pretty good on the subcommittee. Any questions from the Board? Thank you very much.

MR. ZAMBETTI: Great. Panda and I thank you very much.

CHAIR BEHAR: Okay, good. You took a panda. That was cute. All right. Laura Batcha is our last speaker of the day. I just want to say that we are at 5:51. We were supposed to end at 5:37, so that's not too bad. Okay.

MS. BATCHA: Thank you, Harriet. And thank you to the Board and happy to be your last speaker of the day.

We have a letter that Michelle is circulating to the Board that we sent to the administrator earlier this week at the Agricultural Marketing Services regarding these questions around glyphosate in container production, and we sent that letter because, before coming to the meeting this week, our membership, particularly our members that are involved in the produce supply chain, felt like it was extremely important to hear a clarification right out of the gate from National Organic Program around the absolute prohibition on glyphosate, but also the signers of the letter and our membership as a whole are in agreement that there's an urgent need for instructions to clarify how to apply the practice standard to containerized production systems and hydroponic production systems under the current USDA allowance for those systems.

So some of the questions that have come up today have, you know, really reinforced that this is extremely important. We do not want

to leave this hanging out there to end up five, ten years from now doing a compliance project because there was an OIG investigation about whether or not the standards were being applied appropriately. We have an opportunity with some questions being raised to go to instruction.

I appreciate the need for complaints in order to follow investigations, but I think instructions to clarify how to interpret the standards don't have to be coupled to a complaint process. And we continue to hear questions around land use history and transition. And I appreciate that the certifiers truly, for the most part, want to do the right thing. But if you're not asking for land use history when a barrier is being used, like plastic for container production, you simply don't know what you don't know. And I think the instructions about how to interpret the rules could really help get everybody on the same page and do the right thing because that's doable in a timely manner, and we look forward to assisting with those discussions

as best we can.

In addition to the land use history, there are areas that need to be dug into in terms of natural resources, the use of plastic. There's a lot of questions about really looking back at the Organic Foods Production Act, as well as the national listing on plastic, to ensure that those rules are being followed as well, and uniformly.

The last thing that I just want to flag for you all is something that's not on the agenda but we see a lot of energy in the marketplace around hemp production and CBD in food products, particularly food grade I'm talking about. We have an opportunity over the next couple of years for organic to really capture market share in the food grade hemp, and I want to flag a few things. You know, we know we have the standards in place for crop production and handling. This is a no-brainer.

I'll say one thing and then -- no CBD on 606. That's what we're concerned about, and we

want to put a marker out early that we want to drive this market to organic and really discourage entertaining any petitions around CBD on 606.

CHAIR BEHAR: Okay. Any comments? I have Scott, Steve, Asa. Okay, go ahead.

MR. RICE: Laura, you talked yesterday at the NOP meeting about, kind of related to your earlier comments of continuous improvement and some ideas about how to keep that moving forward. Could you share those with us for the folks that didn't hear that yesterday?

MS. BATCHA: Sure, Scott. And I think some of it is relevant to the discussions that we're talking about about the need for some instruction around interpreting the standards for container production and hydroponic.

On that topic, I failed to sort of reaffirm the Trade Association's support of the 2010 NOSB recommendation to prohibit hydroponic and allow container production, and we had hoped that that process would have moved forward in

terms of the development of robust standards there. But we've taken a step back as we're seeing these issues come at us repeatedly, and you hear a lot of this from commenters.

So how do we think about evolving the way the public-private partnership functions in terms of an affirmative obligation for USDA to move forward with NOSB recommendations? How do we create an environment where this voluntary opt-in standard has a little bit more flexibility and speed as it moves through government regulatory processes? And in addition to that, how do we think about what's next in the evolution of the accreditation process, specifically as it relates to outcomes?

And, you know, we heard some good reports from the program at the meeting yesterday around the peer review audits, and we heard Jenny speak about that this morning, and that's great. But we think there's even more you can do around outcomes that are really around the relationship between NOP and the certifiers and requiring full

sort of compliance to outcomes via accreditation.

So examples of that might be, Scott, requiring that on an issue everybody articulate what their policy is so that NOP can quickly determine if there's conformance across the board on a question that comes up. Is there a way to establish annual reporting from the ACAs to NOP about what the certifiers have done to implement any new regulations, guidance, handbook updates, instructions over the course of the last year so that there's a check-back, is everybody doing, you know, what we put out there?

You know, we have to remember that there are a lot of certifiers that are not operating in the United States. They don't show up at these meetings. It's a global program, and so how do we get real full visibility, not just audit visibility, on what's happening?

And I think one of the last ideas that we have around the outcomes is, you know, requiring mandatory participation in trainings. Whether or not they're through that amazing

Organic Integrity Learning Center that the program just launched or whether or not they're in-person trainings or whatever, a lot of these issues get resolved by the National Organic Program investing in training, and we need to make sure that there's mandatory participation in those trainings.

The last idea we had is a little bit more creative and sort of pushing the envelope a little bit, but it's the idea of establishing an interpretative review panel so that when questions come up about how to apply the full practice standard to a unique circumstance that certifiers are starting to see as a new production system comes into the marketplace, that there could be a convening to look at the whole standard and say what applies, how do we think about it, is there a reasonable place where there's consensus about the answer to the interpretation? And if there is, then NOP could go ahead and issue instructions.

So this is like a proactive approach

to prevent some of the circumstances that we're experiencing now. If the interpretation is unclear or the results of that inquiry point to the need for a new standard, then that could get referred to the Board and get put on the National Organic Standards Board work plan. But it's a way to be more proactive about driving consistent interpretations.

CHAIR BEHAR: So next was Steve.

MR. ELA: Yes. I'm going to save Jenny on this one and turn it to Scott. So when you said that you talked to the certifiers about the issue of, like, the glyphosate and things, did that cover, like, spraying something down and putting plastic over it and then putting pots on it, or was it just -- I guess what was the question that was asked?

MR. RICE: It was more a response to just the news that was coming that Jenny has been responding to in terms of that we've all been kind of hearing this week of spraying and then allowing production and at, I would say again,

without a specific case and without, you know, knowing details, you know, I'm not trying to move away from answering, just, on its face, we wouldn't allow that. That was the gist of that consensus.

MR. ELA: And so even if plastic was laid down on top of the ground and there was theoretically a spatial differentiation, that wouldn't be allowed? And I'm not trying to put you on the spot.

MR. RICE: You know, I don't think the conversation even went to that. It was just a reaction to spraying glyphosate, would this be allowed, no, it would not be allowed.

CHAIR BEHAR: Okay. Next, I have Asa. Later? Next I have Tom. Is he ready to go? Ashley? Who wants to go?

MR. CHAPMAN: I'm ready, I'm ready. Laura, transitioning to another topic, I really appreciated the OTA's detailed comments on the fraud initiatives and opportunities there. I also want to take this quick opportunity to thank

OTA for the leadership in terms of the fraud initiative it's taken with industry and trying to put preventative practices out there in the first place to root it out before enforcement is necessary, so thank you for that.

But going back to your comments, you mentioned the 2018 farm bill and new authorities that were given to the National Organic Program, and that those authorities were not potentially there when we did our work in 2017 or 2018. And so I guess could you provide some examples of what those authorities are and maybe some of those opportunity areas for the NOSB and the NOP to work on that?

MS. BATCHA: Sure. Thanks, Tom. I think first thank you for the recognition of the fraud prevention program, and I want to recognize that really all of the hard work on that development was led by Gwendolyn Wyard, VP of technical services. So when she's at the podium tomorrow, you can all give her a round of applause, and her and a very large industry task

force did some major heavy lifting on what we think will be an important private sector advancement. So thank you for that.

Megan is going to talk a little bit more about sort of, comprehensively, what's in the authorities from the farm bill and how to be thinking about that. I think the one thing, a couple of things that I would share with the Board is, you know, make sure you take a look at it. We attached it to our comments as well, because there are authorities within the farm bill that the National Organic Program is able to use right out of the gate. They don't require regulatory action. They're authorities that they are utilizing now and a number of them that are funneling into this rulemaking that they're doing.

Before I share my thoughts about where NOSB could add value in terms of this conversation going forward, because we know those two things are in play, I want to just say, you know, I understand, to the staff at the National

Organic Program, that we demand a lot of you guys and we can be hard on our issues because we care so much about the integrity. There is a marketplace out there that relies on these clarifications, and so we often all come up here and we're really focused on the things we need you to do, and we're really focused on the ways we need you all to do your best to help us move a political machine at times.

But I don't think we've done enough today to thank you for the tremendous lift you guys have done on enforcement of feed grains coming into this country. To see that data this morning is remarkable, and, you guys, we owe you a debt of gratitude. You've applied creativity, full effort, prioritization to that task. And so I would be remiss to not take a moment and say that because really shutting down that flow out of the Black Sea, that is not an easy task.

That leads into my, like, how do you guys think about adding value? You know, we're now in the United States, I believe, in a

position where we are ahead of the rest of the world in global enforcement, and that wasn't the case five years ago. And some of the things that put us in that position are our commitment to transparency in the system so that work, early work on the integrity database that's moving into this realm where we can see a future where, we just heard it this morning, mandatory reporting on acreage available to the public. There will not be a program in the world that has that kind of transparency about information to provide the public assurances and investigate things.

So we've got to continue to follow those threads around transparency and then ask what happens when we're way out ahead of the rest of the world on transparency, on data, and it's not happening at other places.

So I think places that you guys could be thinking about, you asked the question this morning, Tom, about, you know, encouraging communication around complaints. I think with NOP about to stand up this new database system

around complaint management, there's an opportunity for a conversation between the Board and the program about, within the parameters of protecting investigations and not exposing things that derail investigations, how far can we go to create transparency proactively? The farm bill does require that the program report annually to Congress on compliance activities, and so, you know, how do you build off of that, work with their new database systems, and come up with some recommendations about what you all think, with input from the community, should be an appropriate level of transparency around complaints.

I think another area that we've looked at but we haven't come to a solution and the Board could maybe spend some time on it is: is it viable to develop some sort of trade alert system? You know, we know that the farm bill provides the authority to adopt a risk-based approach and to apply additional scrutiny under certain circumstances. We know the program is

obviously using a risk-based approach in their compliance, or we wouldn't be seeing the kind of results that we're seeing. But is there a way that is acceptable within protecting business confidentiality that, when things like the revocation of the accreditation of a certifier in an office in a region of concern happens, that there could be some sort of alert to say look sharp. You know, it doesn't need to disclose perhaps information that would compromise an investigation, but I think that whole idea of a trade alert system is new and requires some consultation.

I think, you know, you've worked with the California Organic Products Advisory Council a lot. They've got a different approach to how they disclose complaints and stuff, so there's probably something to learn there as well. But I think those are both areas that the Board could really dig in on and provide a service to the industry and the public and the consumer.

The other place that I would just flag

is that, as we're getting ahead of the rest of the world in transparency, it creates a situation where, until very recently, I think that the widely-held belief was that having an equivalence arrangement with another country with a net positive in terms of oversight because there was a government-to-government relationship that NOP could leverage to share information. But we have to contemplate, if we've got all this transparency in our database and we've got all this acreage and then we have an equivalence arrangement with Canada, and stuff is coming in under the arrangement and not under a direct compliance regime, we all of a sudden have opacity around acreage there and where those volumes are coming from, and we have opacity about something coming in from the EU.

So as we've advanced our system, that needs to be looked at in my opinion, because we're pushing really hard as an industry. I mean, it's a big deal that we'll be the first in the world on mandatory public acreage reporting.

It's not -- that's a big, big deal, so I encourage you guys to think about that, as well.

CHAIR BEHAR: Okay. Did Ashley have something? No. Asa? I did have one just comment that not only in the scenario where the glyphosate came up, there was also the land had been laser-leveled, you know, kind of scraped and then compacted and then herbicide and then plastic. And so I know the herbicide, you know, that's clear, you know, prohibited substance, but there's also something to treating the soil and turning it into concrete basically, you know, having it flat.

That also is something that does not meet the rule, so, you know, so there's just this whole system of production that relies heavily on -- and this is not, like, on a half an acre. This is on 20, 30, 40 acres of complete landscape cloth. And even though it is somewhat -- it's woven, you know, so it does allow some air and some water infiltration, it's not the same as rain hitting grass or even soil. It runs off and

things like that.

So there's just the greater system, and it's easy for us to jump on the glyphosate but there's other issues as well, when we're relying on covering the ground with many, many acres with solid plastic.

MS. BATCHA: Yes, I totally appreciate that, Harriet. And that's why I think our suggestion is to sort of take a step back in those instructions and point to the different places in the standard that you need to be thinking about and how to apply them to different scenarios.

You know, I appreciate the program's need to collect information, but I don't think we need to know everything everybody is doing to know what the regulations allow and don't allow. I think we just have to know enough to identify scenarios, and those scenarios can inform instructions.

CHAIR BEHAR: Okay. Thank you. Oh, Asa is back.

MR. BRADMAN: Yes. So I had a few comments. One, I think your approach to try to develop a system to anticipate and solve problems is really important. I think it's something that we should try to move ahead with, both as a program and also independently under the NOSB.

To the issue of hydroponics and container growing, you know, I think we really do need some standards. Echoed just briefly by what Harriet just said, during the debates around the 2017 votes I asked for, you know, those kinds of standards from some of the growers involved and really didn't get anything. CCOF did come up with a proposal that doesn't get into the nitty-gritty, but I think that there's a work agenda item both within the community and the NOSB to think about and develop some standards.

And there's complexities. Harriet just mentioned issues around rain falling on soil, you know. I've seen many soil-based programs with big hoop houses, and they're planted in the ground but none of that rain is

falling on the soil. I've also seen big greenhouse operations in Maine or in the Northeast, where again it's a very controlled environment, it's in the ground, but the rain is not getting into that soil.

And I think that there's really a lot of challenges here, but I think we can move forward and that there may be practices that are going on now that wouldn't be in a final standard, but I think there's been neglect to think about standards, and rather there's been an approach to ban a category, and I think that to move forward, that we need to think about a little differently and look at what we might want to make something acceptable. And I know that would be challenging, but I think that could be, to quote a recent suggestion, kind of a middle path forward.

MS. BATCHA: Yes. And I think that that doesn't preclude the need for immediate instruction on what we know now and what we have no for the standard. And I think as I look back

at the debate, the recommendations, at least at the time that were moved forward for voting, were really much more about what was happening in the pot than what was happening on the farm. And maybe we weren't asking fully the right set of questions at the time.

MR. BRADMAN: And, finally, to move forward, maybe, you know, I look at some of the signers on this letter, you know. Maybe we could convene a group that not just includes these, these are all pretty large producers, but perhaps on a regional basis or some other basis can really develop a template for an approach to developing standards. I think that would be a very positive move.

CHAIR BEHAR: Well, thank you. And with that, I don't think I can use the gavel. That's only at the very end, but this just looks -- it's just calling to me. Anyway, thank you for the end of the day, and tomorrow morning, 8:30 a.m.

(Whereupon, the above-entitled matter went off the record at 6:14 p.m.)

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C E R T I F I C A T E

This is to certify that the foregoing transcript

In the matter of: National Organic Standards Board
Spring 2019 Meeting

Before: USDA

Date: 04-24-19

Place: Seattle, WA

was duly recorded and accurately transcribed under my direction; further, that said transcript is a true and accurate record of the proceedings.

Neal R Gross

Court Reporter

UNITED STATES DEPARTMENT OF AGRICULTURE

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NATIONAL ORGANIC STANDARDS BOARD

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SPRING 2019 MEETING

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THURSDAY,
APRIL 25, 2019

The Board met in the Courtyard Ballroom at the Renaissance Seattle Hotel, 515 Madison Street, Seattle, Washington at 8:30 a.m., Harriet Behar, Chair, presiding.

PRESENT:

HARRIET BEHAR, Chair
STEVE ELA, Vice Chair
SCOTT RICE, Secretary
SUE BAIRD
ASA BRADMAN
JESSE BUIE
TOM CHAPMAN
LISA DE LIMA
RICK GREENWOOD
DAVE MORTENSEN
EMILY OAKLEY

A-DAE ROMERO-BRIONES

DAN SEITZ

ASHLEY SWAFFAR

STAFF PRESENT:

MICHELLE ARSENAULT, NOSB Advisory Board Specialist, National Organic Program

DAVID GLASGOW, Associate Deputy Administrator, National Organic Program

DR. PAUL LEWIS, Ph.D., Director, Standards Division, National Organic Program

CLARISSA MATHEWS, Ph.D., National List Manager

DEVON PATTILLO, Materials Specialist, National Organic Program

DR. JENNIFER TUCKER, Ph.D., Deputy Administrator, National Organic Program; Designated Federal Official

CONTENTS

P-R-O-C-E-E-D-I-N-G-S

8:32 a.m.

CHAIR BEHAR: Okay. Thank you everyone. Good morning and welcome to the second day of the 55th public NOSB meeting, and we are going to start with public comment today, and then in the afternoon we will move to Subcommittee reports, our Materials Subcommittee, Compliance, Accreditation and Certification Subcommittee and Livestock Subcommittee are on the agenda.

So before we start, I just want to give you some ground rules for giving public comment. Public input is an important part of the NOSB decision-making, and be assured we do listen and depend upon your ideas and suggestions.

All persons wishing to give public comment sign up prior to the meeting, and speaking slots are served on a first-come basis. When we hit our limit, we put people on a wait list in case there are cancellations.

Comments are limited to one per person for each NOSB meeting, and if you spoke at the webinar or yesterday, you cannot speak again in person at this meeting. Proxies are not allowed.

If we call your name and you're not in the room, we'll try to come back to you if time allows. We're going to try to have everyone who's on our schedule get through today, so hopefully we won't get too far behind.

I ask that members of the public please try to take any side conversations outside, and members of the public as well as members of the Board, please mute your phones and your computers so that we can clearly hear the speakers who are providing comment.

You are allowed to take photographs, but please do not distract either the Board or the speaker during that activity. Each speaker has three minutes and is Michelle there. Michelle, do you want to go over the way the timer works?

MS. ARSENAULT: Yes. So there's a

clock now on the podium and it will start at three minutes and count down to zero, and it gives you one beep when you have one minute left.

Don't be alarmed by that, and then it will beep incessantly when your time is up, and I'll stop the timer at that point. Otherwise, it will start counting back up again to show you how much time you've gone over your three minutes.

There's also a slide advancer on the podium. For those of you who have PowerPoint presentations, you can advance your own slides and then I can show you. There's two buttons on it, so you can go back or forward. Thanks.

CHAIR BEHAR: Thank you, Michelle. Commenters have three minutes, and once that's completed, I will then ask the Board members if there are any questions for that specific speaker.

Lastly, individuals providing public comment to the Board are asked to refrain from personal attacks that might impugn the character of any individual, and if I hear that type of

speech I will interrupt the speaker and ask them to refrain from that activity.

So I will call on the person who is next to speak and also announce the person on deck. The area on deck is right next to Michelle, and feel free to grab an animal or a marine animal or whatever you see over there as a souvenir or just my gift to you for sharing biodiversity on the planet.

So first up is Mike Dill, and after Mike is Michael Crotser, and I should know how to say his name because I know him. Thank you, Mike. Please state your name and affiliation.

MR. DILL: All right, good morning. My name is Mike Dill, and I'm the Food Safety and Compliance Manager for Organically Grown Company. I'm also the coordinator for Organic Produce Wholesalers Coalition and of course would like to thank the NOSB for their time and dedication to organic integrity.

Please note that today my comments represent both OPWC and OGC. OPWC members are

required to comply with FDA's preventative control rule for human food and foreign supplier verification program, FDA's Bioterrorism Act and good manufacturing practices. We have to comply with third party audits, customer audits and we're also subject to FDA's mandatory recall authority.

I just want to state on the record how important sanitizers are to our operations, because preventing the adulteration of food is essential to our organic businesses, and in fact is essential to every food business. NOSB members have stated now that the intent of this comprehensive review is not to remove any sanitizers from the National List, but we remain unconvinced because the logical outcome of evaluating for uniqueness would seem to eliminate all but one unique material in each category.

We submitted detailed comments on sanitizers expressing our concerns that one, moving forward with a technical report before stakeholders were able to provide input was

premature and not transparent, two, the concept of uniqueness, the idea that there can only be one sanitizer per use or function is not supported by OFPA, and does not address the well-known need to rotate sanitizers to avoid resistance problems, and three, developing new evaluation criteria specifically for sanitizers may not comply with OFPA.

The OFPA criteria and current evaluation process is sufficient and is working. If you look the petition for SDC, you'll see that the evaluation process is working just fine without using criteria other than those in OFPA. In this scenario, a new sanitizer was petitioned. It's promising because of its alternative mode of action, but we are still evaluating it against the environmental and human health criteria from OFPA because new information continues to be presented by stakeholders and public comment. It appears that we're still in the discovery phase and we're not ready to make a decision yet.

When new information comes out, we

deserve the time to review, research and respond. In order for the evaluation process to effectively apply the OFPA criteria, especially for products that present information that is new to most of the members of the organic community, we must allow for an iterative process that includes the petitioner, NOSB members, technical experts, affected parties and other organic stakeholders to interact over time.

Applying the OFPA criteria is a process that requires careful consideration, open minds and creative outlooks to balance elements of a complex system which at times may conflict with each other. We do not need additional criteria, but rather the patience and perseverance to apply the OFPA criteria, which serves for evaluation of all other types of materials. Thank you.

CHAIR BEHAR: Any questions from the Board? Mike, I have one. So are you thinking that if we do a TR on understanding the mode of action of various active ingredients in

sanitizers, that we will no longer review products as they come to us as petitioned, and just do it internally and not in front of the public? Is that your concern?

Because you mentioned that you wanted the sanitizers to be reviewed in the public eye. So I just want to make sure that you understand that we will still do that.

MR. DILL: Yes. I'm not sure if that's what I said.

CHAIR BEHAR: Okay.

MR. DILL: I was asking that we have a deliberative process with everyone involved, where we still review the materials against OFPA criteria. So I'm not suggesting a change to any process. Did I answer that correctly?

CHAIR BEHAR: Okay, Ashley? Okay. Ashley.

MS. SWAFFAR: Yeah. So you have concerns over uniqueness. Can you talk about the rotational use of sanitizers in your operation, and why maybe just one sanitizer for an

application wouldn't work?

MR. DILL: Sure. So we would like to rotate more than we're able to. Unfortunately, we have some pieces of equipment where -- that we lease from manufacturers, so they don't allow us to. They say you have to use this material, because otherwise to use one over the other it might be corrosive, it might damage the equipment.

So but we do, and we do it more for environmental sanitation. I will just state that in our operation, we don't use any direct contact sanitizers. We're not applying, we don't use water in our operation. So we're not disinfecting water, we're not -- we don't have water baths.

So it's more important for our suppliers than it is for us, because they are -- they have many more uses. We're sanitizing table tops, you know. So but we do. We use our hypochlorous acid, which we generate on site, electrolyzed water, and we use that on our table

tops daily and in between our repacks. So we do repacks throughout the day.

So we might do -- we might sanitize a table 50 times throughout the day. But at the end of the week, we use our peracetic acid and we'll do a full clean up, clean down, wash down of the equipment. So we would love to have more options in terms of sanitizers, especially with different modes of action, and that's why SDC is appealing to us and it was from the very beginning.

We were in support of it until we saw the environmental, the potential environmental impacts of using it outside of municipal systems. I think that's been addressed. However now, you know, with some new information that came to light about the potential use of silver in wounds and dressings, and that's a little outside of, you know, my expertise and our expertise.

So we're hoping that we can now look at that information, take that into consideration, potentially postpone a vote and,

you know, evaluate it against the new information that came to light, and kind of get into this iterative process where we can, you know, actually take the time to research all the aspects of the material so we can come to a fair and proper decision.

CHAIR BEHAR: Tom.

MR. CHAPMAN: I have two questions for you. You've answered my SDC question I was going to toss at you. Can you, can you spend a little time talking about the difference between cleaning and sanitizing?

MR. DILL: I can. So cleaning, I mean these are actually terms that are defined, and when I went to Oregon State University for Food Science, which is what I got my degree in, our very first class was food sanitation. And the very first chapter of the book we had was explaining the difference between cleaning and sanitizing.

Cleaning is defined, I'm going to paraphrase, as the removal of dirt and residues

from the surface of the -- from the surface, and then sanitation is the actual like destruction of cells or -- I mean they define it more in terms of what the reduction of bacteria is.

So if you have a 5-log reduction, then you've actually sanitized the surface. So one, you can't sanitize a surface that hasn't been cleaned first, and that's why the standard operating procedure in any restaurant and retail operation anywhere you go is clean, rinse, sanitize.

So you clean off all the debris so that you can go through and sanitize and get that kill step.

MR. CHAPMAN: And then my second question is you talked a bit about your use of sanitizers is mostly environmentally based in your operation, and we've had comments or questions earlier about good agricultural practices and whether or not, you know, a high level of good agricultural practices would eliminate the need for sanitizers or negate the

need perhaps. Can you, can you speak a little bit to that?

MR. DILL: I could, and that's a conversation I love having and I wish we had, you know, hours to talk about this. But good agricultural practices will help reduce the contamination of produce out in the field. It covers personal hygiene as well. So it does have some preventative practices.

FSMA's the same, the same kind of process, is that they're trying to prevent as much as possible. However, there's so much out there in the environment that you can't account for everything. If you remember, we grow produce in the dirt outside with animals, with all the environmental factors out there, and we're, you know, so we're subject to a lot.

But the -- in my opinion and the research I've done is that the biggest concern is the post-harvest handling. So I think a good example is there might be a single head of lettuce that comes in with some contamination.

Maybe an animal dropped by, you know, and visited that lettuce.

If you put that in water with another 1,000 pounds of lettuce, you can contaminate that whole 1,000 pounds. So it's that post-harvest processing that can really make a small incident into a large one.

And so we can't just rely on good agricultural practices and say that, you know, if they're following their GAAP practices, best practices, that there's not going to be any contamination. The potential's still going to exist.

And there's other items out there too, you know. I'm not familiar with what certifications are out there for livestock or meat, poultry. I don't, you know, that's not my area so I can't speak to that. But GAAPs aren't going to solve the problem. They're helpful but it's not a failsafe.

CHAIR BEHAR: Rick.

MR. GREENWOOD: Yeah, quick question

for you. Have you seen any resistance from the sanitation agents that you've used? I assume you do follow-up cultures? Have you found resistance. A lot of people talk about resistance, but in fact I wonder if you've ever seen it?

MR. DILL: I have not seen it and I don't want to see it. So what we're trying to do is be as preventative as possible. I think that's a concern and one of those that we don't really want to take a chance with. Developing some kind of an anti-microbial resistance in any pathogen would, I mean that could be devastating.

MR. GREENWOOD: No, I get that. But the question is when you use the sanitizer that's that strong, the odds are you probably won't have resistance. I think the issue with microbial resistance to antibiotics, which I think is what people are referring to, is low levels of an antibiotic.

The sanitizers are high levels, and it's very hard for things to live through that.

So I just wonder if this is truly a real issue.

MR. DILL: I don't have an exact answer for you. I haven't done a ton of research. We use our sanitizers at as low a concentration as we can. We're relying on the whole process, so the cleaning, the rinsing and the sanitation.

We just try to follow best practices, and I'll admit I'm not an expert in sanitation. I mean I manage food safety and like most of the folks in this room that have facilities, we have questions, we look to our sanitation reps and we're consulting with them. That's kind of what we pay them for.

So I know how we use it and why we use it. But when it comes to all the technical expertise, those folks aren't here in the room. I mean I'm not sure. I know PURE Bioscience has some folks here, and they would probably be more able to answer specific questions like that. I just don't have the time to --

MR. GREENWOOD: Okay. Well it's just

it's been used a lot when we talk about sanitizers about resistance, and if used properly I don't know, you know. Not many things can get away from chlorine. And so I just wonder if it's a real issue or something where people are thinking about anti-microbial agents like antibiotics at low level. Anyhow, that's my question. Thank you.

CHAIR BEHAR: Okay. Thank you, Mike. Sorry, Emily.

MS. OAKLEY: Just a quick one. I just wanted to help clarify some of the questions about process for this document, which is -- so the intent is, you know, to get a technical review and we would never come out with like a proposal as a direct result of that. It would then be a discussion document and potential multiple discussion documents to engage stakeholders.

It's also -- I don't think we're looking to do a proposal for this. I think we're looking for information. I think it's a little

bit similar maybe to the process that took place with marine materials, because this topic came out of many meetings and public comments asking for this sanitizer review.

So it's not something, you know, that came from the NOSB directly. It came out of public comments. So I do think that, you know, in that materials process they came to some issues in the 2015 sunset review, did a technical review, came out with a discussion document.

I mean that then led to proposals, which I don't think is necessarily the intent of this. I just want to clarify that the intent is not to get a technical review and then come out with proposals to remove materials.

MR. DILL: Sure. No, and thank you. That's why in our comments, I mean I think we submitted 18 pages on this. So if we're going to proceed, you know, that's what our comments reflect.

What we're talking about today is kind of more of the, you know, developing a

deliberative, step by step process to make sure that we have the right people in the room, and we give folks the chance they deserve to get the information in front of us.

Sometimes when you have, you know, one meeting, you hear something. You don't get to comment or the public doesn't see anything until the next meeting. Then we have 20 days to try to do as much research as we can. So it just, it makes it tough. So that's kind of what we were focusing on today.

And then I just if I can, I just have one more kind of request, and that is to -- to see if we can align more with industry in the way that we use certain terms. Like I don't know how ancillary ingredients is used in this, in this discussion document.

I look for any reference of ancillary ingredients and sanitizers and it doesn't exist. So I would just suggest that we stick with terms that are used in the industry, such as inerts or non-active ingredients, so that we're -- it just

makes it a lot easier to understand.

So and the same with the uniqueness, you know. If the intent isn't to have a one of a kind material, then we should probably use a term other than uniqueness, because if you look at the definition for uniqueness it's one of a kind. So that's how we came to that conclusion, that the intent is to get to one material per use. So that's just my request.

MS. OAKLEY: Yeah. Thanks for those clarifications.

CHAIR BEHAR: Thank you. Mike, I think you're up next. Thank you Mike. Mike and Mike, Michael, Mike and Michael. Please state your name and your affiliation, and next up is Rebecca Willows on deck.

MR. CROTSER: I'm Michael Crotser, the certification manager at CROPP Cooperative. Thank you for the opportunity to speak today. We support the relisting of celery powder on 205.606.

Over 25 percent of the organic meat

company sales are products that contain celery powder. This includes hot dogs, meat sticks, sland yager (phonetic), meat bars, jerky, deli ham, summer sausage, pepperoni, bacon and spiral hams.

In 2018, these sales represented $9 million and over one million pounds of product. We are exploring organic celery powder production research strategies with Dr. Erin Silva at the University of Wisconsin. However, variety, selection and production strategies did not provide consistent and reliable results.

CROPP Cooperative is committed to this project through continued FAFO funding. Several plant species have been identified by Dr. Jeff Sindelar at the University of Wisconsin-Madison. Potential substitutes include charred yellow beets, spinach and other leafy vegetables.

However, these alternatives have low nitrate conversions when compared to celery powder. There are no alternatives at this time, so we ask that you re-list celery powder to

prevent disruption in organic commerce.

My second comment is to support relisting of fish oil and gelatin on 205.606. CROPP Cooperative uses gelatin encapsulated fish oil for omega-3 supplemented milk SKUs. In 2018, we sold over one million gallons of fortified milk, which equates to $7.8 million in sales and roughly nine million pounds of farm milk.

Removal of fish oil would result in discontinuation of this product line. When researchers polled consumers on what nutrients they believe their diets lacked, omega-3 was at the top of their response. Voluntary standards exist for purity and contaminants. This includes Global Organization for EPA and DHA Omega-3, GOED and the COAC standard for fish oils.

Health Canada is a federal program which also establishes legal limits. Our supplier participates in the GOED program. Our fish oil is the secondary product of fish meal production utilizing sustainable fish standards that are established by the Marine Stewardship

Council of Fisheries, Friends of the Sea and a responsible supply of fish meal and fish oil will verify that production maintains or improves aquatic ecosystems.

We also support relisting of gelatin. Gelatin has a function in the fish oil. It's sourced from tilapia skins, from commercial harvests. The function of gelatin is to encapsulate the fish oil to reduce the fish smell and ease the handling of the powder. Thank you for your time for me to comment this morning.

CHAIR BEHAR: Any comments. Lisa?

MS. DE LIMA: So can you just clarify? So when you're purchasing the fish oil that you use in the milk, it actually comes through with a certification from the MSC, showing that it meets -- did you say MSC?

MR. CROTSER: Yes.

MS. DE LIMA: Marine Stewardship Council. Were you just giving general examples of how fish oil can be sourced, or can you specifically trace back on the lots that you get

that they're certified MSC?

MR. CROTSER: Yeah. Our supplier is certified. I believe it's by the Marine Stewardship Council of Fisheries. I think that would be in their comments, and we can secure a certificate for that to verify. They also have additional environmental statements and other things that we look at when we choose a supplier.

CHAIR BEHAR: Any other comments? I have a question. I don't know if you have the answer. In your -- in the Organic Valley public comments you talk about a material called Methiomax that is being looked at. I did talk with David Bruce. That is some kind of methionine enhancer, and I thought sure I know the ingredients.

I don't know the manufacturing process or anything like that and it comes from Belgium, I believe. I believe Organic Valley trying to see if the FDA will allow it for chicken feed. But I'm just wondering if you have any information on how much, if that's being fed with

the methionine, what type of lowering of methionine would we be able to accomplish, or is it just to kind of enhance what's already there?

I don't understand how the product works, but it was in your public comment.

MR. CROTSER: Yeah. David Bruce put that together for the Coop. My understanding of that Methiomax, it's an herbal product or a plant-based product that increases availability of methionine in a feed ration. I don't know exactly or specifically how that does, so I don't want to misspeak on that. I would suggest that connecting with David Bruce on that would be best for a proper answer.

CHAIR BEHAR: Can Organic Valley get us some information before we do our vote in the fall?

MR. CROTSER: Yes, we certainly can do that for you.

CHAIR BEHAR: Thank you. Anyone else? Okay. Next up is Rebecca Willows, with Johanna Mirenda on deck. Hello Rebecca. Please state

your name and affiliation.

MS. WILLOWS: Hi. My name is Rebecca Willows, and I'm the senior compliance specialist at Organically Grown Company, with over 30 years of experience in the organic produce industry. I manage organic certificates from over 800 certified operations, ranging from simple crop farms to more complex wholesale distributors, grower groups and uncertified handlers.

I participated on OTA's Global Organic Supply Chain Integrity Project, and OGC is now an active member of OTA's Organic Fraud Prevention Solution Program. We are also an associate member of the Accredited Certifiers Association, and I participated in many of their working groups, including several best practice documents and the standardization of certificates.

I support the NOSB's move to require certification for all operations that buy, sell or handle organic products. There are many instances of handlers who take advantage of the exclusion and are buying and selling organic

products without regard to transparency, or managing documentation that provides a vital link from the grower or handling operation to the products they sell.

Without certification of the full supply chain, certified handling operations bear the burden of performing verification activities, who must then trace the documentation back to the last certified operation, which can be difficult and time-consuming.

To enhance transparency, I support a rule change to require a clear linkage between package labeling and the information on the certificate and shipping documents. This clear correlation would not only dramatically reduce the risk for fraud, it would also increase the efficiency of the supply chain by decreasing the amount of time needed to verify product as it moves through the marketplace.

The rules regarding non-retail containers of organic products used to ship or store raw or processed agricultural products

which may be labeled as containing organic ingredients should be changed to require the identification of the product as organic, and to list the name and contact information of the final handler of the product, and include the name and contact information of the certifier and the final handler.

I ask the NOSB to support rule changes related to product labeling and documentation that are detailed in OPWC's written comments. I applaud the move to require certifiers to input data into the NOPs, since in practice some certifiers are not actively updating the NOP OID until a complaint is filed.

The contents of the NOP OID are basically unreliable and are mostly not current. In addition, the taxonomy of certified products does not necessarily correctly identify the product. For example, avocado is often listed broadly as fruit.

I support and have joined the ACA's working group focused on creating a consistent

taxonomy and urge the NOSB to support a conversion, the mandated conversion of the NOP's OID to a real time database. Thank you, and I welcome your questions if you have any.

CHAIR BEHAR: Any questions from the Board? Thank you, Rebecca.

MS. WILLOWS: Thanks.

CHAIR BEHAR: Thank you for the time. Johanna Mirenda is next, with Dean Wesen on deck.

MS. MIRENDA: Okay. Good morning. I'm Johanna Mirenda, the Organic Trade Association's Farm Policy Director. So my job is to develop policy strategy through producer engagement in the interest of our mission and our members. Here we are at another NOSB meeting, another massive 200 page meeting packet, and another wimpy 22 day comment period.

That's just 16 business days to address ten proposals, seven discussion documents and 51 sunset materials. In this amount of time, it's impossible to carry out an effective comment development process. At the trade association,

we represent over 9,000 businesses, so we have this incredible ability to reach thousands of certified organic operators of all sizes and scopes across the whole value chain, and collect thoughtful and representative feedback on the issues before you.

But with only 22 days, we miss out on that valuable opportunity. It's a huge disappointment to the public stakeholders and a disservice to your hard work of the Subcommittees to develop the meeting materials. We urge the Board and members of the organic community to voice this concern to the USDA.

Something is fundamentally broken and needs to be fixed so that we can make the most of the NOSB's work and this important process of shaping the organic standards through stakeholder input. So on that note, we weren't able to fully engage on a couple of the topics such as marine materials. We support the Board's ongoing work on this topic.

Seaweeds are widely used and put on

organic farms, and there's a lot of information and implications to consider. But we ask the Board to keep working on this topic, and to keep the current discussion document open through to the fall meeting, which will give us time to establish a member task force, and deeply engage and respond to the discussion questions.

And on the issue of vaccines, due to the time constraints we weren't able to endorse any one of the specific options. But in general, we think all the options are going in the right direction, which is to carve out a very narrow -- a very narrow and discrete allowance for the use of excluded methods vaccines as in alignment with the current regulations.

And while OTA does not promote the use of GMO vaccines, we also see that its unacceptable to move forward with any recommendations that prohibit the use of vaccines from excluded methods when there's no alternatives.

So we want to thank the Board and the

previous Livestock Subcommittee members that have put a tremendous amount of work into the topic of vaccines over the past decade. We've come a long way since the 2009 recommendation, and also thanks to the Materials Subcommittee, which has done work on excluded methods terminology, which has really helped this topic move forward.

Both the vaccines issue and the marine materials issue have brought forward really comprehensive discussion documents, and that speaks to the importance for an appropriate public comment period so that we as stakeholders can give it a fair shot and deeply engage with that important information. So I'm happy to respond to any questions you may have.

CHAIR BEHAR: Thank you, Johanna. Okay. Sue, Steve and Emily. Go ahead, Sue.

MS. BAIRD: Johanna, you're the Farm Policy Director for OTA, so you must have a lot of dairy farmers in your membership. So I want to ask you a question, and if you'll bear with me I want to read the rule. 205.236, Origin of

Livestock. We've known for all the years of the rules, we've got a problem with A.

A discusses -- 205.236(a) discusses the origin of transitioning or the origin of livestock, including the dairy. So we go through that. We know we've got this ambiguous, entire distinct herd thing, which has caused some consternation over time.

We get that solved and we say oh, take a breath. Oh now B. B says the following are prohibited. (1) Livestock or edible livestock products, I would think that would be milk, that are removed from an organic operation and subsequently managed on a non-organic operation may not be sold, labeled or represented as organically produced.

I thought hmm, that's pretty specific, but maybe there's some problems here because I'm hearing -- have you heard from your livestock dairy operations that we're allowing baby calves be born, obviously brought onto the organic farm, fed in the hut, whatever, and they take it out

and then brought back in? Have you heard that from your farmers, because I've heard that here and it amazes me.

MS. MIRENDA: We unfortunately have heard that practice. We wholeheartedly disagree with that practice and do not believe it's compliant with the regulations.

To demonstrate our disagreement, we galvanized our membership last fall and voiced our concern to actually this Board, which resulted in a resolution being passed to close that loophole and get the final origin of livestock rule published.

We've also communicated directly with the USDA on this specific topic and had a number of our dairy producer members sign onto a letter to publicly demonstrate that they also disagree with that practice.

MS. BAIRD: Thank you. I actually took time last night to go into the preamble, because sometimes preamble -- well, preamble is the intent of the law.

MS. MIRENDA: Yeah, love the preamble.

MS. BAIRD: I do too. Page five says -- of 31 in the preamble says "Should an animal be brought into an organic operation pursuant to this section and subsequently moved to a non-organic operation, neither that animal nor any products derived from that animal may be sold, labeled or represented as organic."

So I appreciate you taking a stance against it, so I guess I would address NOP, how do you perceive this?

DR. TUCKER: Okay. First good morning everybody. So we agree. We agree there is inconsistent implementation of origin of livestock. There has been a very unified message coming from the community, your unified communication to the Department and to the program. About this as a priority for the community has helped us in moving along this rule.

And so we are grateful for that feedback. Origin of livestock has been an area

of contention for many, many years. And so there is a proposed rule out from 2015. We hope to move as fast as possible, working through a legal process to gain clarity on this issue.

CHAIR BEHAR: Thank you. Steve.

MR. ELA: Suggestions from you of how we can improve the -- I mean we continuously hear the short comment period, you know. We get caught between the rock and the hard spot of having Subcommittees have time to work on things and get things to NOP and the reality is it takes them a while to vet everything that we send to them.

Do you have thoughts of how we could, I mean short of just us having to get materials to the program earlier so they can get it out earlier, but that means we can work on less? Do you have any other ideas?

MS. MIRENDA: It may be worth looking at, you know, after the Subcommittees submit your information, what is the time between the program or the USDA reviewing it, so that the

Subcommittee meeting materials can get out to the public. What's happening between, like what's happening in that window between when you finish your work and we see it on our end?

From what I've heard, maybe that period is too long. Are there possibilities that the agency or the program can work with you all to make that process a little bit smoother and maximize the amount of time that you all have to do your work, and that we have to do our work to respond.

DR. TUCKER: So I agree with the comments made about we have to give the Subcommittee time to work. This is a document that has a whole lot of information in it that's posted on the USDA website. And so there is a process of both us reviewing the documents and then explaining internally what these documents are, why they are important in getting the clearance through.

I actually think that that process is by government standards quite quick, that it

takes time to explain what are all of these documents? What do they mean? What are the implications of them? What is the Board process? When we have new people in the review process, sometimes that takes a little bit longer to walk them through.

Okay, this is what the Board is, this is what the Board does, this is how they proceed with their work. We see that actually as a great education opportunity, to teach people about the Board and the importance of its work. It does sometimes add a few days here and there to the time line.

We are doing the best we can to move that clearance process through. I think we have gotten it as short as we -- as we probably can. I just want to be clear on what's possible here. But before something goes up on a government website, you know, a lot of people need to understand what it is, and that's part of the process.

MS. MIRENDA: Fully understood, and

thank you for your work on that. We want to make sure that this process of the NOSB development of materials and the stakeholder feedback is really operating to its fullest extent, because we defend this process on a daily basis. This is a critical part of the organic world that we live in, so we want to make sure its functioning to its best ability and continuously improving.

CHAIR BEHAR: Emily.

MS. OAKLEY: Thank you for your comments on marine materials and the suggestion to keep the current discussion document on the open docket through the summer and into the fall, which would hopefully then tie into an expert panel. I like the idea, of course, of soliciting feedback from your members for a task force.

I'm wondering if you have any sense of what some of those outcomes might be, what some of the questions that might be asked and the time frame for delivering that information to the NOSB on the open docket?

MS. MIRENDA: Yeah, thank you Emily.

So the establishment of a member task force is the mechanism by which the trade association develops policy positions. We don't operate as staff in a vacuum. We really fully engage with our membership. So that takes time. We have a broad reach.

In terms of the outcomes, we would want to look at the specific discussion questions that are being posed, along with some of the unanswered questions that we started to touch on in our comments last comment period and this one again around the feasibility of organic certification option, the impacts of a supply chain, the other options presented in the discussion document and implications of those, all under the understanding of this is a conversation we want to have.

We want to move towards more sustainable sourcing of inputs, but doing it in a thoughtful way. So by keeping the discussion document open, we know exactly what we're responding to. We've got the questions. We're

not, you know, like some of us sitting at our computers waiting for the meeting materials to post and then rushing to get our membership engaged. We'll know exactly what we're responding to.

CHAIR BEHAR: Dave and then Ashley, and we are 25 minutes behind right now. So just I ask both the Board and the speakers to try to have the answers and the questions be succinct. Thank you.

MR. MORTENSEN: Yeah just quickly, and it's really more maybe for the Board and the NOP folks. It seems to me that one solution to the turnaround time would be to push the meeting later, and somehow give folks, I don't know. It does seem to me that when you think about it, you're reviewing things. You're going to ask your folks that you work with to engage.

It seems to me that it's probably more like a two month, realistically a two month turnaround, not a 20 day one. Like where I work at the University, any place at work you give

them two or three weeks to review a dissertation. That's one person going through a 200 page document.

Here, there's a process of iterative feedback from your clientele. It seems to me it's a couple of months, I would think, to do due diligence.

MS. MIRENDA: Yeah. Sixty days would be ideal.

CHAIR BEHAR: Ashley.

MS. SWAFFAR: Just an easy question here. So we heard a lot or a few people talk about the concern over the sanitizer discussion document. Do you feel that NOSB has existing tools in our toolbox to conduct consistent reviews of sanitizers, without having to do this new project?

MS. MIRENDA: Yes. I think that what we were missing and seeing in the discussion document is acknowledgment of those existing tools. We were looking for how does this new concept fit into the existing framework of OFPA

criteria, petition process, technical report process. So I think that using the existing tools of obtaining technical reports for new materials, using your authority to ask for additional focus areas in addition to that technical report template is a good option.

Asking for technical reports to compare similar materials so that you can directly compare, for example, the gums TR from last year looked at seven different gums, comparing and contrasting specific modes of action and other characteristics.

Another concern we had with that discussion document was the fact that a technical report was requested before this concept was fully fleshed out. We don't understand how the evaluation criteria and the discussion document fit into the existing OFPA criteria and NOP requirements for review.

So we need to have more clarity on that. I think it will serve the Board better to get more clarity on what the goals of the

discussion document are, and then go to a technical report if needed with a very clear scope of work, and it would probably result in a better end document.

CHAIR BEHAR: Thank you, Johanna. Next up is Dean Wesen, with Marie Burcham on deck. Please state your name and affiliation. All right. You chose a baby chick.

MR. WESEN: Hello. My name is Dean Wesen. I'm a dairy farmer. I live about a hour and a half north of here. I drove down here on this beautiful day and I don't know why I'm here but I'm here anyway. Sue put it very nicely for us. She explained why I'm here.

I'm talking about the origin of livestock. Dr. Tucker knows all about it, and every time we come to these meetings we hear that the NOP is working on it. But it takes time, but how much time? They used to say it took money, but now I'm under the impression that the NOP has a lot more money.

So last night I was at a track meet.

Kids like track because the rules are clear and they're out in the open. My son throws a shot put. There's a five or six foot circle. You stay inside the shot put. You have this 12 pound ball. You do whatever you want inside that circle, throw the ball. Whoever gets it the farthest wins.

Each kid doesn't get to bring their own referee with them. They all have the same referee. Everyone follows the same rules. There isn't anyone there saying well, my kid weighs less so he should get a ten pound ball. My kid is not as good or whatever. Everyone plays by the same rules. That's why kids love track.

I appreciate the Board. I saw that you guys passed that resolution last meeting. I would just like to thank you for that and read the last paragraph.

"Therefore, be it resolved by unanimous vote, the National Organic Standard Board at USDA's Federal Advisory Board on Organic Issues and representing organic farmers,

ranchers, processors, retailers and consumers, urge the Secretary to directly issue a final rule for the origin of livestock."

Every month farmers have to try to make ends meet, and the longer this drags out, we're losing farmers every month. I just wish that something could get done. Thank you for your time.

CHAIR BEHAR: Any questions from the Board? I have one question. Do you think that the calves that you raise on your farm from birth and then at six months they go out on pasture as their rumens develop, do you think that they are healthier cows and more ready to be pasture-based than cows that might be raised in confinement on grain during that same time period, and then come back and have to then learn how to graze?

MR. WESEN: I think all cows love to graze, even the conventional cows that are locked in a barn. They look up outside and see the grass and they'd love to go out in the grass. I think it's bred into them.

But your question of do they do better later on in life? I would say yes, as long as they don't get worms or any other problems that could develop when they are out there at that young age. But beef cattle do it all the time.

But beef, you know, beef is bred different than dairy and dairy is -- part of the dairy problem is that the animals have been bred for generations to stand behind the feed gate and stand there and eat and make a lot of milk. So it's a little bit of transitioning there.

CHAIR BEHAR: Thank you.

MR. WESEN: Thank you for your time.

CHAIR BEHAR: Okay. Marie Burcham is next. Please state your name and affiliation, with Marisol Oviedo on deck.

MS. BURCHAM: Good morning. I'm Marie Burcham.

(Off-microphone comments.)

MS. BURCHAM: All right. Sorry about that. Can you hear me now? I'm Marie Burcham, the Director of Domestic Policy for the

Cornucopia Institute. I am also an attorney with a background on animal and environmental law. We stand by the fact that the organic label isn't just about the substitution of inputs. The rules and the regulations make that clear.

But the industry has moved away from holistic practice. We urge the NOSB to continue the hard work required to uphold organic integrity. Organic is about fostering soil health, having the livestock outdoors, on land managed to improve, not degrade its quality.

It's about supporting native ecosystems and improving local communities, all while providing the food that is both nutritious and safe for families. When the organic livestock and poultry practices rule was discarded, it was clear to many stakeholders that the NOP was rubber-stamping industrial poultry practices. Confinement-based poultry businesses are breaking the current organic rules because on a basic level every bird does not have access to the outdoors.

The loss of the OLPP signified an absolute breakdown of public process. The majority of commenters and the public input was in favor of some kind of regulation. You've also heard from family scale dairies. Cornucopia hears from farmers and our members all the time echoing these concerns.

They are losing their farms and their homes due to a perceived loophole in the rules. When farms are like these are lost, many consumers will lose their trust in the organic label. If consumers lose all trust in the organic label, the organic label is lost.

Big and small farms will be at risk. The difference is the industrial-scale producers can go back to conventional marketplace. That will not be an option for most family scale farms. There is a theme among these problems, a lack of consistency in how the rules are applied. For many in the industry, there now appear to be two organic labels.

We urge the NOSB to aggressively push

for these issues with the NOP. We need clarification about the three year land transition period. It is disturbing that what is apparently clear language in the soil fertility and nutrient standard is being muddied.

We need accredited certifiers to enforce current and future rules consistently. If we need new rules to provide that consistency, then we need them now. We urge the NOSB to act to the extent they have authority. Your work and recommendations represent the voice of the organic stakeholders for the USDA.

If your efforts are fine tuned to support real organic farmers, you can help save the organic label. Thank you for your time and hard work on all these issues.

CHAIR BEHAR: Any questions or comments from the Board? Thank you, Marie. Marisol Oviedo is next, with Kelly Pepper on deck.

MS. OVIEDO: Good morning and thank you for the opportunity to comment today. My

name is Marisol Oviedo, and I am with the Northwest Horticultural Council located in Yakima, Washington. The Northwest Horticultural Council or NHC represents growers, packers and shippers of apples, pears and cherries in Oregon, Idaho and Washington, on federal and international policy and regulatory issues.

While the NHC submitted written comments on a number of invaluable tools for organic tree fruit growers, today I will focus my oral comments on the need to allow the continued use of hydrogen peroxide, horticultural oils and pheromones in the National Organic Program.

In many ways, the Pacific Northwest is the epicenter for organic palm fruit and cherry production in the U.S. Washington state is the national leader in the production of organic apples, pears and cherries. Over 18 million boxes of organic apples are now harvested from more than 28,000 acres, amounting to over 90 percent of the entire organic apple crop in the U.S. There is also a significant amount of

organic pears and cherries.

Hydrogen peroxide is used in the crop-setting as an effective anti-microbial pesticide in orchards to sanitize picking bags, pruning shears as well as for plant disease control for pathogens like fire blight and powdery mildew. It is also used in the packing house setting to disinfect belts and brushes for food safety purposes. Hydrogen peroxide is used by almost all organic tree fruit growers.

Horticulture oils are used as part of growers' integrated pest management strategies, to control mites, pear psylla, leaf hoppers, codling moth and apple aphids. These pests cause significant damage to tree fruit. 100 percent of all organic growers use this product.

Pheromones are also of great importance to organic tree fruit production, used for meeting disruption of pests which include codling moth and leafrollers. They're essential to the control of these pests. Pheromones are used by 100 percent of organic tree fruit

growers, and loss of this material would be catastrophic.

The NHC also understands that the NOSB will be considering a discussion document on sanitizers. We emphasize the critical need for organic growers, packers and processors to have access to multiple effective sanitizers, both now and in the future. The number of food-borne pathogen outbreaks related to fresh produce has increased in recent years, and cross-contamination of produce from food contact surfaces has often been identified as a primary contributor.

Access to effective sanitizers is vital to preventing food-borne pathogens from becoming established in packing houses. The ability to rotate sanitizers as well as to use different sanitizers on orchard tools versus packing house food contact surfaces is necessary to prevent developing resistance.

In addition, with the implementation of FSMA that are now in effect, growers, packers

and processors are required by law to adequately sanitize food contact surfaces. On behalf of the growers and packers we represent, the NHC strongly supports the continued use of these vital tools for insect control. Thank you.

CHAIR BEHAR: Steve.

MR. ELA: With regard to pheromones, I know the interpretation has been generally that like can applied misters, but sprayable formulations are not allowed. But we don't have that annotated per se. Do you know of any growers using sprayable formulations that would actually contact the fruit and its pheromones?

MS. OVIEDO: I don't know of any. I know that we use a lot of the twisty ties so --

MR. ELA: Yes, which would be non-contact.

MS. OVIEDO: Right.

MR. ELA: Do you think there's any issue with us needing to annotate that or is it -- does the system work fine?

MS. OVIEDO: That is something that we

would probably have to vet through our stakeholders so --

CHAIR BEHAR: Any other questions? Thank you, Marisol.

MS. OVIEDO: All right, thank you. Thank you for the chicken.

CHAIR BEHAR: Next up is Kelly Pepper with Alexander Strauch, DVM on deck.

MR. PEPPER: I am Kelly Pepper with Texas Organic Cotton Marketing Coop of Lubbock, Texas. Our members have historically produced a large majority of the organic cotton grown in the U.S. I'm here today on behalf of these farmers to urge you to renew the inclusion of hydrogen chloride for delinting cotton planting seed on the National List.

In respect for your time I will not repeat many of the details in the written comments. In light of the major issues that are being discussed at this meeting, which are drastically affecting so many organic farmers, I feel apologetic taking time on an issue that

involves so few. However, an inability to plant seed delinted with hydrogen chloride would have similar devastating results for our farmers.

I will summarize our comment on hydrogen peroxide and then briefly address some seed issues. At the last sunset of this product, we were hopeful that a mechanical delinting process that was under development might be in commercial use by now.

Unfortunately, this has not happened and we have detailed the current status of that research in our written comments. So what remains essential for the cotton industry in the U.S. I am so sorry. Can we proceed from where I was?

CHAIR BEHAR: Okay. Please speak into the mic. Like lift it up if you talk -- yeah, much better. Thank you.

MR. PEPPER: I'm sorry. At the last sunset of this product, we were hopeful that a mechanical delinting process that was under development might be in commercial use by now.

Unfortunately, this has not happened and we've detailed the current status of that research in our written comments.

So it remains essential for the organic cotton industry in the U.S. that hydrogen chloride continue to be allowed for delinting cotton planting seed until an approved, alternative process is perfected and in use by seed companies.

In my opinion, one of the reasons that an alternative to acid delinting of cotton planting seed for organic production has not become available is the fact that the acreage of organic cotton is so limited. There's just not enough volume to make it worthwhile for seed companies to pursue.

In a similar vein, I'm concerned that this volume issue has potential parallels in the strengthening the organic seed guidance proposal and in the genetic integrity transparency of seed discussion document. While we agree that both are addressing important issues, our farmers and

perhaps growers of some other small acreage crops are dealing with very fragile seed supplies. We would ask that this be kept in mind as these proposals move forward.

Regarding GMO testing of planting seed, let me say that GMO contamination is a huge issue for us, and I appreciate the Board tackling with very difficult issue. In the cotton world, seed breeders struggle to keep GMO contamination under two percent in their breeding programs.

So it's only natural that commercial non-GMO varieties often have even higher levels. I would note that in my understanding from conversations within biologic personnel, that the fairly economical and detailed testing methods that are available for corn are not available for cotton at this time.

In closing, I want to thank you for the sacrifices in your personal and business lives that serving on this Board entails.

CHAIR BEHAR: Any comments from the Board? I want to thank you. I visited, I

believe, your family's farm outside of Lubbock, at IOIA organic cotton training.

MR. PEPPER: Well, I'm sure your connection with my sister-in-law --

CHAIR BEHAR: Yes, LaRhea, yes. So thank you and growing cotton is a very unique crop.

MR. PEPPER: Thank you.

CHAIR BEHAR: Okay. Next up is Dean Wesen -- I'm sorry. Alexander Strauch and then Bjarne Pedersen is on deck. I'm sure I messed that one up.

DR. STRAUCH: I have a PowerPoint. Wonderful, thank you.

(Pause.)

DR. STRAUCH: All right. I will be assisted by your technical team. Thanks for letting me stall. Good morning everybody. My name is Dr. Alex Strauch. I am a poultry veterinarian from Michigan and I'm trying to impart some Midwestern friendliness to Seattle, but it's really hard to break through. I'm

outside.

I'm here to speak to you today regarding methionine supplementation in organically raised laying hens. Please proceed. I don't want to take up too much of your time with my bio, so I'll be brief. I'm a licensed veterinary doctor. I work in Michigan and Indiana, and I am a city kid originally from Metro Detroit.

I did not grow up next to birds, hogs, pigs or horses, but I consciously spent 11 years researching, studying and working in the agricultural sector due to my conscious effort to enter agriculture and have a voice in the food system and animal welfare.

My bachelor's degree is in Zoology and my Veterinary Medicine degree is in -- was concentrated in agriculture. I hope this gives me a balance view of the big picture that we try to work within.

To use some choice words here, I am not brainwashed or desensitized to livestock

practices that have been used over generations, and we have an opportunity here to ensure animal health, animal welfare, food safety and environmental stewardship through this meeting. Again, thank you.

The Methionine Task Force yesterday did a great job laying down this framework, so I won't take too much time again. But the due diligence is methionine is not only an amino acid, a building block for a protein, it is an essential amino acid and in addition it is the limiting essential amino acid for poultry. This is species-specific for poultry.

What that means in short is this is a rate-limiting factor for normal biological functions, as in we cannot pass go and collect 200 if we do not have enough methionine for these birds to function.

Proceed. This ties into -- oh, I've got to hurry up -- the negative impacts of intentional or unintentional methionine deficiency as listed yesterday are retardation of

growth, a hindered immune system, agitation, which leads to pecking, feather-eating, feather loss, cannibalism, which is very much tied into stress and pain.

We can proceed to the next slide. Decreased ag production and retardation of growth then in turn become an environmentally hostile practice. I aim to look at this problem or opportunity as holistically as possible. With a less efficient bird, we then consume more resources to produce less eggs. This irresponsible utilization of resources will result in a higher environmental footprint.

Proceed. I welcome, the U.S. should welcome and the Board should welcome advances in these alternative methionine supplies to support our organic market. I'm excited to hear our talk about them yesterday, today and in the future. We should also look at genetic selection for laying hen breeds that will require less methionine through traditional breeding practices.

As it states today, currently we do not have a commercially available alternative. Thus, please allow me to keep supplying my hens with the necessary essential limiting amino acid that they need. Thank you guys.

CHAIR BEHAR: Thank you. Any comments, questions from the Board? Ashley, I'm looking over at you.

DR. STRAUCH: Hi.

MS. SWAFFAR: Hi. Yeah, so one of the alternatives that we've heard a little bit about is fish products. Can you talk a little bit about using those in your diets and maybe some issues or what you see with using fish products?

DR. STRAUCH: Understood. The question was fish meal as an alternative for methionine supplementation instead of synthetic DL methionine. Fish meal, other than not currently being allowed through no animal byproduct regulations, has some cons that I can think of right off the top of my head.

One, it's very short shelf life. Two,

that gives me a salmonella risk, which would have to be dealt with through internal measures. It is dealt with through internal measures at other operations but that is additional risk and three, it has a very unintended consequence of making your egg product fishy, which is a problem for those who do not like fish. Sir.

CHAIR BEHAR: I believe Scott's next, then Dave and Sue.

MR. RICE: Hi. Your last bullet there talks about selecting for breeds that require less methionine, but I believe in the presentation yesterday, Dr. Burley had said that there were no breeds. Are you talking about future development and looking for how that can happen?

DR. STRAUCH: Yes sir, we're on the same page. That would be looking towards the future, which I would welcome with open arms. The current, how do I say, turnover time for genetic selection at the major genetics companies, and then effects seen at market level,

which would be me, is about four years is the rule of thumb when we have major characteristic changes done on a genotypical level before we see them phenotypically. So patience is a virtue.

CHAIR BEHAR: Dave. Oops, I'm sorry. Dave.

MR. MORTENSEN: Alexander, you said that you take a holistic approach to the problem. I was curious about how the size of flocks that are being managed constrains the holistic solution set of management, or does it?

DR. STRAUCH: Understood. This sounds similar to the discussion that was done yesterday. Yeah, okay. With the -- the question was regarding size of operations and whether that impacts the holistic management of organic flocks, as it specifically relates to methionine supplementation. Okay, thank you.

So pros and cons is the short answer. The cons of having smaller flocks that are pasture-raised to have this .42 percent access to insects and worms and possibly a frog here and

there, are that you then have higher parasite load. I really value the ability of choice, and as I see time and time again, I actually have managed a couple of million birds at this point, and provided them veterinary care.

When given the choice, the bird chooses to possibly poke its head outside and then return inside. The ancestor of the commercial chicken today was the red jungle fowl out of Africa. This is a jungle-dwelling organism that thrives with canopy cover and not direct sunlight.

The birds are curious, and mental stimulation is important. But I see time and time again birds look outside, turn around and then go back in. Maybe it's a sense of security, but the access to pasture and the smaller operations is not the one-size-fits-all or silver bullet.

CHAIR BEHAR: Sue.

MR. MORTENSEN: Thanks.

MS. BAIRD: We know that chickens are

dinosaurs. Therefore are --

DR. STRAUCH: They're velociraptors, yes.

MS. BAIRD: Yes absolutely, yes. So explain to those who don't know what is the source of natural methionine that would make it to be limiting, and why do we need a synthetic methionine?

DR. STRAUCH: Great age-old question. Yes, the chicken is a modern hand-held velociraptor, you're absolutely correct. These chickens that we have are what I consider Olympic athletes, and as such, we do not give Olympic athletes the same supplementation or food or diet that we give to my Uncle Rick who's in a recreational bowling league.

He requires a very different diet to prosper and thrive than does the, you know, Jamaican 100 meter dashers. We have gotten so precise and so scientific with the best way to most efficiently nutritionally support these animals that we are giving them the Olympic

treatment when it comes to their diet, and not the backyard barbeque that fuels every bowling league that I know. Yes ma'am.

(Laughter.)

CHAIR BEHAR: Go ahead, Sue.

MS. BAIRD: I suppose the point I was hoping you would make is that methionine comes from meat and bone meal, and they are required because they are dinosaurs to eat meat. They're omnivores. I just wanted to make that point. And so if we can't give them meat and bone, then we have to find methionine from some other source. Is that correct?

DR. STRAUCH: Yes. So if given the opportunity, a chicken is omnivorous, so they are opportunistic omnivores, if I can say that. The pros and cons of then giving them the options for bug or insect supplementation or meat and bone meal supplementation is in the basis of food safety.

I can have a more confident view of my feed inputs if I leave out wild bugs. Wild bugs

or how do I say, yeah or black soldier fly larvae, which is talked about here and there. That is regards to salmonella, E. coli, campylobacter and listera monocytogenes. Those are my risk factors that again, pros and cons seems to be the common theme to my responses.

CHAIR BEHAR: Okay. I have one quick question.

DR. STRAUCH: Yes.

CHAIR BEHAR: I think one of the reasons that methionine each time brings up a lot of comment is that it is a synthetic, and we would prefer that humans and animals would be getting most of their nutrition from the agricultural products that they are consuming.

So I'm just wondering if you know anything about Methiomax and that herbal supplement that would at least lessen, as I understand it, the need for the synthetic. It wouldn't get rid of it, but it would enhance the absorption I believe.

Now again, I don't know as much as

what I'm trying to hear, but on the Internet it did show that it's even consumed by humans in like muscle-building drinks and that sort of thing. I'm familiar with all three of the herbs. They're all typically consumed by humans or used. So do you know anything about that product?

DR. STRAUCH: Great. Thank you for mentioning it yesterday as it piqued my interest, and between yesterday and today I've been able to do a limited amount of Googling regarding this product, and that constitutes the basis of my knowledge of Methiomax. Regarding Methiomax --

CHAIR BEHAR: Mine too.

DR. STRAUCH: Yes. Other than the online forums of people who I can't pronounce their names, some are over in the Far East, I cannot find the same structured peer reviewed journal articles that I would hold similar supplements to currently available, due to my limited Googling yesterday. I am a very open-minded person.

I will pursue Methiomax for research

purposes internally when I go ahead and manage flocks in the future. But then I need to also think about commercial availability and that is my next follow-up question and homework to do over this next year, is Methiomax commercially available and is it a legitimate product.

CHAIR BEHAR: Well, I believe Organic Value is working with FDA to try to get it approved, and any information that you find out about it, we would really love to hear about it.

DR. STRAUCH: Yep, independent review. I will definitely share with anyone that would like to hear it.

CHAIR BEHAR: Okay. Thank you very much.

DR. STRAUCH: Asa?

CHAIR BEHAR: Asa's got a question.

DR. STRAUCH: Oh sorry.

MR. BRADMAN: I just want to understand the differences between European organic standards and U.S., and how they're dealing with DL methionine, and whether that

there's any information that are applicable here.

DR. STRAUCH: Okay. Thank you for the question. For the rest of the room, he would like to know how Europe is dealing with DL-methionine supplementation compared to how we are dealing with it.

I am licensed in the United States. There were some background documents before this meeting that came out regarding how Europe deals with that. So I will defer the answering to somebody who knows the answer that's possibly on the Board.

CHAIR BEHAR: Okay, thank you. All right. We're going to move on to the next person.

DR. STRAUCH: I'm sorry. I don't know how Europe deals with it.

CHAIR BEHAR: Yeah. Okay, thank you Alex. Next up is -- all right I'm going to say Bjarne Pedersen, or do you say the B?

MR. PEDERSEN: Yeah. It's Bjarne Pedersen.

CHAIR BEHAR: All right. Well, I really got that one wrong.

MR. PEDERSEN: It's a Danish name.

CHAIR BEHAR: Thank you, and then up on deck is Jay Kurtz.

MR. PEDERSEN: Right, thank you. I'm Bjarne Pedersen, and I'm going to comment on paper pots. I'm a consultant working for the Danish company Ellepot, selling a paper pot system. Ellepot is testing the materials and the paper and I'm pleased to share some of the results. I also shared some of them in the written comment.

We're testing fibers and paper degradation. The first samples here are testing plastic fiber and wood fibers to compare them as a sample of polyester, which is used in many hygiene products and also in some papers. I compare it to cellulose, and as you can see even after eight days I have some discoloration on the cellulose.

After 35 days, the cellulose is almost

completely gone, and as expected nothing has happened to the polyester and looking in a microscope, I couldn't even find any fungus hyphae or anything else growing on it. I also looked up some research on soil burial testing comparing cellulose and some bioplastics, in this case PLA, and after 200 days the PLA, which is the blue square on the bottom is the same and the cellulose on the top is almost gone.

And then I'll show you a few results from some papers that I've been testing. The first one is a coffee filter that I took from the company canteen. After 35 days, it's actually completely gone. I could find a few things in the microscope after 30 days.

Secondly, Ellepot developed a paper which is approved for organic in the United Kingdom and in Denmark, and after 35 days most of it is gone. Finally, I also took newspaper, the local newspaper in the canteen and I must say much to my surprise almost nothing happened during the period of 35 days.

I'm going to look into that a little more. What I've learned so far from one of the paper mills that I'm working with is that the newspapers are challenged financially and one way of lowering the cost is lowering the number of cellulose fibers, because it's an expensive product, and they can add in more glue and some coating to make it printable.

This probably causes this well, bad degradation. I hope papers over here are doing better. Anyway, we're testing a lot on materials on degradation because Ellepot wants to make sure that the product does go away when left in the soil. So that concludes my comments and I'm open for any questions.

CHAIR BEHAR: Steve, Emily.

MR. ELA: Would you -- so as we're talking about synthetic materials and paper production aids, let's say, my understanding is you're moving to rayon, which is a cellulose-based product versus -- I mean Rand's probably classified it as a synthetic because of the

chemical process.

But that's going to be behave differently in the soil from what you've seen than say a polyester, some other plastic fiber, other synthetic fiber?

MR. PEDERSEN: Yeah. I compared the three main types of cellulose fibers, the standard cellulose from some wood and then the two modified ones, rayon as you mentioned and also the lyocell fibers. These three seem to degrade almost simultaneously. The variation is too insignificant.

So within one or two months, it will have degraded completely, depending on conditions. The soil burial test probably has a very lower level of oxygen present that will prolong this time of degradation. But compared to plastic fibers like polyester, I mean the plastic will stay there for I don't know how long.

And also we've been looking a lot into bioplastic fibers, because some of them

certifiable as composable. But we've learned over the years that for instance PLA, that's why I took it up here, it doesn't work in soil. We've had products buried for seven to ten years and nothing really happened.

I know that Ellepot really have a hard time recommending it for growth, using it for plant out because it's going to stay there, and Ellepot doesn't really want to leave that impact.

MR. ELA: So if -- I mean we're struggling with synthetic fiber content in a paper pot. Would there -- would you be able to give us any guidance on what percent of synthetic fibers? I mean I'm hearing if it's rayon, we really need no other synthetic plastic fibers in a product to make it useable.

Do you think we should -- as the Subcommittee struggles with how much to allow in a paper product what -- do you have a percentage of fibers that would maybe across the industry might keep a pot, make a pot useful but also let it break down, or can you give any insight on

that?

MR. PEDERSEN: Well, I think I kind of wish to look at it a little differently, because at Ellepot, they try to work with sort of the paper materials and the plastic materials as two groups of materials, and the paper materials could be any kind of plant fiber. Even the modified rayon and lyocell fibers because they are degrading in the same manner as the cellulose fiber.

On the plastic side, that doesn't really matter that it's oil-based or bio-based. It's a different matter, and they really don't want to put that into the paper that is going to be used, especially in the organic sector but also many other sectors because it's going to stay there for maybe a thousand years, I don't know.

I know that the lyocell and the rayon would be considered synthetic. But still their way of acting when they're put in soil is similar to the cellulose fiber, and that is the view of

Ellepot, that they consider that to be the same. The percentages of this is somehow also used to design the product's life span for the user.

Right now, without anything else in it, 35 days this organic grade that I showed you, is too short. For many growers, the paper need to sustain a certain strength for handling at plant out situation, and most cultures are not ready within 15 to 20 days.

So we are really looking for solutions to prolong the life for at least two to three months. Then most of the young plant cultures would be stepped up or planted out into the field.

CHAIR BEHAR: Emily.

