

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

Date: October 25, 2019

Subject: Sunset Reviews - Crops 2021

NOSB Chair: Harriet Behar

The NOSB hereby recommends to the NOP the following:

Rulemaking Action: None

The NOSB recommends the following sunset substances be renewed:

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

Hydrogen peroxide (a)

Hydrogen peroxide (i)

Soaps, ammonium

Oils, horticultural (e)

Oils, horticultural (i)

Pheromones

Ferric phosphate

Potassium bicarbonate

Magnesium sulfate

Hydrogen chloride

Reference 7 CFR §205.602 Prohibited nonsynthetic substances

Ash from manure burning

Sodium fluoaluminate

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

Hydrogen peroxide—§205.601(a)

§205.601 Synthetic substances allowed for use in organic crop production.

Reference: 205.601(a) As algicide, disinfectants, and sanitizer, including irrigation system cleaning systems. **(4) Hydrogen peroxide.**

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

Petition(s): N/A

Past NOSB Actions: [10/1995 NOSB minutes and vote](#); [11/2005 sunset recommendation -deferred](#); [06/2006 sunset recommendation](#); [10/2010 sunset recommendation](#) [10/2015 sunset recommendation](#)

Recent Regulatory Background: Sunset renewal notice published 06/06/12 ([77 FR 33290](#)); Renewed 03/15/2017 ([82 FR 14420](#))

Sunset Date: 3/15/2022

[Subcommittee Review](#)

NOSB Review:

The NOSB received numerous comments in favor of relisting hydrogen peroxide and no comments against relisting. Comments included the following:

- Hydrogen peroxide is an effective microbial pesticide used in the orchard setting for the sanitation of equipment such as picking bags and pruning shears. It is also used as an algicide and disinfectant, including for irrigation system cleaning.
- With the loss of antibiotics, hydrogen peroxide has become an extremely important tool in controlling fire blight in both organic apples and pears.

Based on the Subcommittee review and public comment, the NOSB finds hydrogen peroxide compliant with OFPA criteria, and does not recommend removal from the National List.

NOSB Vote:

Motion to remove hydrogen peroxide from §205.601(a) of the National List based on the following criteria in the Organic Foods Production Act (OFPA) and/or 7 CFR 205.600(b): NA

Motion by: Jesse Buie

Seconded by: Harriet Behar

Yes: 0 No: 13 Abstain: 0 Absent: 1 Recuse: 0

Outcome: Motion failed

Hydrogen peroxide—§205.601(i)

§205.601 Synthetic substances allowed for use in organic crop production.

Reference: 205.601(i) As plant disease control. **(5) Hydrogen peroxide.**

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

Petition(s): N/A

Past NOSB Actions: [10/1995 NOSB minutes and vote](#); [11/2005 sunset recommendation -deferred](#); [06/2006 sunset recommendation](#); [10/2010 sunset recommendation](#) [10/2015 sunset recommendation](#)

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NOSB Vote:

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Motion by: Jesse Buie

Seconded by: Harriet Behar

Yes: 0 No: 13 Abstain: 0 Absent: 1 Recuse: 0

Outcome: Motion failed

Soaps, ammonium

§205.601 Synthetic substances allowed for use in organic crop production.

Reference: 205.601(d) **As animal repellents—Soaps, ammonium—for use as a large animal repellent only, no contact with soil or edible portion of crop.**

Technical Report: [1996 TAP](#); [2019 TR](#)

Petition(s): N/A

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

Recent Regulatory Background: Sunset renewal notice published 06/06/12 ([77 FR 33290](#)); Renewed 03/15/2017 ([82 FR 14420](#))

Sunset Date: 3/15/2022

Subcommittee Review

NOSB Review:

Public comments supported the continued listing of ammonium soaps on the National List of Allowed and Prohibited Substances. Based on the NOSB review and public comment, the NOSB finds ammonium soaps compliant with OFPA criteria, and does not recommend removal from the National List.

NOSB Vote:

Motion to remove soaps, ammonium, from §205.601 of the National List based on the following criteria in the Organic Foods Production Act (OFPA) and/or 7CFR205.600(b): NA

Motion by: Rick Greenwood

Seconded by: Emily Oakley
Yes: 0 No: 13 Abstain: 0 Absent: 1 Recuse: 0

Outcome: Motion failed

Oils, horticultural—§205.601(e)

§205.601 Synthetic substances allowed for use in organic crop production.

