

Formal Recommendation
From: National Organic Standards Board (NOSB)
To: The National Organic Program (NOP)

Date: November 2, 2017

Subject: Crops 2019 Sunset Substances

NOSB Chair: Tom Chapman

The NOSB recommends to the NOP the following:

Rulemaking Action: X

The NOSB recommends the following sunset substances be renewed on the National List:

Calcium hypochlorite
Chlorine dioxide
Sodium hypochlorite
Herbicides, soap-based
Biodegradable biobased mulch film
Boric acid
Sticky traps/barriers
Coppers, fixed
Copper sulfate
Humic acids
Micronutrients: soluble boron products
Micronutrients: sulfate, carbonates, oxides, or silicates of zinc, copper, iron, manganese, molybdenum, selenium, and cobalt
Vitamins C and E
Lead salts
Tobacco dust (nicotine sulfate)

The NOSB recommends the following sunset substance be removed from the National List:

Vitamin B1

NOSB Vote: See below for votes and rationale supporting each recommendation.

**Sunset 2019
NOSB Final Review
Crops Substances
November 2017**

Note: With the exception of biodegradable biobased mulch film, the materials included in this list are undergoing early sunset review as part of November 18, 2016 [NOSB recommendation](#) on efficient workload re-organization.

As part of the National List sunset review process, the NOSB has evaluated the need for the continued allowance for or prohibition of the following substances for use in organic crop production.

Reference: 7 CFR 205.601 Synthetic substances allowed for use in organic crop production.

[Chlorine materials: calcium hypochlorite, chlorine dioxide, sodium hypochlorite](#)

[Herbicides, soap-based](#)

[Biodegradable biobased mulch film](#)

[Boric acid](#)

[Sticky traps/barriers](#)

[Coppers, fixed](#)

[Copper sulfate](#)

[Humic acids](#)

[Micronutrients: soluble boron products](#)

[Micronutrients: sulfates, carbonates, oxides, or silicates of zinc, copper, iron, manganese, molybdenum, selenium, and cobalt](#)

[Vitamins B1, C, E](#)

205.602 Nonsynthetic substances prohibited for use in organic crop production

[Lead salts](#)

[Tobacco dust \(nicotine sulfate\)](#)

Chlorine materials - Calcium Hypochlorite

Reference: 205.601(a) - As algicide, disinfectants, and sanitizer, including irrigation system cleaning systems. (2) Chlorine materials -For pre-harvest use, residual chlorine levels in the water in direct crop contact or as water from cleaning irrigation systems applied to soil must not exceed the maximum residual disinfectant limit under the Safe Drinking Water Act, except that chlorine products may be used in edible sprout production according to EPA label directions.

(i) Calcium hypochlorite

Technical Report(s): [1995 TAP](#); [2006 TR](#); [2011 TR](#)

Petition(s): N/A

Past NOSB Actions: [10/1995 NOSB minutes and vote](#); [04/2006 NOSB sunset recommendation](#); [04/2011 NOSB sunset recommendation](#); [10/2015 sunset recommendation](#)

Recent Regulatory Background: Sunset renewal notice 2017 ([82 FR 14420](#))

Sunset Date: 03/15/2022

[Subcommittee Review](#)

NOSB Review:

Calcium hypochlorite is an EPA registered pesticide (OPP No. 014701) that is used in controlling bacteria, fungi, and slime-forming algae. Public comments were received indicating that chlorine materials are necessary in organic crop production, and that chlorine sanitizers have a wide range of uses, including sanitation of equipment and work surfaces, maintaining functioning irrigation systems, preventing the spread of disease, and controlling pathogens detrimental to human health. Some commenters said it was important to have several types of sanitizers available for use in case resistance develops to any of them. Based on the Subcommittee review and public comment, the NOSB finds chlorine materials - calcium hypochlorite compliant with OFPA criteria, and does not recommend removal from the National List.

NOSB Vote:

Motion to remove calcium hypochlorite from §205.601(a) based on the following criteria in the Organic Foods Production Act (OFPA) and/or 7 CFR 205.600(b) if applicable: none

Motion by: Francis Thicke

Seconded by: Emily Oakley

Yes: 0 No: 15 Abstain: 0 Absent: 0 Recuse: 0

Outcome: Motion failed

Chlorine materials - Chlorine Dioxide

Reference: 205.601(a) - As algicide, disinfectants, and sanitizer, including irrigation system cleaning systems. (2) Chlorine materials - For pre-harvest use, residual chlorine levels in the water in direct crop contact or as water from cleaning irrigation systems applied to soil must not exceed the maximum residual disinfectant limit under the Safe Drinking Water Act, except that chlorine products may be used

in edible sprout production according to EPA label directions.

