NORTHWEST HORTICULTURAL COUNCIL
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September 30, 2024

Ms. Michelle Arsenault
Advisory Committee Specialist
National Organic Standards Board
USDA-AMS-NOP
1400 Independence Ave. SW
Room 2648-S Mail Stop 0268
Washington, DC 20250-0268

RE: Docket Number AMS-NOP-24-0023; Notice of Meeting of the National Organic Standards Board

Dear Ms. Arsenault,

The Northwest Horticultural Council (NHC) appreciates the opportunity to comment on the National Organic Standards Board (NOSB) sunset reviews, proposals, and discussion documents listed in the NOSB meeting materials posted in the *Federal Register* on August 30, 2024. Many of the NOSB subcommittee documents referenced in this letter are vital to the growers, packers, and shippers of organic apples, pears, and sweet cherries in Idaho, Oregon, and Washington that the NHC represents.

The Pacific Northwest is the leading region in the United States in the production of organic apples, pears, and cherries. More than 15 million boxes of organic apples are now harvested from more than 28,000 acres in Washington state. According to certifier data, an additional 1,000 acres of tree fruit orchards in Washington were transitioning to organic in 2022. There is also a significant volume of organic pears and cherries grown in our region, with more than 6,500 acres planted across the Pacific Northwest.

Washington state hosts 89 percent of the reported organic apple acres in the U.S., producing 97 percent of the nation's reported fresh organic apple volume. Washington also has 71 percent of the organic pear acreage and grows 60 percent of the volume in the country, and 83 percent of the sweet cherry acreage and 93 percent of the volume (USDA NASS, 2022).

The total value of the organic tree fruit crop in the Pacific Northwest topped $756 million in 2021, of which organic apples alone accounted for approximately $668 million. In fact, organic tree fruit generated more than 50 percent of the farmgate value of all organic products grown in Washington state that year.

Organic tree fruit production, handling, and shipping are complex and costly processes, and have a limited set of tools to manage harmful pests and diseases. Our farmers must routinely manage pests that have the potential to make fruit unfit for consumption, or that suppress tree growth and overall production. In the Pacific Northwest, growers must protect fruit from injury by 33 direct insect pests (those that feed directly on the fruit), 47 indirect insect pests (those that feed on the tree), two common bacterial pathogens, eight fungal pathogens, ten viral pathogens, five phytoplasmas and viroids, and seven postharvest diseases (Washington State University, 2023). Invasive or emerging pests are also a continual threat.

In addition to pests and diseases that affect the fruit or the tree, our growers and packers must also combat foodborne pathogens, such as *Listeria monocytogenes*, pathogenic *E. coli*, and *Salmonella*, that are naturally occurring in the environment. Growers and packers must have access to the sanitizers necessary to prevent cross-contamination on food contact surfaces through the harvest and packing processes, and to comply with food safety standards. Access to different types of sanitizers with different modes of action is critical to sanitizing the various types of food contact surfaces and combating the multitude of microorganisms that can be found in the growing and packing environments.

The Organic Foods Production Act (OFPA) states that synthetic substances may be permitted if, among other things, the substance is deemed "necessary to the production or handling of the agricultural product because of the unavailability of wholly natural substitute products." We ask NOSB members to be cognizant of the impacts to the practical abilities of organic growers and packers to produce organic food in a manner that allows for effective management of threats from plant pests and diseases and human pathogens when considering whether a listed material truly has a wholly natural alternative. In particular, the evolution of insect, weed, and microbe resistance means that producers and packers need access to multiple tools to deploy season-long management programs that allow for the rotation of products with differing modes of action to manage the evolution of resistance and therefore to be able to continue growing and handling organic food. A single product often cannot and should not be considered as a full substitute for another.

Not all alternatives provide equal efficacy in controlling the target pest organism; nor is it certain that an alternative product is compatible with all pest management or food safety programs in all regions of the country to manage varying pest and pathogen complexes under a myriad of different weather and soil conditions. Impacts to material supply chains are another important consideration when deliberating whether to delist existing organic materials. Manufacturers and input distributors may not have the capacity to easily ramp up production and distribution of alternative products to fill a void created by delisting a material, leaving end users without the materials they need to produce and pack organic produce.

The NHC thanks the NOSB members for their service to the organic industry and appreciates their work in the preparation of this year's proposals, discussion documents, and sunset reviews. We have compiled a list of materials from those listed by the NOSB for review that are of particular importance to organic tree fruit growers and packers. Below, you will find this list, with NOSB citation and a description of the material's standard usage, as well as our feedback on several of the Board's discussion documents, petitions, and proposals.

