



October 11, 2017

National Organic Standards Board  
USDA – AMS  
1400 Independence Ave, SW  
Washington, DC 20250  
RE: AMS-NOP-17-0024-0001

National Organic Standards Board members:

The Ohio Ecological Food and Farm Association (OEFFA) is a grassroots coalition of over 4,800 farmers, gardeners, retailers, educators, and others who since 1979 have worked to build a healthy food system that brings prosperity to family farmers, safeguards the environment, and provides safe, local food. OEFFA employs education, advocacy, and grassroots organizing to promote local and organic foods, helping farmers and eaters connect to build a sustainable food system. OEFFA's Certification program has been in operation since 1981. OEFFA certifies more than 1,200 organic producers and food processors, ensuring that these operations meet the high standards established for organic products.

We respectfully offer the following comments.

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### **Gratitude for NOSB Work**

Not only does the NOSB steward the National List of Approved and Prohibited Substances, it takes on and tackles big-picture issues of great importance to organic producers, handlers, and everyone who supports a strong organic program.

We do not agree with recent critiques of the Board. We note that Organic founders devised the NOSB structure and function with great intention. You are leaders of our community with a record of dedication, doggedness, and an ability to parse out complexities in the face of great controversy. The issues we face will continue to demand those qualities. Thank you for your service.

We’d also like to take a moment to say a special thank you to Francis Thicke for his service on the board. Not only is his work of great value to organic producers, but the way in which he conducts this work is consistently respectful and kind. Thank you, Francis, for leading by example.

## **COMPLIANCE, ACCREDITATION, AND CERTIFICATION SUBCOMMITTEE**

### **Proposal: Eliminating the Incentive to Convert Native Ecosystems**

OEFFA supports the leadership of Wild Farm Alliance and the efforts of the CACS in engaging with this topic. To help find a solution to producer conversion of native ecosystems, we think there are some important points in need of further clarification, including:

- 10 year transition period for native ecosystem plots: As a certifier, we are having a hard time imagining how this would not require every operator to provide a 10 year field history for each new field of production to be added to the organic system plan. While we are aware of some digital tools to get at that information, including Global Forest Watch, Google Earth, USGS NatureServe, and potential other sources of information including land trusts, conservation agencies, and agricultural taxation records, we work with many producers who do not utilize the internet, or work with conservation agencies, and so would struggle to provide this information.
- Vegetation analysis: While we appreciate the specificity of the vegetation analysis provided by Wild Farm Alliance, we note two challenges with this form of verification.
  - First, certifiers and inspectors would need to be trained to the native vegetation classifications of the very broad and diverse regions in which they work. It would take significant time, education, and consistency to assure all of us are on the same page.
  - Second, ground has often already been broken by the time the inspector is on-site to view crops under organic management. This means the inspector would not be viewing the native vegetation, but rather the field once it is in cultivation.

A strong educational effort at the onset of transition will be critical in implementing whatever final recommendation comes out of the committee and after potential rulemaking. In closing, we support the effort of CACS in addressing this important issue. Please continue to work on this in your subcommittee in partnership with the organic community so that we can address it together.

### **Proposal: Excluded Operations in the Supply Chain**

OEFFA thanks the subcommittee both for proposing ideas to tighten gaps in organic handling requirements, and for posing additional questions. We support the proposal and the six recommendations made to address excluded operations in the supply chain and address fraud. We recognize that most of these recommendations already exist within the rule, and would be made more explicit by inclusion in guidance. As with any major changes to guidance or the rule, we request a reasonable implementation time period.

Regarding the three questions posed by the NOSB:

*1) What negative impact might there be on the trade and movement of organic product with these clarifications?*

We expect there to be some challenges in regions of lower organic prevalence, as producers in these regions could be disadvantaged in terms of both cost and access, while currently uncertified handlers obtain certification. We expect these challenges could be addressed through an adequate implementation timeframe.

*2) What economic impact might there be based on these clarifications?*

We anticipate additional costs, including the cost of certification for the certified handlers, and the increased cost of the products they handle to offset the cost of certification, labeling, self-education and staff training.

*3) What impact will these clarifications have on maintaining organic integrity?*

We expect this will have a positive effect on organic integrity of handled organic products.

*4) What issues might be in need of further consideration?*

We are concerned about the possibility of fumigation in an uncertified handling facility such as a warehouse at an import facility. Do we have enough information to know that organic product is not being affected by fumigation, even in facilities in which packages are not broken?

A different, but related issue of concern is the definition of “enclosed.” Our certification program staff learned at a recent training that an open berry basket with quarts of berries inside - potentially several of such “packages,” stacked on a pallet- would be considered “enclosed.” This type of packaging would be of particular concern, for the potential risks of commingling, fumigation effects, and ease of fraudulently placing conventional product in organic packaging.

The recent OIG report on “The Approval and Oversight of NOP Agreements and Arrangements for International Trade and the Import of Organic Products” contained many positive recommendations with which the NOP has concurred and developed timelines for implementation. **We encourage NOSB oversight of the implementation of these measures which will also have the effect of reducing fraudulent imports.**

**Finally, we encourage NOP to engage in specific training of certifiers on related issues of fraud detection, investigations, and auditing.**

## **CROPS SUBCOMMITTEE**

### **Herbicides, soap-based**

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

OEFFA does **not** support the continued listing of Herbicides, soap-based, for farmstead maintenance and ornamental crops. We do not think this material is essential for farmstead maintenance.