(ii) Chlorine dioxide

Technical Report(s): [1995 TAP](#); [2006 TR](#); [2011 TR](#)

Petition(s): N/A

Past NOSB Actions: [10/1995 NOSB minutes and vote](#); [04/2006 NOSB sunset recommendation](#); [04/2011 NOSB sunset recommendation](#); [10/2015 sunset recommendation](#)

Recent Regulatory Background: Sunset renewal notice 2017 ([82 FR 14420](#))

Sunset Date: 03/15/2022

[Subcommittee Review](#)

NOSB Review:

EPA has registered the liquid form of chlorine dioxide for use as a disinfectant and sanitizer. Chlorine dioxide is an effective disinfectant at a pH of between 5 and 10. Public comments were received during the 2019 review indicating that chlorine materials are necessary in organic crop production, and that chlorine sanitizers have a wide range of uses, including sanitation of equipment and work surfaces, maintaining functioning irrigation systems, preventing the spread of disease, and controlling pathogens detrimental to human health. Some commenters said it was important to have several types of sanitizers available for use in case resistance develops to any of them. Based on the Subcommittee review and public comment, the NOSB finds chlorine materials – chlorine dioxide compliant with OFPA criteria, and does not recommend removal from the National List.

NOSB Vote:

Motion to remove chlorine dioxide from §205.601(a) based on the following criteria in the Organic Foods Production Act (OFPA) and/or 7 CFR 205.600(b) if applicable: none

Motion by: Francis Thicke

Seconded by: Emily Oakley

Yes: 0 No: 15 Abstain: 0 Absent: 0 Recuse: 0

Outcome: Motion failed

Chlorine materials - Sodium Hypochlorite

Reference: 205.601(a) - As algicide, disinfectants, and sanitizer, including irrigation system cleaning systems. (2) Chlorine materials -For pre-harvest use, residual chlorine levels in the water in direct crop contact or as water from cleaning irrigation systems applied to soil must not exceed the maximum residual disinfectant limit under the Safe Drinking Water Act, except that chlorine products may be used in edible sprout production according to EPA label directions.

(iii) Sodium hypochlorite

Technical Report(s): [1995 TAP](#); [2006 TR](#); [2011 TR](#)

Petition(s): N/A

Past NOSB Actions: [10/1995 NOSB minutes and vote](#); [04/2006 NOSB sunset recommendation](#); [04/2011](#)

[NOSB sunset recommendation](#); [10/2015 sunset recommendation](#)

Recent Regulatory Background: Sunset renewal notice 2017 ([82 FR 14420](#))

Sunset Date: 03/15/2022

[Subcommittee Review](#)

NOSB review:

Sodium hypochlorite is an EPA registered pesticide (OPP No. 014703) that is used in controlling bacteria, fungi, and slime-forming algae. Public comments were received during the 2019 review indicating that chlorine materials are necessary in organic crop production, and that chlorine sanitizers have a wide range of uses, including sanitation of equipment and work surfaces, maintaining functioning irrigation systems, preventing the spread of disease, and controlling pathogens detrimental to human health. Some commenters said it was important to have several types of sanitizers available for use in case resistance develops to any of them. Based on the Subcommittee review and public comment, the NOSB finds chlorine materials - sodium hypochlorite compliant with OFPA criteria, and does not recommend removal from the National List.

NOSB Vote:

Motion to remove sodium hypochlorite from §205.601(a) based on the following criteria in the Organic Foods Production Act (OFPA) and/or 7 CFR 205.600(b) if applicable: NA

Motion by: Francis Thicke

Seconded by: Emily Oakley

Yes: 0 No: 15 Abstain: 0 Absent: 0 Recuse: 0

Outcome: Motion failed

Herbicides, soap-based/ (Soaps, herbicidal)

Reference: 205.601(b) As herbicides, weed barriers, as applicable (1) herbicides soap-based—for use in farmstead maintenance (roadways, ditches, right of ways, building perimeters) and ornamental crops.