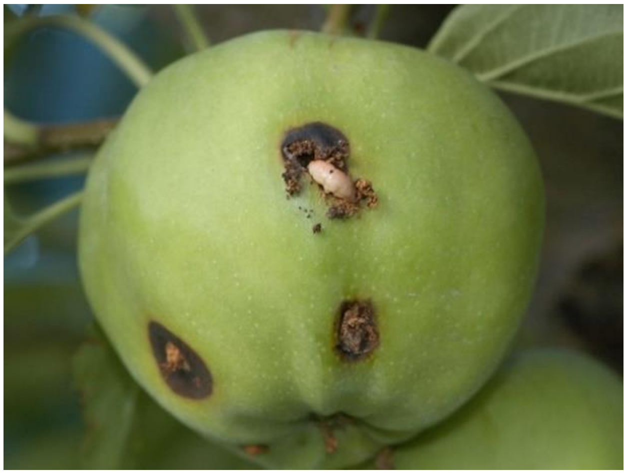
Crops Subcommittee (CS)

Discussion Document: Pear Ester – petitioned

The NHC strongly supports the petition to add the semiochemical pear ester (Ethyl-2E,4Z-Decadienoate, also known as DA) to the National List as a synthetic kairomone, which has identical chemical structure to the natural pear ester kairomone. DA-based mating disruption products are Generally Recognized As Safe (GRAS), and are more effective in insect pest management in organic orchards than their alternatives, as our comments below will illustrate.

As previously noted, tree fruit growers must routinely manage dozens of pests that have the potential to make fruit unfit for consumption. Of the 33 insect pests that feed directly on the fruit, the codling moth (*Cydia pomonella*), a non-native species, is the principal pest of pome fruit in the Pacific Northwest.

The codling moth (CM) causes significant damage to tree fruits, primarily because the larvae feed directly on the fruit. The larvae bore through the flesh of the fruit, eventually arriving at the center of the apple or pear, where they feed primarily on seeds. A dark-colored ring often forms around a new entry hole, also called a sting. Brown frass, or excrement, extrudes from the entry hole or a new hole that the mature larva will use as an exit. This damage makes fruit unmarketable. It is also a problem in stored fruit because bacteria and fungi associated with the entries can increase fruit rot.

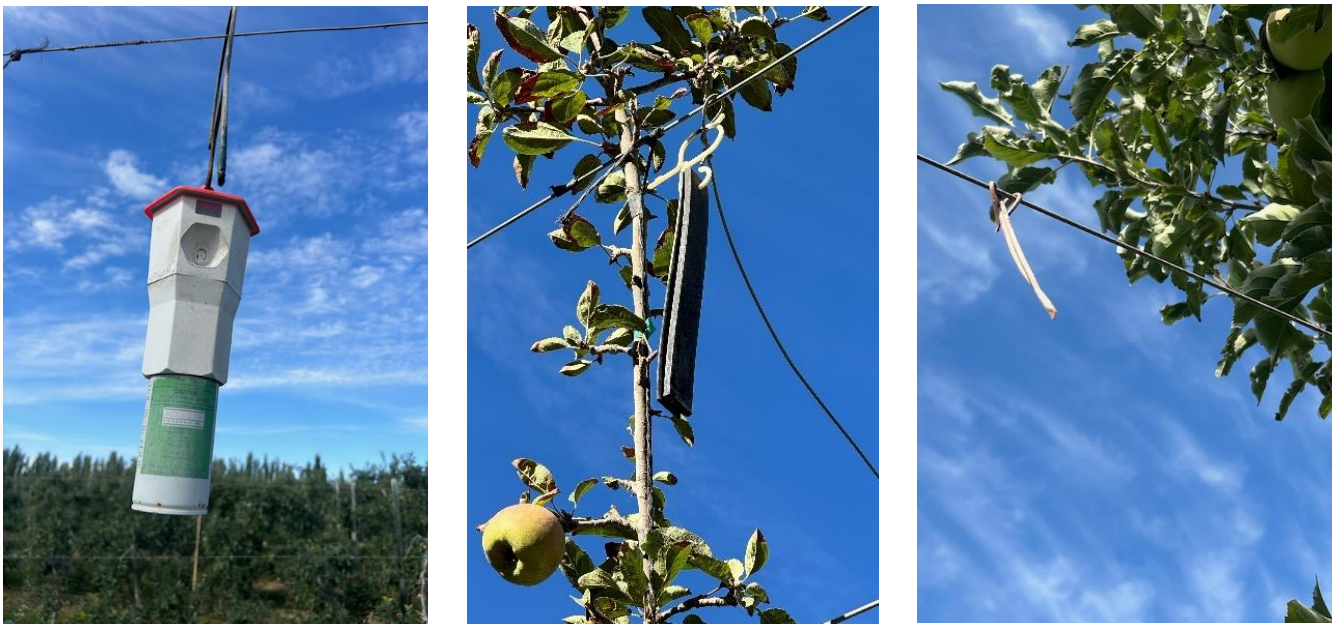


Codling moth larva exiting an apple to pupate.