### **Biodegradable Biobased Mulch Film**

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

Despite the current dearth of films meeting the requirement, biodegradable biobased mulch film should be retained on the National List. We acknowledge that a biodegradable biobased mulch film would be a great asset to producers, and we receive frequent requests for its use. Simultaneously, a great deal of plastic is currently in use by organic producers, much of which is ending up in the landfill at the end of each season. We have no desire for a product to be in use which would cause environmental and health effects as it breaks down in the soil, however, we are eager for an alternative to plastic mulch. Additional research and development of a safe, biodegradable biobased mulch film for organic production is imperative.

### **Fixed Coppers and Copper Sulfate**

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

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

OEFFA strongly supports the continued listing of fixed coppers and copper sulfate on the National List for organic crop production.

OEFFA producers utilize many cultural practices to support plant health and prevent diseases, including pruning, wider spacing between plants, crop rotation, variety selection, nutrient management, and mulches. They also employ products containing hydrogen peroxide, as well as several other remedies including milk, oils, and microbial inputs to manage diseases. While

these practices and products are helpful, they are insufficient to manage disease problems such as phytophthora in tomatoes, peppers, eggplants, and cucurbits. OEFFA producers work to make sure that copper does not accumulate in the soil by using specially designed sprayers and spraying techniques, as well crop rotations and soil testing. Some report success in managing disease by alternating between hydrogen peroxide and copper applications, further reducing the use of copper.

Copper is a controversial input in organic production and, due to the negative effects it can have on soil, aquatic ecosystems, and farmworker health, its use is often cited in critiques of organic production systems. For these reasons, we want to encourage further research into other viable disease management tools for use in organic production. However, copper remains a necessary tool in growing organic produce. Our producers maintain that copper is an essential part of their disease management programs and there is currently no comparable substitute available.

## **Micronutrients**

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

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

OEFFA supports the continued listing of Micronutrients. In 2015, the NOSB voted to replace the wording “Soil deficiency must be documented by testing” with “Deficiency must be documented.” The regulation has not yet been changed to reflect that recommendation. OEFFA joins the NOSB crops subcommittee in supporting that recommendation, as the current limited range of acceptable documentation of deficiency continues to be a challenge for organic producers and certifiers alike. To aid us in our certification work, we would like to request the addition of guidance regarding what should be accepted as adequate documentation.

## **Proposal: Strengthening the Organic Seed Guidance (NOP 5029)**

OEFFA appreciates the thoughtful work of the Crops Subcommittee in addressing the issue of strengthening the organic seed guidance. Our comments are organized based on the framing for the NOSB proposal.

1. We agree that it is reasonable to ask producers to demonstrate improvement in sourcing organic seed, but we want to make sure there's staged implementation of this request, as we're concerned that full compliance may not be achievable at this time.

2. Changes to NOP 5029 Guidance (Section 4) Policy "Producers must prevent and avoid contamination from excluded methods in seed of at-risk crops. (corn, soybeans, canola, alfalfa, beets, chard, cotton, rice and summer squash).

We urge the subcommittee to remove the proposed language as it is unreasonable to put this onus on farmers, especially producers purchasing from the commercial seed market and who do not participate in the production of that seed. It is up to seed producers and seed companies to ensure that contamination prevention measures were used for at-risk seed crops.

#### 4.1 Sourcing of Seeds, Annual Seedlings and Planting Stock

We support the inclusion at 4.1.2 of "...and the conventional replacement variety can be documented as being produced without the use of Excluded Methods."

##### 4.1.2 (c) On-farm variety trials

We concur with the NOSB recommendations that "on-farm variety trials of organic seed **may** (emphasis added) be used by producers to evaluate equivalency and quality of varieties that are available as organic seed." Records should be kept to validate producer efforts and results. We also concur with the NOSB that on-farm variety trials should not be mandatory.

4.1.3 A justification for the use of non-organic seed should be allowed when "organic seed cannot be sourced because of GMO contamination." We thank the board for recognizing the difficult position in which many producers find themselves. We have heard from grain growers that their organic seed sources have been contaminated and some seed dealers are now charging an additional premium for "extra-pure" seeds. Producers are saving seed to go back and test if contamination is later found and some may choose to test first. We agree with the ACA that if producers are to be allowed to use untreated, Non-GMO seed free of GMO contamination instead of organic seed that is contaminated, it would be helpful for certifiers to understand what threshold of contamination would be used to allow that exception. We recognize that consistent testing protocols and documentation of this will present a challenge.

4.2.1 We concur with the NOSB recommendation to require additional records demonstrating improvement in seed sourcing and that "justification for use of varieties needs to be specific to each variety on the list and which issue (form, quality, quantity, or equivalence) is the reason for that choice.

4.2.1 (b)(1)(i) We do **not** agree that five sources must be contacted for seed of at-risk crops. We do not think that the checking of additional sources will address this problem, and we believe it places an undue burden on producers.

4.2.1 (b)(3) It is important to close the loophole that enables buyers to evade accountability for promoting and requiring the use of organic seed when contracting with crop producers. The onus of responsibility should not fall exclusively to producers. We support addition of (3) “If seed sourcing is carried out or mandated by the buyer of a contracted crop, the producer must keep records of ***the buyer’s documentation*** (emphasis added) on attempting to source organic seed as part of the producer’s Organic System Plan. Such documentation must be comparable to that required of a producer who sources his/her own seed.”