Technical Report: [1996 TAP](#); [2015 TR](#)

Petition(s): N/A

Past NOSB Actions: Actions: [1996 recommendation](#); [11/2005 NOSB sunset recommendation](#); [10/2010 NOSB sunset recommendation](#); [10/2015 sunset recommendation](#)

Recent Regulatory Background: Sunset renewal notice 2017 ([82 FR 14420](#))

Sunset Date: 03/15/2022

[Subcommittee Review](#)

NOSB Review:

Soap-based herbicides generally are comprised of a fatty acid component with carbon, hydrogen and oxygen atoms with potassium or ammonium counterions. Potassium salts of fatty acids include individual soap salts such as potassium laurate, potassium myristate, potassium oleate, and potassium

ricinoleate). Based on the Subcommittee review and public comment, the NOSB finds soap-based herbicides compliant with OFPA criteria and supports relisting.

NOSB Vote:

Motion to remove soap based herbicides from §205.601(b) based on the following criteria in the Organic Foods Production Act (OFPA) and/or 7 CFR 205.600(b) if applicable: none

Motion by: Sue Baird

Seconded by: Jesse Buie

Yes: 0 No: 15 Abstain: 0 Absent: 0 Recuse: 0

Outcome: Motion failed

Biodegradable biobased mulch film

Reference: 205.601(b) As herbicides, weed barriers, as applicable (2) Mulches (iii) Biodegradable biobased mulch film as defined in §205.2. Must be produced without organisms or feedstock derived from excluded methods.

Technical Report: [2012 TR](#); [2015 Report](#); [NOP Policy Memorandum 15-1](#); [Supplemental Technical Evaluation Report 2016](#)

Petition(s): [2012](#)

Past NOSB Actions: **Actions:** [10/2012 NOSB Recommendation](#)

Recent Regulatory Background: Added to National List effective 10/30/14 ([79 FR 58655](#))

Sunset Date: 10/30/2019

[Subcommittee Review](#)

NOSB Review:

Biodegradable biobased mulch films were approved for placement on the National List of approved synthetics without detailed information about the how much non-biobased content would be allowed. The vast majority of mulch films in this category contain 20% or less of biobased materials, with the remainder consisting of polymers, colorings, and other synthetic materials. There are some products that might meet the biobased aspect of this material's definition on §205.2, but are either not biodegradable or are not used widely in production due to brittleness or other production issues.

In January 2015, the National Organic Program issued Policy Memorandum 15-1, clarifying that biodegradable biobased mulch film must not contain any synthetic polymer feedstocks. The NOSB requested a limited scope technical review (TR) in 2016. This TR focused upon biobased biodegradable mulches that contain polymers and the soil and crop health effects they may have as they biodegrade. This supplemental TR was inconclusive, since research on these materials is currently limited. There are studies now in progress that could provide more information in the future. The research may also support the current NOP regulations and policy memo that no synthetic polymers are allowed in degradable mulch.

There was no new information provided through public comment between the subcommittee review

and the NOSB in-person vote. The NOSB favors keeping biodegradable biobased mulch film on the National List.

NOSB Vote:

Motion to remove biodegradable biobased mulch film as defined in §205.2 - Must be produced without organisms or feedstock derived from excluded methods.

Motion by: Harriet Behar

Seconded by: Emily Oakley

Yes: 0 No: 15 Abstain: 0 Absent: 0 Recuse: 0

Outcome: Motion failed

Boric acid

Reference: 205.601(e) As insecticides (including acaricides or mite control). (3) Boric acid - structural pest control, no direct contact with organic food or crops.

Technical Report: [1995 TAP](#)

Petition(s): N/A

Past NOSB Actions: [04/1995 NOSB minutes and vote](#); [11/2005 NOSB sunset recommendation](#); [10/2010 NOSB sunset recommendation](#); [10/2015 sunset recommendation](#)

Recent Regulatory Background: Sunset renewal notice 2017 ([82 FR 14420](#))

Sunset Date: 03/15/2022

[Subcommittee Review](#)

NOSB Review:

Boric acid, derived from the mineral borax, is a weak acid that has long been considered a “least-toxic” pesticide because it is non-volatile when placed in bait or gel formulations and therefore eliminates risk of direct exposure. There was no new information provided through public comment between the subcommittee review and the NOSB in-person vote. Based on the Subcommittee review and public comment, the NOSB finds boric acid compliant with OFPA criteria, and does not recommend removal from the National List.