(Beers, E., Washington State University, July 2007)

As one of the most significant insect pest threats to pome fruit in the Pacific Northwest, management of CM is critical. In the absence of control measures, crop losses caused by larval feeding are typically 80 to 90 percent (Thomson et al., 2001). Pheromone-based mating disruption is a method of control that has become widely adopted by both organic and conventional tree fruit growers due to its high efficacy and low toxicity to humans, natural enemies, and the environment. It is now the foundation of apple and pear Integrated Pest Management (IPM) programs and enables growers to apply fewer sprays than would otherwise be necessary.

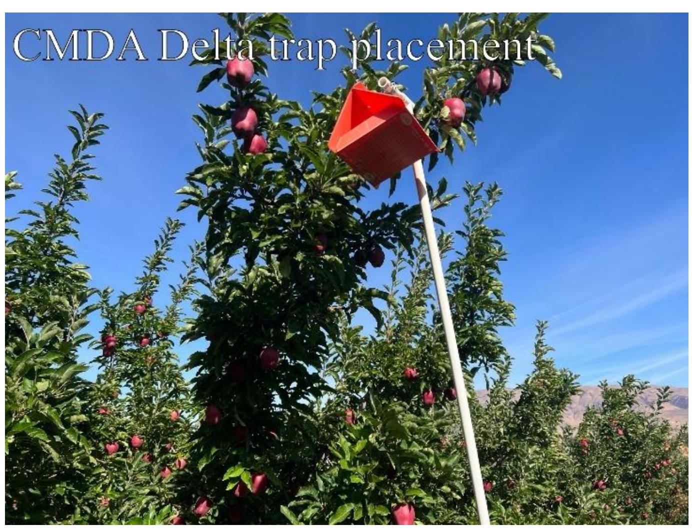
Female CMs produce a pheromone that enables males to find them when they are ready to mate. Mating disruption entails dispensing synthetic CM sex attractant (i.e., pheromone) into an orchard via a dispenser to prevent or delay males from mating with females, interfering with the females' ability to produce viable offspring and decreasing the total number of eggs laid. Dispensers come in various forms, such as misters (or puffers), strips, and twist ties, and they are deployed in varied numbers per acre depending on pest pressures within specific areas of the orchard and according to label recommendations. Dispensers are hung in the spring prior to CM emergence and are effective for the whole season.



Mating disruption dispensers (mister (left), strip (center), and twist tie (right)) hung in a Pacific Northwest orchard.

(Photos provided courtesy Zirkle Fruit Company, September 2024.)

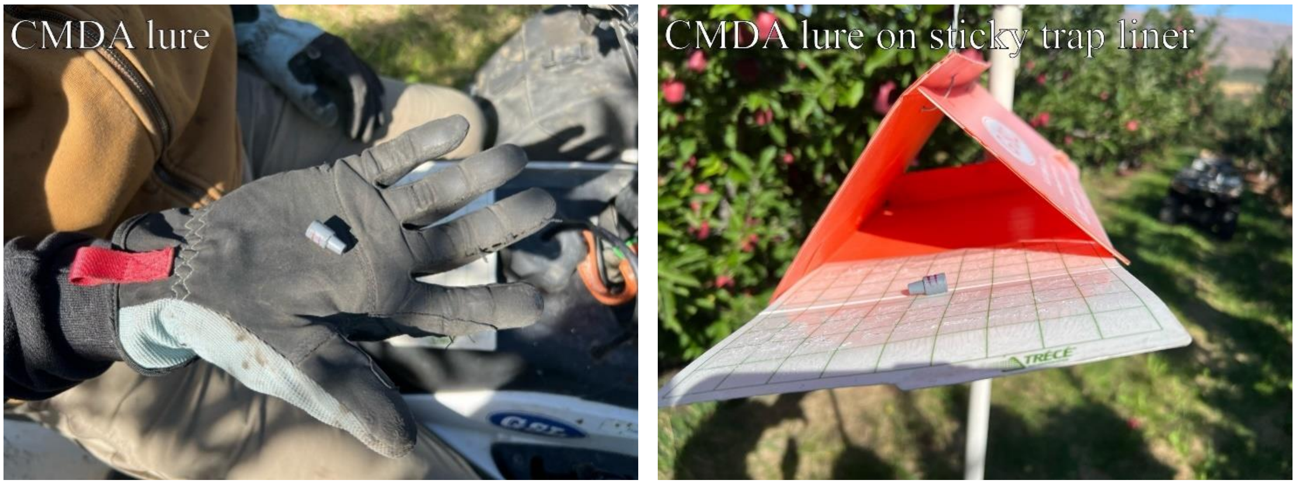
In conjunction with the dispensers, traps are placed in orchards at similar heights as the dispensers. The traps are used to monitor CM populations, track if any mated moths have moved in from adjacent orchards, and ensure that the pheromone is successfully disrupting mating.