Organic Seed Finder:

OEFFA is supportive of a more comprehensive and accessible clearinghouse for listing the availability of seed varieties. We believe the best available option to support improvements in this area is for the NOP to provide funds to an entity charged with managing an organic seed variety availability database. We believe it is important to have an independent entity assisting producers in determining if there are equivalent varieties available to substitute for the non-organic varieties in use; this will also help identify those crops or varieties for which additional development of organic seeds is needed.

### **Proposal: Aeroponics/Aquaponics/Hydroponics/Container Growing**

Organic production systems must promote ecological balance and conserve biodiversity, as was recognized by the creators of OFPA and is clearly stated in the Organic Rule. OEFFA believes the maintenance and management of organic matter in the soil, along with the diverse populations of organisms that are essential to soil ecosystems, are the foundation of organic farming.

We thank the Crops Subcommittee for its continued work on this topic. In the absence of clear, applicable standards, OEFFA has not certified hydroponic operations to date. **OEFFA agrees with the Crops Subcommittee that aeroponics, aquaponics, and hydroponics are not consistent with organic production.**

**We also appreciate the efforts of the subcommittee to forge a compromise with regard to container production, and while we have some concerns about certification of container systems, we agree that some container systems must continue to have a place in organic production. As such, we are supportive of the Crops Subcommittee’s proposal regarding a limit of 20% of the plants’ nitrogen requirement supplied through liquid feeding, and a limit of half of the plants’ nitrogen requirement being added to the container after planting.**

### **Discussion Document: Container and Greenhouse Production**

**OEFFA will submit more detailed comments on container production by utilizing the open docket.** We appreciate the thought put into this proposal and want to take the time to do it justice.



## **Use of EPA registered pesticides for purposes other than pest, weed, disease control**

*§205.206 Crop, pest, weed, and disease management practice standard. (e) When the practices provided for in paragraphs (a) through (d) of this section are insufficient to prevent or control crop pests, weeds, and diseases, a biological or botanical substance or a substance included on the National List of synthetic substances allowed for use in organic crop production may be applied to prevent, suppress, or control pests, weeds, or diseases: Provided, that, the conditions for using the substance are documented in the organic system plan.*

*§205.601 Synthetic substances allowed for use in organic crop production (m) As synthetic inert ingredients as classified by the Environmental Protection Agency (EPA), for use with nonsynthetic substances or synthetic substances listed in this section and used as an active pesticide ingredient in accordance with any limitations on the use of such substances.*

Plant growth regulators and desiccants are both defined and regulated by the EPA as pesticides.

**Some EPA registered pesticide products which contain synthetic inert ingredients listed at 205.601(m) are labeled for functions that are not clearly consistent with 205.206(e). While it is clear that these products are allowed for pest, weed and disease control, are they also allowed for other labeled uses such as plant growth stimulation and crop foliage desiccation? If so, how does the hierarchy described in 205.206(e) apply?**

Please see the following two examples:

- RyzUp SmartGrass PGR by Valent is a plant growth regulator that is labeled to “help overcome the effects of heat or drought.” The amelioration of heat and drought stress could be seen as a form of preventative pest and disease control, and hence would fit within the framework of §205.206(e). However, the product is also labeled to stimulate crop growth “when cool season conditions limit growth rates.” It is unclear how the use of synthetic inert ingredients listed at 205.601(m) for the purpose of plant growth stimulation could be justified by the standards, since the intended purpose is not to “prevent, suppress, or control pests, weeds, or diseases” (§205.206(e)).
- An OMRI-listed product called SUPPRESS Herbicide EC by Westbridge contains synthetic inert ingredients listed at §205.601(m) and would be allowed under §205.206(e) for weed control, but it is also labeled for use as a desiccant and harvest aid for potatoes. In order to justify the use of this product for the latter purpose according to the standards, the foliage of the potato plant would have to be considered a weed at the same time the tuber on that same plant is considered a crop. We would appreciate clarity from the NOSB on interpreting the standards on the allowed use of registered pesticides in situations such as these.

## LIVESTOCK SUBCOMMITTEE

### Copper sulfate

*§205.603(b) As topical treatment, external parasiticide or local anesthetic as applicable*  
*(1) Copper sulfate.*

### **OEFFA supports the continued listing of copper sulfate on the National List for livestock production.**

OEFFA certified operations utilize several cultural practices to support hoof and foot health in their organic management systems, including rotational grazing, maintaining dry housing and laneways, confining animals in very wet conditions, and conducting hoof trimming as needed. Despite these practices, foot and hoof issues such as foot rot, heel warts, and hairy warts arise from time to time. OEFFA producers are generally seeing these issues in one to three animals at a time, not in the entire herd. More issues seem to arise in those herds which, while meeting the organic grazing requirements, engage in comparatively less grazing.

Currently, OEFFA producers are using varied remedies to treat foot issues, including copper sulfate, hydrogen peroxide, iodine, and various home remedies including sulfur and garlic powder, a sugar/molasses paste, and dietary supplements including salt. Copper sulfate is typically administered as a walk through footbath, and footbath wastewater is typically mixed with manure and applied to fields. Although the copper sulfate would compose a relatively small portion of the manure applied, it should be disposed of in a manner that minimizes accumulation of copper in the soil, which could be monitored through soil testing.