NOSB Vote:

Motion to remove boric acid - As insecticides (including acaricides or mite control) (3) Boric acid-structural pest control, no direct contact with organic food or crops from 205.601(e) based on the following criteria in the Organic Foods Production Act (OFPA) and/or 7 CFR 205.600(b) if applicable:
none

Motion by: Harriet Behar

Seconded by: Francis Thicke

Yes: 0 No: 15 Abstain: 0 Absent: 0 Recuse: 0

Outcome: Motion failed

Sticky traps/barriers

Reference: §205.601(e) As insecticides (including acaricides or mite control). (9) Sticky traps/barriers.

Technical Report: 1995 TAP

Petition(s): N/A

Past NOSB Actions: [10/1995 NOSB minutes and vote](#); [11/2005 NOSB sunset recommendation](#); [10/2010 NOSB sunset recommendation](#); [10/2015 sunset recommendation](#)

Recent Regulatory Background: Sunset renewal notice 2017 ([82 FR 14420](#))

Sunset Date: 03/15/2022

[Subcommittee Review](#)

NOSB Review:

This listing covers a wide range of traps and coatings made with a number of different materials, including coated paper, coated plastic, and brushed on sticky chemicals applied directly to plants. There was broad support for relisting sticky traps/barriers from farmers, certifiers, and trade organizations. Based on the Subcommittee review and public comment, the NOSB finds sticky traps/barriers compliant with OFPA criteria, and does not recommend removal from the National List.

NOSB Vote:

Motion to remove sticky traps from §205.601(e) based on the following criteria in the Organic Foods Production Act (OFPA) and/or 7 CFR 205.600(b) if applicable: none

Motion by: Emily Oakley

Seconded by: Sue Baird

Yes: 0 No: 15 Abstain: 0 Absent: 0 Recuse: 0

Outcome: Motion failed

Coppers, fixed

Reference: 205.601(i) As plant disease control. (2) Coppers, fixed —copper hydroxide, copper oxide, copper oxychloride, includes products exempted from EPA tolerance, *Provided*, That, copper-based materials must be used in a manner that minimizes accumulation in the soil and shall not be used as herbicides.

Technical Report: [1995 TAP](#); [2011 TR](#)

Petition(s): N/A

Past NOSB Actions: [10/1995 NOSB meeting minutes and vote](#); [11/2005 NOSB sunset recommendation](#); [04/2011 NOSB sunset recommendation](#); [10/2015 sunset recommendation](#)

Recent Regulatory Background: Sunset renewal notice 2017 ([82 FR 14420](#))

Sunset Date: 03/15/2022

[Subcommittee Review](#)

NOSB Review:

Copper sulfate and fixed coppers used for plant disease control (§205.601(i)(2) and §205.601(i)(3)) were reviewed for Sunset 2015. Coppers continue to be an important tool for organic producers as part of a comprehensive approach to disease management in many crops. There was strong public support for relisting of copper materials. Although there was some discussion regarding the annotation, the final public comment was that the current annotation is adequate. Given the extensive use and documented need for copper sprays, the NOSB finds Coppers, fixed, compliant with OFPA criteria, and does not recommend removal from the National List.

NOSB Vote:

Motion to remove coppers, fixed from §205.601(i) based on the following criteria in the Organic Foods Production Act (OFPA) and/or 7 CFR 205.600(b) if applicable: none

Motion by: Steve Ela

Seconded by: Emily Oakley

Yes: 0 No: 15 Abstain: 0 Absent: 0 Recuse: 0

Outcome: Motion failed

Copper sulfate

Reference: 205.601(i) As plant disease control. (3) Copper sulfate - Substance must be used in a manner that minimizes accumulation of copper in the soil.

Technical Report: [1995 TAP](#); [2011 TR](#)

Petition(s): N/A

Past NOSB Actions: [10/1995 NOSB meeting minutes and vote](#); [11/2005 NOSB sunset recommendation](#); [04/2011 NOSB sunset recommendation](#); [10/2015 sunset recommendation](#)

Recent Regulatory Background: Sunset renewal notice 2017 ([82 FR 14420](#))

Sunset Date: 03/15/2022

[Subcommittee Review](#)

NOSB Review:

Copper sulfate and fixed coppers used for plant disease control (§205.601(i)(2) and §205.601(i)(3)) were reviewed for Sunset 2015. Coppers continue to be an important tool for organic producers as part of a comprehensive approach to disease management in many crops. There was strong public support for relisting of copper materials. Although there was some discussion regarding the annotation, the final public comment was that the current annotation is adequate. Given the extensive use and documented need for copper sprays, the NOSB finds Copper Sulfate compliant with OFPA criteria, and does not recommend removal from the National List.