A Codling Moth Decadienoic Acid (CMDA) trap hung in a Pacific Northwest orchard.

(Photo provided courtesy GS Long Company, September 2024.)

Lures with pear ester have been shown to catch both female and male moths, whereas pheromone lures catch only male moths. Prior to the availability of pear ester-based products, CM monitoring was less efficient by offering monitoring of male CM populations only. By trapping female moths, CMDA lures provide a more comprehensive assessment of the female population within a mating disrupted orchard, as well as a tool to measure the mating status of trapped females. Monitoring male moths with pheromone-only lures has always been a challenge as the trap lures must compete with pheromone dispensers for a male moth's attention.



A CMDA lure (left) and a CMDA lure inside a sticky trap hung in a Pacific Northwest orchard.

(Photos provided courtesy GS Long Company, September 2024.)

By using a different semiochemical to monitor CM, these pear ester products give growers a more reliable measure of both male and female CM populations and where they are located. This provides an opportunity to limit companion pesticide sprays to identified hotspots in the orchard, rather than the entire orchard, significantly decreasing the number of sprays and total quantity of insecticide used. By using pear ester-based products, tree fruit growers can often treat as little as 10 percent of an orchard and achieve good control of CM. The ability to accurately assess female populations is a vital aspect of overall management decision-making and is only made possible by the pear ester lures and traps.

Pear ester technology provides additional benefits to tree fruit growers. A microencapsulated form of DA can be mixed with mating disruption pheromones to significantly enhance the disruption of CM or can be mixed with an insecticide to improve its efficacy. When applied, the microencapsulated sprays mask an ester that CM larvae use to locate fruit in the orchard. Masking the apple or pear fruit essence prevents the larvae on tree foliage from finding the fruit. By spending more time searching, larvae ingest more of the organic insecticide(s) used in the tank mixture containing DA that is applied in the orchard. Larvae also increase their exposure to biological control agents and hot, dry climatic conditions that are fatal to them. Microencapsulated sprays of pear ester also reduce female CM oviposition. Using these sprayable DA-based products results in increased control of CM, decreased fruit damage, fewer pesticide sprays in the orchard, and a more sustainable organic program by improving the ability to determine the best time and place to apply pesticides.

There are no documented risks of harm to the environment or human health (adults, children, and vulnerable populations) pertaining to pear ester, according to the EPA. In the EPA's 2013 risk analysis of pear ester, the Agency concluded that "there are no cumulative effects associated with pear ester that need to be considered." The EPA determined that no impurities of toxic concern are produced during the manufacturing process, that there is no data to show pear ester is an endocrine disruptor, and that pear ester is not toxic to mammals. Additionally, Safety Data Sheets cannot replace proper EPA risk assessments and should not be used to supersede EPA's determination of risk.

As the subcommittee noted, the EPA did not require the manufacturer (Trécé, Inc.) to submit environmental toxicity tests of microencapsulated pear ester. The Agency found that dispenser products containing pear ester do not result in water residues because the product volatizes from the dispenser, dissipates, and degrades rapidly (EPA, 2013). The risk analysis states the "potential residue amount from application of formulated products would be virtually indistinguishable from natural background levels." The EPA determined there are no threshold effects of concern with pear ester and therefore the provision requiring an additional margin of safety does not apply. Nonetheless, organic tree fruit growers follow the label requirements of these products and take all precautions necessary to prevent potential contamination.

Synthesized pear ester is structurally identical to naturally occurring pear ester, and therefore EPA does not distinguish between the synthesized kairomone and its naturally occurring form in regard to product chemistry or toxicology (EPA, 2013). Under their classification, CM pheromones are not considered to have adverse effects on non-target organisms (mammals, birds, and aquatic organisms) because the pheromones are released in small amounts and act only on a select group of insects. As does the EPA, the NOSB should consider this kairomone the same way it considers synthetic pheromones.

CM management in organic orchards is exponentially more difficult without the use of pheromone-based mating disruption. For organic tree fruit producers, the number and kinds of organic pesticides allowed for CM control are limited, therefore control is more challenging and damage to the fruit is often much higher than in conventional operations. The insecticide spinosad (trade name Entrust®) is one of the few effective organic insecticides, but the number of applications per season is restricted by the label. Other botanical and biological insecticides have been less effective at controlling CM in organic orchards. The pear ester-based products within this petition are considered by many tree fruit growers to be the most effective CM monitoring and mating disruption products on the market today.

