

NORTHWEST HORTICULTURAL COUNCIL
105 S. 18th Street, Suite 105
YAKIMA, WASHINGTON 98901
(509) 453-3193 FAX (509) 457-7615
www.nwhort.org

April 5, 2021

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-20-0089
Notice of Meeting of the National Organic Standards Board

Dear Ms. Arsenault:

The Northwest Horticultural Council (NHC) appreciates the opportunity to comment on the upcoming Sunset Review of organic materials listed in the most recent National Organic Standards Board (NOSB) Materials Report, as well as discussion documents and other topics of consideration listed in this report that are especially pertinent to those we represent.

The NHC operates as a non-profit organization focused on representing growers, packers, and shippers of apples, pears, and cherries in Idaho, Oregon, and Washington on federal and international policy and regulatory issues.

The Pacific Northwest region is the epicenter for organic pome fruit and cherry production in the United States. The total value of the organic tree fruit crop for the region topped \$625 million in 2019, of which organic apples alone accounted for approximately \$544 million. In fact, tree fruit accounted for 50 percent of farm gate sales for all Washington state organics that year. Over 17 million boxes of organic apples are now harvested from more than 32,537 acres in Washington state, amounting to over 93 percent of the fresh organic apple crop in the United States. There is also a significant volume of organic pears and cherries grown in our region, with more than 7,500 acres planted across the Pacific Northwest.

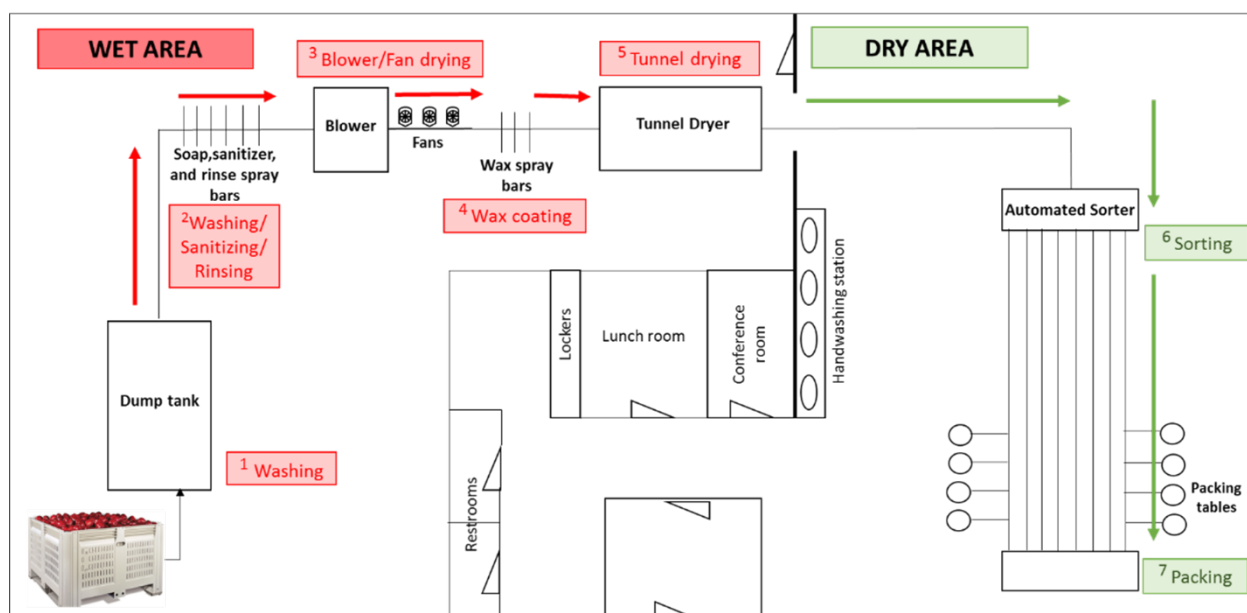
We have compiled a list of materials from those listed by the NOSB for review that are of particular importance to organic tree fruit growers and packers. Below, you will find this list, complete with NOSB citation, a brief description of the item's standard usage, and a statement as to why the product is needed. We first address all of the sanitizers/disinfectants of concern to organic tree fruit production, followed by comments on List 3 Inerts and Kasugamycin.