MS. OAKLEY: Thank you. This was really helpful and informative, and I was wondering if the newspaper that you showed from your coffee break room trial was a glossy newspaper or a non-glossy newspapers, and depending upon your answer I'll have to follow up.

MR. PEDERSEN: It was a non-glossy, and that is also why it quite surprised me that I didn't really see -- I saw some -- on one of the samples I had two vials going. One of the samples I saw some fungus trying to a foot in, but after a week or so it sort of stopped.

I'm actually over here collecting a few newspapers to bring home, just to see, testing more newspapers just to learn are there differences in the market and why are the differences together with the paper supplies.

They are making the analysis of the products to understand what is in them, and we can learn how do they degrade. I guess for this local one I wouldn't recommend anyone wrapping their fish and chips in it, certainly not.

MS. OAKLEY: So yeah, just to follow up. I find that very interesting, and I think as we struggle in the CS, we're certainly not wanting to create an annotation for paper as a planting aid. That would be more strict than the current annotation that we have right now.

But our supplemental TR for newspapers, while thorough in many areas, can't be totally comprehensive, and I think this photo that you show demonstrates some of the complexity of this issue and knowing what's already allowed in terms of synthetic fibers and adhesives, and how that may compare with a product or a material that could be used as a planting aid.

CHAIR BEHAR: I have just a quick question. Have you tried either hemp or flax linen as natural fibers? Those do tend to break down more slowly in the development of your pots along with the cellulose?

MR. PEDERSEN: We have. We had this first test that I showed you part of here was quite huge in range. I'm sorry I'm not able to disclose all of the things. I have some non-disclosure agreements with some of the suppliers. But yes, we have tested several fibers and we're bringing in more products to test, because designing new papers for the future is viable for Ellepot as the new single use directive in Europe

rules out plastics.

Being bio-based or oil-based doesn't really matter, and paper pots being single use products maybe are first in line for the directive to date. But it is coming, and they need to find solutions to rid out all the plastic contents.

CHAIR BEHAR: Thank you. Thank you very much.

MR. PEDERSEN: You're welcome.

CHAIR BEHAR: Okay. Next up is Jay Kurtz with Harry Rice on deck. Jay, your name and affiliation please?

MR. KURTZ: Good morning. My name is Jay Kurtz, and I'm speaking today on behalf of Devro. Devro is a maker of collagen gels for the food industry, primarily used as the skin in the making of sausages. I do appreciate the opportunity to speak in today's session, to follow our petition through the entire process.

I'd like to thank the Board and the Handling Subcommittee for consideration of

Devro's petition, to include collagen gel on 205.606. We appreciate the level of research and discussion put forth by this group, resulting in a fair and accurate overview of collagen gel.

Today in the United States, approximately 50 percent of the fully cooked sausage category has transitioned from traditional intestine casing and cellulose casing in favor of collagen gel. The food safety of the sausages made using collagen gel as the casing is unparalleled, and the quality of the products is of the highest standard.

As the market continues to evolve, the ability to meet consumer demands for skin on organic sausages is limited to intestine casings, which is a significant barrier to organic growth. If the Board accepts the Subcommittee's recommendation to add collagen gel to 205.606, it is our hope that the ability for organic products will be more available for consumers, shifting toward the now widely-accepted co-extruded sausages.

I'm aware that there were questions raised by Board member Asa Bradman to Jim Paskind of Salm Partners in the recent webinar on April the 18th, in relation to adequate supply of raw material to make an organic gel. Currently due to the absence of an identify preservation system in place and the low population of organic options that meet required specification, there is not a position to take presently to make organic collagen co-extrusion gels.

As the availability of potentially organic skins grow, the ability to make a gel from organic-sourced skins should grow as well. At this time, growth assumptions enabling a market large enough to make a certified organic gel are unknown and premature, but growth in this category could certainly be a leading indicator.

However, I do want to point out it is important to reiterate that it's not merely the critical mass that we need to exist; it's the right mass that can meet the right specification to make a functional gel. Thank you for your

time this morning and for consideration of this amended petition.

CHAIR BEHAR: Any questions from the Board?

MR. BRADMAN: Yes.

CHAIR BEHAR: Okay, Asa.

MR. BRADMAN: I just want to follow up on your comments and just kind of put this in the context of larger discussions in the organic community and on the Board related to 606, you know. And of course there's the requirement in 606 to source organic materials if they're available, and the long term goal and hopefully not so long for many materials on that is that ultimately there can be an organic source.

I think it would be, you know, I understand the limitations you describe in terms of availability. But it would also be I think important to consider the future in how to actively develop that source.

So there may be a business opportunity there as well. If you heard the discussions

around celery powder yesterday, similar issues there, and a commitment to find organic materials down the road would be valuable.

MR. KURTZ: And I think our -- the answer to that would be a yes, you know. We're rookies to this process. We started about two, two and a half years ago. But that in our opinion would be the next step in the process, is having that identity preservation and having that critical mass.

So I guess you could say it's the classic chicken or the egg scenario. Is there going to be the market demand? Is there going to be that critical mass? We don't know yet, but that would be for us to identify as we go down the weeks, the months, the years and say okay, can we get the value chain to preserve these skins in the right fashion, to have them organic all the way through?

CHAIR BEHAR: Steve.

MR. BRADMAN: Thank you. Just one general comment or response. The egg came first.

MR. KURTZ: I'll make note of that.

(Laughter.)

CHAIR BEHAR: Steve has a question.

MR. ELA: I guess the question follow-up on Asa's, I mean one of our wonderments I mean obviously yes, it is an egg and then a chicken. But how -- if we approve this material, will that actually inhibit, I mean because there won't be as much incentive out of -- I guess I can say for lack of a better word desperation for a product. There won't be as much incentive to develop that organic product line.

So how can we ensure that what you just said, you know, if we approve it it provides the bridge, so to speak, to an organic product or an intervening time period. But we don't want to delay the development of that organic product either.

MR. KURTZ: I think that's a fair question, and I think the answer to that is what we have learned in working with our customers, they do believe in transparency to the consumers

and their customers. So is this an in-perpetuity listing? We certainly would not hope so. We believe that our customers would take this and use it as hopefully a stop gap to a better end game of an organic gel that would be certified organic, and to be not on 205.606 in perpetuity or to before the sunset reviews per se.

CHAIR BEHAR: Thank you.

MR. KURTZ: Thank you.

CHAIR BEHAR: Next up is Harry Rice with Gwendolyn Wyard on deck.

MR. RICE: Hello. My name is Harry Rice and I am with a Global Organization for EPA and DHA Omega-3s, which represents the worldwide industry for EPA and DHA, the primary long chain omega-3s found in fish oil. Our membership is built on a quality standard unparalleled in the market, and our mission is to increase consumption of EPA and DHA, and to ensure that our members produce quality products that consumers can trust.

GOED understands you will be

discussing fish oil as part of the 2021 sunset review, so I'm here to address the relisting of fish oil on the National List. As mentioned in our written comments, GOED continues to support the inclusion of fish oil on the list of non-organically produced agriculture products allowed as ingredients in or on processed products labeled as organic.

Consumers who prefers organic products should have access to products made with non-organically produced fish oil, since organic fish oil does not currently exist and won't exist until such time that the National Organic Program adopts program standards for aquaculture.

With respect to sustainability, which historically seems to be one of the most contentious issues regarding the inclusion of fish oil on the National List, GOED believes that protecting our oceans and natural resources is paramount. It is not only good environmental stewardship, but also ensures sustainable growth for the omega-3 industry as a whole.

Fortunately, most of the fisheries from which fish oils are sourced have either been certified or are currently pursuing certification for sustainability. While GOED supports sustainable fishing practices, it's important to note there's no fish species in the world that is caught primarily for fish oil production.

Fish oil is always a value-added byproduct of fish meal or seafood production, because the protein's value is much greater than that of the oil. With respect to the 2015 fish oil technical report being relied upon by the Handling Subcommittee, GOED provided extensive written comments on what we view as incorrect or misleading information.

Due to time constraints, I refer you to GOED's written comments for those specifics. But I can't reiterate enough GOED's concern about the quality of the technical report. With respect to the annotation for fish oil, the Handling Subcommittee has asked how the fish oil annotation can be modified to control for the

noted conservation concerns.

In its written comments, GOED suggested the following addition to the present annotation. "From fish originating from fisheries that are not classified as over-exploited according to FAO guidelines," it has been brought to GOED's attention that its suggestion left a potential loophole, which I assure you was not purposeful and I would like to correct the recommendation.

In addition to fish not originating from over-exploited fisheries, fish should not originate from depleted or recovering fisheries. Since GOED submitted its written comments and other suggestions, I have discussed with a GOED member who sells fish oil for use in products labeled organic, is the addition of the following to the annotation:

"Fish oil must be sourced as an industry byproduct and not as the result of direct fishing. Where regulatory definitions of byproduct and direct fishing are not known to

GOED, we would consider a fishing byproduct to be an incidental or secondary product made from processing fish and fish products.

"In addition, we would consider direct fishing to be the activities leading to and resulting in the capture and harvesting of wild fish." In conclusion, GOED encourages the NOSB to retain fish oil on the National List.

Please do not ever hesitate to contact GOED with any questions related to fish oil or any other EPA/DHA product. We're always happy to share our knowledge and experience. Thank you for your time.

CHAIR BEHAR: Thank you. Any questions from the Board? Tom.

MR. CHAPMAN: So oftentimes we struggle to get answers to get answers to our questions, so thank you for answering the questions that we posed. I really appreciate that. If you could also send those recommendations in writing potentially to Michelle, that would also be helpful, about the

wording.

MR. RICE: Yeah, absolutely.

MR. CHAPMAN: Do you have a sense -- now to my question. Do you have a sense of or are you able to speak to what percent of the fish oil industry are GOED members or that comply with GOED voluntary monograph?

MR. RICE: Yeah. We've estimated this to be between 85 percent and 90 percent. We have 170 members throughout the supply chain, and so that's our estimate at this time.

MR. CHAPMAN: Thank you.

CHAIR BEHAR: Asa. That's it?

MR. BRADMAN: Tom covered it.

CHAIR BEHAR: Tom covered it. Okay, thank you. Thank you, very much Harry.

CHAIR BEHAR: Okay. Next up is Gwendolyn Wyard with Megan DeBates on deck. I hope you took an animal.

MS. WYARD: All right, good morning. My name is Gwendolyn Wyard. I'm the Vice President of Regulatory and Technical Affairs for

the Organic Trade Association, and I'm sporting squid. Today I'll be highlighting some top line messages from our comments on three agenda topics.

The first one is pullulan. The Organic Trade Association is the petitioner of pullulan, and it should be noted that we rarely petition materials, and in the rare instances that we have, it's been to further restrict or remove materials from the National List.

In this case, although our petition is to add a material to the National List it really should be viewed as a move to further restrict its use because pullulan has been allowed and made with products in that 30 percent non-organic portion for many years.

A full board recommendation to add pullulan to the National List is our preference because it will codify and restrict its allowance to the made with category only for encapsulated supplement products, and it will bring it under your review every five years via the sunset

process.

Meanwhile any other product, any USDA organic product will require the use of certified organic pullulan, which is unavailable at this time but development is well underway, and we're strongly advocating for organic pullulan.

Number two, genetic integrity transparency of seed grown on organic land. Respectfully, this proposal needs more work, perhaps starting with the title of the document. We agree with the comments of Kiki Hubbard, and our Organic Seed Task Force has been working collaboratively with the Organic Seed Alliance on this topic as well as on the organic seed guidance proposal that we think should be passed at this meeting.

On seed purity, we've long advocated for first identifying the problem before developing the solution. We called for the formation of a USDA-appointed Seed Task Force, and we requested the data collection to inform a baseline. We've requested that that happen

outside of the certification system.

For our comments this round, we'd like to draw your attention to our request for a very related and we think actionable work plan item, which is a recommendation to NOP to develop guidance for certifiers and industry on GE testing. We currently don't have that guidance.

Topic number three, celery powder. You heard the excellent panel yesterday on our ongoing efforts to develop organic celery powder. It's hard to imagine what more I could add. I was hoping to perhaps report out on the nitrate content of my saliva, but I can't find those strip tests.

But I will say in terms of commercial availability, this clause in the organic regulation continues to present challenges, because really is it at odds with the law of supply and demand. So how do we incentivize the development of organic alternatives, and how do we make the system work the way it was intended to?

Number one, the demand absolutely needs to be there. Number two, the supply chain needs to be built, and that takes time and resources as was explained yesterday. It's very complicated. Number three, it takes more than all of us just coming to NOSB meetings.

We're working really hard on the supply chain part, and I hope through our comments and yesterday's expert panel it's clear that we are committed to and taking very proactive and innovative steps to not only develop organic celery powder, but also developing a model that can be applied to other materials on the National List.

So this graphic that most people probably can't see, I can't see without my glasses, we have a write-up on this model that we've developed, the time it takes and the various phases for developing organic and natural alternatives to the National List.

This has really come out of our National List Innovation Working Group, our

Celery Powder Working Group, and we hope that this can help us in our process. Thank you very much.

CHAIR BEHAR: Thank you, Gwen. Questions?

MR. BRADMAN: I'd like to comment.

CHAIR BEHAR: Okay, Asa. Raise your hand so that I know.

MR. BRADMAN: Sorry. Just in response to your comments now and the panel yesterday, you know, I think one of the benefits of the organic system is that we have a public and private partnership.

One of the things that struck me yesterday was that there's been an investment on the private side, and some on the public side too, to address this issue.

But clearly there's a need for more work, and I just want to kind of encourage more effort to develop that partnership, and for the -- on the public side, to really support the research that we need to move this ahead.

MS. WYARD: Yeah. Thank you Asa, and that's exactly what our National List Innovation Working Group was formed. Celery Powder is the first subgroup of that effort, but it is set up for our industry to our members to financially invest into the development of alternatives.

And then as you'll see in the model, of course, you know working with universities and looking for funding because, you know, we want to pull obviously from all the sources and resources that we can. So we're really excited about the work that we're doing and what this can mean for the future. So thank you very much.

CHAIR BEHAR: Thank you. Next up is Megan DeBates, with Steve Walker on deck.

MS. DeBATES: Hi. I am Megan DeBates, Director of Legislative Affairs and Coalitions for the Organic Trade Association. Everyone here is committed to maintaining the integrity of organic, and we are very appreciative of the collective efforts on improving oversight of the organic supply chain.

You've read our comments and should be familiar with our private sector initiative and launch of the Organic Fraud Prevention Program that organic businesses may voluntarily enroll in. We have additional materials out on the table if you would like to learn more. I will be focusing on our legislative efforts to prevent organic fraud, namely our work on the Farm Bill.

For the last two years, OTA and many stakeholders in this room worked on solutions to increase oversight of the organic supply chain in the Farm Bill, which was signed into law this past December. The 2018 Farm Bill provided support and necessary funding for NOP to keep pace with industry growth, and to carry out compliance and enforcement actions in the U.S. and abroad.

It strengthened the emphasis on NOP's authority and capacity to conduct investigations, and granted them the flexibility to conduct a risk-based approach to oversight. We thank the NOSB for your work on developing recommendations

to NOP on import fraud.

As NOP moves forward in implementing the Farm Bill, the Board as well as the industry will play a critical role in preventing fraud and utilizing the new tools and authorities granted in the Farm Bill.

One area I would like to highlight in particular is that the Farm Bill provides $5 million for NOP to invest in technology and access to data, to improve tracking of international organic trade and prevent fraud. The Farm Bill language does not specify how the funds should be used, which gives NOP flexibility in exploring technology-based solutions.

We think it would be helpful for the Board to put together some recommendations for NOP, and how those funds could be best utilized, and would encourage you to include that as you work on your discussion document.

I also want to mention livestock issues, another area where we have all been united in the need for robust and consistent

standards. Thank you for passing a resolution urging NOP to issue a final rule on the origin of livestock standards. We agree with you and feel very that a new proposed rule is not a real path forward.

Nothing about this issue has changed to necessitate a new rulemaking, which would take years. The current standards are not being enforced or applied appropriately, and this has gone on for far too long. I want to draw your attention to the letter OTA's dairy sector council sent to USDA requesting a final rule.

The companies and farms on that letter collectively represent over 90 percent of the organic dairy market.

Lastly, we want to thank all the former and current NOSB members that signed on as declarants to OTA's lawsuit on the organic livestock and poultry practices rule. We must use all the tools we have at our disposal to fight for the integrity of the organic standards.

Thank you for the opportunity to

provide comments.

CHAIR BEHAR: Any comments from the Board? Thank you very much, Megan. Okay, next up is Steve Walker with Alexis Randolph on deck.

MR. WALKER: Good morning. I'm Steve Walker, Operations Manager at MOSA. I've been involved in certification since pre-NOP. Early on, many new certification questions exercised my reason and passion. Through the years, weighing letter and intents against many real cases, we've defined boundaries and worked out a lot of bugs.

But innovation moves faster than development of regs. New twists and sometimes new sectors still require our best discernment as to how our standards and values apply. Navigating the gray in between regulatory lines raises passion and hazards. It's best to travel with friends.

So when we find something new, we seek counsel, consensus or precedent from other certifiers and from NOP. I appreciate guidance and NOP's sensible take on regulatory discretion.

I used to be frustrated by answers like we don't have a policy on that.

Then a few years ago, at certifier training in Savannah, Jenny Tucker explained that when there's no specific published policy regarding an unforeseen practice, then ACAs are empowered and expected to make reasoned, and I'll add ethical, certification decisions.

We're skilled navigators on a changing landscape. We tend to standards, organic values and forward thinking. I value certifiers' autonomy and ability to align, define boundaries and improve. We're currently collaborating on best practices for container production requiring nutrient cycling, biological activity, biodiversity enhancement and natural resources improvement.

Organic choices in these systems must meaningfully serve our ailing planet. But we need NOP and NOSB to help develop applicable regulations. This part of our house is still on fire. We need action. Let's get this back on

NOSB work plans and consider requirements for the farm system beyond the container.

Out here on the front lines defending organic integrity, we see a lot of good work inspiring hope. But there's also despair and frustration. It's hard to maintain faith in organic as a solution to global crises.

Some perspective. MOSA certifies 600-some dairy farms averaging 64 cows per herd. Failure to move forward vetted, agreed upon rules hurts our farm families, rural economies and our seal. Stagnation also disables the resolve needed to heal our planet. Let's move forth the origin of livestock final rule this year.

Certifiers navigate the gray and draw boundaries every day. We're good, but today as our community is threatened at its core, we need clear guidance and teeth. Thanks.

CHAIR BEHAR: Comments or questions? I have one. Oh Sue, you have something? No.

MS. BAIRD: Just a comment. Thank you Steve, and you're right. You guys are good. You

do it every day. Appreciate it.

MR. WALKER: Thanks.

CHAIR BEHAR: And I want to thank you for the request for container standards review. Thank you very much for that.

MR. WALKER: You're welcome. Thanks for all you do.

CHAIR BEHAR: Okay. Next up is Alexis Randolph, and after her is Nate Lewis on deck.

MS. RANDOLPH: Hi good morning. My name is Alexis Randolph and I am with QAI, an organic certification agency based in San Diego, California.

My comments are going to be very brief. I'm here today just to provide the Board with an appendix to our written public comment, that identifies how many QAI handling operators are using materials up for sunset review.

Please review the document Michelle is circulating at your convenience. I only have one material statistic for the Livestock Committee at this time. Peracetic acid is widely used by

poultry operations to clean out water lines. It is more difficult for us to provide statistics on crop materials and in some cases livestock materials because our operators rely heavily on OMRI-approved products that are a blend of generic materials, and therefore more difficult to isolate in our own material approval system.

Before the fall vote, we will continue to work with our crop and livestock clients to try to get better data for NOSB on some of the important questions you have asked regarding this year's sunset materials.

We hope that there will be some type of open docket system in which we can submit this information, and if there's not, I would like advice on how to get this information to you. Thank you.

CHAIR BEHAR: Thank you, and just the Board members. I believe it is all in your email inbox that Alexis sent. Any comments or questions? Emily.

MS. OAKLEY: Yeah. Just a

clarification, that I think absolutely please use the open docket to continue to submit comments on any of the sunset materials that you might need more time to develop feedback on.

MS. RANDOLPH: Thank you.

CHAIR BEHAR: Okay, thank you, Alexis. Next up is Nate Lewis, and then Rebekah Ritson, and after that we will take our scheduled break. We're about 20 minutes behind.

MR. LEWIS: Good morning, everybody. My name is Nate Lewis. I'm here on behalf of my own farm, Oyster Bay Farm. I also sit on the Washington State Department of Ag's Organic Advisory Board. I was elected to the Poultry Committee at the Organic Farmers Association, and I serve on OTA's Farmers Advisory Council.

These comments are my own, as I would think this is the first time I'm unaffiliated and speaking to you all.

So first I wanted to introduce you to Peggy. She's my caged porch chicken, and the irony I had to share with you, she's confined on

205.239(b)(5). She had an injury. She's going to get better. She's going back to the flock in a couple of days. But I mostly wanted to talk to you all about the state of Washington, this great state that we're all getting to participate in this meeting in.

Washington is extremely unique. If you go 100 miles to the west, you're in rain forest with over 100 inches of rain per year. If you go 100 miles to the east, you're in desert with under 10 inches of rain. It's in this desert that Washington State's organic production is thriving.

We grow about 85 percent of United States' domestic production of organic apples, worth $300 million a year. We grow about half of the nation's organic blueberries. In 2016, on 1,600 acres we produced 19 million pounds of blueberries. That's gone up by about 1,000 acres over the last two years.

So I think if anyone's concerned about a flood of blueberries drowning out the market,

they should be giving us the credit because we are -- our berries are bumping.

I kind of wanted to bring these up because our eastern Washington production is in large part due to the ingenuity and the dedication of our growers. But they have a lot of help with the natural environment.

As I mentioned, it's a desert and the desert means that fungal diseases, fungal and other diseases are not as big of an issue. They also are blessed with a tremendous amount of irrigation. In order to kind of tell the story about the development of this agricultural lands, we have to go back about 12,000 years, when Seattle was under about 2,000 feet of ice.

As those glaciers receded, you can see the western part of Montana filled up with this giant lake backed up by a ice stand. When that ice stand broke, it flooded the entire Eastern Washington, sending a 500 foot wall of water down the Columbia Gorge, scouring everything in its path.

But it also left behind these gigantic coolies, which were used afterwards under the New Deal and the resources from the federal government to create the Columbia Basin Irrigation Project, which still remains in my understanding the single largest infrastructure spending project in the history of the United States.

It irrigates 670,000 acres. It's got 331 miles of canals with 1,300 miles of lateral canals, and it has brought rain to the desert where organic crops can flourish.

So I just wanted to use these three minutes of your captive attention to showcase how wonderful this state is, how diverse it is and while we think a lot about Seattle and the trees, there's this whole other aspect of the state which is what's pushing forward our organic production. So thank you all for your service.

CHAIR BEHAR: Thank you, Nate. Any questions? Okay, thank you, and next up is Rebekah Ritson, and after that we will take a

break.

MS. RITSON: All right. Since I'm standing between everybody and break, good morning. I am Rebekah Ritson. I'm the Organic Regulatory Specialist for Grain Millers. Thank you for the opportunity to provide public comment today. Grain Millers is a whole food ingredient manufacturer and merchandiser, and we'd like to offer comment on the oversight improvements to deter fraud discussion document.

I'm going to dive right into some of the points that we really wanted to emphasize. Point 8 suggests use of transaction import certificates tied to an importer's commodity databases. We fully appreciate the risk inherent to importing organic ingredients, and we voluntarily require transaction certificates for all imports except Canadian.

That said, current verification measures across certification agencies are inconsistent and insufficient. If we're going to rely on transactionary import certificates, but

they're not regularly compared to an operations production volume historic product inventory, they're meaningless.

Such assessments could easily be incorporated into existing audit trail exercises, but in our experience these are not routine or a significant portion of inspections.

Therefore, we believe success in any development of this type of program is also going to be reliant on a concurrent development of guidance document for certifiers, outlining requirements for transaction certificate validation, and then an NOP focus on following this guidance at accreditation audits.

We also have concerns about the practicality, implementation and objectivity of an organic industry alert system based on biorejection of products as outlined in Point 9. A reporting system based on rejection of unverified -- due to unverified sampling methods and test results or minor correctable paper work issues, could cause irreversible damage to both

individual businesses and entire supply chains.

So, instead, we would really like to support Point 10, the immediate creation of a positive pesticide residue test database, or alternatively a comprehensive pesticide test residue base -- residue test database, sorry. This database would be a repository of validated pesticide residue test results from certification bodies.

These already exist. They're just not available to the organic sector as a whole. So access to these data would permit certified operations to make more informed decisions about our suppliers, and it would also provide certifiers with a better basis for risk-based sampling, testing, and unannounced inspections.

Then, the NOP could use this database to rigorously analyze the data, and that would serve as a foundation for an effective alert system when transfer-specific commodities or regions are identified.

Regarding Point 7 and the reporting

crop acreages and yields in the OID and confidentiality issues, the majority of our grain is purchased directly from the grower. Many of our farmer-suppliers have voiced concerns that disclosure of detailed crop and acreage information could create an unfavorable marketing environment and result in price fixing. We don't really consider this to be an immediate risk, but we don't wish to dismiss this concern in the long run.

We're very concerned to see voluntary acreage reporting, and we'd like this to continue. And we'd suggest, to help protect the suppliers, that we make the disclosure of an at minimum the organic acreage per operation, and that would allow us to do some calculations, come up with basically a maximum production range, and that would be more than we have to go on right now.

CHAIR BEHAR: Tom.

MR. CHAPMAN: Can you talk in more detail about the price fixing concern?

MS. RITSON: So that is a concern that we've heard a lot more from our producers up in Canada, where they don't do any amount of sharing of crop or farm acreages, and basically there's a perception that companies could take all of that data and use it to determine how much corn is going to be out there in the winter, spring and then just decide amongst ourselves or independently to only pay so much based on what's available.

So they're very concerned it's going to limit their income and marketing opportunities.

MR. CHAPMAN: So they're concerned about price fixing, even though similar -- in the organic even though similar data is available on the conventional side?

MS. RITSON: Yep. That is what we're hearing.

MR. CHAPMAN: Okay.

CHAIR BEHAR: Sue, Dave.

MS. BAIRD: Thank you for your

comments, and we all agree that this is a huge issue, including we're thankful that NOP does. We've had a lot of written comments on this fraud documentation, and I did a quantification, and it appears that the number one person was that they wanted a stop sale authority be given to NOP. How do you feel about that?

MS. RITSON: Based on my experience with grain millers, we haven't ever seen stop sale authority exercised just in general.

(Off-microphone comment.)

MS. RITSON: Right. Well, not just for organic but for conventional product as well. So I think it's going to take longer than we would like. I don't think it's something that we should totally ignore. But to get the stop sale authority, it could take a while to get set up. It will also require a lot of collaboration with state governments, I think, to effectively execute.

So that will require a lot of training and outreach to state governments that don't have

organic programs.

(Off-microphone comment.)

MS. BAIRD: Yes, and I would agree. I know that I back many hundred years ago, I've managed feed and seed programs for the Missouri Department of Agriculture, and they do, state agencies under the Feed and Seed Act, have stop sale authority. So I'm wondering, and I do agree that any time you implement change, it's a huge issue.

But if the states have that authority, why we cannot implement that under the federal authority.

MS. RITSON: I mean if we can. I think the collaboration is going to be effective to actually exercise the stop sale authority. So I think the states are going to need to be involved, even if it's a federal authorization.

MS. BAIRD: Yeah, and I would agree. I just was making that comment. It was the number one comment.

CHAIR BEHAR: Dave.

MR. MORTENSEN: Rebekah, the fellow that presented the NASS data, were you here yesterday?

MS. RITSON: Yep.

MR. MORTENSEN: Yeah. There's an additional data set out there that his shop and others use, researchers use, where you can actually get down to the field level and calculate acreages by crop type. It's called the Crop Land Cover data set. So you can link it with the data that -- I think Adam was his name was.

So I want -- the question is as we go forward, I think talking with farmers who I totally get how concerned they are about revealing privately-held information about their farms, more of this data about at least crop type and acreage is quite available if various people wanted to take the step with that.

So it would be interesting to be talking with farmers about how, you know, the fact that some data are available might help

inform their thinking about what they would share and what they would be less willing to share. Just a thought.

MS. RITSON: I appreciate that, and I will keep it in mind during field visits this summer.

CHAIR BEHAR: Rick.

MR. GREENWOOD: Yeah. Just a source of information for you. I was on the Hass Avocado Board, and we up a grower database with numbers of potential crops for each year. You might check with them because they went through the process and so far I haven't heard of any price fixing or anything else. That's part of AMS. So just a good reference for you.

MS. RITSON: Can I respond to that?

MR. GREENWOOD: Sure.

MS. RITSON: We are not particularly concerned about the price fixing, but we do work with so many suppliers that I felt given the number of times that I've heard that concern, that I should use my time to make that public

record.

MR. GREENWOOD: All right, thank you.

CHAIR BEHAR: Okay. Yes, Jenny?

DR. TUCKER: I appreciate the comments. I do want to clarify that the acreage data gathering is incredibly helpful for compliance and investigation purposes. What we would publish would be much more aggregate data set. So we'll be under this -- we're under the same sort of privacy laws that NASS and other federal agencies are under in terms of reporting aggregate data from the database.

I'm not sure I've said that as much or as loudly as I thought I should in terms of that data that is summarized and reported to the public is at an aggregate level. I know that that doesn't address all the concerns that you're raising, but I do want to just highlight that this is an area that we're very aware of and concerned about in terms of balancing data availability for investigations versus data reporting and protecting confidential business

information, which is critical.

MS. RITSON: Thank you.

DR. TUCKER: Thank you.

CHAIR BEHAR: Thank you. All right. With that, we will take a break. I'm going to say ten minutes, so we try to maybe catch up a little bit, and everyone come back at 10:45.

(Whereupon, the above-entitled matter went off the record at 10:36 a.m. and resumed at 10:50 a.m.)

CHAIR BEHAR: Okay. Thank you everyone. We have Howard Whitney on next, with David Hiltz on deck. So hopefully, and if somebody could just tell the people in the hallway that we're starting, that would be appreciated.

Thank you, you may begin. Your name and affiliation please.

Oh and one more thing. Please speak into the mic. I know you're a little tall, so you might have to kind of get --

MR. WHITNEY: Well, I've got it

pointing right at me. How's this?

CHAIR BEHAR: Oh that's pretty good.

MR. WHITNEY: Okay.

CHAIR BEHAR: And just so speak up. Thank you very much.

MR. WHITNEY: I'll try not to move my head too much. I'd like to thank the NOSB members, NOP staff and the organic professionals that are assembled here today. My name is Howard Whitney. I am the principal scientist of Steen Research. Steen Research specializes in air and water pollution control, and environmental remediation.

We have developed a pollution control process that removes ammonium nitrogen pollution from animal waste. We stabilize it in a non-synthetic organic acid including citric acid. We are now in the final stage of obtaining an organic input material label from California Department of Food and Agriculture.

Because of the pending label for a non-synthetic, ammonium citrate clear liquid

fertilizer, we oppose the petition to list synthetic ammonium citrate. Synthetic ammonia production is responsible for three percent of global carbon dioxide emissions. Livestock operations are responsible for nearly 80 percent of ammonia pollution, producing nearly two million metric tons of ammonia per year in the U.S. alone.

This constitutes more than ten times the current U.S. organic fertilizer needs. Preliminary studies indicate we can produce ammonium citrate for a wholesale price similar to fish emulsion on a nitrogen basis. We conclude that by early 2020, a non-synthetic ammonium citrate organic input material will be available in large supplies and at reasonable cost.

We ask NOSB to reject the synthetic ammonium citrate petition because it would effectively kill our non-synthetic product by use of a cheap synthetic. Thank you.

CHAIR BEHAR: Okay, thank you. Are there any questions? Excuse me, want to come

back? We do have a question for you from Steve.

MR. WHITNEY: Sure.

MR. ELA: Would that be able to be used as a foliar application, your -- what you're developing as well as the soil application?

MR. WHITNEY: Yes, absolutely.

MR. ELA: Great. I appreciate that information. That's very helpful.

CHAIR BEHAR: Okay, anyone else? Asa.

MR. BRADMAN: I think Emily was next.

CHAIR BEHAR: Oh, I'm sorry.

MS. OAKLEY: This may be an ignorant question, but I'm curious how you came to know that the ammonium citrate petition was before the NOSB, and I appreciate you being here today.

MR. WHITNEY: Well thank you. Yeah, I've attended -- this is my third meeting in a row that I've attended. So I've been tracking the agendas. Last summer I met with NOP staff regarding our process, and they provided help to the state of California to provide a framework for them to process our application and other

applications similar to ours.

So I've been on an education process for the last year and a half in organic, and I really appreciate everyone's input to this. It's been very helpful to me.

CHAIR BEHAR: Asa.

MR. BRADMAN: Could you describe a little bit more the process for production and kind of the source of the ammonium in nitrogen?

MR. WHITNEY: The source is from waste products developed in all the forms of livestock agriculture, and the process is proprietary and patented, and so I really -- I can tell you that we've made a very good case that our production results in a non-synthetic product.

MR. BRADMAN: So this is being derived from animal manures from potentially --

MR. WHITNEY: Anything you can think of having to do with animal agriculture as a source of ammonia pollution.

MR. BRADMAN: Okay. So it could be poultry, it could be --

MR. WHITNEY: Yes, everything, everything.

MR. BRADMAN: Okay, okay. So potentially even from a CAFO type operation or a large concentrated animal feeding operation? Is there like a scale that you need to derive the material?

MR. WHITNEY: Yes and, you know, we've targeted a specific industry to get this thing launched, and so we're going to start there. But we would like to apply it more broadly. But we hope that this will be a game-changing product that I know there's been a lot of concern about the fish emulsion, and we believe our product could replace that without having to remove it from the toolbox, but we could do it competitively.

MR. BRADMAN: Okay, great. Thank you.

CHAIR BEHAR: Okay, and Rick has a question.

MR. GREENWOOD: Yeah. Just to follow up on Asa's question, you mentioned this process

is patented?

MR. WHITNEY: Well, the patent is pending right now.

MR. GREENWOOD: Okay, because I was going to say if it was patented, it's in the public domain and you should be able to talk about the process.

MR. WHITNEY: Right. No, it's pending.

MR. GREENWOOD: Okay.

MR. WHITNEY: Yeah, we're fighting with the lawyers right now at the Patent Office. It's a very complicated process to get through that.

MR. GREENWOOD: Okay, no. Thank you.

CHAIR BEHAR: One more question. So are you saying that the state of California will look at this as an approved for organic production material?

MR. WHITNEY: Well, we've submitted an application to the state of California, and we've been through a long review process with them.

We've provided them additional information.

We understand they have contracted to conduct a peer review of our application and the chemistry behind it, and we have -- we are now in the process of doing, getting ready to do the final inspection and testing for CDFA.

CHAIR BEHAR: Thank you.

MR. WHITNEY: Thanks.

CHAIR BEHAR: Okay. Next up is David Hiltz, and on deck is John Hendrickson.

MR. HILTZ: Good morning. My name is David Hiltz. I'm the Director of Regulatory Affairs at Acadian Seaplants. Acadian is a global producer of marine plant products based in Nova Scotia, Canada. We thank the NOSB and the NOP for their ongoing efforts to refine organic regulations, and we appreciate the opportunity to once again comment on the topic of marine materials.

Acadian Seaplants continues to be committed to ensuring that our marine plant harvesting activities are performed in a

sustainable manner, and that we do not have negative impacts on the marine environment.

We continue to have our resource science team engage with collaboration with other stakeholders and groups like the Maine Seaweed Council and the New Brunswick Rockweed Advisory Group, to provide industry perspectives and scientific info to these group as they develop new regulations and policies.

As outlined in our written submission, Acadian Seaplants is not necessarily opposed to the suggestion that marine plants used in the manufacture of crop inputs be certified in some way. But we do wonder what precedent this may invite for future evaluation of crop input materials.

The Board may want to consider if they have the -- or if they wish to use their limited resources for future examination of the environmental impacts of procuring raw materials for other approved crop inputs.

One concern industry will certainly

have with whichever standard may be chosen or drafted is that it be clear and achievable, especially with respect to the statement such as, quote, having no significant impact on the biodiversity of the aquatic environment, quote. While one group may be confident that their research and history demonstrate that their harvesting activities are sustainable and show no evidence of environmental harm, other stakeholders may not accept this position and demand more studies be done.

Therefore, a defined level of scrutiny must be clearly identified in the advance to avoid the unrealistic expectation that it is somehow possible to evaluate every possible ecological outcome of an industrial activity.

Finally, Acadian wishes to again address the suggestion that ascophyllum nodosum, commonly known as rockweed, is being wildly over-harvested and should be individually prohibited. Rockweed harvesting is done in a manner where the upper portions of the plant are removed, leaving

the hold fast and the lower portion of the plant intact, so it can regenerate.

In many jurisdictions, there are government-enforced regulations that limit the amount of resource that can be removed. To be clear, industry only harvests a low amount of estimated total biomass of rockweed. In Maine, Iceland and Norway for example, the annual rockweed harvest removes about two to three percent of the estimated amount on the entire coastline.

In Nova Scotia, where rockweed harvesting is well-regulated and has been occurring for more than 40 years, approximately ten percent of the estimated biomass is removed annually by harvesting, and many scientific and government publications has shown this harvest to be sustainable.

For these reasons, Acadian Seaplants would dispute the suggestion that ascophyllum nodosum is being over-harvested and should be prohibited, as a review of the facts would

suggest otherwise. Thank you.

CHAIR BEHAR: Any questions or comments? I imagine Emily has one.

MS. OAKLEY: Thank you so much for always coming in providing testimony. So I won't try to ask too many questions, but I do want to address the issue of precedent-setting, because it's been raised multiple times and by different commenters. And I understand that concern and the intention of this discussion document is not to create a precedent, but it's to look at the very unique nature of the fact that we're harvesting a living organism, a plant, from a wild native ecosystem.

We don't have too many natural inputs that meet that criteria, and to address your question in terms of do we want to be focusing our limited resources to the scrutiny of naturals. I mean, you have to -- I'm sure you understand that any natural material that's allowed in organic production should also meet the same criteria for no harm to human health or

the environment.

Do we have the time to sort through every single one? No, we don't. But this is a topic that has just come before the Board repeatedly. So we have an obligation, I think, to examine it based on stakeholder comments and feedback.

And then this is just a question. I thought you mentioned that about ten percent of the rockweed in Nova Scotia was harvested, and I thought I remembered from the webinar a commenter stating that the harvesting in Nova Scotia was limited to hand means rather than mechanical. Do you think that that is partially attributable, that ten percent number would be attributable to the fact that it's hand-harvested rather than mechanically?

MR. HILTZ: Okay. Let's see if I can -- so just back to your first comment. Emily, we appreciate all the work you've done on this. It obviously is a huge issue to pull that document together, and while I understand your perspective

that this is a unique situation, I would respectfully maybe disagree with that, in the fact that the whole issue around looking at the harvest of rockweed is the ascertation that somehow this is damaging the environment.

And if that is going to be a consideration, I would argue that that same consideration could be used for the mining of leonardite, which is used to produce humic acid. What is the environmental impact of that, you know, the catching of fish to produce liquid fish products.

I really don't see how the Board could go in this direction and not have that same criteria applied to other crop inputs.

Regarding your second question yes, in Nova Scotia we do harvest all of our material by hand at the moment. I don't know that that's so much an issue of mechanical versus hand-harvesting. It really gets down to the government regulations that are imposed in Nova Scotia and New Brunswick, and as we expand around

the world, we try to bring those same types of regulations to other areas where again, we go in and establish, establish resource-based studies to find out how much material is in a certain sector, working with the Department of Fisheries, to establish how much ascophyllum is there.

And then we apply the model that we've used successfully in Nova Scotia for almost 40 years now, to make sure that we limit that harvest. Certainly by doing it by hand, it gives us a bit more control. But I would equally argue that, you know, investigation of new mechanical technologies do not necessarily mean that mechanical harvesting is any more destructive than hand-harvesting if it's done in a proper manner.

MS. OAKLEY: Can I just do a quick follow-up, sorry.

CHAIR BEHAR: Yeah.

MS. OAKLEY: We've had a difficult time hearing from other harvesters of other marine algae ingredients, especially globally.

Do you by any chance have a way to reach out to other harvesters, to try to get them to comment on this process as well?

MR. HILTZ: Certainly, and you have seen some comments from companies like Ocean Organics, for example, in Maine I know has submitted comments to the Board.

MS. OAKLEY: Thorvin.

MR. HILTZ: Thorvin as well has submitted comments. Some of our other large marine plant companies probably have not, because I find a lot of them are not aware of the discussion around this, and it's something that I've tried to promote it a bit within our industry organizations, where we try to raise the attention that's been given to this, to say you know, you really need to come and talk about the same things that we've been coming and talking about to the Board since 2003.

I think as you get more information from some of the companies on exactly what they're doing, hopefully they're doing as good of

a job as we are, in my opinion, and can provide you with the information that we are able to provide.

MS. OAKLEY: Well, any help you can give us in getting the word out would be great.

MR. HILTZ: Yeah, absolutely.

MS. OAKLEY: Thank you.

MR. HILTZ: Again, I'll continue to raise that with my peers at some of the industry organizations.

CHAIR BEHAR: Okay, Steve.

MR. ELA: I guess that kind of falls, I mean that kind of leads into my question. I hear and believe that you're doing a great job and maybe your peer companies. But I guess, you know, one of my concerns would be those people that aren't you, and worldwide given that we have agreements and certified people outside your immediate area.

So I mean to me, having you know, oops, excuse me, the proposal covers then makes it a fair playing field for everybody, so that

somebody doesn't come in and doesn't view it the way you do it and spend the money and apply the model and whatever, that they don't come in and undercut you just by stripping something.

So I guess how do we, without some standard or guideline, how do we prevent that?

MR. HILTZ: I guess, and well, what we hope for as a company is that the areas in which those operations are harvesting, impose the same government regulations like that we encounter as we work around the world.

In Nova Scotia and New Brunswick, as I said, this is a highly regulated industry there, where we've worked extensively with the Department of Fisheries and Oceans in those provinces to make sure that what we're doing is sustainable and is in accordance with what they're looking for from us.

As we move into other areas around the world, we try to take that model elsewhere, and we try to work with local governments and some of the advisory boards in those areas to try to

again put safeguards in place to exactly what you described doesn't happen. Because it's in the interest of no one, it's not in our interest to destroy the resource that we're depending on for our company.

So it's important that we and others all do a good job harvesting this material, because it's the future of the growth of our company. So we want to make sure that we and others take this seriously, and that's where we again try to go and promote the model that our resource science team has developed in Acadian globally.

CHAIR BEHAR: Okay. I have one quick question. As one of the environmentalists on the Board, when you talk about sustainable harvest, are you only looking at the regeneration of the rockweed, or is there also some oversight and review of the other plant and animal life that depends upon that rockweed that has been harvested? Is that also under review?

MR. HILTZ: Sure, that's a great

question, Harriet. I mean for sure, the majority of the work that Acadian has done has focused on the majority or focused on studying the regeneration of the rockweed. But in accordance with that, we have worked with other groups and you've heard from some of them in some of the comments over the past years, where we worked with some of the scientists in Maine to look at some of the bycatch, and we've worked with again, industry, with government association in Nova Scotia as well to understand what possible implications there could be, you know, on other areas of the fisheries.

That's where -- that's one of my comments that I have given this morning. As I said, we are happy to try to meet any criteria that's put forward. But it has to be -- something has to be well-defined, where you can't just say well, that's not enough. We need you to go study this.

I mean okay, you've done that. But that's not enough. We need you to go study this.

You will drive industry completely into the background if you keep demanding more and more of that. So as long as the terms are well-defined and are reasonable, I don't think that we or any other company should have any problem with meeting those. But it has to be well defined and it can't just be an ongoing --

Certainly, we're going to continue to do science, but we can't be held to some waiting until we have all of the science out there.

CHAIR BEHAR: Thank you. Sue.

MS. BAIRD: I'm wondering if you have, and I'm sure you do, so I should not even phrase that by saying I'm wondering, a matrix for how a percentage that you can harvest at that time?

MR. HILTZ: So just to give you a brief overview of the system that we use, and as I mentioned, we will go out and we will use things like aerial photography, satellite mapping to estimate amounts of ascophyllum. We then have our resource science team go out and study those areas, where they'll actually do trans-sects

across the beach to understand, you know, based on the photography we estimate there's 1,000 tons in this sector. Is there really a 1,000 tons there based on plant density?

We will then work with the local authorities to look at the harvest, at the harvest limitations. So for example in New Brunswick, if there was 1,000 tons of ascophyllum in a given sector, under the rule there we could harvest only 170 tons of that. The exploitation rate is 17 percent.

In Nova Scotia, that rate is a little higher. I believe it's 21 percent I think in Nova Scotia. I should know that, but I'm not sure of that.

MS. BAIRD: Sure, sure.

MR. HILTZ: But that's what we will do, and then we will monitor the landings that our harvesters are bringing in and watch what comes out of that sector of the beach. Once we hit that landing number, we will then shift our harvesters to a different area.

Even while we're harvesting, we're making sure that when the guys are out there, they're not just going to one corner of a beach area and taking all of it from there, because that again defeats the purpose of the idea of the exploitation rate.

MS. BAIRD: So what I'm understanding you to say is that it's already a well-defined, regulated amount percentage of the colony that you can harvest?

MR. HILTZ: It is in some areas. New Brunswick and Nova Scotia, again especially Nova Scotia. The industry has been -- where our company is based, the industry has been working there for a long time. So there was a lot of back and forth initially with the Department of Fisheries and Oceans to establish an exploitation rate.

As we moved, or you know I'm just thinking, talking only of our company, but as we moved into New Brunswick for example, when we worked with the government there, they were very

cautious. That's fine. You know, we probably should be. Even though we had years in data in Nova Scotia, they were a little more cautious.

So they established a slightly lower exploitation rate there, and we've been working at that rate for years. We have asked the government to, you know, to look at the possibility of increasing that to match what we do in Nova Scotia.

When we expanded into Maine a number of years ago, that was the same type of a system that we tried to bring to regulation in Maine. Again, we've worked extensively with the Maine Seaweed Council to again try to bring that, that I guess exploitation rate or that harvest limit in place there as well.

It hasn't been fully implemented in Maine. There is one area of the state of Maine, I believe Cobscook Bay is under an exploitation limit like that. The rest of the state is not, and then with the lawsuit that just occurred there, the whole harvesting application in Maine

is a little bit up in the air right now.

CHAIR BEHAR: So it would appear that we --

MS. OAKLEY: I have Dan next.

MS. BAIRD: I'm sorry?

CHAIR BEHAR: Are you still asking questions?

MS. BAIRD: You're right, I'm sorry. I should have asked if I could follow up.

CHAIR BEHAR: Go ahead.

MS. BAIRD: No, that's fine.

DR. SEITZ: What happens if you have multiple companies exploiting the same area? How do they share the exploitation rate?

MR. HILTZ: That's a good question, Dan. That's why in the written comments you will notice that one of the things that we had suggested that really makes the effect of the system work well is not to have that system. So in Nova Scotia, for example, the sectors that have been awarded to Arcadian Seaplants for harvest, no one else harvests it.

There are other sectors, like the coastline is divided into sectors, and there are other companies that harvest there. But they don't harvest in the same sector that we do. So it's impossible to have that type of an overlap. In Maine, that's again where there in some areas there is no licensing per se, that becomes challenging.

That's why we as a company, as we go worldwide, we try to promote the idea of licensing of the areas of the shoreline to individual companies, or at least a collective where, you know, sectors are distributed to companies and only in that way can you really carefully control what's being taken out of a given area of the beach.

CHAIR BEHAR: Okay. Emily has a question.

MS. OAKLEY: No, just a quick follow-up. One of the other commenters presented that it's 25 percent in Nova Scotia. But also I like that suggestion, of course. I think that makes a

lot of sense, but it's so far beyond the purview of anything that we could suggest or implement regulate, and that's up to local and regional governments and authorities. But it does speak to the broader problem.

I mean that is where I think you address the issue. There are some things that are beyond the purview of a review like this, and that unfortunately is probably one of them, simply because we don't have that authority.

MR. HILTZ: I will say, just to point out one last thing, is again look at the overall number of how much resource is being taken out of the environment. In Maine, for example, where a lot of the opposition to rockweed harvesting comes from, we removed two percent of the standing stock. Not we, all of the harvest removes about two percent of the standing stock of ascophyllum a year, and that's using a very conservative estimate of the amount of ascophyllum.

I think some people envision this that

we're out mowing down the entire coastline. That is absolutely not the case.

CHAIR BEHAR: Okay. I just have one very quick question. Is it typical that that the harvesters all work for one company, or are people individuals and they harvest and sell to many different companies?

MR. HILTZ: That's a little bit depending on the area, to be honest, Harriet. In Nova Scotia, our harvesters work exclusively for us. In other areas, in Maine, I believe our harvesters are all associated with individual companies as well.

In some of our operations that we're starting in Europe, we're finding there that the harvesters are more independent and because again, there's no licensing, they can go to the seashore and harvest and sell to any one of a number of producers.

CHAIR BEHAR: Okay, thank you. I'm going to move on to the next speaker.

MR. HILTZ: Thank you all for your

work on this.

CHAIR BEHAR: It was very good to have your expertise here. Thank you very much. John Hendrickson is next, with Doug Currier on deck.

MR. HENDRICKSON: Is this good? Great. John Hendrickson, organic farmer, Stone Circle Farm and owner of Small Farm Works, a business dedicated to providing innovative tools for small farms, including the paper chain pot transplanting system. I'm commenting today on paper pots.

I first want to thank the Committee for the action they all took at the fall 2018 meeting, and thank the NOP for their decision to allow the use of paper pots on organic farms, while the complicated issue of paper as a production aid is reviewed and researched and voted on by the NOSB.

In thanking you, I speak for many, many farmers who rely on paper pots as an integral part of their business and their effort to farm in a sustainable manner. With the

possible exceptions of community-supported agriculture, hoop houses and the current microgreen craze, few innovations have had the impact of paper chain pots on small and medium-scale vegetable farms in terms of profitability and viability.

The economic viability is all organic farms is heavily dependent on efficiency, precision and successful conversion of seeds to marketable crops. The paper pot transplanting system dramatically increases the success rate for many crops that are suitable for planting paper chain pots.

As the many public comments demonstrate, the paper chain pot transplanting system is not just a super-cool tool. It has direct and indirect environmental benefits including, but not limited to, reducing or eliminating the use of disposable or limited use plastics, reducing the use of fossil fuels as a hand-pulled implement, reduced soil disturbance from weed cultivation as compared to the same

crops being direct seeded, enhanced productivity allowing farmers to grow and sell more food off fewer cultivated acres, and keeping small, diversified operations in business through reduced labor costs and reduced back-breaking labor.

The petition I submitted last year addressing the issue of paper pots has prompted the NOSB to take a broader look at paper products used as production aids in organic agriculture. I applaud this effort because the existing NOP rule does not address the many uses or potential uses of paper-based products on organic farms.

While I am glad this happening, I hope this broader examination does not delay a vote and new rulemaking. A technical review has been requested to investigate an array of potential paper ingredients. The company that makes the paper chain pot system that I sell is committed to developing a product that is in compliance with organic standards.

They just need to know to what

standard they need to work. Hence, my desire to see a vote happen at the fall 2019 meeting. The manufacturer of the paper chain pot system has been actively working to develop new types of paper pots that use natural fibers rather than any of the synthetic fibers that are currently the subject of the technical review.

It is my sincere hope that we will have clear guidance on what ingredients are allowed and not allowed in paper products following the fall meeting, in order for us to develop and offer products to organic farmers as quickly as possible. Thank you very much for your work and opportunity to comment.

CHAIR BEHAR: Steve, Emily, Dave.

MR. ELA: So I think this comes back to the egg and the chicken debate. You're asking for clear guidance on fibers that can be used and we're asking for clear thoughts on what fibers must be used and what are needed.

I don't know how -- I guess, you know, I would turn the question back to you. What is

the minimum amount of synthetic fibers and what are those fibers composed of, that are needed for the -- for example, for the paper pots. I mean we heard from Ellepot, you know. They're using rayon cellulose-based materials that while synthetic, probably are fairly breakdown very similar to newspaper. I would ask that same question for the paper chain pots as well.

MR. HENDRICKSON: Sure.

MR. ELA: Do we need plastics, or can we use a rayon material or where can we go? We need that information. You want us to give guidance, but we need to know what's necessary to start with.

MR. HENDRICKSON: Yeah. Well, I think I've been clear that the company that I represent is committed to develop a paper pot without any of those synthetics. They are pursuing hemp and other natural fibers to achieve a commercially viable product. So that is -- our hope is that we won't have to deal with the synthetic fibers at all.

MR. ELA: Can I follow up, Harriet?

CHAIR BEHAR: Sure.

MR. ELA: But you also told us that the hemp pot wasn't commercially available yet --

MR. HENDRICKSON: No, it's under development.

MR. ELA: So --

MR. HENDRICKSON: They're trying to determine how much hemp fiber is needed to achieve the same quality product.

MR. ELA: So it still hasn't answered my question. If you want us to vote on something in the fall, what are we -- what do we have to include in terms of --

MR. HENDRICKSON: I'm not asking you to include any of the synthetic fibers.

MR. ELA: Okay. So even though you don't have that product, you're fine with us saying no synthetic fibers?

MR. HENDRICKSON: The company that I represent is committed to developing a product using all natural fibers.

MR. ELA: Okay.

CHAIR BEHAR: Emily.

MS. OAKLEY: Okay, that's interesting. But I also think we have to be clear that we can't create a double standard within these standards in terms of the newspaper allowance that's already there. I don't think there's any interest in creating an imitation or a new listing for paper as a planting aid that is more strict than the existing listing, because I don't think we're at all able to go into what synthetic fibers are in all of those paper materials, what adhesives and start coming up with percentages or restricted materials.

And if we want to do that, that's a whole other discussion and that supplemental TR definitely gave a lot of us pause for concern. But that's a whole other issue. Hopefully that wasn't too convoluted but --

MR. HENDRICKSON: Was there a question in that, or was that a comment?

MS. OAKLEY: That was a comment. I

just don't think --

MR. HENDRICKSON: Okay, I thought so. I just wanted to make sure.

MS. OAKLEY: I don't think we are -- that's okay, yes. I don't think we are looking for this TR to give us standards that we would then put out to the industry, simply because unless we do that for the other paper listing, you would be creating a double standard within the standards.

CHAIR BEHAR: Okay, and Dave. Okay. I just have one question. Do you think the development with the hemp will be completed sometime in mid-summer, or I mean, when will we have an idea if the hemp actually seems like a viable option? I think at one point you did say that there was some concern about enough in the supply chain to the manufacturer to actually make a product that they could produce.

MR. HENDRICKSON: Yeah. That's why I'm encouraged by the current booming interest in hemp production and expansion of farmers and

states being allowed to grow hemp, because that will hopefully increase the supply of hemp fiber internationally.

We tested the first samples of paper pots using hemp fiber last summer. It was not successful, but a new batch of paper pots are apparently coming my way this summer for testing again.

So you know, the R&D process continues. I can't tell you exactly when I will -- when the company will be satisfied that they've come up with a product that meets their standards in terms of it being a commercially viable product for farmers to use.

CHAIR BEHAR: Okay, thank you very much.

MR. HENDRICKSON: Thank you.

CHAIR BEHAR: Next up is Doug Currier, with Kanaga Sabapathy on deck. I hope I said that right, Kanaga Sabapathy. Thank you, Doug.

MR. CURRIER: Okay. Thanks, Harriet. Thanks to the Board. My name is Doug Currier.

I'm with the Organic Materials and Review Institute, and I'm here today to discuss the marine materials discussion document and the discussion document on paper and other crop production aids.

First, OMRI continues to monitor the work of the Materials Subcommittee on the use of marine materials in organic crop production. The current recommendation from the Subcommittee is for NOP to amend annotation language at 205.601 and 602, so that marine materials used as crop inputs must be certified organic.

As included in the discussion document, OFPA includes a provision that inputs substances must not be harmful to the environment. Amending the National List and requiring organic certification of marine ingredients in order to address the OFPA provision may be appropriate for this specific agricultural ingredient.

However, as discussed today and yesterday during public comments, there are many

other substances where that approach would not work. For example, mine minerals and liquid fish products are two examples of substances whose procurement methods may violate that specific OFPA provision that natural materials not be harmful to the environment, but which currently fall outside of NOP's scope in regards to organic certification.

It is unclear whether using multiple approaches to address that specific OFPA criteria is required, or whether a singular approach could be used to address both agricultural and non-agricultural substances. Also in preparation for the meeting, a survey of the OMRI list was conducted, and a limited number of marine algae substances were identified as certified organic.

This includes both final products on our list that are certified, and products on our list that formulate with products that are certified. For comparison, there are products and six livestock feed additive products currently listed that OMRI considers marine algae

products.

With that said, hundreds of other blended fertilizers and soil products could formulate with marine algae ingredients.

Okay. On to paper. The Crop Subcommittee discussion document on paper asks whether there were other paper-based production aids not mentioned in the discussion document beyond mulch, compost feedstocks, pots, seed tape, hot capture collars.

In our review of brand name products, OMRI has allowed the recycled paper as a component of potting mixes and as a top dressing for soil. OMRI currently approves newspaper and other recycled paper for these purposes under the 205.601(c) allowance for the material as a compost feedstock.

The rationale for doing that is that when applied to the soil, it will degrade and therefore it's in line with the spirit of the 205.601(c) compost feedstock allowance. Thank you to the Board. I welcome any questions if

there are any.

CHAIR BEHAR: Any questions? At some point, I do want to talk to you about coconut coir and the possible use of calcium nitrate as a buffering agent. But that's not on our docket, so, but maybe we can find some time later.

MR. CURRIER: Sure.

CHAIR BEHAR: Okay. Oh, Emily, go ahead.

MS. OAKLEY: Sorry. One quick question.

MR. CURRIER: Yeah.

MS. OAKLEY: So should ultimately it be determined that organic certification for the marine algae ingredient was a viable option, can you explain how a certifier or a farmer would be able to use the organic certificate as a verification means?

Like using the Organic Integrity Database or that ingredient being listed as certified organic, but clearly there's no purview or ability to list the product itself as organic.

MR. CURRIER: So, marine algae is interesting because it is so commonly used as a crop input. But it is also certifiable and is certified for human use. And so I guess from an input material review perspective, we would accept an organic certificate as proof of compliance as a crop input.

And so we have ways of verifying an organic's status in our reviews. So yeah, I think from an input material review perspective, that's how we would look at it. Okay, thanks.

(Off-microphone comments.)

CHAIR BEHAR: Kanaga Sabapathy? Okay. Next up is Julie Weisman with Anne Bikle on deck.

MS. WEISMAN: Good morning. My name is Julie Weisman. I thank the program and the NOSB for the opportunity to provide comment today. The two companies I represent, Elan Mill and Flavorganics have been developing and bringing to market organic flavor ingredients for use by organic food companies and organic consumers for over 20 years.

I served on the NOSB from 2005 to 2010 in the handling position, during which time commercial availability was my passion. Developing a market for a certified organic minor ingredient in the absence of a regulation that required its use has been a continuing challenge.

By my rough estimate, only about half of organic products that use flavors are currently using certified organic flavors. The remaining products have been instead relying on what conventional flavor industry refers to as NOP-compliant natural flavors, and many have built businesses around that.

Anyway, so I want to thank the NOP for the fact that this December, the use of a natural flavor will only be permitted in organic product when a certified organic flavor is not commercially available. Yay.

Converting that other half, though, is not going to happen magically at the stroke of midnight on December 27th, and likely not without the attention of ACA and perhaps additional

guidance from the front of this room.

Why do I say that? The needle will not move at all until companies using natural flavors in their certified organic products are made aware that the bar has been raised, but certainly by their certifier and hopefully by their trade associations or even their flavor supplier.

And there will be many products for which an effective case will be made that there is no organic X say strawberry flavor that tastes quite like the NOP-compliant flavor that we're currently using. I don't mean me. And I can share thoughts on ways to address this, but I am most concerned that a significant portion of flavor ingredients could fall through the cracks because they are often not called flavor. They may be referred to as extract or concentrate because they conform to a specific legal standard of identity, and sound better in a clean labeling environment.

It's very important that we understand

that these part -- these are part of flavors non-synthetic listed on 605(a), and they are also now subject to the commercial availability requirements. This is where I think additional guidance might be helpful.

It is not my intention to rain on this parade. To be sure this rule change is a success I celebrate it. I thank the OTA for filing this petition. I thank the NOSB for working on it and passing the petition, and the NOP for making it a final rule.

It is a step forward in the continuing improvement of organic integrity. I welcome the opportunities that it opens up for companies like mine, and like everything else in organic, the product will not be realized without vigilance, and with the same clear understanding of what is to be regulated, that the NOP and the NOSB can provide. Thank you all for your service.

CHAIR BEHAR: Any questions from the Board? Dan.

DR. SEITZ: Yesterday there was a

consumer who testified, who asked the question, why is it that you even allow natural flavors in organic foods, and I'm just curious from just a naive standpoint. If you have other substances that are organic, why is this category necessary for organic foods?

MS. WEISMAN: Because when the regulations were originally crafted, that's getting to be back in ancient history now. But when we were originally, I was -- when that was originally being crafted, there were no certified -- there were no organic flavors, and there was a great desire to be able to make food products beyond raw vegetables and that consumers would recognize as analogous to other things that they were already using.

And so we were actually the first company to offer a certified organic, any kind of flavor, and that took a while to develop. That's a -- it's continuing a whole other discussion, but so -- and they were placed on the list. It was assumed that natural flavors for the most

part were not what anyone would consider agricultural products.

So they couldn't be -- and also 606 at the time wasn't -- this was pre-Harvey. So 606 wasn't even being used. It was assumed that any agricultural product could be used. It didn't need to be on the list. That's where things were at then. So have I -- so there was on 605(a), there is no commercial availability requirement.

So we've been pushing organic flavors for the last 20 years to people who say but a non-organic flavor is cheaper. I'd rather use that. There was no, there was no requirement. Now there is. Now certifiers are going to have to ask like well, did you -- what other suppliers have you checked with? Have you tasted these out against the other ones?

CHAIR BEHAR: Okay, thank you Julie, an alumni of the NOSB. Okay. Anne Bikle and then Robert Mensonides is on deck. Thank you, Anne. Oh, we have pictures.

MS. BIKLE: Thank you. Hello. My

name is Anne Bikle, and by way of introduction, I'm a science writer as well as an organic gardener. I'm also the co-author of this book, The Hidden Half of Nature, which I wrote with my husband, David Montgomery. The book in part is the basis for my comments today.

It explores the burgeoning new field of microbioscience and the implications for agriculture and medicine. I was peripherally but not fully aware of the range of soil stewardship practices allowed under the NOP. However a recent event where I was speaking prompted me to look into the matter, and what I discovered troubles me.

These images are from an organic blueberry farm that includes a social media video stating, you'll notice we have tunnels. We grow in black pots. We have black ground cover. Indeed, I can see that as I think everybody else can. And this is a bird's eye view of same organic blueberry farm from a magazine article, noting that the blueberry plants are grown in

virgin soil media and why that practice is advantageous.

Now, my intent is not to pick on this farm, as there are others with the same practices and more coming. The crux of the issue I believe is this. These practices are wholly inconsistent with at least five sections of the OFPA and NOP that pertains to soil. Here are just two examples.

Section 651(3)(b)(i) of the OFPA states in part, an organic plant shall contain provisions designed to foster soil fertility. And Section 205.205 of the NOP states in part, the producer must implement a crop rotation to maintain or improve soil organic matter content.

I find it farfetched that covering soil with semi-permanent plastic fabrics could do anything to foster soil fertility. These practices suffocate and starve the soil microbiome, which in turn cripples the nutrient cycling that creates and maintains soil fertility and plant health.

Deadened soils are the chief outcome of conventional agriculture. Why are some organic farms now headed in the same direction? In addition, how is confining crops to pots filled with soil-less media that is routinely thrown away after production, along with the pots, the plants and the plastic sheeting, doing anything to productively manage soil organic matter through crop rotations? I find this implausible, as well as a planetary calamity.

In closing, I believe there's a high level of cognitive dissonance between what the OFPA and the NOP rules state, and what is happening on some organic farms. Shall and must as quoted above are not words with a gray or vague meaning. These words mean required. And so is it too much to ask that required practices needed to safeguard soil be implemented?

I don't think so, and that's why I'm asking this body, the NOP and certifiers to more effectively address the issue of long-term soil health. Thank you.

CHAIR BEHAR: Thank you, Anne. Any comments, questions? I have -- I'm not sure. Did you say how many acres this operation is that we're looking at? Do you know?

MS. BIKLE: No, that information is -- I believe this is 20 acres, but that information was in the magazine article.

CHAIR BEHAR: Okay, and sorry for not pronouncing your name right.

MS. BIKLE: That's okay, it happens.

CHAIR BEHAR: Thank you very much.

MS. BIKLE: Uh-huh.

CHAIR BEHAR: Okay. Next up is Robert Mensonides with Mary Chramiec on deck. Okay, Robert are you -- no, there's going to be a change. We have a little switcheroo here. Oh, I know who he is. Richard Mathews will be speaking. Okay, you may start. Whoops, you may start.

MR. MENSONIDES: Can you hear me? Thank you for letting us to come to you this afternoon, and my name is Rob Mensonides. I'm

the new executive director for WODPA, and I live here in Washington state, in Eastern Washington. I'm also an organic farmer that is directly affected by the organic dairy producers.

Richard has a long history of dealing with what we're going to talk about, so I'm going to let him hit on some points here, and then we'll be here to answer questions.

MR. MATHEWS: Richard Mathews of WODPA. Thank you to Abbie Youngblood, National Organic Coalition, Kate Mendenhall, the Organic Farmers Association, Laura Batcha, Megan DeBates, Johanna Mirenda, Organic Trade Association for your support in calling for publication of the origin of livestock final rule.

Thank you to the NOSB Board for your St. Paul origin of livestock resolution. I now see a ray of sunlight penetrating the dark clouds over the organic sector. Thank you Dr. Tucker for your words of support for organic dairy families. It is now time for USDA to completely drive away the dark clouds by completing the

origin of livestock rulemaking.

The proposed rule was published four years ago. The final rule could have and should have been published three years ago. Andrew, B.J., Ryan, Tony, you heard them yesterday. They are not here today and will not be in organic dairy much longer if USDA does not complete the final rule soon.

There is no need for a new import analysis. The plain language of the preamble is clear. Once a herd has been converted to organic animals -- or once a herd has been converted to organic, all future animals must be last third of gestation. Unfortunately, through a structural error in the reg text created by the -- which created the two track system.

And now due to the lack of enforcement, this two track system has morphed into a multi-track system that allows clear violations of the regulations. Think antibiotics followed by one year transition. Think removing organic calves from the organic operation for

conventional grazing, and conversion back to organic.

The origin of livestock rulemaking is intended to make the regulation consistent with the clear intent of the preamble. That is your justification for moving directly to the long, painfully long overdue final rule.

CHAIR BEHAR: Okay. Are there any questions from the Board? Ashley.

MS. SWAFFAR: Thank you for your passion on this. I know it's you guys' livelihood, but I actually have questions about materials, sorry.

MR. MATHEWS: Okay.

MS. SWAFFAR: Not going to get away with that. So on the vaccine document, you had said, I think you had went with what we had said Option 1, just to list or to have vaccines available, regardless of if they're excluded -- made from excluded methods or not. So just wanted to clarify that.

MR. MATHEWS: Yes.

MS. SWAFFAR: And then on the iodine, we're hearing some folks kind of wanting to annotate that with no MPEs. Do you guys see an issue if we were to annotate that?

MR. MATHEWS: I believe that you would probably eliminate most of the iodines.

MS. SWAFFAR: We were -- we saw in some public comment that some of the dairy, the people that they supply milk to are requesting that they use iodine that don't have MPEs in them.

MR. MATHEWS: Yeah.

MS. SWAFFAR: So that's kind of where that was coming from. But you're saying it would -- you don't see an iodine source available?

MR. MATHEWS: That was the concern that I didn't want to raise, because I'm afraid of the extent of the impact and the future availability of iodine.

MS. SWAFFAR: Okay, thank you.

CHAIR BEHAR: Did Dave have a question?

MR. MATHEWS: If you all don't change the rule, it really won't matter for some of these producers.

CHAIR BEHAR: Dave.

MR. MORTENSEN: I think mine is just in an assertion and an observation. I just wanted to thank you and your colleagues today and yesterday for being here. I sense that when we have this kind of -- I mean how could we not hear it? That this will drive a tipping point that I have to believe will happen almost immediately.

I think some of us on the Board, maybe many of us on the Board are wondering about some of the other things that we could be doing. Being a newcomer to this process, it is enormously and I know that I speak for the Board, enormously frustrating when we work on things together, and pass things that you work on for years together and then they're not implemented, it just doesn't make any sense.

And when we hear about how it's impacting folks, it's heartbreaking. So we will

do whatever we can to be sure that the message of the Minneapolis meeting is as clearly heard in Washington, D.C. as it can be. So thank you for coming.

MR. MATHEWS: Yeah, and the two track system that we ended up with, it was a structural problem to the regulation. It's very clear in the preamble what the intent was, and what it did was you had an exemption for the dairy animals, and those people that had only used that first exemption, they were allowed to continuously transition because of the structure.

Because when you move into the second exemption, that is the exemption for feed. So the people who take advantage of either the 80/20, the old 80/20 that's now gone as of 2007, or those who are taking advantage of the third year, feeding of third year transitional crops and pasture, they -- all of them are confined to last third of gestation.

It's because the requirement for the last third of gestation was thrown into that as

triple I of that second exemption. It should have been its own stand-alone issue, applicable to those who did just the first exemption and to those who did both.

What we've seen in recent times is that that two track system, which is clear enough, the Department has been saying for 17 years they were going to fix it. I remember working on a proposed rule in 2007 that went nowhere. Then we finally got one out in 2015, and the Department dropped the ball.

Nobody wants this. But it's killing the small and medium-sized dairy farmers. It really is, and we need that final rule today.

CHAIR BEHAR: Okay. I just want to go back to the vaccines. Would it be acceptable to have the vaccines if we had a commercially available list, to do it that way, or you just want to completely remove any annotation that's currently present in the rule, which says that vaccines have to currently be on the National List in an individual way?

But just kind of basically approve vaccines as a class that are from excluded methods. Which way would you prefer?

MR. MATHEWS: Well, in reality --

CHAIR BEHAR: Or could you live with both?

MR. MATHEWS: Probably could live with both, as long as the farmer still had the tools they needed to meet federal requirements and to make sure that their animals are healthy. That's the issue for us.

CHAIR BEHAR: The Subcommittee has no intention of taking vaccines away from livestock production. Okay, thank you. Next up is --

MR. MATHEWS: Thank you.

CHAIR BEHAR: Mary Charmiec. Maybe you'll say your name for me and --

MS. CHARMIEC: Charmiec.

CHAIR BEHAR: On deck is Dain Craver.

MS. CHARMIEC: Do I need to -- okay. My name is Mary Charmiec. I am a senior certification specialist at CCOF or California

Certified Organic Farmers. Today I will be commenting on the sunset review of nutrient vitamins and minerals, and also on the National List petition for pullulan. Pullulan. Okay, I got it. I'll just say it once.

25 CCOF certified operations currently use nutrient vitamins and minerals within their organic system plan. These vitamins and minerals are used in a wide variety of organic products. CCOF supports the continued listing of nutrient vitamins and minerals.

