OHIO ECOLOGICAL FOOD OEFFA AND FARM ASSOCIATION

April 2, 2020

National Organic Standards Board
USDA – AMS
1400 Independence Ave, SW
Washington, DC 20250
RE: AMS-NOP-19-0095

National Organic Standards Board members:

The Ohio Ecological Food and Farm Association (OEFFA) is a grassroots coalition of more than 4,200 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. Certified organic farmers make up the bulk of our membership, as well as the bulk of our policy advisory council. OEFFA's Certification program has been in operation since 1981. OEFFA certifies more than 1,300 organic producers and food processors, in a twelve-state region, ensuring that these operations meet the standards established for organic products, and collaborates with partners such as the Accredited Certifiers Association and International Organic Inspectors Association to foster consistency and clarity both in the way we conduct ourselves, and in what we expect from producers and handlers we certify, as well as from our colleagues at the NOP and NOSB.

OEFFA employs education, advocacy, and grassroots organizing to promote local and organic foods, helping farmers and eaters connect to build a sustainable food system. We work collaboratively with groups such as the Organic Farmers Association, the National Organic Coalition, and the National Sustainable Agriculture Coalition to effect positive food systems change. We want to support our farmers in their efforts to protect organic integrity and educate their communities about its benefits, its rigor, its strong values of transparency and continuous improvement.

We thank you for your service to the organic community, and we respectfully offer the following comments:

CONTENT

COVID-19: THANK YOU AND BEST WISHES

We are wishing NOSB members, their families, and USDA NOP staff and their families all the best during this global pandemic. We are thankful for NOP's nimble work to continue the meeting in a digital format, and for the NOSB members' focus and attention during a challenging time. Situations like this offer a clear reminder of the importance of a vibrant and robust local and regional food system that offers healthy food to communities and fair prices to farmers. Thank you for all you do to support and strengthen the organic movement.

BIG PICTURE

ORGANIC AGRICULTURE AS A SOLUTION TO CLIMATE CHANGE

Discussions around climate and agriculture are progressing, and in those discussions the issue of soil health is predominant. The management practices associated with organic agriculture focus on soil building techniques and reducing the need for off-farm inputs which are a persistent emitter of nitrous oxide, a long-lived greenhouse gas (GHG). Nitrous oxide is a long-lived GHG and ozone depleter, with 310 times the global warming potential of carbon dioxide.[1] E[2][3] Synthetic pesticides disrupt nitrogen fixation and inhibit soil life. The absence of pesticides in the soil allows diverse organisms and beneficial insects to decompose plant residues and help sequester carbon.

- Organic regulations (§205.105) prohibit the use of synthetic substances in crop production.

According to Rattan Lal, Director of Ohio State University's Carbon Management and Sequestration Center, the world's cultivated soils have lost between 50 and 70 percent of their original carbon stock, much of which has oxidized upon exposure to air to become CO2. Carbon is the main component of soil organic matter and helps give soil its water-retention capacity, its structure, and its fertility. Many of the practices delineated in the Organic standards are consistent with practices being advanced to sequester carbon and to mitigate the effects of climate change.

- Organic regulations (§205.203) require the implementation of soil fertility and crop nutrient management practices to maintain or improve soil such as crop rotations, cover cropping, and the application of plant and animal manures.
- Cover crops, routinely planted by organic farmers , can rebuild soil nitrogen and improve carbon sequestration by adding soil organic matter. Planting deep-rooted cover crops like forage radish or cereal rye further aid in the long-term sequestration of carbon.

---

[1] Schonbeck, M. et al. (2018) *Soil Health and Organic Farming, Organic Practices for Climate Mitigation, Adaptation, and Carbon Sequestration,* Organic Farming Research Foundation, p. 2. https://ofrf.org/soil-health-and-organic-farming-ecological-approach

[2] Environmental Protection Agency (EPA). (2018) *Sources of Greenhouse Gas Emissions*. https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions

[3] Schonbeck, M. et al. (2018) *Soil Health and Organic Farming, Organic Practices for Climate Mitigation, Adaptation, and Carbon Sequestration,* Organic Farming Research Foundation, p. 2. https://ofrf.org/soil-health-and-organic-farming-ecological-approach

- Compost is an important organic farming soil amendment and, when used judiciously and in combination with cover crops, accrues more soil organic carbon than when used alone.

Healthy soils are a cornerstone for organic farmers and are an important factor in GHG emissions. As biologically active soils break down crop residues, they release carbon dioxide and nutrients. Stabilized soil organic carbon that adheres to clay and silt particles or resists decomposition is sequestered and can remain in soils for decades or longer.

The long-term studies conducted at the Rodale Institute demonstrate both the increased water holding capacity and the better water infiltration of organically managed soils which is also key to the climate adaptation necessary for farmers to survive and thrive in the years ahead.[4] Organic farming practices also help mitigate climate change by keeping roots in the soil, preventing soil erosion, and sequestering soil carbon. USDA should recognize and promote the multifactorial benefit of organic agriculture.