NOSB Vote:

Motion to remove copper sulfate from §205.601(i) based on the following criteria in the Organic Foods Production Act (OFPA) and/or 7 CFR 205.600(b) if applicable: none

Motion by: Steve Ela

Seconded by: Francis Thicke

Yes: 0 No: 15 Abstain: 0 Absent: 0 Recuse: 0

Outcome: Motion failed

Humic acids

Reference: 205.601(j) As plant or soil amendments. 3) Humic acids - naturally occurring deposits, water and alkali extracts only.

Technical Report: [1996 TAP](#); [2006 TR](#); [2012 TR for oxidized lignite/humic acid derivatives](#)

Petition(s): N/A

Past NOSB Actions: [09/1996 meeting minutes and vote](#); [04/2006 sunset recommendation](#); [10/2010 NOSB sunset recommendation](#); [10/2015 sunset recommendation](#)

Recent Regulatory Background: Sunset renewal notice 2017 ([82 FR 14420](#))

Sunset Date: 03/15/2022

[Subcommittee Review](#)

NOSB Review:

Humic acids, which naturally exist in soils, can be supplemented by manufactured humic acids from oxidized lignite. Humic acids are used as a component of traditional fertilizers and do not provide additional nutrients to plants, but rather affect soil fertility by making micronutrients more readily available to plants. Humic acids are viewed as a critical and necessary element of nutrient management in organic farming. Based on the Subcommittee review and the public comment in favor of this material, the NOSB finds humic acids compliant with OFPA criteria, and does not recommend removal from the National List.

NOSB Vote:

Motion to remove humic acids from 205.601(j) based on the following criteria in the Organic Foods Production Act (OFPA) and/or 7 CFR 205.600(b) if applicable: NA

Motion by: Asa Bradman

Seconded by: Dave Mortensen

Yes: 0 No: 15 Abstain: 0 Absent: 0 Recuse: 0

Outcome: Motion Failed

Micronutrients: Soluble boron products.

Reference: 205.601(j)(6) - As a plant or soil amendment. Micronutrients—not to be used as a defoliant, herbicide, or desiccant. Those made from nitrates or chlorides are not allowed. Soil deficiency must be documented by testing. (i) Soluble boron products.

Technical Report: [2010 TR Micronutrients](#)

Petition(s): N/A

Past NOSB Actions: [04/1995 NOSB minutes and vote](#); [11/2005 NOSB sunset recommendation](#); [10/2010 NOSB sunset recommendation](#); [10/2015 sunset recommendation](#); [10/2015 micronutrient annotation change](#)

Recent Regulatory Background: Sunset renewal notice 2017 ([82 FR 14420](#))

Sunset Date: 03/15/2022

[Subcommittee Review](#)

NOSB Review:

Micronutrients, including soluble boron, are essential for plant health and are typically applied in very small quantities.

At the October 29, 2015 NOSB meeting, the Board voted to change the Micronutrients annotation from: *205.601 (j) -As a plant or soil amendment.*

(6) Micronutrients -not to be used as a defoliant, herbicide, or desiccant. Those made from nitrates or chlorides are not allowed. Soil Deficiency must be documented by testing.

to:

205.601 (j) -As a plant or soil amendment.

(6) Micronutrients - not to be used as a defoliant, herbicide, or desiccant. Those made from nitrates or chlorides are not allowed. Deficiency must be documented.

As of November 2017, this annotation change has not yet been implemented by the NOP or printed in the Federal Register. The NOSB crops supports this annotation change.

All public commenters were supportive of relisting this micronutrient, calling it essential. There was no new information provided through public comment between the subcommittee review and the NOSB in-person vote. The NOSB supports relisting micronutrients: soluble boron products at §205.601(j)(6).