Sanitizers and Disinfectants

Fresh produce is grown in the open environment where dangerous, and sometimes deadly, pathogens exist. It is impossible to completely eliminate the potential for these pathogens to reach the surface of produce in the field, and therefore it is critical for growers and packers to have the tools necessary to combat these pathogens before they reach the consumer. This includes cleaning the produce itself, as well as cleaning and sanitizing all food contact surfaces (including water) to reduce the potential for cross-contamination. Protecting public health is the top priority of the tree fruit growers and packers we represent, and we encourage the NOSB to not make it more difficult for them to deliver a safe and healthy product to consumers.

After harvest, some tree fruit (including apples) may be stored for up to 12 months in either refrigerated or controlled atmosphere cold storage. Following storage, fruit is run over a packing line to be graded and placed in various packages (see Figure). Packing lines consist of the following basic parts: a wet area and a dry area. The wet area consists of a water flume system called dump tank; various conveyor systems; an array of spray bars for soap, rinse, and sanitizer application; and a fan and heated tunnel system to dry the fruit. The main parts of the dry area are an optical sorter/grader and various packing stations.

Figure: Depiction of a typical apple packing line (Source: Dr. Faith Critzer, Washington State University)



Growers and packers need access to more than one type of sanitizer in order to achieve the critical objective of delivering a safe and healthy product to consumers year-round. Each sanitizer and disinfectant listed below has specific benefits that make it the most effective and appropriate choice in that particular circumstance. It is also important to note that different products with different modes of action are regularly used in postharvest handling in order to cover the vast array of public health microorganisms, which include viral, protozoa, and bacterial targets. Therefore, growers and packers must have access to multiple products to combat the full plethora of pathogens of human health concern. Many packers rely on an environmental

monitoring program to assess when to change products for a particular action – whether it be a sanitizer used on a particular food contact surface, or applied to water systems such as hydrocoolers, dump tanks, flumes, and spray bars.

For example, a grower may use PAA to sanitize food contact surfaces in the field. Once the fruit reaches the packinghouse, the packer may use calcium hypochlorite as a wash water sanitizer and PAA in the spray bars. At the end of the day, the lines may be sanitized using chlorine dioxide or ozone, while sodium hypochlorite may be used to sanitize the cold storage rooms. This regiment may change should environmental monitoring data show that the effectiveness of sanitation on a particular food contact surface is reduced.

In addition to the need to attack these pathogens from multiple directions, the maintenance of multiple sanitizers is also important because of concerns that reliance on a single type of sanitizer could lead to resistance evolution by the pathogens. This concern is being further explored by leading *Listeria* researcher Dr. Martin Wiedmann from Cornell University in a study funded by the Center for Produce Safety (2020).

Lastly, it should be noted that in addition to protecting human health, these sanitizers are needed for growers and packers to comply with the requirements of the Food Safety Modernization Act's Produce Safety Rule and Preventive Controls for Human Food Rule.

§205.601 Sunsets:

1. Ozone gas - Crops - §205.601(a)(5) for irrigation cleaner - Sunset Date: 5/29/2023

Ozone gas is an effective irrigation cleaner to control a wide spectrum of pathogens of human health concern, including *E. coli* or *Listeria*. It has many benefits in comparison to other products, including the fact that it leaves no residual on food, food contact surfaces, or in water. Because there are no residuals, it has no negative impact on soil. Worker safety concerns are negligible, as good ventilation is easy to maintain in the open environment. While cost currently prevents ozone from being widely used by organic tree fruit growers for this purpose, technological advances may bring the cost down in the future. The NHC supports the maintenance of this product on the National List as an environmentally safe cleaner that has the potential to become a valuable tool should the cost be reduced. It is already widely used in the storage and packinghouse environments.