Without pear ester-based tools, which pose no risks to humans or the environment, organic growers will have fewer and less effective options for determining when and where to spray insecticides, thereby increasing the number of sprays to manage CM and stressing the management of insecticide resistance development. Pheromone dispensers and lures containing pear ester provide the only ability to assess and manage both male and female CM. Pear ester improves monitoring capabilities, which enables proper timing of sprays, thus decreasing the total number of insecticide sprays and limiting the potential loss of fruit to CM-related damage.

The NHC strongly supports this petition and asks the NOSB to add pear ester to the National List so that organic growers can continue to have this safe and effective tool for combating codling moth in their orchards.

2026 Crops Sunset Reviews

§205.601 Sunsets: Synthetic substances allowed for use in organic crop production

Hydrogen Peroxide
§205.601(a)(4) - As algicide, disinfectant, and sanitizer, including irrigation system cleaning.
§205.601(i)(5) - As plant disease control
The NHC supports the continued listing of hydrogen peroxide both as a disinfectant and for disease control. It is used by a majority of organic tree fruit growers in the Pacific Northwest.

In the orchard setting, hydrogen peroxide is an effective antimicrobial for the sanitation of equipment, such as pruning shears, picking bags, and buckets, as well as for cleaning and disinfecting irrigation infrastructure. Using it as an algicide in drip irrigation or micro-irrigation systems removes algae growth from contaminated lines. Hydrogen peroxide is used in combination with other sanitizers when cleaning irrigation systems, which increases its effectiveness compared to use as an individual sanitizer. It breaks down quickly in the environment and has no residual effects.

When used as a fungicide, hydrogen peroxide is usually applied preharvest to help control pathogens like blights and mildews. By mitigating these pathogens, hydrogen peroxide helps to increase the number and size of fruit on the trees, reduce fruit drop, and increase fruit yield and quality (Orlikowski et al. 2023). Spraying trees with hydrogen peroxide occurs at specific stages of growth and can be used on its own or in formulation with other approved materials. Especially with the loss of antibiotics in organic production, hydrogen peroxide is an important tool in managing fire blight in organic apples and pears.

Soaps, ammonium
§205.601(d) - As animal repellents, for use as a large animal repellant only, no contact with soil or edible portion of crop.
Pacific Northwest tree fruit growers use ammonium soaps to deter and repel unwanted browsing by rabbits, porcupines, deer, and elk that can cause damage to fruit trees and drip line irrigation systems. The EPA lists ammonium soaps under the lowest possible toxicity classification and the Agency's studies show that ammonium soaps undergo a rapid degradation in the environment (EPA, 1992).

Growers strictly follow the product label when using ammonium soaps and employ methods within the label recommendations, such as monitoring wind speeds, to mitigate any risk of drift. They also only use these animal repellent products on an as-needed basis.

While there are other natural substances that may be used as animal repellents, each have their limitations. Maintaining the allowance of ammonium soaps provides for an effective suite of repellents. We support its relisting.

Oils, horticultural
§205.601(e)(7) - As insecticides
§205.601(i)(7) - As plant disease control
The NHC strongly supports the continued listing of horticultural oils as insecticides and as plant disease control. All organic tree fruit growers use these oils, and they consider them a critically important material.

Horticultural oils provide a safe and consistent level of disease control. They have many favorable factors both for growers and the environment, including low cost, low mammalian toxicity, and few negative environmental effects (Fernandez et al., 2006). Growers appreciate their versatility, compatibility with other materials like copper and sulfur, and lack of phytotoxicity (unlike fish oil).

As part of a tree fruit grower's integrated pest management strategies, horticultural oils are broad-spectrum in action and are used as both insecticides and miticides. Specifically, they are used to control red mites, rust mites, pear psylla, leafhoppers, codling moth, apple aphid, and other arthropod pests, which cause significant damage to tree fruit. The oils are most often applied in late winter/early spring to smother any eggs, larvae, and nymphs, as smothering cannot be accomplished with water-formulated products. These oils can also be used during the growing season to control insect pests and during the fall as a preventive measure against blights and bacteria that can overwinter. They are also effective in helping to control powdery mildew and apple scab.

Most, if not all, highly refined summer oils – which are the most common used in the tree fruit industry – are mineral oils. A mineral oil is a highly refined, naturally occurring crude petroleum oil. Oils used today are lightweight (i.e., lighter viscosity), which allows for a smaller application rate compared to products used in the past. These are substantial improvements over the oils that growers used 20 years ago.

There are some plant-based oils available to organic tree fruit growers – which suppliers generally refer to as essential oils – such as Thyme, Cinnamon, and Geraniol. However, these are not widely used. Plant-based oils are much more costly than petroleum/mineral oil products. More importantly, they do not function in the same way that petroleum/mineral oils perform. Fish oils are avoided by growers because they tend to be "hot" and respond quickly to a rapid change in weather or temperatures. Thus, they are highly unstable for applications in organic orchards located in the warm, arid growing regions of the Pacific Northwest.