However, we feel that the annotation should be revised. The winding history of this listing has brought forth an often confusing playing field for all parties involved. CCOF supports Option 2 with proposed Annotation 4 from the 2016 Handling Subcommittee discussion document, which reads:

"205.605(b), Vitamins and Minerals, Synthetic, for food, minerals including trace elements and vitamins identified as essential in 21 C.F.R. 101.9. For infant formula, vitamins

and minerals as required by 21 C.F.R. 107.100, or/and 107.10 are allowed for use in agricultural products labeled organic and made with organic-specified food ingredients or food groups."

Option 2 provides succinct and clear standards that are critical for ensuring long term compliance. Furthermore, Option 2 best aligns with the 2012 NOP proposed rule, and is the strongest basis for moving forward on this issue.

It is the most likely to be consistently enforced because certifiers -- because it clearly cites where to find the allowed list of essential nutrients. Consistent application and enforcement are of course key.

Switching gears to pullulan briefly, 10 CCOF certified operations currently use pullulan capsules within their organic system plans, to manufacture vegetarian dietary supplements. CCOF supports the additional of pullulan to the National List at 205.605(b) as non-agricultural non-synthetic substance.

We encourage the NOSB to add an annotation restricting the use of pullulan to dietary supplements, supplement products labeled "made with organic." The addition of pullulan to the National List will support the continued allowance of pullulan capsules, as well as help ensure consistent application and enforcement. Thank you for your time, service and consideration.

CHAIR BEHAR: Any questions? Thank you very much.

MS. CHARMIEC: Thank you.

CHAIR BEHAR: Next up is Dain Craver, and then Paul Vandenberg on deck, and I believe he is a fermented beverage man.

MR. CRAVER: Okay. Well, I would like to thank you guys. I know how hard it is to be on a Board and Commission. You guys have a lot on your plate and you have to go through a lot of things. I'm a really passionate organic grower and I have been for over 26 years.

Today, I'd like to talk about

something that we've already heard a little bit about, but it's a major component in growing fruit, and that pheromones. A lot of people ask what are pheromones. Well pheromones are just basically this. This is a plastic pheromone that we hang on the top of the tree. And the way pheromone works is a lot like if you've ever seen a female dog in heat, how the male's kind of attract around her?

Well, the same thing happens in the insect world. Codling moth go through four stages. They overwinter as a pupae. The pupae drops to the ground in the spring, about this time, right, when we're starting to get blooms in our trees.

And the male codling moth, of course, smells her out and goes and mates. She then lays eggs on the leaves or on the front, and the worms will go through in the second part of their life cycle inside the fruit. They'll pupae it out and this can happen three or four times.

The first time that I was ever

involved with mating disrupter was with Dr. Jay Brunner. I was leasing a WSU research orchard in Othello, and mating disruption was just coming out. This had a really bad codling moth problem, and they were spraying a lot of different things.

Well what happened is when we used this mating disruption, all of the sudden we had predators and parasitoid wasp. A lot of bugs I had never even seen before, and that really inspired me that there was a way to do it without spraying. When we used these mating disruptors, we're not going up and down our rows 10 or 15 times spraying with things that don't work very well.

Ryania was the stuff that we used to use before we got the pheromones in. Because of the pheromones, I get a lot more of these, ladybugs, and it's just -- it's a great way to control it. Is it 100 percent effective? No. What happens is that sometimes we'll get hot spots or moths will mate outside of our orchard and come into it, and there we then we use

viruses which are certified.

What we've seen happening in Europe is that these viruses, the insects are getting resistance to them. So they're going to a higher potency. We've already seen this a little bit in our state, and so we're using that. And probably a third one you could use, which I don't like to use at all is Entrust.

I know it's certified organic, but it really kinks on my predators and I just feel like it gets everything out of whack. And so I do use it in my cherries, but I don't like to use it in my apples. I hope that you'll consider to keep these in use. I heard the question earlier about was -- are they sprayed on the trees? No, they're not.

We do, however, have misters. I don't personally use any, but a couple of my growers do and they actually just spurt out the pheromone at the certain time. There's only about an hour time when the moths fly. So I hope you guys will take into consideration and keep it alive for us

organic growers. Thanks.

CHAIR BEHAR: Any questions? Steve.

MR. ELA: I'll just ask the one. I mean are there any sprayable formulations out on the market now?

MR. CRAVER: For? Can you repeat?

MR. ELA: For pheromones.

MR. CRAVER: For conventional, they are. They've been working on some. Our Shuford Research Commission (phonetic), they're adding it with their conventional products, and the organics, there's nothing that we're using right now. There's just a lot of add me to the tank and let's see if it works stuff Steve.

MR. ELA: Yeah. I mean that's -- yeah. You and I know that. I just wanted to get it on the record, so thanks.

MR. CRAVER: Okay.

CHAIR BEHAR: Okay, thank you.

MR. CRAVER: Right, thanks.

CHAIR BEHAR: Next up is Paul Vandenberg, and on deck is Jackie DeMinter.

MR. VANDENBERG: Good morning. I'm Paul Vandenberg, wine grower and chief scientist for Paradisos del Sol. We are an estate winery and certified organic vineyard. My primary reason for coming today was to thank you for the rather challenging tasks you all take on in helping us figure this out, and to encourage you to keep the standards high.

Some of the things previous speakers spoke about blueberries. I often look at blueberries in my neighborhood and wonder how that can possibly be certified organic. Confined animal feed operations, that shouldn't even be in your arena in my view. You should send that back to the Secretary of Agriculture.

One of the things being discussed, hydroponics. Absolutely contrary to the fundamental basis of organic. We are supposed to be building our soils. That's something we feel like we've done quite successfully. We have just completed six years of the zero use of any inputs on our farm other than labor, water and manure,

no pesticides of any sort.

Vitis vinifera, the wine grape, has a natural problem in the world today, and that is originated in Eurasia, where there was no powdery mildew. Powdery mildew is native to the Americas. We believe we are the only commercial vineyard on earth who is not using chemical treatments for the prevention of powdery mildew.

So these things are possible if people really pursue them. So I'm going to encourage you to continue maintaining the high standards, and to try and avoid some of the pressures from the large corporate farms who are trying to pursue organic as a profit thing and want to use things that perhaps they shouldn't, and are not required to provide proof of soil building and increased biodiversity on their farm.

I don't have an insect problem because I have today five species of flowering plants in bloom in my vineyards, providing a pollen and nectar source for a lot of the important predatory insects. They control the pests in my

vineyard. You cannot find leafhoppers in my vineyard. You cannot find grape mealybug in my vineyard.

Sprays may not be necessary. So anyway, thank you for your work. I appreciate your efforts on our behalf, and please continue to keep the standards high.

CHAIR BEHAR: Rick.

MR. GREENWOOD: Thanks. So tell me how you control the powdery mildew?

MR. VANDENBERG: Most vineyards use a trellis system that in my view has been obsolete since 1975. There is this area we call canopy management. Powdery mildew theoretically will not survive in strong, direct, ultraviolet light, which is something we have in Yakima Valley.

I'm not finding that entirely true. There are some varieties, some cultivars we have that it's not working so well. So I have a couple of cultivars we're starting this year. We're going to try and control powdery mildew with a single application of stylet oil at bloom.

But I have a number varieties, angelasian semillon (phonetic) that have not a problem with it, as long as we keep the canopy and well-exposed to sunlight, which also makes better wine.

MR. GREENWOOD: I have a small vineyard, and the leaves sometimes get together and there's shade between them and moisture, and where you still don't get --

MR. VANDENBERG: Labor is a really big input for us. There's these things called shoot thinning and leaf pulling.

MR. GREENWOOD: Okay.

MR. VANDENBERG: Thank you.

CHAIR BEHAR: Sue, Steve and Asa. No, no. We're not done with you. Sue, Steve and Asa.

MS. BAIRD: What is your average humidity, because in Missouri, we just cannot grow organic grapes. I'm sorry.

MR. VANDENBERG: Well you know, the fundamental rule as proposed by Sir Howard in

Rodale way back when I was a child reading organic gardening magazine in 1960, is you first have to choose the right thing to grow in the right place. So I chose the farm I'm on specifically because I thought it was possible to grow grapes without these inputs.

It's taken me a while to get there. I had a lot to learn. But yeah. In our neighborhood, if the thermometer hits 95 degrees, the humidity is below 20 percent and the heat index is 92 or 93.

MS. BAIRD: Yeah, and absolutely in Missouri if it hits 95 we've also got 85 percent humidity.

MR. VANDENBERG: Well, there's a lot of work being done at Cornell at other places on cross-breeding the Native American species with resistance to powdery mildew with the European Vitis vinifera. What's going to happen east of the Rockies in the next few decades is going to be really amazing.

There are -- there's a lot of work

being done in France, where a third of all the pesticides in France are believed to be used on the three percent of the farmland that's vineyards.

CHAIR BEHAR: I'd just ask the Board that if you're looking to the speaker as a crop consultant, maybe you can do that afterwards. But if you're specifically asking questions about what's before us on the docket, that would be okay. So next I have Steve, then Asa and Emily.

MR. ELA: Just you're not done yet. I just want to say there are unsprayed orchards in Colorado. So I don't want you to be the only one but --

MR. VANDENBERG: Vineyards or orchards?

MR. ELA: Vineyards, I'm sorry.

MR. VANDENBERG: Oh, yes. We've been hesitant about making the claim. I've been saying the world's first zero pesticide vineyard, in the hopes that there would be others. And yes, Colorado should be able to do it all the

time.

MR. ELA: Similar, similar climates, so yeah.

MR. VANDENBERG: Right.

CHAIR BEHAR: Okay, Asa.

MR. BRADMAN: So just to confirm, you aren't using sulfur or --

MR. VANDENBERG: Sulfur is a pesticide.

MR. BRADMAN: Right. So you're not using it?

MR. VANDENBERG: Our only inputs for six years is labor, water and manure.

MR. BRADMAN: Thank you.

CHAIR BEHAR: Emily.

MS. OAKLEY: So we have this petition before us hopefully for body alcohols, and one of the points that has been raised is that it's necessary because there's a tremendous amount of labor in desuckering the tobacco, and I'm wondering based on your comments on the amount of labor that it takes to do shoot thinning and

pulling, what your thoughts are on materials like that one.

MR. VANDENBERG: I think as we stand now, people tell me what I do is totally impractical and it probably is, because we do -- it's my labor primarily. We're a small vineyard. I do believe, however, that things are changing, just as the apple growers are all preparing for robotic picking.

I think the technologies that are coming down the line for thing like mechanized shoot thinning, a machine that can shoot thin the way I do. Right now there are mechanical ones that just knock out a certain percentage, whereas we remove very selectively for shoot thinning and leaf pulling.

I actually wish I had one of the leaf blasting machines I call them that uses air to disintegrate leaves in the fruit zone, because we spend a lot of time doing that by hand. But there's not one of those machines in my neighborhood; otherwise, I would very happily

rent that.

So what I do right now is not practical I think for a large-scale commercial operation, because labor just doesn't work. But I think in a few years that robotic pruning and robotic shoot thinning can make it possible. So yeah. I don't think everybody can get away from using spray materials for powdery mildew. I don't think it's possible on some varieties.

Don't grow tempranillo, don't grow chardonnay if you want to avoid powdery mildew. Those will probably need something, until we create some genetic alternatives to those.

CHAIR BEHAR: Okay. I have just one comment. I've often said when people have problems with insects and diseases on their organic farms that we're the ones with the big brains, and so we should be trying to figure it out. So I applaud you for the elegant system that it sounds like you have on your farm.

MR. VANDENBERG: Thank you.

CHAIR BEHAR: Now we're finally done

with you.

MR. VANDENBERG: Sure, because I've got to go back to farming.

CHAIR BEHAR: Jackie DeMinter is next, with Winston Rost on deck. Hello Jackie.

MS. DeMINTER: Good morning. My name is Jackie DeMinter. I am the Certification Policy Manager at MOSA. We certify about 2,150 organic operations through the United States. I will be commenting on vaccines, seed guidance and paper pots.

Of the 870 livestock operations certified by MOSA, approximately 500 use vaccines. MOSA has categorically allowed the use of vaccines and because of this, we only have about 50 different products recorded in our materials database.

If verification of non-GMO status is to become a requirement, we'd appreciate a resource to reference for quick answers, and a phase-in period to gather all of the necessary information from farmers and to enable us to

approve the products in use, or to redirect them to allowed products, if any are found to be unacceptable.

We do not want to see a disruption of the tools organic farmers have come to rely on. There are at least a couple of paths the NOSB could take in making a recommendation to achieve the goal of minimizing the use of vaccines produced using excluded methods.

MOSA could align with a direction to continue business as usual, but with attention toward addition of any concerning vaccines as prohibited to the National List, or we could align with a more thorough review process with established resources to ensure consistency in decision-making.

Seed guidance. MOSA certifies 1,875 operations for crops. We encourage you to pass the proposal at this meeting, to enable the NOP to take up revision suggestions and enable additional public comment. We support the majority of the new and revised updates for

strengthening the seed guidance.

Additional clarification is needed, write this down, on additions to 4.1.6, 4.2.1(b)(3) and (b)(6) and in Section 4.4.4, we think you should remove the reference to transplants and minor edits are also needed in (a). Our written comments detail our requests for clarification.

Paper pots. MOSA certifies approximately 500 vegetable and transplant growers. While we support the inclusion of paper pots to the National List for use as a crop production aid, we also think the NOSB process is sound, and are looking forward to seeing the results of the technical review on the fibers.

In the meantime, we'd like clear guidance regarding the approval of new products, but similar to those that we are currently allowing. I'll end by stating our continued support for NOSB process and the work you do, and to the program we'll add our voice, which is representative of several hundred small family

dairy farms to the many comments you've already received. Please move forward with a final rule on origin of livestock.

Sue, MOSA does not allow organic dairy animals to be removed from organic production and then later returned to the organic herd. Thank you. I'm happy to answer any questions you have.

CHAIR BEHAR: Thank you. Any questions from the Board? As usual, MOSA is very complete and thorough I've noticed in the comments.

MS. DeMINTER: Thank you.

CHAIR BEHAR: Okay. Next up is Winston Rost.

MR. ROST: Rost, yeah.

CHAIR BEHAR: And Kyla Bedard is on deck.

MR. ROST: My name is Winston Rost. I'm a certification specialist for Vermont Organic Farmers, the USDA accredited certifier owned by the Northeast Organic Farmers Association of Vermont. We certify over 700

organic producers in Vermont. 200 of those are maple producers. Washington does apples; we do maple syrup.

I would like to thank the Board for all of its hard work and for the opportunity to give comment today on two agenda items. We support -- number one, we support the Subcommittee's work toward genetic integrity transparency of seed grown on organic land.

We appreciate that the Subcommittee has expressed the tolerance levels for seed contamination will not be created at this time. This proposal will be most successful if used as a tool for collecting information and determining levels of contamination, as opposed to being a means to determine compliance.

We do not feel that this proposal, if implemented, would be a burden to organic producers in Vermont. However, we do not have a significant group of producers who grow organic corn. In addition, the suppliers of organic corn seed in the state have multiple varieties of

organic feed corn available to producers.

Number two, we appreciate the NOSB starting the process of developing specific criteria and questions for assessing cleaning and sanitation materials used in organic production. Cleaning and sanitation materials are an important tool for organic processors, crop and livestock producers.

We also support the Subcommittee's request for a technical review of cleaners and sanitizers. At the same time, it is essential that certifiers and producers have guidance about how to review and use these materials. We support the ACA's practical comments and feel their suggestions will help to improve the discussion document. Thank you.

CHAIR BEHAR: Thank you. Any comments from the Board? All right, thank you very much. Next up is Kyla Bedard with David Moore on deck.

MS. BEDARD: All right. My name is Kyla Bedard. I'm a certification specialist for dairy for also Vermont Organic Farmers or VOF.

I'd like to thank the NOSB for all of your hard work and opportunity today to comment on paper pots and use of excluded method vaccines.

We appreciate the NOSB adding paper pots to their work agenda in a timely manner. VOF continues to stress the importance of this product to small-scale vegetable producers in Vermont. We request that the NOSB reviews this material that virgin paper be included as part of that review.

This may mean requesting that the technical review includes virgin paper as well as recycled paper. If additives such as synthetic fibers are concerned, then allowing virgin paper may offer better control over what additives the paper contains.

In addition, we ask that the NOSB take a practical approach to reviewing this material, understanding that paper is already widely used in organic systems such as mulch and pots.

We agree with the Subcommittee's emphasis on the importance of vaccines to organic

livestock producers. Vaccines play a critical role in preventing disease. We believe that the current regulations prohibit the use of vaccines produced with excluded methods, unless they are on the National List.

Currently, VOF reviews all the vaccines used by our producers to determine if those vaccines have been produced with excluded methods. We have not found that the livestock producers we certify, primarily dairy and small-scale beef, pork and poultry operations, have needed a vaccine produced with excluded methods.

However, we do not certify large poultry or pork operations and we understand that there may be vaccines needed by livestock producers in other parts of the country that are not needed in Vermont. Therefore, we support the change proposed by the Subcommittee that would allow producers to use vaccines made from excluded methods when alternatives are not commercially available.

For clarity, we suggest using a

definition of commercial availability that is similar to seeds and planting stock, quality, quantity and specific to a disease or health issue. Documentation of commercial availability could include statements from a vet and statements from suppliers of vaccines.

To close, since we have Dr. Tucker's ear, VOF would like to stress the importance of implementing the final rule of origin of livestock. We cannot delay on this and further negatively impact our small dairy farmers. I hear of changes in the industry. If anything, the biggest change has been this drastic growth in western dairies enabled by the NOP's inaction to publish the final rule.

We greatly appreciate the opportunity to express our concerns, and thank you all for your time. Any questions?

CHAIR BEHAR: Any questions? Ashley, Dave. Okay, Ashley.

MS. SWAFFAR: So since you've been kind of doing the ground work of asking on

vaccines, are you seeing them as difficult for producers to gather that information if vaccines are available? Or if vaccines are made from excluded methods or --

MS. BEDARD: We actually -- well, our materials -- I don't do the materials review, but we do have a staff person dedicated to that, and they're actually doing all the reviewing. We don't require the producer to do that. If there is a vaccine that we have not approved, then they can -- and they'd like to use it, then they are allowed to request us to review it. Does that answer it? Go ahead.

MS. SWAFFAR: So your staff inspector or your staff reviewer is making the determination if the vaccine is genetically modified or made from excluded methods or not?

MS. BEDARD: Yeah.

MS. SWAFFAR: What information do they use?

MS. BEDARD: That's a good question, and I'm not the person to answer that. But I can

have them be in touch.

MS. SWAFFAR: Please do.

MS. BEDARD: Yeah.

CHAIR BEHAR: Okay. Next is Dave.

MR. MORTENSEN: Yeah. Kayla, I just wanted to thank you for your directing some comments at the regional diversity across the country, you know. It's really striking when we look at some of these things for a certain region or a certain scale of operation. It's helpful to put the comments into context and that was helpful in your written comments and in what you said. So thanks.

MS. BEDARD: Yeah.

CHAIR BEHAR: Thank you.

MS. BEDARD: Thank you.

CHAIR BEHAR: Next up is David Moore, with Dolana Blount on deck. And remember there are animals over there on the table.

MR. MOORE: Good afternoon. Thank you for this opportunity. I'm Dave Moore. I'm a California licensed agricultural pest control

advisor and qualified applicator. I work for Neudorff, and I'm here today to encourage you to vote for the continued listing of ferric phosphate as a molluscicide on the National List.

Your votes are simply yes or no on a simple question, does ferric phosphate continue to meet all the required criteria for continued listing? Simple question, simple answer, it's yes. You're not voting on the NOP-compliant, OMNI list of finished product or any other individual ingredient.

Ferric phosphate continues to meet all the required criteria for inclusion, and no new information has emerged since the last sunset review to the contrary. Therefore, there is no reason under the law or the regulations to vote to delist.

The Crops Committee raised four specific questions in their request for comment. Our detailed answers are posted in posting of 4/3/2019. Here again, no new information. The unfounded and unattributed assertion that ferric

phosphate is somehow more toxic than previously known is untrue. No citation or verification is offered and the Committee notes the request for comment on either document.

This assertion is further refuted by EPA required toxicity testing of all pesticide products. The LD50 of Sluggo is in excess of 5,000 milligrams per kilogram, has always carried a caution signal word on the EPA label. Of 872 comments posted, only 15 contained the word "ferric." None of those came from unaffiliated members of the public.

They came from accredited certifiers, growers and grower groups and trade associations, plus Neudorff. Four stakeholders took no position. Of eight that did, seven plus Neudorff were in support. There was a single comment in opposition from the advocacy group Beyond Pesticides. It cited discredited arguments that had been before this Board for review and rejection three times in the last decade.

Further, Beyond Pesticides in their

own paperwork attributed zero categories of harm to ferric phosphate use in organic agriculture. Ferric phosphate continues to meet all the required criteria for inclusion on the National List. Please vote accordingly.

I'm David Moore. I work for Neudorff, and I appreciate your time and attention. Thank you very much.

CHAIR BEHAR: Any comments from the Board? All right, thank you.

MR. MOORE: Thank you.

CHAIR BEHAR: Next up is Dolana Blount, with Brian Baker on deck.

MS. BLOUNT: Thank you. My name is Dolana Blount and I'm with PURE Bioscience. Thank you for the opportunity to again present the Board with comments supporting the addition of silver dihydrogen citrate, referred to as SDC, to the National List.

I defer to the written comments submitted by PURE Bioscience earlier this month and other comments during the webinars to support

our position that SDC is not nanotechnology, that the concerns over anti-microbial resistance do not outweigh the benefits from SDC's use, and that the concerns over environmental impact have been addressed by the EPA and FDA in their reviews of SDC.

I want to focus on the essentiality of SDC in organic processing. Including SDC for use as an optional anti-microbial intervention will support processors and effectively reduce the pathogen populations on inanimate and food surfaces, and can help mitigate the potential for resistance through rotation practices and alternative intervention steps.

PURE is aware of many processors who are eagerly anticipating the ability to use SDC in organic processing. For a variety of reasons, many of these processors are unable to comment publicly, but their desire to have SDC allowed for use is strong.

One major produce processor has been investigating the use of SDC on non-organic fresh

cut leafy greens during processing. The results demonstrate that SDC effectively yields non-detectable pathogen concentrations on treated, processed produce. These results currently are being validated in studies coordinated with the U.S. government.

This level of pathogen reduction is not common in fresh cut produce, and represents a significant advancement in food safety. Another processor struggling with the negative effects of acidified chlorine on strawberries was planning to discontinue strawberry processing, in order to protect their brand reputation.

Using SDC as an alternative to acidified chlorine, this processor observed twice the pathogen reduction and was able to use half the amount of chemistry to achieve the result.

In regard to surface sanitation, we are frequently contacted by organic processors who want alternatives to PAA and chlorine compounds, citing worker safety concerns due to off-gassing and employee complaints as their

greatest concern, followed closely by the damage and deterioration to their equipment from these chemistries.

SDC is odorless, does not off-gas and is less corrosive. Moreover, unlike other hard surface sanitizers, SDC meets the advocacy performance standards for disinfection and sanitization at the same use level. Processors currently using SDC for surface sanitizing on their non-organic lines wish to get the same benefit on the organic lines and have a cohesive process in their sanitation and FSMA compliance plans.

It's important that this level of protection is available to both organic and traditional processors. We remain confident that SDC is an essential tool to supporting organic processors in meeting food safety goals, and will be a valuable addition to the National List.

I encourage the Board to approve the addition of SDC to the National List as an allowed substance at this meeting without further

delay. Thank you for your time and all of your dedication to this program.

CHAIR BEHAR: Thank you. Questions, comments from the Board? Emily.

MS. OAKLEY: Hi. Can you help me understand whether some processors who hesitate to comment on this material, because I find that confusing?

MS. BLOUNT: I do too, because when they contact us and when do you have organic and are you working on it, we give them the opportunity and they have corporate policies against making public comments that could potentially seem as though they were endorsing one thing over another.

Contrary to what they want, but that's their corporate policies. That's what they're sharing with us.

CHAIR BEHAR: Anyone else? Tom, Ashley.

MR. CHAPMAN: Thank you for your detailed public comments and for addressing items

specifically raised in our proposal. I know you didn't plan to comment on it in here and other folks commented on the webinars. But can you talk a little bit about concerns raised about anti-microbial resistance and why you don't think that's a concern that should prevent this listing?

Also, I want to know if you in the approval or in the application or manufacturing of this process, in your sale or manufacturing of this, has it been -- or the development of it, have you ever been contacted by CDC, World Health Organization, American Medical Association or any other medical community that's, you know, struggling with the challenge of anti-microbial, antibiotic resistance, and have any concerns about your application of this material been raised?

MS. BLOUNT: I've got both of your questions. I'll start with the last one. So anti-microbial resistance that's been raised in the comments recently and just the literature

that's out there, it's stemming from treatments through wounds, persistent wounds that are treated with silver-impregnated bandages and topical applications.

These applications are designed to release very small amounts of silver over time. But that is also not a controlled release. For bandage as an example, the wound juices, for lack of a non-technical term, will interact with the bandage and then release silver ions. But it could release a couple of PPM, it could release more, it could release less.

These are where there have been some clinical isolates of resistance. But what They've also found in research is that it's transient resistance, and when silver is removed, they don't continue to express those genes. No, I have not been, the company has not been contacted about resistance or concerns with resistance whatsoever in regard to SDC.

The beauty of SDC is that yes, silver ion is the primary active ingredient, but it is

coupled with citric acid, and the citric acid is a food source. It's almost blinding the silver when it's applied, and so organisms will bring it in.

So while silver has multiple modes of action, resistance is difficult for organisms to obtain and maintain, but the citric acid as a side component also helps reduce that potential for development.

MR. CHAPMAN: And then on the nanomaterial front, you know, we have a previous recommendations that hasn't been adopted formally or it will not be adopted formally given the NOP's response to it, stating our concerns with nanomaterials, engineered nanomaterials being used in organic applications.

This has been codified in several international organic standards to an extent that it hasn't happened here domestically. Is there, is there language you could recommend if this material went back that -- because you claim this is not a nanomaterial that could help mitigate

the concerns of the community that this isn't a nanomaterial, that nanomaterials would be prohibited, you know.

We attempted that in the language the first time that we were told would not allow this material. So is there some other compromise language that PURE Bioscience could recommend to mitigate that concern?

MS. BLOUNT: So yeah. The challenge with what you proposed, and I appreciate what you are trying to do, is that you assigned a particle size constraint to a technology that has no particles. And so you can't prove a negative, and so then there's a challenge for certifiers to say that folks that are using it fall within that limitation.

You could say that it contains no particles, you know, that silver dihydrogen citrate, which only my company makes. So we could say that that makes no, contains no particles whatsoever. The challenge then would be and I would ask you, the Board and, you know,

certifiers in the room, what would then be acceptable proof to a certifier so that a processor could use that and show that it doesn't contain particles?

We've shown you that. I have given you imaging and I've given you dynamic light scattering and if that data is sufficient for the product as a whole. But having to run those tests on every batch every time is not -- that's prohibitive.

MR. CHAPMAN: The general practice for determining compliance, the annotation requirements on National List items is an affidavit from the seller or the manufacturer of the item --

MS. BLOUNT: Perfect.

MR. CHAPMAN: That states compliance with, with what's been required.

MS. BLOUNT: So I think some sort of annotation that it is not nanotechnology and contains no particles is acceptable.

MR. CHAPMAN: Okay. That would be

something you'd be willing to work with us on if this material is brought back in?

MS. BLOUNT: Certainly, absolutely. Great. Thank you all.

CHAIR BEHAR: Oh, sorry. Next up is Brian Baker, with Beth Unger on deck, and then after that we will take our lunch break and we'll see how long that will be, depending on what happens to the next two speakers.

MR. BAKER: Thank you. The National Organic Program, members of the NOSB, Madam Chair, thank you for the opportunity to provide public comment to the National Organic Standards Board. I'm Brian Baker, president of IFO North America. IFO Organics International is the organic agent of change for true sustainability in agriculture value chains and consumption.

We are working on behalf of its membership, the global organic movement in over 120 companies, countries sorry. IFO North America is a regional body of its members in the United States, Canada and the English-speaking

Caribbean. Our purpose is to educate the public, serve as a forum to exchange ideas, engage in activities to advance organic agriculture and its principles.

IFO North America wants to speak to you on three topics today, fraud in international trade, harmonization of international standards and organic 3.0. IFO has been engaged in protecting organic integrity for over 40 years. Fraud is a global issue. It's nothing new. It's been around for as long as there's been organic.

International cooperation through public-private partnerships are essential to protect organic integrity. We're pleased to hear the USDA is working with the International Organic Accreditation Service on country commodity studies and organic supply chains.

IFO offers help in providing greater transparency in international supply chains and data sharing. In making recommendations and setting standards, the NOSB and NOP should be aware how our trading partner standards compare

to the U.S. Harmonization is important to avoid trade distortions.

The organic market provides many opportunities for small holders in developing countries. Some of them are trading with both the -- or having products shipped both to the U.S. and Europe. Farmers are required to comply with all standards. The international reputation of USDA is undermined when it falls short of international norms.

No other standard permits hydroponic production. IFO's standards require terrestrial plants to be grown in soil, explicitly prohibits hydroponic systems. There's a global consensus that organic animals are born and raised on organic farms and managed organically from birth.

IFO has published a position paper on compatibility of new genetic techniques. We advise precaution. The NOSB plays a crucial role in protecting organic integrity. However, you can't do it all and you can't do it alone. Thank you.

CHAIR BEHAR: Questions from the Board? Thank you very much, Brian. Next up is Beth Unger.

MS. UNGER: Where's your cow? It's appropriate. Thank you and I'm not going to keep you from lunch for very long. But I do have a few things I want to say, not too much about what's on the agenda so far are two things.

First of all, I want to approach the NOP with our sincere appreciation for your efforts in the dairy compliance project. I think that's a critical project. We need to find a clear path to clear and consistent application of the final rule.

I don't believe that we're there, and it's creating a lot of difficulties within the entire community, much of which you've heard over the last two days. So one of the areas about -- that really excites me is I believe that you're setting a great path to ensure that certifiers are perfectly clear on what it takes to verify compliance with the pasture rule for all

certified operations, you know.

This is an area that is very important to us. Also, I'm going to echo the same sentiment you've heard over and over and over again, and that is the importance of getting a final rule on the origin of livestock out there. It's one of those very inconsistent areas which really isn't a part of you doing a compliance project but --

And staying on that same theme of this clear and consistent application of the rule, it's really disheartening to see things like the organic livestock and poultry practices final rule withdrawn. That said, I am so happy that the Accredited Certifiers Association took this up and took it in their own hands to create a best practices guide that really was more or less an implementation of that.

It was not a new regulation. It was never intended to be a new regulation. It was only clarified the existing regulation and never should have been withdrawn. So I applaud the ACA

for doing that work because this is the industry saying we want this to be equal across all areas.

About your agenda items, our opinion is iodine does not need MPE. I believe the conventional dairy industry has moved away from iodine with MPEs, and they have MPEs puts organic products that was at risk because those do show up in tests when you're exporting dairy products. So yes, they have to get rid of the MPEs, and that's all I have. Let's go to lunch.

CHAIR BEHAR: Ashley, Tom.

MS. SWAFFAR: Following up on that, we heard earlier that if we were to annotate it, there would be a little bit of concern of supply of iodine without MPEs. Do you see that being an issue.

MS. UNGER: I do not.

MS. SWAFFAR: Thank you.

CHAIR BEHAR: Tom.

MR. CHAPMAN: Once I see that fish oil before, we all have some fish for lunch. You guys commented in support of fish oil, noting

that it supports nine million pounds of milk sales?

MS. UNGER: Uh-huh.

MR. CHAPMAN: Do you have an idea of what that equates to in terms of farms supported?

MS. UNGER: Well, it depends upon the size of the farm. But --

MR. CHAPMAN: Average, bigger?

MS. UNGER: You know, that's an interesting question. I cannot give you an answer to that, and I, you know, kind of push back on you to say that yeah, it supports some level of milk supply that, you know, is in dire straits right now. So you don't want to take products off of the shelf that are, you know, utilizing organic milk.

And also you don't want to take away the choice of consumers who want to purchase, you know, a product that has this addition to it. And it is on 606, which has the commercial availability clause, and since we have no aquaculture standards, you can't find it

organically.

MR. CHAPMAN: So you hit my second of three questions, which is that you don't think it's -- given what's coming on the dairy market right now, given what we've heard these last few days, it's not the right time to take dairy products out of the marketplace?

MS. UNGER: Yes.

MR. CHAPMAN: And then is -- in your products that contain fish oil, how are they labeled? Is it clearly labeled? Does the consumer know what they're buying?

MS. UNGER: Absolutely.

MR. CHAPMAN: Thank you.

CHAIR BEHAR: Anyone else? Okay. So we will take a break for lunch, but I first want to say that Amy van Saun, Dave Carter, Nathan Frizzell and Marshall Talbot will be all on deck in that order. So you think about, you know, how close you are going for lunch, so you can be back in time. We will get back at 1:45 p.m.

MALE PARTICIPANT: And a reminder to

everybody. We've got a reception from WSTA and Tilth Alliance tonight on the -- I forgot my crib sheet -- fourth floor in the Northwest room. There's flyers out front to remind you of that. Thank you.

CHAIR BEHAR: Fourth floor reception tonight.

MALE PARTICIPANT: In this building, yes.

(Whereupon, the above-entitled matter went off the record at 12:36 p.m. and resumed at 1:47 p.m.) CHAIR BEHAR: So I do want everyone to know that we are actually right on time at this moment. So if we all behave, that's the caveat, we can pretty much stay on time. There are a few people on the waiting list, and I'm hoping to get to them. So that's why I want to start on time.

Looks like we have enough Board members present to start the public comment. So first up is Amy van Saun with Dave Carter on deck.

(Pause.)

CHAIR BEHAR: Amy went somewhere for lunch and didn't get back. I did see Dave Carter. Dave? Oh. Are you ready go, and then we'll come back for Amy later.

MR. CARTER: Madam Chair, members of the Board and Dr. Tucker, I don't see her here yet but --

CHAIR BEHAR: Not yet.

MR. CARTER: My name is Dave Carter. I wear a number of hats literally and figuratively. I'm Director of the National Bison Association. I am a bison rancher. I am the principal in Crystal Springs Consulting Company and a NOSB survivor. I'm here today as a consultant on behalf of Merck Animal Health. But before I get into their comments, I want to say two things from a principal standpoint.

A is to thank you for all of your work. Been there, done that, know this is a tremendous investment of time and energy, and I appreciate all that you do on behalf of the

organic community. I also was pleased to hear the words "pet food regulations" uttered at the beginning of this meeting.

Unfortunately, they were uttered in connection with unfinished business, and it's only been 15 years since the Secretary of Agriculture said that there ought to be pet food regulations, and those have been written and they need to get over the finish line.

Now on behalf of Merck, Merck are the folks that brought us fenbendazole, which we were pleased was put on the National List in 2012. We think it needs to stay on the National List. It's a much better tool, much more eco-friendly to earthworms and dung beetles than what was on the list at the outset.

It's interesting to note though in your Board packet on page 68, when there are the comments, the report from the Subcommittee, I just want to read. It says "Parasiticism may be the weakest link in the organic livestock production. Outbreaks of disease due to nematode

parasites can happen even in well-managed flocks."

It's interesting the use of the word "flocks" when parasiticides are allowed in dairy stock and fiber animals. And as one of the previous commenters said this morning in response to a question about scale in poultry production, he said one of the biggest barriers to getting birds out on pasture is the parasite load.

Well, I just want to do a little foreshadowing that Merck has a product, fenbendazole product that is made for poultry, and we are in the process of preparing a petition that will be coming before the program and before you to allow fenbendazole as an emergency treatment in organic laying flocks.

So we want to provide those pasture producers with another resource. Again thank you very much, and I'm here to answer any questions, and I'm a little disappointed though. I don't see a bison over there so --

CHAIR BEHAR: I was just about to

apologize, yeah. And by the way, sheep are in flocks.

MR. CARTER: Okay.

CHAIR BEHAR: Okay. Any comments or questions from the Board for Dave Carter? Always wonderful to see you Dave.

MR. CARTER: Thank you.

CHAIR BEHAR: Okay. Is Amy van Saun here yet? Okay. Nathan Frizzell? I see somebody walking, and then up on deck is Marshall Talbot.

MR. FRIZZELL: Good afternoon. My name is Nathan Frizzell, the Director of Operations for our family owned calcium supplement and sun shade product manufacturing company, Full Measure Industries.

We manufacture two products, Full Measure Cow, which is a ground applied calcium supplement, and Reflections, which is a calcium-based foliar applied shade product and field temperature regulator.

Calcium is widely used in agriculture,

and is considered the number four production ingredient behind N, K and P. Calcium is an essential building block for cellular growth and for cellular development. It's also important in absorbing and the availability of other minerals and nutrients into plants.

I'd like to respectfully request that calcium acetate be added to the National List of approved substances for organic production under vitamins and minerals and as a production aid. Calcium acetate is naturally occurring in nature, and although it's been discussed as being listed as a synthetic, it is not artificial and I'd remind you that there is -- there are no perfect materials.

The formulation of calcium acetate in nature is a process whereby non-soluble calcium becomes available and soluble through microbial activity and through the introduction of acidic materials. The EPA has placed calcium acetate on the safer chemical ingredient list for processing aids and additives, as a safer replacement for

traditional ingredients.

EPA has verified calcium acetate to be of no concern based on experimental and model data. EPA has also identified no toxic end points for birds, plants, aquatic or soil organisms. The joint FAO/WHO Export Committee on Food Additives has authorized calcium acetate for human consumption without limitation.

The FDA has also granted calcium acetate GRAS status as a sequestrant and direct food substance. Other calcium options that are approved for organic production have limitations. Calcium chloride is toxic to plants and animals in small quantities. Calcium nitrate is a good way to provide calcium and nitrogen plants, but it's not recommended for finishing crops as the calcium promotes growth which is not desirable.

I have some independent research supporting calcium acetate uptake and some Full Measure industry-sponsored research supporting the efficacy of both Full Measure Cow and Reflections calcium acetate as a shade product

and as a field temperature regulator.

It's to benefit for organic growers as pruning and shade gloss have their limitations. I thank you for the opportunity and welcome any questions.

CHAIR BEHAR: Steve.

MR. ELA: So obviously in the write-up on calcium acetate, I was the lead on that. I mean it's obviously a pretty benign product, no dispute on that.

MR. FRIZZELL: Sure.

MR. ELA: I think the biggest issue I see is we have not heard from a single grower in the public comments. I think there were only three public comments in total on the material in this docket. It's really hard to document essentiality that growers need and want this when we don't hear from any growers, and we've had other petitions before us that we voted down based on that.

So that's a tough one for me, and I guess would you like to comment on that?

MR. FRIZELL: Sure. Well, we've got some organic watermelon growers who have requested an organic product, and I can get you some statements from them. But like I said, we're a relatively small company. We're just getting started so --

MR. ELA: Yeah. I think our -- I mean and they may be out there, but we haven't heard of them. So that, I mean that like say for me, that makes it just really hard to say people really want this when there's just nothing in the docket that shows that. So I just want to give you that heads up.

CHAIR BEHAR: Anyone else on the board have a comment or question? Thank you very much.

MR. FRIZZELL: Thank you.

CHAIR BEHAR: Okay. We'll try Amy van Saun again. Okay. Marshall Talbot is up, with Sandra Mays on deck.

MR. TALBOT: Well thank you for the opportunity to talk today. My name is Marshall Talbot. I'm a field man for McDougall and Sons,

an apple, cherry and pear grower-packer- shipper in Wenatchee, Washington. I'm also a third generation farmer. Under my management, my family's apple orchard went organic in 2009.

Growing organic is fun and challenging, and some of the tools organic growers have are some of the same as conventional growers, like these loppers I brought here today. And everyone seems to use them a little differently, but it gets the job done.

But overall, organic growers just don't have as much or as full of a tool box as some conventional growers, and that's why I'm here today, is that some of our important integrated pest management tools are on the sunset list.

So the first one is calcium chloride, you know. It's an efficient product. I've kind of gone back and forth a little bit on it. But recently I found some research that it has benefits for post-harvest decay, and that's been done by Dr. Sugar, and it's used by most growers.

Another product on the list is pheromones. I brought a NoMate CM Spiral that was used a couple of years ago. It's a pretty small little product. It's used organically and conventionally, and you know, darnit if this doesn't just really work well.

It reduces the amount of sprays that are needed for codling moth protection on apples and pears, and you know, on the high density plantings, you only put one of these guys in the top third of the tree every four trees. So there's about -- there's not a lot of them per acre. They don't affect but beneficial insects, but they confuse codling moth, one of the primary pests of apples and pears.

In my opinion, this is a home run tool and it would be disappointing if we lost this product. Another one is horticultural oil. It's a huge part of organic IPM programs for apples, cherries and pears. A dormant application of this oil is one of our number one things for aphid control.

Potassium bicarbonate is used for powder mildew control, and that's primarily on organic cherries and dang it, growing organic cherries is hard, so we need to keep this product. Peracetic acid is used in the McDougall and Sons packing facility, and it's an important tool in the toolbox for a process where we just don't have enough tools right to lose a product like this.

I'd like to thank you again for the opportunity to talk, and kind of end with a final story. Just yesterday my wife and three of my kids were out for a drive, and my four year-old daughter was looking out the window, and she said hey daddy, look at the pear trees. I looked out the window and sure enough those were pear trees. So fourth generation, here we come so --

CHAIR BEHAR: Okay, thank you. Any comments or questions from the Board? Steve.

MR. ELA: I'll just comment it's great to have -- a number of you have come. I mean I used pheromones. I use oils, all the same

things, and yeah they're critical. It's really helpful. Even though I don't think there's much question about the necessity and that they're -- I mean I can't speak for the Board, but they're probably going to be relisted without much problem.

But this kind of comment really helps with that process because it shows us, I mean just like my comment to the last speaker, it shows us yes, these are important. We need to continue to have these in our toolbox. So thank you for taking the time to come and tell us that. That does help.

CHAIR BEHAR: And put it on the public record. That's really important, so those in the future can see that yes, there was support for these materials.

MR. ELA: And our process says this is a review meeting. Fall meeting this is going to come up again for a vote. So I know it's a pain to comment twice, but please put those comments into the fall again, because that's when the vote

comes up. I mean we take these into account too, and I know fall's not too busy, but you know, positive comments and industry's done a really good job on that on these materials. So thank you.

CHAIR BEHAR: Okay, thank you. Next up is Sandra Mays with Miles McEvoy on deck.

MS. MAYS: Good afternoon. I'm Sandy Mays. I'm with --

CHAIR BEHAR: Can you please put the microphone closer.

MS. MAYS: Sure. I'm Sandy Mays. I'm a senior associate and partner with Wolf DiMatteo and Associates. Wolf DiMatteo and Associates serves many clients that use cleaning and sanitation materials as required by law to ensure food safety. We applaud the Materials Subcommittee for lending their support to all NOSB Subcommittees in reviewing substances.

However, we're confused as to the necessity and purpose of this discussion document. Why question that these substances are

essential? Why request technical reviews before new or alternative substances are petitioned or current materials undergo sunset reviews? Why create a new system and framework for reviewing substances for the National List when there are required evaluation criteria and processes already in place, and why introduce the EPA's Safer Choice List?

The evaluation criteria suggested, toxicity, persistence, compatibility, ancillary ingredients are typical of any National List review. The criteria of application and use does not apply to other material reviews, and would introduce inconsistency to the process. How do these criteria relate to the principles of organic and the requirements of OFPA and the NOP?

EPA's Safer Choice List includes brand name products used in households and offices, not commercial manufacturing and handling operations, livestock operations or crop production. The formulas are held confidential, which is inconsistent with the NOSB petition process.

NOSB experience with EPA on the inert ingredients list should be considered before relying on cooperation with the EPA now.

Cleaning and sanitation materials are constantly changing in this business. Certifiers take note in organic system plants for these materials, and then review these materials whether or not they're on the National List. Materials not on the list must be thoroughly reviewed. Some tested to zero parts PPM when used, with the results recorded, and do not have contact with the final product. The system isn't broken. We recommend that the Materials Subcommittee not continue with this initiative.

On another note, we urge you to approve the use of pullulan in made with organic products. Adding pullulan to the National List as a non-agricultural substance allowed for use in products labeled made with organic allows the existing market established before the reclassification of pullulan to continue, and brings a substance under the review by the NOSB

and the National List sunset process.

Last, thank you for volunteering your time and hard work.

CHAIR BEHAR: Any questions from the Board? Thank you.

MS. MAYS: Thank you.

CHAIR BEHAR: Next up is Miles McEvoy and Jessica Walden is on deck.

MR. McEVOY: Hello. I'm Miles McEvoy. It's really fun to be on this side of the table. Thank you for all the work that you do, amazing work that you do. A lot of people I don't think understand the depth of work that goes into all your deliberations between meetings, all the countless conference calls and deliberations that you have. So really quite a testament to the organic community and you guys are doing great.

So I'm Miles McEvoy, former Deputy Administrator of the National Organic Program. I have a consulting business called Lacewing Auditing and Consulting. What I do is do internal audits of certifiers in different

places. I do training and do assessment of supply chains.

So a lot of fun work. It's great to be working in this community and helping to improve the systems. I want to -- I have a few different comments. One is I want to praise the National Organic Program and Jenny Tucker in particular for all the work that they've done. They've done amazing stuff over the last few years.

If you look at the enforcement stuff that NOP is doing, oversight of certifiers, the new training system that is being launched, really, really important stuff. The Organic Integrity Database continues to get better. So there's a lot of really great things that happening. Always room for improvement, but I really think that the National Organic Program and Jenny Tucker at the lead really deserves a lot of praise for that work.

I think we forget how lucky we are here in the United States compared to other

countries in regards to the robustness of the National Organic Program and what USDA does to protect organic integrity, the amount of audits that occur, the enforcement.

If you compare it to what happens in the EU or Canada, we're way, way ahead of those control systems. So we have to keep that in mind. But we also want to not forget that NOP has very limited ability to amend standards. So my comments that I submitted to the public record have to do with the concept of moving standards out of USDA, to form some kind of independent commission.

It could be through the American National Standards Institute. You could form something like Canada has, the Canada Organic Standards Boards which actually has control over the standards rather than just an advisory committee. You look at all the standards that have not been implemented. Pet food was just mentioned. Aquaculture, apiculture. A lot of things have been written, but there's stuck by

USDA's political process.

So recommend that NOSB should recommend an independent standard-setting authority that you guys can write a letter, make a recommendation to explore that concept to move standards forward, because they're pretty stuck. They have been for quite a while. 15 years for pet food and many years for other things as well. So thank you very much.

CHAIR BEHAR: You're a popular guy. Sue, Asa, Steve, Emily.

MS. BAIRD: Thanks Miles.

MR. McEVOY: Sure.

MS. BAIRD: And thank you for putting me on and then you leaving.

MR. McEVOY: Yeah. That was the Secretary, not me.

MS. BAIRD: Yeah, yeah. I wanted to know, I really am fascinated with this idea, this concept that you put forth and think it has a lot of merit. What would be our step as NOSB to implement that or to help that happen.

MR. McEVOY: Well, it would have to be changed to OFPA, because these standards are set through the organic, or the authorization to USDA is through the Organic Food Production Act. So it would have to be Congress that would make that change.

So the NOSB has very little ability to make that happen, but a recommendation from the Board could start the community to think about it. I mean there's a lot of work that would have to go into it of what makes the most sense, and this is a long term concept that should be discussed by the community and come to consensus of how do we create standards that represent the interests of the community five, ten, fifteen years in the future, because there's a lot of things that haven't happened.

CHAIR BEHAR: Okay. Next is Asa.

MR. BRADMAN: Just related comments. I'm thinking of like the ASHRAE standards for building ventilation or there's any number of organizations that set standards for operating

systems.

MR. McEVOY: Exactly.

MR. BRADMAN: But I'm always concerned with those about accountability and who gets to make the decisions, and how would they be able -- how would it function independent of the political system we have, and could we end up with the same situation? So again like Sue, this is a very interesting idea, but I'm wondering how it would -- how would it move forward or how would there be accountability?

MR. McEVOY: Yeah. Well, I think you would need to explore a couple of different models. One would be to have a federal organic commission that had the regulatory authority to set standards.

The other would be through more of a private standard-setting body like the American National Standards Institute that is in the business of setting standards with stakeholder involvement.

There would still be politics

involved. There would still -- you'd still have to figure out the whole governance of who gets to decide what the standards are. So that wouldn't go away, but at least you'd be able to -- to be able to establish standards that the community wants, and not have them repealed like your organic welfare standards or just stop completely like origin of livestock, or have standards written and not implemented like pet food and apiculture and aquaculture.

CHAIR BEHAR: Steve.

MR. ELA: Miles, somebody asked me earlier and actually I've already asked you this question privately. But I just -- again from the record, they said what are other examples of groups that would have federal rulemaking, I mean kind of rulemaking capability and federal enforcement, but not direct residing within the agency and in that political structure? Are there other examples in government of groups like that?

MR. McEVOY: Yeah. I think that's

where there's research -- study that needs to happen. The Federal Trade Commission would be something to look at because they enforce standards that are not -- for consumer protection that are not necessarily codified as much.

The NOP did do some work with the FTC for organic enforcement of non-agriculture products. Well, for textiles and products like that. So there are some concepts that could be explored. So I haven't done the research to be able to answer that question in any depth, but I think it's worthwhile looking at what those options are and whether there is a model that would serve the community better than the current system.

CHAIR BEHAR: Okay, Emily.

MS. OAKLEY: I found your letter very interesting as well, and have had some thoughts as well about the difficulty of housing a standards body within a government system. But I was curious to note that you thought that enforcement should stay with USDA, and you also

said that in your verbal comments as well.

I'm curious if you think there's ever a conflict in terms of interpreting the standards within USDA and then enforcing them, or if you think there might be room for that to also move with the standard board as well.

MR. McEVOY: Yeah. Well, I think looking at the Canadian model would be a very good thing to do, because they have the Canadian Organic Standards Board, which is a lot larger. I think it's about 40 members. It represents different sectors as well as different parts of Canada that serve on the board.

But then they also have a standards interpretation committee that's not -- that's part of the Trade and Community more and not -- I think there is government representatives on the standards interpretation committee, but it's not governed by CFIA.

So that could be a model for the interpretations and the standards, that they're kind of linked together. And then the government

in Canada is the one that's responsible for enforcement and oversight of certifiers. Now the Canadian model is not good on the enforcement side because they don't do much on the enforcement side, so that would not be a good part to look at.

But the standard-setting part is maybe a model that could be looked at. I would think that the interpretation of the standards should be welded with the standards-setting body, and not with the body that does the enforcement. It's very common for auditors to have a standard that they audit to, and so that inspection auditing can be a separate regulatory body that's expert at doing auditing and inspections and sampling and seeing whether or not the standard is being met. So I don't think that's -- that's not much of a stretch.

CHAIR BEHAR: Okay, Rick.

MR. GREENWOOD: How would you think this could be funded? Would it be the industry funding the group or would it be through federal

funding?

MR. McEVOY: Yeah, it would be through federal funding. So for instance, the Federal Trade Commission is federal funded. The International Trade Commission's federal funded. There's like there's a bunch of different small federal commissions.

There's like a marine transport commission, and they get, you know, like 50 to 100 million dollars a year. So it's a sizeable amount that they -- the NOP's budget currently is 15 million. So it's not unreasonable to think about a smaller standard-setting body having enough money to keep the board functioning.

That is one of the problems that Canada has, is that Canada has not funded the Canadian Organics Standards Board, and so they haven't been able to meet as regularly as they would like. But I would definitely see this as a federally funded standard-setting body.

CHAIR BEHAR: Okay. I have a question. I'm wondering if because we're really

basically a pretty young program within the USDA, if part of that is some of the reason that we're playing catch up on so many of our standards, you know. When it was first written, pet food, apiculture, mushrooms, and a lot of these were not necessarily thought of when the rule first came out.

And as of course as the organic industry grows, then we have need for more standards. So I'm just kind of wondering if at some point we might not need as much standard-making as we do now, and I'm a little bit concerned about the Canadian model. Of course, we can always model it however we want because there's not a lot of public input into that model, or not like this at least.

MR. McEVOY: Yeah.

CHAIR BEHAR: So there's some concern that I have there. But I'm just kind of wondering, going into the future, is this a model that works for the future as well as the present?

MR. McEVOY: Well, I'm not sure

exactly what the model is. I think it's a discussion about how do you form standards in the future when recommendations from this body from 15 years ago have still not been implemented into standards? So definitely there's a problem here, right?

You're making recommendations on practice standards, nothing happens. Or they get repealed. So you've got to -- I think we start, we have to start thinking about a different model of creating those standards that are so important to the future of the earth, and all our livelihoods.

So we can't make progress through the regulatory process at USDA because of internal politics or, you know, they're too busy or there's lots of reasons why it doesn't work at USDA, but it hasn't been working. So let's think about some other models.

CHAIR BEHAR: Yeah. I think you're expressing a lot of the frustration that the vast majority of people in the community feel.

MR. McEVOY: Yeah.

CHAIR BEHAR: I mean I think the program is quite responsive on materials.

MR. McEVOY: Right, exactly.

CHAIR BEHAR: But in practice standards, there's some areas where we're suffering because of the lack of implementation. Any other questions? Tom.

MR. CHAPMAN: I just wanted to take the opportunity since you resigned your post while I was chair and then didn't show up again until right now, I'd feel remiss if we didn't thank you for your service, your eight years, tilting at windmills, trying to move this community forward in the USDA. Thank you Miles.

MR. McEVOY: Thanks Tom.

MR. CHAPMAN: Thank you very much.

(Applause.)

CHAIR BEHAR: Next up is Jessica Walden and Garth Kahl is on deck.

MS. WALDEN: How do you follow that?

CHAIR BEHAR: You're an NOP alumni.

MS. WALDEN: I chose an ass. I need one. I'm Jessica Walden. I work with QAI. I'm an organic certifier. Today I'll discuss the handler sunset materials, L-malic acid and nutrient vitamins and minerals.

With regards to L-malic acid, I just want to stress the importance of the NOSB taking the National List materials through the NOP's classification of materials decision trees when you're doing your sunset reviews. The reason is because we certifiers need to know that there's a consistent way to use those decision trees. L-malic acid, several certifiers as well as material review organizations, we took malic acid through that decision tree.

And it's -- the second part of it created through defermentation, but it actually sort of originates from a synthetic source, the one that's commercially available anyway, that's used by everybody. So I just -- we just recommend that it is looked at again and recommend you add it to the National List in

605(b) as a synthetic allowed.

It's the one that was allowed initially and the one that was reviewed initially, but it's just not from a non-synthetic source.

With regard to nutrient vitamins and minerals, this is a very complex topic. On the one hand because of the interim rule published in September 2012, organic manufacturers of products like infant formulas are currently able to provide organic options that are nutritionally equivalent to non-organic products, and consumers are able to purchase organic product that meets the nutritional needs.

On the other hand, there's inconsistent interpretation and application of the use of nutrient vitamins and minerals in organic products. This causes consumer confusion and can weaken the confidence in the organic label.

Implementing the January 2012 proposed rule citing 21 C.F.R. 101.9 and 107.100 and

107.10 for infant formula would give the industry a specific list of nutrients to reference. However, the restriction of only using those nutrients listed in 107 for infant formulas that are in those CFRs, other than those recommended by industry experts, puts organic products in a competitive and nutritional disadvantage to non-organic products.

The FDA essentially allows anything that's GRAS into infant formulas that is backed up by scientific research, and the FDA has sponsored studies as well to determine the nutrient levels found in human breast milk and it's changing all of the time. So one way to resolve the issues might be to implement the January 2012 rule, and in addition create a subcategory as a part of the nutrient annotation for optional ingredients used in infant formulas or products that are unique foods that are often the sole source of nutrition for an infant or toddler.

So it's a sub-ingredient on the

National List only for infant formulas. Those nutrients would have to be repetitioned.

CHAIR BEHAR: Okay. Any questions? Tom.

MR. CHAPMAN: Can you finish your sentence and then I'll ask the question.

MS. WALDEN: Sure, I'm going to do a run-on sentence, and a task force could be developed. There would need to be changes to 600 as well in terms of evaluation criteria. It's much like the pet food proposed rule, whereby it's a specific food type. We've got a specific consumer base that needs a required nutrient.

CHAIR BEHAR: Steve.

MR. ELA: You brought it up, but I think a number of public comments noted that, you know, we have these fairly useful decision trees now, which I certainly use, but that the fermentation side of things is, you know.

As we've worked through some of these other synthetic/non-synthetic, agriculture or whatever, suddenly fermentation falls somewhere

in between and we keep getting some confusing classifications based on that. So I'm assuming you would support working on it, on a fermentation decision tree.

MS. WALDEN: Well, I think the problem with some of these materials is that there's several -- there's maybe a source material or two source materials that come together. Then after that there might be fermentation or further processes that happen.

So it's a long, drawn-out process that's using a lot of different materials to create one at the end of the day. So it's really just understanding exactly the source material and how that source material is made to begin with, and are we starting off with a synthetic already.

Fermentation is probably okay. In the decision tree, it's considered biological. So it's considered to create something that's non-synthetic. But you have to look at sort of the full chain all the way back to the starting

point.

CHAIR BEHAR: Tom.

MR. CHAPMAN: Two questions. One, you noted -- you're talking foods for sole source of nutrition, but you noted infants and toddlers. I assume that that could also be extended to enteral feeding for adults, medical foods that people can't eat?

MS. WALDEN: Yeah. I mean I would -- I would that possibly, you know, that that's the sort of thing that could be looked at if this was delved into a little bit deeper. I mean something has to happen with this whole nutrient vitamins and minerals.

But I think that those are good, you know. That would probably be lumped into the sole source feeding.

MR. CHAPMAN: And as a follow-up, so you talk about a need to repetition materials, because I guess the chicken and the egg question for you, what should happen first. Should we -- should we incur it to the adoption of the 2012

proposed rule, or should the materials be repetitioned first?

MS. WALDEN: I think that probably the adoption of the 2012 rule as a first -- I think that would be a good idea, just at least to get the right references for us, because we're talking about like the whole organic industry, all of the products that are produced. It would be great to have the true reference point.

And then in addition to that, you know, sort of -- I suppose I wouldn't, you know, we wouldn't -- there would be no enforcement action against those that are creating these sole source products. But they would have the opportunity to petition, to be a grandfathering in sort of thing, kind of like what happened with sodium lactate and potassium lactate.

CHAIR BEHAR: Okay. Thank you, Jessica. Next up is Garth Kahl, and then we are going to move into the waiting list folks, and we are four minutes early.

MR. KAHL: So thank you. My name is

Garth Kahl. I brought the branching coral this afternoon to remind us that synthetic nitrogen is a major source of greenhouse gases. It acidifies the oceans and hurts coral and causes dead zones in the Gulf of Mexico.

I've been an organic farmer for over 30 years and an organic inspector for over 22. I want to thank sincerely all the members of the Board for the sacrifices and daunting commitment of time that you make, and I'd also like to thank the members of the NOP who are here.

I think the recent government shutdown should make us all aware of how much work you do for us, and I hope you got your garden built Michelle.

So you have my -- already received my written comments, and other than making a quick plug to list oxalic acid, please vote to list oxalic acid, those items, I don't really want to talk about those. I want to talk about fraud.

As members of the Board consider laudable, proposed changes to the NOP rule, I

would ask that you please review and reaffirm the concept of sound and sensible, while at the same time remembering that every National List change or additional requirement, no matter how laudable, adds significant time to the workload of inspectors, reviewers and of course organic operators.

Right now there is a massive super-tanker sized threat bearing down on the organic movement. That supertanker is named the SS Fraud. Fraud is the threat to organic integrity that risks swamping our little boat and drowning everything we have been working to build since the days of Sir Albert Howard, William Albrecht and Lady Eve Balfour.

It is important to remember that the amount of time spent on inspection and review of organic operations is limited, and it's basically a zero sum game. All the hours spent on addressing relatively minor issues equate to less hours that can be spent performing additional mass balance, traceback and feed audits, and

cross-checking with other CBs, i.e. activities that stand a chance of detecting potential fraud.

One of my favorite quotes comes from the organic revolutionary and pioneer Masanobu Fukuoka, author of the book One Straw Revolution. He famously said most farmers ask what I need to do. I ask what can I avoid doing? I submit that the NOSB and the NOP need to ask themselves the same questions.

Where can our allies in government and other movements take the lead on things like over-harvesting marine organisms and the mandatory labeling of GMO vaccines, both for human and veterinary use. When I train and mentor organic inspectors, they will often hear me ask where is the real threat to organic integrity here?

So I would submit that we in the organic policy community need to stop and ask ourselves where is the real threat to organic integrity, and then act accordingly. Thank you.

CHAIR BEHAR: Comments. Sue?

MS. BAIRD: Thanks Garth. So I'm turning that question back on you. Where is our realest, most risk factor.

MR. KAHL: So I think -- so yeah. I think the biggest, the biggest risk is fraud. I think the program has come up with some good steps to address fraud. I think that inter-collaboration between CBs in a real time manner to assess sales, to assess volumes, particularly large volumes, particularly imports.

The certification of non-certified handlers and elements of the supply chain is critical. We need to move forward on those issues. Training is obviously important, but I think that that's the biggest, that's the biggest thing. We can talk about all these laudable things all we want, and if we have fraud pouring in, our brand, our trademark, our movement is swamped.

So those are the things I would -- you know, if I were -- if I were sacrificing like you are, and in your position those are the things I

would be highlighting more than, more than other laudable things.

CHAIR BEHAR: Thanks. Scott.

MR. RICE: Thanks Garth. You spoke very forcefully about oxalic acid being a useful tool, and I can appreciate that. But there's been a lot of conversation also this week about materials with a lack of standards or production methods being certified in the absence of standards.

So I wonder if you had any thoughts on listing a material for which there's no standards. We have a recommendation of course, but not a rule.

MR. KAHL: Right. Well, we have guidance of course, which is better than some practices and materials that are being certified. But I would say that the global situation is that there are multiple other international standards that certify honey. So the default standard worldwide, since most honey is grown in Argentina, Mexico and Brazil, organic honey, it's

the EU standard.

So most of the world's honey is produced under the EU standard, which permits oxalic acid. So we actually currently have, you know, a conflict between standards. You have a lot of honey that is coming into the U.S., that's basically certified under those standards, and then there's a de facto equivalency that's taking place, and in many cases oxalic acid is a stumbling block, because they're using oxalic acid because it's allowed under those standards.

I think that yes, we need to have -- we need to have apiculture standards created. But in the absence of that, we need to accept that there are very strong apiculture standards both in the EU, which we have equivalency agreements with, and in the Mexican organic standard, which we're moving towards equivalency with.

So by de facto it exists and it is coming into the country and it's being labeled by the USDA, and the listing of oxalic acid might

actually serve to create an impulse to create a domestic apiculture, you know, production. Because right now, foralmite's (phonetic) the single biggest issue for domestic and international producers.

CHAIR BEHAR: Ashley.

MS. SWAFFAR: So you're saying we should list a product to create a group of people that will now produce honey to a standard that we do not have?

MR. KAHL: Well again, we have guidance that says we can use our existing standard. I would absolutely admit that, you know, we don't have clear standards. But at the same time you can -- again, you can look at the existing livestock standard and we have, we have guidance that directs us to it. We have guidance that directs CBs to prevent contamination and there's a lot of evidence, you know.

A producer can submit an OSP that says here's how I'm going to prevent contamination. I mean I'm a pre-NOP person, so I

believe that you can certify things in the absence of a huge standard. We did it prior to NOP, and you can think outside the box.

We have a standard that says they're livestock, we can certify livestock. We have a standard that says the producer needs to present an OSP that clearly delineates how they're going to prevent contamination. So they present that OSP together with the, you know, the appropriate science and there's a lot of science and obviously Harriet's aware of this in terms of, you know, the area, the forage area for beef.

So an operator submits an OSP. They say here's how I'm going to do this. I mean we've done this with a myriad of materials like soaps, like, I mean go down the line. We don't have specific standards for health and beauty, and yet we have shelves full of product that is certified NOP to health and beauty.

I think it's possible to certify things using the existing standards, but you have to be -- you have to trust that CBs are going to

do so in good faith and are going to keep organic integrity in mind. And I actually trust CBs. I think there's good people working for CBs, and we don't have to have a standard for every little thing.

CHAIR BEHAR: Emily.

MS. OAKLEY: Just to the point of how the NOSB spends its time, because you're right, there is a limited amount of time. But we're also a very diverse organic community, and the priorities that we all see are very different. But I think one of the cornerstones for organics is continuous improvement.

Now how we all interpret that, of course, is very different. But I just want to put it out there that I think we're all working towards that goal of continuous improvement. How that gets interpreted might be differently. But I think the NOSB, as it allocates its time on various different topics, is working towards that goal.

MR. KAHL: No, and if I can respond to

that. I totally agree with you and I think that the concept of continuous improvement is key, and you all do just amazing yeoman work and it's great. We need to have those wider-ranging policy discussions. I just would argue that right now, we need an all hands on deck alert to focus on fraud, and maybe we need to prioritize, you know, put aside the other more lofty things and basically really focus on fraud.

Because for the next two or three years, until we get this under control, like the whole, the whole thing is under attack.

MS. OAKLEY: Just a quick response. I don't disagree with you. I just think because we're so diverse, a livestock producer and a dairy producer might say well, the most urgent thing right now is origin of livestock. There are just so many different entities here that it's -- that I don't want us to forget the bigger picture.

MR. KAHL: I agree, and I would say that yeah, origin of livestock is right up there

with fraud too, and we've heard it this week.

CHAIR BEHAR: Okay, Dan.

DR. SEITZ: I can't resist asking this question, since you made the sweeping statement about whether we need standards in areas that are not yet fully regulated. There seem to be very diverse potential practices out there around hydroponics, and there's a real split in the community obviously, or at least on the Board, between those who think it's appropriate or not.

But given that it is a very different production system, wouldn't that be one area where you would need pretty extensive work on standards to define what that actually means in practice, for someone in your position who's out there potentially certifying these?

MR. KAHL: Well yeah absolutely, and I think that that's -- that's a practice that's really run ahead of itself. It's a practice where people took the 2010 NOSB recommendation and ran with it. And you know, maybe we do need at this point some standards to rein it in.

I mean I would just throw out there we have equivalency with Canada. Canada has some very detailed container growing standards, you know. Just throw it out there. A quick solution, yeah we'll accept Canada. I mean again, there may be reasons why we wouldn't want to do that.

But there is -- there's a good starting place. Well, let's adopt Canada's standards on container growing. Would that help to salve the wounds of this split? I don't know. But it would be a potential starting point.

CHAIR BEHAR: Okay. Thank you, Garth. Amy van Saun? Has she showed up yet. Okay. With that, we're going to move to the waiting list. We are going to go a little over time, so let's try to, you know, stay a little short maybe on the questions here. It's Tina Ellor first. Lee Frankel will be on deck. Gabriel Flores is third, and then there's two more after that.

MS. ELLOR: I seriously didn't think I'd get a chance to address this group. So thank

you very much for what you do and this opportunity. I don't have any written comments, but I would like to say that through working with certifiers and the NOP through the years, the crop standards are working really well for mushrooms. Some day we can have a mushroom standard, but there's no urgency there.

I want to speak to hydrogen peroxide. It's one of the few things that we use, that we depend on on our farm. We try not to use anything at all, but that's one thing that we do find that we need to use to control some diseases in our mushroom crops.

I was going to talk about soil, but I'm not going to. I'm going to pass this on to the next commenter.

CHAIR BEHAR: Any questions for Tina? Another NOSB alum. Okay, thank you. Lee Frankel is here. Thank you.

MR. FRANKEL: Thanks Harriet. My name is Lee Frankel. I'm the executive director of the Coalition for Sustainable Organics, and I

guess I wanted to share some observations and comment on some of the things that I've heard at this meeting. They have not been vetted by my board or my membership, so they're my opinions, but so I do appreciate the time.

As I enjoyed the analogy to the shot put at the high school track meet, and I think the container issue is, you know, somebody has now come up with Fosbury Flop in the high jump and it's something very different the western role and the scissors approach.

And so, you know, it is something that's so follows the same rules. It's solely kind of human powered, but it's something that looks different than what's come before. So you know, I am pleasantly surprised at the number of people that were actively against containers in general are now supporting kind of work to get to a rule or a guidance document or some common set of language and regulations that we could have, to make things clearer.

I did want to just kind of bring to

everybody's attention some of what I saw are maybe the problems the last time we attempted to address this, particularly just kind of feel like the hydroponic and aquaponic task forces maybe shortchanged a little bit by kind of not letting them get to the point where there could be a common set of definitions between the Section 1 and Section 2 people, and then just even giving them a chance to kind of make sure there's internal editing consistency within the sections.

The other portion is a number of the proposals the last time around were, in essence, kind of de facto bans on the production systems, even though they were kind of couched in a way to make it seem like a standard.

So hopefully we can find a way to get some more public input and dialogue, so that there's a chance actually to address those items. Let's see. I guess I did also want to kind of follow up with the -- what was brought up by MOSA in terms of kind of the farm system.

You know, we kind of got into some

hypotheticals. But I think if we take things back to the farm system, that we're not kind of going practice by practice but we're looking at just different ways growers can demonstrate that they are meeting, you know, conservation of resources, cycling of nutrients and doing things and taking into account enhancing your environment and habitat where those operations are located.

So I look forward to working with Board and answering any questions.

CHAIR BEHAR: Any questions from the Board? Asa.

MR. BRADMAN: I just have a comment, and I communicated this when the discussions were going on a couple of years ago and I said it earlier today. I think it would be really useful to see some written proposals for specific standards. We've heard concerns today which I share about, you know, covering ground with plastic, runoff, soil ventilation, things like that.

You know, we grow organic strawberries and we seal the ground with black plastic. It's not like, you know, there's in-soil methods that, you know, are full of these materials too and really seal off the soil, at least for much of the year.

But I think some of the issues that have been raised are really legitimate, and it would be nice to see some concrete proposals on, you know, container systems, hydroponic systems that kind of address the concerns that are being raised. In my mind, you know, I don't think that a container system is wrong, you know, for going into a city lot in Oakland that has high lead in the soil or, you know, you can't really use that soil.

I don't think they should be denied the opportunity to have some sort of organic production. At the same time, when we look at the goals of the Organic Foods Production Act and I think in the heart of people involved in organic, it is a little disturbing to me when I

see pictures of, you know, acres of ground covered in plastic.

For me, that's also true for strawberries in the soil, as much as it is for, you know, containers sitting on landscape cloth. But it would be interesting to me and I think to others to see kind of some really detailed, written proposals that -- I think that would further the discussion.

MR. FRANKEL: And I think what could really help with that discussion is if we kind of flip it around or start it, the first principles to say -- and I guess using some, getting into some of the hypothetical examples. We talked about the herd, and we don't like people leveling their land or what the other one, where we have to certify the entire operation and, you know, just be aware.

I live in the winter, mean winter production area for broccoli and leafy greens, and you know, other commodities. It would be irresponsible for the organic growers to not make

sure it has the exact right grade to use their flood irrigation systems so that water is being consistently applied across the whole lot.

I'm excited to see more acres get certified each year in the valley where I live, but those growers have very large non-organic acres as well and they, kind of as the market grows and they can develop the market, they switch more acreage into organics.

And so I think, you know, if we kind go back to saying well, what are you trying to address. Is it, you know, what's your farm system, how do you -- where are you inputs coming from? Are you taking kind of waste materials out of kind of the fish processing and other meal and blood meal and giving it a new and higher use through finding a home for that in organic container production systems?

And so I know what you're looking for, but I think kind of chicken and the egg. If you guys can say these are the principles that are really important to us, that you don't think are

being addressed by certifiers, then we can try and come up with other examples that help growers say how they're meeting those principles, or different guidelines.

So hopefully there's some way to get that established, so we know kind of what's even -- what we're trying to address.

CHAIR BEHAR: Steve.