2. Peracetic acid - Crops §205.601(a)(6) & §205.601(i)(8) – Sunset date: 5/29/2023

Peracetic acid (PAA) is widely used as a sanitizer and disinfectant by both organic tree fruit growers and packers. It has a high efficacy rate against pathogens of human health concern, including the biofilms that protect them. As one of the few non-chlorine-based sanitizers available for use in organics, PAA allows growers and packers to attack naturally occurring pathogens of human health concern with a product that utilizes both oxidation and pH modulation as its primary modes of action. This is essential to protect consumers against these naturally occurring organisms.

In the orchard, PAA is used to sanitize equipment including picking bags, pruning shears, ladders, and bins. It is the primary disinfectant and sanitizer utilized on this equipment for a

number of reasons. First, it is more portable than most chlorine-based sanitizers (*i.e.*, there is no need for a generator or other equipment). It also dissipates quickly by resolving to water, which precludes the need to rinse a food contact surface following application – something that can be challenging to do in the field.

PAA is also used on pruning shears for the added purpose of controlling the bacterial plant pathogen *Erwinia amylovora* (fire blight), an economically significant pest of pear and apple trees.

In the packinghouse, PAA is widely used as a sanitizer for packing line equipment, to treat wash water to prevent cross-contamination, and is applied through spray bars onto the fruit. As mentioned previously, packers often use chlorine-based sanitizers and PAA in different areas of the packinghouse in order to ensure efficacy against pathogens of human health concern – thereby achieving a higher degree of consumer health protection. The same characteristics that influence a decision to use PAA in the orchard, such as portability and the fact that a rinse is not required on food contact surfaces following application, also affect when and where it is used in the packinghouse.

PAA is also currently commercially available in several organically approved hydrogen peroxide materials for controlling the fire blight pathogen. Since growers lost the use of streptomycin and oxytetracycline for controlling fire blight, PAA has become even more important to our stakeholders. Fire blight is a serious concern to pome fruit producers. It poses a significant annual threat in that under optimal conditions for disease inoculation it can heavily damage an entire orchard in a single growing season. PAA used in formulation with hydrogen peroxide provides assistance in the control of fire blight.

Scientists at Washington State University have been investigating the use of PAA to control fire blight blossom infections since 2016 (Dupont 2020). Applications of a solution of PAA, ranging from two percent to five percent, mixed with hydrogen peroxide ranging from 26.5 percent to 27.1 percent, were applied in blocks of Red Delicious apples inoculated with fire blight in 2016, 2019, and 2020. Results of the PAA trials in 2016 and 2020 showed significantly reduced fire blight strikes per 100 flower clusters as compared to untreated, inoculated control blocks, though less effective as compared to a streptomycin treatment. Treatment with PAA/hydrogen peroxide also resulted in higher levels of fruit russetting.

3. Chlorine materials – Crops and Handling §205.601(a) - As algicide, disinfectants, and sanitizer, including irrigation system cleaning systems; disinfecting and sanitizing food contact surfaces - **Sunset Date:** 10/30/2024

(i) **Calcium hypochlorite** citation 205.605(b): This chemistry is used as an algicide, disinfectant, and sanitizer. It is commonly used to disinfect water in cherry hydrocoolers, used to cool fruit postharvest, extending its retail shelf life. Hydrocoolers can be transported to farming sites in order to hydrocool cherries within an hour of harvest. Calcium hypochlorite is favored in hydrocooler use because it is available in a stable tablet form that is safe and easy to handle, including during transport. It also is not as corrosive as PAA or ozone.