Copper is a controversial input in organic production and, due to the negative effects it can have on soil, aquatic ecosystems, and farmworker health, and as such its use is included in critiques of organic production systems. For these reasons, we want to encourage further research into other viable disease management tools for use in organic production. We are cognizant of the spring 2015 vote for the addition of zinc sulfate to the National List for foot and hoof treatment. **Even with the potential addition of zinc sulfate, we continue to note copper sulfate as an important tool in organic livestock production.**

### Lidocaine and Procaine

*§205.603(b) As topical treatment, external parasiticide or local anesthetic as applicable*  
*(4) Lidocaine—as a local anesthetic. Use requires a withdrawal period of 90 days after administering to livestock intended for slaughter and 7 days after administering to dairy animals*

*(7) Procaine—as a local anesthetic, use requires a withdrawal period of 90 days after administering to livestock intended for slaughter and 7 days after administering to dairy animals*

**OEFFA agrees with the NOSB vote in spring of 2016 to amend section 205.603(b) regarding withdrawal times for both lidocaine and procaine. We urge lidocaine's continued listing on the National List. To the best of our knowledge, procaine is only available in combination with an antibiotic.**

### **Excipients and Iodine (NPEs, APEs)**

OEFFA previously commented to the Livestock Subcommittee that iodine is necessary for organic livestock production. We indicated that we share the subcommittee's concern regarding nonylphenol polyethylene glycols (NPEs), a class of alkylphenol ethoxylates in iodine products including teat dips, and supported the proposal to remove NPEs from excipients allowed for use in organic production due to their toxicity in aquatic systems and their endocrine disrupting effects.

We also shared the following context regarding OEFFA's experience in reviewing these types of excipients in livestock inputs:

"OEFFA has wrestled with the issue of NPEs in the recent past and we would like to relate our experience to inform the board's discussion on this subject. When establishing more detailed protocols for reviewing teat dip products, we considered how to deal with excipients allowed at 205.603(f). Specifically, we found that some of the NPEs being used in teat dip formulations were approved by FDA only as *indirect* food additives. Further research showed that these substances had the significant health risks currently under discussion. OEFFA's certification policy panel, composed of staff, producers, inspectors, and scientists, determined that a prudent course of action would be to limit the use of teat dips containing NPEs to post-milking applications so that potential contact with organic products would be minimized. We began identifying these dips separately and working with clients to enact this policy in 2009. After some push back and losing a few clients to other certifiers over this issue, we reached out to the broader community and found that other certifiers accepted indirect food additives including NPEs to fit the criteria at 205.603(f) for materials allowed as excipients in livestock drugs. After much consideration, in the spirit of consistency of enforcement, and in an effort to not require anything beyond the national standards, we dropped the additional restriction in 2011. Though since 2012 we discontinued collecting information on NPEs, our materials database notes that 40 of the teat dips we currently approve contained NPEs at that time."

Since we shared this experience with the board, many manufacturers have reformulated products by replacing NPEs with other alkylphenol ethoxylates. OEFFA has continued to review these ingredients as excipients and has consistently struggled to verify that the replacements comply with the criteria at 205.603(f) for excipients in livestock drugs. However, some argue that these ingredients may not need to be reviewed given that the board considered their presence based on the Technical Review (TR) the NOSB reviewed when relisting Iodine in 2015. As a certifier, it is our goal to be consistent in our reviews and expectations. To that end, **please clarify if the recommendation for Iodine to be listed at 205.603(a)(13) includes complexing**

**agents, or if the expectation is that certifiers and materials review organizations should be reviewing complexing agents for compliance individually.**

Further, the criteria for excipients described in 206.603(f) include substances that are "Approved by the FDA as a food additive." **Please specify which definitions listed as FDA Food Ingredients and Packing Terms should qualify as food additives.<sup>1</sup> For example, do Food Contact Substances and Prior Sanctioned Substances listed in 21 CFR meet the criteria of 205.603(f)?**

### **Proposal: Clarifying “emergency” for use of synthetic parasiticides**

OEFFA appreciates the thoughtful consideration given to this topic by the Livestock Subcommittee.

We support the annotation that prohibits the use of parasiticides except in emergency situations, and we agree that the definition of the concept of “emergency” is warranted. At the same time, we appreciate the hesitancy to define the term “emergency” in §205.200 Terms Defined due to the word “emergency” being used in various other places in the rule. In order to address the problem, but not introduce unintended effects on other areas of the rule, we suggest defining “Emergency Use of Parasiticides,” rather than the term “emergency.” A definition of this phrase would provide clarity for producers and certifiers alike.

## **MATERIALS SUBCOMMITTEE**

### **Proposal: 2017 Research Priorities**

#### **The Way in Which Research Is Conducted**

The way research is conducted is just as important as the research itself. To the extent possible, organic research should be done in partnership with organic producers on working farms. This will help ground the research in the realities faced by organic producers in the field. Further, researchers should take care to disseminate the interim and end-of-study findings of research with organic producers, in brief, accessible technical publications, and in paper and digital formats, to maximize farmers’ access to this information.