MR. ELA: We've heard a lot of public comments about the three year transition period that all soil growers have to go through, and you know, three years of non-use of prohibited substances. I mean do you have -- I guess that to me is important. Is that a level playing field for land that containers or others might go on, to go through that same transition period?

MR. FRANKEL: Yeah. I know we're quick on time, so I won't give a bunch of stories. I'm going to try to get right to the point. But I think if we go back to some of the, again kind of the first principles of why do we have the three year transition period, and it's

to give the vast majority of synthetic chemicals that have a half-life where they can break down in that three year period, and that contamination won't be present.

But the other portion is, you know, there's a conversion of the biology in the systems. If you're using synthetic sources of nitrogen and have readily available nitrates, then that's a different biology that takes a few years to get reestablished.

So if you eliminate the contamination and you are -- have that correct organic biology to begin with, you know, are the ultimate needs being addressed and does it just seem unfair? So for example like a vulture producer that has a healthy population of hawks and eagles in their area needs to put up, you know, some kind of productive netting to keep the birds safe.

But maybe a grower in a less healthy habitat doesn't have to do it. But should every grower have to put up that protective netting in the outside space for the poultry, to avoid

predators? Do we want to impose the cross on everybody, even though we're addressing an issue that's already kind of been addressed with the production approach?

So I don't know the answer. I just wanted to -- again, if we can draw up first principles, we can lay the arguments on the table and the community can evaluate what makes sense and what doesn't.

CHAIR BEHAR: Okay, Emily. Short please.

MS. OAKLEY: Sorry, I was a little confused. So are you saying that maybe that through your transition period wouldn't be necessary if the objectives of a three year transition period is supposed to be meeting, could be met in a shorter period of time? I don't know. I might have misunderstood.

MR. FRANKEL: Yeah.

MS. OAKLEY: I'm sorry. I was just not clear on what you were saying.

MR. FRANKEL: Yeah. I'm trying, I

guess I'm trying to study and understand why do we have the three year transition period? Is it to punish growers or is it to accomplish certain organic objectives? So I'm saying if those objectives are being accomplished through a selection of the growing medium, the growing material, and through finding a clean environment that hasn't been contaminated in the past and those objectives are being met.

So maybe there's others I'm not seeing, but I just want to make sure we're dealing with the same set of facts, and then again the community can make some final decisions one way or the other. So I'm saying that I don't see -- I see container producers can meet the objectives of what's trying to be accomplished by the three year transition period in soil faster.

CHAIR BEHAR: Okay, thank you.

MR. FRANKEL: You're welcome. Thanks for your time.

CHAIR BEHAR: So we have Gabriel Flores next, Ed Brown and David Will, and that

will be the end of the public comment.

MR. FLORES: Well first of all thank you for working late tonight. My name is Gabriel Flores. I'm the Director of Sales and Marketing for Westmar Company. We are a food safety company. We approach food safety through chemistry, training and consultation. We are a PURE Bioscience distributor. We've actually helped introduce the PURE Bioscience product Hard Surface Sanitizer into the Pacific Northwest.

We're a Pacific Northwest-based company. We're a family company. We have 14 representatives in the entire Pacific Northwest, more than all our competitors combined. I'm here to basically plead with you. Our customers, which is about 30 percent of our base, does organic and they have been asking for the last six months for the PURE Bioscience ASDC product to be organic certified.

It is one of the only products, so it is essential to the Pacific Northwest, to food safety, that the PURE Bioscience product be

approved. It is a ready to use product. It is a -- it sanitizes on a disinfectant level, which does not have to be rinsed. It is non-corrosive, and again it is unavailable to about 30 percent of our market.

That is unlike the current products that are approved for organics, which is chlorine bleach, which comes in at about 20, 12.5 percent. Degrades almost immediately once upon opened to 10.5 percent. It can be used up to 100 parts per million, 200 parts per million. It is dependent upon a workforce which is -- the cleaning and sanitizing industry relies on a workforce which is high school level or less.

We are dependent upon them to actually mix the products, to validate the products and then use these products to sanitize. Chlorine dioxide is the other product which needs to be generated through a process of mixing chlorine and the acid together, and then we have PAA.

Any chlorine-based product is corrosive, and I think what's ironic about these

chlorine-based products that are corrosive is that it actually starts degrading the surface of these food processing facilities, and it actually creates another problem, which is it begins -- because it begins degrading the surface which PURE Bioscience products does not, it creates harborage for other and for more bacteria and pathogens.

CHAIR BEHAR: That's your time.

MR. FLORES: That's my time, okay. Any questions?

CHAIR BEHAR: Asa.

MR. BRADMAN: I just have a couple of questions and a comment. Some of the proposed uses for SDC are for equipment and surface sanitizing, and then also product rinses. When you say people are begging for it, could you clarify what purposes and, you know, it's described as a no rinse material, but I'm curious about how that would work for equipment versus fresh cut --

MR. FLORES: These are food contact

surfaces. So they make direct contact with the food. So if you're disinfecting with any of the other products, they have to be rinsed.

MR. BRADMAN: So you're saying the SDC is a no-rinse product?

MR. FLORES: It disinfects and does not need to be rinsed.

MR. BRADMAN: Okay. So it's not wiped off or anything?

MR. FLORES: No.

MR. BRADMAN: If you put it on the surface or --

MR. FLORES: It is, correct.

MR. BRADMAN: Okay, and I just want to also go back to your point about just chlorine compounds. I know in my experience with working with farm workers and food processors, the interactions we've had, you know. They complain bitterly about chlorine compounds and, you know, the sanitizing field is a challenging one. Even hydrogen peroxide has its own issues, although I think it's one of the least toxic, certainly

environmentally, of the materials.

But the chlorine compounds are definitely a challenge here. In some of the comments, you know, there's an assertion that really on acute basis this is probably less toxic than the chlorine compounds. Can you talk more about that?

MR. FLORES: It's in -- I'll talk about the safety part of it. We do training, and most of our training is on chemical safety, and most of the chemical safety is on chlorine-based products. Most of the complaints we get from the companies is how do we get the perception of the smell from PAA and a chlorine-based product?

Employees complain of headaches, and a lot of times they're calling us in to lower the amounts to the lower end of the scale. For example, PAA runs from 90 parts per million to 500 parts per million on a sanitation level. We are asked or being asked to actually lower it down to the lower end of it.

So my question is, just out of

curiosity, is since we're going all the way down from 500 to 90, what are we -- what are we sacrificing? How, why are we -- why are we being required because of the smell to lower the sanitation level that much?

In the case of PURE product, it is odorless, it is colorless and it is non-corrosive, as opposed to a chlorine product which is corrosive. In a chemical cage, you have almost up to 20 products. You have acids and chlorine. You have to have them by rule on opposite ends of the cage.

But the cage is maybe 10 by 10, 20 by 20. Any of those chemicals that spill from dilution, hand to hand dilution on the surface of and go into any cage and you'll see it on the ground, a drop. They drop chlorine, they drop a mixture of a chlorine-based product on that surface. You now create a gas, you know.

Any chlorine-based product mixed with an acid is, becomes immediately gases and it becomes toxic and you have to evacuate that room.

CHAIR BEHAR: I'm going to cut you off. So we're about a half an hour beyond time, and we have two more speakers. Is that okay?

MR. FLORES: I'm done, okay.

CHAIR BEHAR: Okay. Thank you very much. Edward Brown, David Will and that will be it, and hello Edward.

MR. BROWN: Hello, Madam Secretary. Deputy Tucker, NOSB members and NOP members, I want to thank each and every one of you for the hard work that you do. I know at times it's got to be a thankless job, and I do appreciate it. I've been in this community for 45 years. I've done every position from being a migrant worker, wholesaler, retailer, production.

Currently, I'm the executive vice president for Pilgrim's Market in Coeur d'Alene, Idaho and it's going to be basically some general comments. I want to first of all thank you for the Organic Integrity Database.

I think that is an excellent tool for retailers to look at, for retailers and consumers

to look at the organic community as a whole. I see that as a unique database that's open to the public, and I do appreciate that work greatly.

I also have a concern about the origin of livestock rule. I just see -- I've been -- I'm from Madison, Wisconsin, the livestock state for dairy, and I would sure like to encourage the AMS or the NOP and the NOSB members, to just encourage the AMS to adopt this as a final rule, to accept the final rule and they do pass that.

I believe that we are in need. I think there's been a lot of comment on that, and I believe it's time to pass that. Another -- when using the Organic Integrity Database, I do a lot of private labeling at the store, and looking at the integrity of that is a key.

But I'm noticing more and more stores are using private labeling, and since retail stores are exempt from the certification, I mean from the certification if they sell it in their own brick and mortar stores. So I'm a little concerned about fraud here.

I actually developed an organic systems plan, called a lot of the certifiers checking on it, and almost all of them said you know what? No retailers do this, and so it gave me some concern for fraud there.

The other thing I have is that with OFPA, when I was at the Wedge Food Co-op, I was there for quite a few years, and we were crying for the Organic Food Production Act in 1990. My understanding was that the USDA NOP was the accreditor and the certifiers were accredited by the USDA.

And so that, my understanding was that they actually set the rule, and they accredit these certifiers to that rule. So my confusion here is that how did the expansion of the OFPA, which is in the hydroponics, how they can expand it some 15 years ago and the organic community never really understand it?

Doesn't the USDA accredit the certifiers, and shouldn't we, the organic community, know about this ahead of time? Those

are my general comments. I thank you for taking these comments. I appreciate that.

CHAIR BEHAR: Any questions? Thank you, Edward. David, you're next.

MR. WILL: Thank you Madam Chairperson for allowing me to speak. Michelle, would you do me a favor and please put Miles McEvoy as one more person I don't want to follow ever to speak, okay? It's a list of three.

I'd like to thank you all very much for your time and dedication. I want you to know it was not missed on me at all and the audience, noticing that in your discussions and you constantly mentioned the egg, I've realized, which doesn't surprise me I guess, that all of you are evolutionists versus creationists. So I think that speaks well for us as an industry and a board and a group. So I appreciate that very much.

My name is David Will. I'm general manager of Chino Valley Ranchers. We're an organic or cage-free egg marketer in California.

I'm also the chair of the California Shell Egg Board Committee. I sit on the California Organic Program. Since they're here, yea California, and I am the chair of the Methionine Task Force, and that's what my quick comments are going to be based on.

Yesterday, I didn't get to give you quite the update I wanted to for our 2019-2020 plans. We currently, like I said, we just funded and finished the UC Davis study.

We've been looking at having some small, very small field trials on high methionine corn in the Midwest that one of our producers has used for years. So we're hopefully going to gather his flock records at the end of this year and his yield records from the corn, and have those available for you.

We're also going to do an in depth dive literature review through Penn State University, and also having them do a quick check through European uses in the law, so that we're actually clear what's going on in Europe with the

change now as of the first of the year, and they no longer have the five percent exemption.

Just to let you know, we are an industry-funded group. We have about 25 members that actually are on the Methionine Board. But those members either source through or represent about 12 million laying hens of the 14 million that the USDA says are active in the United States currently, and we have three broiler people on there too. No turkeys. So if you know anybody that does turkey, we're looking for some turkey people.

We are very small. We have farms that represent anywhere from 1,000 birds all the way out to some of the larger, bigger, complex farm people. Our goals for 2021, we're going to look at funding some more research. I think it became very apparent to you yesterday, in listening to Heather's comments, that we probably need to do some what's available on pasture areas as far as insects and the feeding and the selection.

Again, we thank you very much for your

work. We will definitely take a look into Methiomax as well. Unfortunately, we've seen some other things of this. There's been a few other things out of India that have come, that are just about guaranteed to cure everything.

In fact, if you go to the NOP or the National Organic Program show and you go to the upper floor, they pretty much have a pill there that will cure everything. Somebody left their coral behind, I don't know who that was. But I thank you all for your hard work, and if there's anything else that we can answer, we'd be happy to.

CHAIR BEHAR: Any questions? Thank you very much, and I hope you got your chicken.

MR. WILL: I can't take one back because we're in D&D quarantine.

CHAIR BEHAR: Oh Emily. Oh, oh, okay.

MR. WILL: Oh no, it's not funny.

CHAIR BEHAR: Thank you.

MR. WILL: Okay.

CHAIR BEHAR: Okay. Well, we're not

ready for the Materials Subcommittee yet.

MS. OAKLEY: Can I ask a question, like a point of clarification on your question?

CHAIR BEHAR: Okay.

MS. OAKLEY: Is it ever possible to call a public speaker back if you have a question that you didn't answer or ask at that time? Okay.

CHAIR BEHAR: Okay next, I'm going to call on Paul Lewis to give us -- Oh, okay. Thank you all.

(Applause.)

CHAIR BEHAR: Thank you for still being in the audience.

DR. LEWIS: Let me just echo that. I appreciate the public commenters being here the past day and a half, and all your work preparing for the meeting today.

We're now going to the next part of the meeting as we're moving toward the NOSB Subcommittee work. And I'm pleased to announce the upcoming publication of another National List

rule.

We just learned from the Office of the Federal Register that sometime next week, the final rule, the National List rule responding to the fall of 2017 recommendations from the NOSB will be published next week. And this addresses two materials. One, you may recall, adding sulfur to organic livestock, and then reclassifying potassium acid tartrate.

And I just want to spend a moment talking about this. This is, again, part of our ongoing activity of being responsive and timely to NOSB recommendations. I want to again thank the Board for all your work with that. But I'd be remiss in terms of not thanking my colleagues around the table with the National Organic Program Materials Team, Clarissa Mathews, Devon Pattillo and others with our Standards Materials team, that have really put together this effort of being responsive to the Board in 18 months, preparing a proposed rule, reviewing the comments, preparing a final rule. Let's give

them all a round of applause.

(Applause.)

CHAIR BEHAR: Okay, with that Emily, I'm going to turn this over to the Materials Subcommittee and Emily Oakley, chair.

MS. OAKLEY: Thanks Harriet, but I will obviously be turning it quickly back over to you. So we have five documents. I'm going to look at the time, because we have an hour and we're going to take an hour.

So we have one proposal. We have four discussion documents, and Harriet, I'll turn it back over to you for the proposal on Excluded Methods Determinations, April 2019.

CHAIR BEHAR: Okay. So this is a continuing document. It's kind of like a soap opera saga. I don't know if we'll ever be done with it, but we are working through a list of methods to determine if they should be excluded or not, using criteria and evaluation points to determine if they should become excluded. Okay, thank you Michelle.

So based on the public comment, there was a lot of public comment that supported this proposal, that transposons developed via use of in vitro nucleic acid techniques, are not -- the transposon itself is not a method, and that we need to be clear that it's via use of in vitro nucleic acid techniques. That is the method.

So all we did was just make it clear in the box that the method is transposons developed via use of in vitro nucleic acid techniques. Then there was, you know, some concern that perhaps, you know, we didn't quite have this one right, that transposons that were developed through environmental stress such as heat, drought or cold, were we being clear enough on that.

So we're just going to remove that and put it off to the future, the next time we look at transposons again. And so that is the change to that. When we didn't change this, there was a lot of good public comment that supported it, and so that was a pretty short and sweet little

proposal there.

Let's see here. There was also a suggestion to change the wording on transposons activated or directed through in vitro techniques, but it seemed that the word developed covered both of those words and more better, so that's why we chose that wording.

So the actually in the -- what the Committee actually voted on was that wording, transposons developed via in vitro. So I'm not 100 percent sure. We of course can have a comment, but I'm not sure if we need to have a motion for -- probably for removing the other one, and putting that wording into that box.

I mean there was a change there, as you saw, so I will go back to that so everyone can see it, because you don't need to look at the things we didn't change. You need to look at the things that we did change. So that's really the main change right there.

So I just moved from the notes, and I moved it into the method, the red. Has everybody

got that? So the red is what got changed. Before, it just said transposons, and now it includes the words developed via use of in vitro nucleic acid techniques, basically just moving over the language from the notes section, so it's clear that it's that method of producing the transposon.

So I guess with that, I will open it up for discussion, and then we'll -- and then we can decide if we were ready to go to a vote to approve this change. You want to go to the next slide.

MS. OAKLEY: Can I jump in Harriet?

CHAIR BEHAR: Yep.

MS. OAKLEY: So this was in response to public comment, saying that these were natural processes. They were not -- it was not a method.

CHAIR BEHAR: Just trying get it right in here.

MS. OAKLEY: Are there any questions or comments for Harriet?

MR. MORTENSEN: I would -- I would

just say that I think it's also done a good job of capturing the points that were raised multiple times, that transposons do arise naturally under stressful conditions of the kind that were in there, and now that's been removed. I think the document's ready to go.

MS. OAKLEY: Any other comments or questions? Looks of confusion? No, we're good? Asa.

MR. BRADMAN: I would move that we accept the change, the amendment that the transposons arising from environmental stress such as heat, drought or cold be removed, struck from the document before we vote on it. So that's a motion.

MS. OAKLEY: There's a motion from Dave to accept the wording change.

CHAIR BEHAR: Can I do a friendly amendment --

MS. OAKLEY: Okay.

CHAIR BEHAR: --that we also add the wording in the Methods box, developed via use of

in vitro nucleic acid?

MR. MORTENSEN: Yep, certainly.

CHAIR BEHAR: Is that okay?

MR. MORTENSEN: Yep.

CHAIR BEHAR: So then all the change is in one motion.

MS. OAKLEY: So there's a motion to move the wording from the notes section to the transposons method and synonym section of the box, and then to remove the section describing transposons developed through environmental stress such as heat, drought or cold. Is there a second for that motion?

DR. SEITZ: Second.

MS. OAKLEY: Dan will second that. Any further discussion?

(No response.)

MS. OAKLEY: All right. So we should start the vote.

CHAIR BEHAR: I believe I take over from here.

MS. OAKLEY: I believe you do.

CHAIR BEHAR: Okay, so we'll see. Scott, are you ready?

MR. RICE: I'm good to go, I think.

CHAIR BEHAR: Okay. We will start -- wait a minute. I'm on the wrong page. Get the page right. There we go. So the motion is to accept the changes and we will start with Ashley.

MS. SWAFFAR: Yes.

MR. CHAPMAN: Yes.

MS. BAIRD: Yes.

DR. SEITZ: Yes.

MR. MORTENSEN: Yes.

MR. BRADMAN: Yes.

MR. RICE: Yes.

MR. ELA: Yes.

MS. OAKLEY: Yes.

MR. BUIE: Yes.

MS. ROMERO-BRIONES: Yes.

MS. DE LIMA: Yes.

MR. GREENWOOD: Yes.

CHAIR BEHAR: And the chair votes yes. So I have a unanimous vote that's 14 yes, 0 no,

no abstentions, no absence. Does that sound good to you Scott?

MR. RICE: You read it.

MS. OAKLEY: All right. So now we have a motion to accept the proposal on Excluded Methods Determinations, April 2019. Motion in the Subcommittee was by Harriet, seconded by Dave. Is there any further discussion? Harriet.

CHAIR BEHAR: I'm just happy to keep pecking away at the list, and I hope as future NOSB Board members get on, that we continue to work on the list. So thank you for being patient and going through this fairly scientific determination.

MS. OAKLEY: Thank you for your work on this. Any further discussion?

(No response.)

MS. OAKLEY: Okay. Then I think we're ready to move to a vote.

CHAIR BEHAR: Okay. We will start with Tom.

MR. CHAPMAN: Yes.

MS. BAIRD: Yes.

DR. SEITZ: Yes.

MR. MORTENSEN: Yes.

MR. BRADMAN: Yes.

MR. RICE: Yes.

MR. ELA: Yes.

MS. OAKLEY: Yes.

MR. BUIE: Yes.

MS. ROMERO-BRIONES: Yes.

MS. DE LIMA: Yes.

MR. GREENWOOD: Yes.

MS. SWAFFAR: Yes.

CHAIR BEHAR: And the chair votes yes. I have 14 yes, 0 no's, 0 absent, 0 abstentions, 0 recusals. How many of you have transposons? So it passes.

MS. OAKLEY: Great, thank you. So we did really well on our time. Our next item is also with Harriet. It is a discussion document, Induced Mutagenesis and Embryo Transfer in Livestock. Harriet.

CHAIR BEHAR: Okay. So there was some

discussion and public comment. I really appreciate the expertise in the organic community on this somewhat confusing and detailed issue. There was excellent comment, especially since there's so many methods of induced Mutagenesis, and that there are some seeds currently used in organic agriculture that originated from some of these methods that caused induced mutagenesis.

The Materials Subcommittee will continue to research this issue and work to clearly define which method or methods might be considered to be excluded, with careful research to not remove access to important seeds. This may or may not be done in the fall. It's hard to know, because it is fairly complicated. But we will work on it and hopefully we can have a proposal by then. If not, we will give you an update.

Then on the embryo transfer. Many certifiers weighed in on this method. I did not see a single grower, however, weigh in. I believe WODPA might have weighed in on this.

With most considering the use of hormones only in the donor animal for the embryo allowable, but not in the recipient animal.

The possibility of narrowing the gene pool if this method becomes more used was not considered to be an issue by most commenters, especially since this is already occurring with artificial insemination when farmers choose specific genetics to improve their herds.

And so you have, you could have many different herds in a neighborhood all using the same semen from the same bull. There was some feeling that farmers should have access to this as a tool, to improve their herds not only from the male side but from the female side, and there are times when there is a cow who cannot conceive, and so then they use her for embryo transfer.

There was not much comment on the possible effect of the use of the hormones on the young animals born from these embryos, with more research needed on the small amount of

information that I have seen, that both the original young animal and subsequent generations could be negatively affected by the hormones given to the donor cow.

And of course this would be for sheep and goats and any mammal, but I've only seen it used mostly in dairy animals. This method is not used regularly within organic agriculture, both due to its cost and the lack of need for this expensive procedure.

This method does not technically meet our criteria for genetic engineering, since there is no compromise of the nucleus through in vitro manipulation. However, the use of prohibited hormones led the Materials Subcommittee to look at this material, and a future proposal might or might not continue to keep this method within this excluded method's framework, or provided as a separate issue because it doesn't really seem to be, to fit within the criteria.

Except for the fact that with some of the research that I saw and heard from others,

that some of the -- there is a genetic pass-down, okay. So the super-ovulation hormones given to the mother do change some of the genetics of that embryo, and then it is passed down through the generations.

And so in a way, that is a type of genetic engineering. So we just have to see where that all fits, and if it's significant enough to consider it a problem or not. And so I reach out to the public to continue giving us information, to help us through this issue.

And again like I said, I didn't hear from a lot or really from any individual farmers that this was an important tool that they either used now and many certifiers do allow it, or one that they feel is important for the future. That's it.

MS. OAKLEY: Is there any discussion or question, questions for Harriet?

(No response.)

MS. OAKLEY: I have a question. As you near the end of your term, which is super-

sad, I think it's important that members of the Materials Subcommittee start helping you with these documents in more detail over the course of the summer and the fall, so that everyone is prepared to help take on many of the tasks that you're working on now.

And I'm wondering if you feel that listening to public comment, this is something that should come out as a proposal in the fall, or if it's something that you feel needs more time and more development before going forward?

CHAIR BEHAR: I think the embryo transfer livestock we could go forward on. But I need to look a little bit closer with the Subcommittee, if it really fits under the heading of an excluded method document that might go somewhere else, because it's really somewhat of a prohibited material use that then might affect genetics, you know, into the future generations, which is somewhat complicated.

MS. OAKLEY: Any other questions or comments for Harriet, or any volunteers to take

this on? All right.

CHAIR BEHAR: I like to look at Dave --

MS. OAKLEY: I was looking right at Dave too. I think that's a natural progression. All right. We continue to do well on time, so we will move into the next discussion document, which is Marine Materials and Organic Crop Production, which I was the lead on.

So at our administrative meeting as a Board a few days ago, we talked about the benefit of having dialogue amongst ourselves about topics. So in that spirit, I want to not go through an exhaustive list of the public comments, which I can do in more detail in the future or my response to them.

I'd rather have a dialogue amongst ourselves and open this up to conversation, because we're tackling or at least looking at, you know, a very challenging issue. It's very helpful for the Subcommittee to hear the full Board's thoughts on these topics, because we are

a much smaller subset of the full Board.

So I will give a very brief sort of overview and kind of road map for how we might discuss this over the next 10 to 12 minutes, and then I hope we can just kind of open up and I'd love to hear people's thoughts. So just a quick summary of some of the comments that I think should be taken to heart is that I do think and I hope we will be able to have a fall expert panel on this topic.

It was requested that we keep this document on the open docket throughout the summer, to allow for additional comments and I think that that is a good idea. There is not enough consensus within the community about how to move forward to come forward with any sort of proposal this fall.

So I look forward, all the stakeholders that are out there that said they wanted more time, to hearing more comments, and especially if those comments can be targeted towards the most consensus-building path forward

that we can achieve, that would be ideal.

There was a lot of comment, as I mentioned before, that was sort of spontaneous from different stakeholders about their request for a task force, largely because this is such a complicated issue. It's beyond the purview of many of us in terms of our, you know, professional expertise, and even beyond the purview of the professional expertise of many, I think, at the NOP, and that a task force may be best suited to try to flesh out some of the issues and how we might sort of address environmental harm, especially if we were to look towards guidance or any sort of standards.

So that's all I'm going to say about the public comments. To just frame the conversation, I would say that, you know, the goal and the reason this came before the Board was the question of whether or not we're meeting this criteria of avoiding environmental harm with this material.

So that's sort of our overarching

goal, and then the question is what's the best way of addressing that? I think there are basically two options, maintaining the status quo, which some people might favor. They might feel that the status quo does adequately address environmental issues.

And then there are those that obviously don't think that it does. So then creating a means of defining, measuring and verifying the extent to which that's possible, and trying to find out which method would be the best means of ensuring that no environmental harm or limited environmental harm was being created.

So some of the concerns are the issue of precedent-setting, which we have heard from commenters. I think the discussion document, as I've said, tries to address that issue, but I don't think that's going to resolve everyone's concerns on that topic.

So is there a way that we can frame this as a wild crop material, that might help assuage or some of those precedent-setting

concerns and not create such a precedent? And then there's the concern about the ability to apply certification to this marine material.

That sort of spans a spectrum from those who say that certification wouldn't be strong enough to achieve the goal of environment, of no environmental harm, to those who say that certifiers don't have the expertise to carry out certification, although we do know that it is happening now.

So I guess my question for the Board is how can we meet this goal? Are we meeting it currently and what are the best ways that Board members see of addressing these concerns? So I know that's a very broad discussion point, but I know we don't have a lot of time.

But I think it's really important for the Materials Subcommittee as we determine our next steps. So anybody feel like the excited person to open up their thoughts on this topic? Dave?

MR. MORTENSEN: I first would like to

thank you, as a number of people have, for the amount of time that's been put into this document.

We've read the drafts, but you've put an enormous amount of time into this, as actually also having sat in on a number of breakfasts over the last number of years since I've been on the Board, have many folks in the community that have been helping provide information and data.

I think that when we have a panel of experts speaking to the Board, and this kind of goes without saying, but I think some of them have been better than others in my opinion in terms of really helping us. I thought the second integrity panel was excellent, and really helped us to see where some of the problems lie.

I think that it would be really helpful to be very, very deliberate about how we decide who we would decide could help us to see this problem more clearly, and do that by committee maybe, so that we could have some pretty rigorous discussion about how we set such

a panel up.

I, for example, would be really interested in understanding better how some of the certification processes that are in place now, Emily, that you know more about, how those are working. I also think that we have a tendency here, when folks like -- and I thought David, I have always thought that David Hiltz's, presentations have been very helpful.

But we don't usually hear from the marine folks that are concerned about fishery depletions in the Northern Atlantic, for example, speaking to the Board about how changes in habitat alter the sustainability of the fisheries of the Northeast, for example. But that's just one example.

So that's, those are my thoughts on a panel. I think it's a great idea, and I definitely think we need to keep working on this, because I think it's a very, very important issue.

MS. OAKLEY: Lisa.

MS. DE LIMA: So one thought I have is before we try to move forward with a task force or a panel, try to narrow the scope a little bit. So a couple of certifiers, this time and past times, have brought up the concern about whether it's -- if we put something forward, that it's not legally enforceable for OFPA.

So I think narrowing in on some of those comments and figuring out the validity of those and what's behind that before we go to task force, so that we don't have them going down a path which then we can't actually pursue. So I don't really have any answers, just questions.

MS. OAKLEY: Either of you guys? Scott.

MR. RICE: In terms of panels, I agree. I think we've had some good successes and agree with Dave that, you know, with a sort of more curated panel we can definitely have more success. I reiterated an idea I had of just even splitting the panel in two, of having -- which might also speak to some of Lisa's concerns of

one looking at sort of the regulatory kind of certification angles that we're interested in learning, and then another looking at the ecology and environment questions that are concerning us, and maybe that would help guide further work.

You could even potentially do that at the same meeting, and just kind of be -- a lot of information, but I think you could do it well and help shape the discussion further.

(Off-microphone comment.)

MR. RICE: A panel of regulatory and certification angles and topics, and one of kind of ecology and environment.

MS. OAKLEY: Steve.

MR. ELA: I'm trying to catch that thought, because otherwise I'll be in a very short memory. I agree with what's been said, that you know, this is a very complex topic and I remember when I came on the Board and the various marine materials documents were floating around.

I was kind of like oh my goodness. That may not have been the exact words, but I

mean incredibly complex. And yet, I mean I think one of the issues we struggle with on this Board is, you know, somebody said we do really well with materials because that's very concrete, and it's concrete for a reason and the more complex issues, which really are why we are organic growers, we deal with complex systems, are much harder to nail down and find consensus on.

So I don't want to let it go. I don't want to take it on. I want somebody else to take it on. But I see real needs, you know. In hearing the public comments, I think there are some very good things happening out there by companies, and with protocols.

I still have a real worry that the bad actors, you know, the regulations don't go after the good people, they go after the bad people. I worry, especially with climate change and other issues, that bad actors out there that may not, you know, take the system into account, I don't want to be using those materials accidentally. I want to support the good people.

But it's hard to know as a grower I can't do that research. So I feel somewhat compelled as a Board to keep following up on this. I really thought, you know, your document, you know, it became clear to me we shouldn't, you know, certifying somebody else's protocol like the Maine standards, probably not a good idea because we don't have control over that.

Plagiarizing that maybe, with permission. I guess that's not plagiarism, but you know maybe, you know, in starting that may be a good starting point. But I think we, you know, reading the initial documents on all the seaweeds and all the materials around the world and those beds, it was fascinating, and I had no clue. But it also, you know, it did show the fragility of that system.

So I agree with what Scott said. I think, you know, a panel with two sets, I think that was a really good, really good suggestion, and maybe that's the starting point. I'm not sure about a task force yet, but I thought your

document was really, really good, laid out the questions and still the wild harvesting thing, I think I could still be in favor of it.

MS. OAKLEY: Harriet and then Rick.

CHAIR BEHAR: So I think we got here because in our rule, it does state that we have to, you know, protect the natural resources, and it doesn't -- so I think there was this feeling too that, you know, well wild kelp is used in conventional agriculture too, that organic farmers care more widely about the greater environment and, you know, we talked about carbon sequestration.

That's not just for the rainfall on our own farms; it's around the planet. So I think there was a little bit of concern about like a black eye for organic if what we are requiring on our farms is actually despoiling the seas and causing species to go extinct, and that's not something we want to see.

But on the other side, we have to be somewhat practical in how far can we really save

the planet. I mean we'd like to think we could, but you know, I'm wondering with some kind of annotation, you know, like -- but organic certification is going to require some ramping up.

But that said, you know, there could be a phase-in period or whatever, and that's why I think it's a good idea what Scott said, to have the regulators talk about it and then get some background. I was asking the question about do the harvesters mostly work for one company, because I kind of was thinking about having them be like a grower group, because between Arcadian Seaplants and Ocean Organics I believe that's their system, where they have protocols that they even check up on.

So they already have kind of a grower group internal control system in place for the harvest of kelp, which means that not everyone who's got a boat going out there would have to be certified, and that would be somewhat helpful as far as what kind of cost, right, having the kelp

become certified. Would it add to the cost? It would be a lot more addition if every boat had to have an inspector versus, you know, dealing with it like a grower group.

I know that the NOP is looking at grower groups, so we'll see what comes out of that and that will maybe inform our future discussion.

MS. OAKLEY: Rick.

MR. GREENWOOD: Yeah. I also like the idea of splitting the two panels, and I think the area that I'm least comfortable with and where I'd like more information is obviously the ocean ecology. I think we can't set standards until we understand what's going on.

We heard some numbers today, where we only harvest ten percent. Well I don't know if ten percent is a good number. I mean maybe over time ten percent destroys things. Not initially, but maybe 15 years later. So we really need some expertise.

I don't know that. I think I had

mentioned at the last meeting I helped build a reef as a mitigation and it's really hard, and it's got to be followed for 30 years by federal law, to see if it actually works.

So we need, we need real information. Then we can get to the certification, what we do. Otherwise, we're measuring to a standard that may not be of any value at all.

MS. OAKLEY: Dave, then Asa.

MR. MORTENSEN: Right, and I was also struck by something that David Hiltz said this morning, that just reveals the fact that how this plays out is quite context-specific, where he was talking about, you know, zones of the oceanfront that were, you know, this group can work in that area, that the Canadian government is managing.

I just moved into Hampshire and I was thinking about what he was saying, that that's largely unregulated in Maine. It seems to me that how that plays out, how it's managed, how it's overseen and when we have a panel therefore. Let's get to the point of the panel. It would be

helpful to have somebody that knows something about regulating what goes on in the intertidal zone along the coast, west and east coast and maybe even other places around the world.

Because clearly if you have a carefully managed process in Canada and an unregulated process largely, in at least in New England, that's a very different set of concerns I think.

MS. OAKLEY: Asa.

MR. BRADMAN: Excuse me. David actually just said some of the things I was thinking. But just to reemphasize, I think this is a very important issue, and from what I can see the status quo is not acceptable at this point, or at least we really need to have a lot of discussion before we can even consider that as an option.

It sounded like today in Canada they actually have pretty good rules. But in some cases there's probably not; in other cases, the government agencies really may be promoting

economic activity and potentially at the expense of the environment. This is a very unique situation, where we're taking nutrients from essentially a native ecosystem and then transferring them as really a pure input into, you know, an agricultural ecosystem for people.

I think that just -- you know, there's a special kind of responsibility to support that activity.

MS. OAKLEY: Thank you. Are there any further questions or comments? Tom.

MR. CHAPMAN: So I share Lisa's thoughts that we should clarify what authorities we could potentially utilize with standard-making before we go down that road. I've been somewhat reticent to comment on this because I think you should come with solutions, and unfortunately I don't have solutions.

I have a lot of concerns around certifying inputs and the precedent-setting on there, and precedents can be set no matter how many disclaimers you place on something. On the

flip side, I don't like referring to third party standards. And so, you know, that's not a solution I'm particularly drawn to, and you know, but I think something needs to be done.

So I'm not bringing solutions, which I don't, you know, like X against me on that one. I'm sorry. But so far I also have concerns about some of the solutions that have been proposed. I do think -- this is also where I'm going to be somewhat speaking out of both sides of my mouth.

I do think that a panel is probably the best way to do it, but I struggle with the priority of this item over some of the other items that we have before us. I agree heavily with the comments that Garth had made about how fraud is really the big issue before us, and you know, there are limited resources.

And so in the absence of looking at limited resources, this seems like a great panel to proceed to in the fall. But if you look at it as a tradeoff decision amongst all the other various panels we could potentially bring in on

integrity, on international recognition and conformance agreements, on seeds, on livestock practices and what's going on in the marketplace there, like there's a ton of issues that seem more pressing than this one, which also I am struggling with because I know I can't ask for ten panels. That's just not realistic.

So we only have so much time. Is this the one we want to use in the fall? At the same time Emily, I know you put a ton of work in this, and this goes on prior to your time. It goes, you know, traces back to Jean. She put a ton of work into this, so I have respect for that. I'm just, you know, I'm pulled in a lot of different directions on this.

MS. OAKLEY: Yeah. So in the interest of time, unless there are other pressing comments, I'll close it there and thank you Tom for that last point, because I do want to say that this is -- so many other Board members put in so much more work, so just a small thing.

But this did come from others who had

done much, a lot of work. I want to just thank all the stakeholders who have put in a ton of time on this, and for your really helpful comments because each of them really does help improve the process.

So with that, we will move on to the next discussion document. Harriet.

CHAIR BEHAR: I'm here.

MS. OAKLEY: Which is genetic integrity, transparency of seeds grown on organic land.

CHAIR BEHAR: Okay. So I guess I want to somewhat apologize. I put out this discussion document kind of as a second to the one that was out at the last meeting, and didn't -- in the interest of just not throwing more paper at everyone, I should have probably included the other one with this. I did get some comments like where is this coming from? Don't expect us to look at the previous thing, and it's okay.

So I didn't do that, so apologize, you know. I guess we'll just think about that again

for the future. So it does refer to the previous one though about what the public comment was. To give some background, this came from -- seed purity was the original name for it.

There's been a call for a task force to try to understand about the genetic contamination of seed used on organic land, and a lot of discussion about thresholds, more tolerance or whatever and just -- and of course there was no agreement across the organic community on that.

And so when I took it over from Zia, I kind of thought about what are we really trying to get to here, and what I saw in my neck of the woods in the upper Midwest was the fact that there were farmers who were, through no fault of their own, having crop rejected and not knowing if it started at the seed, if it was their own problem with genetic contamination.

But this is a significant loss, and especially in the past few years when the corn price was a little bit higher, they would be

expecting to get $14 a bushel for their organic corn. They would ship it two or three hours and it would arrive and it would be rejected, and all of the sudden it gets sent off to the conventional mill or elevator, you know, and it was $3.50 a bushel.

You can do your math on that. Very significant, and these are not new farmers who are growing, you know. These are farmers who have not had that problem before and are starting to see that occur. Long time farmers, good organic farmers.

And so I thought well really what we need to know is what is the integrity of that seed, and on the genetic level that's grown on organic land. So that's where I took it. It actually also came from going to the Organic Seed Alliance conference and discussing this with seed producers, who said they were already doing quite a bit of testing and that they were happy to be transparent.

But of course as this moved along, you

know, the organic seed is more than just the Pacific Northwest and the Upper Midwest. It's the whole country, and actually our rule is international. So there are complications to trying to set some kind of program together, where we try to provide the information to the farmers.

With that, I have been speaking with Kiki Hubbard and the Organic Seed Alliance, and they will be doing some reaching out, as Kiki did say in her public comment, to organic and non-organic seed producers that typically sell to organic producers, to determine if this type of genetic transparency program and the accompanying testing is practical, doable, you know, legally, although I think we've taken care of that question, and that it is legal to test final product that may not be legal, to test foundation seed that hybrid seed is made from.

But any seed that a farmer would buy to grow a crop. It is legal at this time to test for genetic contamination. What are the type of

costs? What's the availability of the testing, and to determine if there's any other unintended negative consequences if a pilot project does move forward.

We look forward to their research, which hopefully will be completed so we can move ahead with some sort of proposal this fall. Let's see. There were quite a few public comments on the previous document about, you know, how do we put this together.

There was quite a few comments that it wasn't clear which entity had to do what thing of the 18 items in the list. So I have that in my head and would put that together, you know, if we did move forward with a proposal.

So make sure that, you know, I will have a list and then I will clearly somehow, either in a table or whatever, and point out this is what's expected of the organic seed producer. This is what's expected of the organic farmer. This is what's expected of the organic certifier, and this is what's expected or could be asked of

the non-organic seed producer.

Because I truly do not feel it's fair to only ask organic seed producers to have the burden of testing on them. We really need that if there's non-organic seed being planted on organic land, that there is some background information. You know, perhaps this could be a way to push organic producers more towards using organic seed, although there is not quite enough out there for them to use.

But again, we should be working with organic seed. That's what the rule says, and I don't think it's necessarily fair to the organic producers when a non-organic seed supplier is not transparent about what's in their seed, and it could end up then causing a great monetary loss to the organic producer, by not knowing what they're starting out with.

So why is that happening? That's because the marketplace has -- does have thresholds on GMO contamination, and many times the farmer either signs a contract or is aware

that they need to bring, you know, no more than .9 percent. So if they don't know if their seed has 1.1 percent genetic contamination, they can't meet their contract, and they don't even know if there's no transparency.

Okay. So numerous comments were put forward to remove the collection of the data from the proposal, and also to make the testing of the seed strictly voluntary, with no collection of data that then would go into a large database, all the way to we should just require no detectable levels of GE in any seed planted on organic land.

So we had all and everything in between pretty much. Most commenters, though, were positive about the need to move ahead with some sort of system to aid farmers in knowing what the unintended genetic engineering contamination levels their seed may contain, and the public generally does not want us to move forward until we have more information from the seed producers and farmers.

There's concern about the GE contamination that's occurring, that disrupts the supply chain, resulting in lower prices to the farmers, but also to the processors. This is stressful for the processors when they're expecting to process something and to then be able to sell it on, and then all of the sudden they have three semi loads of corn that they can't use, and they have to then scramble to go find other product.

I did speak with the Organic Ecological Food Farming Association's Grain Farmer Group on a conference call, as well as the O Farm Board, twice in person and once on a call. They were generally supportive. They did not want to see a lot of financial burden, but they really wanted the information.

One thing that they -- that stuck with me is that they felt that they should be really protecting the organic integrity of the crops that they are growing, and having this information would help them do that.

The discussion document brought forward the comment that the NOSB and the NOP should aid certifiers with clear guidelines on what type and number of testing they should do to determine unintended genetic engineering presence in seed and final crop, as part of the comprehensive guidance on this subject, that there's kind of a gap there that some certifiers are testing for genetic contamination, others are not, and there's no clear guidance on who's doing what and what should be done so that it is consistent across all certifiers.

For those that were positive on this issue, they stated that they want the pilot project to be practical and cost effective, and they also see this as a way for the marketplace to incentivize seed producers themselves, to lower the GE contamination, because if there's sunshine on what the contamination is, then there's thought and hope that the seed producers will try to lower the GE contamination, when nobody knows there's just not that incentive.

The farmers want to see us raise the bar, because there's concern that without transparency, many producers will continue to lose access to markets due to this genetic contamination that's no fault of their own. There were some very good comments given on building a practical pilot program.

I know I went on pretty long, but there were a lot of comments, so I thank you for that.

MS. OAKLEY: Thank you, Harriet. There were a lot of comments. Are there any comments or questions for Harriet from the Board? Dave.

MR. MORTENSEN: I have a couple of thoughts. One of those is several people at the -- well, lots of the written comments and then at the NOC meeting I was sitting in the background quietly listening while you and Kiki and others were talking thoughtfully about this subject.

It seems to me, so I'm going to just reveal my bias here, and pardon if I upset anyone

in the audience or on the Board. I get the sense we're afraid to know what the state of the seed supply is. That's my opinion. I think we need to know the state of the seed supply, period.

I thought there were some very helpful suggestions made by folks about how we answer that question. What is the state of the seed supply with regard to purity, and one of those suggestions that was made repeatedly by several different folks and groups was that we have some sort of group of individuals that would conduct a study, where people were very sensitive to not smearing anybody in the process, that this would be some sort of autonomous but pointed set of, you know, look and see how are we doing with maize, corn.

The fellow from Texas today was talking about cotton is a big problem, and we all know that any GMO crop that is either bee pollinated or wind pollinated when it's grown in a matrix that is overwhelmingly GMO transformed, there's a risk of that happening.

Whether you're a breeder or you -- unless you're going to do your breeding in a country or an island where GMO crops of that species are not grown. So I liked the suggestion that some sort of group, and I don't want to call it a task force, a group of folks working collaboratively would actually set out to determine the state of the seed supply with regard to purity.

And then it could be shared with this group, this community and then discussed with the idea, which I think is totally the intent of this document, this part of it is in my reading of it and my discussions with the Subcommittee. We could then be looking at what are the problems that give rise to hot spots of impurity by, you know, asking those kind of questions of the data.

So that's one thought. Should it remain in a discussion document. I don't know if it should remain in a discussion document or handled outside of a discussion document format. I do think that our farmers deserve to know what

they're dealing with on the front end, because most all of our farmers, organic farmers are concerned about genetic modification contamination of their seed, those that grow crops that are crops at risk.

So that's just a thought I have coming away from listening to more of the discussion, and looking at the document and discussing this with the Subcommittee.

MS. OAKLEY: Yes, Tom.

MR. CHAPMAN: I just had a question for Harriet's summary. You mentioned O Farm was supportive of this? But then I also -- I thought I read a letter that they sent on saying that they had some strong concerns, and so can you clarify that?

CHAIR BEHAR: Yeah. They stated that they did not want it to cost them a lot more. But the last sentence was we are supportive of this, that I saw.

MR. CHAPMAN: I think that was the Crops. Are you confusing the Crops piece with

this piece?

CHAIR BEHAR: No.

MR. CHAPMAN: Okay, because they said --

CHAIR BEHAR: I can look that up.

MR. CHAPMAN: Yeah.

CHAIR BEHAR: But no, they were supportive of having the information, and they were supportive if they could get the information from their seed suppliers up front before they even purchased the seed.

They didn't particularly like the part where if they couldn't get the information from their seed supplier, that they had to go out and do the test, because of the cost. If somebody else would pay for the test, then they would be fine with that.

MR. CHAPMAN: Yeah.

CHAIR BEHAR: There was concern about saving seed, which I did address and took that out, made that more of a best practice instead of a mandate. I know that there were a few

certifiers that wish that farmers would save their seed, but got a lot of pushback from that so that was pulled out.

MR. CHAPMAN: Yeah. I mean I had read the letter from NOC. I just, it didn't seem like the summary coincided with what I had read in the comments. But maybe I misread it myself, so just let's make sure that we're -- if you could follow up on that before we move forward.

CHAIR BEHAR: Okay.

MR. CHAPMAN: Yeah.

MS. OAKLEY: Just noting the time, we're closing in on our hour. Are there any more comments on this before we move to the sanitizers discussion document?

(No response.)

MS. OAKLEY: All right. Well then our final item is assessing and cleaning sanitation materials used in organic crop, livestock and handling discussion document. Harriet.

CHAIR BEHAR: Okay. So sorry Tom, I can't search the -- busy. Okay. So while the

Subcommittee clearly stated that our goal was not to limit sanitizer use in organic agriculture, but instead the NOSB really feels it needs a reference to aid them in current -- for the current NOSB and for future NOSBs, to better evaluate the petitions as they come to us, to see where the sanitizers that we are receiving petitions for fit in the constellation of sanitizers.

Not to change the OFPA criteria. We will still get TRs for individual sanitizers. But we don't always understand how they work with, you know. What is the difference between this one and that one, and this active ingredient and that active ingredient?

It seems there's still a concern that the work on this topic is somehow secretly being done, to remove the use of needed and in some places legally mandated sanitizers. So as the lead on this document, I just want to make it clear that I am an approved Produce Safety Alliance trainer, helping produce growers meet

FSMA requirements.

I have taken both basic and advanced trainings. I have written numerous articles and fact sheets. I have given many trainings to growers, and I do not hate sanitizers, okay. So everybody, you just need to know that. I understand about biofilms and pathogens and where they hide and how hard they are to get rid of and how they can grow, and exponentially and cause a food safety crisis.

So please, I am not lying to you. I am not secretly trying to do something else. So I hope that's clear. You can go on the Produce Safety Alliance website, see my name there. I want you all to know too that the NOSB struggles with the review of these direct contact materials to decide what is truly needed and what is not.

Sanitizers by definition kill biological life, and can have a wide range of negative consequences. We are hoping that this TR will provide that reference to us and to the public, to determine what sanitizers, what active

ingredients in sanitizers best meet the OFPA criteria, and that that reference to the safer choice was really to kind of show there is something out there already that kind of gives maybe not the food processing industry, but has an overview of these sanitizers choosing certain ones that meet a criteria.

We agree that this should only be limited now to those that have direct contact, but many of the sanitizer active ingredients are also used in cleansers. So that's partially why the word cleanser was put in there, not that we were going to review items that are washed off. We're only going to review those with direct contact, but they are also found in cleansers. So we didn't want to ignore the fact that they would be there too.

There was some public comment about asking for clarity on the use of these materials that have contact with organic food in post-harvest handling, since there's no consistency between certifiers on this issue. Some do not

allow the 100 percent organic label if there's no rinse after an approved National List sanitizer, and others do allow the 100 percent organic label.

So I don't know if that's something to discuss with the NOP, but it's really kind of beyond the purview of this TR and issue. But it was brought up and I think it is a good question.

On the question of uniqueness, that uniqueness was meant to discuss the activity or mode of action of the product, not the product itself. So there could be numerous products that have the same unique quality in its mode of action.

So we're not -- and we're not saying that if numerous products have that mode of action, that we will only accept one. But we want to know what is that unique activity of that product through the TR.

We did discuss the need for rotation of products in the document, which shows that we understood that there could be more than one

sanitizer used in a situation, and that we -- it is our intention to provide these options. But many times, we are not given that information, and we really feel that this TR will give us some reference to be able to assess that.

The NOP has used the word ancillary ingredients in the past for materials that are either not inert or excipients. So I know there was some question about the use of ancillary ingredients, and that I suppose we could have defined better. But it's basically everything except the active ingredient in the product, and maybe we should look for another word.

So we are hoping that the TR will give us some basic information. If the Materials Subcommittee feels that a discussion document or a proposal would help others access this information in an easier way, including manufacturers and users of sanitizers, to identify and petition new materials for the National List, we would do something besides the TR.

We don't know what the TR looks like. Depending what that looks like, we may come out with a discussion document or something else that makes it a little bit more accessible to the public, to then use for helping us find the gaps. With that, I am done.

MS. OAKLEY: Okay, thank you Harriet. I just want to note that we have met our hour allotment and slightly exceeded it. So if you want to open it up for questions we can. Are there any questions or comments for Harriet? Ashley, are you nodding your head yes.

CHAIR BEHAR: Steve was first.

MS. OAKLEY: Okay.

MR. ELA: I find it interesting that for the whole time I've been on the Board, our stakeholders have asked us to figure out a comprehensive review of sanitizers so that we don't just willy-nilly put them on the list, knowing that we all need them.

And then -- and then we propose this and suddenly it seems like, you know, OFPA

criteria are perfect. And that's not -- it's a little bit of a frustration. It's just a note. I think it's a complex topic that, you know, none of us want to lose tools. We all want more tools, but yet kind of fundamentally the sanitizers go against OFPA in that they're widespread biologics.

For anything else, we might kick that out. And so I think we really do need to continue to figure out classes of chemistries that are active so that we have rotation against resistance, and I have no problem with multiple compounds within a class.

But in the insecticide world, there are the neonics and there are the organophosphates and there are the biologicals, and we have multiple materials in those. Each one may have a specific use, even though they fall in a single class.

So I think we need to keep moving forward on it. I personally have some reservations if we do have -- know what to ask

for in a TR at this point, in terms of getting something that's really valuable. So I'm kind of tempted to take this process slowly. But I also don't know how to move forward to resolving what we might want to ask. It's a -- I chase my own tail on this one.

MS. OAKLEY: Why don't you come join us on our Subcommittee calls?

MR. ELA: Oh, I'm busy.

MS. OAKLEY: You are? Ashley.

MS. SWAFFAR: So that person that asks all the time in their public comments for that comprehensive review of sanitizers, also in their public comments really ask us to remove a whole lot of sanitizers. That's my concern with this document, is you know that potential. I think we heard from so many of the growers and packers that sanitizers are critical and they feel like they don't even have enough.

So that's where my reservations are on the whole like whittling down and uniqueness of certain things. I would like to see us have

options for especially the produce industry. So I hope that this document can do that, and I think there could be some really good ground work on adding new substances, you know.

That's where I think this could really help us, not looking at taking things off the list. So I hope that the TR can focus in that area specifically. Thank you.

MS. OAKLEY: You too are welcome on our calls. Tom.

MS. SWAFFAR: I'm a senior. I'm not accepting new committees.

MR. CHAPMAN: I have a couple of questions and then maybe a statement or two. So the first one, has the TR gone out? Has it been contracted?

DR. LEWIS: No, it is not. It's still in development in terms of understanding the scope of the TR in that case. So we've been in conversations with Emily and Harriet in terms to finding the scope of the TR and in terms of the boundaries we should be --

MR. CHAPMAN: So I'm under the assumption the Subcommittee is open to taking the feedback from this meeting and incorporating that into the TR as well? Is that fair? I see head nodding, so I'm going to say yes.

MS. OAKLEY: Yes, yes. We will look at that at our next meeting, which is in a couple of weeks.

MR. CHAPMAN: Great, getting right back into it. I share some of Steve's concerns around whether or not right now is the right timing for a TR, and I guess the concept that would be in my mind is potentially a technical panel, that would be able to explore what we're looking for here, mostly made up of various types of food safety experts, that could then help us flush out what we could expect to find in research out there, to help answer the questions we may have.

But I don't think we right now know the questions even maybe to ask, to get the most that we could get out of a technical review. So

maybe working in a more collaborative environment first, with the intention of moving to a technical review after that might get some more results.

I also want to speak to the -- we did hear from stakeholders asking for this review. We also heard over the years stakeholders asking us or stating that they didn't think this was necessary, sharing the concerns that people have that this is an attempt to remove sanitizers.

So I just want to make sure that people realize that while we did hear from some stakeholders supporting this concept, we also heard from stakeholders not supporting the concept. So that then doesn't surprise me when we hear then when the, it goes forward, you're hearing from people that are now resistant to the idea speaking up a little bit more.

I also think the Subcommittee needs to consider ancillary substances in a lot more detail, and I refer you back to the peracetic acid sunset from the San Diego meeting, so spring

2015, where we actually -- the NOSB in that proposal noted that inert ingredients in a sanitizer are not ancillary substances subject to review.

So there's a conflict now from what was just said versus what was done previously by the NOSB. So that's an issue I think probably that we should dive into too before we send out the TR and go into those details.

MS. OAKLEY: Harriet, sorry.

CHAIR BEHAR: I thought I said that we were not going to look at ancillary substances. Did I say we were?

MR. CHAPMAN: I think there was a comment that they overlap with other substances. So inerts are completely out, not at all looked at.

CHAIR BEHAR: Correct.

MR. CHAPMAN: Okay. Well inerts and ancillary substances?

CHAIR BEHAR: Yes.

MR. CHAPMAN: Because we said the

ancillary substances were everything else that's in the product?

CHAIR BEHAR: No, I was defining them. I wasn't saying -- I was -- the question was what do we mean by ancillary substances?

MR. CHAPMAN: And inerts are not ancillary substances.

CHAIR BEHAR: Then I said well, we have categories of inerts. We have categories of excipients, and then we had a category of ancillary substances like used in handling products, and perhaps that was the wrong word. But this was basically everything else besides the active ingredient.

That's what I was referring to in the document, but that we were not going to look at those ancillary substances, or should I say all the other things besides the active ingredients.

MR. CHAPMAN: Yeah, probably all the other things, just because we previously noted that there's -- in handling, there's inerts and ancillaries.

CHAIR BEHAR: Right, right. So I'm sorry if you didn't understand that. But no, I was just trying to define what ancillary meant in this context, and then it meant everything but the active ingredient, and that we were not going to be looking at those in the TR.

MS. OAKLEY: Sue, anybody else? And Asa. Okay. Sue, then Asa, oh and Jenny. Okay, sorry Jenny. Sue, Asa.

DR. TUCKER: Oh, I just wanted to follow up briefly on what Paul said about the TR, because that follows immediately on what Tom just said. To do a TR contract, we really need to have a very clear scope, because a consultant has to take that statement of work and determine how many hours it's going to take to answer the questions, to do that work in order to come up with a fixed price.

So I hate to get mundane about contracting, but that's why we keep on emphasizing the importance of a very clear, specific defined scope for that technical report.

So I would encourage the Board to make sure you know what you really want a contractor to do before we spend money to get a contractor to do it, because we don't want a contractor for a technical report come back and say well, we wish we would have asked all these other things, because then we have to do another contract, and the price of those -- this is worthwhile expenditures, but the better we can define it up front, the more cost effective it will be. I just want to make that point.

MS. OAKLEY: So I'm just going to interject myself really quickly and say that yes, we have been in that discussion with members of the NOP staff during our Subcommittee calls and through emails, and we will continue that process, especially when we come back with the public comments and make any changes that we would be making. So yes, thank you for that. Sue, Asa, Tom.

MS. BAIRD: Yes. Thank you for this work, and I do appreciate it. I think Jenny did

address something that I was going to say. But there is another concern, observation, and I appreciate Harriet's, all of her vast stuff that she has going on in her life, including the fact that she is a FSMA trainer.

But I have heard the concern from some of the stakeholders that says, you know, I'm afraid that you're going to say this uniqueness will now limit us, or you're going to use this as a criteria to prevent -- either to take things off or prevent new materials being put on. There has been precedent I've heard in even the short time I've been on board, for using that very criteria.

Well, we've already got one like this; why do we need to add another one? Got the same mode. So just as a caution, let's don't go down that way.

MS. OAKLEY: Asa.

MR. BRADMAN: Just in terms of the more mundane, you know, I think there is value here, and if nothing else given how important

sanitizing and food safety is, just having kind of a matrix of allowed materials, potential materials, stuff under review.

I think having an organized system to categorize that information and evaluate it would be valuable. That's where I see this functioning here. I would add to the evaluation criteria comparative toxicity. So if you have a new material, comparing it to the other ones and also, you know, what the end points are.

I mean I can picture kind of a table that would have different checkoffs there, so there could be a quick summary. So just a detail here, but I think this could be really valuable and useful.

MS. OAKLEY: Thank you. Tom.

MR. CHAPMAN: Sorry to continue to belabor the point on ancillaries, but I see that that was in the technical review request, and so I know you're telling me the ancillaries are out, but I see that it's in.

MS. OAKLEY: I'm going to interrupt

you and say that that is something that got removed before or after this was already submitted, because we heard from the program on that in particular saying that it was too broad, and that it would expand the cost of a technical review beyond something that was feasible.

So although it's in this document before the public, it is not in the document that would go forward as a technical review request.

MR. CHAPMAN: Okay. So it was the intent of the Subcommittee to review it. They just, the finances prevented it from being --

MS. OAKLEY: Harriet.

CHAIR BEHAR: This was something that had been brought forward by the public, to look at the ancillaries, and so we put it in there. And then in the discussion with the NOP, we came to a consensus that really we wanted to focus on the actives.

It was really kind of a timing thing. But yes, this was -- it was removed. But you know how it is? I mean how many weeks has it

been since we submitted the materials, and we did not stop working on it.

(Simultaneous speaking.)

MS. OAKLEY: Okay, yeah. Speaking of timing, we're, you know I'm that person. So we are late, but I'll let Dave have the final comment, since you raised your hand, and then we'll end the discussion on this.

MR. MORTENSEN: Yeah. I guess I just would like to reiterate that it was never the intention that this was going to be used to -- I completely agree with the point that Harriet made at the very outset and has, I think said at least ten times during the course of the last three days: It was not intended ever to be eliminating things.

To me after listening to the food safety -- the excellent presentations that our commenters made on the importance of food safety, it seems to me it's all the more important that we have a more systems-oriented approach to evaluating some new things. Where does it fit,

under what circumstances would it be used, and I think the point that Asa just made is an excellent one.

So I think this strengthens our capacity to evaluate the fit of new things, and the fit of old things as we go forward with sunset and new petition materials. So I, that is clearly the spirit of this, and that's what I think we want to try to accomplish with it, and I think I'll finish there.

MS. OAKLEY: Paul.

DR. LEWIS: Just one additional comment, and we're looking at the 16 evaluation criteria that's listed here. In terms of the conversation by the Board here, I'm looking forward to kind of working again with the Subcommittee in terms of refining. That's what we've been saying all along in terms of looking at the scope of having a TR and what will the TR look like. So again, looking forward to working with the committee in this case.

MS. OAKLEY: Harriet, do you have any

concluding remarks?

CHAIR BEHAR: Yes, I do. So we have already worked with Clarissa and Devon on this and cut it back quite a bit actually, kind of lumped some of them together. The reason really why the Materials Subcommittee came to this is that we felt frustrated in trying to evaluate sanitation materials.

We felt that we needed a reference and we felt if we needed a reference, future NOSBs also needed a reference. So I know there has been discussion about having a panel, but we felt that a panel would not be something that would be present for future people to use as a reference to help them through, unless they wanted to sit and read the transcript.

So that's why we wanted to do a TR, and have that information there, and that also makes it more available to the public, to see are there any gaps. Where do we see that, oh, here's a specific mode of action that we don't have anything on the National List that has this mode

of action.

So that's what that was all about, and I think Livestock Subcommittee, are we frustrated when we get, you know, a teat dip every, you know. Of course there's nothing this time around, but you know --

But we've looked at a lot and we're lost, and we were like we wish we understood how it all works, and how each of those active ingredients work within a system and what's useful in which way. So that's why there's that long list, right, what works in rotation, all of those things.

MS. OAKLEY: Thank you everyone for a very robust discussion. I knew we needed more than an hour, that's all I'm saying. I do just want to add before we conclude the Materials Subcommittee that there was one comment from public comment to add to our work plan the development of criteria for evaluating products of fermentation processes.

So we can go back and discuss that

later in Subcommittee, but thanks everyone for the discussion and that concludes the Materials Subcommittee.

CHAIR BEHAR: So there was some thought that maybe we should take a break now. Yes. Everybody is saying yes, and then come back. No more than 15 minutes. So it is right now 4:27. Let's go until 4:45. So you get 18 minutes.

(Whereupon, the above-entitled matter went off the record at 4:27 p.m. and resumed at 4:47 p.m.)

CHAIR BEHAR: Okay. So we are back, and we are now on the Compliance, Accreditation and Certification Subcommittee. Sue Baird is the chair.

MS. BAIRD: Yes, hi. The CAC Subcommittee has compiled a summation document from the past two panel discussions that has taken place, both in '17 and '18, and so that was compiled by Harriet Behar. We've had a lot of public comment asking for us to address organic

agriculture impact of energy infrastructures.

We're cognizant that there are a lot of subcategories to the impacts from energy infrastructures that could come. It impacts water quality and which would transfer into several different governmental agencies. It could impact soil quality.

So we've been asked, it's been requested that there would be a panel compiled to determine what all of the impacts are to the organic agriculture. We've asked NOP if this could be put on our working agenda, and they are considering it at this point. So with nothing more to say, Harriet would you want to discuss your summation document?

CHAIR BEHAR: Thank you. I've been a little busy bee. Okay. So this Compliance Accreditation Subcommittee oversight of improvements to deter fraud discussion document basically was a way to put in writing a summary of the excellent import fraud panel that we had, as well as the many public comments that we

received during that meeting, where we really focused on this really important issue.

There was a lot of approval for the direction and items listed in this document, with numerous responses to the questions on which items should be prioritized. I encourage the NOP and I actually have already done that directly with NOP staff, to review the excellent comments received on this topic, since they are currently involved in rulemaking on this issue.

These public comments could then aid them in targeting the issues that certifiers and the trade see on the ground as really needing the most attention. The community is very interested in having rulemaking that will be as effective as possible, with a strong focus on items that can make the most difference.

There was expansion of tariff codes mentioned, which I don't believe is something that NOP would put into rulemaking. But I encourage NOP, and Jenny can speak to that after I'm done, and hopefully the NOP can facilitate

that activity.

Specifically, and I actually offered to help the program with this, OTA, OFARM, Food and Water Watch, Oregon Tilth and Organic Produce Wholesalers Coalition had especially good comments on this subject. Some of the public comment that we received verbally also I took some notes on.

There was a request for better product labeling that correlates to the information on the certificate, including the certifier, the actual name of the product and that's sort of documentation that a lot of times it's hard to verify that what you have in your hand is actually being certified by the certificate in your other hand.

And as well, the Organic Integrity Database should also then be integrated with that as well. So there's real clear nomenclature and semantics, and it's just -- it's not like you're playing, you know, find the needle in the haystack.

A lot of times that it's almost like you are being a detective when you're trying to figure out is this product really certifies, and is this really the product being represented by the certificate I've just been handed?

Another point that was made was that import certificates need to be tied to the production capabilities and stock on hand, similar to the transaction certificate system that we actually did have in the past, where certifiers kind of got in the middle of the trade.

And when someone wanted to sell something, they went to the certifier and asked for a certificate on that transaction, known officially and fondly as the TC. There are some certifiers that are still doing this, but then they would look at what the producer had in stock, what they said they were going to produce, and then they could subtract the amount that had been sold and keep track of it that way.

So there's some kind of system like

that that was suggested by a public commenter. There was also discussion of a pesticide residue testing database. Since testing is already done but it's not collated and available to others or the general public, I'm not sure where that would all go.

And that there really was a strong push for having acreage per operation as a way to estimate the amount an operation could produce. I believe that most certifiers do collect that acreage information, and a lot of them also put it directly on the certificate, but it doesn't end up in the Organic Integrity Database.

There was some concern that stop sale authority might take too long for the NOP to do, but a general encouragement that they should start working on it so it could occur, and that we do need collaboration between certifier, states and federal authorities in that stop authority, I mean stop sale authority.

I'll just give a short personal. I went to -- I did an organic inspection, it was

many years ago, where I found fraud and there was product about to be sold. I knew it was fraudulent and the farmer knew that I knew it was fraudulent. I contacted the certifier and I contacted the state it was in who had an organic certification program, not a state organic program with enforcement capabilities. But that state also had a certification.

I called both certifiers and informed them of what I found, and neither of them could stop that sale. I didn't, I don't know if the certifier I told who the sale was going to go to, but there are times when we really do need that authority to get in there when we see something.

Now, you know, we're not talking about a boatload, but it was a couple of semi loads of grain that was -- had been grown using prohibited substances. So with that, I am done.

MS. BAIRD: Any discussions? Please. No, that's not what I'm supposed to say? Oh Jen? Yes, please.

DR. TUCKER: First, I want to thank

everybody that submitted public comments on this issue. I know we've been hearing for the last couple of days that most of the groups represented here today do have fraud and import oversight as their top priority. So I do appreciate when that -- I appreciate the investment and comments that people have made. This has been an ongoing work and discussion has been enormously helpful to hear from the community.

An awful lot of what is being discussed here will be reflected in some way in the proposed rule. So when those comments come in, again I encourage folks to really read them and respond. On the tariff codes, that will be something that we wouldn't do through rulemaking. So that was correct.

However, we have recently updated our memorandum of agreement with CBP, Customs and Border Protection, to fundamentally rework how an AMS, our agency overall, accesses information in the automated commercial environment, so that

it's not tied, it doesn't have to be tied to a very specific code.

We get to look at cross-code categories rather than specific codes. That will down the road make an enormous difference for us. Once we have more visibility into organic imports, I have a feeling that this tariff code issue will every time you solve a problem, new problems emerge and it will become much more clear how badly these are needed. So I think that will be a work in progress.

My final comment was on sort of stop sale. I just want to be really clear that this is not something that the NOP would have the authority to do on its own. So this is not an NOP project that we could even take on. This would be something that would have to be a change in the Organic Foods Production Act.

It is something that has been discussed in the past. There are lots of intricacies about it. But I just want to be up front in terms of what the limitation would be of

that. We've had a few comments on notification systems.

NOP is currently working on building out our accreditation system, to allow alerts more easily to certifiers. So that when something does happen, for example with the change of the certification or accreditation status of a certifier, all the certifiers would get an alert in their dashboard.

So that's an immediate step we're doing to communicate with certifiers. We'll then figure out how to expand notifications as appropriate and with respect to due process to trade. So wonderful, thoughtful comments and feedback. I appreciate so much the Subcommittee continuing this dialogue. So thank you.

MS. BAIRD: Thank you. Tom.

MR. CHAPMAN: I had a question for Jenny and then a question for the Subcommittee. Jenny, you just talked about changing the MOU to be able to cross-codes. I'm not sure if I'm following what you meant by that. Is that like

you're trying to embed organic status outside of the HS coding, or are you trying to be able to get multiple codes all related to organic at the same time, or am I completely interpreting what you said wrong?

DR. TUCKER: Let me try again, because it's actually -- it's complicated, and so maybe if I explain it again I'll get it right. So right now, it has to do with how AMS accesses data. And so right now, at the former MOU of how AMS as an agency accesses data was at a very specific code level.

Instead, we now are organizing it by categories. So instead of having to identify every single code that we might be able to see related to organic, we get to see the entire category, which means it doesn't have to have an organic code in the tariff code for us to be able to see it.

Once we have -- and that doesn't -- honestly, that's useful now kind of, but it will be really useful once we have import

certificates. So once we have import certificates and we can look across categories, it will just -- so much more data will be available to us than otherwise.

So I think this is work that's going to take a long time, but putting this kind of infrastructure in place will help us once we have the electronic import certificate. So it's a huge domino game, but we're trying to set up the dominos appropriately, while also stopping the bad guys in the meantime. And so it's a balancing of projects.

MR. CHAPMAN: Okay, question and then probably a statement after that. The question is what's next for the Subcommittee? What's the next areas of work that they should be focusing on on the subject matter, and you know, the question to Jenny as well, you have depending at this point, but also to the Subcommittee or other members.

MS. BAIRD: I'm new to this committee, so it's hard for me. It would seem logical to me

that there are many different facets to fraud. We've heard, we've heard domestic fraud. We've heard import fraud. We've heard fraud in livestock. We've seen fraud in vegetable production.

And perhaps we might take bites at a time. I think that we can't address all of them at one time. It's just not time. There's just too much time constraint. I know, I feel like that NOP's doing an incredible job of implementing procedures for imports.

I would make a comment, Jenny, and I'll get to you. I'm not ignoring you. But you have MOUs for some things and you said you don't have stop sale authority, and we understand that. We know that is absolutely true. But would it be possible to do a MOU to another agency that does have stop sale authority such as grain agency, grain -- what's the title of the grains? I've lost their agencies.

But they do have stop sale authority. So perhaps that might be something to at least

look at.

DR. TUCKER: Do you want me to respond?

MS. BAIRD: Yeah, sure, sure.

DR. TUCKER: You know, we're having that conversation with APHIS right now. You know, APHIS has its own set of regulations. You know, how we could have APHIS do some of our enforcement. It really does come down to the authorities that they have their regs.

I do think in working with the CBP working group, we're going to get a much better of, you know, how far their authorities can come, how far our authorities come, and how we could leverage some of their authorities differently. That's why I'm really -- I'm excited about the work group of ways of raising possibilities we don't even really know about yet. So that's a point very well taken and I agree with.

MS. BAIRD: Thank you. Harriet.

CHAIR BEHAR: I'm just wondering since they're working on some pretty robust rulemaking

to come out in the fall, if we should wait and see what they've done and then continue work where we feel that there's the next steps to take.

MS. BAIRD: Emily.

MS. OAKLEY: Yeah. I mean I think what helped us last year was having Jenny on our calls and getting some guidance about where it was most useful for the Committee to focus its attention. So I think inviting her back to our next call or, you know soon so we can be prepared for the fall would probably be helpful.

MS. BAIRD: Dave.

MR. MORTENSEN: In response to Tom's question, which was to the broader board what are some of the next steps, I first should have said yesterday, I think it was, that I was really impressed with the integrity presentation that Jenny made at the morning of the first day, whatever day that was, yesterday. Sorry.'

Really, given where we were only a year ago or a year and a half ago. So thank you

for that team. One of the things that I was thinking about after the presentation is that it would be helpful, I think, for the Board to get a little bit deeper into the weeds of what are the data telling us about how well we're doing.

I think you presented some encouraging signs, and I'm sure you made it clear, Jenny, that some of that data can't be revealed because it would reveal how the risk analysis and all of that helps identify problem spots.

But it would be some of the things that I think got us concerned about this in the first place a couple of years ago, were that fraud was undercutting the price of grain.

We were losing confidence in our ability to know that we were catching the problem entries of grain, that we were concerned about even knowing what country the grain was coming from, were some of the things people were arguing and presenting to us.