Mineral oils are far more efficacious as insecticides and miticides, and for controlling powdery mildew and apple scab, than plant-based oils. Whether a plant-based horticultural oil or another alternative on the National List, none are effective substitutes for petroleum/mineral-based horticultural oils, with some even being phytotoxic to fruit on the tree and the tree foliage.

Pheromones
§205.601(f) - As insect management
Pheromones are of great importance in organic tree fruit production and are used by 100 percent of organic and conventional tree fruit growers across all their orchards. They are essential to the control of pests such as codling moth and leafrollers, which often pose a significant threat to organic tree fruit. We strongly support the continued listing of this material, as its loss would be catastrophic for organic tree fruit production.

Pheromone-based mating disruption is a method of control that has become widely adopted by both organic and conventional tree fruit growers due to its high efficacy and low toxicity to humans, natural enemies, and the environment. It is now the foundation of apple and pear IPM programs and enables growers to make fewer pesticide applications than would otherwise be necessary. The advantages of codling moth mating disruption include enhanced levels of biological control, reduced costs associated with worker protection and labor management, and decreased potential for the development of insecticide resistance (Thomson et al., 2001).

The codling moth (*Cydia pomonella*), a non-native species, is a key pest of pome fruit in the Pacific Northwest. Codling moth control in organic orchards is exponentially more difficult without the use of pheromone-based mating disruption. In the absence of control measures, crop losses caused by larvae feeding directly on the fruit are typically 80 to 90 percent. For organic tree fruit producers, the number and kinds of organic pesticides allowed for codling moth control are limited, therefore control is more challenging and damage to the fruit is often much higher than in conventional operations. The insecticide spinosad (trade name Entrust®) is one of the few effective organic insecticides, but the number of applications per season is restricted by the label. Other botanical and biological insecticides have been less effective at controlling codling moth in organic orchards.

Ferric phosphate
§205.601(h) - As slug or snail bait
The NHC supports the continued listing of ferric phosphate as slug or snail bait. Ferric phosphate is used on an as-needed basis, primarily around packinghouses to prevent slugs or snails from entering the facilities. Similar to elemental sulfur, it is more likely to be used in wetter growing climates where slugs are more prevalent than in drier, arid growing regions. While sulfur-based products are effective, ferric phosphate is important to have as another tool in rotation with elemental sulfur or in instances when sulfur-based products are less efficacious.

Potassium Bicarbonate
§205.601(i)(9) - As plant disease control
The NHC supports the continued listing of potassium bicarbonate. It is an effective and affordable fungicide, used to help control plant diseases like fire blight and powdery mildew, providing a good level of control against these diseases (Washington State University, 2023). Potassium bicarbonate can be applied after signs of powdery mildew appear in the orchard and will stop the spores from spreading further, especially in sweet cherry orchards. Alternatives are not effective in halting the spread of mildews.

Potassium bicarbonate is used in a rotation of products with differing modes of action, such as biologicals, to manage the evolution of pesticide resistance. By using it in the dry season, it is less likely to cause russeting to the fruit and damage to the foliage than other available tools. It is considered an important tool by organic tree fruit growers, a majority of whom use this product.

Magnesium Sulfate
§205.601(j)(6) – As plant or soil amendments
Magnesium sulfate is used by the vast majority of organic tree fruit growers, as it is a critical nutrient for the soil, trees, and fruit. It is most often used during the growing season as a soil amendment when nutrient deficiency is detected in the orchard. Certain apple varieties are more susceptible to this deficiency than others, particularly Honeycrisp. Growers utilize soil analyses to inform when and how many applications should be made. Symptoms of nutrient deficiency can also appear in the tree foliage.

Fertilization with magnesium sulfate is effective in an orchard of marginal potassium nutritional status, promoting root health for the tree, which in turns improves cumulative yield, fruit size, and red coloration (Neilsen & Neilsen, 2011). Magnesium deficiency can lead to fruit quality issues following the storing and packing process. Magnesium sulfate products play a vital role in aiding organic farmers; therefore we support its continued listing in organic production.

§205.602 Sunsets: Nonsynthetic substances prohibited for use in organic crop production

Ash from manure burning
§205.602(a) - Nonsynthetic prohibited
The NHC supports the continued listing of ash from manure burning as a prohibited material.

Sodium fluoaluminate (mined)
§205.602(g) - Nonsynthetic prohibited
The NHC supports the continued listing of sodium fluoaluminate (mined) as a prohibited material.

Materials Subcommittee (MS)

Proposal: Research Priorities 2024
The NOSB's annual list of organic food and agriculture research priorities is an example of the organic industry's forward-thinking approach to challenging issues, and the NHC generally supports the NOSB's 2024 research priorities.