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<sup>1</sup> For reference, here is the link to the FDA Food Ingredients and Packing Terms list: <https://www.fda.gov/Food/IngredientsPackagingLabeling/Definitions/default.htm>

## **LIVESTOCK**

### **Holistic, Systems-based measures for reducing and eliminating the use of synthetic methionine in poultry diets**

Recently, in reviewing ingredient lists for livestock minerals, we noticed an increased use of metal methionine hydroxy analogue chelates, or, in common language, synthetic methionine stuck to copper, manganese, or zinc. We have allowed the use of such chelates under §205.603(d)(2), “Trace minerals, used for enrichment or fortification when FDA approved,” because these substances are AAFCO approved as sources of these minerals. Typically, however, synthetic methionine use would be regulated under §205.603(d)(1), which specifically addresses DL-Methionine. This work-around underscores the urgent need for natural methionine sources within an holistic, systems-based approach to poultry production.

Substantial research has already been conducted investigating isolated strategies for raising chickens organically and humanely without synthetic amino acid supplementation. **In researching systems approaches to eliminating the need for DL-Methionine in organic poultry feeds, studies should assess multiple strategies that investigate the impacts of natural methionine feed sources, breed, and high-welfare management strategies simultaneously.** If we don’t spend time investigating natural methionine sources in a systems-based approach, creative ways of including synthetic methionine in poultry diets will likely proliferate.

## **CROPS**

### **Biodegradable Biobased Mulch Film**

OEFFA acknowledges that a biodegradable biobased mulch film would be a great asset to producers, and we receive constant requests for its use. Simultaneously, a great deal of plastic is currently in use by organic producers, much of which is ending up in the landfill at the end of each season. We have no desire for a product to be in use which would cause environmental and health effects as it breaks down in the soil, however, we are eager for an alternative to plastic mulch. Additional research and development of a safe, biodegradable biobased mulch film for organic production is imperative.

### **Disease Management Tools related to Copper in Organic Systems**

Copper is a controversial input in organic production and, due to the negative effects it can have on soil, aquatic ecosystems, and farmworker health, its use is included in critiques of organic production systems. For these reasons, we want to encourage further research into other viable disease management tools for use in organic production.

### **Organic no-till**

The NOSB has acknowledged that “Organic no-till preserves and builds soil organic matter, conserves soil moisture, reduces soil erosion, and requires less fuel and labor than standard organic row crop farming.”

We support research focusing on the benefits of organic no-till. This has been viewed by many as the gold standard for sustainable production, but it's been challenging for organic producers to achieve. While we support this research, we also understand that continued focus and research on the multifunctional benefits of organic soil building and management systems must be maintained. Existing research examining tillage and soil carbon sequestration has raised questions about the value of no-till for carbon sequestration, calling for more in-depth research and analysis. While there are other benefits to no-till and reduced tillage systems, additional research should focus not just on this practice, but as the NOSB has stated, with consideration of the whole farm system.

## **MATERIALS/GMO**

### **Integrity of breeding lines and ways to mitigate small amounts of genetic presence**

There are many questions about the viability of public germplasm collections. Understanding inadvertent presence of GMOs in those collections is critical. Maintaining pure breeding lines is a foundation for a strong organic agriculture system and should be prioritized. Specifically, we'd like to see the following research priority emphasized: understanding the integrity of breeding lines used in organic plant breeding and seed production, and identifying the best methods for preventing and mitigating unwanted genetically engineered (GE) material in seed used by organic operations. In other words, we need data to better understand the extent of the problem and research that evaluates the effectiveness of methods for preventing the problem.

The pace of approval for new lines of genetically engineered plants - and now animals - continues to increase. It is critical that we protect the integrity of plant and animal breeding lines to ensure that we have the ability to practice organic agriculture in the years and decades to come. We must understand the extent of contamination of our breeding lines and be proactive in protecting their integrity for future generations.

Inadvertent presence of GE material is increasingly present in crops. Organic producers take land out of production, adjust planting dates, list their fields on sensitive crop registries and more, and still their products become contaminated through no fault of their own. The USDA's AC21 committee released a document that called for community conversations between farmers to deal with the problem. While those efforts may be helpful in limited situations, we will not be successful in bringing new farmers into the fold to meet growing demand knowing they bear sole responsibility for all costs of contamination. Research is critically needed in this area to understand and evaluate the true extent of the problem as well as create proactive solutions that do not place all of the burden on organic producers.

### **Prevention of GMO contamination: Evaluation of effectiveness**

We support a better understanding of how **prevention strategies** are working to maintain the integrity of organic crop production systems. Advocating best practices for both organic and conventional farmers is important for organic farmers who are required to take preventative measures, and for conventional farmers who choose to be good stewards and good neighbors.

In those instances where organic producers cannot rely on the best practices of good neighbors, policy research can identify mechanisms that provide compensation to farmers that experience contamination. It's time to engage in research to establish a baseline of inadvertent presence of GMOs, so that in the future we can develop a workable threshold of allowable GMO contamination in organic seed and grain.

### **Proposal: Excluded Methods Terminology**

OEFFA supports the Materials/GMO Subcommittee's proposals to include cisgenesis, intragenesis, and agro-infiltration in the terminology for excluded methods and to exempt the techniques of marker-assisted selection and transduction. We also encourage the Materials/GMO Subcommittee to include transposons in the terminology for excluded methods.