It would be really interesting if we could maybe at the next meeting, or maybe during

phone calls, as Emily was saying, if we could get into some of the, you know, sort of outcomes of the early phases of the data dive that you're doing. That would be something I would like to have a greater sense for.

MS. BAIRD: Tom.

MR. CHAPMAN: I think I had three areas that I would suggest to the Subcommittee as well. Let's hope I can remember all three right now. The first one is, you know, a quarter of enforcement activities, roughly at least that's a stat I heard at one time from the USDA, is handled by the California State Organic Program, and we haven't heard from them about enforcement challenges and opportunities, what's working for them, what's not.

The different party that's going through the same thing with the USDA is I think they would -- I think it would be great to bring them in and give them some time to talk about how they manage it, what they're going after, what the challenges they face, what tools could

potentially help them to be more effective.

That's an area we haven't explored. So I would encourage reaching out to the California state organic program. -- I knew I wasn't going to remember all three, but like you stirred them all up and I'm pulling that.

The second one, and this is -- I was going to save this one for the last, because this is the one I care the most about, is the Organic Integrity Database is an amazing tool. As the sourcing manager who leads a lot of the anti-fraud initiative work that Clif Bar does, that's an amazing tool to use.

Now its biggest shortcoming is operations that are not in it. I know we've raised this up in the past and it's part of other things. But I think understanding potentially the items aren't in it are recognition agreements and equivalency agreements. I understand the challenges to putting those into the OID, or at least the equivalency agreements into the OID.

But I think further exploration on

that could be helpful, both understanding what goes into a recognition anti-equivalency agreements and what opportunities that are -- could potentially add criteria over time to those, to encourage our international partners to become more robust in tracking their own certified entities.

And particularly challenging on recognition agreements who are certifying to NOP standards, to have those in the OID. I don't fully understand the challenges there, and I think that's maybe a closer install potentially, but something that could be explored by the Subcommittee is how do you sew up those gaps in the OID system, because if I'm looking at a supply chain domestically, it's amazing. And then I go across the board to Canada and it becomes a black hole.

Or I'm exploring a supply chain in Southeast Asia and it's amazing, and then I end up in India and it's a black hole. And so right now it's biggest constraint is not having other

opportunity areas. And so I think that's -- we'd be remiss to not continue to explore opportunities and constraints and what could be done next in that area. I guess I'm going to stop at two, because I took up a ton of time.

MS. BAIRD: You don't know what three is anyway, do you? Okay, Emily.

MS. OAKLEY: Yeah, I just wanted to echo that, and I thought that was one of the very helpful things that came out of public comments as well, and obviously this is not an area of my expertise. But it's something that I immediately honed in on as a potential area that could be improved.

So I don't know Jenny. It looked like you were trying to maybe raise your hand right before I talked. So did you --

DR. TUCKER: I get so excited by the technology stuff. You know, I think this would be -- it would be really cool for the Subcommittee to talk about a more -- one of the things -- so there was a public comment about the

Subcommittee getting involved in this incremental, the Farm Bill funding and understanding what that is.

So one of the things we've been kind of considering is you have all these countries. It was mentioned yesterday that don't have any kind of public registry and they are -- we've started to have conversations with them. Okay, what would it take for you to get a registry?

I think sometimes we underestimate the technology infrastructure that we have and are able to deploy. One of the things we have been looking at is how -- we have the integrity database.

How could we create an open source organic integrity database that other countries could either have -- they could deploy in their own environment or we could have in a U.N. cloud or something like that, where these countries could use an open source version of the integrity database to load their own data in.

The main reason -- the difficulty

with, you know, the equivalency arrangements and the recognition is I don't want Stacey Swartwood to become an international help desk. I mean honestly it really comes down to that. She spends a lot of time on the phone with certifiers helping them get their data into the system, and so it's really how do we manage that kind of -- it's hard enough with certifiers whose first language is English, right, and trying to explain how to do all of this.

So that is a challenge. But if we were able to deploy a system that they could then use, if it were a version of our database, it would already be mapped technologically, which would then immediately allow some data exchanges, all the way into import-export systems. So just looking down the road.

So I think it would be really exciting as a board to talk about these kinds of possibilities, of where is the biggest bang for the buck in terms of protecting all of the integrity, not only in the U.S. but around the

world, a global system. I get really worked up, so I'm going to stop now.

MS. BAIRD: I did want to commend you. Quite a few of the commenters were saying, you know, we just need more training for our inspectors and certifiers. So I think you've addressed that well.

Just some anecdotal and not wanting to take time up, but I've had a lot of certified entities when you go and inspect will say well, I've never had this kind of audit. Why are you trying to audit all this stuff?

And that I think is a key, although I'm not sure if someone is truly intent on cooking the books if any true, any inspector can find that. I say that because I was one of the inspectors for one who just got busted, and in fact FBI would actually did it. They didn't find it either.

So I'm not sure, but I do think the training is critical and thank you for that. Tom had his hand up. He's remembered his third

point.

MR. CHAPMAN: Fresh produce supply chains. They're unique, they're different. We got a lot of public comment on those. I imagine some of the rulemaking touches that area, so there could be reason to pause on that one. But it's so unique and it's so diverse, and I think there's a lot of opportunity to go deeper in that realm as well.

MS. BAIRD: Scott.

MR. RICE: Thanks. There was also some good suggestions in the comments from the certification community about the desire to have more training on, and kind of best practices on communicating between certifiers on confidential information and feeling comfortable doing so, and how to have parameters around how to do that and do it efficiently and responsibly.

Especially I think with some of our international partners is where, to Tom's point, that kind of breaks down on our side of things as well. And just to an overall work plan, I think

I do see this Subcommittee having a big role once that proposed rule comes out, and I think we'll really be able to sink into areas that we can build recommendations and move from there, and kind of help in that process.

MS. BAIRD: Did you have your hand up Steve?

MR. ELA: I just want to say this is most animated I've seen Jenny the whole meeting, which is cool. I mean thank goodness you're working and this excites you, because I mean it really does have such meaning to our community and to our price structure, and to our consumers.

MS. BAIRD: No, it's great. I think it's wonderful that you're so animated about protecting organic integrity, so thank you. Any other comments? No, okay. Back to you.

CHAIR BEHAR: So with that, thank you Sue. We're not having another break, forget it. But so we go to the Livestock Subcommittee. Scott, you are the chair. So take it over.

MR. RICE: Thank you. Got my notes up

here. We have got one proposal today on oxalic acid, which was petitioned to us and a number of -- excuse me, and one discussion document, and a number of sunset items.

I think what we're proposing to do today is just move through those sunset items without our usual kind of formal presentation of describing each of them and move into each of our respective assigned materials, and offer a round-up of comments and use in brief, to try and keep us a little closer to schedule.

So just as a heads up to folks as we move forward. But our first item is, as I noted, oxalic acid, and I will turn that over to the lead who is Harriet.

CHAIR BEHAR: Harriet again. Okay, so it was kind of a no brainer that I take this material since I'm the beekeeper, right, and we did not receive very many comments. But I'm looking at Garth, who gave really very important comments to this.

There were comments that echoed the

information in the proposal, that there was no NOP apiculture standards, and then felt that adding materials to the National List should not be done if there's not an overall standard to oversee this.

However, in response to that, we are in a place where there are organic honey producers, a few of them being domestic. I know there are a few in the Upper Midwest. There's quite a few I think in Hawaii in comparison to other places.

I believe there's somebody in North Dakota and I don't know all the honey producers. I did not research the Organic Integrity Database. But in Garth's very good comments, he did note that there are foreign producers. So I just want to read a little bit of what he said, if you didn't have your chance.

This material is allowed under the EC or the European Union, since the largest consumers of organic honey in the world are EU member states. Most of the organic honey

projects in South America are already certified to this standard, with NOP certification coming to them as an added overlay.

Because of the lack of harmony between the EU and the NOP standards with respect to synthetic materials allowed in apiculture, there exists much confusion on the part of the producers and managers regarding allowed materials for the control of varroa mites.

He says that he's seen several projects fail to obtain NOP certification due to the confusion over what materials are allowed or not. He also recently taught a course to organic inspectors on organic apiculture, and the lack of harmony between the two standards was a major topic of conversation.

In his experience, and I know he is a beekeeper as well as myself, beekeepers tend to prefer oxalic acid over formic because it is less irritating to both the bees and the beekeepers. In addition, the ability to vaporize the oxalic acid in the hive without opening up the hive

bodies is particularly attractive to beekeepers, and for those of you that are not beekeepers, you probably would not want to open up a hive.

And especially in the cooler climates where opening the hives especially in early spring could chill the brood and even the queen, and that is not a preferred activity. The point that I made in the proposal too was that it can be used in a sugar syrup and drizzled over packaged bees, and that is a great need.

I personally have received packaged bees that arrive full of mites, and I don't have a tool to deal with that, and then I put them in my hive and then I'm just -- they just explode. So the fact that -- and formic does not have that mode of action. So this is a special and needed activity.

As far as not having a standard, I feel -- this is my personal view -- I am not an organic beekeeper. I don't get my hives certified, but I do manage them organically, so I've never used oxalic acid. That because there

is not a standard, I don't think that we should punish the organic beekeepers and not give them a material that they need. That's it.

MR. RICE: We can open it up to discussion. Comments, questions for Harriet?

MR. MORTENSEN: Harriet, I was wondering if you could just give us -- the vote was, there was one against and five in support in the Subcommittee. Could you just give us just a thumbnail sketch of the thinking that underpinned the vote?

CHAIR BEHAR: Yes, and that was mentioned in the proposal. That was because there were no apiculture standards. That was the reason that the person mentioned that they would not vote for this, because without standards there should not be materials. I think you -- okay, okay. Ashley.

MR. RICE: Ashley.

MS. SWAFFAR: Okay, good. Yeah. So I was the no vote on this one, just based on that whole no standards. I understand that bees are

classified as livestock, but I do question kind of how some folks are producing -- if anybody really is producing organic honey in the U.S.

Just a few folks I think are. I really don't have any objection to this material, but that's just kind of the basis of where I was on that no vote.

MR. RICE: Emily.

MS. OAKLEY: Yeah. So oddly enough, I find myself conflicted as well, just because I'm not clear about why there aren't apiculture standards. I'm not clear why there aren't more organic honey producers, and I was just hoping Harriet could expand on that.

Like if there are only a few producers, why is that? Why is it that people if they're technically allowed to certify to the existing standards not doing so?

CHAIR BEHAR: Okay. So there are no standards specifically to apiculture, but the NOSB did pass an apiculture standard twice. The first one went through and then it was redone,

and actually I and Garth and some other people in the audience were on the task force under the Accredited Certifiers Association and actually pretty much handed the standard to the NOSB. I think they changed two words from our recommendation.

Honey is concentrated flour nectar, and so we felt quite strongly that the honey needed to come from land that had not been treated with prohibited substances. And so we have a 1.8 circular diameter forage zone, 1.8 miles, with an extension going out to four miles of what we called a review zone or something, where like --

MALE PARTICIPANT: Observation zone.

CHAIR BEHAR: Observation zone, yeah. So we couldn't, there wouldn't be like dumps or golf courses or something that was highly attractive to the bees. Most bees will stay within the 1.8 miles. Those that go further, many times they don't make it home, so they're not even bringing back nectar to the hive or

pollen.

So that has been one of the areas. So and if you're in an agricultural area, try to find 1.8 mile diameter where you don't have any prohibited substances in the United States. But there are places out west where there's rangeland. What I know of is up in the Upper Peninsula of Michigan.

There are places actually. There is a place near my house where I could produce organic honey. The owner of Land's End before he sold it to Sears has a large tract of land, and I could put my hives there. He doesn't use any prohibited substances. But I mean so there are places you could find, okay, if you're interested.

They also have quite a bit on materials in there and about the wax in the hive and all that. Now as for why the NOP did not move forward with the apiculture standards, I do know that I did receive quite a few phone calls from NOP staff within the two years after those

standards were presented by the, as a recommendation for the NOSB, and then it all when dark.

And no more. I mean when Miles was there he did mention that it was in process, in process, and then now I have heard from the NOP that it's not a priority, perhaps because there's not a lot of domestic production. I don't know if there is.

It is an important industry in Hawaii, organic honey. So that is still a state in the union, and actually on the mainland we do get organic honey from Hawaii. So I can't speak to that. I don't know if Jenny wants to say anything. She has mentioned in the past that it was not a priority and so it was not moving forward. If you want to say more, go ahead.

DR. TUCKER: Yeah, I would say yeah, our priorities are very much strengthening organic enforcement, the fraud, import oversight and dairy compliance. Those are our top priorities right now. Origin of livestock

clearly a high priority moving forward. So that's, those are the priorities where we're really focusing on at this time.

CHAIR BEHAR: However, there are numerous accredited certifiers here in the U.S. that are certifying organic honey. There is organic honey carrying the USDA seal in the marketplace, and this material would be very useful in perhaps growing that domestic market, because varroa mites are one of the main parasite issues. This invasive pest has been devastating to the vitality of honey bees overall and to the bee colonies.

MR. RICE: Okay. I've got Tom and Emily.

MR. CHAPMAN: So while there is some limited domestic production, there is a sizeable amount of foreign production of this product, particularly in areas that have tropical rain forests that allow for a wide, certified controlled wild forage areas for bees. If you look, honey is one of those rare commodities that

actually have an organic tariff code so it's imports are tracked.

In 2018, there was 23, over 23,000 thousand metric tons imported into the U.S., with 90 percent of that coming from Brazil. So fortunately I hear there's other origins like India, but India is a black hole, so it's a little hard to find certified operators out there.

But it is a big commodity, and there's hundreds of people on the Organic Integrity Database that are certified for honey bees and livestock and crop scopes. The other thing to keep in mind, I did another search in the OID for just the word honey for people who have a handling scope, and there were 609 operations.

This isn't a count of products, but this is a count of operations that use honey in some form. My company is a company that uses honey in some form. It's a natural sweetener, it's great, organic honey.

And just if you take that out of the

total of certified organic handlers, there's 1,800. That's 3.3 percent of certified handlers have a honey product that they market. So it is a large market that enables the sale of other organic goods. Just because this isn't a wide production item in the U.S. doesn't mean it's not an item that organic consumers should have access to.

MR. RICE: Emily.

MS. OAKLEY: So Harriet, that came super-close to fully answering my question. But are you saying that the main reason that there is not U.S. organic honey is because certifiers would follow the NOSB standard, even though it wasn't passed as a rule, and therefore growers don't have access to enough -- okay sorry, Tom.

You're both shaking your head. So I still don't understand why there isn't a robust U.S. production when people can find those regions.

CHAIR BEHAR: I believe it's the forage zone, but truly varroa mites are an issue,

and so there's, you know, it's not that easy. I mean myself as a beekeeper, I do a lot of cultural activities. I'm in my hives once a week if not twice a week during the warmer months. I mean, and when people come to me and I mentor people as beekeepers, I say you have to be in your hives every week.

They're like oh, you know, I don't live up here and whatever. No, you cannot -- it's not like the old days when we didn't have mites. You have to be in those hives. So it's a lot more labor to not use chemical controls for the varroa mites, and I say also the forage zone is an issue why there's not.

But there are organic. There are certifiers who are certifying to their own standard. Many of them rely on the recommendation that was passed but not implemented by the NOP. I don't know what every certifier's honey standard is. But I know that there are beekeepers who would welcome oxalic acid.

MR. CHAPMAN: And it's economics. So in Brazil, you plop them down in one spot in a single forage area, and they can forage 365 days a year for tropical flowers. You plop them down somewhere in the U.S. and the forage zone allows them to forage while flowers are in bloom.

But when they're not, they need to move. So the honey industry in the U.S. moves around, which would mean you'd need multiple forage zones year-round. So that kind of just knocks you out in the U.S. If you notice they move a lot. I didn't notice, but the honey industry in the U.S. has mobile honey bees that move from crop to crop and that --

You know, each of those forage zones you move to and those economics are don't meet the needs, then you're going to have a more expensive or limited production environment, and it just kind of makes you uncompetitive with international honey bees from tropical areas.

MR. RICE: And I think it just generally gets down to that, that large forage

zone that's required, forage and observation. It's just such an extensive area that it effectively makes it impractical. Harriet.

CHAIR BEHAR: For the honey producers that sell regionally or direct to consumer don't typically move their hives. It's just the larger --

MR. CHAPMAN: Exactly, yeah. That's why you don't see a more robust, because it's kind of limited to that --

CHAIR BEHAR: Yep. To regional, yes.

MR. RICE: Okay Ashley, and then I think we're going to need to wrap it up here.

MS. SWAFFAR: So sorry. So yeah. I'm going to hold fast on my no vote on this, just because we did not hear from producers. The only person we really heard from that had a positive on this was Garth, I'm sorry.

But we did hear from NOC and Beyond Pesticides that, you know, echoed my sentiment of we should not be voting on petitions for items that don't have standards, and so I am going to

hold fast on my no vote on this one. Thank you.

MR. RICE: Tom.

MR. CHAPMAN: Just one. I mean the one thing I want to say is deep in the Amazon, I don't know how well the NOP docket penetrates, to get the comment that you want to have on the needs for some of these items.

MR. RICE: Are we ready to move this forward? All right. This comes to us as a -- get my document open -- a motion. We need to go with a classification motion. This was coming from committee from Harriet, seconded by Ashley, and our vote begins with -- and again this is classification, with Dan or Sue.

CHAIR BEHAR: No Sue.

MR. RICE: Sue.

CHAIR BEHAR: We're voting on the classification.

MR. RICE: This is classification.

MS. BAIRD: Yes.

MR. RICE: As a synthetic, excuse me.

MR. CHAPMAN: Can I ask for a quick

point of order? Can we read clearly what the motions are and who made it and seconds before the votes?

MR. RICE: Yes we may.

MR. CHAPMAN: Okay.

MR. RICE: The first motion is for -- to add, excuse me, I'm having trouble with Excel cells here, to classify oxalic acid as synthetic.

CHAIR BEHAR: You might want to say the full thing, oxalic acid dihydrate.

MR. RICE: Very well.

MS. BAIRD: Yes.

DR. SEITZ: Yes.

MR. MORTENSEN: Yes.

MR. BRADMAN: Yes.

MR. RICE: Yes.

MR. ELA: Yes.

MS. OAKLEY: Abstain.

MR. BUIE: Yes.

MS. ROMERO-BRIONES: Yes.

MS. DE LIMA: Yes.

MR. GREENWOOD: Yes.

CHAIR BEHAR: The chair votes yes.

MS. SWAFFAR: Sorry Harriet, I was next.

CHAIR BEHAR: Oh, I'm sorry.

MS. SWAFFAR: Yes.

MR. CHAPMAN: Yes.

MR. RICE: There was --

MS. OAKLEY: Could I change my vote? My brain was in the wrong place. That wasn't abstain on this. That was yes.

MR. RICE: Okay. I'm glad this is going so swimmingly. Okay, 14 yes. Let's hope the next one's smoother.

The next motion is to add oxalic acid dihydrate to 205.603(b) as topical treatment, external parasiticide or local anesthetic as applicable, with the annotation, excuse me, the annotation for use as a pesticide solely for apiculture. This motion was -- it was a motion from Harriet, seconded by Ashley in Subcommittee. Voting starts with Dan.

DR. SEITZ: Yes.

MR. MORTENSEN: Yes.

MR. BRADMAN: Yes.

MR. RICE: Yes.

MR. ELA: Yes.

MS. OAKLEY: Abstain.

MR. BUIE: Yes.

MS. ROMERO-BRIONES: Yes.

MS. DE LIMA: Yes.

MR. GREENWOOD: Yes.

MS. SWAFFAR: I like that abstain. Yeah, abstain.

MR. CHAPMAN: Yes.

MS. BAIRD: I would love to say sustain because I have -- but I'm going to say yes.

CHAIR BEHAR: Chair votes yes.

MR. RICE: That was 12 yes, 2 abstain, no recusals, no absence. The motion passes. Okay. Next is a discussion document on the use of excluded method vaccines on organic livestock production. This goes back to Harriet, and just a time check. We are at 5:37 and let's keep our

discussions relevant and on track here.

CHAIR BEHAR: Okay. This subject did have numerous comments. There were three options presented to the public for how to deal with this issue, with the inconsistency in implementation and even within the rule, because there's various places where vaccines are mentioned, excluded or not.

So the first one was to follow the current rule entirely as it's written and start reviewing known excluded method vaccines for individual placement on the National List. Approval of vaccines produced through excluded methods as a class of vaccines, and place this class of vaccines on the National List. Or, yes. And then lastly to change 205.105(e) to state that excluded methods except for vaccines are prohibited, provided there are no commercially available vaccines that are not produced through excluded methods to prevent that specific animal disease or health problem.

Then we also asked about what type of

documentation and how hard would it be to do the commercial availability. Option 1 was not very popular. Option, okay. Option 3, the commercial availability, seemed to have the most people who approved it. Most people approved Option 3 or liked it.

However, they did say that they needed more help in finding the commercial, you know, what is commercially available as non-GMO to serve that same disease if they are currently or intend to use a GMO one. They really wanted an easy way for themselves and their producers to find it. There was some discussion of the narrow and discrete allowance of vaccines from excluded methods was something we need to do, but they really didn't want to do that full class of allowing just all of them.

Many noted that they need this resource to find the non-genetically modified vaccines or vaccines from excluded methods, and there should be a phase-in period to bring the system of finding commercially available non-

excluded method vaccines to some sort of maturity, to handle that determination.

There were a few certifiers who did like this, the commercial availability and specifically said that the quantity, quality and function that's typically used in commercial availability would work for this type of product. So that's it.

MR. RICE: Thank you, Harriet. Opening up to discussion, questions, comments for Harriet? All right. Ashley.

MS. SWAFFAR: Yeah, sorry. Yeah. This is a very tricky subject because in the vaccine community, I don't even think some of them realize what, if their vaccine is kind of made from excluded methods, because I've been trying to nail one of them down and they keep telling me that it's not.

But I really believe that it is. So I think that's really a huge challenge for us if go to Option No. 3, which is the middle ground of, you know, of requiring a commercial

availability search. I just wonder, you know, what those vaccines manufacturers, if they were to sign off.

I know one certifier showed me a thing that they have their clients talk to the vaccine manufacturer to sign off on, and I just really question like what if that vaccine manufacturer signs off oh, we don't make our vaccines from excluded methods but they really do.

So I think that's a real challenge in going forward with Option 3. I myself like Option 2, to just allow them as a class honestly, because I think this is a huge issue and it's opening a big can of worms. There are vaccines in the poultry industry that we are required to use, federally mandated by the FDA for some of the salmonella vaccines, and those are the ones that are made from excluded methods.

So it's not like we have a choice in using those vaccines. So there's lots of other agency issues, I think, if you were to not allow vaccines made from excluded methods. So it's a

conundrum. But I do think that it's really important that we do figure this out, to make it fair across all certifiers, because I do hear some certifiers do not allow vaccines made from excluded methods to be used, period.

And then there are a lot of certifiers that allow people to just use vaccines as a class. So I think it's very important that we do make a recommendation to kind of even the playing field.

MR. RICE: Harriet.

CHAIR BEHAR: I just want to ask Ashley. So the vaccines that are mandated, are there any non-excluded method vaccines available for that or not?

MS. SWAFFAR: That's the one where that one vaccine manufacturer doesn't really think that they make it from excluded methods, but I think they do.

CHAIR BEHAR: But is there a non-excluded --

MS. SWAFFAR: No.

CHAIR BEHAR: So then there's --

MS. SWAFFAR: There's two options for a salmonella vaccination made by two different companies. One definitely is made from an excluded method; the other one I really believe it's made from excluded methods, but they say it's not. But their competitor also says that it is.

CHAIR BEHAR: Right. So that would be my next question. So you're thinking that perhaps this other vaccine maker who is not saying it's excluded might be trying to grab the organic market by being the one that's not excluded, and that commercial availability would come into play?

MS. SWAFFAR: Yeah. But I think it is made from excluded methods. That's the thing. I think there trying to say it's not. I pulled up -- I want to say it's also transposons too, so that might throw them out if that terminology gets through.

CHAIR BEHAR: Well, if it's in vitro.

MS. SWAFFAR: Yeah. Let me finish.

MR. RICE: Any other comments? Paul.

DR. LEWIS: Scott, so a question I have. In the discussion for this discussion document, you're looking at the issue of animal health. So you're looking at the organic regulations. Was there a discussion in other areas of animal health about the use of vaccines? Or was only the conversation focusing on vaccines, or was it a broader issue of animal health? So that's, that's the first question I have.

CHAIR BEHAR: I believe it does say in the document that we very much respect the place that vaccines have in promoting animal health as a prevention.

DR. LEWIS: Okay.

CHAIR BEHAR: And so we --

DR. LEWIS: So you were looking at the broader issue of animal heath, yeah.

CHAIR BEHAR: Yes. This really came from the inconsistent implementation of the rule,

with some saying the rule as written, when you read the whole rule, says that individual excluded method vaccines have to be placed on the National List individually. So meaning that it would have gone through a review, whereas on the actual National List it says vaccines allowed, right? Biologics are allowed. It doesn't talk about the excluded part.

But in the other part of the rule, where it talks about excluded methods, it has that caveat specifically for vaccines. So some certifiers are choosing to only look at the National List, some are looking at both and it's very confusing. And so I, you know, I really don't have -- I prefer the commercial availability, you know. You'd think that Harriet would have an opinion.

But I just really want it to be clear, and I want it to be consistent. I don't want farmers in Maryland to not have access to the vaccines they need, when farmers in Missouri do.

DR. LEWIS: But under the broader

context of looking at the animal health issue?

CHAIR BEHAR: Absolutely. We understand that vaccines -- we want to make vaccines acceptable and clarifying the inconsistency in implementation will do that.

DR. LEWIS: Okay, thanks.

MR. RICE: Ashley.

MS. SWAFFAR: Yeah. Paul, I just want to clarify again, that animal health is critical and important for the Livestock Committee. This is no way wanting to take away any vaccine whatsoever. It is clarification among certifiers.

But I will say I didn't touch on Option 1. I don't think Option 1 is a great option because we would have to list vaccines by brand name under the National List, and we do not have anything as a brand name. We have generic substances. So I don't think that's an option.

We alluded to that in this document. So really it's between two and three on this.

CHAIR BEHAR: No one supported Option

1. But that is the way the rule is written.

MR. RICE: Tom.

MR. CHAPMAN: I hear some of the concerns about Option 3, but I don't -- I struggle with why it's still not the best middle path put forward. I think it accommodates both ways. The wording could potentially be adjusted a bit to deal with the inability to find out information, and then that would be also, you know, considered an acceptable reason to continue to use a substance, the vaccine. But it just seems like a viable middle path.

The other thing I wanted to just point out is, you know, the handling world lives in a sea of affidavits that we get, and it is quite common for us to get an affidavit answered by a company for a decade one way, and then suddenly that same item I'm buying the staff changed, and I get an affidavit and it's got a different answer that's not a good answer.

And you know, so like that's an issue that exists already, but it's a technicality. I

think it works en masse generally, and when it's discovered it gets fixed. That's what the process is built upon. So I don't know if the fact that it can be difficult at times is enough reason to not move forward with this option, because I do think it's still allows for all the protections you have today.

MR. RICE: Ashley, and then Sue.

MS. SWAFFAR: So on that too, I do think a lot of these vaccine manufacturers will list confidentiality in their manufacturing process. So I think that adds another layer to it for concern. Yeah, I mean you do have that. But I just want to point that out, that there is a level of confidentiality in how they make their vaccinations to some degree. But they do give that information to APHIS.

MR. RICE: Sue.

MS. BAIRD: Yeah. I've as a past certifier approved both by I would say two and/or three, depending on which certifier I worked for. Inherently number two is always going to be the

easiest, you know. You just say okay, vaccines are allowed.

But I think that, and I'd love to just go with number two. But I think if we do number two, just say all class vaccines are allowed, it's against the inherent intent of the law, which is no genetically modified engineered products are allowed.

Number three will be a little tougher, I agree. It's going to be hard for those vaccination manufacturers to give up that information. It's going to have to be building trust with the certifier. They're not going to give it to producers and they don't have to. But they can give it to the certifier just as Tom says, the handlers do and it could be reviewed.

Or they can give it to OMRI or whoever and it can be reviewed under confidentiality, and have that list available. I think it's incredibly important that that list would be available, of which ones are approved and which ones are not because a producer does not have the

ability or the credibility to get that information from the manufacturer himself.

MR. RICE: Okay. Are we ready to move on there? Okay. What? One moment. We have 11 sunsets to review here, and there's some discussion of waiting until we're bright and early or we're bright and fresh. Okay, here we go.

MR. CHAPMAN: Are we doing it? Yeah.

(Off-microphone comments.)

MR. CHAPMAN: Point of personal privilege, that is --

MR. RICE: Do I have a motion to delay?

MR. CHAPMAN: That is the thing. It doesn't need to be seconded, it doesn't need to be recognized. I mean do we not have time to delay this until tomorrow? We do.

CHAIR BEHAR: We have a lot on the agenda tomorrow, and we have the Crop Subcommittee chair has to leave, you know. He's got a flight.

MR. CHAPMAN: We can make it do.

CHAIR BEHAR: So I really feel like we need to get that. I mean I'm just -- we just -- how about if we just do a few?

MS. OAKLEY: How about a compromise and we do half?

CHAIR BEHAR: Yeah. That's where we were just discussing.

MR. CHAPMAN: Let's do it.

MR. RICE: All right. The crowd has spoken. We're going to move on, and 2021 sunset substances review. This is our first opportunity at this. We are not voting on these at this meeting. We are just first reviewing them, and we are going to start with atropine, which the lead is Dan.

DR. SEITZ: And Scott, I wasn't clear on your direction. Did you want to do a very quick summary of the, like a 30 second summary of the material?

MR. RICE: Yeah. I think our usual, just brief round-up and take into consideration

any highlighted public comment.

DR. SEITZ: Okay. So atropine is approved under 205.603(a). It's a synthetic substance allowed for use in organic livestock production as disinfectant, sanitizer and medical treatments. Atropine may be used under the lawful written order of a licensed veterinarian, and there's a meat withdrawal period of at least 56 days after administering the substance, and a milk discard period of at least 12 days after administering the substance to dairy animals.

Atropine is an anticholinergic derived from atropa belladonna, otherwise known as deadly nightshade. It's isolated through synthetic extraction. It's a highly controlled substance. Its primary use is as an antidote for organophosphate poisoning, which most commonly occurs through ingestion of pesticides. It does have a couple of other medical uses.

It's allowed also under the Canadian standards, but it's not a substance that is allowed -- well, it's not referenced under Codex,

the European Economic Community Council regulations, the Japanese standards or the IFOAM standards. In terms of environmental contamination, it's seen as being unlikely that it causes much environmental contamination, because it's used in very small amounts.

It can have an adverse effect on human health. It is a powerful drug, so if misused of course it can cause toxicological concerns. There was a, in the latest technical report from 2019, there was one other substance mentioned as a potential natural alternative, magnesium sulfate, but this has not been really tested or used.

And so there's currently no substance that's considered to be a replacement for this. This has been allowed for many years now, I think since before 2002 or around that time. It was also last renewed in 2017. There were only several comments, four or five comments in favor of continuing listing.

No one opposed the removal of it. It

does not appear to be widely used, but it is nonetheless considered essential for the rare times that it is needed.

MR. RICE: Thank you, Dan. Any questions for Dan? Dave.

MR. MORTENSEN: Just really quickly. I mean organophosphates are a very nasty class of insecticides, and so I'm just trying to imagine when this would be used by an organic animal person. I know if you had a split operation. In any case, it strikes me as odd that it's something that we need.

DR. SEITZ: Yeah, and nothing I read addressed that. But I imagine that if a fence broke and your cow wandered into your neighbor's farm where there were pesticides or whatever, that would be the sort of circumstance.

MR. RICE: And I think we can focus on the -- more closely on the comments that we received. These are -- the Board has had an opportunity to review these, as has the public, of course, and given our time, I think we can

keep it even briefer. Emily.

MS. OAKLEY: Super brief, but I just echo Dave's comments. It seems like a weird need to have.

DR. SEITZ: In the interest of time, I'm going to withdraw half of my summary. Let the record reflect that. Okay. Moving on to hydrogen peroxide. This is a material belonging to Jesse.

MR. BUIE: Hydrogen peroxide, 205.603, synthetic substances, allowed for use in organic livestock production. Hydrogen peroxide is used as a readily available disinfectant and broad spectrum germicide. It's an important cleaning agent for use on contact surfaces such as equipment, calf pails, bottles and utensils.

It's been around since 1977, where the EPA approved it. It's a -- hydrogen peroxide is very simple molecule which basically consists of H2O2. Environmental contamination is not expected when purified forms of hydrogen peroxide are released to the environment following normal

use.

Typical pesticide concentration, hydrogen peroxide is expected to rapidly degrade to oxygen gas and water. There were a few comments, but as you noticed they were in person here. We had some on the webinar had comments, and they were overwhelmingly in favor of keeping, of relisting hydrogen peroxide.

Hydrogen peroxide is recommended for relisting based on the available technical advisory panel October 1995, the technical review of October 2015, the unanimous NOSB 2017 support of this material, and no new scientific or meritorious information. Are there any questions?

MR. RICE: Thank you, Jesse. Seeing no questions, we'll move to iodine, which is Ashley.

MS. SWAFFAR: So there's two listings. I'm going to do both of them together in the interest of time, if that's all right with everyone. So iodine is widely used as a teat dip

in the dairy industry; also used to clean wounds and combat infections, and we heard from commenters that iodine's anti-microbial qualities make it a vital product for treating and preventing health care issues.

I will note that we did hear from several commenters that we should annotate the iodine listing to exclude MPEs. I would like to hear just a little more from the public on this, since we did hear from a couple of different commenters, one saying there was concern with supply issues, one saying there was not.

So that's something I think we'll take back to the committee and talk about, so we may be bringing an annotation forward on that. Any questions?

MR. BRADMAN: Just a comment. From the COOP Cooperative, you know, they supported relisting iodine. They agree that MPEs must go, quote-unquote. It sounds like they have access to iodine teat dips without MPEs, and just in general MPEs are -- I mean they're kind of

controversial.

They're nonylphenol, how do they pronounce it, nonylphenol polyethylene glycol ether. So it's an ethoxylated surfactant. In California, in the -- there's a safer chemical program right now, and MPEs are actually on their list to get taken out of laundry detergents and things like that. There's a lot of issues with this material environmentally too.

It's relatively small use probably with teat dips, but something to discuss in the committee is at least this CROPP statement and perhaps others too, that there are available formulations without MPEs, and I think that would be a worthy goal.

MS. SWAFFAR: Yep, that's what I said. We're going to get back to committee, because we heard from them that it is available. But we also heard from another commenter that he was concerned about supply issues. So I just want to flesh that out.

MS. OAKLEY: So would you be looking

for an annotation this fall, if you found the correct information that you needed this summer?

MS. SWAFFAR: We can't, we can't do it. We can't annotate at sunset.

MS. OAKLEY: We can't bring a separate proposal at the same time?

MS. SWAFFAR: I don't think so, Tom?

MR. CHAPMAN: I mean it would need to be an item approved, a separate item. You have to go through all that with NOP, but if they approved it and you had a proposal.

MS. OAKLEY: Right. It doesn't -- oh it doesn't seem like it would necessarily necessitate that much work, right? I mean I don't know. I was just wondering if you would try to get that, if you found the information that you needed.

MS. SWAFFAR: We'll discuss it in Subcommittee, yeah. Sorry, we can't talk -- I can't talk for the whole subcommittee.

MR. RICE: Okay. We are going to move ahead a little bit and cover methionine, since

we've got, as I understand it, some stakeholders that are leaving today.

CHAIR BEHAR: Okay, that's me. Producers and certifiers spoke in favor of continued listing. Other groups felt that the reliance on synthetic methionine did not encourage producers to provide methionine through pasture and a more systems-based approach.

We heard from the Methionine Task Force panel of the continued need for DL-methionine, and how difficult it is to blend organic agricultural plant-based products and come up with a healthy ration with the right balance of methionine with other amino acids.

We also heard from them that it is extremely difficult, if not impossible, to get enough methionine from pasture alone, in order to maintain a healthy bird. Organic Valley mentioned in their comments about an enhancer called Methiomax. I seem to be like stuck on this thing.

Made from herbs and that's probably why, because I grow these herbs. Andrographis

tulsi and I don't grow neem. And I currently have them growing in my greenhouse. So that's why it's interesting.

This product is made in Belgium and Organic Valley is working to get approval from the FDA for use as a feed supplement for poultry, and my interest in this is that if it does work, which is questionable and we, you know, and it's natural then it could be used right away.

I don't know any manufacturing process or anything else yet. But the ingredients stated 100 percent herbs. So all we have is that. But if it truly would make it so the birds did not need as much methionine from a synthetic source, that it might open the door for agricultural products, because one of the problems with the synthetic methionine now, trying to replace it with agricultural products is that you need so much of it that it then throws the whole ration off balance because of the other amino acids in the agricultural products.

So if we needed less, it might open

the door for using some agricultural products in place. So I'm going to obviously keep up on this one. Maybe I'll start feeding my birds tulsi, see what happens, and that's it.

MR. RICE: Questions or comments for Harriet?

CHAIR BEHAR: I just wowed them.

MR. RICE: Okay, go ahead Steve.

MR. ELA: Being a non-livestock person and I mean this is one I've seen lurking, and it's got, you know, I turned to all of you livestock people for advice. I thought this was really valuable.

The panel informed me as they -- I mean really a lay novice person, and it made it pretty clear to me what the choice was. So that was really helpful. So my kudos to the Livestock Committee and Harriet and Ashley and all for helping inform those of us are not necessarily very educated. So thank you.

MR. RICE: Thanks, Steve. I think with that material -- oh, I couldn't see a hand.

Emily.

MS. OAKLEY: Sorry, just a quick one, that I checked in with a couple of pastured poultry producers that I know that also use this material, certified organic.

MR. RICE: Ashley.

MS. SWAFFAR: Okay. So Harriet, I've never seen to many chicken people Google one thing in my life as that Methiomax. India's going crazy. They think they have a hot new thing.

I just want to touch on -- there was one comment that kind of stuck out to me. It's the need for synthetic methionine is the result of choices regarding management of organic poultry and flocks in this country, choices regarding breeds, stocking rates and outdoor access.

I've been in the poultry industry my entire career, and the majority of that has been working for companies that truly are committed to putting birds on pasture. We do -- I've done pasteurized production for like nine or ten years

now, and that's 108.9 square foot per bird outside in the south, where like birds really probably should be out on pasture, not in cold climate areas.

But, you know, we still see issues, because our pastures go dormant in the winter time. In the summer, we don't have bugs. Like the bugs are smart. They know. They are outside of the fence, because the chickens want to eat them and chase them out. So you know we don't -- you know, there's not this like great bugs.

But you know I spend so much time trying to get birds to go outside, and creating amazing environments for birds. I get really passionate about that, and you know, it's still really difficult to get every bird outside every day. I'm talking from managed flocks from 800 to 20,000. There's a little bit of difference between flock size, but it's really hard to get them to go outside and, you know.

Like I say, I've created environments for them, planting different shrubs and bushes

and things, and there's just a lot of chickens that just don't want to go outside. So you know, it's really hard if we were to lose this material to get, you know, to make it up outside.

And then I just want to point out on the breeds, you know, there's no commercial available laying hen or broiler in this country right now that we could change breeds to. You know, we're a very small segment of the industry is the poultry industry.

You know, 14 million organic layers sound like a lot, but that's not very many in the real grand scheme of things. We're an afterthought that they don't really cater just to us. So you know, there's some issues and I'm very proud of the work that the Methionine Task Force has done.

I think that's a -- them and the celery powder folks have really looked at what this Board has said in the past and realized that they need to work on finding alternatives. That is completely industry funded. They're spending

money on research to find alternatives. So I think that's a really great thing that they've done. So sorry I went so long. I'm very passionate.

MR. RICE: That's great, thank you. Any other comments? Questions? Okay. Now I think we are ready to pause on the sunset review for today, and we will pick this up in the morning.

I would invite all of you to the third floor, the Northwest Room, where we are honoring Washington's David Granatstein for all of his contributions over the years with some organic beverages and food, so please join us.

Our program will start at 6:30. Brief words. So you have a minute to run upstairs, but keep that in mind. Thank you.

CHAIR BEHAR: Okay everyone. We'll see you tomorrow and don't forget to get your animal. Less for me to carry home in my suitcase.

(Whereupon, the above-entitled matter went off the record at 6:11 p.m.)

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C E R T I F I C A T E

This is to certify that the foregoing transcript

In the matter of: National Organic Standards Board
Spring 2019 Meeting

Before: USDA

Date: 04-25-19

Place: Seattle, WA

was duly recorded and accurately transcribed under my direction; further, that said transcript is a true and accurate record of the proceedings.

Neal R Gross

Court Reporter

UNITED STATES DEPARTMENT OF AGRICULTURE

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NATIONAL ORGANIC STANDARDS BOARD

+ + + + +

SPRING 2019 MEETING

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FRIDAY,
APRIL 26, 2019

The Board met in the Courtyard Ballroom at the Renaissance Seattle Hotel, 515 Madison Street, Seattle, Washington at 8:30 a.m., Harriet Behar, Chair, presiding.

PRESENT
HARRIET BEHAR, Chair
STEVE ELA, Vice Chair
SCOTT RICE, Secretary
SUE BAIRD
ASA BRADMAN
JESSE BUIE
TOM CHAPMAN

LISA DE LIMA

RICK GREENWOOD

DAVE MORTENSEN

EMILY OAKLEY

A-DAE ROMERO-BRIONES

DAN SEITZ

ASHLEY SWAFFAR

STAFF PRESENT

MICHELLE ARSENAULT, NOSB Advisory Board Specialist, National Organic Program
DAVID GLASGOW, Associate Deputy Administrator, National Organic Program
DR. PAUL LEWIS, Ph.D., Director, Standards Division, National Organic Program
CLARISSA MATHEWS, Ph.D., National List Manager
DEVON PATTILLO, Materials Specialist, National Organic Program
DR. JENNIFER TUCKER, Ph.D., Deputy Administrator, National Organic Program; Designated Federal Official

ALSO PRESENT
MARKUS FLURY, PhD, Washington State University
RAMANI NARAYAN, PhD, Michigan State University

CONTENTS

P-R-O-C-E-E-D-I-N-G-S

8:34 a.m.

CHAIR BEHAR: Thank you, everyone. We are on to Day 3 of the 55th NOSB meeting. If you haven't remembered that, you will now.

I want to also encourage people, anyone who hasn't taken any animals or if you want to take a few more you can over there. To keep us in mind that we have more than just us humans to be thinking about on this planet.

So we will continue from yesterday. We are a little bit behind. So we do have a full day ahead of us.

And with that I am going to turn over the running of the meeting to Scott, the Livestock Subcommittee chairperson.

MR. RICE: Thanks, Harriet. We're taking up where we left off yesterday looking at sunset materials for the 2021 cycle.

Our next to be reviewed is magnesium sulfate. And that is Ashley.

MS. SWAFFAR: Magnesium sulfate or

better known as Epsom salt has lots of uses including used to treat grass tetany, used as a laxative, used to prevent hypoglycemia, used to draw out deep infected lesions. And farmers also use that to soak feet and things to reduce signs of inflammation.

We heard from producers that this is important to the humane treatment of organic animals and we did not receive any comments opposing the listing.

MR. RICE: Any comments or questions for Ashley on magnesium sulfate? All right.

Seeing or hearing none we will move onto parasiticides, fenbendazole and moxidectin. We'll do those separately but those both belong to Sue.

MS. BAIRD: Yes. Fenbendazole is a parasiticide. Most of us that have livestock understand the mode of action, but it is an anthelmintic drug that is used to evacuate internal parasites.

Fenbendazole was received from NOSB in

2007 and has been on the list effective 2012. It was petitioned and NOSB made a proposed change in 2018 because fiber animal producers were needing fenbendazole listed for it.

And so there was a proposed rule change January 17, 2018 and our annotation change was made 12/27/2018.

In your books that you received it was put originally for public comment on the Federal Register as saying fenbendazole milk or milk products from a treated animal cannot be labeled as provided for in Subpart D of this part for 2 days following treatment of cattle, 36 days following treatment of goats, sheep and other dairy species.

And you will notice up on the board it has actually been listed in the Federal Register not any change in intent, but wording is changed which says allowed for fiber-bearing animals when used a minimum of 36 days prior to harvesting of fleece or wool that is to be sold, labeled, or represented as organic.

So a little bit different wording than what you had in your original book or your original literature that went out to be commented on, but no intent -- no change in intent.

So fenbendazole and do I go straight into --

MR. RICE: Straight into the mike.

MS. BAIRD: Straight into the mike, okay. So that's fenbendazole.

MR. RICE: Okay. Thank you, Sue. Moving onto peroxyacetic/peracetic acid. That is --

MS. BAIRD: Any questions?

MR. RICE: Excuse me. We've got moxidectin. Excuse me.

MS. BAIRD: Moxidectin. Yes. Moxidectin was reviewed at the same time as fenbendazole, was put on the National List at the same time.

Has a little bit different mode of action. It's used in rotation with livestock producers because it does have a different mode

of action.

It does the same thing. It is an internal parasiticide that's used in animals.

Was reviewed all three including ivermectin which has since been taken off the list. Were reviewed in 2015 as one group because they all are used in rotation for the animals.

Moxidectin does have a little bit different mode of action. Any comments that we heard from the public on all of these -- well, not all of these now, these two parasiticides were favorable.

All livestock producers say they're almost critical to have. Otherwise we have parasiticide loads that the animal could cause death and does cause death in especially the fiber-bearing animals.

The very same change was made that I just pointed out for the fenbendazole. It was listed on your public comments that says 36 days following treatment of sheep, goats and other dairy species which has now been just changed to

saying fiber animals.

So same mode, same comments. People who said they wanted fenbendazole also say they've got to have the moxidectin.

MR. RICE: Great. Thanks, Sue. And now peroxyacetic and peracetic acid to Jesse.

MR. BUIE: Okay. Peracetic acid, 205.603(a) is a disinfectant, sanitizer, medical treatment as applicable.

According to the TR the peracetic acid is listed for use in organic livestock production as a -- for sanitizing facility and processing equipment.

According to the TR the reason for the excellent and rapid microbial effect of peracetic acid is this specific capability to penetrate the cell membrane.

Once inside the cell peracetic acid plays a role in denaturing protein, disrupting cell wall permeability and oxidizing sulfhydryl and sulfur bonds in enzymes and other proteins.

On the environment the peracetic acid

is considered to be an environmentally friendly substance with very little potential to cause contamination due to its rapid breakdown into benign substances already present in the environment.

There were very few comments, but they were all overwhelmingly in favor of re-listing peracetic acid.

Peracetic acid is recommended for re-listing based on the available 2000 TAP. The technical review from March 2016, unanimous NOSB 2017 supported this material and there is no new scientific or meritorious information.

The NOP has reviewed few materials for use in barns, stalls, stables, milking parlors leaving relatively few options for producers. Are there any questions?

MR. RICE: Comments or questions for Jesse? Thanks, Jesse.

Moving onto xylazine we turn to Dan.

DR. SEITZ: So xylazine is a substance that is allowed under 205.603(a) as a

disinfectant, sanitizer and medical treatments as applicable.

It must be used by a lawful written order of a licensed veterinarian. And there's a meat withdrawal period of at least eight days after administering the substance and a milk discard period of at least four days.

It's been listed since the early two thousands. There was a 2002 TAP report and then a 2019 technical report on the substance.

Xylazine is used as a sedative, analgesic and muscle relaxant in veterinary medicine as a medical treatment. It can be administered intravenously, intramuscularly, subcutaneously, or orally.

It's allowed under the Canadian standards, but it's not mentioned under Codex, the European Economic Community, the Japanese Agricultural Standard for Organics, or the IFOAM standards.

There are some environmental concerns associated with it, both its manufacture and also

its use. It can cause wastewater pollution in the case of improper use or disposal.

Xylazine has a potent hypnotic and muscle relaxing property and is not allowed for human medical use.

There were about a half dozen comments, brief comments in favor. It seemed to be not widely used, but nonetheless seems to be an essential substance in the uses when used.

There were no commenters who recommended removal. Beyond Pesticides did note that in the 2002 TAP report it was stated that both xylazine and tolazoline, these are two substances used in common, was not approved by the FDA for use in food producing animals. So they just pointed out that there may be something of a disparity between FDA regulations and what is allowed under our standards.

I did not see, however, that mentioned in the 2019 TR. Any questions?

MR. RICE: Questions or comments for Dan? Seeing none, thanks, Dan.

Moving onto trace minerals. This was mine.

Trace minerals, 205.603(d) as feed additives. Trace minerals used for enrichment or fortification when FDA approved.

Trace minerals elements whether naturally occurring in the diet or provided in supplements important to the maintenance, growth and reproduction and healthy production of cattle, swine and poultry.

Forages and grains are good sources of calcium and phosphorus. However, bioavailability of minerals in forage varies on the mineral content of the soil and level of pasture fertilization.

Mineral premixes are therefore widely used in livestock feed fortification to ensure adequate intake.

The NOP has issued a guidance document for the use of minerals in livestock feed which spells out in more detail which minerals are covered under this listing.

Manufacture varies because it is quite a broad categorical listing. Individual mineral compounds are produced on an industrial scale through chemical synthesis and extraction from either natural or reclaimed sources.

For a representative sample of common production methods the 2013 TR includes some specifics on that.

The trace minerals are included by either direct reference or in feed additives in a number of other international regulations.

NOSB has continually received comments from the organic community supporting the continued use of these noting their essentiality to livestock health and welfare and importance in offsetting seasonal variables in forage nutrition.

I should note that we did get -- received a TR for trace minerals on April 16. That was too close to our meeting here to take a look at, but we'll be looking at that in the coming months.

And a number of certifiers submitted comments noting wide use on the operations they certify.

Several producers noted as above and in past reviews the continued need and necessity to provide adequate nutrition.

A couple of organizations noted organic production should not be dependent on synthetic nutrients noting the current annotation may not be restrictive enough to prevent reliance on synthetic materials and recommended adding an annotation that -- of when forage and available natural feeds are of poor quality can these trace minerals be used.

We did not receive much response on our questions related to production through excluded methods so we'll continue to look for those moving forward.

Any questions or comments? All right. Hearing none. Oh, Dave.

MR. MORTENSEN: Yes. I was just curious, Scott, how much in the way of efficacy

data is provided with something like this?

How much -- sorry if you didn't hear. How much in the way of efficacy data is provided with a compound like this? I'm just curious how it affects animal weight gain, performance, health, behavior. Just curious.

MR. RICE: In comments or the TR? Or both?

MR. MORTENSEN: Just that would underpin the review.

MR. RICE: We'd certainly take a look. As I said I haven't had an opportunity to take a look at the TR. I wouldn't say the comments pointed to efficacy per se more than just a necessity in the absence of consistent pasture conditions. I'm not sure if that specifically answers what you were looking for.

MR. MORTENSEN: I guess I was just -- I mean, to me that would require in order to assess the extent to which a pasture delivers enough you would have some sort of -- see data to compare it against. I was just curious. Maybe

it will be reviewed in a technical report review.

MR. RICE: Yes. I'll keep that in mind as I take a look. Thanks.

Okay. Moving on we've got lastly vitamins with Sue.

MS. BAIRD: Thank you. Vitamins have been listed since the beginning of time. Has gone through several sunset recommendations, 1995, 2005, 2010 with the latest in 2015.

And NOP allows vitamins from 205.603 which says synthetic substance allowed for use in organic livestock for enrichment or fortification when FDA approved.

They are listed by AAFCO which is the American Feed Official -- I can't remember what AAFCO stands for. It's the controlling for all feed, livestock feeds.

Vitamins are combined with your grain rations, your bean oils, your other meals that they use to provide the nutrients that the animal needs.

There are 15 essential vitamins that

are currently allowed that has been noted by the National Research Council for the needs for an animal.

So that was further clarified in 238(a)(2) which says livestock feed rations must meet nutritional requirements including vitamins, minerals, proteins, other amino acids, fatty acids, mineral sources and fiber for ruminants.

So it's pretty clear that we need the vitamins in our feed for livestock, for humans, for anybody.

But as we've become more diligent I think perhaps it was determined that some vitamins are being made from a fermentation production which uses genetic modification.

And that had been in the past accepted just as if it's a vitamin, it's a vitamin.

And the TR said that genetic modification was commonly used in productions of vitamin A, B2, B5, B6, C, E and B12.

So accordingly NOP published a Guidance 5030 which was called Guidance

Evaluating Allowed Ingredients in Sources of Vitamins and Minerals for Organic Livestock Feed which instructed the certifiers to be diligent in reviewing the vitamins for the presence of those excluded methods.

And specifically NOP wrote the USDA organic regulations also prohibit use of excluded methods at 205.105(e) and thus vitamins and minerals -- vitamins used for livestock feed should be reviewed for excluded methods.

And then OMRI also acknowledged that vitamins may be produced using excluded methods in their generic list. And they published a decision tree for evaluating GMO inputs in organic livestock feed on page 85 of the generic listing. And you can find that on the OMRI website.

So, there's not been any environmental issues that's been found for soil-dwelling organisms. As we said, health impacts, they're absolutely essential for those vitamins to be added into the livestock feed. So any questions?

MR. RICE: Questions for Sue? Harriet.

CHAIR BEHAR: I've heard some certifiers question the source of some of the vitamins that they might be from genetically modified sources or things like that. Was there any consideration of that? I don't know if true or not. I don't know. But I know there's been discussion.

MS. BAIRD: Yes. I think that they would be questioning it. They're instructed by NOP to be questioning the sources.

So we did ask to further question what documentation are the certifiers and material review organizations using that would document that they have done their search. And we didn't get any response to that.

But I think that is a valid question. And I've been a reviewer for certifiers and I do know that they are asking those questions, or the ones that I did reviews for were. They were cognizant of this issue.

MR. RICE: I would offer, I think we did get one comment on requiring as often certifiers do for things like this a non-GMO affidavit.

MS. BAIRD: You're right, I'm sorry, I forgot that. Thank you.

MR. RICE: Ashley?

MS. SWAFFAR: And I'll point out that we did receive a comment that that language says that certifiers should verify, but it does not say that they must verify. So there's a very distinct difference in that language.

MS. BAIRD: There's a lot of difference in that language and I didn't catch that. Thank you.

MR. RICE: Dave.

MR. MORTENSEN: So just so that I'm clear the sentence that you read from, Sue, that says in the technical review in 2015 fermentation production using genetic modification is commonly being used in production of A, B2, B5, B6, C, E, B12.

And then later, quote, it says the USDA organic regs should be -- should prohibit the use of excluded methods.

I'm just actually not quite sure I'm following what that's saying. It reads as though they're all being produced, or those are being produced through genetic modification. And then below it says they should be reviewed to determine if they're being produced using excluded methods.

It seems internally inconsistent. Unless I'm just not following what the intent of that wording is.

MS. BAIRD: I apologize for that. If I'm understanding you're saying that you think that because of this technical review that all A, B2, B5, B6, C, E and B12 are produced with genetically modified organisms.

I think that they said they're commonly used. It doesn't say that they are all -- the fermentation method is always used. It does say that some are done by chemical changes,

chemical synthesis or partial synthesis.

So, I really am not totally sure that all -- according to NOP's direction they're saying that you should be reviewing to that.

So I'm assuming by that direction that there are A's and B's and all these things that could be done by chemical synthesis. And it's something that I will certainly do a little more follow-up for the fall before we vote on it. Thank you for bringing that to my attention.

MR. RICE: Thanks, Sue. Any other comments? All right. That completes our initial review of the 2021 sunset substances for the Livestock Committee and brings the Livestock Committee to the end of its business for this meeting. I turn it back to Harriet.

CHAIR BEHAR: Thank you. Okay, so we are going to move on to 8:30 in the morning of today to the Handling Subcommittee, Asa Bradman, chairperson.

MR. BRADMAN: Thank you. We have a very full agenda this morning and I think we'll

just start right out with the proposals.

The first one to consider is the silver dihydrogen citrate and Steve, I believe you're the lead on that.

MR. CHAPMAN: I thought we shared it. You didn't prepare?

MR. BRADMAN: I was going back to the emails.

MR. CHAPMAN: I guess I'll have to wing this one. I'm joking, I'm joking. You can strike that from the record.

MR. BRADMAN: Sorry, Steve.

MR. ELA: It's fine. I actually hadn't conferred with Tom. I assume he had it ready.

MR. BRADMAN: There was an email history from before I took over as chair.

MR. RICE: I'll treat Steve for his mild heart attack right now.

MR. CHAPMAN: Does the program do any reading into the record? Sorry, senioritis here. I don't remember. No? I'm seeing program heads

shaking no.

All right, then I will get started. Silver dihydrogen citrate is being petitioned by PURE Bioscience as an antimicrobial processing aid for poultry carcasses and fruits and vegetables excluding citrus and grapes for wine-making, as a disinfectant and sanitizer for food contact surfaces and for food processing equipment.

So this would be a petition to the National List 7 CFR 205.605(b).

The petition was received in January of 2017. It was amended twice in August of '17 and June of 2018.

And the technical review was received and found sufficient in May of 2018.

We considered this proposal, this petition as a proposal in our fall 2018 meeting but ultimately voted to send it back to subcommittee for a further review after receiving substantial public comment. And we brought it again forward in 2019.

The comment received this time was similar in nature, at least areas of concern as were raised in the fall of last year. And I'll just go into those major areas.

The first one which I think is one that's the easiest to say is mitigated was the concerns around sodium lauryl sulfate in the formulations of these products.

There was a question related to the patents about how this product is being used. Is it being used as a detergent or a stabilizer. We received comments from the petitioner and an argument that this is akin to inert materials used in formulated sanitizing products and that the board has used that justification before to not look at those substances in detail which is true.

When you look at substances like peracetic acid and all the additional inert ingredients that are used to stabilize that.

So considering SLS as an inert ingredient it would not be part of this review at

this time.

The next issue that was brought up was compatibility, particularly due to the use of engineered nanotechnology.

This is an area, frankly, that the subcommittee struggled with, hearing arguments on both sides around whether this should be considered a material of nanotechnology or not. And we heard further comment this time in that area.

It seems like this issue could be -- this issue revolves around the fact that this is an ionic form of this material and whether or not this ionic form counts as an engineered nano material. And it's not really clear from the previous NOSB recommendation whether or not that was included in that review and what impacts that interpretation would have on various other materials on the National List.

Additionally, it seems like this is a concern that could potentially be mitigated via annotation if the board wanted to move forward

with this material.

The subcommittee did not make an attempt at revising the previous annotation given at the time the subcommittee was not recommending this material for listing.

So if that view has changed then I believe the subcommittee would take an attempt to again address the nanotechnology concerns via an annotation.

Human health concerns were raised both related to the nanotechnology issues noted previously and then also into the use of silver in wound management and studies that have been released about the growing or potential growing resistance to silver in wound management.

Information again was presented on both sides related to this issue and there was also some discussion here and on the webinar about differences between medical and food applications and what's going on in this area.

The subcommittee did not particularly find the use in medical applications as violative

of the OFPA criteria for human health.

It also should be noted there are other substances approved as sanitizers also used in medical contexts.

Most of those who cited this issue also cited the Centers for Disease Control calling out that pathogen resistance is one of the world's most pressing public concern issues.

However, in doing research with CDC they maintain the National Antimicrobial Resistance Monitoring System database and in my searches I didn't find anything related to silver or silver resistance in that database.

I also queried FDA, World Health Organization, American Medical Association, who also do similar -- raise similar concerns around the growing concern of antimicrobial resistance and similarly did not find anything related to silver in those areas.

So this is an area that I think we have to consider, but I'm curious to know how other members feel in this regard, if this is a

concern related to the criteria.

Environmental toxicity was another area that was raised, particularly about silver in the environment and impact on waste effluent systems.

I don't feel like we received much new information about silver in the environment. It's really do you -- on an absolute basis do you support the potential addition of more silver into the environment through this application or do you look at it on the dilution basis that it's probably not raising on a diluted basis because it's being released at lower levels and background levels, silver in that environmental context.

The concerns around various locations of use of silver dihydrogen citrate was responded to by the petitioner. And I'll read it here that the scopes of SDC's regulatory approvals are far narrower and would not cover these uses as identified. SDC is not currently approved for use in field or post-harvest handling

applications for raw agricultural commodities.

Those applications are the ones that the Handling Subcommittee raised as a concern and SDC is approved for FDA, EPA on food contact applications only on hard, non-porous surface, sanitizing, disinfection, and by FDA only for use in facilities that process produce for poultry.

So it seems like that issue is mitigated just by its own licensing currently although again it also could be further mitigated if we wanted to via an annotation on this material. If we wanted to move forward.

The last area of concern that was raised was around essentiality. And I'm going to interpret that actually under the necessity because I don't know if essentiality applies to this material.

But under necessity of whether this is actually a needed additional material and most commenters noted that they thought that the petitioner failed to make that argument around its necessity.

We did receive comments from industry, particularly produce wholesalers on the west coast and a couple of other as well as some sanitation supply companies asking for -- or reviewing its use.

We did receive one written comment from Organic Produce Trade Association which recommended against its use although in verbal conversations here at the board they also seem to think that it could use further consideration and be brought back to the subcommittee given some of the additional public comment that was received this round.

Moving back to essentiality. So the essentiality piece did seem to also in a lot of comments obfuscate in my opinion -- this is opinion I guess at this point -- the difference between cleaning and sanitation in facilities.

And several of these comments cited two different papers, one from the Food and Agriculture Organization of the United Nations and one, a USDA one both related to meat

processing stating that sanitation begins having a clean facility, and that clean facilities self-negate the need for chemical sanitation.

And while I think most people who have experience in this area would agree that cleaning is a necessary step prior to sanitation that they are two distinct separate steps with separate purposes.

And if you go into detail on both of those papers cited both of them also go into detail about the importance of chemical sanitizers as well as the need for multiple chemical sanitizers.

So, the subcommittee did not recommend listing this item this time, the three major concerns being location, use and the impact on the environment.

That seems like it can be mitigated via potential annotation.

Its compatibility with organic production given concerns around nanotechnology, also potentially mitigatable by annotation.

And then the concerns around sodium lauryl sulfate which does not seem to be a valid concern at this time.

So in light of this my opinion on this material has changed. I would like to have the subcommittee consider it further and see if via annotations if this could be acceptable for use in organic processing for some or all of the scopes that's been petitioned for.

I've noted in the comments that particularly for hard surfaces that is what industry was looking for a sanitizer to use.

And then I guess I would be somewhat -- I think most people on this board have realized that from the amount of discussion on this, but this does as a material its true interest to I think most processors is around its different mode of action, that it's a unique mode of action separate from the oxidative or acidic modes of action that we currently have as sanitizers on the National List.

Steve, do you have anything to add?

MR. ELA: No, I think that -- probably a pretty good summary. I mean, I think Tom and I -- it's probably good we kind of co-worked on this because there's a fence and we probably fall on each side of the fence just a little bit.

But I would say you gave a pretty good summary of the disposal. Still I mean the public comment gave about sewage disposal systems and pumping, that sludge goes into a treated facility.

Living in a rural area I guess I think that's great in theory, but I'm not sure that all -- I think there's a considerable variation in quality of treatment systems across the nation especially in rural areas. So I am not totally satisfied that -- I understand on the surface answer, but I'm not totally convinced on it.

Sodium lauryl sulfate, yes, you've answered that. The hard surfaces versus contact with actual produce or poultry, you've covered that pretty well.

Mode of action certainly. And I know

there's been a lot of discussion in the committee.

I tend to come down -- you tend to go let's go back and annotate and I kind of come down there's still these continuous niggling questions that I'm not completely sure we can -- especially on the nanoparticle side.

I get very clearly that it's ionic. I also could see where it could form nanoparticles as it precipitates. Because we're talking about a precipitating sewage sludge and other areas. So it's not always ionic.

So I tend to fall a little bit on the side of with all these niggling questions I'm not quite as excited about it as I initially was. You've come down on the other side so I think that -- I suspect a lot of people on the board are that way, but I think it's -- I look forward to the discussion. Thanks for the summary.

MR. BRADMAN: Emily.

MS. OAKLEY: Are we open for questions now?

MR. BRADMAN: Yes. Let's open this for discussion.

MS. OAKLEY: So then maybe this is a question for everyone on the subcommittee. How do you grapple with varying public comments in terms of the nano material aspect and the fact that they're conflicting information?

And I also would echo Steve's comment about rural areas. I don't think that has been adequately resolved.

And I know it's not the petitioner's problem to deal with variations in rural versus urban areas, variations in regulations across states, but it does pose a problem in terms of what we can expect end users to know about the material.

But my real question is how do you resolve conflicting public testimony about the nano material aspect.

MR. ELA: I don't think there's a great answer for that. I mean, it is conflicting and I think that's -- I guess my side comes down

on precautionary.

Once you start receiving conflicting things then I tend to err on the side of conservatism in saying I don't want to put it on the list. I think Tom falls on the side -- and you should speak for yourself, but I also recognize the view that we do need more modes of action and food safety is paramount.

And risk to public health by environmental releases versus risk to food safety of an outbreak. We have to balance that.

But I don't know there's a great way to resolve inherently there's conflicting public comment on it. And that's real. We have to try and sort that out ourselves. But I don't know there's a great process for that except our own knowledge base.

MR. BRADMAN: Tom, do you want to respond and then Lisa?

MR. CHAPMAN: Yes. I mean, I guess there's conflicting information. There's almost always conflicting information on almost anything

we ever deal with so that's -- I'm not sure if I like discount the precautionary principle.

I think I look at the totality of the evidence and then try to weigh it out.

My biggest concern with this is on a technical side this is just way above. This is way above my pay grade. My YouTube certifications don't qualify me for making these determinations.

And so you have to rely on these experts. Unfortunately -- I mean, the ideal thing would be to have I guess a third party independent expert that we fully trusted that didn't have an agenda.

But I don't think we're going to get that on a material that's manufactured by a single processor because you're pretty much going to have to rely on them. That's the reality of the world and we're not going to trust that information because it came from a petitioner that it's not biased or it's their opinion.

So to the extent that I'm qualified or

at least I have the right to vote on this material. I've looked at the evidence as provided and I'm leaning towards the -- what the petitioner has provided because I think they've responded to most of the concerns.

However, I -- I'm not an expert in this area.

MR. BRADMAN: Lisa and then Rick.

MS. DE LIMA: I think Tom and Steve pretty much covered it pretty well, but just so folks know where I fall I'm kind of in line with Steve with yes, there's the fence. The lines pretty -- could go either way.

But in those cases I kind of feel the opposite of Tom. I'm not an expert and I don't feel comfortable voting yes. There's too many lingering questions for me.

MR. BRADMAN: Rick.

MR. GREENWOOD: Tom, when you looked at the databases for antimicrobial resistance one of the things that I'd caution about that is silver isn't used that much. And so not having

resistant organisms, there hasn't been environmental pressure on them where there would be if we start putting vast quantities. And I assume they'd end up being vast quantities of silver into the environment.

The other issue that Steve talked about is sludge. We talked about that a little bit on the webinar, but sludge goes somewhere. I mean we talked about moving it from rural places, but eventually it gets into the environment and I think that's the other area that concerns me as I mentioned on the webinar is the bioaccumulation.

There are papers about its toxic effect on some of the microorganisms, the one-cell animals.

MR. BRADMAN: Dave.

MR. MORTENSEN: Yes. I also am on the side of being concerned about the environmental impacts.

I think there is evidence of bioaccumulation in the microbial community. And the issue of sludge management is definitely a

concern of mine as well as in the water. So that's how I am leaning.

DR. SEITZ: I too believe that we should err on the side of conservatism.

But I also want to add to that that once a substance is on the list the fact that it takes a two-thirds vote to remove it from the list I think is an added reason why we need to be very cautious with a substance where there's so many ambiguities.

The other thing that was mentioned by a couple of commenters is that we may want to revisit the question or the NOP may want to revisit the question of whether nanotechnology should be looked at as a class of things that we may want to prohibit.

And I think that that may be a very good idea just because in a case like this where there really is some question that the chemistry involved with this points to nanotechnology issues, even if it's asserted that it's not being used.

If we have to work through that every time and there's ambiguity again I would say it's incumbent upon us to be very cautious about approving anything where that may be an issue.

MR. BRADMAN: Harriet.

CHAIR BEHAR: I agree with the first part of what Dan said about there's so many issues.

And the thought of we need to annotate for this and we need to annotate for that. If we have to keep narrowing and narrowing and narrowing the use because we have a concern I think that there's more chance for abuse out there once it's on the list.

I've seen that, that people don't read the annotations as quickly and it's confusing to them. So I am not for this material.

And also I thought there was some compelling information from Consumer Reports on the resistance issue.

MR. BRADMAN: I just want to interject a point here. I'll call on myself and then Tom.

I have concerns about this material too, particularly as petitioned. I think it's reflected in some of the discussion.

One thing to also think about though too is that we have some very nasty materials that are currently on the list, particularly chlorine compounds.

I've mentioned this before. In my experience with farm workers and people working in processing plants you hear just bitter, bitter complaints about chlorine compounds.

Chlorine compounds are osmogens, they're respiratory, ocular irritants. They produce materials that cause cancer.

And I think actually from a worker point of view there might be some uses of this material that could prevent other kinds of exposures.

I do have some concerns about the concept of a food contact material that's going to have essentially an unlabeled residue.

So anyway, but I just want to throw in

the worker health piece.

And certainly on an acute basis it's probably safer than some of the other materials that we currently allow.

MR. CHAPMAN: And that was definitely echoed in comments from a large organic produce handler in the 2018 comments that noted that their sanitation workers on their conventional lines vastly prefer this material if you take them at their word which you know, I do because I don't expect sanitation workers are particularly reading the regulations.gov waiting to comment to us.

That being said, it seems quite clear from the comments here today that we know the fate of the votes that we're about to have. So I don't want to belabor that point in the interest of time.

However, I guess a question I do have to members of the board. The subcommittee noted concerns and then noted that there's potential with this material and invited -- when we voted

it down, invited the petitioner to potentially re-petition in the future state when these concerns could be mitigated.

And I guess my question in the interest of providing accurate information, what if anything could the petitioner do to develop further evidence that would mitigate concerns that are preventing us from supporting this material now.

MR. BRADMAN: Before we go to Emily, Scott had raised his hand.

MR. RICE: Thanks. I guess to answer Tom's question first I would think having, you know, we struggle with the impartiality on the nanotechnology so somehow having impartial information on that if that's even possible would be helpful for me personally.

But I also wanted to speak to the idea of annotations. I think annotations can be very helpful and they're very helpful to certifiers.

I think if someone isn't reading the annotation carefully there's ways for certifiers

to deal with that. At the end of the day the annotation is there and that should be followed, but I struggle with this as well.

I think some of these things, or at least the location use could be addressed by the annotation, but I kind of fall on that side of being cautious in this instance and would like to see the potential of this, but not there right now.

MR. BRADMAN: Emily.

MS. OAKLEY: I mean, I think that's a good question, Tom.

I think what I struggle with with this petition and what I struggled with in the fall is just the vastly conflicting information, not just on nano particles but on human health as well.

And not necessarily disposal. I don't think we've delved as deeply into that as we might have.

I guess -- I don't quite know how to answer the question but impartial information is super important to me.

It's not that I don't trust the petitioner per se, it's simply that they have a perspective that is inherently inclined towards wanting to see the material approved.

So how you obtain impartial information on some of these questions as you pointed out is challenging and I'm not sure, but that's what I think would be necessary for me.

And then I did just want to echo Asa's comment because one thing that has come up for me is is there a question of residue on products with this material, residual effects of it.

MR. BRADMAN: Is there any more discussion? Jesse.

MR. BUIE: Yes, the urban versus rural disposal is an issue with me. So I'm leaning against it for that reason.