Reference: 205.601(e) As insecticides (including acaricides or mite control). **(7) Oils, horticultural—narrow range oils as dormant, suffocating, and summer oils.**

Technical Report: [1995 TAP](#); [2019 TR](#)

Petition(s): N/A

Past NOSB Actions: [04/1995 NOSB minutes and vote](#); [11/2005 sunset recommendation – deferred](#); [06/2006 sunset recommendation](#); [10/2010 sunset recommendation](#); [10/2015 sunset recommendation](#)

Recent Regulatory Background: Sunset renewal notice published 06/06/12 ([77 FR 33290](#)); Renewed 03/15/2017 ([82 FR 14420](#))

Sunset Date: 3/15/2022

[Subcommittee Review](#)

NOSB Review:

Public comments noted the extensive benefits and need for these oils. One commenter noted that there is no known alternative for control of bugs in soybean fields. Another noted that while other types of oils are available, they will not work in place of horticultural spray oils. They continued by saying that other oils, such as fish or vegetable oils, can be phytotoxic to the foliage or fruit/crop itself and can have compatibility issues with other materials used in organic production. One comment was received asking for an annotation that would protect workers from inhalation hazards and nontarget arthropods from harm and if that annotation is not possible that the oils should be delisted. Other than that comment, there was broad support for the relisting of horticultural oils.

Based on the NOSB review and public comment, the NOSB finds horticultural oils compliant with OFPA criteria, and does not recommend removal from the National List.

NOSB Vote:

Motion to remove horticultural oils from §205.601(e) of the National List based on the following criteria in the Organic Foods Production Act (OFPA) and/or 7 CFR 205.600(b): NA

Motion by: Steve Ela

Seconded by: Dave Mortenson

Yes: 0 No: 13 Abstain: Absent: 1 Recuse: 0

Outcome: Motion failed

Oils, horticultural—§205.601(i)

§205.601 Synthetic substances allowed for use in organic crop production.

Reference: 205.601(i) As plant disease control. (7) Oils, horticultural—narrow range oils as dormant, suffocating, and summer oils.

Technical Report: [1995 TAP](#); [2019 TR](#)

Petition(s): N/A

Past NOSB Actions: [04/1995 NOSB minutes and vote](#); [11/2005 sunset recommendation – deferred](#); [06/2006 sunset recommendation](#); [10/2010 sunset recommendation](#); [10/2015 sunset recommendation](#)

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[Subcommittee Review](#)

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Based on the NOSB review and public comment, the NOSB finds horticultural oils compliant with OFPA criteria, and does not recommend removal from the National List.

NOSB Vote:

Motion to remove horticultural oils from §205.601(i) of the National List based on the following criteria in the Organic Foods Production Act (OFPA) and/or 7 CFR 205.600(b): NA

Motion by: Steve Ela

Seconded by: Harriet Behar

Yes: 0 No: 13 Abstain: 0 Absent: 1 Recuse: 0

Outcome: Motion failed

Pheromones

§205.601 Synthetic substances allowed for use in organic crop production.

Reference: 205.601(f) As insect management. Pheromones.

Technical Report: [1995 TAP](#); [2012 TR](#)

Petition(s): N/A

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

Recent Regulatory Background: Sunset renewal notice published 06/06/12 ([77 FR 33290](#)); Renewed 03/15/2017 ([82 FR 14420](#))

Sunset Date: 3/15/2022

[Subcommittee Review](#)

NOSB Review:

Public comments were in favor of relisting pheromones. There were many comments noting their widespread use, insect specificity, use in monitoring populations, and benign nature. Several commenters did support relisting with the caveat that the pheromones are identical to or substantially similar to natural pheromones, in passive dispensers, without added toxicants and with only approved inert ingredients. There is currently no annotation for pheromones, but comments received indicate that their use generally fits this request. Microencapsulated pheromones which might be sprayed and have direct fruit contact have not become commercially available. Active dispensers (also known as puffers) are in current use, but act in similar fashion to the passive dispensers in terms of fruit contact or type of pheromone used.

Based on the NOSB review and public comment, the NOSB finds pheromones compliant with OFPA criteria, and does not recommend removal from the National List.

NOSB Vote:

Motion to remove pheromones from §205.601(f) of the National List based on the following criteria in the Organic Foods Production Act (OFPA) and/or 7 CFR 205.600(b): NA

Motion by: Steve Ela

Seconded by: Dave Mortenson

Yes: 0 No: 13 Abstain: 0 Absent: 1 Recuse: 0

Outcome: Motion failed

Ferric phosphate

§205.601 Synthetic substances allowed for use in organic crop production.