NOSB Vote:

Motion to remove micronutrients: soluble boron products from §205.601(j) based on the following criteria in the Organic Foods Production Act (OFPA) and/or 7 CFR 205.600(b) if applicable: none

Motion by: Harriet Behar

Seconded by: Jesse Buie

Yes: 0 No: 15 Abstain: 0 Absent: 0 Recuse: 0

Outcome: Motion Failed

Micronutrients: sulfates, carbonates, oxides, or silicates of zinc, copper, iron, manganese, molybdenum, selenium, and cobalt

Reference: 205.601(j)(6) - As plant or soil amendments. Micronutrients—not to be used as a defoliant, herbicide, or desiccant. Those made from nitrates or chlorides are not allowed. Soil deficiency must be documented by testing. (ii) Sulfates, carbonates, oxides, or silicates of zinc, copper, iron, manganese, molybdenum, selenium, and cobalt.

Technical Report: [2010 TR Micronutrients](#)

Petition(s): N/A

Past NOSB Actions: [04/1995 NOSB minutes and vote](#); [11/2005 NOSB sunset recommendation](#); [10/2010 NOSB sunset recommendation](#); [10/2015 annotation change recommendation](#); [10/2015 sunset recommendation](#)

Recent Regulatory Background: Sunset renewal notice 2017 ([82 FR 14420](#))

Sunset Date: 03/15/2022

Subcommittee Review

NOSB Review:

Micronutrients are essential for plant health and are typically applied in very small quantities.

At the October 29, 2015 NOSB meeting, the Board voted to change the micronutrients annotation from: 205.601 (j) -As plant or soil amendments.

(6) Micronutrients -not to be used as a defoliant, herbicide, or desiccant. Those made from nitrates or chlorides are not allowed. Soil deficiency must be documented by testing.

to:

205.601 (j) -As plant or soil amendments.

(6) Micronutrients -not to be used as a defoliant, herbicide, or desiccant. Those made from nitrates or chlorides are not allowed. Deficiency must be documented.

As of November 2017, this annotation change has not been published in the Federal Register. All public commenters were supportive of relisting these micronutrients, calling them essential in a variety of cropping systems. There was no new information provided through public comment between the subcommittee review and the NOSB in-person vote. Based on the Subcommittee review and public comment, the NOSB finds micronutrients sulfates, carbonates, oxides, or silicates of zinc, copper, iron, manganese, molybdenum, selenium, and cobalt compliant with OFPA criteria, and does not recommend removal from the National List.

NOSB Vote:

Motion to remove micronutrients: sulfates, carbonates, oxides, or silicates of zinc, copper, iron, manganese, molybdenum, selenium, and cobalt at §205.601 (j) based on the following criteria in the Organic Foods Production Act (OFPA) and/or 7 CFR 205.600(b) if applicable: none

Motion by: Harriet Behar

Seconded by: Steve Ela

Yes: 0 No: 15 Abstain: 0 Absent: 0 Recuse: 0

Outcome: Motion Failed

Vitamins B₁, C, E

Reference: 205.601(j)(8) - As plant or soil amendments. Vitamins B₁, C, and E

Technical Report(s): [1995 TAP](#); [2015 TR](#)

Petition(s): N/A

Past NOSB Actions: [10/1995 minutes and vote](#); [11/2005 NOSB sunset recommendation](#); [10/2010 NOSB sunset recommendation](#); [10/2015 sunset recommendation](#)

Recent Regulatory Background: Sunset renewal notice 2017 ([82 FR 14420](#))

Sunset Date: 03/15/2022

[Subcommittee Review](#)

NOSB Review:

Vitamins, including synthetically derived vitamins B1 (thiamine), C (ascorbic acid) and E (tocopherols), are generally considered non-toxic essential nutrients for terrestrial and aquatic organisms. The available literature does not support the premise that foliar and soil applications of vitamin B1 are responsible for root stimulation in transplanted crops. Vitamins C and E are used to promote both growth and yields and to protect plants from oxidative stress due to salinity.

A Technical Report found that root growth claims associated with vitamin B1 are largely unsubstantiated. During the 2019 sunset review, additional information was requested on the efficacy and use of vitamin B1, given that the 2015 TR stated that it is not generally effective at reducing transplant shock or stimulating new root growth outside of a laboratory setting. No public comments were submitted demonstrating an efficacy or widespread use of Vitamin B1.