MR. BRADMAN: I don't see any more comments. Tom, I don't know if you wanted to --

MR. CHAPMAN: I'm still going to try to make the motion. We'll see what happens.

MR. BRADMAN: Okay.

MR. CHAPMAN: So I move to refer sodium dihydrogen citrate back to the subcommittee.

CHAIR BEHAR: Is there a second?

MS. SWAFFAR: Second.

CHAIR BEHAR: Ashley second.

MR. BRADMAN: So any final discussion before we vote on that? I'm not sure where we start on the voting cycle.

CHAIR BEHAR: Okay. I believe Dave.

MR. MORTENSEN: No.

MR. BRADMAN: Yes.

MR. RICE: Yes.

MR. ELA: No.

MS. OAKLEY: I told you I would abstain but I'm going to say no. Sorry.

MR. BUIE: No.

MS. ROMERO-BRIONES: No.

MS. DE LIMA: No.

MR. GREENWOOD: No.

MS. SWAFFAR: Yes.

MR. CHAPMAN: Yes.

MS. BAIRD: Coming from a meat processing background I am going to say yes.

DR. SEITZ: No.

CHAIR BEHAR: The chair votes no.

MR. RICE: That was five yes, nine no. The motion fails.

MR. CHAPMAN: I just have a quick point of order question. Did we classify this last time before we sent it back? Anyone? Maybe the former chair can answer the question. He can't. Maybe the former secretary can answer the question, keeper of the record.

MR. RICE: I've got the -- I think these motions on my sheet are from subcommittee. So I'm not -- I'd have to look back.

MR. CHAPMAN: Okay. So we'll classify again.

CHAIR BEHAR: So we have a question if it was classified as a synthetic at the last --

MR. RICE: Maybe the program can help us.

MR. CHAPMAN: There's probably no harm

in just classifying it again. I assume we're going to vote the same way if we voted last time.

CHAIR BEHAR: Well, if we've already voted to classify it as a synthetic we don't need to do it again.

MR. CHAPMAN: I know. Yes. But if it's going to take us longer to figure out the answer than to vote again maybe we just vote again. Perfect, okay.

MR. BRADMAN: So --

DR. TUCKER: We would recommend re-voting on this. It has gone through additional work so -- not just for convenience purposes, but for just the record.

MR. CHAPMAN: Yes, we have two votes. The classification -- once we classify we generally don't re-touch that piece. And then we would vote on the proposal, the second piece always. So it's just the classification piece I was questioning. But it sounds like we didn't vote on it.

MR. BRADMAN: Just for clarity let's

vote on the classification motion to classify silver dihydrogen citrate as synthetic.

CHAIR BEHAR: Okay. Is there discussion anyone?

MR. ELA: Just for the record that would have been Tom as the first and Lisa as the second. For the record.

MR. BRADMAN: I'm voting yes as a synthetic.

MR. RICE: Yes.

MR. ELA: Yes.

MS. OAKLEY: Yes.

MR. BUIE: Yes.

MS. ROMERO-BRIONES: Yes.

MS. DE LIMA: Yes.

MR. GREENWOOD: Yes.

MS. SWAFFAR: Yes.

MR. CHAPMAN: Yes.

MS. BAIRD: Yes.

DR. SEITZ: Yes.

MR. MORTENSEN: Yes.

CHAIR BEHAR: Chair votes yes.

MR. RICE: And that's 14 yes. The motion passes.

MR. BRADMAN: So the next motion is to add silver dihydrogen citrate at 205.605(b) as petitioned. And I guess I'll make a motion to do that and we need a second.

MR. CHAPMAN: The motion's there. It comes from the subcommittee.

MR. BRADMAN: Okay.

MR. CHAPMAN: So it was made by me and seconded by Lisa as well.

MR. BRADMAN: I have to get the points of order in order. Okay. I guess we can go ahead with the vote then.

MR. CHAPMAN: Just as a point of discussion on this if we can I'm going to abstain from this item just because I don't think straight out adding it is appropriate. It would be better with annotations, but I guess we're not going to have the opportunity to annotate it. I'll be abstaining from this.

CHAIR BEHAR: Any other discussion?

Okay, I think -- do we start with Scott?

MR. RICE: No.

MR. ELA: No.

MS. OAKLEY: No.

MR. BUIE: No.

MS. ROMERO-BRIONES: No.

MS. DE LIMA: No.

MR. GREENWOOD: No.

MS. SWAFFAR: No.

MR. CHAPMAN: Abstain.

MS. BAIRD: No.

DR. SEITZ: No.

MR. MORTENSEN: No.

MR. BRADMAN: As petitioned, no.

CHAIR BEHAR: Chair votes no.

MR. RICE: That's 13 no, 1 abstention. The motion fails.

MR. BRADMAN: So I think our next item for discussion is a proposal to add pullulan if I'm pronouncing that correctly. Pullulan.

MR. RICE: I think we just need a recording of it so anytime we need to say it we

just press a button.

MR. BRADMAN: Exactly. So Lisa, I think you're the lead on that.

MS. DE LIMA: I'm the lucky person that gets to say this multiple times.

So a petition has been submitted to add pullulan to the National List at 205.605(a) as an allowed non-agricultural non-synthetic ingredient used in tablets and capsules for dietary supplements labeled made with organic.

A petition was submitted to the OTA on behalf of its National List Innovation Working Group and the petition stated that the purpose of the petition was twofold, to continue the production and availability of USDA NOP certified dietary supplements and to support the commercial development of certified organic pullulan.

So for dietary supplements the capsule is considered an ingredient and must either be certified organic or made up of ingredients compliant with NOP's National List.

Since the early two thousands

certifying agents have classified pullulan as agricultural and it was allowed in encapsulated dietary supplements.

And then once the NOP's classification of materials guidance came out in 2016 certifying agents came to a different decision, that pullulan should be classified as a non-agricultural and non-synthetic substance. So in that instance pullulan would need to be on the National List to be allowed to be used.

There are no other NOP compliant vegetarian options available for producing an organic encapsulated supplement.

Organic pullulan is not commercially available in the United States. And according to the petition Capsugel, the owner of the pullulan patent in the U.S., is in the process of developing organic pullulan. We heard the same thing in public comment on Tuesday.

The only alternative practice for supplements manufacturers would be to use gelatin. Gelatin is listed on 205.606 of the

National List but this would be again problematic for consumers looking for a vegetarian, kosher or halal product.

Based on the information in the TR pullulan appears to be of low risk to the environment and human health both in its use and its disposal.

And the TR also pointed out that although pullulan is not allowed or included in international standards that's because unlike in the U.S. international standards don't consider dietary supplement capsules to be an ingredient.

As far as public comment we've had two public comment periods for pullulan. We received a fair amount of public comment at the last meeting in favor of listing, mostly from manufacturers and some certifiers.

And then this time again we heard support from manufacturers, certifiers and interest groups in listing pullulan.

We did hear a couple of different public comments asking that when we vote on the

material for the listing motion that we're specific as to its use. When we voted it out of subcommittee the listing motion was motion to add pullulan as petitioned so after our discussion we are going to make a motion to amend the classification -- sorry, not classification. To amend the listing motion with the specific language that I don't have in front of me but we'll get to that.

That is pretty much it. So I open it up for questions and discussion.

MR. BRADMAN: Harriet and then Emily. Harriet.

CHAIR BEHAR: This seems like a pretty innocuous material. There is a demand for it and I don't see a problem with it.

I do agree to have a clear annotation on the vote.

MS. OAKLEY: Yes, I also just am eager to see the organic form developed as soon as possible.

MR. BRADMAN: Any more discussion or

comment? Tom.

CHAIR BEHAR: So first it's the classification. Once we've done the discussion.

MR. CHAPMAN: Well, do I need to make the amending motion?

CHAIR BEHAR: -- classified first.

MR. CHAPMAN: Okay, yes, all right. The amending motion is what's on the screen. There you go.

MR. BRADMAN: So we're ready to vote. No more discussion. Okay. So let's first then go ahead with the classification motion. And I think we're ready to vote on that.

CHAIR BEHAR: Start with Steve.

MS. DE LIMA: Point of order. Are we going to read the classification motion?

MR. CHAPMAN: Yes, please.

MS. DE LIMA: Okay.

MR. BRADMAN: Okay, thank you. Everyone just tell me what to do and I'll do it. Let's see. Classification motion. Motion to classify pullulan. I can't read that. As a non-

agricultural and non-synthetic. And it's a motion by Lisa. It's been seconded by Scott.

MR. ELA: Yes.

MS. OAKLEY: Yes.

MR. BUIE: Yes.

MS. ROMERO-BRIONES: Yes.

MS. DE LIMA: Yes.

MR. GREENWOOD: Yes.

MS. SWAFFAR: Yes.

MR. CHAPMAN: Yes.

MS. BAIRD: Yes.

DR. SEITZ: Yes.

MR. MORTENSEN: Yes.

MR. BRADMAN: Yes.

MR. RICE: Yes.

CHAIR BEHAR: Chair votes yes.

MR. RICE: That's 14 yes. The motion passes. Excuse me, 14 yes, zero no. Motion passes.

MR. BRADMAN: Okay. So now we'll do the -- hopefully I'll get it right this time.

MR. CHAPMAN: So --

MR. BRADMAN: We have an amendment.

DR. LEWIS: And you want to read that into the record.

MR. BRADMAN: Okay. So we want to read into the record the amended --

MS. OAKLEY: Can I make -- or can Tom make a motion first?

MR. CHAPMAN: Can I make a motion? All right. I'm a little torn on this item personally because I support pullulan, but not pullulan. So I just don't know how I'm going to vote on this. I'm joking, all right.

So there was some concern raised about the way the motion was written so for sake of clarity we're going to make a motion to amend the listing motion.

So it already read motion to add pullulan as petitioned at 205.605(a). And I move to amend it to include the words for use only in tablets and capsules for dietary supplements labeled, parentheses, made with organic -- sorry, quotation marks, made with organic, parentheses,

specified ingredients or food groups, parentheses, parentheses, quotation marks.

MS. OAKLEY: Second.

CHAIR BEHAR: I'll second.

MR. BRADMAN: Okay. So shall we now vote on the amendment?

CHAIR BEHAR: Well, maybe -- any discussion?

MR. BRADMAN: I think someday I'll be smooth at this. So any discussion related to this amendment?

MR. RICE: I'm tempted to add to the amendment that we include the phonetic pronunciation of pullulan. But I'll hold off.

MR. CHAPMAN: I think that might be a significant change.

MR. ELA: I think we should annotate to change the name.

MS. OAKLEY: Just for clarification was that a motion by Tom and a second by Ashley? Okay, thank you.

CHAIR BEHAR: Oh, Ashley. Okay.

MR. RICE: I believe the voting starts with Emily.

MS. OAKLEY: Yes.

MR. BUIE: Yes.

MS. ROMERO-BRIONES: Yes.

MS. DE LIMA: Yes.

MR. GREENWOOD: Yes.

MS. SWAFFAR: Yes.

MR. CHAPMAN: Yes.

MS. BAIRD: Yes.

DR. SEITZ: Yes.

MR. MORTENSEN: Yes.

MR. BRADMAN: Yes.

MR. RICE: Yes.

MR. ELA: Yes.

CHAIR BEHAR: Chair votes yes.

MR. RICE: That's 14 yes, zero no. The motion passes.

CHAIR BEHAR: Now we're on collagen gel.

MR. CHAPMAN: No, we still --

MR. BRADMAN: So, now we're going to

-- next step, last step, see if I can get this right. We're now going to vote on the motion to add pullulan as petitioned at 205.605(a) for use only in tablets and capsules for dietary supplement labeled made with organic specified ingredients or food groups. Close parentheses. The motion is by I guess myself.

MR. CHAPMAN: No, go to the next slide.

MR. BRADMAN: Okay. Is it by Lisa.

MR. CHAPMAN: There you go.

MR. BRADMAN: So, we're going to vote on the National List motion to add pullulan as petitioned at 205.605(a). The motion by -- I can stop there.

MS. OAKLEY: I think you need to clarify, right, that the motion is by Lisa and was seconded by Scott in the committee. Is that correct?

MR. BRADMAN: I was just going to say that, motion by Lisa and seconded by Scott. Am I getting it right here? When I took this job I

wanted to be like a worker bee, not in charge of anything.

MS. OAKLEY: I second that.

MR. RICE: The voting -- I guess discussion.

MR. BRADMAN: So any discussion before the final vote? I think we can move to the vote.

CHAIR BEHAR: We'll start with Jesse.

MR. BUIE: Yes.

MS. ROMERO-BRIONES: Yes.

MS. DE LIMA: Yes.

MR. GREENWOOD: Yes.

MS. SWAFFAR: Yes.

MR. CHAPMAN: Yes.

MS. BAIRD: Yes.

DR. SEITZ: Yes.

MR. MORTENSEN: Yes.

MR. BRADMAN: Yes.

MR. RICE: Yes.

MR. ELA: Yes.

MS. OAKLEY: Yes.

CHAIR BEHAR: Chair votes yes.

MR. RICE: The vote is 14 yes, zero no. The motion passes.

MR. BRADMAN: So I think now we can move on to collagen gel. So, I think this is actually going to warrant quite a bit of discussion.

So collagen gel has been petitioned by Devro, Inc., to be added to 205.606 as a non-organically produced agricultural product allowed as ingredient in a processed product.

Basically this proposal is for a collagen material to use as a substitute for intestinal casings for -- I like this term -- enrobing sausage products and providing an alternative to intestines.

There's -- it's primarily made of collagen which is a protein derived primarily from animal skins, but it can come from a number of sources including mammals, fowl and also fish and other sources although probably the most common sources are warm-blooded animals.

There's also cellulose powder as an

ingredient here. When we were evaluating this as a subcommittee we considered that to be more of an ancillary material. But we can go into some more discussion about that.

Some advantages of this material is that it provides a mechanism to produce meats of uniform animal products. So in other words it allows for producing kosher and other sausage products more efficiently and it basically extends the market for organically produced material.

Collagen itself is a protein. It's basically structurally similar to the gelatin that's already on the National List.

There's no real toxicity or other issues associated with this material.

We had a lot of discussion on the committee about whether we should classify this as synthetic or not because of some of the processing steps. And we decided to list it at 606 as non-synthetic because the primary core material is derived from an agricultural product.

But that's something that we kind of struggled with.

Also by placing it on 606 there's the specification that -- a preference going forward for organically sourced material.

If we -- I should mention too that the subcommittee voted unanimously to list this material.

There's been fairly extensive public comment on it this time around. We had a very brief discussion document published at the last meeting. There was almost no comment on it at that point.

And this time there's been some more extensive comments primarily from membership groups and others concerned about -- raising concerns about what they consider a violation of organic integrity.

Some of the main concerns are, one, well perhaps cellulose should not be viewed as an ancillary material here, that it's part of the structure and that this shouldn't be under 606.

Perhaps more importantly and we kind of touched on this in the review that we're talking about using collagen gel derived from animals that are potentially raised in CAFO or other kind of industrial agricultural settings and that as such this source material is tainted by that source.

So that was a real concern in our discussions and that's something that's been kind of universally raised by public comments.

In general the public comments are not in support of listing this because of the concerns I just raised, and also -- and this is something that's come up with celery powder and other discussions that 606 can stifle production of new organic crops. It kind of provides a stopgap that can go on for years and therefore prevent the development of organic source material for a product like this.

I think in the committee we felt that given that gelatin is already on the list and the similarity of this material to existing materials

on the list in terms of gelatin and also intestinal casings which may also come from similar sources as the collagen gel, that kind of the opportunity here to expand the market for organic meat could therefore ultimately expand access to organic product.

Also it's a processed material and if we're talking about 95 percent organic and 5 percent not, or made with organic that this material kind of fits into that category of the small percentage of non-organic materials.

So I think there's some rich discussion here and I don't think I really have anything more to add in terms of the summary of the material or public comments so I think we should open it up for discussion at this point. A-Dae.

MS. ROMERO-BRIONES: Yes, I just want to note that we also have gelatin in the sunset review and that we had similar discussions about gelatin and collagen gel because they're essentially -- one is just further cooked than

the other. So they're very similar.

MR. BRADMAN: Lisa and then Harriet.

MS. DE LIMA: I think it's another one of those -- I mean, I don't like where the material is sourced from, but then I think about that sort of chicken and egg problem of like what comes first. Do you wait for availability and is that even realistic that we're going to end up with an organic cellulose and then be able to produce a certified organic meat product, or do we allow this so that we can continue to build the certified organic meat market and take more of that share away from the CAFOs and then the material comes next.

MR. BRADMAN: Just to clarify, the egg came first. Harriet.

CHAIR BEHAR: So, on the webinar we did speak with a manufacturer of collagen gel and we asked about what are the barriers to producing organic collagen gel.

And so I specifically asked can you save up enough of the organic in order to then

have enough to do a production run.

And he said that while it does have a long shelf life under refrigeration, about six months, that still would probably not get enough for them to do a production run.

And that if you freeze it you basically lose the structure of the collagen gel to have the technical effect that you want it to have in the enrobing.

So I think though as we -- I was actually somewhat positive in the fact that at least there's a six-month refrigerated shelf life. That's better than something like whey which has eight hours.

MR. BRADMAN: Tom.

MR. CHAPMAN: I want to echo A-Dae's comment that this collagen material is a precursor to gelatin. So if -- all the concerns raised in that regard also apply to gelatin on this list, at least from animal products.

I agree that while very strict reading of classification may place this material on 605

I think 606 is truly the right home for this.

It's clear that synthetic and non-synthetic based on production techniques and raw materials could potentially be certified organic products even though our decision tree may place them in synthetic. Glycerin is a classic example of this, that depending on the form of production it could be agricultural, it could be non-synthetic, it could be synthetic. And then if you use organic inputs that synthetic version could potentially be certified organic. I know, confusing, right?

So, you know, to encourage that at some point we have organic gelatin or organic collagen I think 606 is the right home for it.

I also -- I disagree strongly with the argument that placing items on 606 dissuades the -- or slows down the creation of an organic industry that can support this.

Personally, I mean once you put products out there and then you make organic collagen gel the only people you have to go to is

to the certifiers. Let them know that you've got organic collagen gel and all of their operations when they do their commercial availability assessment every year need to reach out to you and you're going to charge whatever you want. And it'll be great for a couple of years and then competition will bring in other folks and it will go back to how it was.

But we've seen that happen time and time again with materials that have come off 606. 606 is a shrinking list. There's not much left on it.

And then in some cases there are true supply chain challenges as we saw with the celery powder, and I think that's applicable to this material as well.

So I support it because I don't know how I can support gelatin and not support collagen gel given that they're produced the same way. And I think this is the first step in growing, continuing to grow the organic meat market and will be important to grow it to a

point that then maybe collagen gel could be available from animal skins, organic animal skins on a regular basis.

The other thing I just really quickly want to point out is organic is value-added at the farm which means it starts getting more expensive at the farm. That's part of what makes organic great because it allows farmers to have a better livelihood.

But that also means that byproducts produced further in the stream add disproportionately to the costs of those products to consumers. So products that have a higher fraction of byproducts, cheese for example, disproportionately become more expensive on the shelf. And there is a financial decision that consumers have to make on how expensive an organic product they can actually afford.

So finding homes, value homes for byproducts is very important. And so in the meat industry finding homes for the scraps of meat that can't be sold as full products is very

important to keeping that entire product valuable while also maintaining that value-add addition at the farm.

MR. BRADMAN: I just want to respond to one thing and then we'll go to Dan.

Another point you make about the comparison to celery and 606. There's a difference here with the material used to source for collagen gel is really a byproduct of another industry, livestock industry. It's not being produced for organic.

And I think that's one of the unique issues with celery powder when we go forward. Here we're actually using a conventional method to produce a product for organic. So we're actually using field space.

But separate from that I think this is a little different from the celery powder. Dan and then Sue.

DR. SEITZ: I'd like to preface my comments first with a quote from Otto von Bismarck who said law and sausage are two things

you do not want to see being made. To retain respect for sausages and laws one must not watch them in the making. The making of laws like the making of sausages is not a pretty sight. And I never dreamed I'd be involved in a regulatory process on the making of sausages. But that's beside the point.

So, I just have to say as a consumer member I am torn on this for a couple of reasons.

One, the sourcing of the materials. I mean, I would think a consumer buying sausages would not dream that part of the substances that are necessary for the making of those sausages come from CAFO operations, come from operations where there are use of excluded methods. So I actually -- I feel that from a consumer standpoint there's a real question on this.

I think also the question of whether we speed up the growth of the organic industry is an interesting philosophic one. At the beginning it certainly was seen as a slow build happening on the foundation of very reputable practices.

So it's not always necessarily a good thing to speed up production if it means -- and use and market share if you're using an approach that has -- is suspect.

On the other hand good point that we already approved gelatin.

And I just want to say from the standpoint of my two boys who love sausages I see -- actually I'm not going to go there.

But just to say I think there are really some deep questions around whether it's useful bringing in materials that are so suspect in order to increase market share. So I'm not sure yet how I'm going to vote on this.

MR. BRADMAN: Sue, Tom, Emily and Steve.

MS. BAIRD: I agree with Tom that this should be on 606. And I would point out that 606 actually says that you can only use it and you have to do a commercial availability search before you can use it, a non-organic form rather than using organic form.

I think it's been fairly well established that at the moment at least we don't have a sufficient amount of organic form.

But by putting it on 606 you limit the producer, final producer/processor to having to do a commercial search.

I think instead of limiting a producer from using it as non-organic it actually -- I've seen in the past it actually builds that market for organic because they have to go through the process.

So I like the fact that it's going to be moved to 606 other than the fact that I think physiologically it needs to be there.

That's all. I just think putting it on 606, they have to go through that commercial availability search which inherently adds to the restricting. We've seen that in the past.

The other point that I like that Tom made was I am the executive director of Mid-America Missouri Organic Association and in Missouri, at least in our region we have a very

small but trying to grow organic meat producer group.

And the one thing that stops those producers from being certified organic instead of just telling them it's grass-fed is the fact that there's a real market for the steak or the pork chop, but you can't ever get rid of the rest of the product.

So by creating the ability through 606 that the processor has to try to find commercial availability organic maybe we will help those small producers to find a market for the byproducts.

I like this. I'm totally in favor of it.

MR. BRADMAN: Tom, Emily and then Steve.

MR. CHAPMAN: I hear the concerns about CAFO operations. I'm pretty certain that this is not a make or break for the CAFO industry, whether or not organic adds it doesn't really impact them one way or the other.

But I guess I'd also be remiss in not pointing out that this is not -- while this is acute to this material here, you should also, you know, if that's the concern to block this material I think we should heavily look at adding manure to 205.602 if it comes from a CAFO operation because in farming practices manure is widely used in farming as a source of nitrogen and it can come from any sort of source. And CAFO operations are a big source of that right now.

So this is -- that concern is not alone in a small additive used to find market homes for meat products. It also goes all the way back to the farm level for what I would easily say is thousands and thousands of organic farmers.

MR. BRADMAN: Emily.

MS. OAKLEY: That's true and we could add many other materials to that, bone meal, blood meal, et cetera.

But I don't think that precludes the

importance of discussing where these materials come from. And I don't think that they may be sourced. I think it's absolutely certain that they are sourced from CAFOs.

I live in an area with a lot of CAFOs and it's a real issue.

I would just say that I kind of echo some of Dan's comments in terms of consumer expectation. I think there's a slight difference in a handling product from a crop product in that we're talking about something in the actual food ingredient that someone is eating.

That being said as a farmer seat even though I don't produce livestock I also want to see farmers have additional outlets for their products. I find this to be a very conflicting issue because you can't find like a very fine, easy line to fall down on in terms of an ethical choice.

I think that Lisa's comments were also important in terms of growing the organic meat industry and taking some of that market share

away from the CAFO industry.

But it is a very nuanced and complicated issue. And the fact that we have gelatin and other materials on the list that are sourced from CAFOs doesn't take away the nuance or complexity or difficulty in making a decision on something like this.

MR. BRADMAN: Steve.

MR. ELA: I also -- I agree with all that's been said. And we've talked about gelatin. But I mean, our whole discussion on casings which is the other holder -- what do you call it, enrobement for sausage is the same deal.

So if sausages already are mostly encompassed in a conventional animal byproduct. Not that we like that. And I found that discussion of supply chain of how you take a somewhat perishable product, I mean collage sounds less perishable but still perishable and accumulate a critical mass in order to promote the industry has come up with orange pulp and various other things.

And that supply chain is very compelling. It is difficult. I want to see it change. I want to see it be different. But in the interest of fairness across the board and like I said because sausages are already -- people are eating sausages that way I don't see this as a real change. So I'm going to be in favor of it just for those reasons.

MR. BRADMAN: Is there any more discussion? A little discussion about some of the wording related to the petition and the motion.

Harriet, in the meantime we're going to go ahead with the classification.

DR. LEWIS: Just wait a moment. We'll make sure it gets up on the screen. Thanks for your patience.

CHAIR BEHAR: Okay, we can do the classification.

MR. BRADMAN: Okay. Let's vote on the classification motion.

DR. LEWIS: Can you read it into the

record?

MR. BRADMAN: Yes. The motion to classify collagen gel as agricultural by myself and seconded by Harriet.

DR. LEWIS: Thank you.

MR. BRADMAN: So I think at this point we can vote. Is there any final discussion?

MR. RICE: Voting begins with A-Dae.

MS. ROMERO-BRIONES: Yes.

MR. RICE: This is classification vote.

MS. DE LIMA: Yes.

MR. GREENWOOD: Yes.

MS. SWAFFAR: Yes.

MR. CHAPMAN: Yes.

MS. BAIRD: Yes.

DR. SEITZ: Yes.

MR. MORTENSEN: Yes.

MR. BRADMAN: Yes.

MR. RICE: Yes.

MR. ELA: Yes.

MS. OAKLEY: Yes.

MR. BUIE: Yes.

CHAIR BEHAR: Chair votes yes.

MR. RICE: That's 14 yes, zero no. The motion passes.

MR. BRADMAN: So now we're going to vote on the motion to add collagen gel. So there's a slight wording change in the motion. Do we need to vote on that change? Okay. I'm starting to get this.

So we made a slight change to the motion to address specifically enrobement of meat products -- I don't think we want meat products that are disrobed. So we have a National List -- I shouldn't have said that -- a National List motion to add collagen gel for enrobement of meat products.

DR. TUCKER: Just remember transcripts are forever.

MR. CHAPMAN: Pullulan.

MR. BRADMAN: This is embarrassing.

MR. RICE: We can pause for a moment.

(Simultaneous speaking)

MR. BRADMAN: Like a casing. I'm going to be remembered for this -- at 205.606. And Harriet.

CHAIR BEHAR: Yes, so we just felt that -- Steve and I were talking, that the previous one instead of as petitioned, we want to know -- tell the program.

And this is what we pulled from the petition. So I just want to make sure that you're happy like that. Like a casing was what the petition asked for and what was in the proposal.

MR. BRADMAN: Yes.

CHAIR BEHAR: So it actually did say sausage, but I think it could be used for hot dogs. And I didn't -- so I said of meat products. So I want everyone to be happy with that and we want to have a discussion. I'll make the motion to update this and then we can get a second and then we can discuss it.

MS. OAKLEY: I'll second.

MR. BRADMAN: Tom.

MR. CHAPMAN: I guess I'm just curious why we need this annotation. What's the concern?

MR. BRADMAN: Harriet, do you want to comment on that? I guess this was the language that was in the petition.

CHAIR BEHAR: This is what the petition asked for. I guess are we -- this is what we've talked about. I don't know if collagen gel would be added to other products or not, but we're talking about it and it was reviewed for this reason. So I guess without this if it's just collagen gel then we would be approving it as an ingredient in other foods I would imagine if someone came up with that. But this is all we've reviewed it for.

MR. BRADMAN: Emily.

MS. OAKLEY: So just a question. If we write as petitioned isn't that sufficient? Because isn't that -- I mean not to belabor the point. Going forward in all proposals should we be very clear and not say as petitioned but list the specific reason that it was petitioned?

MR. BRADMAN: Harriet.

CHAIR BEHAR: Yes. And we just did that with a previous item.

I think it's better for us to be clear about what we are voting on rather than having the program consider it later what were they thinking of.

DR. LEWIS: I want to add to that. I think it really helps in terms of the clarity that you can provide in terms of the review and also looking at what the petition is actually asking for would help us to review your work and to take appropriate rulemaking steps.

MR. BRADMAN: Clarissa, do you want to add something?

DR. MATHEWS: Thank you. Just to clarify, the petition does have a rather lengthy description of intended activities and uses. And perhaps that's why the subcommittee had listed it that way as petitioned.

MR. BRADMAN: That is why. Tom.

MR. CHAPMAN: I mean, I guess I'm fine

voting for this. I will vote for this if this is what needs to get support to put it on here.

But I find this very different and a significant difference from what happened with the pullulan petition.

The pullulan petition in the actual item they were petitioning asked for it to be restricted that way. In the petition which I have in front of me item A1, Devro, Inc., is petitioning the inclusion of collagen gel in section 7 CFR 606 non-organically produced agricultural products allowed as ingredients in processed products and labeled as organic.

There's nothing in there restricting it to this application. I know that's the majority usage of this application and this is what we've majority reviewed. And if we had a reason why we wanted to specifically restrict it to this application I think that's fine and that's something we should have done, but we should have also allowed the public an opportunity to comment on that as opposed to just

doing this here at this meeting.

That was there in and throughout the entire conversation of the pullulan one. I hope I'm saying that right. That was not here with this one. And so I see these as being very distinct.

If that was necessary for us to list this then I was fine with that -- fine with that. I don't know of any collagen uses at 5 percent or less of a product that are out there besides meat products. I mean, I know it's used as a supplement but that's like the supplement. So it's 100 percent or 90 percent plus of that product. So a listing on 606 isn't going to help those people.

I generally wouldn't be opposed to this, but I just don't like the process by which we're adding this in here on this item.

MR. BRADMAN: Harriet.

CHAIR BEHAR: Well, when Asa introduced it to us this is the way he introduced it. So I was just trying to have the clarity.

And I put it up there and I said well, we need to -- we're discussing it. If we want to remove the rest of it.

I just didn't want it to say as petitioned because I felt that that was not clear to the program what we were getting at. And then they would have to go searching through the petition and see what did we actually vote for.

So I'm opening this up to -- if we want to remove the enrobement part and vote on that I'm okay with that. But I really don't like the as petitioned because I don't think that's clear enough for the program. And for us to say this is what we're voting for.

MR. BRADMAN: Clarissa, you wanted to add something?

DR. MATHEWS: Yes. In section B of the petition number four, intended activities and application rate the petition states collagen casings and gels are GRAS for use in sausages and meat products.

For Devro's purposes the collagen gel

will function as a coating casing in sausages, hot dogs and other meat products manufactured using coextrusion production systems. Casing coatings are vital to holding the form of the meat product.

MR. BRADMAN: Right. I mean, this discussion that's going on, the reason why I used the word as petitioned because I assume that by reference brings in the specific language of the petition.

And in terms of clarity to the program I think that clarity depends on the content of the petition.

I do understand the petition to focus on this use. So I'm kind of weighing it. I don't see the conflict quite as strongly perhaps as Tom does, but is this something that we would vote on as a group, this change, or -- Emily, you want to comment?

MS. OAKLEY: This is a question for Clarissa or the program as to what is most useful for them. Whoever wants to answer that. If we

were to say as petitioned or the new language.

DR. MATHEWS: I think given that section four intended activities and applications is pretty clear either way would be fine. I think program would be fine with the original language in the motion that was shown originally.

MR. BRADMAN: Harriet.

CHAIR BEHAR: I'm not sure what the program would do in the actual listing when it goes on the National List. Would you write as petitioned? Or would you come up with wording?

DR. TUCKER: Remember for anything that's petitioned it would go through a proposed rule process. The proposed rule would have the specific language that would be proposed for addition to the National List.

Then that would be opened for public comment meaning that they could also comment on that particular language.

So it depends a little bit in this discussion on how specific you want to signal the program to make the proposed rule or whether

you're kind of leaving it to us to pull out of the petition for the proposed rule what you want in it. I would personally vote for more specificity myself.

MR. BRADMAN: Okay. Dan and then Tom.

DR. SEITZ: I like the greater specificity here. I think the shorthand in the wording reflects what the petition says.

As petitioned means you have to go find the petition. People won't always necessarily even easily find the thing that is being referenced.

And also if we don't have anything like as petitioned or our shorthand understanding of that as expressed in this wording then we potentially leave this open for uses that this group had never even had a chance to really discuss.

MR. BRADMAN: Tom.

MR. CHAPMAN: I think the answer to the question that Harriet posed, they wouldn't put as petitioned on the National List. They

would just put collagen gel. And so it is what Dan says, it's that last point, that it would just be on 606 as collagen gel like the other thousands and thousands of materials that appear on the National List without an annotation.

Dan's point is the accurate one that without the annotation then it's potentially open to all uses. This annotation limits it to meat.

I don't particularly have a problem with that. I have a problem with us not opening it up to the public.

MR. BRADMAN: Emily.

MS. OAKLEY: But do you think the public understood from the petition and from the proposal that that was the intended use?

MR. CHAPMAN: That was clearly the majority of the reason why this -- that was the reason why this item was petitioned by Devro and that's how it's used I think in this application that we reviewed.

It doesn't mean that's the only application. There are dozens and dozens of

examples of items that get petitioned to the National List by a single interested party that once it's on that list can be used in other applications.

So someone who petitions for citric acid might be using it for acidification, and the next person might use it for -- ascorbic acid, might use it for acidification. The next person might use it for fortification. And we may have looked at primarily on the acidification route, not fortification. But if it's okay for use, it's okay for use unless we as a board thought about it and wanted to restrict it to a certain item.

But that thinking about it and wanting to restrict it, that should be part of the public process.

DR. LEWIS: Tom, based on your review of the public comments that have come in was there an understanding in terms of this description here?

MR. CHAPMAN: The conversation was all

about meat. So yes, in that sense it's all about meat.

But that also wasn't open to have a conversation about other applicable uses. So you know, it's like in the absence of bringing something up was it discussed. I don't know. I don't know if the public had an opportunity to look at it in other contexts because they didn't know we were going to propose restricting it to just meat.

MR. BRADMAN: Emily, then Harriet.

MS. OAKLEY: I think that because the motion was as petitioned they would then go back to the petition and they would see the reasons and the uses that Clarissa just read which clearly states that limitation.

So I don't think that there was any confusion in the public comments as to other wider uses that this might be allowed for.

MR. CHAPMAN: But I disagree with that. As petitioned, it was petitioned for a straight usage. It was not petitioned for that.

That was an intended use for this petitioner. That's not how they petitioned the item.

MR. BRADMAN: Harriet.

CHAIR BEHAR: Well, I'm not sure that I necessarily agree with that. I think that's what they wanted this to be used for. And this is all we discussed it for.

So I guess I would feel better if we were going to just add collagen gel, if that's what we wanted to do, I feel like it should go back to subcommittee and we should look at other uses.

Because this is what we looked at. This is all we discussed for it. We didn't look at it for other uses. So I'm uncomfortable just putting it on the National List for possible other uses. This is what we discussed.

So if we want to send it back and have it open to the public again for possible other uses.

And I disagree. On other products we do know what the various uses of it. So citric

acid, we know the many uses of it before we had decided to put it on the National List.

MR. BRADMAN: Tom.

MR. CHAPMAN: I mean, if that's the case why do we get public comment every sunset round about how we added an item and didn't think about other uses for it.

We talk about firming agents for tofu that can be used in other applications and we get asked why we didn't restrict it further. This is numerous, numerous times this has come up again and again.

MR. BRADMAN: So, I guess I want to see a way forward here. Steve, why don't you -- you have your comment. Let's talk about a way forward.

MR. ELA: So Tom, I agree with what you're saying as a point of process in general. I 100 percent agree. I feel like I'm comfortable with this because this is as it was petitioned, as it was described in the petition, but I think in the future your point is I think we as

subcommittees need to be very clear as we put things forward for discussion to avoid this kind of error. We're bogged down.

My personal feeling is that we should vote on it. People can vote their conscience either way and that's how we move forward.

MR. BRADMAN: So I just want to say too I think process is important and the issues that Tom is raising is important.

If we vote on it as it's written here which I think does reflect the petition use it doesn't preclude someone in the future petitioning for another use. And maybe we can deal with that at that time.

Given our workload, our time today, our time going forward I think -- I do see as a way forward to perhaps deal with the narrowing here. But I think your points are well taken and going forward we should think about that. Tom.

MR. CHAPMAN: For the most part it's a question of process for me. I mean, like I said I could be perfectly fine with this. I just

don't think we gave people the opportunity for it.

The one inconsistency I would want to put out, the one that I would want input from the public from is when we look at the casings listing which was very similar product from similar origins we don't have the similar restriction on it. So why would we restrict it on this material and not on the casings material.

MR. BRADMAN: Harriet, then Emily.

CHAIR BEHAR: So I think we need to be clear. I really don't like the word as petitioned. Because this could be what the NOP had come up with as an annotation if they would have looked at it. We don't know. So that's what I'm -- I really want to remove the as petitioned word for what we're passing so we're really clear about what we -- and for me I feel like this is all we really talked about.

MR. CHAPMAN: Can I ask a question then? Would you support an amendment that just strikes the words as petitioned?

CHAIR BEHAR: I'm a little bit uncomfortable because we never talked about other uses. But you're correct that that's all that's been asked for at this time.

Maybe at sunset the next time we can look at it again and see if there's been other uses or not that we don't like.

MR. CHAPMAN: But you can't look at it at sunset because you don't review annotations at sunset. So once we list it that's how it is. And there's not going to be other uses in organic production because we're restricting it here.

MR. BRADMAN: Unless it was re-petitioned.

MR. CHAPMAN: Unless it was re-petitioned.

MR. BRADMAN: Emily.

DR. LEWIS: So, a couple of things here. What we're doing -- I appreciate, Tom, what you're bringing up in terms of did the public have an opportunity to kind of be aware of the scope.

I think also what is happening here, and again we always like to have clarity to help us, the program, with the work.

If we're now going to be looking at the motions in the future instead of using the word as petitioned if we're going to be providing greater clarity that's a whole new precedent in terms of how the board is going to be doing some of its work.

So, I want you to be thinking about it. We might want to also pause in terms of this action if we can at least kind of caucus during a break and talk about how best we want to pursue that and then come back and discuss this further.

MR. BRADMAN: I think I'll defer to the chair on that decision.

CHAIR BEHAR: I think maybe we could put it to later on today and come back to it.

MR. CHAPMAN: I move to table this to deferred items.

CHAIR BEHAR: I'll second.

MR. BRADMAN: Do we need to vote on

that?

MR. CHAPMAN: Or you could ask for acclimation. You can ask for unanimous consent. Does anyone object via unanimous consent?

MR. BRADMAN: Does anyone object to deferring -- just to defer discussion on this? No objections.

So I think that then moves us into the sunset review discussions. Are those up on the screen? Yes, okay.

So we're going to start with citric acid. And I think Lisa, you're on tap for that.

MS. DE LIMA: So citric acid is produced through a fermentation --

MR. BRADMAN: Am I missing something, Harriet? No, okay. You're on.

CHAIR BEHAR: Should we take a break before we start the sunsets? I'm seeing some yeses. Okay. So it is 10:25. Let's do a 10-minute. We're back at 10:35.

(Whereupon, the above-entitled matter went off the record at 10:26 a.m. and resumed at

10:47 a.m.)

CHAIR BEHAR: Okay, I'm going to call on Jenny Tucker.

DR. TUCKER: Welcome back, everybody. A quick statement on the discussion which I thought was fruitful right before the break.

I wanted to just on a broader scale talk about just briefly substantive changes. And so the public comment process to board proposals and discussion comments is very important in informing how the board votes at this meeting.

If the comments or if the board discussion ends up yielding some kind of proposed modification to a listing that would change how the public would have commented on it that's considered a substantive change.

So what we have to weigh is, okay, here's what the public got to look at. Here's what the board is now thinking based on what the public looked at.

If that change is substantive meaning it might have led to different comments or

constrains the public in some way that the public didn't have an opportunity to comment on that would be considered a substantive change and we would send it generally back to subcommittee.

So while non-substantive changes can happen in this setting substantive changes that the public didn't have a chance to weigh in on would be problematic.

We haven't had that kind of refresher on what substantive change means in a little bit so I thought it was worthwhile to open this session with that.

CHAIR BEHAR: Okay, we're back to Asa and the sunset materials.

MR. BRADMAN: Okay. So, and that puts us then back with Lisa and citric acid.

MS. DE LIMA: So, citric acid is produced through fermentation and is widely used in food processing.

According to public comment we got this first round it's used to control pH as an acidulant, a buffer used in gel formation, it's

used to stabilize colors as an ingredient in dietary supplements.

In the organic produce sector it's widely used in the formulation of disinfectants and sanitizers, allowed for use in direct contact with organic food without the need to rinse which is a practice that's essential for complying with FSMA requirements.

It's also used for controlling pH in wash water used for post-harvest handling of fresh fruits and vegetables. And neutralizing the pH of wash water further reduces the amount of chlorine that needs to be added to the water in order to achieve the desired levels of free chlorine.

So two commenters believed that citric acid should be classified as synthetic unless it's possible to define non-synthetic citric acid by annotation. And no new information was brought forward in terms of harm to human health or the environment.

The rest of public comment was

overwhelmingly supportive. Questions or discussion?

MR. BRADMAN: No discussion? Okay. I guess then we can move on to lactic acid which is also in your court.

MS. DE LIMA: So, lactic acid originally isolated from sour milk. Lactic acid today is produced through carbohydrate fermentation.

Uses from public comment included as an acidulant, flavor enhancer, buffer, coagulating agent, pH control agent, carcass wash and as a processing aid in conjunction with celery powder.

In the organic produce sector it's widely used in the formulation similar to citric acid, formulation of disinfectants and sanitizers allowed for use in direct contact with organic food without a need for rinse.

And same concern from two commenters that believed that lactic acid should be classified as synthetic. And no new information

was brought forward in terms of human health or environmental concerns.

MR. BRADMAN: Any comments? Harriet.

CHAIR BEHAR: I guess just -- I've seen this used as a wash on meat products to mitigate E. coli. I think there's some inconsistency and somebody brought this up in public comment with sanitizers that if the use of that product makes it not 100 percent organic any longer.

And I think some are saying yes and some are saying no. So I'm just putting it out there that there's an issue with the 100 percent label and the use.

It doesn't affect re-listing this product, but I just wanted to have it on the record.

MR. BRADMAN: Emily.

MS. OAKLEY: Isn't that a question for the program then in terms of helping certifiers get clarity on how to interpret that?

DR. LEWIS: I think it's fine the way

it's moving forward. It's fine the way it's moving forward. No further comment on that.

CHAIR BEHAR: No comment from the program.

DR. LEWIS: It's fine the way it's moving forward.

MR. BRADMAN: Any other comments from the board? No? Okay. I think then we can move on to calcium chloride which, Tom, is in your court.

MR. CHAPMAN: So calcium chloride is used in a wide variety of food processing applications. And the ones that we knew of going into this was use as a firming agent in tofu, cut fruit and canning applications, as a sodium replacement to adjust mineral content in water for brewing applications as well as a nutritional electrolyte application.

In addition to that we received public comment from trade associations, certifiers and manufacturers who use this substance who also noted its use as a buffering agent in fruit

preps, in cheese-making, in olive packing, in dairy analogs, as a disinfectant when used in conjunction with chloride to mitigate effects on plant tissues from chlorine or chlorides, and then also as a tool in mitigating acrylamide in I'm assuming baked applications.

We did receive a comment questioning the purity of calcium chloride given that the -- what the commenter said was 6 percent impurities are allowed in food grade materials that they researched.

I pulled up the USP FCC monograph for this or what I could find of the monograph. It's actually up to 7 percent impurities.

However, the commenter didn't provide any context for why 6 percent was considered an inappropriate level of impurities. And given that the FCC has a monograph that sets it actually at 7 percent it's a strange range of 93 to 100.5 percent. So I don't know how you get to 105 percent. I imagine that's a testing thing.

But that was the totality of the

public comment. I didn't really hear much in terms of requests to remove this item, just really investigating what was meant by those impurities.

MR. BRADMAN: Any discussion on calcium chloride? Harriet.

CHAIR BEHAR: It's used heavily in the cheese industry.

MR. CHAPMAN: Yes, I mentioned cheese. Yes.

MR. BRADMAN: Any other comments? I think then we can move on to dairy cultures. And Steve, I think you're onboard for that.

MR. ELA: I think Tom was going to do it he said.

Dairy cultures, pretty universal, used a lot. Most of the public comments supported re-listing. It's pretty straightforward.

There was one comment that dairy cultures especially as a liquid product might contain preservatives such as sodium benzoate that should be reviewed as ancillary substances.

That was something to pay attention to.

And also the Food Additives Council submitted a number of ancillary substances that should be added to the list that I showed in the document and for the fall I will merge those in so that that includes the public comments that were given to us.

Otherwise pretty much universal support.

One of the questions that keeps coming up is whether dairy culture listing is redundant, whether it should be combined with the microorganism listing.

Again, all the comments at this point said yes, they really are kind of one and the same. The ancillary substances are the same.

I think Stonyfield noted that during previous comment periods we've urged the NOSB to retain dairy cultures as a separate listing. This was in large part because at the time the NOSB was just beginning to have a more thorough review of ancillary substances and we had some

questions about whether this would affect the listing for dairy cultures.

We can now see that the discussion document for the two materials are the same and the ancillary substances are the same and that they would support -- now that there's more clarity on that point they would not object to combining the two listings.

So, and if you'll notice the writeups are very similar. So with that I think that is a very quick review of dairy cultures. Questions?

MR. BRADMAN: Lisa.

MS. DE LIMA: Just want to point out that Organic Valley did -- wasn't in agreement, but they didn't give a reason why. They said retain them separately, but there was no reason so we'd have to maybe just look into that as a subcommittee.

MR. ELA: Thanks.

MR. BRADMAN: Harriet.

CHAIR BEHAR: This material has been on the National List since the very beginning.

And so that's probably why there's a little bit of concern between manufacturers of -- because when it was put on it didn't go through the same vetting that it does now.

MR. BRADMAN: Any other comments from the board? I think we can move on to enzymes.

MR. ELA: Okay. Let me find my notes here. All right. Similarly enzymes are widely used. Most of the comments support re-listing.

However, there was one comment that the review of enzymes as a class even with a few specific representatives is insufficient to address classification and all the OFPA criteria.

The classification of all commercial enzymes as non-synthetic is questionable given that the TR notes that chemical changes involving reactions with synthetic chemicals are sometimes involved in the manufacture, extraction, or purification.

So the comment was enzymes should be classified as synthetic unless annotated to define those that have not undergone synthetic

changes.

Other comments, again, ancillary substances. The Food Additives Council did provide a few other ancillary substances to add which just like in dairy cultures I will add in for the fall review. Otherwise fairly straightforward although I guess the question of synthetic/non-synthetic is a big one but that it's annotated as it is now and we would have to add that as a separate work agenda item to separate all those things out.

MR. BRADMAN: Harriet.

CHAIR BEHAR: As with dairy cultures and microorganisms as well the certifiers do review that they are not from the product of genetic engineering. Just so people know.

MR. BRADMAN: Any other comments from the board? Okay, I think then we can move onto L-Malic acid with Scott.

MR. RICE: Thanks. L-Malic acid at 205.605. There are two forms of Malic acid, D-Malic and L-Malic. D-Malic acid is not approved

on the National List because a non-synthetic viable alternative is not available.

L-Malic is used as a flavor enhancer, flavoring agent and adjuvant and is a pH control agent in a variety of foods to inhibit bacterial growth.

Its natural form occurs in fruit such as apples and cherries produced by the fermentation of fumaric acid. Fumaric acid can be produced by fermentation from glucose.

We did get a significant comment on this. I should first add we do have an updated TR that's been received. That was received on March 20th and we've not had an opportunity to review that. We'll certainly be doing that as part of the process before fall.

And a number of certifiers noted this on OSPs, their certified operations, several certifiers encouraged the NOSB to consider reclassifying as synthetic and moving it to 605(b) noting that while there have been non-synthetic versions available in the past it's

unlikely that there are commercially available non-synthetic sources of this material now.

Most if not all of those commercially available sources are produced with petroleum as the starting material. And even when supporting documentation for L-Malic has stated produced naturally via enzymatic fermentation certifiers have seen that that refers to only the second half of the process.

Applying the materials guidance to the full production would result in classifying it as a synthetic.

In the short term certifiers noted that they have been verifying for L-Malic acid looking at the big three compliance, that it is L-Malic acid and not DL or D and that it is the form with the same CAS number as identified on the National List.

A couple of organizations oppose re-listing because the principal document initially supporting is a TAP of DL-Malic, the synthetic form. But again we've got an updated TR that

we'll be reviewing as part of the sunset review of this.

Any questions?

MR. BRADMAN: Any comments from the board? Harriet.

CHAIR BEHAR: Will the Handling Subcommittee be looking to put this on their work agenda to see about moving it to a different -- has there been any discussion?

MR. RICE: I don't think we've had to my recollection discussion on that particularly yet, but we will be reviewing the TR so I'm sure that would be something that we'd consider.

MR. BRADMAN: I think we can move onto magnesium sulfate also in Scott's court.

MR. RICE: Thank you. Magnesium sulfate has a wide variety of uses in food processing and personal care products, used as a firming agent in the production of tofu, sometimes combined with other coagulators in the production of tofu.

It is manufactured from several

mineral forms recovered from the ground generally found in nature in the hydrated form. Excuse me, I have my notes in two places here.

This is another that we've got a new TR that was received in April. We seem to have all the new TRs landing on these. And that review will be forthcoming.

There were a few certifiers reporting and others reporting this material in their system plans.

Two companies weighed in on the importance of it to their operations. One organization noted that the material should be reclassified as synthetic as the last TR indicated the purification and dehydration processes deem it synthetic.

So again, to Harriet's question before I think we would be certainly looking at topics like that as we dive into the TR that we've just received.

MR. BRADMAN: Any comments from the board? I think we can then move onto

microorganisms and Steve, that's in your court.

MR. ELA: I get all the little bugs this time. Incorrect use of bugs but anyhow.

So microorganisms, again similar to dairy cultures. Broader class. One public comment that we need a clear definition of the term microorganism. The definition is critical for microorganisms in use currently and can be used to determine whether additional organisms such as unicellular algae should be considered microorganisms. So obviously microorganisms is a very broad class.

There are also some lack of clarity perhaps of whether other products that are made from microorganisms or with the assistance of microorganisms, and we certainly -- I guess fermentation is mostly yeast, but it's not clear whether the listing is intended to cover them.

These include nutritional uses, spirulina, both cultural microorganisms that are no longer living. So just trying to tighten up that listing a little bit perhaps.

And then if the listing is intended to cover the group of killed microbial products then the evaluation should include algae as well as other organisms addressed in the TR.

Otherwise pretty broad support. Again the ancillary substances that I mentioned as part of dairy cultures are the same for microorganisms and I'll add that into the chart for microorganisms.

Otherwise widely used, broad support, but just with a few details in exactly what we mean by them.

MR. BRADMAN: Any comments from the board on microorganisms?

MR. ELA: Can I ask a question? This is not my particular specialty and I guess I'd look -- as we take this back to subcommittee are those comments about the needing to define microorganisms a little more, how far down that path do we want to go? I guess I'd appreciate feedback from the broader board besides just the subcommittee. Anybody have any thoughts on that?

Fair enough.

MR. MORTENSEN: Steve, I just had a thought that I was pondering when I was reading this the other night. Certainly there are all sorts of cultures where transformed organisms are being used in a variety of many different ways, not necessarily in organic. I'm not saying that.

I just wonder if there needs to be greater specificity with respect to excluded means by which a microbial community that's in a culture has come about. Is that something that was discussed or should be?

MR. ELA: It was not discussed in public comments. I mean, the de facto is it's organic. It's used in organic production systems so no, it can't be. And I would hope -- I mean I guess I would leave that to the certifiers' response on that of probably checking for that.

When I hear from the board there's not a lot of stomach for this in defining things more carefully, I mean that's another work agenda item as well. We'll probably kind of go forward as is

unless anybody sees any major problems with that.

MR. BRADMAN: Emily.

MS. OAKLEY: I really feel like not being on the Handling Subcommittee it's hard for me to comment because I'm not doing that work. So I feel like it in large measure is something that that subcommittee has to determine.

MR. BRADMAN: Rick.

MR. GREENWOOD: I think it probably is worth taking a look because of the things that are in that. I notice there's bacteriophage in there and there's other kinds of microorganisms.

So it's probably worth some discussion time just to see if we need to go forward and clarify it.

MR. BRADMAN: Tom.

MR. CHAPMAN: I think it's important to note that there's an annotation on this item that requires food grade so just keep that in mind.

And then in regards to Dave's question I was wondering if the certifier on the board

could clarify how certifiers go about dealing with that question.

MR. RICE: Yes, that would be with as we noted earlier affidavits of clarifying that it's non-GMO sourced.

MR. CHAPMAN: So there's a global prohibition on that through the excluded methods big three prohibition and that applies to the microorganisms listing.

MR. RICE: Yes.

MR. BRADMAN: I have a question on this. The role of ancillary materials and for example, there's sodium benzoate and sodium aspertate.

I'm not sure how to think about the ancillary materials here and whether or not they're present. That's something I know I would like to -- at least I need to get more educated about these issues.

MR. ELA: My understanding -- Tom, do you want to answer that before I dive in and make a fool of myself?

MR. CHAPMAN: I'd love to see what your understanding is and if it aligns with mine.

The last -- where I left it, this came up, this was under while I was chair of the board and the program was under different management so I don't know if anything has changed about that time.

We have a proposal out there on how to handle ancillary substances, but the NOP has not acted yet on that.

We didn't particularly want to go through and start making additional recommendations about ancillary substances until we got feedback from the program as to whether or not the methodology we put forward was appropriate.

At the same time we didn't want to not move forward at all either.

So the compromise that was struck is in the interim while we wait for a response from the program we're going to document known ancillary substances.

And there's a way in how we proposed it is how we would potentially prohibit ancillary substances that we did not like. Until we know that the program is onboard with that we weren't going to go through and take any of those actions at this time.

So we're kind of in a wait -- a document and a wait. And as soon as they take action on it then we can go forward with any removals we need to specify.

MR. ELA: That was better worded than what I was going to say, but that was my understanding as well, that it's really a documentation process at this point. And then if there is some movement forward then we have that information and we can go back and pull things out. But right now there's no action on them per se except to note that they're there.

MR. BRADMAN: Harriet, and then Emily, and then maybe the program could comment on that too.

CHAIR BEHAR: So, part of this when it

came forward was at least now we have a listing of the ancillaries so that it's a little clearer to the certifiers that not only did we approve kind of a generic, but we are aware of what's in there. So when we are voting that we are voting for all.

But there is a process for some evaluation of the ancillaries. But that hasn't moved forward.

But at least at this point -- because some certifiers might say sodium benzoate, we're not going to allow that microorganism and another one would. So we were trying to have that -- bring some consistency.

MR. BRADMAN: I think Emily and then Lisa, did you want to say something? Okay, Emily.

MS. OAKLEY: You did read my mind though because I don't know if I raised my hand but you read my mind.

I just think that this points to the problem of not having NOSB recommendations passed

in such a wide range of areas. And I would just be remiss if I didn't state that because we spend so much time doing the work.

And this board and this whole label cannot be subject to changes in policies and preferences. And we need to have a uniform application of how these standards are vetted through the government and then through rulemaking and applied. So I just felt the need to say that.

MR. BRADMAN: Would the program care to respond to any of those comments?

DR. LEWIS: In terms of ancillary substances, yes, we're aware in terms of the recommendation that had come forward. We're studying it right now.

I think what Tom kind of addressed in terms of moving forward is continue that process at this time.

I'm not sure if, Clarissa, you want to add anything to this.

DR. MATHEWS: Sure. I think the

program continues to support the information gathering and documentation that's being done, but we would just remind the board that you're obliged to review generic materials at this point.

And we do rely on certifying agents that would be responsible for reviewing ancillary substances.

MR. BRADMAN: Any more discussion?

DR. LEWIS: Just a question again, Asa. We kind of went back to the original point, it's about the issue of other microorganisms.

So, just to make sure I'm hearing correctly it's that there isn't any further discussion on other organisms.

MR. ELA: I mean, I think we'll bring it up in subcommittee. I just was wanting to see if the broader board had any input before we discussed it.

I mean, the listing is at is now. That is the sunset review. Public comment asked us to clarify that a little bit, but to me that

would be an additional work agenda item --

DR. LEWIS: That's correct.

MR. ELA: -- that's not part of the sunset. But I guess in the committee we can decide if we want to go down that path or not. That's why I wanted to hear from the full board if there was any burning desire to do that.

I think we're cautious with our work agenda items. We have plenty to do. But we also want to respect public comment and take things into account. So we'll talk about it at the Handling Committee.

MR. BRADMAN: Okay, I think we're done with the discussion on microorganisms. The next material we have is perlite. And let me check my notes here. I think, Scott, that's in your court.

MR. RICE: It is. Perlite for use only as a filter aid in food processing. Perlite is used as a filtrate in food processing such as filtration of juices, beer, wine and vegetable oils.

It's an amorphous volcanic glass naturally occurring and sourced primarily in the U.S., Greece, Turkey and China. The high water content causes it to expand many times its original volume when exposed to high temperatures.

It is listed widely in international regulations. It's been consistently supported by NOSB and stakeholders. There's been some concern with the potential human health hazard of inhalation of fine silica dust when using this material, but personal protective equipment such as dust masks can minimize that.

And a number of certifiers noted the use of this product by their operations and other commenters from the community supporting the re-listing of it. So broad support.

MR. BRADMAN: Harriet.

CHAIR BEHAR: I don't believe there are, but are there any ancillary ingredients?

MR. RICE: I don't believe so and none were noted.

MR. BRADMAN: Any other comments related to this material? Okay, I think we can move on then to potassium iodide in Tom's court.

MR. CHAPMAN: Potassium iodide is used as a form of iodine in trace mineral supplements. FDA allows its use as a food additive in three different ways, as a nutrient in table salt for iodine, as a dietary supplement for human consumption and as a sanitizing agent in food processing equipment.

We received public comment on this mostly around its use in infant formula or as a dietary supplement in it looked like gummy candies.

And we asked a question given its use as a nutrient if it was being used to sanitize. I did not see comments speaking to its use as a sanitizer in particular.

We also asked if its listing was redundant with the broader listing of nutrient vitamins and minerals and we did receive a comment back from that directly from a certifier

saying yes, they did see it as redundant.

Although in general related to our nutrient vitamins and minerals listing we received several comments asking for individual listings, not for a global listing, so you can take that as I guess people opposing removing this in the form of just lumping it under nutrient vitamins and minerals.

We also received a comment that it should be annotated to state as a source of iodine when required by law.

MR. BRADMAN: Any comments on this material? No? Okay. We can then move onto yeast. And that is in Steve's court.

MR. ELA: Yeast, one of my favorite -- well, yeast makes lots of great things. Again, widely supported, widely used.

One of the questions was whether there is sufficient supply of organic yeast so that we don't need to continue this listing. And it was noted that organic yeasts are available but not always in the quantity needed and the quality can

vary, and that in certain -- in a number of uses organic yeasts have not yet met the functional qualities for specific flavors needed. So there are certainly organic yeasts available, but the question of quality, quantity and specific uses is still somewhat open. So there was argument for the continued listing of this at this point even though that marketplace may be slowly changing.

Again, ancillary substances. Yeast is produced by fermentation. It's separated by physical methods from the culture. It meets the OFPA requirements but there are many ancillary substances that have not been reviewed some of which may be problematic.

And I may have missed but I don't see any actual substances listed in the public comments. I need to go back and double-check that I didn't overlook something on that. But if there were I'll get those added in to what we already have. But otherwise again very critical to the handling community.

MR. BRADMAN: Any comments on yeast? Dave.

MR. MORTENSEN: Steve, this is a case where I was wondering about microorganisms and then we have a class, one genus in its own category.

And so -- and I guess this is actually a genus that I know whether or not it's used in organic, but I actually have heard rumors so I'll just say it's a rumor. I haven't studied it to substantiate it that there are many transformed cell culture lines of yeast that are used in cheese-making and other uses.

So I mainly just raise the question what's the logic from a structural organizational approach to having microorganisms writ large and yeast as its own category as opposed to a category that is microorganisms that are broken into subgroups or something which would make more sense to me.

MR. ELA: That's a great question. I personally can't speak to knowledge of that since

this is a listing I've taken over. I'm assuming -- if there's other people that know. I'm going to guess that this was how they were petitioned or added to the list, probably added to the list originally and that's how they were broken up and so we have those remnant classifications.

I think there was more -- I mean there certainly was more comment and questions on the organic availability around yeast than some of the other microorganisms. So maybe by breaking them up it could in the future mean we could remove a class from allowed substances that aren't organic to it's available, we need to use the organic forms.

Whereas if we lump them all together that becomes a little bit more problematic. But I'm open to the program or anybody else giving insight on that because that's --

MR. MORTENSEN: Just to respond to Steve's -- it seems to me just organizationally and I don't know, as far as tracking things, which are the organisms that we're looking at for

different uses in different food cultures and such that it would make sense to me that it might be time to rethink how we're doing that and put them into a broad category with subsections or have two or three classes that we follow.

I actually think that the issue of purity of some of these will become increasingly challenging to track with all the advent of fermentation and other changes to organisms. That's in the works. So it might be a time to revisit how we follow this.

DR. LEWIS: I think in this case it's similar to the conversation before about other microorganisms and is this something that requires further discussion. Thinking about the subcommittee, I think it's appropriate for a work agenda item.

I mean, again we kind of spoke about it in terms of the long list of activities that you have to work on and is it something that you want to be thinking about. So kind of move forward in that way.

MR. ELA: Do you have something, Harriet?

CHAIR BEHAR: Just for the members of the NOSB that have not attended many meetings yeast was the central focus of many meetings as reflected in this very long annotation, the deep conversations we've had over yeast over the years.

But not as deep on microorganisms or others.

MR. BRADMAN: Emily.

MS. OAKLEY: Yes, I was just going to say that this might be a good topic for Dave to take on, the work agenda item request that was made by one of the public stakeholders about products of fermentation. And since you're in the Materials Subcommittee it would just be a natural fit.

So we can discuss that on our next call too.

MR. ELA: Okay. And I guess Scott, do you have any -- from a certifier's standpoint any

perspective on -- I mean Dave keeps raising -- I mean, we know the GMO issue but as we -- certainly I mean we've talked about vaccines and there are more and more.

This is becoming a regularly used tool, manipulation for a lot of these microorganisms. I mean I know you had asked about that, but is there anything we as a board need to do to help narrow that -- not put all the burden on you guys?

MR. RICE: Well, I think as you look with excluded methods definitions and things evolve I think we've been keeping that document current.

But beyond verification I can't think of an active role.

MR. BRADMAN: Any other comments? I think we can then move on then. The next material is alginic acid and Lisa, that's in your court.

MS. DE LIMA: Yes. Alginic acid is derived from brown cold water seaweeds. It's

manufactured through a chemical separation process.

FDA allowed uses include as an emulsifier, formulation aid, stabilizer and thickener. And its use is limited to soups and soup mixes.

We received no public comment from manufacturers using alginic acid and there were no reports from certifiers of it being included on any OSPs in the written comment.

One interest group asked that the listing be reviewed within the broader context of marine materials and to consider adding an annotation related to harvest, and also risk-based testing for toxic materials.

I'll say in response to that public comment the TR reported no residues of heavy metals in excess of FDA tolerances.

Another commenter thought alginic acid should be de-listed due to lack of essentiality and environmental impacts from the seaweed cultivation.

In regards to the seaweed harvesting the TR reported that the majority of brown seaweed species harvested for production of alginic acid are wild harvested.

But then it did go on to say that in countries like China and Japan large-scale production could affect coastal waterways.

So I just want to take this chance to encourage the community to get the word out and if there's folks out there that are using alginic acid that they submit comment to us before the fall meeting. That would be very helpful.

The TR did point out possible alternatives like agar agar, carrageenan, gellan gum and xanthan gum. So again it would be helpful to hear if and why alginic acid is a preferred material.

MR. BRADMAN: Emily.

MS. OAKLEY: In the absence of public comments if you don't get any this fall do you have a sense of where you may be going with a recommendation for this material?

MS. DE LIMA: No. We haven't really talked about it and I just got this material like a week ago. This was one of Eric's so I'm still learning.

MR. BRADMAN: I think we can move on. But I look forward to discussing this in terms of marine materials and ecosystem impacts. I think that's going to be an important piece of this.

I suspect the volume of material used is less, say, than for fertilizer or other inputs.

So that moves us to activated charcoal. And Scott's on that. Thank you.

MR. RICE: Yes. Activated charcoal only from vegetative sources and for use only as a filtering aid.

This is used in processing as mechanical filtration involving the separation of suspended solids from a liquid as it passes through a carbon porous media in a column or bed. Used to remove odor and used for purification in water and food.

And has a very large surface area and pore volume that gives it that unique absorption capacity.

Of vegetative origin. It could be made from a large variety of resources, hardwoods, grain holes, corn cobs, nut shells.

It goes through pyrolysis at a very high heat. They may be chemically activated using a variety of acids and bases including acetic acid, potassium hydroxide, sodium hydroxide as possible bases.

May also be activated through exposure to oxygenated gas or steam.

It is allowed across a number of international regulations.

A number of certifiers noted this appearing on numerous organic system plans. Trade organizations and individual companies commented in support of re-listing this material.

One organization wrote wishing to see its use limited to filtration of water and requiring that activation to steam activation.

Another in view of large -- the handful of number of chemicals used to activate or reactivate it, one of the TAP reviews suggested the annotation must meet food chemicals Codex purity requirements and manufactured from ag products by steam activation.

And another comment supporting its use solely as a water filtering aid.

But in wide use at this time and supported across the community with the exception of those comments I noted.

MR. BRADMAN: Any comments on activated charcoal? No? Okay, I think we can move on then to ascorbic acid which I believe is also in your court.

MR. RICE: Me again. One moment. Ascorbic acid, used as a dietary supplement and nutrient, flavor ingredient, used in meat and meat containing products, curating and pickling in flour to improve baking quality, as an antioxidant in fats and oils and a wide variety of other food processing uses.

One of the most common sources of vitamin C.

The majority of industrial production of ascorbic acid is synthesized. Modern production processes use fermentation with additional biooxidation steps adding a biocatalyst which eliminates the need for the chemical steps.

Synthetic ascorbic acid is identical in molecular structure and function to the natural.

This is a vital nutrient necessary for humans and other primates. Humans cannot synthesize vitamin C and must rely on dietary intake. It is added to many foods to restore vitamin C lost during processing. Some FDA regulations require vitamin C fortification often achieved with the use of ascorbic acid.

This was also one I picked up so my organization of it was a little bit different.

A number of certifiers noted the presence of this material on OSPs. Manufacturers

noted its necessity in the organic product developer's toolbox of available food acids.

One organization commented against its re-listing noting its used to fortify products to original pre-processing vitamin C levels noting it is a synthetic antioxidant preservative and should be removed, but in wide use now and an essential nutrient for human health.

MR. BRADMAN: Any comments on that material? Steve?

MR. ELA: Scott, with your additional information requested about biooxidation as an excluded method. It doesn't sound like you got any comments about that.

But I think -- I mean I keep seeing and we've talked about fermentation in general. And to Dave's recent comments on yeast and the vaccine issue that we've so discussed it seems highly likely that we're going to run into more and more of these fermentation processes that are very likely to use excluded methods.

I don't know how we can -- I don't

want to get backed in the corner like we are with vaccines where suddenly we have to allow this because there is no other choice, but yet given the small size of the organic industry I don't know how we help protect that system that doesn't use excluded methods.

I don't expect you have any particular thoughts, but I just -- it's concerning because I can just see we're going to end up being railroaded into some of these things that we don't really want to be in. And I don't know if there's anything we can do to head them off at the pass.

MR. RICE: Yes, I neglected to note that this also has a TR pending that we received on April 4th. So in addressing that particular question we may get some answers from that.

In terms of your general question I think we'd like to be proactive and I think that our excluded methods work has helped in identifying those things. And I would say if that TR that's yet to be reviewed indicates

something that needs to be on our radar then that doesn't perhaps put us in a proactive position, but at least puts it on our radar as something to address. So no magic answer there.

MR. BRADMAN: Steve.

MR. ELA: Well, and I guess I hope that from the business community, and I think this comes back to I mean if we're talking about collagen and opportunities for businesses it would be as some of these things move to excluded methods.

I mean obviously we can do it without them. It may not be as efficient. But I would hope that there are small businesses out there, whatever, that pick that up and say no, the big manufacturers might not be able to do it but we're going to provide a niche market. They know the processes are big and scalable and expensive, but I hope people pay attention to those opportunities in the organic community.

MR. BRADMAN: Sue.

MS. BAIRD: Yes, I think this is akin

as we did the livestock vitamins they noted in the TR that vitamin C was one of those vitamins that was commonly produced using genetic modified -- genetic engineering. So I think we may see the same thing in the human vitamins. They're all vitamins.

MR. BRADMAN: Paul.

DR. LEWIS: So this kind of brings up the issue, talking about yeast, ascorbic acid, vitamins and others. So it may be something to think about for the NOSB is that some of these materials that are important for organic production and the production of those materials that are using excluded methods and how best you want to kind of balance that and commercial availability of non.

So it's something we can be talking about with you in terms of how you want to be thinking about that in the future.

MR. BRADMAN: Any more comments on this material?

MR. MORTENSEN: I know we're running

long here. It seems to me that this would be an interesting case at some point to get some feedback from folks in terms of how retooled would you have to get in a synthesis chain to have two fermentation vessels.

So it seems to me that the cultures of the organisms that we're using and then the whole production line is going to have to -- if it was going to be something that we were going to try to segment it would be interesting just to understand how -- what that looks like if we wanted to encourage that. So it's just a thought.

I like what Steve is saying. I think it's something we need to unpack a little bit more and understand better as a group. I think it would be helpful.

MR. BRADMAN: Sue.

MS. BAIRD: In my past life as a coordinator of a feed and seed program for Missouri Department of Agriculture it was -- and that's been a lot of years ago. Maybe things

have changed. But most of these vitamins are manufactured overseas in China and those kinds of places and very few sources of them being manufactured.

I think that if we go there we're going to have some real issues being able to source vitamins either for livestock or for humans. And that's been several years ago, but that was back then.

MR. BRADMAN: Harriet.

CHAIR BEHAR: This is just a time check. We are fairly far behind and we do have two speakers that are scheduled to start at 11:45 on biodegradable mulch.

So I think we can maybe do a few more, but we should be aware that we do have two speakers here to present to us.

MR. BRADMAN: Yes. I agree. Emily.

MS. OAKLEY: Why don't we do one more and just in respect of their time schedules move into them.

MR. BRADMAN: That sounds perfect. So

the next material is calcium citrate and Lisa is on deck for that.

MS. DE LIMA: So, calcium citrate is the calcium salt of citric acid. It's prepared by neutralizing citric acid with calcium hydroxide or calcium carbonate and subsequent crystallization.

Public comment was supportive and mentioned uses including fortifying nutritional supplements with calcium. It's also used in fruit fillings to thicken and stabilize gel structures and as a buffer in fruit and flavor preps.

No new information was brought forward in terms of human health or environmental concerns.

MR. BRADMAN: Any comments on that material? I think we can then pause.

CHAIR BEHAR: Well, we can still do another one. We're not quite at time.

MR. BRADMAN: The next one will be easy. Ferrous sulfate is in Tom's court.

MR. CHAPMAN: This one's going to take about 30 minutes.

Ferrous sulfate has an annotation on it for iron enrichment or fortification of foods as required by regulation or recommended in parentheses independent organization.