Calcium hypochlorite has several other uses. It is universally used on packing lines to sanitize food contact surfaces, as a disinfectant in wash water, and as a fruit wash. Once again, worker safety and ease of handling is a significant factor in the decision to use calcium hypochlorite. In addition, it is easier than other products to keep use levels at peak efficiency and prevent over-application, due to the availability of robust, accurate, and inexpensive monitoring and control systems. Unlike sodium hypochlorite, it does not easily get tied up by organic matter and create salts in water.

(ii) **Chlorine dioxide** (citation 205.605(b)) - Chlorine dioxide is used for disinfecting and sanitizing food contact surfaces. It is equally effective as PAA in penetrating biofilms, without being as corrosive – making it a better option for certain food contact surfaces or in rotation on a limited basis for biofilm control. It is also often applied through spray bars as a fruit rinse since it gasses off during fruit application. The lack of a residue also means that it does not adversely affect a packinghouse's wastewater. Chlorine dioxide can also be used in dump tanks and is used to sanitize storage rooms prior to use. It is very commonly used in commercial organic tree-fruit handling facilities, and some packers are investigating expanding its use to other equipment in the dry end of the facility to limit cross-contamination caused by water-applied sanitizers.

(iii) **Hypochlorous acid** - generated from electrolyzed water (citation 205.605(b)) - Electrolyzed water, which generates hypochlorous acid, is currently used by a small number of packinghouses and others are beginning to investigate adopting this technology. It is known to work well in large-scale applications, such as municipal disinfection, and has the benefit of leaving no residue. It is also being used in a small number of instances to help control fire blight in the orchard.

(iv) **Sodium hypochlorite** (citation 205.605(b)) - Sodium hypochlorite is widely used in packinghouses to disinfect and sanitize food contact surfaces. It is also commonly used in packinghouse dump tanks, and to disinfect and sanitize cold storage rooms. A volume of research has shown this product to be effective. Benefits include that it is more portable than calcium hypochlorite (i.e., no dilution system is required), and it does not require fresh potable water for use. It is also less corrosive than PAA or ozone. Like calcium hypochlorite, it is easier to keep use levels at peak efficiency and prevent over-application, due to the availability of robust, accurate, and inexpensive monitoring and control systems.

Non-synthetic substances prohibited for use in organic crop production

Calcium chloride §205.602 (citation 205.602(c)) - **Sunset Date:** 5/29/2023 – Calcium chloride is a common plant nutrient that provides calcium for plants, including pome and stone fruit trees, and helps prevent destructive postharvest physiological disorders such as cork spot, fruit cracking, internal browning disorder, and bitter pit of apple. Some popular apple cultivars, such as Honeycrisp, are highly prone to bitter pit, a physiological disorder that begins in the orchards, but for which symptoms may appear in storage. Without foliar applications of calcium chloride, high numbers of marketable fruit will be lost every year to bitter pit. Foliar applications of calcium chloride also help prevent alfalfa greening on pears and fruit splitting on cherries. The NHC supports the continued exemption for the allowed use of calcium chloride for use as a foliar spray to treat our organic fruit.

EPA List 3 Inerts- Crops (§205.601(m)(2)) - Inerts of unknown toxicity - Sunset Date: 5/29/2023

List 3 inerts are ultraviolet stabilizers critical to the formulation of all passive pheromone dispensers used for mating disruption of tortricid moth pests (codling moth, Oriental fruit moth, and leafrollers) in organic tree fruit production. Sumisorb, a benzotriazole on List 3, is incorporated into at least four commercially available mating disruption passive dispensers. Reviewers of a study commissioned by the NOSB in 2003, “National Organic Standards Board Technical Advisory Panel Review compiled by University of California Sustainable Agriculture Research and Education Program (UC SAREP) for the USDA National Organic Program,” were in general agreement that Sumisorb should be allowed on the National List for use in passive mating disruption end-use products, stating that the utility conferred by the substance, coupled with the unlikelihood of it interacting with the environment, were compelling reasons to warrant its addition to the National List. Ting (2009, CA EPA) determined that use of an Isomate[®] pheromone dispenser, “...is not likely to pose a health hazard to humans, including children,” and that “These chemicals are not likely to accumulate in the body or persist in the environment.” These statements all still hold true today.