Many of the research priorities would benefit organic tree fruit production, particularly collaboration with the IR-4 project to research organic pesticide products and cultural control methods; identifying practices that reduce greenhouse gas emissions; and improving methods and practices for organic handling and processing, particularly the effectiveness of rotational use strategies with sanitizers.

Additionally, we recommend research into postharvest physiology and postharvest decay management be added to the NOSB priorities to support the critical need to better understand postharvest issues in organic fruit.

We also recommend the NOSB develop a mechanism for follow-up on the research priorities so that Board members, the NOP, and organic stakeholders can receive updates. This includes, but is not limited to, progress reports from the researchers and/or institutions conducting research from the priorities list, project funding, and review of published research.

Proposal: Inert Ingredients in Pesticide Products
The NHC appreciates the deliberative process the NOSB has conducted in supporting and advising the NOP as the Program works to remove and replace the EPA List 3 and List 4 references in organic regulations in regard to inert ingredients. We also appreciate the multiple public comment opportunities to provide the organic tree fruit industry's perspective on this important issue.

Throughout the discussions and comment periods related to the listing of inert ingredients, the NHC has provided consistent feedback to the NOSB and NOP centered around three core concepts: avoiding an increase in the workload of the NOSB, maintaining consistent availability of organic pest management materials for organic growers, and providing certainty of regulatory authorization of materials for pesticide manufacturers so that they can continue to consistently and economically produce the products organic growers rely on.

The NHC has also consistently opposed proposals to list all inert ingredients individually on the National List, and we continue to strongly oppose this option. Listing all inert ingredients individually, or individually by group, would be beyond the administrative capacity of both the NOSB and NOP.

The NOSB risks compromising its ability to thoroughly conduct the sunset review process by creating a lengthy, complicated method for maintaining the list of allowed inert ingredients, even if the inerts are placed into “chemical types” categories. We are concerned that adopting Option 1 would elicit unintended consequences, significantly disrupt availability of products from pesticide manufacturers and chemical suppliers, and keep vital substances from grower’s use due to a cumbersome, protracted process that does not adequately rely on EPA’s evaluations of the safety and efficacy of pesticide products.

The NOSB would not be delegating “too much of the regulatory authority away from NOSB and NOP” by implementing Option 2. Under OFPA, the NOSB is required to review EPA information concerning the potential for adverse human and environmental effects of substances included, or proposed for inclusion, on the National List. It is the role of the EPA, not the NOP or NOSB, to determine the level of toxicological concern of active and inert ingredients. While the NOSB and NOP have an important role in aligning EPA evaluations with OFPA and National List regulatory criteria, the regulation of inert ingredients in organic production must first and foremost be based on information from the EPA’s rigorous, scientific analyses. Option 2 would maintain NOSB control of National List criteria that inert substances must meet, including consistency with organic principles, while still deferring to the scientific expertise and regulatory authority of EPA.

Option 2 also maintains the NOSB’s control and application of the petition process for adding or removing inerts from the National List, but without impeding the Board’s ability to conduct the sunset review process as Option 1 would. No elements of Option 2 eliminate or inhibit the NOSB’s ability to vote on additional exceptions in the future. The “roadmap” for conducting the five-year sunset review of inerts simply entails reviewing the EPA list (and the exceptions) and taking into account any new or updated EPA classifications, determinations, or assessments of the allowed inerts. The sunset review would be of the EPA list itself. This is the most effective and efficient way to review the allowed inerts without increasing the workload of the NOSB. Option 2 also allows the Board to continue managing the sunset review and petition processes. Manufacturers, suppliers, and producers can petition the Board to allow or remove an inert substance, and organic stakeholders can submit comments on those petitions and other prohibitions proposed by NOSB based on the new and/or additional information from the EPA.

The NOSB should base the sunset review of the EPA list-with-exceptions on U.S.-evidence/science-based risk assessments, not outside sources such as the European Union’s (EU) banned co-formulants list. The EU list is based on hazards classifications, not risk assessments, and therefore a comparison of EU and U.S. lists would not produce useful, scientifically accurate chemical analyses.

The NHC agrees that inert ingredients allowed in pheromone type pesticides (e.g., passive pheromone dispensers) should be allowed in organic production. Inert ingredients are critically important in stabilizing the active ingredients within pheromone-based mating disruption dispensers and lures against degradation from ultraviolet light and oxidation. Without the inert ingredients included in pheromone products, dispensers and lures would break down under normal field conditions, making them impractical for effective, economical use as part of a pest management program. As noted previously, mating disruption is critical to Pacific Northwest organic tree fruit growers’ IPM strategies to manage codling moth populations.

The timeline for implementing new inert ingredient regulations must be adequate for all organic producers and suppliers. There needs to be a reasonable implementation time for manufacturers of pesticide products to review and begin following the new listing regulations, to reformulate their products if necessary, and to file petitions to the NOSB regarding allowed or prohibited inerts.