Agro-infiltration, as the accompanying note in the fall 2016 discussion document's chart explains, means "in vitro nucleic acids are introduced to plant leaves to be infiltrated into them." Thus, agro-infiltration is clearly an in vitro nucleic acid technique and clearly falls under the definition of "modern biotechnology." Therefore, agro-infiltration should be an excluded technique since modern biotechnology is an excluded method. In order not to create any confusion, we urge the Materials/GMO Subcommittee to define the terms cisgenesis and intragenesis. As we noted in our previous comments, cisgenesis refers to "the genetic modification of a recipient plant with a natural gene from a crossable— sexually compatible— plant. Such a gene includes its introns and is flanked by its native promoter and terminator in the normal-sense orientation."<sup>2</sup> Intragenesis also involves the genetic engineering (or genetic modification) of a recipient plant with hybrid genes from a crossable species. Unlike cisgenesis, with intragenesis, the regulatory components of the gene (e.g., the promoter and the terminator region) do not need to come from the same species; they can come from a crossable species, hence their being called a hybrid gene.<sup>3</sup> Both cisgenesis and intragenesis are clearly subsets of genetic engineering and clearly constitute an excluded method.

Although cisgenesis and intragenesis are clearly forms of genetic engineering, some people feel that the term "cell fusion within plant family" is a form of cisgenesis. Thus, an opinion published in May 2014, in *Food Safety News*, quotes the general manager from High Mowing Organic Seeds as saying, "We do not support or sell cisgenic (within the same plant family) CMS [cytoplasmic male sterility] cell fusion seeds as we believe the process is the same as GMO."<sup>4</sup> Indeed, a number of organic seed companies in the US agree with High Mowing Organic Seeds. Given the definitions listed in this document, cisgenesis is not the same as cell fusion, whether

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<sup>2</sup> Schouten HJ, Krens FA and E Jacobsen. 2006. Cisgenic plants are similar to traditionally bred plants. *EMBO Reports*, 7(8): 750-753. At: [www.ncbi.nlm.nih.gov/pmc/articles/PMC1525145/pdf/7400769.pdf](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1525145/pdf/7400769.pdf)

<sup>3</sup> See slide 11 in [www.slideshare.net/HudaNazeer/transgenesis-intragenesis-cisgenesis](http://www.slideshare.net/HudaNazeer/transgenesis-intragenesis-cisgenesis)

<sup>4</sup> Sutherland D. 2014. Organic mutagenic/cell fusion hybrid seeds are genetically engineered. *Food Safety News*, May 15, 2014. At: <http://www.foodsafetynews.com/2014/05/draft-a-gmo-conundrum-organic-mutageniccell-fusion-hybrid-seeds-are-genetically-engineered/#.WdLYmyiGM2w>

the plant cells fused come from within the same plant family or between plant families. Indeed, the definition of “modern biotechnology” in this document includes only “fusion of cells beyond the taxonomic family,” so cell fusion within the same family is outside of the definition of “modern biotechnology.”

As the article in *Food Safety News* points out, using cell fusion to move CMS into the Brassica crops or to move CMS between sunflower and chicory (both in family *Asteraceae*) is fairly common. The article goes on to note that this use of cell fusion to move CMS trait often also involves mutagenesis techniques—what the document refers to as “induced mutagenesis.” That said, although the terms “cell fusion within plant family” and “protoplast fusion” fall outside of the definition of “modern biotechnology,” this does not mean that they meet the first criterion of excluded methods, e.g., that “the genome is respected as an indivisible entity ...” Indeed, there should be further discussion as to whether “cell fusion within plant family” and “protoplast fusion” are excluded methods, so it is appropriate that they are labeled as TBD. In addition, the term “induced mutagenesis” involves a variety of techniques—radiation, chemicals, etc.—to cause/induce a mutation, also raises questions about whether such techniques meet the first criterion of excluded methods, so it is appropriate that “induced mutagenesis” remains on the TBD list.

Transposons are mobile genetic elements that have been used to genetically engineer plants and animals.<sup>5</sup> These uses clearly constitute an excluded method since they are used in genetic engineering. Transposons can also be used to create animal vaccines. While GE vaccines are not prohibited in the organic program, due to the exemption of vaccines from the excluded methods terminology, we believe that GE vaccines should not be allowed in organic production. However, even if they are to be permitted, transposon use for creating GE plants and GE animals clearly falls under the excluded methods. At the least, transposons should be in the Terminology Chart in the Guidance on Excluded Methods with a note saying that use in vaccines for animals may be allowed.

In summary, OEFFA supports the subcommittee’s proposal to include the terms cisgenesis, intragenesis, and agro-infiltration as excluded methods and to exclude the terms “marker assisted breeding” and “transduction” as excluded methods. In addition, we urge the subcommittee to include “transposons” as an excluded method, perhaps with a note saying that “transposons” may be used in animal vaccines, since vaccines are exempted from organic regulations.

### **Discussion Document: Non-GMO organic seed integrity**

OEFFA appreciates the tone and scope of the Materials/GMO Subcommittee’s Discussion Document on Seed Purity. We concur that the burden of GMO contamination must not fall solely on the organic producer, and recognize what a complex issue this is. Of the four

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<sup>5</sup> Ivics Z and Z Izsvák. 2010. The expanding universe of transposon technologies for gene and cell engineering. Mobile DNA. At: [mobilednajournal.biomedcentral.com/articles/10.1186/1759-8753-1-25](http://mobilednajournal.biomedcentral.com/articles/10.1186/1759-8753-1-25)



suggested ways forward, OEFFA is particularly in favor of options A and B. Below, please see our brief comments on these options.