Controlled-release dispensers are critical to the development of practical control programs. To be effective, codling moth mating disruption dispensers must last in the field for approximately 180 days. Early research in the development of passive pheromone dispensers before the addition of UV stabilizers showed that pheromone components in the dispensers lasted 40-60 days in the field before the components were fully released (Brown 1986 and 1992). Studies on the inclusion of antioxidants and UV stabilizers in a number of different pheromone dispensers showed that the addition of these inert ingredients slows degradation of pheromone components (Miller 1993 and 1995, McDonough *et al.*). The work of these scientists over the past three decades delivered controlled-release pheromone dispensers that are practical for use in tortricid moth management.

The NOSB Technical Advisory Panel report cited above found that Sumisorb is nonvolatile at field temperatures, has a low probability of escaping the dispenser when used appropriately, and that Sumisorb has a low potential for environmental contamination (even if misused). According to the EPA, ten years of field use of lepidopteran pheromones resulted in no adverse human effects (EPA 1991). The low risk of contamination prompted the EPA to exempt from tolerance all inert ingredients used in mating disruption formulations, including UV stabilizers (EPA 1993). The 2003 study commissioned by the NOSB concluded, “Given the chemical complexity of mating disruptant formulations, it appears unlikely that any *de facto* organic substance (i.e., a byproduct of a living organism, naturally-occurring in the form that it is used) will be a suitable substitute for Sumisorb.”

Personal communications by NHC staff with personnel of three leading pheromone manufacturers/distributors – Isomate[®], Trécé[®] and Suterra[®] -- reveal that there are no natural alternative UV stabilizers available today that could be used to replace Sumisorb and other List 3 inert ingredients. In a letter to the NHC (provided at the end of this document), Trécé, Inc., a company that uses List 3 inerts to produce over 175 products used to monitor many different insect species, states that List 3 inert ingredients account for over 97 percent of total end

products in their dispensers, that the inert ingredients do not diffuse out of the dispensers, and that there are no natural alternatives efficacious enough to provide protection against pheromone component degradation. Trécé, explains that the loss of List 3 inerts "...will essentially eliminate all semiochemical products (monitoring, mating disruption, and gustatory stimulants) that Trécé offers for organic production." Without the addition of the inerts, pheromone dispensers will not remain viable for use by organic growers. The loss of these materials would be catastrophic to the organic tree-fruit industry.

Pheromone-mediated mating disruption is not applied to the fruit. The pheromone is contained within devices and is emitted into the orchard air to prevent males from locating and mating with females, leaving no residue on the fruit. Mating disruption is almost universally used by Pacific Northwest organic tree fruit growers and is essential to their ability to control tortricid pests that annually pose a significant threat to organic tree fruit production everywhere that pome fruit is grown. One particular damaging tortricid, Codling moth (*Cydia pomonella*), is a quarantine pest for some important international export markets. More impactful, larvae chew their way into the center of the apple, making the fruit unmarketable both domestically and internationally.

Mating disruption is the cornerstone of IPM programs in both organic and conventional production. The Washington State University website for organic codling moth management, "How to Effectively Manage Codling Moth" (<http://treefruit.wsu.edu/article/how-to-effectively-manage-codling-moth/>), states "Organic programs should always use mating disruption, without it, codling moth control is extraordinarily difficult." Organic ovicides and larvicides targeting codling moth control become far less effective as stand-alone materials and efforts to improve biological control of codling moth since the year 2000 have not yielded significant control of codling moth (Mills 2005; and Lacey and Unruh 2005). Without mating disruption to keep populations of the pest at low levels, current organic tools will be insufficient for organic producers to achieve control of codling moth.