Reference: §205.601(h) As slug or snail bait. **Ferric phosphate (CAS #s 10045-86-0).**

Technical Report: [2004 TAP](#), [2010 TR](#), [Supplemental TR 2012](#)

Petition(s): [05/2003](#) , [Supplemental Information 02/2005](#), [Petition to remove: 07/2009](#)

Past NOSB Actions: [03/2005 sunset recommendation](#); [04/2010 sunset recommendation](#); [10/2012 recommendation on petition to remove from national list](#); [XX/2016 sunset recommendation](#)

Recent Regulatory Background: Added to National List 09/11/06 [71 FR 53299](#); Renewed 08/03/2011 [76 FR 46595](#); Renewed 09/12/16 [81 FR 8821](#)

Sunset Date: 9/12/2021

[Subcommittee Review](#)

NOSB Review:

From the 2018 technical review we learned that little additional research has been conducted since the 2012 technical review quantifying the soil community response to ferric phosphate. The technical review did confirm that commercial formulations routinely include ferric phosphate and a chelating agent. We received considerable public comment on ferric phosphate learning that it is seen as an integral part of vegetable and fruit pest management and is widely used for slug and snail management in organic systems. We heard from some public comments that while a systems-approach is taken to address the slug and snail problem, attempts by organic farmers to increase reliance on cover-cropping and decreased tillage can lead

to increased slug and snail abundance. The Subcommittee recognizes the efficacy of ferric phosphate is inextricably linked with the formulation; when formulated with a chelating agent, ferric phosphate effectively suppresses slugs and snails, unfortunately, the non-target effects on other soil organisms increase as well.

Despite a split vote in the Crops Subcommittee as to whether this material should be relisted, after full NOSB review and public comment, the NOSB finds ferric phosphate compliant with OFPA criteria, and does not recommend removal from the National List.

NOSB Vote:

Motion to remove ferric phosphate from the National List at §205.605 based on the following criteria in the Organic Foods Production Act (OFPA) and/or 7 CFR 205.600(b): NA

Motion by: Dave Mortensen

Seconded by: Harriet Behar

Yes: 0 No: 13 Abstain: 0 Absent: 1 Recuse: 0

Outcome: Motion failed

Potassium bicarbonate

§205.601 Synthetic substances allowed for use in organic crop production.

Reference: 205.601(i) As plant disease control. **(9) Potassium bicarbonate.**

Technical Report: [1999 TAP](#); [2015 TR](#)

Petition(s): N/A

Past NOSB Actions: [10/1999 NOSB meeting minutes and vote](#); [11/2005 sunset recommendation](#); [10/2010 sunset recommendation](#); [10/2015 sunset recommendation](#)

Recent Regulatory Background: Sunset renewal notice published 06/06/12 ([77 FR 33290](#)); Renewed 03/15/2017 ([82 FR 14420](#))

Sunset Date: 3/15/2022

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NOSB Review:

As part of this review, the Crops Subcommittee asked about efficacy of alternatives and the continued need for potassium bicarbonate. Written and oral testimony expressed continued support for this material, stating that it is used to control a number of diseases across a wide range of crops, including strawberries, cucurbits, tomatoes, and fruit trees. It is used in field, high tunnel, and greenhouse applications, and it is employed by some as part of a material rotation. One commenter did express that it does not fit any OFPA categories of allowable synthetics.

Based on the NOSB review and public comment, the NOSB finds potassium bicarbonate compliant with OFPA criteria, and does not recommend removal from the National List.

NOSB Vote:

Motion to remove potassium bicarbonate 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: NA

Motion by: Emily Oakley

Seconded by: Dave Mortenson

Yes: 0 No: 13 Abstain: 0 Absent: 1 Recuse: 0

Outcome: Motion failed

Magnesium Sulfate

§205.601 Synthetic substances allowed for use in organic crop production.

Reference: 205.601(j) As a plant or soil amendment. **(6) Magnesium sulfate—allowed with a documented soil deficiency.**

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

Petition(s): N/A

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

Recent Regulatory Background: Sunset renewal notice published 06/06/12 ([77 FR 33290](#)); Renewed 03/15/2017 ([82 FR 14420](#))

Sunset Date: 3/15/2022

[Subcommittee Review](#)

NOSB Review:

Public commenters expressed continued support for this material, stating that it is important in high tunnels and greenhouses as well as fruit tree production. Some growers commented that dolomite is not a suitable substitute in all cases as it cannot be used in high pH soils nor as a foliar application. It was also noted that there are few non-synthetic products on the market. Magnesium sulfate is also used in high pH soils when sulfur is needed but growers do not want to increase the pH. It is used alone and in blended products. One commenter noted that use of magnesium sulfate should not take the place of soil building practices.

Based on the NOSB review and public comment, the NOSB finds magnesium sulfate compliant with OFPA criteria, and does not recommend removal from the National List.

NOSB Vote:

Motion to remove magnesium sulfate 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: Emily Oakley

Seconded by: Asa Bradman

Yes: 0 No: 13 Abstain: 0 Absent: 1 Recuse: 0

Outcome: Motion failed

Hydrogen chloride

§205.601 Synthetic substances allowed for use in organic crop production.