- A. Data collection: While we like the idea of data collection and the plan to start with the non-gmo status of non-organic seed in use on organic farms, we are concerned about yet another burden of seed documentation falling on the producer. This plan would require collaboration between producer, inspector, certifier, and data collector/analyzer. We're wondering if perhaps NOSB could consult with the IOIA, ACA, and Organic Seed Alliance to help generate a plan for data collection?
- B. Seed Purity Advisory Task Force: We agree with the idea to involve USDA in finding a solution to this problem. Those who are involved in the production, certification, inspection, and research associated with seed purity would be best positioned to advise or recommend participants for a task force. As with data collection, IOIA, ACA, and Organic Seed Alliance would be great resources in the creation of a task force team.
- C. Please see OEFFA's comments on strengthening the Organic Seed Guidance.
- D. Soybean Testing Project: We like the idea of a test project, and agree that starting with just one crop could provide insight that would help inform the broader issue. While soybean testing may be achievable in the shorter term, we are concerned about the greater impact to the number of producers who are unable to grow organic corn due to contamination. Please consider this as you decide which commodity crop would be most appropriate for a test project.

## **CROSS-CUTTING ISSUES**

### **Fracking**

We remain concerned about the impacts of fracking and the oil and gas industry infrastructure on and around organic farms. Infrastructure impacting organic farms could be a pipeline, a well pad, an injection well or a compressor station. Due to the proliferation of this infrastructure, organic producers in many parts of the country face a threat of contaminated inputs and/or decertification. Discrete actions can be taken to help certifiers respond to requests for information and assistance.

At the spring 2017 NOSB meeting the board requested an analysis of OFPA and the section/s that demonstrate clear authority for the NOSB to address this issue. OEFFA, the Center for Food Safety, and Food and Water Watch provided that analysis, which was submitted under the open docket. The information clarifies that this topic is in the realm of NOSB work. To assist you in moving this work forward, the comments that follow expound upon previous OEFFA comments

to provide a framework that identifies impacts on organic farms and offer specific ideas for you to consider. We hope you will place this issue on the NOSB work agenda so that we can, together, find solutions for protecting the integrity of organic farms and food in the face of oil and gas industry technologies and practices.

Fracking and Oil and Gas Industry Infrastructure impacts organic farms in the following ways:

- Certification may be threatened by the use of prohibited substances or practices that are not compatible with a system of organic agriculture. The NOSB could address this by taking the following actions from a “protecting certified operators” perspective:
  - The CACS could create a discussion document outlining the various issues at hand, and those considered worthy of inclusion on its work agenda. The committee could ask questions of the community as needed.
  - The CACS could propose draft guidance for certifiers regarding how to work with farmers faced with this infrastructure so that certification can be maintained.
- It can result in “contaminated inputs” – produced water, in particular—that threatens the integrity of organic products and the viability of organic farms.
  - The Materials Subcommittee could address this issue in the framework of the “contaminated inputs” item on the work agenda. The Materials Subcommittee could look at potential inputs on certified land, including fracking water.
  - The Materials Subcommittee could create a discussion document outlining the various issues at hand from this perspective, and identify those worthy of inclusion as topics in its work plan. The committee could ask questions of the community as needed.
- It can force producers to allow unwanted infrastructure on their farms through eminent domain and mandatory pooling that could lead to contamination or decertification. The impacts of energy development on organic farms should receive attention from those who regulate the industry and state departments of agriculture working directly with farmers.
  - The NOSB could share a draft Organic Agriculture Impact Mitigation Plan with both the Federal Energy Regulatory Commission (FERC) and the National Association of State Departments of Agriculture (NASDA), including a recommendation that organic farmers and oil and gas companies utilize such a plan, tailored to site-specific and operational needs, prior to engaging in oil and gas activities on organic farms.

- NOSB could work with the Council on Environmental Quality, which makes regulations for Environmental Impact Studies, to declare organic farms “sensitive areas” in need of special consideration during infrastructure development.
- It raises questions about the integrity of organic food. It’s difficult to act on these issues if we don’t fully understand the effect on organic farmers.
  - NOSB could invite a panel of specialists to unpack this issue in a panel discussion at an NOSB meeting. Experts could focus on various aspects of fracking and oil and gas industry infrastructure, such as fracking, injection wells, pipelines, sandpit extraction, compressor stations, etc.

We look forward to hearing your response to these ideas, and in supporting the first steps to address this important issue with you.

## **Comprehensive Review of Sanitizers**

### **Chlorine materials sunsets**

OEFFA supports the relisting of chlorine materials (acidified sodium chlorite, calcium hypochlorite, sodium hypochlorite, and chlorine dioxide) as they appear on the National List in sections 601, 603, and 605(b) at this time. However, there are many hazards associated with the manufacture, transportation, storage, use, and disposal of chlorine materials, and the NOSB should make it a priority to find less hazardous alternatives, which requires a comprehensive review of sanitizers, disinfectants, and cleansers.

### **Request for a comprehensive review of sanitizers**

OFPA requires that materials on the National List be itemized “by specific use or application.” This requires that the NOSB identify the uses for which these materials are needed. A Technical Review (TR) that establishes and distinguishes needs, uses, and relative toxicities for cleaners, sanitizers, disinfectants, and sterilants must be performed. In particular, the TR must address the following:

- The uses for which these materials are needed;
- Whether an antimicrobial is the appropriate way to address the identified need;
- Whether any uses of specific materials in this class are required by law;
- Whether there are uses for which no material is listed on the National List (We suggest that there is a lack of cleansers);
- Whether organizations researching least toxic materials (e.g., EPA’s Safer Choice/Design for the Environment program<sup>6</sup> and the Toxics Use Reduction Institute at the University of

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<sup>6</sup> DfE for antimicrobials at <https://www.epa.gov/pesticide-labels/design-environment-antimicrobial-pesticide-pilot-project-moving-toward-green-end>. Safer Choice at <https://www.epa.gov/saferchoice/safer-ingredients>.