Prior to the introduction of mating disruption, growers relied on applications of ryania, a botanical insecticide made from the ground stems of *Ryania speciosa*, a native plant of tropical America, and codling moth injury to fruit in organic orchards between 30 percent and 50 percent was not uncommon (Gut and Brunner, 1998). Gut reports from his mating disruption trials that, "In 1991, the organic comparison orchard at the site received 31 applications of ryania plus *Bacillus thuringiensis* var. *kurstaki* and fruit injury at harvest was 10.5%." Today's organic pome fruit producers target managing codling moth injury at below one percent to remain economically viable.

A decision to delist these inerts could lead to the loss of 50 percent of organic pome fruit production from the Pacific Northwest within the next five years, and an even steeper decline in years five through ten. It is incumbent on the NOSB to understand the impacts that delisting will have on organic pome fruit production – as there is no viable substitute to mating disruption in controlling codling moth – and therefore allow the List 3 inerts to continue on the National List until suitable alternatives are determined.

Kasugamycin §205.601 Petition

The NHC supports the petition to add Kasugamycin to the National List for use in organic crops to control fire blight. *Erwinia amylovora* (fire blight) is an economically significant pest of pear and apple trees. There is a risk of fire blight infection in pome fruit any time there are flowers on the tree, the weather is warm, and a wetting event occurs. Current options for organic pome fruit producers include fixed copper, lime sulfur plus oil, and the biological, Blossom Protect, a yeast biocontrol. Use of the predictive model, CougarBlight, is recommended for guiding the application of control measures. Depending on the risk level of russetting for individual cultivars, copper hydroxide/octanoate (Cueva/Previsto) and *Bacillus subtilis* (Serenade Optimum) are also options. Russetting is a serious concern with copper applications, and growers must select lesser effective products such as Serenade. Serenade is estimated to kill approximately 60 percent of the blight bacteria versus a copper spray, which kills about 95 percent. At 60 percent efficacy, several hundred flowers per tree can be left with high exposure to fire blight, and even one strike per tree can create a huge problem.

Kasugamycin would be a very welcome addition to control fire blight in organic production, particularly under moderate to high-pressure conditions in the Midwest and eastern United States, and under high-pressure conditions in the western region. Organic pome fruit growers are experiencing high levels of damage from fire blight that cost growers tens of millions of dollars in lost trees and production, including the need for increased labor to prune blighted trees, sometimes several times in the season.

The only highly effective NOSB approved material for fire blight is Blossom Protect. This material can be used in the western United States but use in the east is more difficult as the yeast is susceptible to fungicides applied during bloom for apple scab, including applications of copper and sulfur. Weather conditions that favor fire blight also favor scab. Thus, a material such as Kasugamycin would be helpful to prevent large-scale disease outbreaks that can kill significant numbers of trees. Kasugamycin is a more effective alternative to coppers and lime sulfur for fire blight management. Having Kasugamycin would allow growers to use fewer copper applications, resulting in less russetting of fruit.

Should the petition be successful and Kasugamycin is allowed for use in organic, limiting the number of applications will be an important tool for managing the evolution of resistance. Some research also indicates that the use of an approved acidifying agent that can decrease the spray solution to pH 5 will kill the fire blight pathogen and should be considered as part of a resistance management program in pome fruit. The NHC supports consideration of Kasugamycin use against bacterial canker (*Pseudomonas syringae*) of sweet cherry, as well.

Conclusion

The products referenced in these comments are important – and in some cases critical – to organic tree fruit production. The loss of these products would negatively impact the abilities of our organic tree fruit growers and packers to manage insect and disease pests and could consequently force our local tree fruit growers and packers out of organic production. We ask that members of the board 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 the orchard and packinghouse.

Thank you for your careful consideration of these comments.

Sincerely,

NORTHWEST HORTICULTURAL COUNCIL

A handwritten signature in black ink, appearing to read "David Epstein", with a stylized flourish at the end.

David Epstein, Ph.D.