Reference: §205.601(n) Seed preparations. **Hydrogen chloride (CAS # 7647-01-0)—for delinting cotton seed for planting.**

Technical Report: [2003 TAP](#), [2014 Limited Scope TR](#)

Petition(s): [Hydrogen Chloride 10/30/02](#)

Past NOSB Actions: [05/2004 NOSB recommendation for National List](#); [11/2009 sunset recommendation](#); [4/2015 recommendation](#)

Recent Regulatory Background:

Added to National List 09/11/06 ([71 FR 53299](#)); Renewed 08/03/2011 ([76 FR 46595](#))

Renewed 09/12/16 ([81 FR 8821](#))

Sunset Date: 9/12/2021

[Subcommittee Review](#)

NOSB Review:

Overall, comments and discussion confirmed that viable alternatives are not yet available. A key challenge is the small size of the U.S organic production market which does not economically incentivize companies to develop organic-specific technologies. Public comments were universally supportive of relisting hydrogen chloride as essential, and asserted that failure to do so would irreparably harm the U.S. organic cotton industry. Allowing the limited use of hydrogen chloride for seed preparation accrues economic and environmental benefits by supporting domestic organic cotton production and avoiding associated impacts of heavy pesticide use on conventional cotton. The need for additional specialized research to support alternatives to hydrogen chloride, a caustic and potentially harmful material, were emphasized, and is supported by the NOSB.

Based on the NOSB review and public comment, the NOSB finds hydrogen chloride, for delinting cotton seed for planting, compliant with OFPA criteria, and does not recommend removal from the National List.

NOSB Vote:

Motion to remove hydrogen chloride for delinting cotton seed for planting based on the following criteria in the Organic Foods Production Act (OFPA) and/or §205.601(n) seed preparations if applicable: NA

Motion by: Steve Ela

Seconded by: Harriet Behar

Yes: 0 No: 13 Abstain: 0 Absent: 1 Recuse: 0

Outcome: Motion failed

Ash from manure burning

§205.602 Nonsynthetic substances prohibited for use in organic crop production.

Reference: 205.602(a) Ash from manure burning.

Technical Report: none

Petition(s): [2014](#)

Past NOSB Actions: [04/1995 NOSB minutes and vote](#); [11/2005 sunset recommendation](#); [10/2010 sunset recommendation](#), [10/2015 sunset recommendation](#); [4/2016 NOSB formal recommendation](#)

Recent Regulatory Background: Sunset renewal notice published 06/06/12 ([77 FR 33290](#)); Renewed 03/15/2017 ([82 FR 14420](#))
Sunset Date: 3/15/2022

[Subcommittee Review](#)

NOSB Review:

This non-synthetic material is present on the prohibited list for crop production, since the carbon present in manure is considered valuable, and the destruction of it by burning would not be consistent with foundational organic production principles. There was one public commenter who discussed possible benefits that could be obtained from manure burning, but the NOSB did not feel this was a compelling enough argument to allow ash from manure burning to be allowed. The NOSB finds that ash from manure burning is not compliant with OFPA criteria and recommends this material remain on the National List of prohibited substances.

NOSB Vote:

Motion to remove ash from manure burning from §205.602 of the National List based on the following criteria in the Organic Foods Production Act (OFPA) and/or 7 CFR 205.600(b): NA
Motion by: Harriet Behar
Seconded by: Jesse Buie
Yes: 0 No: 13 Abstain: 0 Absent: 1 Recuse: 0

Outcome: Motion failed

Sodium fluoaluminate (mined)

§205.602 Nonsynthetic substances prohibited for use in organic crop production.

Reference: 205.602(g) **Sodium fluoaluminate (mined).**

Technical Report: none

Petition(s): N/A

Past NOSB Actions: [05/1996 NOSB meeting minutes and vote](#); [11/2005 sunset recommendation](#); [10/2010 sunset recommendation](#); [10/2015 sunset recommendation](#)

Recent Regulatory Background: Sunset renewal notice published 06/06/12 ([77 FR 33290](#)); Renewed 03/15/2017 ([82 FR 14420](#))
Sunset Date: 3/15/2022

[Subcommittee Review](#)

NOSB Review:

Public commenters supported continued relisting of this substance as prohibited. Given the toxicity associated with fluoride pollution in the environment and the multiple sources of such pollution, the NOSB supports continued prohibition of this substance in organic production.

The NOSB finds that sodium fluoaluminate is not compliant with OFPA criteria and recommends this material remain on the National List of prohibited substances.

NOSB Vote:

Motion to remove sodium fluoaluminate (mined) from § 205.602 of the National List based on the following criteria in the Organic Foods Production Act (OFPA) and/or 7 CFR 205.600(b): NA

Motion by: Dan Seitz

Seconded by: Jessie Buie

Yes: 0 No: 13 Abstain: 0 Absent: 1 Recuse: 0

Outcome: Motion failed