Ferrous sulfate is commonly added to flours and cereal products to make an optional enriched claim and is often found in baked products or infant snacks. As a father to young children I often found it in those kind of first meal oat, or I guess it's generally oat kind of cereals were fortified with iron.

Its use is pretty much solely as a nutritional additive to address population-based iron deficiency.

We asked the question if it was necessary to continue the listing of this material given the broader nutrient vitamins and minerals listing.

Same comments I said before apply here, that some comments were received supporting

its removal because nutrient vitamins and minerals listing incorporates this as well as other iron-based supplements.

And we also received opposition to the holistic listing of nutrient vitamins and minerals.

Specifically we received comment from industry about its use in infant formulas. And then we also got a comment from an interest group about ferrous sulfate itself and that it's potentially not the best form for iron supplementation and that it should be phased out and we should look for potentially an alternative, or that less processed foods and a whole food diet itself was sufficient to meet the iron deficiencies that are seen in populations.

MR. BRADMAN: I don't know if there's any other questions. Was there any explanation of why this material -- I mean it's true that non-heme sources of iron are not absorbed as well, but any supplement in this form would be a non-heme source.

MR. CHAPMAN: Like why other sources were better? It's not saying why other sources are better, but it's saying ferrous sulfate oxidizes fats and oils in vitamin E in the product which it occurs is to be avoided by using natural whole foods. When absolutely necessary a less destructive chemical should be used. But it doesn't really offer alternatives.

MR. BRADMAN: Okay, thanks. In general I think diet should be the source of people's nutrients, but I think iron supplementation has been valuable from a public health point of view. And the iron deficiency has for example some of the same effects as lead exposure. It affects development in ways that I think we benefit from the supplementation here.

CHAIR BEHAR: Okay.

MR. BRADMAN: Any other comments? It's 11:46. Do we have the speakers here?

CHAIR BEHAR: Yes.

MR. BRADMAN: And are the presentations ready to set up?

CHAIR BEHAR: Yes. So I invite the two speakers up and Steve can start discussing their bios. Steve as the chair of the Crops Subcommittee.

MR. ELA: Just as a little bit of background before I introduce the two speakers we know over the past number of years we've had pretty extensive -- well, I shouldn't say extensive, but considerable public comment on the use of biodegradable mulches.

We had a TR that we reviewed. We've also then in subcommittee in the sunset review process have discussed biodegradable mulches and it keeps coming back to the question of the way they are concurrently listed on the National List of having to essentially be 100 percent biodegradable.

And that question if you look in the biodegradable mulch TR was left open as to what the fate of some of these biodegradable mulches are in the environment.

We've specifically noted there were

several studies going on and that it was important for us to wait until we saw the results of those studies to be able to really assess how the board should proceed with the biodegradable mulch issue.

Since we are meeting in Seattle and much of the research has been done by people out in this area it seemed like a very good opportunity to hear an update on some of this research to help inform the board.

So with that I'd like to welcome our two speakers. Markus Flury is an associate full professor of soil physics and vadose zone hydrology at Washington State University. He's in the Department of Crop and Soil Sciences.

He in his past has been a visiting professor at the Chinese Academy of Science and a post doc at the University of California Riverside.

He received his Ph.D. from the Swiss Federal Institute of Technology in Zurich. It's not often as getting to introduce somebody as a

soil physicist since that's what my own background is in and that he's editor of the Vadose Zone Journal. I'm sure that's something you all read, but yet that is the zone that affects us all.

And so it's a pleasure to have you here, Dr. Flury.

Dr. Ramani Narayan is a university distinguished professor at Michigan State University and that's the highest honor that MSU bestows on a faculty member.

He's an elected fellow of the U.S. National Academy of Inventors and he's earned the Michigan Green Chemistry Governor's Award for developing biodegradable packaging and insulation foams.

He is the scientific chair of the Biodegradable Products Institute and works on ISO, International Standards Organizations committees. And he's a technical advisor to many organizational groups in bioplastics.

He is invited here as well and

hopefully will be able to provide some insight in addition to the current research that's going on.

So I don't know who we'll start off with. I'm assuming Dr. Flury maybe if you're willing we'll start with you. Thank you for taking the time to come and really give us kind of an on the go update of something that we're very curious about.

DR. FLURY: All right, thank you very much for having me here to talk and thank you for the introduction.

And I want to talk to you a little bit about biodegradable plastic mulches because we know that plastic is used in agriculture to a great extent.

Most of the plastic that is used is polyethylene plastic which is not degradable in nature and it causes enormous pollution problems.

So the idea is to replace polyethylene plastic with biodegradable plastic. There are a lot of questions then whether the biodegradable plastic is really useful and suitable for the

replacement of polyethylene.

And so we had a -- SCRI is a USDA grant for four years now that we are looking at the sustainability of biodegradable plastic as a substitute for polyethylene.

And what you see here, and I assume you can see that slide here on that screen here? Okay.

So what you see here is the project team that we have. So it's a large team that comprises of many different scientists. I can advance the slide.

So that research team comprises of soil scientists, plant scientists, material scientists, economists and sociologists. It's a large team where we look at the suitability of biodegradable plastics in agriculture.

And what I want to talk to you about today and this is what you asked me to talk about is about the soil. So I'll talk about the soil ecology, more specifically how does biodegradable plastic affect soil, short-term and long-term.

So what we did in this experiment is we set up two field experiments. One is in Mount Vernon in Washington. For those of you that are not from the state of Washington Mount Vernon is about two hours north of Seattle.

And the other side is in Knoxville, Tennessee. And the idea behind this is that biodegradable degradation of course depends on the locality where you study biodegradation. So it depends whether the climate is warm, whether the climate is cold, depends on the soils.

So we chose two sites. So one is a more cool Mediterranean site in Washington and then more a subtropical warm site in Knoxville in Tennessee. So the idea is to have two different climates to see how degradation really works in these two different locations.

And what I want to show you here is the field site that we have. We have a pair of field sites. So one is in Washington, Mount Vernon. This is the one here in Mount Vernon.

The same one we have in Tennessee as

well.

What you see here is a replicated field trial where we look at different types of biodegradable plastics and then compare this with no plastic, with polyethylene plastic. And here is kind of the aerial view how that looks like.

So it's a replicated site with different types of treatments that we set up.

And we have one treatment that we use is paper because paper is a treatment that we know is degrading very well. Paper is oftentimes used as a standard in tests of biodegradation.

So we see here is the paper is here on the left side and then you see this BDM. So BDM stands for biodegradable mulch, plastic mulch.

So we have four different BDMs. We have a no-mulch treat of five different BDMs, a no-mulch treatment, and then polyethylene which is the current standard that we use.

And so the idea then is to see how do those biodegradable plastics affect plant production, crop yield and horticultural aspect.

And then also particularly how does it affect soil.

And in terms of the soil, and that's what I want to focus here in this presentation, we do very comprehensive assessments of soil health. So we measure soil physical, soil biological, soil chemical properties over time and compare this then to the paper, to the no-mulch and the polyethylene. So this is the idea.

And then we also measure the impact of those biodegradable plastics on soil organisms.

So some of the questions that we are asking is does biodegradable plastic affect soil health. So that's an important question and we don't -- until recently didn't have good answer to that.

Then the second one, does biodegradable plastic degrade completely in soil. So does it completely degrade. And Dr. Ramani will talk a little bit about the degree of degradation in his talk then as well.

And then the third one, are residues

released when biodegradable plastic degrades, when the polymers degrade. So these are some of the questions that we try to answer in our research project.

And I want to talk more about the first one of those. And this is the soil health aspect.

And as I mentioned we measured very comprehensive soil health assessments. And what I want to show you here is just an example. I want to show you two examples. One is the physical parameters, aggregate stability, and the other one is the microbial community structures that are potentially affected by biodegradable mulches.

And what you see here is a graph, and I'll see if I can use the pointer. Yes, I can use the pointer here. You probably can't see the pointer on your slide there.

But you see Knoxville on the left side and Mount Vernon on the right side. And the different colors that you see on that figure are

different types of biodegradable mulches compared with no-mulch and polyethylene which the polyethylene is on the right side on the black bar.

But what you can see here is a change of aggregate stability over time. And you will notice, and I think this is important for that meeting that these data have been assessed from 2015 to 2017. So this is two years of information that we have.

We are 2019 now so we are assessing now the fourth year of those measurements. And we are trying to do that for a longer term. And this is an important question, what are the long-term implications.

But what you can see here for two years, there is very little change of biodegradable plastic compared with polyethylene and those are then compared to the no-mulch. So we see very little effect short-term within two years in terms of aggregate stability. This is the same for other physical parameters as well.

Now, the next slide I want to show you is the microbial communities. And I can show you here two data sets. One is from Tennessee. The other one from Washington. Again, two years of data.

And what you see in those graphs. So these are a little bit complicated to understand, but these are microbial community structure figures. So very typical what microbiologists usually do to classify microbial community structures in soils.

And the different colors, what you see in the different colors are the different seasons. So we have spring 2015 and then all the way to fall 2017.

And the different dots that you see, so these clouds of dots are the different treatments. So different biodegradable plastics, different no-mulches and the polyethylene.

And basically what you can see with a figure like this is that we see very little change of microbial community structures affected

by the treatment of plastics. So whether you have polyethylene, no-mulch, or you have biodegradable plastics. So there is very little change in the community structure.

But you see a lot of change in seasons. So the microbial communities in soils, they change between fall and spring, and they also change over the year. So we see those type of effects, but very little in terms of the biodegradable plastics.

And so the last slide that I have here is kind of summarizing some of those results that we have from our current project.

So first of all we see very similar agronomic benefits. So in terms of crop production the biodegradable mulches behave very similarly to polyethylene. So it's a suitable substitute.

And we see no short-term effects of the mulches on soil health. And I highlight here short-term in red as you can see because the important question is what are the long-term

effects. But short-term, so two years and very likely -- we are analyzing the data now for four years, there will be very little or no effects compared with our polyethylene or to the no-mulch treatments.

Seasonal changes are much more pronounced in effects that we see based on treatments to plastic.

And then the last thing, the fourth point is of course the long-term effects. So we have to be cautious of course because soil health and soil processes are slowly changing with time. So it is possible that things will show up when we do these experiments over longer periods of time.

And then I want to also mention that actually our experiment is one of the only ones that we have now four-year long-term systematic evaluation of those biodegradable mulches and we hope we can continue this for a longer term study. That I think is really needed to look at the long-term effects.

So this is kind of a short summary of our project and I'm happy to answer more specific questions should you have them later on.

MR. ELA: I think like we did with our other panels we'll go ahead and Dr. Narayan can speak and then we'll open it up to discussion so that we can get both their inputs.

DR. NARAYAN: Good afternoon. Let me get the slide up. Okay. So let me start with I think, Harriet, you posed six questions which I thought was perfect because for a professor to say tell us what you do, that would take the entire day and afternoon for you.

And so I decided that I'll use your questions as the framing way in which I will address this presentation.

So the first three questions which you had and which some was addressed was what is the overall effect of soil health, what is the cumulative effect of breakdown, what happens to these breakdown products. Those are the three important questions which you had.

And to answer those I thought I will take the liberty of going back to fundamentals and take you back to school sort of.

So, as the question what does biodegradable really mean. What does everybody really think what biodegradability means.

And in reality you're asking the question can microorganisms present in your disposal system, in this case it is soil, utilize this mulch film, this molecule as food for their life processes. And will they do it completely with no issues which is what was addressed earlier. So that's the fundamental question which we need to answer and evaluate and find out.

Okay. So, here is a schematic. I have polymer molecules. These are carbon chain polymer molecules. I can make this breakdown. If you submit it to the environment, heat, light, they break down.

You can enzymatically break it down. You can oxidate. There are a number of ways in

which I can break it down.

When you break it down you get these fragments, these oligomer polymer fragments. And this is degradation. This is depolymerization, whatever you may call it.

And this is where some of the confusion starts. And this is your question was okay, it breaks down. Is this and that a problem? How do you know this is safe and all that?

But the standard and what you have now in that NOP 1 does not allow you to stop at this stage. So biodegradability will be defined if and only if these fragments are completely utilized by the microorganisms present in soil in this particular case and in a defined time frame.

And this is again the second part of the confusion. And I would like to say that this word biodegradable unfortunately has been the most misused abused term in our whole discussions.

Everything is biodegradable. You are

biodegradable. And so we need to be more careful how we define this and how we use this.

But in your system as you have defined it you are saying that it breaks down but that's not sufficient. Can you document and validate that the microorganisms will completely use these broken down fragments in a time frame and in a way in which I can measure it and quantify it. So that is where the standard which you have put in play in your document.

So let's take this further. What's the fundamental basis. Dig deeper into this.

First part is microorganisms utilize carbon as food. That's what you need to very clearly understand. They don't do it to clean up the environment for us. They don't do it to give us food. They are very selfish. They are going to have their food and thrive and grow. If they can't, they go dormant or they die.

So microorganisms utilize carbon as food. They do so -- remember the large chains. That has to be small molecules and that has to be

transported into the cell.

If that food fragments don't go inside the cell it cannot utilize it. So one condition would be will they transport in.

And once it goes in, what happens. Then the microbial process takes over. It is biologically oxidized to CO2. And the process of that oxidation results in energy being released, 686 kilocals and forgive me if a professor sort of wanders into this deep science.

But 686 kilocals of energy is released that is harnessed by the microorganisms for its life process. Just like you eat food and you break it down and utilize that energy for your life process. A very similar mechanism is operating.

And that complex picture you see is that the energy released is harnessed by the microbial process in this ADP-ATP cycle. This is very similar to what happens in humans too.

So, what is it that I'm communicating? I'm saying that if we have to document and

validate that microorganisms are truly utilizing this then we need to show that we feed these microorganisms these mulch films which have got the carbon molecules in there, measure the CO2 coming out because that's what drives the biological process.

And if I can document all of that carbon has evolved as CO2 then I can say that the microorganisms are utilizing. That is the fundamental basis for all these test methodologies.

So this is a simple schematic. This is the actual basic standard that is followed across the world literally.

You have soil. Don't give the soil microorganisms any other carbon food except your test specimen. If the microorganisms are capable of utilizing it you should see CO2 because that is the process by which microorganisms utilize carbon.

Then you know how much CO2 is being evolved, how much carbon you have fed as food.

Don't give it any other food. Give it all the nutrients and all the other ingredients it needs and measure the CO2 evolved as a function of time.

So now I have got a value for time. I've got a value for how much of the carbon is being utilized. And that is the basis for the standard ASTM 5988, ISO 756 soil biodegradability test method which is what you have referenced.

Now, these are test methods. It doesn't have a specification. Doesn't put time period. But you have been good enough to put that time frame in which is two years.

So this 100 percent complete removal has to happen within the two-year time frame.

Now, there is an EN standard 17963 which also is identical to what we are talking about except that it has that specification of two years built into it. It's more easier I think in Europe. They say you will do this and that's the end of it. Here we go through more discussion.

So this is a test method and you have defined the standard.

So, I think you have the right methodology in play to ensure that materials which are claimed to be biodegradable mulch films can be validated and the data provided to prove that this is workable.

And then I just want to caution. So if this is so simple and hopefully you understood what I'm saying why is there so much confusion in the marketplace? Why are you inundated with is this truly biodegradable? You have oxo, you have this and not.

And the reason is people simply use the word biodegradable. So the caution is just because you see the word biodegradable or somebody comes and sells you a product biodegradable that's not acceptable. You need to prove it. And you need to prove it based on the standard and validate and certified by some third party. And then you will have it.

And this is happening across the board

in all the other places as well.

The last point I want to talk to you about is here is an example of green washing. You see this biodegradability on the y axis and then time.

You see that curve, lower curve, it just flattens out. If I stop in the four days there is a straight line. And then I just simply extrapolate it and say don't worry, in five years everything will biodegrade.

But the graph shows you that it will not. So these are the kinds of misleading documentation which comes.

It happens even in scientific communications. This is a Chem Communication paper. They attach sugar to the backbone of a polyethylene molecule. They did the biodegradability, showed some biodegradation. And then the press says sugar turns plastics biodegradable. Bacteria make a meal of sweetened polyethylene and polypropylene.

So these are sort of I would call

noises and distractions which exist in this space, but there is validity and you should look at it.

I will show you data now to validate this. This is a molecule -- I won't go into the details of this -- which is used in this biodegradable mulch film. One of your six questions was are there such products even available on the marketplace.

So this is a product molecule which is available and provided by a number of providers. And you can see the names there.

Now, this molecule, we want to prove it will be completely utilized by the microorganisms. So we label that aromatic carbon which is the most recalcitrant carbon by carbon 14, radioactive carbon, and then measure where does that C14 end up in after we do the biodegradability.

And what we show is that 90 percent plus of that carbon, radioactive carbon, ended up in CO2. Remember that CO2 comes only if the

microorganisms utilize it. Some of it goes into the cell biomass and some of it is unaccounted for which is a very small percentage.

What I am submitting to this group is there is data and validity that these will truly completely biodegrade. But beware of the other stuff. But this is what is true.

The last slide here was a recent study which was published in Science Advances. Again, the same molecule but this time it is labeled with carbon 13 which is a stable isotope molecule.

And they showed that carbon from each monomer of that large molecule. So they have taken -- in this PBAT molecule there are three different monomers which form that long chain.

Every one of the carbons from that chain went into CO2 and also was included into the cell biomass, into the lipids fraction.

So, again I'm providing very solid data using isotope labeling that you can degrade or biodegrade. And you can see the data there.

So this is very important for you to understand that biodegradable mulch films if designed appropriately, if validated appropriately in a test method and certified that they would be, and you follow on studies will certainly be a neat, correct approach to this whole area.

The last part I should bring about is this biobased. You have in your document biobased as well as this end of life biodegradable.

So biobased has nothing to do with end of life. It is simply asking the question where did that carbon in that molecule originate from. Did it come from plant biomass, or did it come from petroleum fossil resources.

And of course the USDA Biopreferred Program is promoting the use of agricultural based feed stocks to make these biobased plastic. But it has nothing to do with end of life.

And there is a move towards this. But you will be difficult to say I want a molecule

like what I showed you, perfectly designed so all the microorganisms will utilize it completely. And oh by the way, I want it all 100 percent from biobased feed stocks.

That would happen, but to expect that would be difficult. So that's for you to consider, that the 100 percent biobased is a constraint which essentially will never allow this program to move forward.

And absolutely there is value in that so I don't want to take away from the value. The benefits are that it will reduce carbon footprint, it is food security, creating value for agrarian, rural agrarian economy. It creates wealth for rural agriculture.

But if you don't have these products in the marketplace providing the pool then all these values which agriculture and agrarian economies can benefit will not be realized. So I just want that to be in your thought process as we move along.

I think I exceeded a lot more of my

time than I should have.

MR. ELA: Well, I want to -- it would be good to have a little bit of discussion. We don't have lots of time, but I also want to honor that both these folks came. And it's a question that we have certainly struggled with.

So Harriet, then Emily, Dan.

CHAIR BEHAR: Hi. This is mostly for Markus, but maybe both of you could speak to this.

In one of the documents that you sent us, you gave us a research paper on the making of the poly-based biodegradable mulches. And you did mention that there's some use of genetic engineering in order to fractionate or form that polymer and that you weren't sure if it was a bacteria or a yeast. Can you speak to that? That was mentioned in the research paper.

DR. FLURY: Yes. I think some of the biodegradable plastics are made with genetically modified organisms.

And I think Ramani, Dr. Narayan can

probably talk a little bit more about it.

DR. NARAYAN: You can still call me Ramani, it's okay.

I could address that. So, the final -- so yes. So as you know GMOs are used to do all sorts of processes. And so you can make these molecules using GMO, genetically modified. And you don't have to.

Now, in the U.S. this is sort of -- it's an issue which all U.S. corn today is GMO if you want it at the price you want it.

If you say no, I don't want GMO then you can create identity preserved corn and then therefore provide this high-value product. But then you are priced out of the marketplace.

But the process of manufacturing which uses fermentation. For example, PLA is one such molecule. And that is made by standard fermentation process, but it uses the sugar from corn. And that corn is probably coming from a genetically modified species because all U.S. corn is that way.

So unfortunately I'm not sure how to answer this, but to me that is problematic because then for making this we will have to buy sugar from potatoes from Europe, or sugar cane from Brazil, or somewhere else. And that's the dilemma which U.S. agriculture actually faces, where do you call the line.

But if you take the final product there is no GMOs in them. There is no modified organism. It's a molecule which is free of anything.

CHAIR BEHAR: Just a quick follow-up. I thought that it said that the -- not the substrate, but the actual organism that was kind of -- that's what it said I thought in the paper.

DR. FLURY: Yes, I think there are some microorganisms that are used to create some of the polymers that are also GMOs. Yes.

MR. ELA: We'll move onto Emily.

MS. OAKLEY: I have two questions. One for Dr. Flury. You had two test or experiment locations, but both seem to be in

maybe cooler and wetter environments, or wetter and hotter environments. How about a hot and dry environment? Because I think that's where we would see the greatest or the least likelihood of degradation. So that's my question for you.

And then my question for Dr. Narayan is in the spirit of taking us back to school what's present in the biobased mulch film that allows for or facilitates the biodegradation.

DR. FLURY: All right, so I will answer the first question regarding the soil environment and climatic conditions where degradation occurs.

And you are right, yes, we have two sites in the U.S. In a very hot and dry environment we probably would expect that there is less degradation.

And we do see the effects of environment on degradation. So for instance, we see more degradation in Knoxville than in Mount Vernon and mainly because in Knoxville it's warmer and the chemical reactions are faster if

it's warmer if you have adequate moisture in the soils so the microorganisms can grow.

So we see definitely differences, climatic differences. And you are right, in a hot and dry climate you would expect less degradation.

So that's why we think it's very important to make those tests in many different regions in the world where you would expect the plastics to be used and long-term, to study that long-term.

So one region for instance where actually plastic is -- that may not be of interest to you specifically here in the U.S., but where plastic is really used the most is China.

And the plastic is actually used in hot and dry climates because plastic will prevent evaporation and allow you to produce in semi-arid regions.

So we are trying to set up experiments in those regions as well to exactly study that

question. But we expect that degradation will be potentially happening, but much slower.

DR. NARAYAN: You're talking whether biobased helps in the end of biodegradation. The answer is no. Oh, that was not the question. Sorry.

MS. OAKLEY: Sorry. Like what are the ingredients within or the materials within the product that help facilitate the biodegradation?

DR. NARAYAN: What is in there, I won't put up slides, otherwise you'll get late.

It has got to do with the structure. So for example, polyethylene. Polyethylene is a carbon carbon carbon polymer chain. This is the strongest bond synthetic people have developed and built. So that's not going to break down.

Now, if I use the ester linkage, that is carbon oxygen in that chain, then this is susceptible to moisture, it's susceptible to microorganisms getting in and esterases, I'm sure you've heard of microbial esterases that can break that down.

So, putting the right linkages into the backbone of a long polymer chain allows you to achieve that complete biodegradability.

The challenge is that you need to do that while still giving you the mulch film to last for six months, one year, whatever it is. So this play between how strong I make it to how soon I can get rid of it, so now we are saying two years, so the strength of this is going to be much lower.

And then that's something which people need to get used to, right. Because I'm so used to polyethylene, I can do whatever I want with it, it will last forever. That's where the challenge is. Did I answer the question now?

MS. OAKLEY: Not really, no. I mean, I understand sort of the science that you're describing, but what is the actual ingredient or material within that plastic, the biobased biodegradable mulch film that is creating the conditions under which it's biodegrading.

Because you have some biobased content

and you have some plastic-based content. But what is facilitating that degradation.

I think there are other ingredients that are helping facilitate that.

DR. NARAYAN: I see what you're getting at. So let's separate the two. The fundamental molecule that is biodegrading is -- we saw that molecule called PBAT. It's got a linkage. We know how it breaks down and that's what we've shown. Oh, thank you.

If you go back to that structure which you see there. Okay. You see that structure. That is what is breaking down. I can give you the actual mechanism which is simple. It breaks down into smaller molecules and then they go inside the cell. They are oxidized and this is well documented.

I think your question is in order to make that film there are other additives and ingredients which are added into that, colors, pigments, things which is in small quantities but could affect soil health and productivity.

And that is correct. But if you look at the certification schemes for this those additives will have to be GRAS or approved.

So for example, they use talc or calcium magnesium silicate. And I was sitting through your previous discussions and I thought is calcium magnesium silicate approved as an organic and would you allow that or not. I'm not sure. I need to go back and check that.

But I think those considerations which you have must be an integral part of it. But I don't think that is a showstopper, right, because that is the key, the structure which you see to show that.

So, additives are needed just for essentially to make it usable. And they need to be approved as safe. If it is organic like this should be completely biodegradable. So even if I add 2 percent of it I need to demonstrate that that 2 percent of what I added is also 100 percent biodegradable in that time frame.

MR. ELA: Thank you. I want to

continue. So Dan.

DR. NARAYAN: I'm willing to wait with you afterwards. I'm always looking for audiences.

DR. SEITZ: So I'd actually like to bring us back to grade school with my question. It sounds as if you can make both biodegradable and non-biodegradable plastic mulch out of oil.

It also sounds like you can make it out of biomass --

DR. NARAYAN: Yes.

DR. SEITZ: -- except that if you make it out of oil it sounds like you're further ahead in terms of getting the properties you want. Is that a fair statement?

DR. NARAYAN: Today you can make both. It's a question of cost and availability. So if you look at that molecule again on the table today almost all of that components which go to form that molecule, the adipic acid, the diol can come from plant biomass. In fact fermentation gives you that. Adipic acid can be done. There

are plants which do that.

But it's not in volume. Even terephthalic acid if you remember Coca-Cola announced 100 percent plant bottle. That's the molecule they needed. And they make it from sugar cane. So they are possible but it's not going to happen overnight and the volumes are not there to do it.

So that molecule can be made from petroleum fossil resources, can be made from plant biomass resources.

But you need that kind of a molecular structure for it to be utilized by microorganisms and be a fuel to them. Does that answer your question?

DR. SEITZ: Yes, thank you.

DR. FLURY: Maybe I could just add one more comment to that question. Because the question here whether you make a biodegradable plastic out of a biobased material like of corn for instance or whether you use oil to me is really not that relevant.

And the reason is that if you use corn or any other bio product that bio product has to be made with fuel as well because you need fertilizer.

So the resource to make a bio product is oil in the first place.

MR. BRADMAN: I have a couple of questions. How or if was the plastics incorporated into the soil? In the pictures you showed it looked like these were like surface mulches. It wasn't clear to me whether they were disked in or allowed to degrade on the surface.

And then you also mentioned the need for long-term studies. And that's something that we've grappled with as a board is what term do we need.

I would turn that around with it and say why do we need that. For example, if you look at the mass of carbon. I looked at the density of the degradable mulches and if you look at that the mass of carbon relative to the soil, it's tiny.

So what impacts would you expect on soil health that would be different from not using it, or perhaps using another organic mulch like paper, or a green manure, or something like that.

DR. FLURY: Excellent question. So the first question relates to the incorporation of the mulch in soil.

And the photos I showed you is the mulch applied to the soil surface. I mean, that's what it's supposed to work on in the first place.

But then the idea of the biodegradable plastic is that after the growing season these plastics are not going to be removed. They are tilled in. Mainly we do rototilling now. So we rototill the plastic into the ground and then the idea is that the plastic will degrade in the soil. So that is what we are doing. So we are not taking the plastic away.

Now the question then is what happens after you till the plastic into the ground. And

as Dr. Ramani said the microorganisms will come into play and start to chew up these polymers. But it takes a while to do that.

And what will happen initially is that the plastic will get fragmented. So you'll get smaller and smaller pieces.

And then the second part of your question then is what happens with those pieces until they are completely degraded.

So Dr. Ramani said these standard tests, and the European Union has now the first test in soil that says that you have to have degradation within two years.

From our data we know that in soil it will not happen in two years. Very likely it will happen much longer.

And if you go to dry and arid climates it may take I guess maybe 10 years for that plastic actually to degrade.

Now, what happens with these plastic pieces is not certain because organisms, let's say for instance earthworms, they can eat them.

They can start to eat those up. Other soil organisms can chew them up.

And we don't really know at this point what is the effect on these soil organisms. So there is a lot of research that has to be done to see whether there is any harmful effect. Although we know theoretically in the lab that they will degrade, but until they degrade they could still pose some problem.

DR. NARAYAN: It's just a little added. This was your fifth or sixth question in terms of effect.

This is the real world environment. And what I have talked about and shown and absolutely validate that this is going to happen in soil.

The soil which is in the test methods are from the best of conditions. The temperature is maintained at 25 degrees and then you see the two-year complete removal.

But if the environment -- what to me was shocking was the two sites which they picked,

the rate at which this was degrading was not as safe. So there is going to be a time lag.

And then in that time frame is there any impacts, or will there be anything. And so it is good that you learn what is happening, what is not happening and not after the fact find out that there is a problem.

MR. BRADMAN: And would the impacts be -- are we concerned about a toxic effect of the chemical versus perhaps the physical effect of ingesting the plastic for larger organisms, say.

And then it sounds like -- there might be a portion that takes longer to break down that that could also get into the air if there was dust, that sort of thing. It could move out of the area.

DR. FLURY: So one concern of course is that you have soil erosion for instance and you have leaching that could actually potentially leach some of those plastic fragments into the ocean before they have completely degraded in soil.

DR. NARAYAN: I would -- it depends on the little additives that you add which could go as volatile. But these molecules and the mechanism with which it breaks down is that it goes inside the cell. It's not going to get out. It's going to completely be utilized.

And the rate at which it breaks down and gets in, that's a pretty tight time frame.

The issue which is that sometimes the soil is dry, arid. For biology to happen water is essential. If you take that out of the picture or you reduce it then the rates are going to go down.

So real world to validate the lab, I'll put it a different way. If your material does not even pass the lab test and cannot document it then we should not even be sitting here discussing what should be the next steps.

So I -- not because he's sitting next to me, but his work is critical to validating that the lab-scale study because there's a time frame between completeness and what is there,

that there is no effect.

And they will be not immediate. Like it's not going to be toxic, it's not going to kill anything, but it could be some biological effects like microbial population changes, or diversity and the things which soil scientists look very carefully at.

MR. ELA: That's one of the things we're concerned about. Dave, we're really out of time -- very short?

MR. MORTENSEN: Yes, very briefly. The lefthand side of that sketch is the building block for 95 percent of the synthetic herbicides used in conventional ag. Aromatic ring structures.

And I guess the question that I have is when you think about the fate of the primary metabolites and the secondary metabolites of that long chain with an aromatic ring in it could impurities in the plastic synthesis or co-ingredients result in functional groups being attached to that aromatic ring that result in

compounds in the soil that shift microbial communities and the behavior of the soil life.

DR. NARAYAN: To answer the first part in terms of -- this is why if you noticed all the studies which was done, the labeling was done on the recalcitrant aromatic carbon for the same reason that what if it is a primary metabolite. It just breaks down and releases these complex aromatic residues.

That's why this study was critical. The radio labeling was done on the aromatic carbon and that all of that radio labeling came out as CO2. So it was completely utilized.

So that should give us cause that that's what's happening.

This was validated also by this recent study where they labeled each of the molecules including the aromatics. If you look at the third structure down. That was labeled -- all the aromatic ring carbons were labeled carbon 13.

And they did show -- that red line shows you that that also evolved CO2 and it also

went into the lipids.

So I think these studies give us proof that what the mechanisms are happening. It's the --

MR. MORTENSEN: I mean --

DR. NARAYAN: -- effect which you bring out again to see whether that will go fast enough. But that's where the studies will document that.

MR. ELA: I wish we had the whole afternoon because --

DR. NARAYAN: I wish that too.

MR. ELA: -- there is so much experience between you two that I think we have wrestled with, and to be able to pick your brains would be wonderful. Unfortunately we don't.

Thank you very much for your time. We'll look forward to the new results. I think you did answer some of our questions in the sense of there are still questions which is not surprising.

But thank you for your time and I'll

turn it back over to you, Harriet.

(Applause)

DR. FLURY: Thank you for having us.

DR. NARAYAN: Thank you and thank you for these chickens. My two grandkids, they'll like it.

CHAIR BEHAR: Oh good, I'm so happy you took them.

Okay, we are at 12:36 so let's do an hour. Get back at 1:36. If you can get back a little sooner that would be good because we still have quite a bit. We still have to finish Handling and move to Crops.

(Whereupon, the above-entitled matter went off the record at 12:37 p.m. and resumed at 1:36 p.m.)

CHAIR BEHAR: Okay, we're going to start on time here and not wait for anyone else to show up. I know that some of the board members were here so here they come. And we're back to Asa with the Handling Committee sunset materials.

MR. BRADMAN: So the next material on our list is hydrogen peroxide. And I was the lead on that so I will comment.

But before I do I just want to remind everyone that to expedite our time and use it efficiently we don't need to summarize everything that's in the sunset document. The goal here is just to bring up public comment and any discussion related to that. So we're behind schedule and we need to try to catch up here.

Hydrogen peroxide. I will say it's a common sanitizer. Just very quickly I think we can get through this one fast. Hydrogen peroxide is a very commonly used sanitizer and disinfectant in higher levels.

In terms of public comment everyone loves hydrogen peroxide basically. It's effective. It doesn't leave residues. It's relatively low on the toxicity frame at least at lower concentrations. It does have to be handled carefully at higher concentrations especially food grade levels up around 35 percent.

But it's really I think an environmentally friendly material.

And just counting up the comments there's probably -- there was a couple of dozen comments. But then within the lists of certifiers that have members using them were in the hundreds.

And this is really a material that's used both among processors and growers and at different stages of handling and production.

So I don't think there's more to be said. Any comments? Harriet.

CHAIR BEHAR: This is a material used across all the scopes, crops, livestock and handling.

MR. BRADMAN: So, with no more comment on that one our next item is nutrient vitamins and minerals with Tom on deck.

MR. CHAPMAN: Nutrient vitamins and minerals. We didn't hear much so I think we're good. I'm joking. Just out of a sense of urgency.

Nutrient vitamins and minerals. They're used to recreate or add nutritional contents to food. It's a categorical listing so there's a lot of items listed there.

There's a long history which I'm not going to summarize here, but leads to some of the questions we asked around synthetic and non-synthetic versions and how to move forward in light of 2012 proposed rule and later rulemakings.

The public comment was kind of divided amongst industry and trade associations that spoke to its need and demand in food, and a lot of comments from certifiers around its wide usage by several types of operations.

And then other comments that objected to both the categorical listing of vitamins and minerals as well as their usage where not required by law.

And there is various options proposed by people on how to move forward on this topic. The subcommittee will take those all into

detailed consideration as we review the sunset material and see if we need to take any further additional actions.

I'm not going to go into like deep detail on this because we could literally spend the rest of our evening on it. So unless there's specific questions I think I'll hold it there.

But we did get detailed specific comment from the public and it's really appreciated, especially responses to our four questions. So thank you.

MR. BRADMAN: Harriet.

CHAIR BEHAR: Will you be able to summarize that for the subcommittee, or at least direct us in the bundled comments to page numbers that we could go to to find the ones that you specifically thought were very useful?

MR. CHAPMAN: Yes, definitely. Definitely.

MR. BRADMAN: Okay, the next material that we're up for is peracetic acid. I'm the lead on that.

In ways similar to hydrogen peroxide I think this is a well appreciated material that's used across different categories within the National Organic Program.

It degrades rapidly, leaves little residues. Relatively harmless breakdown products. Acetic acid, vinegar type product, oxygen water.

I should mention though acetic acid is a respiratory irritant at high levels. So any sanitizer, these things do need to be handled appropriately and carefully.

One kind of interesting comment. There is some review historically and also in more updated information about stabilizers used in the peracetic acid. There's both HEDP and dipicolinic acid.

And in our view we're considering that really as an inert material. Beyond Pesticides points out that it's a former list 3 inert and that it may not be allowed in formulations for organic use.

And this is something I want to look more into and also perhaps something that OMRI could provide some input on.

Related to this I also want to just give a shout out to Beyond Pesticides for a very impressive report that they submitted in public comments on inerts. I don't know if you're in the room, but I think all of us should look at that report and think carefully about it.

And it helps guide perhaps some of the future work and also evaluation of some of these materials.

So again though I think peracetic acid is really non-controversial and essential across many sectors. Any comments from the board?

Our next material is potassium -- I say citrate. I don't know if it's citrate. And going back to my notes is Lisa. You're on deck for potassium citrate.

MS. DE LIMA: Potassium citrate. Public comment was supportive and mentioned uses including as a buffer in pH control agent,

acidity regulator in the wine-making process.

The TR also states that it's used to wash processing equipment to remove off flavors. No real information was brought forward in terms of harm to human health or the environment.

Questions or discussion?

MR. BRADMAN: No more comments from the board? Okay.

DR. LEWIS: Mike.

MR. BRADMAN: Our next material is potassium phosphate and that's in Tom's court.

MR. CHAPMAN: So, potassium phosphate is annotated for use only in agricultural products labeled as made with organic ingredients, prohibited in agricultural products labeled as organic.

Potassium phosphate can be used for pH control and buffering, and as a nutritional additive for potassium either for yeast or for also just food products.

It's unclear to me whether potassium phosphate is restricted in its use as a nutrient

product because it would also fall under that global listing of nutrient vitamins and minerals. And so as it's used as a nutrient vitamins and minerals I'm curious to know if potassium would be allowed in that form or not.

We received very little comment on potassium phosphate. We did have a certifier note that they had two folks using potassium phosphate as they add nutrient vitamin and mineral products.

And then we received an extensive comment from a trade association that spoke to various uses, potassium phosphate items as well as addressing the long-term concern product about human health, accumulated human health risks of phosphate products in general.

It was unclear from the comment from the trade association whether their comments were about usage of phosphates in food products, or usage of phosphates in organic food products.

It looked like a lot of their uses may be for products that aren't typically to the made

with organic level so it seemed to me like they were talking mostly about food products and not about particular organic food products currently on the market. But I could be mistaken in that and we'll seek further clarification.

MR. BRADMAN: Any comments from the board on this material? Questions? Emily, thank you.

MS. OAKLEY: Did you get any clarity on your question about if it's redundant and should the listing be removed?

MR. CHAPMAN: The only one that I saw that commented was that single certifier who agreed that the nutrient -- their application of it was under that nutrient vitamin and mineral listing. So it was -- out of all those questions this one was probably the one that we got the weakest response on.

And then just to throw it out there, the contrary opinion that the categorical listing of nutrient vitamins and minerals several people objected to. So.

MR. BRADMAN: Any more comments, questions? Let's move onto our next material, sodium acid pyrophosphate with Scott.

MR. RICE: Sodium acid pyrophosphate. It's use limited to as a leavening agent.

In terms of comments we had a number of certifiers noting the presence of this material on OSP's organic system plans.

A number of companies weighed in noting it as the only chemical leaver available allowing for specific types of bread and baked goods.

One organization opposed the re-listing noting that the initial TAP review only covered its use in soy milk. Further commenting that a subsequent TR focused on proposed expanded use of sodium acid pyrophosphate and didn't address the current listed use.

But the -- still in use and as I said relied on as the only chemical leavener on the list.

MR. BRADMAN: Any comments or

questions? Harriet.

CHAIR BEHAR: I just want to say when this was first put on the list there was concern that there would be like this multitude of phosphates added because there's so many phosphates that are used in very specific situations.

But we really haven't seen that happen. This is going back like 20 years. So it seems like the phosphates that we have have really been working for the manufacturers.

I know that there was a lot of controversy about putting it on to begin with. And the petitioner tried to sweeten it by saying well, you can't have any cake doughnuts without this. And the people who were at the meeting are shaking their heads yes. So we now have organic cake doughnuts as well as other things.

MR. BRADMAN: Any more comments?

MS. DE LIMA: Sodium citrate?

MR. BRADMAN: Yes, sodium citrate with Lisa on deck.

MS. DE LIMA: Sodium citrate. Public comment was generally supportive and mentioned uses including as an antioxidant, a stabilizing salt, buffer, and also when it's combined with citric acid the pair provides a tartness without a significant drop in pH which is important for confectionary products.

Also used for achieving a consistent pH for the gelling of pectin. It was also found, some certifiers mentioned it was found in OSPs used for meat processing as well as in the manufacturing of dietary supplements and personal care products.

No new information was brought forward in terms of human health or the environment.

MR. BRADMAN: Any questions or comments from the board? Okay. I keep turning it off instead of on. Excuse me.

Our next material is tocopherols. I'm the lead on that.

Tocopherols are used as an antioxidant and material to prevent rancidity. Right now

it's listed on 205.605(b).

There's been some question about whether there are non-synthetic sources that are as functional and whether it should be listed on 205.605(a) or (a) and (b).

We discussed some of this at the 2017 meeting and at that point -- thank you, Tom, for reminding me -- that we basically decided to leave the listing as is.

Overall there is support for keeping tocopherol -- in the public comments as being necessary for many processed food products.

There's been some experimentation with non-synthetic sources. And there's definitely a feeling at least from the people who commented that there's not enough non-synthetic sources available and that in some cases they're not as functional as the current material.

So, there's also kind of a long list of potential ancillary substances. And this table that's in the writeup is extracted from the technical report.

You'll notice in a lot of categories there's just unknown listed there. So this kind of ties into the larger issue, another material that ties into the larger issue of ancillary and how to consider those.

Any comments from the board? Dave.

MR. MORTENSEN: Just a quick question. When there is a substance unknown how is that handled from a labeling point of view? Like when you look at the contents of a packaged thing.

MR. BRADMAN: Tom.

MR. CHAPMAN: Ancillary substances are a whole class of like processing aids and other precursor products that don't appear on a labeled product.

So for example, yeast is the easier one for me to speak to will be grown on a substrate. And when you add that to your product some of that substrate may or may not be there.

So I'm brewing beer and I buy commercial yeast. That yeast was fermented on something, probably other malt extracts or

something. Some of that malt extract may remain and may go into my product.

I'm adding yeast. So yeast is what would appear on that label if beer was labeled, not the malt extract unless it was another ingredient in there. Does that make sense?

So it doesn't show up on the label.

MR. MORTENSEN: Okay, yes. I just asked because my wife has a number of pretty serious food allergies that relate to hydrogenated things. I'm just curious how often you might encounter something for someone that's sensitive where you don't even know that it's in the product.

MR. CHAPMAN: Yes. I mean, there's a law under the FDA's authority for food allergen labeling. Food Allergen and Consumer Protection something. FALCPA. I'm butchering it, but.

Which specifies those eight major allergens in the U.S. We had a public commenter speaking about sesame and sesame is not a major allergen in the U.S. so it may not be labeled.

Some food companies go above and beyond and get that question from a lot of their people and provide that information. In a case of a product like this you would still seek to know what was in there and ask for those disclosures from those companies.

But once you're outside of those big eight at least in the U.S. it's tough. It's tough to know.

MR. MORTENSEN: Okay, thank you.

MR. BRADMAN: Any other questions or comments? No? Okay, then our next material is celery powder. I think given the extensive discussions we had today and comments. We really have a lot of new information on that.

Just to briefly summarize public comments I would say there was -- some of our speakers were actually -- their organizations were submitting comments.

There's definitely a feeling that this is an important material, an essential material and that there's a wish to get past it.

Overall there was support for it. There was some -- I think Beyond Pesticides is one of our main commenters among others that really feel this should be taken off the market because it's not compatible with an organic system.

And it is true that in contrast for example to the collagen gel we're actually growing a non-organic crop as an input to produce organic products.

And I think that there is kind of a special burden on the system to try to get away from that.

And just when we were looking at some of the graphs, looking at some of the slides we saw the other day. And the organic material was struggling to get up to 5 or over 1,200 parts per million in those plants.

The conventional celery plants were fairly easily getting up to 2,000, even higher when they were younger. So there's kind of almost a factor of two difference between the

conventionally grown, or two or three between the conventionally grown and the organically grown.

And I think as a community we do need to think carefully about this material and really support the work that's going forward.

I know there's some talk about funding and grants, and I think it's critical that this be a research item on our agenda and that as an institution that USDA should support work on this to move it ahead. Because it would be nice to get this off of 606.

Any comments from the board? Emily, then Harriet.

MS. OAKLEY: Yes, it seems that from that research data there is a lot to explore in terms of maturation of the harvested celery and the timing for when it's processed.

I would think that sort of midrange and a smaller sized head would probably yield from what we've seen and just in terms of how we treat cover crops, for example. I think there's a similar logic there. Might be some

opportunities.

MR. BRADMAN: Harriet.

CHAIR BEHAR: Well, I just wish that we had a better handle on the conventional side of growing. I found that a little disturbing that it was difficult to find out what they're doing on the conventional side to bring up the level of nitrates in the celery.

MR. BRADMAN: Yes. We had an explicit question about that and basically it's unanswered.

MR. MORTENSEN: And I would just say that I think that's an excellent suggestion. That's where I would start.

It seems to me that this is something I think could be resolved pretty quickly by talking with some folks that grow conventional celery.

MR. BRADMAN: Harriet.

CHAIR BEHAR: Erin Silva is a colleague of mine and she's tried. The problem is there's kind of a proprietary wall out there

and it hasn't been very forthcoming from the conventional side.

But now that she's working with other universities who then work with those conventional celery producers hopefully we'll be able to knock down that wall and get some information.

MR. BRADMAN: Paul.

DR. LEWIS: So, as the board prepares its research priorities for the fall meeting one thing to think about is how you're characterizing research in this area.

It was interesting in terms of the work that Erin shared the year to year difference was interesting.

I know that other research she's published is that she looks at a very -- it's regionally. So what she sees in Wisconsin may not be applicable other celery production areas such as Florida.

So one thing to think about when you're developing your research priorities --

what kind of questions do you want to be thinking about.

MR. BRADMAN: Thank you. Any other comments related to celery powder? I think we spent enough time on that this week.

So the next material is fish oil and Tom, you're on deck.

MR. CHAPMAN: So fish oil is produced clearly from fish. It's primarily used as a source of omega-3 fatty acids, particularly EPA and DHA.

And from what I can tell at least from the comments that we received it's primarily used in dairy products.

We received support for this item from organic dairies that speak to the consumer demand for omega-3 enriched products and having an opportunity to compete with conventional products that market themselves similarly.

On the other side opposition to this material really kind of fell into three buckets, first being environmental concerns around

harvesting of fish akin to the concerns we've been grappling with on marine materials and other items from wild harvesting.

Another area of concern was human health, particularly accumulation of heavy metals.

And then the last area of concern was essentiality and whether or not this is a product that should be added to foods in the first place.

We also received extensive comment from a manufacturer of the product and a trade association that represents manufacturers of the product.

We had posed four questions to the public being questions about dealing with the heavy metal accumulation and purity, questions about how the industry deals with those. Questions about standards related to those and then also noting that we have these environmental and conservation concerns. How can we address them.

And there were several options posed

to us both in written comments and then during the webinar and in public. So we'll take those under consideration as we review this material and if renewed if we'd want to propose additional annotations to this we'll discuss that at the subcommittee level.

MR. BRADMAN: Emily.

MS. OAKLEY: I would highly encourage an annotation based on public comments because it seems highly feasible. And I don't know what the work agenda timeline is, but it doesn't seem like a heavy lift in terms of its workload. So if it could be quickly adopted as a work agenda item over the summer and passed as a proposal for the fall meeting it seems timely and feasible. But I'll let you guys figure that out.

MR. CHAPMAN: Yes. I guess just back at that one. It seemed like there was a decent amount of support across the board for that. And there was some proposed items. And given the amount of time you've spent in this general area I'm curious to know if there was -- if you found

any of those wordings sufficient.

MS. OAKLEY: I mean, I think as the Crops Subcommittee is looking to get its TR on fish harvested exclusively -- whole fish -- wild native whole fish from native ecosystems for use as fertilizer I think that those suggestions that came up as possible annotation wordings -- and I know some of those were going to come to you later through Michelle -- sounded absolutely feasible.

And if I were someone adding fish oil to my products and that fish oil was MSD certified I would absolutely put that on the product.

MR. BRADMAN: Dave.

MR. MORTENSEN: Tom, I just was curious under the uses section of this draft if you have it there.

The sentence that reads in addition to aquiculture estimated to use about 81 percent of fish oil produced. Is that a typo or is that accurate?

MR. CHAPMAN: Can you cite me to?

MR. MORTENSEN: The first sentence of the second paragraph under uses.

MR. CHAPMAN: That may or may not be a typo. What I think was being stated here was -- well, I'd need to look at it in more detail, but I also just read this in the public comment from Beyond Pesticides I believe that the majority of fish oil production goes into feed applications, particularly in aquiculture settings.

MR. MORTENSEN: Okay.

MR. CHAPMAN: So that was what was meant to be said I believe by that sentence. I don't know if that is what was said by that sentence.

MR. MORTENSEN: That's what it's saying I think. I didn't realize that. I thought the majority was human consumption. That's not the case.

MR. BRADMAN: Any more comments or questions related to fish oils? Okay, our next

material is gelatin and A-Dae, I think you're up for that.

MS. ROMERO-BRIONES: So, a lot of the discussion about gelatin is -- should be taken in relationship with our discussion about collagen gel because gelatin is derived from collagen and our TR was a combined TR with collagen gel and casings.

So I won't go into detail about -- well, yes, let me do that then.

Gelatin is used in a wide range of products as a clarification or refining agent in teas, juice and wine and as a stabilizer, texturalizer, thickener and in capsules.

It's used in a wide variety of products from gummy bears to Jell-O to sour cream to ice cream to cosmetics. And fish gelatin is widely preferred for uses in kosher foods.

It comes from a variety of different sources, from cattle bones, hides, pig skins and fish are the principal commercial sources.

We had several commenters. There are

several users of gelatin as it's listed. NOC suggested that we need more information about what is preventing the production of organic gelatin.

We had one commenter offer alternatives to gelatin which was organic pea starch and other alternatives, namely pectin.

Beyond Pesticides suggested that we needed to separate the listing for fish gelatin versus gelatin derived from other animal sources, and that we should consider of course as the same discussion was in collagen the conventional production of the sources of gelatin.

We did try to address the animal sources whether from fish or from conventional animal sources in the TR. But the TR stated that marine sources are mainly in the research stage and so there wasn't too much information provided about the fish sources of gelatin.

MR. BRADMAN: Tom, you look like you want to say something.

MR. CHAPMAN: I just want to note that

the pea starch may have some functional replacements for gelatin, but I highly doubt it would function in all applications.

MR. BRADMAN: Any other comments related to gelatin? No? Okay, let's move onto our next material, orange pulp, dried. And that's also A-Dae.

MS. ROMERO-BRIONES: So dried orange pulp is currently used as a moisture retention agent and fat substitute in baked goods, pastas, salad dressings, cheese spreads, frozen doughs, frozen meats.

We had several commenters. It's also -- other names for dried orange pulp is citrus fiber and citrus flour.

We had several commenters report that nobody reported using it. Some commenters reported using orange peel and orange pulp, but not in the dried form.

We had several -- we had one commenter suggest de-listing because of the conventional sources of the dried orange pulp which may

include the use of pesticides to create the dried orange pulp. So we really didn't have too many -- we didn't have any certifiers suggest the use of dried orange pulp in any of their listings.

MR. BRADMAN: Emily, then Steve.

MS. OAKLEY: So when we don't hear that a material is being used again where does that leave the subcommittee? I mean, I see it wasn't added all that long ago necessarily. So what's happened in the intervening years?

MS. ROMERO-BRIONES: So, based on what -- from just researching it very quickly it seems like this material is primarily -- was primarily used by the petitioner for a specific trade product and they call it Citri-Fi 100. And that's really the only use that I found. So I would love more commenters to tell us if that is not the case.

MR. BRADMAN: Steve, and then Lisa.

MR. ELA: I think echoing Emily's comment these are the kind of things that there may be users out there, but we need to hear from

them because I have a hard time leaving it on the list if -- why have something there if it's just a placeholder. So I guess a note to the petitioner.

MR. BRADMAN: Okay. Lisa, and then --

MS. DE LIMA: I agree with Steve that we want to hear from folks, but also on the other side we know this is not a perfect process.

So to answer Emily's question I think we still have to weigh -- I mean, there have been situations in the past with tragacanth gum where no one came forward and then someone came forward afterwards.

So it's one of those not clear spaces. But we do have to consider that everybody is not aware of this process by a long shot.

MR. BRADMAN: Harriet, then Tom.

CHAIR BEHAR: So I was in the room when this was petitioned and placed on the National List.

It was somewhat controversial because there were questions of the petitioner whether or

not -- why couldn't they get -- there was organic oranges. This is before citrus greening occurred and it was harder to grow organic oranges, especially in Florida.

And they said well, you know, we own all of these orchards that surround our plant and none of them are organic.

And then we said well, why don't you transition them to organic then if you need them. And they said well, you know, we need more organic oranges, we know that. There's a big market. But we don't really want to do that.

And so it was put on there. But I just wonder if we couldn't reach out to the original petitioner and see if they have any clients that are even buying this. That's where it would come from.

Because I think it is just one manufacturer who's making this product. And so if we could find out if they have any customers then we would know if anyone was using it.

MR. BRADMAN: Tom, then Ashley.

MR. CHAPMAN: As far as I'm aware the Citri-Fi product is the only orange fiber product out there. And I think they may even have a patent on the process so they may be the only one that can manufacture it.

They did come when we reviewed this in 2017 and presented a fairly detailed similar to what we saw with the celery powder presentation about the supply chain challenges to produce it.

It's a byproduct of the juicing side of the industry and has a very short shelf life and a very low yield.

At one point I purchased this product for a product that we no longer sell. It was in the made with category so this listing was not particularly important to us.

It is an alternative fiber that has some functional benefits especially in like fruit prep areas or extruded fruit prep areas.

But I also have not -- I don't see it out there in usage in the organic side so I would love to hear from people if they're using it.

On the flip side this is a 606 item. They have to search for it organically. I don't see it as propping up conventional business or preventing an organic business or preventing more oranges from going into organic.

It's used at very minor levels and people would -- like it's probably a small business unit. Overall just in the fiber world this is not a major fiber that people are using in their foods.

So, I just, I don't see it going organic anytime in the near future. I struggle with having items on there that aren't used. On the flip side I don't see the harm on a 606 item if it's not being used. But I get the argument.

MR. BRADMAN: Ashley.

MS. SWAFFAR: So, looking back through previous public comments when we reviewed this last time we did get a public comment that said dried orange pulp is produced under patent protected only by Fiberstar at their single facility in Florida. And therefore no other

processing operations worldwide can produce the dried orange pulp as a functional food ingredient. So I think that's an important thing.

And I do remember them commenting that they said there's not enough organic raw material, fresh wet organic orange pulp on any given day within the proximity of their single Florida production facility to produce a minimum batch of dried orange pulp. So two issues there.

But like Tom said, 606 item. But I think the patent pending kind of gets it on the --

MR. BRADMAN: Steve.

MR. ELA: So what I hear in that is we just listed a specific product.

MR. CHAPMAN: Yes, I mean that's not always uncommon, but yes.

MR. ELA: It can't be replicated. Kind of weird. I mean, we didn't just list it, but it was listed.

MR. BRADMAN: Emily.

MS. OAKLEY: I mean, when I hear that that's really not a compelling reason to keep it because they have no interest to change it to organic because they will have no competition in the industry to ever produce this in an organic method. So that's for me not a compelling reason to keep it, especially if we don't have many people using it and at this point since we haven't heard from people it would be great to get comments.

And I think that suggestion from Harriet to contact the manufacturer would be excellent.

MR. BRADMAN: Just to interject one thing. It's not that relevant, just coming from California there's lots of organic oranges in California.

MR. CHAPMAN: Not for juice though I don't believe. I think it's mostly a fresh --

MR. BRADMAN: That's true.

DR. LEWIS: California is a special market. Florida is a juice market.

MR. CHAPMAN: This is a byproduct of the juicing market.

MR. BRADMAN: Tom.

MR. CHAPMAN: Just so people know it's listed as orange pulp, dried I think because of the point you raised, Steve, which is a very weird listing.

I actually think I voted to remove this last time because I don't think it's in use. But it's commonly called citrus fiber. So if you are looking for it out there citrus fiber is how it would be labeled. It wouldn't be labeled as orange pulp, dried. So.

MR. BRADMAN: Any more comments, discussion? Let's move on. Our next material is seaweed, Pacific kombu.

MS. ROMERO-BRIONES: So, Pacific kombu seaweed is used as an ingredient to make stock for Instant Miso Soup and Yuzu Ponzu. It's primarily used in Japanese traditional foods as stock.

It is a seaweed and it is one of four

marine plants listed under 205.206.

There was one comment against re-listing basically because of the process in which seaweed absorbs heavy metals and radioactivity, and also for consideration of over-harvesting and protecting the environment.

In our TR it was a TR based on marine and algae so there was no specific absorption rates based on the type of seaweed. And so this lends itself to the discussion we have on marine and algae.

No one listed as using it. And the petitioner is from Japan.

MR. BRADMAN: Comments or question? I have one question. I'm not sure who to direct this to, but this issue of it potentially being a material that's prone to accumulating contaminants from the environment.

It seems to me that's a very kind of vague statement in the sense that every plant or food accumulates stuff from the environment. We have DDT in our bodies. Probably everything we

eat does too from decades ago.

So I don't know how to judge those kinds of statements. It seems to me if there's standards then does it measure up against a standard.

I would think any manufacturer would have to have some testing requirements if they're concerned about contamination and can deal with that. But I don't see how that could be used as a criteria to evaluate whether something should be listed or not.

MS. ROMERO-BRIONES: And I would just say that that's my summary of the comments really quickly. The commenter Beyond Pesticides did go into detail particularly because this type of seaweed is collected around the Japan Fukushima radioactivity that is occurring. So there's a higher percentage probably of absorption of these types of heavy metals and toxics in that area. So again, that was just my general --

MR. BRADMAN: No, I understand that. But I don't see the -- I understand there's an

issue with potential contamination and that should be addressed, but I don't see that as a listing issue. I don't know if we need to discuss that now. Emily.

MS. OAKLEY: In the absence of requiring testing of an individual ingredient which we don't have it's hard to get any data like that or to require it.

MR. BRADMAN: So any more comments? If not we'll move onto the next material, also seaweed and also in A-Dae's court.

MS. ROMERO-BRIONES: So --

MR. BRADMAN: I'm sorry, Tom, you had a comment?

MR. CHAPMAN: I'm not quick enough with my OFPA. I always like to point out when people use the criteria correctly or incorrectly.

I do believe an assessment of heavy metals content or something along that lines is part of the OFPA criteria that we're supposed to use.

MR. BRADMAN: But everything can

accumulate it. And it's going to be site-specific.

MR. CHAPMAN: If OFPA criteria was crystal clear there would be no need for the 15 of us.

MR. BRADMAN: Point taken.

MR. RICE: Correction, 14.

MR. BRADMAN: So let's shift over. Emily.

MS. OAKLEY: I just want to make it clear that I'm not saying that I don't think we should be looking at heavy metal accumulation. I just don't see -- it would be very hard to obtain that data as this board.

And if that data is out there I would highly encourage people to submit it for us in as much detail as possible.

MR. CHAPMAN: Yes. My comment wasn't at all directed to you. It was directed to Asa's statement.

MS. OAKLEY: I just wanted to make sure it didn't sound like I was saying we

shouldn't care about accumulation of heavy metals.

MR. BRADMAN: So, the next material then to A-Dae again is Wakame seaweed.

MS. ROMERO-BRIONES: So Wakame seaweed is a traditional component in miso soup in Japanese cuisine.

Again, this is listed as one of the four marine plants listed under 205.206. With this commenters there was one commenter, one handler that commented that they do use it in their organic system plan, but the same discussions around Pacific kombu relate to Wakame. Very similar.

MR. BRADMAN: Any comments related to this material from the board? Harriet.

CHAIR BEHAR: I'm just wondering if there's anything within the FDA or the USDA that might have some information that we could reference.

MR. BRADMAN: Don't know. Okay. So I think then we're done with the sunset

substances review. And I think we decided to work on the collagen gel later on this afternoon.

So according to our schedule it would be time to have lunch again. But just a related message that we're that far behind. So turning it over back to Harriet.

CHAIR BEHAR: Okay. So, I am going to turn it over to Steve Ela, the Crops Subcommittee chair.

MR. ELA: Sounds good. We'll start right off with the allyl isothiocyanate petition. Jesse, that is yours.

MR. BUIE: Okay. We received two petitions for allyl isothiocyanate which I'll just from this point AITC that have been submitted to the NOP. And both these petitions propose to add AITC as an allowed synthetic substance in organic production at 205.601 as a pre-plant fumigant.

The original petition dated December 2013 was received by the NOP January 24, 2014.

After review and discussion by the

Crops Committee the request to add AITC to 205.601 was not recommended.

The petitioner re-submitted a petition in 2016, asserted that AITC offers organic growers the only effective management tool for soil-borne diseases and pathogenic nematodes at levels that are commercially relevant and supports the phytosanitary certification process for organic fruit and vegetable nursery stock production.

AITC, commonly referred to as oil of mustard was first registered by the U.S. EPA in 1962 for use in pesticides and rodent control products.

However, oil of mustard is a common food ingredient and has been listed on the U.S. Food and Drug Administration generally regarded as safe listing since 1975.

Now, to facilitate the review of the re-petition dated 2016 the Crops Subcommittee requested a limited scope TR to address some outstanding issues. And I'm going to just

briefly summarize these outstanding issues that were dealt with in the February 2018 TR.

The first one was provide a review of AITC as it pertains to the newly listed additional uses.

The second, review proposed phytosanitary use of nursery stock and plants with deals with nursery stock certification.

And the third one was provide a comprehensive look at both the short and long-term impacts of soil beneficial life forms compared to existing practices and the materials being used.

So, on line 100 through 107 of the TR it states that AITC and AITC containing materials possess good potential to serve as an alternative nematocide that are safe and more environmentally benign than traditional synthetic fumigants.

However, the effectiveness of AITC can be selective. In 2005 the study -- in a 2005 study the nematocidal activity of AITC was evaluated using seven different species of

nematodes including six of the most important parasitic nematode species in agriculture worldwide.

The study found that the susceptibility or tolerance of nematode species was highly variable. While AITC was found to be toxic and possess anti-hatching activity against all species of the study the required concentration of AITC for effective nematocidal activities was different across the species that was studied.

Additionally, the TR notes that one of the degradation products of AITC is carbon disulfide, CDS.

There are concerns regarding the exposure of CDS because it is listed by the state of California on the Proposition 65 list as a developmental toxicant and is known to induce neuropathological changes and other toxic effects in rodents exposed through inhalation over the intermediate during less than a year. And this is referenced, the TR 491.

And because CDS is a major degradant of AITC the human and environmental toxicity of CDS should be considered as part of the evaluation of AITC for use in organic production.

Also, according to TR lines 210 and 211 several international organizations and regulatory bodies do not permit the use of AITC in organic crop production.

Additionally, the lines 993 to 994 indicate that in addition to traditional crop rotation the available information suggests that the variety of available management techniques preclude the application of synthetic biofumigants such as AITC in organic production.

For example, the TR indicates that some organic farmers including organic strawberry producers are adapting mustard seed meal as a natural option for soil pest control.

Synthetic AITC as a broad spectrum -- synthetic AITC acts as a broad spectrum fumigant. This broad spectrum effect on both beneficial and pest species is not compatible with organic

production.

Are there any questions?

MR. ELA: Harriet.

CHAIR BEHAR: So we did have some public commenters who did like this material but with fairly narrow suggested -- kind of a narrow annotation.

But it seemed like it was kind of hard to really narrow down exactly what we wanted to say in the annotation.

And I originally was kind of open to like for the nursery stock. But then when I've seen really quite a growth on organic nursery stock available.

I know there might be some certain phytosanitary issues for shipping over state lines and that sort of thing.

It's not an approved material now and it doesn't seem to me that -- we're seeing growth now in the nursery stock without its use. And so there are some questionable aspects to it that make us want to narrow it.

So I'm not so sure that we really need it now. The last time we talked we were kind of open to the nursery stock side, but now I'm really wondering about that.

MR. ELA: Tom, then we'll go Emily, Asa.

MR. CHAPMAN: Can you speak to the scale of that nursery stock? Like how much out there comparative to the growth in organic industry, where is it being sold, what regions, what markets.

CHAIR BEHAR: Well, I know there's quite a bit of strawberries that are available conventionally. I saw that note on the CCOF newsletter and I went to the website.

MS. OAKLEY: You mean organic.

MR. CHAPMAN: You mean organic.

CHAIR BEHAR: Organic strawberry transplants for commercial use.

MR. CHAPMAN: You said conventional but I get what you're saying.

CHAIR BEHAR: I'm sorry. Organic --

MR. CHAPMAN: Like a lot doesn't give me a sense. Do you have a percentage?

CHAIR BEHAR: No, I just saw it available when last year at this time I didn't see any available. So to me that seems like there's growth if I'm seeing it available. No, I didn't do research into it.

But we know that there has not really been a significant amount of apple trees available organically. And then I see Stark Brothers sending out catalogs across the country. And I'm aware of a few other nurseries that are getting into organic production.

And we haven't heard from them that they need this material.

MR. CHAPMAN: I guess, I mean zero to half a percent is a thousand plus million infinite growth there. But it doesn't mean it's anywhere near what's needed to support the size of the organic market and the growth rates that we're seeing.

So I guess I'm just curious to hear

numbers associated with those statements.

MR. ELA: I can -- do you mind if I address that first? I think your point's well taken. There is -- as a perennial grower there is essentially for a back yard gardener there is some availability on certain varieties and certain root stocks in very limited numbers.

I mean, we plant three or four thousand trees a year. The Washington guys here plant 200, half a million trees a year. We're not even close.

And I'll say some more things about my thoughts, but just in direct response to that. I'll go after the other people. Emily.

MS. OAKLEY: There's so much to say here. In terms of the strawberry producer in California they've been around for a while and they've been increasing their production.

I think the potential in the next five years is pretty great for them to expand. Some of the limitations right now are when those root stocks and grounds are available. And depending

upon where you are in the country when you need to plant.

But I think some of that's going to change very quickly. Because it's already changed pretty dramatically.

In terms of planting stock for trees although I'm a small farm we do have trees. And I think the issue of root stock is really key. And where you are in the country has a huge impact on where you're going to buy your trees.

And the chance that you're going to find someone with the root stock and the variety that you need that is going to actually go to the trouble to offer that organically is pretty slim.

And I think the reason that we sent this back was a hope to see if there might be an encouragement in the organic nursery industry with this material. But we didn't hear from anyone with regards to that.

And that's because it's going to take way more than AITC to probably boost the organic nursery stock industry.

To that point my final comment would just be I don't think we want to adopt a broad spectrum fumigant in the hopes that maybe some year down the road this might be helpful.

And the precedent that that sets I think is a very slippery slope even with an annotation which we of course didn't come forward with at this time.

So I still remain convinced that the committee's decision was the right one.

MR. ELA: Asa.

MR. BRADMAN: I just kind of want to reiterate some of the comments that have come by. But also kind of understanding that -- I'm looking at the recommendations from the Organic Produce Wholesalers and this came up last fall.

To me it wasn't a question about AITC, but it raises this larger issue. What are the phytosanitary needs to support nursery stock. This may or may not be the material for that.

I don't think we should approve it for that purpose. It hasn't even been validated or

tested for specific diseases where we're talking about -- that may be of concern for interstate transportation.

Their other point, add a topic to our research agenda to identify methods and materials to support production systems for organic planting stock. I think that's important.

Just in discussions recently I've talked to prominent organic orchard growers and they're buying non-organic stock on a regular basis.

In a way that's a little bit similar to the issue of converting a cow from non-organic to organic.

I see some similarities. But we're using a conventional system to produce literally the root stocks of organic agriculture. It would be great if the roots could also be organic.

MS. OAKLEY: Can I just quickly add that yes, I have that as a research priority for this year. I think that has clearly come up.

MR. ELA: Tom.

MR. CHAPMAN: Just as long as you plant that tree before the first third of gestation.

Good points. I hear you. I also think this would be a good area for us to potentially have a panel on like we've had on the barriers to organic seed.

We've always focused on seed. We haven't really spent the same amount of time at least in my duration here on planting stocks.

MR. MORTENSEN: And if we go to that to me this is clearly a case -- I think the point that has been made by two speakers already that this has got to be a systems approach.

I really do think we should hold the line on having efficacy. So I totally agree with Asa's point.

This is a very active compound and just having it be a one-off as a part of a nursery stock management plan, it's totally incomplete and the data they gave us is not sufficient to support this request in my view.

MR. ELA: Harriet, I apologize. I jumped over you.

CHAIR BEHAR: That's all right. I just want to say that the fact that I'm starting to see more nursery stock gives me hope that there has been -- they've figured something out and that others will figure it out too and that we'll see a growth without a reliance on a somewhat questionable material.

MR. ELA: I'll throw in -- there is a need for organic nursery stock. It's a very complex system just like it is in seeds, of varieties. If you have 60 varieties of lettuce, you have hundreds of varieties of apples as well.

And each state has its own phytosanitary restrictions. So it's not a national phytosanitary list although there is that too.

So it's a complex topic. I did a search as part of my organic certification to look for organic trees. I barely could find the variety let alone size, root stock, et cetera, et

cetera. So it's very rudimentary.

I think the other thing is at least in perennials, and I can't speak for strawberries, but a nursery is a very intensive place. I mean just like it is for humans, or maybe even cows if you want to make that comparison.

But you're trying to graft this root stock and grow a saleable tree in a year and there's not a lot of tolerance for mistakes and there's a huge amount of risk. And I think that probably really cuts to the chase of how do you grow a viable nursery tree that can get planted out in an orchard like mine or other people's in a year. It's an intensive process.

I think that's going to be the tougher nut to crack. Either that or we're going to have to accept much lower quality nursery stock, or grow it for two years, or some other process.

I'm not against that, but the cost is going to go way up. And cost isn't an issue, but from a nursery standpoint they have to be able to justify their production. So, Emily.

MS. OAKLEY: Just in conclusion I feel that as a matter of process especially for someone who loves process I think that when we create exceptions it is a very murky territory. And it just creates the argument for increasing exceptions over time.

And I think we kind of see that in some of the issues that we're facing as an organic community. And I feel that to Dave's comment about holding the line I feel like this is a broad spectrum soil fumigant and it is a synthetic. I don't think that is something that we want in organic agriculture and I don't think it's a place that we want to go.

MR. ELA: Rick.

MR. GREENWOOD: Yes, just one comment. If you look at the TR the impact on soil health is noted. And I think one of the big issues for us is soil health.

So again, it just seems incompatible. That's sort of the fundamental of what we do. So I don't know if we need another broad spectrum.

MR. ELA: It seems like we've kind of honed in on most of the comments. Are we okay to go to a vote? I'm hearing more agreement than disagreement. So why don't we go ahead and move forward.

We have a classification motion to classify allyl isothiocyanate, AITC, as synthetic. It was a motion by Jesse. It was seconded by Harriet. Looks like we're starting with Lisa I think.

MS. DE LIMA: Yes.

MR. GREENWOOD: Yes.

MS. SWAFFAR: Yes.

MR. CHAPMAN: Yes.

MS. BAIRD: Yes.

DR. SEITZ: Yes.

MR. MORTENSEN: Yes.

MR. BRADMAN: Yes.

MR. RICE: Yes.

MR. ELA: Yes.

MS. OAKLEY: Yes.

MR. BUIE: Yes.

MS. ROMERO-BRIONES: Yes.

CHAIR BEHAR: Chair votes yes.

MR. ELA: All right.

MR. RICE: It's 14 yes, zero no. Motion passes.

MR. ELA: All right. We'll move on to the National List motion. The motion is to add allyl isothiocyanate, AITC, at 205.601. The motion is made by Jesse, seconded by Asa. The vote would start with Rick, I believe.

MR. GREENWOOD: No.

MS. SWAFFAR: No.

MR. CHAPMAN: No.

MS. BAIRD: No.