Vice President for Scientific Affairs

CC: NHC Science Advisory Committee's Organic Subcommittee

Literature Cited

- Brown, D.F. and L.M. McDonough. 1986. Insect Sex Pheromones: Formulations to Increase the Stability of Conjugated Dienes, J. Econ. Entomol. 79: 922-927.
- Brown, D. F., A. L. Knight, J. F. Howell, C. R. Sell, J. L. Krysan, and M. Weiss. 1992. Emission Characteristics of a Polyethylene Pheromone Dispenser for Mating Disruption of Codling Moth (Lepidoptera: Tortricidae), J. Econ.Entomol.85(3): 910-917.
- DuPont, S.T. 2020. WSU Efficacy of New Products for Control of Erwinia Amylovora Blossom Infections – Summary report 2016 to 2020, WSU Extension report to the Washington State Tree Fruit Research Commission.
- McDonough, L.M., W.C. Aller, and A.L. Knight. 1992. Performance Characteristics of a Commercial Controlled-Release Dispenser of Sex Pheromone for Control of Codling Moth (*Cydia pomonella*) by Mating Disruption, J. of Chem. Ecol., vol 18, no 12.
- Millar, J.G. and J.S. McElfresh. 1993. Studies with Codling Moth Mating Disruption Dispensers, attached.
- Millar, J.G. 1995. Degradation and Stabilization of E8,E10-Dodecadienol, the Major Component of the Sex Pheromone of the Codling Moth (Lepidoptera: Tortricidae), J. Econ. Entomol. 88(5): 1425-1432 (1995)
- National Organic Standards Board Technical Advisory Panel Review compiled by University of California Sustainable Agriculture Research and Education Program (UC SAREP) for the USDA National Organic Program
<https://www.ams.usda.gov/sites/default/files/media/2%20Hydrox%203%20TR.pdf>
- Ting, D. 2009. Human Health Risk Assessment of Isomate LBAM Plus, Prepared by Pesticide and Environmental Toxicology Branch Office of Environmental Health Hazard Assessment California Environmental Protection Agency
- Wiedmann, M. 2020. Listeria develops reduced sanitizer sensitivity but not resistance at recommended sanitizer use levels,
https://www.centerforproducesafety.org/researchproject/454/awards/Listeria_develops_reduced_sanitizer_sensitivity_but_not_resistance_at_recommended_sanitizer_use_levels.html



4/2/2021

To Whom it May Concern,

Trécé develops and manufactures insect semiochemical pheromone and/or kairomone based monitoring products, mating disruption control products, gustatory stimulants, and adhesives for insect trapping. We are writing to express our concerns regarding the proposal to de-list certain inert ingredients that are allowed for use in organic production.

List 3 inert ingredients are required in formulation of semiochemical products for organic growers. Often fragile semiochemical active ingredients are exposed to harsh environmental conditions (light and oxygen) and rely heavily on the inert ingredients to protect them from degradation. Furthermore, certain inert ingredients play an important role in controlling the release of the active ingredient. Without utilization of inert materials in the formulation, semiochemical based products will only last a few days compared to season long control in many instances.

List 3 inert ingredients used in Trécé's passive semiochemical formulations make up greater than 97% of the end products: These remain in the dispenser and do not diffuse into the environment. Moreover, there are currently no natural alternatives that will provide protection and controlled release of the active ingredients in our formulations that can be used as substitutes.

Trécé produces 24 semiochemical based insect management products (see table 1) that are formulated with approved inert ingredients from inert lists 3 and 4. These are certified by the Washington Department of Agriculture (WSDA) for organic use. Additionally, Trécé produces 175 products for species specific insect monitoring which are based on components from inert list 3. The latter products, though not certified, are allowed by the NOP to be used in organic production.