Massachusetts, Lowell<sup>7</sup>) have identified least toxic practices and materials that should be considered for use in organic production;

- Which alternative practices and materials might be proposed for each use that is identified; and
- The hazards to humans and the environment of the various options identified.

We look forward to clearer definitions and a broader and deeper understanding of the uses of these materials going forward so we can ensure the appropriate tools are available to organic producers and handlers.

### **NOSB Meeting Materials and the Open Docket - Fostering Open Communication**

OEFFA urges the NOSB to use the open docket period to facilitate a better process of two-way communication between NOSB Meetings.

In Spring 2013, the NOSB adopted a policy for Public Communication between NOSB Meetings, stating “The NOSB and NOP seek public communication outside of Board biannual meetings and public comment periods to inform the NOSB and NOP of stakeholders’ interests, and to comment on the NOSB’s and NOP’s work activities year-round.” We sincerely appreciate these efforts to facilitate ongoing open communication.

We also note there are challenges to open communication. We understand the reluctance of NOSB members to share information beyond the subcommittee notes published, as that information is confidential until published. We also understand there are challenges at the Federal Register resulting in less-than-timely publication of meeting materials. Giving stakeholders adequate time for analysis and feedback on proposals will result in higher quality public comment, which would provide NOSB with better input for consideration and decision-making.

We have a few ideas for your consideration:

- We understand that some portions of meeting materials may be ready weeks in advance of the actual publication date and request that these materials be unofficially shared as they become available.
  - Discussion documents that are finished in advance of the Federal Register publication could be made available early.
  - Any documents that will be re-published from one meeting to the next could be shared early on so that stakeholders know to spend time responding to the existing document.
  - Questions that arise during subcommittee discussions could be shared early on to offer the community more time to find the answers and provide them to NOSB.

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<sup>7</sup> [https://www.turi.org/Our Work/Cleaning Laboratory](https://www.turi.org/Our_Work/Cleaning_Laboratory).

- We understand it's important that such unofficial meeting materials must be made available to all stakeholders at the same time. One venue to accomplish this could be a NOSB website used specifically for this purpose.

**By publishing discussion documents and questions for public feedback ahead of the NOSB meeting materials, the NOSB could be working in concert with the organic community in a mutually beneficial manner. There is extensive knowledge in the organic community that can inform the deliberations of subcommittees addressing complex issues more thoroughly. OEFFA understands that much is asked of those serving on the NOSB; we can fully utilize the open docket to optimize the NOSB process.**

### **Organic Economic Development Opportunities**

OEFFA would like to encourage the NOSB to add the topic of Organic Economic Development Opportunities to its work agenda. Often, tough issues could be addressed if enterprising individuals were aware of the opportunity to capitalize on a gap or need in organic production or handling. Just as the NOSB identifies research priorities each year, so could economic development opportunities be identified. Researchers look to the NOSB to help identify needs and inform proposals for research funding. Similarly, entrepreneurs, agencies and others may be interested in the "green" economic development opportunities present in the organic industry. By adding this topic, the NOSB can help inform the industry of those growth opportunities.

Example economic development opportunities in organic production:

- **Organic Slaughter Facilities:** In the Midwest, we do not have sufficient organic processing facilities to meet demand. As a result, several producers certify pasture, but not animals.
- **Mobile Processing Units:** One solution for organic slaughter facilities are mobile processing units. Again, these are in short supply in our region.
- **Organic Casings:** We recognize organic casings for certified organic sausage are a complex issue related to slaughter facilities and other factors, but we see this as a surmountable challenge for the right entrepreneur.
- **Dedicated Organic Warehouses:** We are wondering if some of the challenges with fumigation in uncertified storage facilities could be addressed through dedicated organic warehouses.
- **Organic Seed Cleaners/Mixers/Handlers:** This is another challenge related to the uncertified handler question. There is an opportunity for seed dealers to become certified to fill important niches in local organic communities related to seed.
- **Production of organic insect meal:** Insect meal could provide a sustainable source of methionine for organic poultry.

Please consider both adding this topic to the work agenda, and sharing these comments with NIFA, which funds entrepreneurial grants, and other grant-making and economic development agencies, both in the federal government and the private sector.

### **When NOSB Meetings are Held**

OEFFA consistently hears feedback from organic producers regarding the timing of NOSB meetings. The spring meeting comes at a tough time for mixed vegetable producers, and the fall meeting is a challenge for grain growers in the Midwest. These challenges extend beyond attendance at the meeting and include finding the time to respond to meeting materials that are published in such close proximity to the deadlines for public comment. Please consider holding one of the meetings each year in the winter- perhaps in January? While we recognize this will still present a challenge for those organic producers in other climates, this timing would enable a number of US Organic producers to take a more active participatory role in communication with the NOSB.

Thank you for your consideration of these comments.

On behalf of the Ohio Ecological Food and Farm Association and OEFFA Certification,



Carol Goland, Ph.D.  
Executive Director