Of the two options the Materials Subcommittee is proposing, Option 2: EPA List (with restrictions and prohibitions) provides a more efficient, effective, and scientifically sound process for reviewing inert ingredients in organic pesticide products than Option 1. The NHC strongly recommends the proposals within Option 2 be approved by the NOSB and a recommendation be sent to the NOP for the Program to use in its rulemaking.

Handling Subcommittee (HS)

2026 Handling Sunset Reviews

§205.605 Sunsets: Nonagricultural (Nonorganic) substances allowed as ingredients in or on processed products labeled as "organic" or "made with organic (specified ingredients or food group(s))."

Activated Charcoal
§205.605(b)(2) - Synthetics allowed for use only as a filtering aid.
The NHC supports the continued listing of activated charcoal as a filtering aid. Activated charcoal products are widely used in the production of organic fruit juices, particularly apple juice.

Hydrogen Peroxide
§205.605(b)(17) - Synthetics allowed, for use as an algicide, disinfectant, and sanitizer.
The NHC supports the continued listing of hydrogen peroxide as an algicide, disinfectant, and sanitizer due to its important antimicrobial effects in the packinghouse setting. It is a benign substance used to reduce and control microorganisms for food safety purposes. Hydrogen peroxide leaves no harmful residues and quickly breaks down into water and oxygen molecules (Orlikowski et al. 2023). Some sanitizer products contain a combination of hydrogen peroxide, acetic acid, and peroxyacetic acid for packing line sanitation.

Hydrogen peroxide is used to remove bacterial and fungal contamination from the surface of fruits, greatly reducing the potential for *E. coli* survival. It is also used to disinfect belts and brushes on the packing line to prevent cross-contamination. When used directly on food contact surfaces, it does not require a rinse before product contact.

Peracetic Acid / Peroxyacetic Acid
§205.605(b)(22) - Synthetics allowed, for use in wash and/or rinse water according to FDA limitations. For use as a sanitizer on food contact surfaces.
The NHC strongly supports peracetic acid/peroxyacetic acid (PAA) remaining on the National List, as it is critical to tree fruit packinghouse operations. PAA is a strong oxidizer widely used across the fresh produce industry as a sanitizer or disinfectant for equipment, and for water tank treatment/water sanitation to reduce potential cross-contamination. All organic tree fruit packing facilities use PAA.

PAA is typically used in rotation and/or in combination with other flume, spray bar, or rain pan sanitizer applications within a systems approach towards microbial decontamination. This increases its effectiveness and helps to manage potential resistance development. Chlorine, electrolyzed water, and ozone are the only other widely used sanitizers permissible under the organic regulations, and reliance on a single sanitizer can lead to resistance development by pathogens. Packing lines will use PAA as a dump tank/flume water sanitizer in rotation with chlorine or in situations where chlorine is not appropriate.

Peracetic acid/peroxyacetic acid presents good antimicrobial properties at low temperatures and at a wide range of operational pH values (Ölmez & Kretzschmar, 2009). It will penetrate biofilms that protect harmful pathogens like *Listeria monocytogenes*, so it is much better at reducing biofilms in recirculating water pipes on a continuous basis.

PAA is also used in spray-bar applications to reduce cross-contamination potential on equipment and the fruit itself. PAA does not leave residue on the surface of fruit. Organic apple and pear packing lines often use PAA in multiple separate spray bars to help sanitize brushes on the lines. After PAA degradation, harmless residues (acetic acid and oxygen) readily dissolve in water and have no effect on the environment (Haute et al., 2015).

In addition to flume water and spray bars, fruit packinghouses rely heavily on PAA for post-cleaning sanitation of equipment. PAA is a critical sanitizer on the dry side of the packing line, used directly on food contact surfaces for dry side sanitation. Other chlorinated products require a rinse prior to organic use, which is not conducive to keeping the dry side dry. PAA is by far the best option for organic-approved no-rinse sanitizers.

<u>Conclusion</u>

The NHC's comments are focused on materials important – and in some cases critical – to organic tree fruit production. The loss of these products would negatively impact the abilities of organic tree fruit growers and packers of all sizes, who already have limited pest control tools, to protect against and manage injury from insect, disease, and microbial pests. Without the allowance to use some of these materials, organic regulations could have the unintended impact of forcing Pacific Northwest tree fruit growers and packers out of organic production, particularly small commercial growers.

We ask that members of the NOSB consider their decisions carefully while recognizing the importance of these materials for the role each plays in organic tree fruit production and in preserving management options necessary to respond to food safety concerns and operational needs in organic production and packing. Thank you for your thorough consideration of these comments.

Sincerely,

NORTHWEST HORTICULTURAL COUNCIL

Dan Langager
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cc: NHC Science Advisory Committee and Organic Subcommittee

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