Mailing Address: P.O. Box 129, Adair, OK 74330
Shipping Address: 7569 Hwy 28 West, Adair, OK 74330
Phone: (918) 785-3061 * Fax: (918) 785-3063 * E-Mail: custserv@trece.com



Removal of the list 3 inert ingredients will essentially eliminate all semiochemical products that Trécé offers for use in organic production. The consequences of these actions will be:

- 1) Loss of insect monitoring products – Semiochemical monitoring lures are used for early detection of insect presence, measurement of abundance and phenological change. Organic growers are “blind” and cannot apply control products effectively without this tool. Furthermore, this leads to higher crop loss from insect damage and inefficient utilization of insect control products.
- 2) Loss of mating disruption control products – Solid and liquid pheromone and kairomone based mating disruption products are used to confuse the adult male, and in some cases the female insect. This leads to a decrease in the occurrence of mating, ultimately lowering the insect population and crop damage over time. Without this tool, organic growers will be forced to apply larger amounts of insecticide and control products and suffer higher crop loss from insect damage.
- 3) Loss of gustatory stimulant products – Semiochemicals used as gustatory stimulants enhance insecticide ingestion and significantly lowers the amount of insecticide and number of insecticides required for effective control. Without this tool, organic growers of certain crops will need to apply 2-10X more insecticide and suffer higher crop loss from insect damage. This is particularly relevant to most *Diabrotica spp*, the most significant insect pest of corn in the U.S..

We are unaware of any new health or environmental concerns with list 3 inert ingredients used in our passive semiochemical based formulations.

Thank you for allowing us to express our concerns about the removal of list 3 inert ingredients.

Sincerely,

Vincent Chebny, Ph.D.

Semiochemical R&D Laboratory Manager

Trécé Inc.

Danielle Kirkpatrick, Ph.D.

Global Technical Support Coordinator

Trécé Inc.

Mailing Address: P.O. Box 129, Adair, OK 74330

Shipping Address: 7569 Hwy 28 West, Adair, OK 74330

Phone: (918) 785-3061 * Fax: (918) 785-3063 * E-Mail: custserv@trece.com



Table 1 – Trécé list of Organic Approved Semiochemical based Products dependent on inert list 3

Solid Mating Disruption Products

- 1) CIDETRAK® OFM-L (51934-8)
- 2) CIDETRAK® IMM (51934-9)
- 3) CIDETRAK® CM (51934-10)
- 4) CIDETRAK® CM-OFM COMBO (51934-11)
- 5) CIDETRAK® CMDA COMBO PP (51934-13)
- 6) CIDETRAK® CMDA COMBO (51934-16)
- 7) CIDETRAK® CMDA COMBO MESO-A (51934-16)
- 8) CIDETRAK® CMDA COMBO MESO-W (51934-16)
- 9) CIDETRAK® CMDA + NOW MESO (51934-17)
- 10) CIDETRAK® CMDA + LR (51934-18)
- 11) CIDETRAK® NOW MESO (51934-19)
- 12) CIDETRAK® OFM-L MESO (51934-20)
- 13) CIDETRAK® CMDA + OFM MESO (51934-21)

Flowable Mating Disruption Products

- 14) CIDETRAK® CM MEC – (51934-23)
- 15) CIDETRAK® IMM MEC – (51934-22)

Gustatory Stimulant Products

- 16) CIDETRAK® D
- 17) CIDETRAK® L

Attractant and Larval Disruption Products

- 18) CIDETRAK® DA MEC (51934-12)

Monitoring Products

- 19) PHEROCON® BMSB
- 20) PHEROCON® GSB
- 21) PHEROCON® CMDA COMBO-P
- 22) PHEROCON® CMDA COMBO-P + AA

Insect Trap Adhesive Products

- 23) TAD® ALL-WEATHER
- 24) TAD® ALL-TROPICS

Mailing Address: P.O. Box 129, Adair, OK 74330
Shipping Address: 7569 Hwy 28 West, Adair, OK 74330
Phone: (918) 785-3061 * Fax: (918) 785-3063 * E-Mail: custserv@trece.com