Based on the Subcommittee review and public comment, the NOSB does not find Vitamin B1 compliant with OFPA criteria, and recommends its removal from the National List. Rationale for removing Vitamin B1: Lack of essentiality for organic production due to its unproven efficacy or need. It was determined there would be minimal disruption to organic trade or negative economic impact, since it is rarely used by organic producers. There are no OMRI approved brand name crop inputs containing Vitamin B1 in the final product.

Based on the Subcommittee review and public comment, the NOSB finds Vitamins C and E compliant with OFPA criteria, and does not recommend their removal from the National List.

NOSB Vote:

Motion to remove vitamin B1 from §205.601(j) based on the following criteria in the Organic Foods Production Act (OFPA) and/or 7 CFR 205.600(b) if applicable: incompatible with a system of sustainable agriculture due to its unproven efficacy or need, and a lack of essentiality.

Motion by: Emily Oakley

Seconded by: Steve Ela

Yes: 15 No: 0 Abstain: 0 Absent: 0 Recuse: 0

Outcome: Motion passed

Motion to remove Vitamins C and E from §205.601(j) based on the following criteria in the Organic Foods Production Act (OFPA) and/or 7 CFR 205.600(b) if applicable: none

Motion by: Emily Oakley

Seconded by: Harriet Behar

Yes: 0 No: 15 Abstain: 0 Absent: 0 Recuse: 0

Outcome: Motion Failed

Lead salts

Reference: 205.602 The following nonsynthetic substances may not be used in organic crop production:
(d) Lead salts.

Technical Report: none

Petition(s): N/A

Past NOSB Actions: [04/1995 NOSB minutes and vote](#); [11/2005 NOSB sunset recommendation](#); [10/2010 NOSB sunset recommendation](#); [10/2015 sunset recommendation](#)

Recent Regulatory Background: Sunset renewal notice 2017 ([82 FR 14420](#))

Sunset Date: 03/15/2022

[Subcommittee Review](#)

NOSB Review:

Lead poisoning can cause a number of adverse human health effects but is particularly detrimental to the neurological development of children. Lead accumulates in soils, so it is important to avoid soil applications of materials containing lead, whether the lead is in synthetic materials or naturally occurring (nonsynthetic) lead salts. Public comments received were in favor of keeping lead salts on the list of nonsynthetic substances prohibited for use in organic crop production. The NOSB recommends keeping lead salts in its prohibited status on the National List.

NOSB Vote:

Motion to remove lead salts from §205.602 based on the following criteria in the Organic Foods Production Act (OFPA) and/or 7 CFR 205.600(b) if applicable: none

Motion by: Francis Thicke

Seconded by: Emily Oakley

Yes: 0 No: 15 Abstain: 0 Absent: 0 Recuse: 0

Outcome: Motion Failed

Tobacco dust (nicotine sulfate)

Reference: 205.602 The following nonsynthetic substances may not be used in organic crop production:

(i) Tobacco dust (nicotine sulfate)

Technical Report: none

Petition(s): N/A

Past NOSB Actions: [04/1995 NOSB minutes and vote](#); [11/2005 NOSB sunset recommendation](#); [10/2010 NOSB sunset recommendation](#); [10/2015 sunset recommendation](#)

Recent Regulatory Background: Sunset renewal notice 2017 ([82 FR 14420](#))

Sunset Date: 03/15/2022

[Subcommittee Review](#)

NOSB Review:

Tobacco dust, nicotine sulfate, has been present on the National List as a prohibited substance since the inception of the USDA organic regulations. Due to the negative human health effects caused by this material, it has been relisted as a prohibited nonsynthetic on the National List at every sunset with no objections from the public or from the NOSB. It is present on the Hazardous Substance list and regulated by OSHA and the EPA as well as other agencies.

Public comments indicated that certifiers, businesses and public interest organizations agree that this product should remain listed as a prohibited nonsynthetic. There was no new information provided through public comment between the subcommittee review and the NOSB in-person vote. The NOSB supports keeping tobacco dust on the National List at §205.602.

NOSB Vote:

Motion to remove tobacco dust from §205.602 based on the following criteria in the Organic Foods Production Act (OFPA) and/or 7 CFR 205.600(b) if applicable: none

Motion by: Harriet Behar

Seconded by: Joelle Mosso

Yes: 0 No: 15 Abstain: 0 Absent: 0 Recuse: 0

Outcome: Motion Failed