DR. SEITZ: No.

MR. MORTENSEN: No.

MR. BRADMAN: No.

MR. RICE: No.

MR. ELA: No.

MS. OAKLEY: No.

MR. BUIE: No.

MS. ROMERO-BRIONES: No.

MS. DE LIMA: No.

CHAIR BEHAR: Chair votes no.

MR. RICE: That's zero yes, 14 no. Motion fails.

MR. ELA: Okay. We'll move on to the next petition material. Dave's going to present both ammonium citrate and ammonium glycinate. Dave, I imagine you can kind of present them together but we'll have to vote on them as two separate materials. So feel free to distinguish or lump as you will but we'll go to the vote separately.

MR. MORTENSEN: Will do, Steve. Thanks. So, a company by the name of Alpha Chelates has submitted for two compounds, ammonium citrate and ammonium glycinate.

The intent of both of these compounds would be that they would serve as chelating agents that would -- their purpose would be to apply them to the soil and deliver micronutrients that would be complexed with the chelating agent ammonium citrate or ammonium glycinate.

We have been working on this application and three addenda to this application. We've spent a lot of time looking at this.

We kind of got going around. In 2016 the board determined that this was not something that we would approve, the subcommittee did, based on the fact that chelating agents exist, alternatives exist and certainly cultural management practices exist that basically provide the service of delivering micronutrients to plant rhizospheres to the soil and the roots of plants in the field.

The applicant Alpha Chelates challenged the board with respect to its understanding of the chemistry of chelating agents and the language. And we had a new technical review performed that we received sometime in 2018 that we went through very carefully together and discussed on many phone calls.

And basically concluded that we --

basically these are chelating agents, ammonium citrate and ammonium glycinate, that the company is interested in seeing if we would register as a petitioned material.

These are synthetic compounds. They're a synthetic reaction vessel where citric acid is combined with ammonium hydroxide to form these chelating agents.

We asked for additional -- well, we had this out and we got feedback. I would say we got mixed feedback in the public comment.

There was some comments from the Organic Produce Wholesalers Coalition about adding another chelating agent would add to the toolbox of things that could be used while others felt that we have sufficient numbers of things and management practices to perform the purpose of the chelating agents.

Another point that I've been harping on during the course of the last day or so is the issue of supporting data. And I will say that the supporting data is very weak in this

application.

The company is in Australia and we have one data set from dryland wheat production that shows some marginal improvements. And they draw quite a few conclusions about the influence of soil chemistry, pH, et cetera that's quite a reach, some of the claims that are made in those statements.

So, the subcommittee looked at this and the subcommittee was not supportive of us going forward with this petition.

And based on the mixed feedback and nothing compelling in the way of new data I think we're ready to vote on the proposal. I am not supportive of this going forward for all the reasons that I've stated already.

We have alternatives. Cultural practices. And I'm not meaning in tiny little farms and fields. This is -- the cultural practices are scalable. I just think this is not needed at this time.

MR. ELA: Discussion. Emily.

MS. OAKLEY: I just want to add that the original reason that the petitioner gave for petitioning this material was that the Australian authorities defer to the U.S. authorities when examining chelates, chelating agents.

And so they were sort of pressing us to help them set a precedent for their own national standards.

They also were having concerns about nomenclature uses both within the NOSB and NOP applications.

So I would just hope if I could put Clarissa on the spot which I didn't tell you earlier I would do. Are you comfortable addressing some of what was covered in the technical report regarding that point?

DR. MATHEWS: Yes. So the recent technical report did address several of the concerns that have been raised about nomenclature and also listing within our system on the National List in terms of chelating agents.

And the recent technical report had

very detailed coverage, over a page of additional material addressing these points.

MR. ELA: Other -- Harriet?

CHAIR BEHAR: I'll just say that to put it on the public record that we did have many robust discussions. This was not done lightly. Dave's discussion and I think the feeling of the subcommittee.

We did give it an open-minded review and we did not come to a positive decision in the subcommittee.

MR. ELA: Emily.

MS. OAKLEY: Yes, sorry. Clarissa just reminded me that we actually rejected the initial technical report and asked for additional clarification on the nomenclature issue and subsequently got that back.

So this has not been a slow process. It has taken a great deal of deliberation. I think that therefore addresses this re-petition that came before us. So I think we consider this issue very much addressed.

MR. ELA: I'll jump in with my own comments. First of all I want to thank Clarissa and Dave. This shows why we have a diverse board and having a scientist that can work through the chemistry and having a technical advisor that also works through that gave me much more comfort.

I could have spent a lot of days and figured it out, but I didn't want to. And so knowing that you guys could look at it. And the TR too in conjunction. But it gives me much more confidence in the outcome on this so thank you on that because these are the ones where we are above our pay grade. But we have people that have experience so thank you.

I just want to reiterate in our own world there are other chelates out there that are usable in organics. This is not the only choice and they're not all lignin-based and the other things. I really struggle with essentiality on it as well besides some of the other technical issues. That's my own two cents.

Any other comments or should we move to a vote? Okay.

The motion is to classify ammonium citrate as synthetic. It was motioned by Dave Mortensen, seconded by Harriet. And who are we starting with?

MS. SWAFFAR: Start with me. Yes.

MR. CHAPMAN: Yes.

MS. BAIRD: Yes.

DR. SEITZ: Yes.

MR. MORTENSEN: Yes.

MR. BRADMAN: Yes.

MR. RICE: Yes.

MR. ELA: Yes.

MS. OAKLEY: Yes.

MR. BUIE: Yes.

MS. ROMERO-BRIONES: Yes.

MS. DE LIMA: Yes.

MR. GREENWOOD: Yes.

CHAIR BEHAR: Chair votes yes.

MR. RICE: That's 14 yes, zero no. The motion passes.

MR. ELA: Okay. The listing motion is a motion to add ammonium citrate as petitioned at 205.601. This is a motion by Dave, seconded by Emily. Looks like we start with Tom.

MR. CHAPMAN: No.

MS. BAIRD: No.

DR. SEITZ: No.

MR. MORTENSEN: No.

MR. BRADMAN: No.

MR. RICE: No.

MR. ELA: No.

MS. OAKLEY: No.

MR. BUIE: No.

MS. ROMERO-BRIONES: No.

MS. DE LIMA: No.

MR. GREENWOOD: No.

MS. SWAFFAR: No.

CHAIR BEHAR: Chair votes no.

MR. RICE: That is zero yes, 14 no. The motion fails.

MR. ELA: Okay. If we could have the next slide. Dave, are you ready to proceed to

the vote on the second one?

MR. MORTENSEN: Yes.

MR. ELA: Do you have anything else to add?

MR. MORTENSEN: Not really. I mean, just to say that they're two very, very similar salts. The processes, the reaction process is the same. It's a synthetic compound. The technical review from 2018 addressed both of them together and as Clarissa said and others have pointed out and I may have glossed over it was a deep dive on the chemistry of these things and basically affirmed our interpretation of the chemistry and the appropriateness by which we were evaluating the fit of these compounds. So I don't think there's anything else to add, Steve.

MR. ELA: Anybody else have anything else to add? Move to the vote.

So the motion is to classify ammonium glycinate as synthetic. Motion by Dave, seconded by Harriet. Starting with Sue.

MS. BAIRD: Yes.

DR. SEITZ: Yes.

MR. MORTENSEN: So this is synthetic, right?

MR. ELA: Yes.

MR. MORTENSEN: Sorry. Yes.

MR. BRADMAN: Yes.

MR. RICE: Yes.

MR. ELA: Yes.

MS. OAKLEY: Yes.

MR. BUIE: Yes.

MS. ROMERO-BRIONES: Yes.

MS. DE LIMA: Yes.

MR. GREENWOOD: Yes.

MS. SWAFFAR: Yes.

MR. CHAPMAN: Yes.

CHAIR BEHAR: Chair votes yes.

MR. RICE: That's 14 yes, zero no. The motion passes.

MR. ELA: Okay. The listing motion, motion to add ammonium glycinate as petitioned at 205.601. It was motioned by Dave, seconded by Dan. We will start with Dan.

DR. SEITZ: No.

MR. MORTENSEN: No.

MR. BRADMAN: No.

MR. RICE: No.

MR. ELA: No.

MS. OAKLEY: No.

MR. BUIE: No.

MS. ROMERO-BRIONES: No.

MS. DE LIMA: No.

MR. GREENWOOD: No.

MS. SWAFFAR: No.

MR. CHAPMAN: No.

MS. BAIRD: No.

CHAIR BEHAR: Chair votes no.

MR. RICE: That's zero yes, 14 no. The motion fails.

MR. ELA: All right. The next material is mine for calcium acetate. One second here.

So calcium acetate is a calcium material that is treated to provide additional available calcium to the crop. It's basically

limestone that's acidified and that makes more available calcium.

It was petitioned for two uses. One as a calcium product to add calcium to plants in either soil or foliar and then it was secondly petitioned as a sunscald protectant either to use directly on the plant and fruit or over plastic to help reduce temperature loading of those crops.

As far as public comments went fairly limited number of public comments. We had one group in favor, other groups against. There were no comments from growers in the record. We did have a couple of comments from the petitioner.

We certainly know some of the comments were that calcium foliar sprays are necessary in growing seasons because there are calcium deficiencies even in high-calcium soils. And so that was a claim for it.

However, then the claim is there are other calcium products on the market. Some may be available in a slower fashion, but there are

also some chelated calcium products as well that are already on the market.

One group noted as far as the sunscald protection goes especially in terms of reducing temperature loading when plastic is used, especially black plastic, that we do not believe that the application of a synthetic material in order to overcome the problems inherent in the use of another synthetic material, in other words using calcium acetate to overcome overheating caused by plastic mulch is compatible with organic production.

I have to say in general this is a very benign product. It's a calcium material. It is synthetic, or we determined to be synthetic, we'll vote on that, but it's not an extensive process.

However, it is adding a synthetic to the list. So I at least had issues with essentiality and the need for it.

And then also do we really -- where there are actually natural materials available do

we want to add another synthetic to the list.

With that I will open it up for questions. Emily.

MS. OAKLEY: Not that I want to be the first person so if somebody else wants to go they can. All right.

I was just going to say that I think there are ample calcium products and methods to address calcium deficiency. Many vegetable and fruit farmers address this issue in a number of ways.

There are both products that can be used and there are cultural methods that can also help with this.

In terms of sunscald additionally there are many cultural methods that can be used in terms of plant spacing, trellising, many other options that can help address this. In tree fruit that's a bit different.

But I don't think that that is an issue that warrants the use of a synthetic. I think that there are many opportunities for

addressing this with tools that are already available.

MR. ELA: Tom.

MR. CHAPMAN: I know the petitioner had asked for more time to get public comment to support this. I will say that it seems like this petition wasn't written somewhat on the same format. It doesn't speak to the petitioner and it leaves out that we did have this as a discussion document item in 2018.

So there has been two meetings with the opportunity for public comment that have failed to materialize at this point outside of the comment from the produce trade association, the produce wholesalers trade association. So that's difficult.

But I think that's important to note is that they had two opportunities both of which -- and the first opportunity we asked those questions about need from the industry or need from farmers.

MR. ELA: Yes. Thank you, Tom.

Ashley.

MS. SWAFFAR: I just noticed there was an abstention in the subcommittee. Was there any detail about that in the vote? It said there was an abstention.

MS. OAKLEY: I think I remember that. I think that was you, Steve.

MR. ELA: Was it?

MS. OAKLEY: I could be wrong.

MR. ELA: It may have been a meeting I wasn't at. I can't remember.

MS. OAKLEY: I thought you were waiting to sort of get more information. I could be wrong.

MR. ELA: It's possible. I don't know. I can't give you a solid answer on that. It could have been me.

MS. SWAFFAR: Just making sure there wasn't something underlying.

MR. ELA: Oh actually, I know what it was. I better not say. I was thinking -- I was thinking it might have been a new member.

MS. OAKLEY: You're right. Actually, I think you might be right. It might have been a new member who did not have enough time.

MR. ELA: I think it's when Eric came on.

MS. OAKLEY: You're right. Thank you.

MR. ELA: So there was some -- didn't feel like they had adequate background to vote on it.

MS. OAKLEY: That's right. Thank you.

MR. ELA: Sorry not to be more clear on that.

CHAIR BEHAR: Right. And he's no longer here to speak to it.

MR. ELA: So, other discussion on this? Rick.

MR. GREENWOOD: Yes. Emily mentioned trees. So when we stump our avocado trees they're susceptible to sunscald.

And there's plenty of products. We use a clay product to spray on the trunk. So nobody is crying for that in our industry

certainly. We stump thousands of trees.

MR. ELA: Yes. I know the use of clay like on tree fruits, it can be difficult to wash off sometimes. People use coverings.

You can make the claim of while you're using a lot of plastic for a covering you could use a fairly benign product. But I think it comes back we just didn't have testimony to justify it.

Anything else? All right, we'll move to the vote. Motion to classify calcium acetate as a synthetic. Motion was made by myself, Steve, seconded by Harriet. We are starting with Dave.

MR. MORTENSEN: Yes.

MR. BRADMAN: Yes.

MR. RICE: Yes.

MR. ELA: Yes.

MS. OAKLEY: Yes.

MR. BUIE: Yes.

MS. ROMERO-BRIONES: Yes.

MS. DE LIMA: Yes.

MR. GREENWOOD: Yes.

MS. SWAFFAR: Yes.

MR. CHAPMAN: Yes.

MS. BAIRD: Yes.

DR. SEITZ: Yes.

CHAIR BEHAR: Chair votes yes.

MR. RICE: That's 14 yes, zero no. The motion passes.

MR. ELA: Okay. We have the listing motion, motion to add calcium acetate at 205.601. Motion was made by myself, Steve, seconded by Emily. We will start with Asa.

MR. BRADMAN: No.

MR. RICE: No.

MR. ELA: No.

MS. OAKLEY: No.

MR. BUIE: No.

MS. ROMERO-BRIONES: No.

MS. DE LIMA: No.

MR. GREENWOOD: No.

MS. SWAFFAR: No.

MR. CHAPMAN: No.

MS. BAIRD: No.

DR. SEITZ: No.

MR. MORTENSEN: No.

CHAIR BEHAR: Chair votes no.

MR. RICE: That's zero yes, 14 no. The motion fails.

MR. ELA: Moving onwards we have the proposal strengthening the organic seed guidance April 2019. Harriet.

CHAIR BEHAR: Okay. So, we did get quite a few comments. Okay. So we did have some really excellent comments. And I want to say that this one has taken quite awhile to get to the finish line. I really appreciate all the previous public comments in helping lead us to this path. And it was very gratifying I think for the public and for me to provide it for them to see some of their language in this finished proposal. So it truly is a collaboration between the organic community and the NOSB and hopefully the National Organic Program.

So, I would say there were a few

little tweaks here and there, but basically people said well, that's really all right except for one area.

And that was -- Michelle, do you have that? And this is on 4.1.6 where we talk about the -- whether or not there's plant -- I'm just trying to get that open so I'm looking at it. Sorry. It all went so fast I didn't catch up.

So, I had a discussion. There was discussion that the rule allows for the sale of a crop from a non-organic planting stock. And the guidance had that if the same plant is the mother plant to a planting stock that it had to wait a year before it could be sold as organic, be managed organically for a year before it could be on the organic market.

But if it was a crop, and I used the example of a rosemary plant, they could cut that rosemary plant immediately and sell that as organic.

And so we looked at the rule and yes, the rule says that crop could be sold as organic.

So we have removed that from the item.

However, it is in the proposal as another issue. I didn't want it to get lost and at some point someone else will maybe deal with this in the future for a rule change. But we felt that there was just -- it didn't necessarily make sense to be selling a crop just the minute that it came onto the farm from a conventional source as organic when you are making a planting stock wait a year.

And so I think Steve's trying to help Michelle. You've got it, right. Sorry, Michelle, that I didn't warn you that it was coming. Okay.

So I tried to make it really easy. The areas that I removed are in red. The areas that are in the new issue section are in blue. And as soon as she can get it up everyone can see it.

And that would be the only change to the item that's up as a proposal.

MS. OAKLEY: Harriet, in the meantime

do you mind reading it?

CHAIR BEHAR: Well, it's fairly long because I took everything from the proposal and moved it. So it's about three paragraphs. So I don't know how helpful that would be if I read three paragraphs. Okay.

So in the blue there in the cross-out is what was in the proposal to change from the original guidance 5029. So that all is removed including the public comment and subcommittee response which then moves down.

So then you can keep scrolling so you can see all of that for that whole section referring to that got removed. Okay, you can keep scrolling.

So I believe that's on page 6 and then page 11 is where the new -- where basically all that got moved to is page 11. There it is. What's in blue. So that's what you were asking me to read.

So all of that came from the earlier. I just cut and pasted. I'm sorry. So all of

this came from the earlier section except just a little bit of wordsmithing.

So as 4.1.6 and 2.5.2.4(a)(4) are currently written certifiers can allow sale of an organic crop for consumption from non-organic planting stock immediately after planting it and would not allow any cuttings from that planting stock to be sold as organic planting stock for at least one year. Which is what I just said.

As an example an organic grower can purchase a non-organic rosemary plant, plant it in their organic field or leave it in its original container, cut it immediately and sell it as an organic crop.

However, as written if they make a cutting, put it in water and root it they cannot sell that plant for a year as an organic planting stock.

The allowance for a crop to be sold from non-organic planting stock that has not been under organic management for at least one year was to provide for the sale of fruit from non-

organic strawberry plants and other fruits within the first year of planting on organic land.

Typically other perennial plants do not produce fruits, nuts, or other non-vegetative crops within the first year.

However, vegetative growth that would be sold from the non-organic planting stock would have been managed non-organically. It does not make sense to sell this vegetative crop as organic, but the allowance for fruit does fit better with the regulation's intent since fruit would not be present at the time of planting.

Therefore the sale of this fruit as organic had been considered to be more in line with current regulations.

So if you're selling fruit within a year of receiving planting stock that seemed to make more sense because you're not going to buy a strawberry plant full of strawberries, plant it and sell those strawberries off that plant immediately. Like you would something that was vegetative.

So 4.1.6 states -- again this was all just moved from up above. And then I have if you keep scrolling a little bit I have an improvement to the guidance and possibly the regulation could be. And there is based upon public comment any vegetative harvest from that planting stock may be sold, labeled, or represented as organic only after 12 months of organic management.

Scroll back up.

MR. CHAPMAN: So what specifically was added or changed that wasn't in the?

CHAIR BEHAR: The 4.1.6 change was completely removed.

DR. LEWIS: So Harriet, just a point of order. So in other words the document that the board has seen and the public has seen, there's been a change.

CHAIR BEHAR: By removal of one item that nobody liked.

DR. LEWIS: And the example you had about rosemary, that's new.

CHAIR BEHAR: No, that was always in

there.

MR. ELA: Harriet, Scott would like to --

CHAIR BEHAR: Yes, go ahead, Scott.

MR. RICE: Yes. As noted in the comments there was a lot of confusion around the language and as Harriet just mentioned around vegetative crop, or vegetative stock, or vegetative growth. And there was a number of alternatives offered.

At the end of the day I think the intent of improving the guidance was to close something that seemed somewhat nonsensical in the regulation. However, that is what the regulation reads and that's how certification has interpreted it.

So instead of trying to make a guidance dictate what a regulation does or says Harriet took the move to just take this portion of the suggested changes out, but highlight the need or the desire to perhaps revisit the regulation so that it is a little more consistent

in crop as it is with planting stock if that helps any.

CHAIR BEHAR: Yes. So, I don't know that it's that much of a substantive change because we're still pointing out that this is an issue that needs addressing. But we're not asking you to take it as guidance at this time except to help us look at this in this inconsistency.

Because if the rule already says that that crop can be sold within 12 months we can't have the guidance go against that rule. That would have to be a rule change. Go ahead, Ashley.

MS. SWAFFAR: Yes, I think this is a substantial change. Honestly, I do. Because you're taking out -- basically from what I can follow from this, this is very difficult to follow what you're changing here, but I think it says you're removing or an organic vegetable crop. Is that right basically is what you're removing? You're removing that language.

CHAIR BEHAR: Vegetative crop.

MS. SWAFFAR: Vegetative, sorry. Vegetative crop. That's what you're removing? What you're changing, in the whole document you're basically removing those words.

CHAIR BEHAR: So we're removing any change to 4.1.6.

MS. SWAFFAR: You're removing 4.1.6 altogether?

CHAIR BEHAR: No, removing any change to the current 4.1.6 in the current guidance.

MR. CHAPMAN: Can I?

CHAIR BEHAR: Go ahead.

MR. CHAPMAN: I don't know if this is a substantive change, I just don't know if I understand the change. That's what I'm trying to struggle with.

So let me try to say what I think you're saying to me and see if I understand it. The bold sections in here were what you were suggesting change to 4.1.6 and you're removing this altogether. So you're no longer suggesting

a change to 4.1.6.

In the other text that you added what has changed in that text?

CHAIR BEHAR: It came both from the description above where there's discussion of the public comment and then the actual in the proposal was removed.

MR. CHAPMAN: So word for word it's the same.

CHAIR BEHAR: There was a little bit of wordsmithing just to make it flow well.

MR. CHAPMAN: So just like changing a therefore and an and or something like that?

CHAIR BEHAR: Yes. It was a cut and paste. And I had Scott and Steve look it over.

MR. CHAPMAN: Okay.

MR. RICE: Instead of changing anything because this was confusing and caused alarm it was removed.

MR. CHAPMAN: We've made changes like these on these in the past. I don't think -- it doesn't sound like it's substantive, it's just it

was hard for me to follow what actually was changed.

MR. RICE: Understood.

CHAIR BEHAR: If you scroll up on page 6. Keep going to page 6.

MR. ELA: So it's keeping -- instead of proposing to change to that section it's keeping it as it is, as it currently reads in guidance.

CHAIR BEHAR: Right there. So it says no changes to 4.1.3, 4.1.4 and then I added 4.1.6.

MR. ELA: And then it moves it to the bottom to tell the NOP as a suggestion here's an inconsistency in the rule. We can't change the rule right now. This isn't about the rule, but this is something we should pay attention to so it will be preserved in the record rather than having it come back to transcripts.

So it's just taking that section saying we know it's in the wrong spot.

CHAIR BEHAR: Yes. So since this is

a recommendation on updating a guidance and the guidance really cannot inform a rule change that's why it was moved.

MR. CHAPMAN: Thank you. Thank you for helping me understand the change.

CHAIR BEHAR: There's a lot of pages to it. And then we could then still keep the wording as a suggestion for future discussion or whatever.

There were no other changes except trying to make it clear that we've removed 4.1.6. The changes to, not entirely.

MR. ELA: Okay, discussion?

CHAIR BEHAR: Ashley.

MS. SWAFFAR: Can you send this to us so we can look at it? I feel like you've added and taken away in a few places and I would like to see this before we vote on this.

CHAIR BEHAR: Michelle, can you send it to everyone?

MR. ELA: Scott can. Michelle's got her hands full.

So, in the interest of time can we -- could I have a motion to table this? We'll put it up with collagen so we can come back to it. We can proceed to sunsets while you guys look at that.

MR. CHAPMAN: I move to table this to deferred items.

MR. ELA: Okay, is there a second? Okay, so Tom and then Dave seconded. I believe we could use a unanimous consent. We are trainable, Tom. Anybody object to the unanimous consent? Okay, we'll table this and we'll come back to it. That will give us the break time to have a little time for everybody to catch up on that.

With that we will move into discussion document on paper pots, well paper I'll just say. I should not say pots, just paper. Which is a petitioned material that is -- so this is just a discussion document. It will not be a vote so it's just an update.

CHAIR BEHAR: Sorry, I'm just trying

to find. Oh, here we go.

MR. ELA: So as we know at the last meeting this came up. It was a pretty hot topic. The committee decided not to ask for a TR. And then as we got into it we realized that the pots had more materials in them than we knew about so we did decide that we did need to ask for a TR. So that's been submitted. We're waiting for it. And we decided to proceed with a discussion document for this meeting to make sure the board knew where the subcommittee was at and what some of the issues might be. So Harriet.

CHAIR BEHAR: Okay, I got it. Okay, so we found that there were numerous synthetic fibers being used in both the paper chain pots and in Ellepots and we haven't even dug deeply into some of the other papers used as production aids.

But we did have numerous growers continue from the fall meeting to stress their need for the use of paper pots and specifically the products sold by the petitioner, the paper

chain pots.

And as the petitioner stated yesterday the manufacturer of the paper chain pots is working towards removing the synthetic fibers from their current product, replacing it with hemp fibers with -- and unfortunately last year's experiments were not successful, but an updated sample will be received from that Japanese manufacturer of the paper chain pots this summer to test the paper with the hemp fibers to see if they're working.

Ellepots, another manufacturer of non-chain paper pots provided the inclusion of numerous other synthetic fibers. Vinylon is the one in the paper chain pots. Ellepots discussed the use of polyester, rayon and tencel. Two of them being cellulosic fibers and polyester coming from fossil fuels.

They prefer the synthetic fibers for the pots for plants that grow that are in those pots for longer time because they need to get to a bigger maturity. So if you're growing lettuce

versus growing a tomato plant they're in a pot a little bit longer.

They do have a pot that is 100 percent paper and the same type of paper and adhesives that are found in newspaper, but this does not have a very long shelf life and they would like to be able to use their rayon and tencel, et cetera, and have those reviewed and possibly approved. They had really excellent public comment.

We have asked the program for a technical review for the synthetic fibers for paper as a crop production aid.

And then there was one question that pointed out that they felt that the review of hot caps should not be part of the crop as a -- paper as a production aid because they don't degrade into the soil.

But we felt that this does come into contact with the soil and at times they could remain in the field as part of its disposal. You get heavy rain or whatever you're not going to be

hauling all your paper hot caps out of the field.

So we're going to leave that in there as far as part of the review. And that's my summary.

MR. ELA: Tom.

MR. CHAPMAN: I have two questions. What's a hot cap?

CHAIR BEHAR: You put that out in the fields. It's like a little hat, like a party hat, and it keeps the plant warmer, or after transplanting it will shade it. So then it doesn't go --

MR. CHAPMAN: Like little beanies, little beanies for the plants?

CHAIR BEHAR: Well, it looks more like party hat, actually. Or like a tepee or something.

MR. ELA: It would be equivalent to sort of like your wall of water. Different material obviously. You're trying to protect the plant.

MR. CHAPMAN: Yes. Okay. If I'm

reading -- I wonder if I'm reading this right that discovery of synthetic fibers is also applicable to newspaper. Is that correct? It's likely, do we think it is, is it?

CHAIR BEHAR: You mean are there synthetic fibers like these in the newspapers?

MR. CHAPMAN: Yes.

CHAIR BEHAR: We didn't get as deep a review of that in the newspaper TR and that's why we thought -- and especially since the paper pot manufacturers were really asking us to very specifically allow these specific synthetic fibers that we should dig a little deeper there.

MR. CHAPMAN: Okay. Is there potential overlap between these synthetic fibers potentially already in use in soil applications either in the paper pots out there right now in use or if it is in newspaper and newspaper is based on -- I know we had at least a public comment about glues and other things in newspapers to cheapen them.

But if they're being -- is there a

similar in thinking about this as we're thinking about biodegradable biobased mulch that there's, you know, synthetic petroleum-based products being put into the soil to break down and be consumed by soil microbes? Am I connecting things wrong or am I connecting things right?

CHAIR BEHAR: We were trying to use the newspaper TR as best we could in looking at paper as a crop production aid. But really there just was not enough.

And really tencel and rayon are not petroleum products so there isn't the same issue there. The polyester is a fossil fuel-based polymer of some sort. Don't ask me the chemistry.

MR. CHAPMAN: So it's breakdown would be akin to some of the stuff we --

CHAIR BEHAR: Perhaps.

MR. CHAPMAN: Perhaps.

CHAIR BEHAR: Perhaps. We don't know the answer to that because it's a different polymer.

MR. ELA: If I could jump in. We thought we had this made. Natural fibers, adhesives already used in paper, we're cool.

And then it came back that their attempts to use hemp had not gone well and that they needed to add synthetic fibers to especially the paper pots to keep the chain because if the chain breaks the system doesn't work.

We've had a lot of contact with the Ellepots people as well as with this petitioner. Both of them are working very hard to get the synthetics out but they're not there yet. So we don't want to end up with the biodegradable mulch issue where we say yes, let's use something we can't do.

But I've been educated on this. My organic chemistry was a long time ago and it wasn't my best class.

So rayon, for example, synthetic. It's cellulose-based. Is similar to adding cellulose to the soil. So even though it's synthetic we're not too far apart there.

So relatively small percentages of rayon. And this is one of the reasons we asked the question whether it's less than 20 percent. I mean, one manufacturer told me 15 percent was quite doable. They're even saying maybe lower now. Paper pot people are saying maybe lower.

So we're trying to really nick that down is how low can we go. We'll do the limbo with the paper pots.

And then the TR is should we even go down that route. It went from kind of a slam dunk to like oh, we have to really think about this. Emily.

MS. OAKLEY: Okay, I highly encourage the entire board to look at the supplemental newspaper TR because there are adhesives and there are synthetic fibers in paper products already in use.

The newspaper TR does a pretty good job of covering a vast array of areas, but it also and I think Joe used this term of meeting back. There's like the et cetera, et cetera, et

cetera. There's just a whole swath of unknown that is already allowed in the current paper listing.

I probably feel a little differently from my other board members on this topic. I mean, while I'm concerned absolutely I don't want to have a product that's like 90 percent synthetic fiber and 10 percent paper.

I certainly do not want us to create some sort of a listing that is more strict than what's already allowed because theoretically someone could go out and put cardboard all over their field. There's a tremendous amount of adhesives in cardboard and synthetic fibers and that would be perfectly allowed.

And it would be a much greater quantity than these applications.

So, I don't want us to split too many hairs over this while at the same time I want us to get the needed information.

MR. ELA: Harriet.

CHAIR BEHAR: So, we did not ask for

a TR on adhesives because we felt that that newspaper TR really did cover it okay.

But when we went looking for the synthetic fibers it was kind of like yes, there are many. And that didn't tell us very much. Like which ones.

And so we felt like we didn't have enough technical background to then just carte blanche allow them.

And as Steve said too the annotation may include a limit. It may say synthetic fibers allowed, rayon, tencel, at no more than 20 percent. I mean, but that's just off the top of my head. That's kind of what we're looking at.

Because again we have learned from the biodegradable mulch which did not give a percentage of the biobased and then the NOP took it as 100 percent. So we wanted to make sure both that we were doing our due diligence in the review and that we would have something practical to offer to the community.

MR. ELA: And I'll echo what Emily

said. I'm in her camp. We don't want to make something different than newspaper, what's already allowed.

But we also don't want to just go whatever and have it explode in our face. So we're trying to --

MR. CHAPMAN: Don't interpret my questions as meaning I'm thinking in that realm. I'm trying to understand what was written there and to be honest what is already out in the field via newspaper. It's more about that than what we were looking at and reviewing.

A new substance that would be akin to or better than what's already out in the field is more on the newspaper side that are my questions.

MR. ELA: Sue.

MS. BAIRD: I just wanted to say I appreciate your diligence because I was in the beginning of this discussion when I was on the Crops. And so I really appreciate the fact that you delved a little deeper into it. I was concerned at the beginning if you remember about

the fact that.

The people who tried the hemp, it's interesting that it's not holding up because I know they're using hemp even in hydroponics strictly in water and they're using straight hemp fibers for hydroponic in water.

Was there any discussion on how the hemp was being incorporated?

CHAIR BEHAR: I've only had one on one talks with the importer and he's expressed to me that it's a little bit difficult because there's a language barrier. The manufacturer is Japanese.

And the manufacturer doesn't really understand our process, how we're looking at it and trying to figure all this out.

So I don't even know if he knows exactly how much hemp was put in that paper or whatever.

Truthfully hemp is kind of becoming more available. So it's kind of a newer product for the manufacturer to try to incorporate into

that paper.

MR. ELA: One of -- in the discussions I've had with people is this is a first try. It didn't work like they thought. They're trying to do it in one shot. Research rarely works that way.

I've had discussions with another manufacturer and they think in 15 years it will absolutely be all hemp, not an issue. But we're talking about some retooling.

What's interesting I think even having this discussion we're seeing the manufacturers look at this and go oh, maybe we could go back and reformulate a little bit. So I think we've already changed the playing field just by the discussion which is really, I mean that's really cool. These manufacturers I think are really trying to work with us.

But it's not necessarily simple. So Dave.

MR. MORTENSEN: And I'm also thinking that, you know, the whole notion of continuous

improvement.

I thought two of the presentations made to us these last couple of days were really compelling. And that was that when we transplant with paper pots, or transplant period we're really helping with all sorts of other pest management that actually relies much more heavily on plastic, for example.

So when we look at this in a systems context we have the potential to really minimize the impact of some of the system-level practices we're using where we could be precluding such heavy reliance on plastic just as an example. That is a really encouraging thought.

MR. ELA: Other -- Emily.

MS. OAKLEY: Sorry again. I just want to say that again please go look at that newspaper TR. It won't take you very long. It will take you five minutes at max.

And it does list synthetic fibers commonly found in paper, but it's just commonly found. I mean just broad.

So if we come up with some sort of percentage that's going to start getting a little tricky because is it going to force us to go back and start creating percentages in that current listing. So just a cautionary note.

MR. ELA: All right. I think we'll probably end it there. There's your background. So when it comes up again you'll all be educated.

Harriet, should we just proceed with sunsets? Do you want to take a break or anything?

CHAIR BEHAR: Ready for a break?

MR. CHAPMAN: Maybe we do sunsets and then break?

MR. ELA: Okay. Fair enough. Okay, we'll move into sunsets. The first one is hydrogen peroxide. Jesse, this is your material.

MR. BUIE: Okay. We have two hydrogen peroxides at 205.601.

DR. LEWIS: I think the first one is ferric phosphate.

MR. ELA: Not on my list.

MR. CHAPMAN: My list says ferric phosphate.

MR. ELA: We must have two different -- I'm in Crops.

MR. CHAPMAN: The short printout has hydrogen peroxide first. The big packet has ferric phosphate first.

MR. ELA: Sorry. Yes. I guess we have hydrogen peroxide up on the screen so we'll go with that. I'll use executive power. So go ahead, Jesse.

And just as a reminder to all the sunset people just really summarize comments, public comments, high points that might be points of discussion.

MR. BUIE: Okay. Hydrogen peroxide, 205.601. Reference 205.601 as algicide, disinfectant, sanitizer including irrigation system cleaning systems and at reference 205.601(i) as plant disease control.

Hydrogen peroxide is widely used as a disinfectant and bleaching agent. As we

mentioned earlier it has a very simple molecular structure which is H2O2.

Contamination is not expected when purified forms of hydrogen peroxide are released to the environment following normal use.

At typical pesticide concentration hydrogen peroxide is expected to rapidly degrade to oxygen gas and water.

While there are some alternatives on the National List for sanitizers and disinfectants as well as some essential oils and antiseptic properties the National List items are not necessarily any better or safer than hydrogen peroxide and the essential oils have not been studied to compare with hydrogen peroxide side by side to see if they are equally as effective and equally benign.

We received few comments, but the comments from 2015 were overwhelmingly in support of hydrogen peroxide. It's widely used to clean equipment, in mushroom production as one speaker mentioned during this meeting and as an alternate

to other materials for resistance management.

The NOSB found the material to meet OFPA criteria and there were no objections to continued listing.

No significant new issues were raised by the public. Are there questions?

MR. ELA: Any questions on hydrogen peroxide? Okay, seeing none we will move onto soaps, ammonium. Rick.

MR. GREENWOOD: Okay. Ammonium soaps, 205.601, synthetic substances. It's used as an animal repellant, for large animal repellant only. No contact with soil or edible portion of a crop.

It's saponified fats and it is used again for large animal barriers.

There are other things that can be used. Fencing is one that can be used. A couple of other things include coyote urine which I have used to keep rabbits away and is worthless but that's a personal opinion. I think it attracts them.

I talked to CCOF who's my certifier and they have people have it on their system plan.

And we had one comment in the webinar saying that they'd like to keep it onboard. But otherwise low toxicity. There's no long-term studies because it degrades in the environment almost immediately.

MR. ELA: Any questions on soaps? I'll just interject one. I think there is the question of effectiveness that kind of comes up.

I mean, people keep saying it's there. Some people -- I thought it was interesting. Public comments, some people seemed to believe it was effective even though there's some anecdotal stuff and maybe for different species. But I just want to put that in that that still is a question on this material.

MR. GREENWOOD: Exactly.

MR. ELA: Okay. Moving on. This is my own. So oils, horticultural (narrow range oils). It actually has two listings and I'm

going to lump them both together. One is for -- as an insecticide and I don't have the other one right in front of me.

Basically public comment on oils, heavily used, widely used, multiple crops. Everybody is in favor of them. A very critical organic input.

One of the questions, we received a new TR on this. And it was interesting because the TR did list a lot of alternative oils other than petroleum, plant-based oils.

And so we asked the question if those plant-based oils were actually viable alternatives. I'd say almost all the comments were no, they aren't which has been sort of what I've heard as well as a grower.

I think Harold Austin in particular, he said you ask if there are other types of oils available. The answer is yes. Will they work in place of horticultural spray oils, the answer is no.

Some of the alternative types of oils

such as fish oils, vegetable oils can be extremely hard on the plant and/or the crop. Most of the alternative oils can be phytotoxic to the foliage and the fruit itself.

They also tend to have compatibility issues with other materials used in organic production which then in turn can cause additional crop or plant injury.

Another group noted that the listing for horticultural oils should be annotated in a way that protects workers from inhalation hazards and non-target arthropods from harm. If this is not possible they should be de-listed.

They suggest that the annotation read steps to meet worker protection standards must be documented in the organic system plan and they must not be used when predators, parasitoids, or pollinators are present.

And I would just respond to those comments. The petroleum oils have become much more refined in recent years. There are several available to organic growers that become much

narrower spectrum and we're able to use them kind of throughout the season without injury. So I think they've become much more specialized.

I think that's one of the problems with some of vegetable oils is we don't have that same type of refinement yet.

In terms of worker protection standards I don't believe in that annotation just because we all have to comply with worker protection standards. It's kind of like saying excluded methods for organic. We can't use GMOs. We can't use oils without meeting the worker protection standards legally so I don't see any reason to annotate that. That's sort of a given.

And then as far as the may not be used when predators, parasitoids, or pollinators are present that would essentially say you would never be able to use them to be able to guarantee that.

I think a lot of the point of using oils is that they are fairly soft. They don't tend to disrupt those populations and there's

hundreds of years of experience that.

Take those comments seriously. They need to be used thoughtfully and carefully, but they are used often specifically because they are gentle on predators.

Any discussion on oils?

CHAIR BEHAR: It's always helpful to have someone who really knows the subject.

MR. ELA: I was just putting them on earlier this week. Okay. Moving on, pheromones which is also my own.

Used for insect management. Again, pheromones, widely accepted, widely used. Most organic growers in some way may use them whether it's for insect monitoring and traps or for mating disruption. Definitely it's something the organic growers helped kind of research and it moved quickly into the conventional industry.

So basically the one question that I kind of had and it's generally been resolved by OMRI is that we just list them as pheromones. There have been attempts to make sprayable

pheromones on the market. To my knowledge none are being used at this point would have food contact. There might be some used in cotton but that's not a food. So the de facto use has been in non-food contact.

We don't have that annotation. It makes me a little uncomfortable. I wish we actually had that tied up a little bit. But at this point I don't think it's a work agenda item just because it's not an issue. It is something I could see possibly coming down the line someday, but we're not there yet.

And the questions we had are there any health or environmental effects noted. Essentially no major comments on that.

Any formulations that might cause concern. That comes down to the sprayable formulations that would concern me.

And then are there any pheromones synthesized with excluded methods and we didn't get any comments on that. To my knowledge most of the pheromones that are used, for example,

codling moth pheromone is essentially a six or seven component material that's very selective and they found that we can use three and that does well enough. The extra three are very expensive to synthesize and to include. So we can keep the cost down by using three and it's still a very selective material.

That pretty well covers pheromones. Does anybody have any questions on them? Moving on.

MR. RICE: Just a comment. There's one -- I think we have one material that's sprayable that is on the market. Pheromones.

MR. ELA: For -- do you know what use?

MR. RICE: I'm trying to remember what the use was. I can get it back.

MR. ELA: The one that somebody told me yesterday was for cotton.

MR. RICE: No, we have it used in other applications too.

MR. ELA: I'd be curious. I've tried asking around. I know if there were some, maybe

it's 10 years ago that they were really looking at and just couldn't -- didn't perfect them. At that point they weren't going to be used in organic anyhow.

All right. Moving on, ferric phosphate. Dave.

MR. MORTENSEN: Yes. So ferric phosphate is a compound that's used as a molluscicide for slugs and snails with an increased adoption of reduced tillage practices in vegetables and increased reliance on cover cropping.

The organic matter on the surface is ideal habitat for slugs in particular, but also snails.

We looked at this carefully and composed these four questions and we got some really helpful feedback about them from the Organic Produce Wholesaler's CCOF and the Vermont organic farmers about the formulations folks are using and about the fact that they rely on ferric phosphate for slug protection quite a bit

actually. So that feedback was very helpful.

The one that had to do with quite an active series of discussions that we had about formulations and the potential for inhalation exposure to field workers and other things, and most all of the feedback has been that it's being used in a pelleted form which is helpful and comforting from a field worker exposure perspective.

The one thing that we were concerned about and several people spoke to this sometimes -- well, spoke to it during some of the public comment was the fact that alone, ferric phosphate used alone is rather marginally effective at slug suppression.

When used in combination with a chelating agent, EDT or EDDS, these are two compounds that behave quite similarly to the chelating agents I reviewed earlier the activity of the compound increases by orders of magnitude on slugs.

And we have compelling efficacy data

to support that in the form of a number of studies.

One unfortunate outcome of the increased efficacy on slugs is that when you add these chelating agents it increases their activity on earthworms and other organisms in the soil that are beneficial.

So we took a very careful look at that data as well and that was one of the reasons that gave rise to the question about any additional information about the compound being used alone, ferric phosphate, or formulated with the chelating agent.

The products that we're aware of are formulated with the chelating agent. That's not to say that we don't think ferric phosphate should be allowed to be used. It is to say that it's leading us to look at it more closely and more critically.

That's about where it is. We've gotten really helpful feedback and we'll continue to monitor that feedback as it comes in. But

people have been really good about speaking to the questions that we asked folks to respond to and we thank them for that.

MR. ELA: Questions, responses? Ferric phosphate.

I will add in what Dave referred to. We actually had a number of discussions with the program.

It comes back that the registered material ferric phosphate and even though there's fairly obvious effect of the ancillary -- we might not call it ancillary in crops, but the inert material that it's mixed with, we only reviewed ferric phosphate. So this is kind of a weird one that basically our review is on ferric phosphate and not on the extra materials added to it. So, Emily.

MS. OAKLEY: I just want to complement that to let the stakeholders know that we spent a significant amount of time on this material in the Crops Subcommittee and take seriously these issues that Dave has laid out.

MR. ELA: Good point. Yes, it was not -- Asa, sorry.

MR. BRADMAN: I just want to reiterate this point too about reviewing ferric phosphate versus the actual formulation.

I would say for me just like to vote on ferric phosphate for this use in this material it would be wrong in the absolute sense of right and wrong.

If the material is used as a formulated product and it's only effective as a formulated product it seems to me that should be what we're reviewing.

I know that raises a lot of cans of worms so to speak, but it just seems like the right thing to do.

MR. ELA: That's what we went back and forth with the program on. The problem is we don't review products. So that's the issue.

Your comment is well taken. It was an issue as you know for the committee in general. Anything else? Emily.

MS. OAKLEY: Yes, but I mean I think Asa's point is well made because if we were just reviewing this without the inert then it's not effective. So, I have to talk about the chicken and the egg.

MR. ELA: The worm and the slug.

MR. MORTENSEN: I guess I would say that I don't know. I can't separate them. So when I vote on something like this if everyone is using the formulated product I can't separate those two things in my mind.

I think in action it's being used that way and certainly we need to be cognizant I would say. I got the sense the subcommittee generally feels this way. We have to be cognizant of how it's being used.

The environmental data are pretty strong to suggest a close look at it. And the efficacy is orders of magnitude higher. So, I don't know. But we have all that data in front of us and that's a great thing. So that helps inform our thinking about what we think of ferric

phosphate.

MR. ELA: Anything else? And you get the joy of writing it up and then everybody will have a chance to vote next fall on their thoughts on that.

Moving on we have potassium bicarbonate. Emily.

MS. OAKLEY: Potassium bicarbonate is used as plant disease control. It's used on a variety of crops and a variety of diseases.

We asked a couple of questions about are growers using any of the alternative materials that might be able to replace this on their farm and if they did could they tell us about the desired results. But we didn't really hear that.

But what we did hear was pretty significant response to our second question, if this material was still needed.

We got some specific diseases in crops, primarily powdery mildew, cucurbit, strawberries, tomatoes and high tunnels in

greenhouses. And then also tree fruits.

It was kind of explained as something that might be used later in the season when alternatives could damage the crop.

And it's being used to control fire blight in orchards so it's playing an impact role with the limited tools that might be available for that.

There was a comment that it does not fit any OFPA categories of allowed synthetics. But by and large we did actually receive some nicely robust comments on this and I really appreciate it when we hear from so many people on a material. Any questions?

MR. ELA: All right. We will move on to magnesium sulfate. Emily.

MS. OAKLEY: Yes. So magnesium sulfate allowed with a documented soil deficiency.

So definitely people who commented and wrote in were in support of maintaining that annotation saying that it's not used that often,

usually as a rescue treatment.

We did ask about non-synthetic magnesium available in sufficient form and quantity because the 2011 TR did point to non-synthetic dolomite as an alternative material.

But the previous reviews of this material have shown that that might not be widely available or useful.

So we did get some comments on that and I also really appreciate that. We heard that the non-synthetic dolomite is expensive and not widely available, that mined magnesium sulfate does not work quickly enough and must be added in higher quantities.

We also heard that dolomite creates problems in plugs drip irrigation. We also heard that dolomite cannot substitute in all cases because as a rock powder it's slow to become available, not good for high pH soils and can't be used in foliar applications.

We did also hear that it should not take the place of soil-building practices. And

pretty widespread comments on this as well, a highly used product.

We were told that it's used by 100 percent of fruit tree growers in the Pacific Northwest and especially the state that we're in.

And again as I said it's really used I think as a rescue treatment and hopefully not widely used obviously without the documented deficiency. That it's useful in high pH soils with ample calcium where sulphur is needed but they don't want to increase the pH.

Any comments or questions?

MR. ELA: All right. We will move on to hydrogen chloride. And Asa, I believe this is yours.

MR. BRADMAN: Thank you. So this is a really interesting compound. Hydrogen chloride is used to generate an acid environment to delint cotton seeds for planting.

Basically it's vaporized and sprayed into cotton seeds with some moisture and that can then generate a strong acid to remove the lint

and also helps with breaking dormancy. So it serves a couple of roles there for pre-treating cotton seed to grow it.

In terms of public comment there's really no groups that are opposed to it. Both trade groups would like to see it re-listed and community -- National Organic Coalition, Beyond Pesticides even are in support of re-listing it.

But there is concerns about using such a strong acid and material for accomplishing this in terms of both potential environmental and occupational exposures.

And there's kind of a consensus that it would be great to move away from this, but also at least from the trade organization that there's really not a commercialized alternative to this material at this point.

From 2014, five years ago there was a reference to work being done at a USDA station to generate a mechanical system. And according to the group that we heard from yesterday in their written comments there's been kind of a move from

a tabletop version to a drum scale version. And it's kind of at a threshold for a commercial company really now to take it on to see if it's commercially viable. Not within the scale of an academic lab.

But one of the issues here is the scale of organic cotton in the U.S. is too small to support that industry which I think is also important and relevant.

I think re-listing this is important to help support this domestic U.S. cotton production system.

I know back in 1996 when Patagonia did their review of materials and really identified cotton as one of their major products and fibers that impacts on the environment. And they've really moved most of their -- as far as I understand most of their cotton production is in India.

I think it would be great to continue to support domestic cotton production. And then also perhaps we can provide tools down the road

to help that expand.

MR. ELA: Questions for Asa? Harriet.

CHAIR BEHAR: Do we know what they're using in India? Do they use this material as well?

MR. BRADMAN: I don't know. Good question. I'll follow up on that for the fall.

MR. ELA: Any other discussion? All right. Next is ash from manure burning and this is switching to prohibited substances just as a note.

CHAIR BEHAR: Okay. No one noted that this material was in use which is good because it's prohibited.

No one asked for it to be moved to the allowed list and many agreed that it should stay on the prohibited list.

I just want to read something that just gives a little background that the Organic Produce Wholesalers Coalition gave us, some language from the preamble in December 2000 -- 1997 that it was placed on the prohibited list

because burning these materials is not an appropriate method to use in order to recycle organic waste and would not be considered a proper method in a manuring program because burning removes the carbon from these wastes and therefore destroys the value of the materials for restoring soil organic content.

Burning as a disposal method of these materials would therefore not be consistent with organic production. That's it.

MR. ELA: All right. Any discussion on this? Okay, nobody wants to remove that one. Okay, last on the sunset review, and we'll have one other topic after we finish this so don't get too excited here. Sodium fluoaluminate.

DR. SEITZ: That's my substance.

MR. ELA: Dan, thank you. I'm sorry.

DR. SEITZ: Okay, so that also is a prohibited substance, non-synthetic substance under 205.602(g).

DR. LEWIS: Speak into the mike, please.

DR. SEITZ: Okay, sure.

DR. LEWIS: Thank you.

DR. SEITZ: It's been prohibited since 1996 due to environmental toxicity. It is used as an insecticide.

There were only a few comments and they all recommended continued listing as a prohibited substance. No one was in favor of removing it from the list. Any questions?

MR. ELA: No questions. Okay. That is the Crops sunset review. Thank you to the committee for your hard work on these and lots more writeups to come for the fall.

The last thing I just wanted to bring up because we did have public comment on it and just to recognize those commenters both publicly on the webinars and in the written comments are the fatty alcohols for use of desuckering in tobacco.

Jesse, did you want to say anything about those comments?

MR. BUIE: Thank you. Yes, we

received approximately 30 written comments on fatty alcohol.

And the common theme that I noticed was that these were certified organic farmers who grow tobacco in rotation with other certified organic crops and vegetables.

According to one of the public commenters controlling -- one of their concerns was controlling sucker growth improved tobacco quality and produces a significant increase in tobacco yield.

And this statement that was made several times is documented in TR on line 121 and 130.

According to another public commenter this increase in crop yield has allowed certified organic farmers to expand their certified acreage which also has facilitated an increase in other certified organic crops in their crop rotation.

And the crops that were mentioned by several of the farmers was organic sweet potatoes, soybeans and corn.

Another common theme was also that controlling sucker growth allows for a reduction -- it produced a reduction in pests as well as more efficient use of fertilizers.

And according to one of the commenters that this was a desirable outcome for their organic service plan, their OAS.

Also mentioned by a number of farmers was the fact that fatty alcohols reduce the exposure -- their risk for the green tobacco sickness which as you know is a nicotine -- is a form of nicotine poisoning which it puts them at greater risk of heat illness.

The other common theme was a concern for the USDA's temporary allowance for fatty alcohols and would a decision come through before they run out of the supplies that they had already.

And finally, another one was -- their concern was fatty alcohol being added to the National List.

MR. ELA: Thank you, Jesse. I just

wanted to make sure we recognize those public comments came in.

I will say the Crops Subcommittee attempted to get a discussion document out but we -- it was -- with the shutdown and such there were some -- we just ran out of time. There was some procedural things. So you did not see that.

Jenny, do you have any comments on this petition? Emily, I'll come to you.

DR. TUCKER: There has been some question as to sort of the scheduling and the steps for considering this particular item.

It is listed for the fall meeting as a discussion document. If the board wanted to proceed to a proposal in the fall we would be supportive of that.

MR. ELA: First of all Emily and then Harriet. Thank you, Jenny.

MS. OAKLEY: I just wanted to say that it was very helpful to hear from the farmers on the webinar and in the written comments.

But I also just want to note the

absence of other comments is probably just due to the fact that there was not a document for them to respond to.

So I think while it's good to hear and note their concerns we should also anticipate that there will be many other comments as well and more nuanced and complicated ones as we come into the fall.

MR. ELA: Good point. Harriet.

CHAIR BEHAR: So we are a little constrained in what we do on the board. And really what we do is we look at a material. We don't necessarily look at what crop it might be facilitating and whether we like that crop or not.

And tobacco is a legally grown crop in the United States. And fatty alcohols are being petitioned to facilitate the growing of that legally grown crop. Whether we like tobacco or not.

MR. ELA: I think there were some concerns -- yes. There were concerns about the

type of crop, but we've pretty well resolved that that is not our bailiwick because otherwise we go down a deep hole of deciding what crops should be grown in the United States. And we don't want to do that.

Anything else on fatty alcohols? I just wanted to touch base. Asa?

MR. BRADMAN: I just appreciate those comments. I have to consider them about crop versus material.

I just want to say though out loud that tobacco is really a damaging crop to our country, to our youth, to our unborn children. It's really a serious addictive drug.

We're at a time when we have an explosion of addiction illnesses and disease emerging in the United States. We have a situation where it's really becoming -- it's a national emergency. And certainly tobacco is not associated with the opioids that are related to that, but it's still an addictive material.

I think we should all acknowledge that

out loud. I have to as being involved in public health.

MR. ELA: So yes. Thank you, Asa. Tom?

MR. BRADMAN: I acknowledge that out loud. But that can also be said for the carbohydrates that we produce that then get fermented into alcoholic beverages.

And before I came here my son advocated for me to remove all items that support the growth of broccoli because he doesn't want to eat that.

There are ethical things. I say that to make light of this a little bit. But I hear what you're saying. But we also, we have a set of criteria and that criteria has to be what we use to evaluate substances.

If we stray from that there's a million different reasons why we could move away from stuff. And while this one might be very valid for a lot of personal reasons and what's gone on with the history of tobacco, it still --

it gets to a very slippery slope when we move away from criteria.

MR. BRADMAN: Just to say I understand that and agree with that.

MR. ELA: Sue.

MS. BAIRD: I think Emily was before me.

MS. OAKLEY: I just want to say I understand all of these points, the health issue, the fact that we can't judge a crop.

But I just want to add that there is an additional nuance to this which is tobacco dust is a prohibited natural on our list. So it does add another layer of complication as we discuss it.

But I understand that we're evaluating the material itself, not the crop.

MR. ELA: Okay, Sue.

MS. BAIRD: I think that's very valid, Emily, but I've got to echo that we have to evaluate by the criteria.

And there's no one that hates tobacco

smoking more than I do, or the disasters. I've got children who smoke and I can't figure that how that ever happened, but they do.

And I guess maybe this doesn't have pertinence, but to me in my heart it does. These are fourth, fifth, sixth generation farmers that have always grown tobacco. We're talking about poor people in North Carolina, Virginia, that this is their livelihoods.

And they've made a point of saying that if we don't have the monies from this we can't continue doing all the other crops that we do organically. And I think that's got to be weighed as well.

Perhaps it's not -- it's not by the criteria either so I'm contradicting myself.

MR. ELA: Rick.

MR. GREENWOOD: Obviously I'm against tobacco. I'm in a school of public health.

But the issue about selecting crops. I come from California and we've had real battles about what we can grow based on water. And

there's been tremendous, you know, you shouldn't grow almonds in California because they use a lot of water.

I think it's a dangerous precedent. And so if you're a farmer and you have land and you have water I think you should be able to grow what you can if it's a legal crop. And so I'd just like to mention that.

MR. ELA: I'll just make one final comment. It's probably going to be grown. I would rather see that land be in organic production and taken care of with healthy soil and all those things than anything else and I think that's important to me too.

I'd rather see those growers as part of our community than part of some other community.

With that I'm going to close down this discussion. I think we might have a short -- or I'll turn it back to Harriet is what I'll do and then she can make the big decisions.

CHAIR BEHAR: I just want everyone to

know that we actually are on time. 4:15 was deferred proposals. But I do think we all need a break. So let's try and be back by 4:25 and we'll continue.

(Whereupon, the above-entitled matter went off the record at 4:14 p.m. and resumed at 4:30 p.m.)

CHAIR BEHAR: Okay, so we are on deferred proposals. And so I will talk about the organic seed guidance document will be returned to subcommittee.

There was significant concern by at least one member that the change was too significant for us to move forward. And so stay tuned. You're going to have another document to look at in the spring we think. We'll see about the -- I'm sorry, in the fall. We'll see if -- how much we're willing to be working on it.

But we hope we'll be able to pull something together for the fall for you to look at and maybe we'll be at a vote then.

MR. ELA: Point of order. Do we need

a vote to return to the subcommittee?

CHAIR BEHAR: Yes, probably.

MR. ELA: So I'll as Crops chair -- or do you want to handle the vote? I don't care.

I would entertain a motion to send the seed proposal and just to be specific, Strengthening Organic Seed Guidance, April 2019 back to committee. Is there a motion?

MS. SWAFFAR: I'll make that motion.

MR. ELA: Okay. Is there a second? Dave. So Ashley made the motion, Dave seconded it. Start with Asa. Is there any further discussion first? Emily, sorry.

MS. OAKLEY: Just curious. Do you think that stakeholders would rather see us pass it as it is without any changes than send it back? Because I would entertain that. Not making any changes and just accepting it as it is.

MR. ELA: Other discussion.

MS. DE LIMA: I wouldn't vote for that. But I was comfortable with the language

change and voting on it the way you guys rewrote it.

MS. OAKLEY: I feel like the vast majority of public comments said don't delay. Like yes, we'd like some tweaks but we'd rather see you pass it and perhaps we could address some of these concerns in a cover letter.

MS. DE LIMA: I don't know. My interpretation of the comments was they'd like to see it go forward if we addressed that section 4.1.6. But I was okay with the way that Harriet and Scott and Steve had --

MR. MORTENSEN: I was also okay with it.

MR. ELA: Let's go one at a time.

MR. MORTENSEN: As it was revised.

MR. ELA: Let me recognize people as we go around. So Tom.

MR. CHAPMAN: I'm fine either way.

MR. ELA: Anybody else? I mean, I guess -- I'm trying to think through my Robert's Rules here.

MR. CHAPMAN: Is there a motion?

MR. ELA: Time out. Time out. So I think we can vote -- if we don't send it back to committee then it will mean we vote on it and move it forward if I'm correct. Is that right?

DR. SEITZ: Point of clarification. Do we vote on it with the changed language? In other words it might be that most of the board does not consider this to be a substantive change requiring it to be returned to the committee.

(Simultaneous speaking)

DR. SEITZ: Okay, gotcha.

MR. ELA: So, the program thinks it's -- go ahead, Jenny.

DR. TUCKER: Do you want me to read the definition of substantive change? Based on the definition that we've been training on for the last five years we believe this is a substantive change. And so I think the process is you are correct, you can either vote to send it back to committee, a subcommittee to make that change, or you can vote to advance it as it is.

But the change made wouldn't be voted on because it's a substantive change.

MR. ELA: Fair enough. Okay, Harriet.

CHAIR BEHAR: So if we vote it forward now in the cover letter I can make the note that this 4.1.6 is requesting a change to guidance that really informs the regulation and that that's not quite right, but we still are giving them what we feel that there is an inconsistency there.

So they can do with it what they wish. Which is basically what the change did. It still kept the wording in there and said this is another issue.

So we could give it to them as it sits with a cover letter saying we realize that you can't do anything with 4.1.6. But it still expresses our opinion that something needs to be done there.

MR. ELA: Scott.

MR. RICE: I would just reiterate I would be fine moving this forward versus back. I

think we've heard pretty clearly from the community that that would be the preference.

And then as Harriet noted she could address the issue in a cover.

MR. ELA: Ashley.

MS. SWAFFAR: Yes. So I'm the one that raised concerns over the additional language, but I would be fine voting on this as originally written.

MR. ELA: I think that that becomes clear. Okay, we do have a motion on the floor. Is there any further discussion on that motion?

MR. CHAPMAN: Does the motion maker want to remove the motion or are we going forward with the motion?

DR. LEWIS: Point of order. Can you just reread the motion? So we know exactly for the record.

MR. ELA: Sure. The motion is to send the Strengthening Organic Seed Guidance April 2019 back to committee.

MS. OAKLEY: I didn't hear what Tom

said, I'm sorry. Could you just repeat that?

MR. CHAPMAN: Yes. I mean I guess my question is do we want to vote on this motion given the conversation that was just had. We could also have the motion withdrawn and proceed with the primary motion.

MR. ELA: That is up to the motion maker.

MR. CHAPMAN: I know. And the seconder.

MS. OAKLEY: So who made the motion?

MR. ELA: Ashley did.

MS. SWAFFAR: I would like to move to withdraw my motion to send this back.

MR. ELA: Is that okay with the second?

MR. MORTENSEN: Yes, I support that.

MR. ELA: So the record will show that the motion maker withdrew their motion and it was concurred with by the second.

So, we now have on the floor the document, the Strengthening Organic Seed Guidance

as distributed and written in the packet. Is there any further discussion on that? Okay, if so we will move -- Emily.

MS. OAKLEY: Just a final comment. Thank you for all the work that's been done on this over the many years and I'm excited to see us vote on it. Thank you.

MR. ELA: Any other discussion? Okay. We said we are starting with Scott I believe. Tell me when you're ready. But you get to control it by being the first vote.

MR. RICE: Multitasking. Yes.

MR. ELA: Yes.

MS. OAKLEY: Yes.

MR. BUIE: Yes.

MS. ROMERO-BRIONES: Yes.

MS. DE LIMA: Yes.

MR. GREENWOOD: Yes.

MS. SWAFFAR: Yes.

MR. CHAPMAN: Yes.

MS. BAIRD: Yes.

DR. SEITZ: Yes.

MR. MORTENSEN: Yes.

MR. BRADMAN: Yes.

CHAIR BEHAR: Chair votes enthusiastically yes.

MR. RICE: That is 14 yes, zero no. The motion passes.

MR. ELA: With that the Crop Committee thankfully yields the floor to the chair.

CHAIR BEHAR: Okay. So we have one more deferred proposal, collagen gel. Asa, do you want to take that?

MR. BRADMAN: Yes.

CHAIR BEHAR: As the Handling Subcommittee chair and the lead on that material. I think it belongs in your lap.

MR. BRADMAN: Yes. Okay. I thought I was going to turn it over to you.

Given your involvement in the original proposal and all the discussions we had I think maybe you can summarize the discussions we had about how to address some of the confusion about how to move ahead on the language.

CHAIR BEHAR: Okay. So, we did discuss about leaving the words as petitioned and then in a cover letter take directly from the petition that it's being only really petitioned for casings or the exact wording and also make note that that was the only use that we discussed in subcommittee based upon that petition.

So we can vote on it as is with the words as petitioned but in the cover letter we'll make it clear that that was what we reviewed. And that's what the petition said.

MR. ELA: Since I was the one that brought up the original issue, I'm sorry, but I think that's perfectly fine.

I just want to make sure that we inform the program as to the intent of the board and the committee. And I don't want to see it listed as just collagen. I would like to see it listed for what the petition actually stated. But I am comfortable with that.

Can I ask a point of order?

CHAIR BEHAR: Sure.

MR. ELA: I think we had -- and this is where my Robert's Rules is a bit oxidized, but we had a motion to change the wording that was -- may have been seconded.

MR. CHAPMAN: No, we never had the motion. We just started talking about it.

(Simultaneous speaking)

MS. SWAFFAR: I have it written down a motion by Harriet and a second by myself to amend it.

MR. ELA: Correct. Yes. That's what I had too.

CHAIR BEHAR: So I will withdraw that motion.

MS. SWAFFAR: And as the seconder I would support that.

MR. ELA: Okay. I just wanted to make sure we cleared that.

CHAIR BEHAR: Thank you. Okay, so --

MR. BRADMAN: So I think that clears the way then for me to go through the -- did we do the classification motion? We did. Okay,

thank you.

So, then I want to put to vote the motion to add collagen gel as petitioned at 205.606. The motion was by myself and seconded by Tom. So at this point any final discussion before we vote? Okay.

MR. ELA: I vote yes.

MS. OAKLEY: Abstain.

MR. BUIE: Yes.

MS. ROMERO-BRIONES: Abstain.

MS. DE LIMA: Yes.

MR. GREENWOOD: Yes.

MS. SWAFFAR: Yes.

MR. CHAPMAN: Yes.

MS. BAIRD: Yes.

DR. SEITZ: Abstain.

MR. MORTENSEN: Yes.

MR. BRADMAN: Yes.

MR. RICE: Yes.

CHAIR BEHAR: Chair votes yes.

MR. RICE: I was tracking here.

CHAIR BEHAR: Scott?

MR. RICE: Yes, my vote was yes.

CHAIR BEHAR: And chair votes yes.

MR. RICE: Okay. Thanks for your patience. Eleven yes, three abstentions. The motion -- no nos. And the motion passes.

CHAIR BEHAR: Okay. With that we move to the work agenda. And any new materials or whatever we might be looking at in the fall. So, this is the next part of the soap opera. We'll be moving to a fall meeting in Pittsburgh and this is what we'll be working on.

DR. LEWIS: Just a moment to post it.

CHAIR BEHAR: Okay. Am I presenting this part? I guess so.

So, we are looking at possibly another discussion document for helping the NOP with more oversight improvements to deter fraud. Tom kind of gave us a little list there that I wrote down so I'll bring that to the Certification Subcommittee and we can discuss which items we are prepared and able to work on. Thank you, Tom.

Paper pots. We will go to a vote. Then we -- I could just say vote, vote, vote, vote.

The potassium hypochlorite material for crops. We will go to a vote. Fatty alcohols, material for crops will go to a vote. Liquid fish products, annotation. We will go to a vote in the fall.

Biodegradable biobased mulch annotation change. I don't think we've done a vote -- we're not --

MR. ELA: I'm going to say I think that's to be decided because it depends on several factors.

CHAIR BEHAR: That's to be determined.

MR. ELA: And can I just go back. Emily, do you think -- are liquid fish, are we?

MS. OAKLEY: We don't even have the TR.

MR. ELA: I think that's TBD, yes, because it depends on the timing of the TR.

CHAIR BEHAR: Okay. Then we're going

to sunset items for crops. Hydrogen peroxide, soaps, ammonium, oils, horticultural, oils that's narrow range. I guess it's in two places. Pheromones, again crops sunset vote.

Ferric phosphate, vote. Hydrogen peroxide, vote. Potassium bicarbonate, vote. Magnesium sulfate, vote. Hydrogen chloride, vote. Ash from manure burning, vote. Sodium fluoaluminate, vote. So everybody get their voting voices on.

Celery powder is a sunset material for handling and that's vote. Fish oil, vote. Goodbye, Dave. Gelatin, vote. Orange pulp, dried, vote. Seaweed Pacific kombu and seaweed -- I say Wakame both votes.

Alginic acid, vote. Calcium chloride, vote. Citric acid, vote. We have a lot to do in Handling.

Lactic acid, go to vote. Dairy cultures, enzymes, L-Malic acid, magnesium sulfate, microorganisms, perlite, potassium iodide all will be voted on as sunset.

Okay, yeast, activated charcoal, ascorbic acid, calcium citrate, ferrous sulfate, hydrogen peroxide, nutrient vitamins and minerals, peracetic acid, potassium citrate, potassium phosphate, sodium acid pyrophosphate, sodium citrate, tocopherols, all in Handling, all going to a vote, all sunset materials.

And on to Livestock for sunset materials. As parasiticide fenbendazole and moxidectin all up for a sunset vote. Atropine, hydrogen peroxide, magnesium sulfate, peracetic acid, xylazine, iodine in two uses, methionine, trace minerals, vitamins, all sunset materials that will be voted on in the fall in the Livestock Subcommittee.

Use of excluded methods, vaccines in organic livestock production. I hope we go to a vote. We really haven't talked about it in subcommittee, if we felt that we had a good suggestion.

Part of it has to do with a little research on the commercial availability and what

we can offer certifiers and producers to make that go easier because that seemed to be where most people felt it made sense.

DR. LEWIS: Do you want to have that as vote or do you want to have it as a TBD?

CHAIR BEHAR: Let's do a TBD.

DR. LEWIS: Okay.

CHAIR BEHAR: Just to make sure that I can get the information. I hope to.

DR. LEWIS: This is the first time presented to the public and discussion group.

CHAIR BEHAR: Right. So it's more just making sure that we could do the support for the community.

Marine materials will remain in discussion. We are hoping to perhaps do a panel. We're going to talk with the program about that.

Genetic integrity transparency of seed grown on organic land. Let's say a TBD there. I am hoping to have a finished item, but let's do TBD depending on again the information the community gives us.

Induced mutagenesis and embryo transfer in livestock. I think we'll be able to do the embryo transfer in livestock. I'm not sure about the induced mutagenesis part. So do a TBD on that. I think one part of it is yes and one part of it needs a little more research.

Sanitizers. That will be just a discussion. Research priorities, each of the subcommittees will be coming forward to the Materials Subcommittee and we'll be collating those for a vote by the full board.

And then there will be, Rick, a policy and procedure manual update that we will probably vote on.

And that's the end of our list. Good thing I didn't hold my breath during that list or I'd be blue. Okay.

As far as other business and closing remarks I would just like to say that I really appreciate the work of my fellow board members and the very engaged discussion that we have.

I think we all learn a lot. And I

think it's so valuable to have so many viewpoints. Sometimes we don't always agree but that's part of the situation we are -- neither does the public.

But I think we do come to very good decisions in the end. So I greatly appreciate that. And I don't know if anyone else on the board has something to say to the public before I use the gavel that's been sitting here.

Oh, you want to say something too. Can I have the board first and then you can have the last word. Anyone from the board have something to say? Dan?

DR. SEITZ: Just want to thank you, Harriet, for a nicely done meeting and also all of the subcommittee chairs because I know you put in a tremendous amount of work so thank you.

CHAIR BEHAR: Asa.

MR. BRADMAN: I'm just going to echo what Dan said.

CHAIR BEHAR: Emily.

MS. OAKLEY: Yes. And as the program

looks to be recruiting new members for the board we have one particular strong workhorse that you've seen at this meeting today and with a lot of historical knowledge. So if we can be sure to get someone on the board that has that historical knowledge and is a workhorse that would be great. Also livestock producers would be great.

CHAIR BEHAR: Steve.

MR. ELA: Yes, I would like to echo that. Looking forward I think livestock is -- I mean, we need everybody, but livestock probably would be a very nice addition. I know you only have the choices you have, but that would be the high priority in my book.

CHAIR BEHAR: I know a few people have mentioned that I kind of followed in Zea's footsteps so I just want to mention that, that I had a good lead on how to be a workhorse.

Okay. Thank you, Jenny.

DR. TUCKER: Okay. And so from a program perspective we also want to thank you very, very much, Harriet, for running this

meeting as board chair.

Thank you to the entire board and to NOP staff. The meeting process and outcome reflect an enormous investment of both time, energy and investment and care.

As we all leave for home I also thank all of you in the public and all of the public commenters who came here this week. Your passion and dedication is truly inspiring. And so thank you very, very much for being here.

We all look forward to seeing you in Pittsburgh this fall. Let's give everybody a hand.

(Applause)

CHAIR BEHAR: With that I want to announce that it's 4:51 so we're nine minutes early. And I am going to -- I know this thing's been sitting next to me. Adjourned.

(Whereupon, the above-entitled matter went off the record at 4:51 p.m.)

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C E R T I F I C A T E

This is to certify that the foregoing transcript

In the matter of: National Organic Standards Board
Spring 2019 Meeting

Before: USDA

Date: 04-26-19

Place: Seattle, WA

was duly recorded and accurately transcribed under my direction; further, that said transcript is a true and accurate record of the proceedings.

Neal R Gross

Court Reporter