Research has also shown that if the standard practices used by organic farmers to maintain and improve soils were implemented globally, it would increase soil organic carbon (SOC) pools by an estimated 2 billion tons per year – the equivalent of 12% of the total annual GHG emissions, worldwide.[5] While individual practices such as cover cropping or no-till can accrue measurable amounts of SOC, integrated systems of practices based on sound agro-ecological principles have the greatest potential to mitigate agricultural GHG emissions, sequester and stabilize SOC, and attain the full measure of a productive and resilient agriculture.[6]

No-till is no Panacea for Climate Change

One of the most emphasized practices to farmers from USDA and land grant university extension services is no-till agriculture and the benefits of not disturbing the soil. They have stressed that soil disturbance is more harmful to SOC and soil life than the herbicides and other agricultural chemicals used in continuous corn and soy rotations. However, much of this SOC accrues in aggregates near the soil surface, where it is vulnerable to rapid oxidation after even a single tillage pass; most no-till farmers till once every several years to deal with perennial weeds and/or soil compaction. Crucially, most stabilized soil organic matter appears to derive from microbial processing of root exudates and other

[4] USDA Agricultural Research Service (ARS). Web accessed 3/2020 https://www.ars.usda.gov/research/publications/publication/?seqNo115=207137

[5] Schonbeck, M. et al. (2018), p. 42

[6] Lal, R., J.M. Kimble, R.F. Follett & C.V. Cole. 1998. *The Potential of U.S. Cropland to Sequester Carbon and Mitigate the Greenhouse Effect*. Ann Arbor Press, Chelsea MI.

organic residues and are not of direct plant origin.[7,8,9] Thus, the detrimental effect of chemicals used in no-till systems on soil microbes undermines formation of stable soil organic matter. [10,11] It is becoming clear that previous studies may have over-estimated the carbon accrual potential of chemical no-till agriculture, which illustrates the benefits of additional research and closer examination of systems-based approaches such as organic management.

The following excerpt from "Agriculture and Climate Change" Policy Imperatives and Opportunities Help Producers Meet the Challenge" further illustrates the role that organic farming has to play in the climate crisis.

In a meta-analysis of 20 organic/conventional comparison trials from around the world, organic systems accrued an average of 400 lb C/ac-year more than conventional systems, of which about 60 percent was sequestered in situ and 40 percent was imported in the form of compost, manure, and other organic amendments (Gattinger et al., 2012). Another meta-analysis of 59 studies found total SOC averaging 19 percent higher in organic than conventional systems (Lori et al., 2017). In the U.S., a nationwide sampling of 659 organic fields and 728 conventional fields across the U.S. showed 13 percent higher total Soil Organic Matter (SOM) and 53 percent higher stable SOM in the organic soils (Ghabbour et al., 2017).

Most recently a meta-analysis examined 528 studies which each compared at least one organic farm to at least one conventional farm (Sanders and Hess, 2019). On average, organically managed soils had a 10 percent higher organic C content and a higher annual C sequestration rate of 256 kg C /ha. Nitrous oxide emissions averaged 24 percent lower for organic farming, which results in a cumulative climate protection performance of 1,082 kg CO equivalents per hectare per year. Aggregate stability in soil was on average 15 percent higher (median) in organic farming; infiltration differed by 137 percent. Higher

---

[7] Paustian, K., Lehmann, J., Ogle, S., Reay, D., Robertson, G. P., & Smith, P. (2016). Climate-smart soils. Nature, 532(7597), 49-57. DOI:10.1038/nature17174.

[8] Kallenbach, Cynthia M., Frey, Serita D., & Grandy, A. Stuart. 2016. Direct evidence for microbial-derived soil organic matter formation and its ecophysiological controls. *Nature Communications,* 7, Article number: 3630. https://www.osti.gov/pages/servlets/purl/1363941.

[9] Schmidt et al., 2011. Persistence of soil organic matter as an ecosystem process. *Nature,* 478:49-56.
[10] Druille M, Cabello MN, Omacini M, Golluscio RA. 2013. Glyphosate reduces spore viability and root colonization of arbuscularmycorrhizal fungi. *Applied Soil Ecology,* 64:99–103; https://doi.org/10.1016/j.apsoil.2012.10.007
[11] Nicolas V, Oestreicher N, Vélot C. 2016. Multiple effects of a commercial Roundup® formulation on the soil filamentous fungusAspergillus nidulans at low doses: evidence of an unexpected impact on energetic metabolism. *Environmental Science and Pollution Research* 23, 14393–14404; doi: https://doi.org/10.1007/s11356-016-6596-2.

infiltration reduces soil erosion and soil loss, which means that organic farming reduces these occurrences by -22 percent and -26 percent, respectively (Sanders and Hess, 2019).[12]

The research and field data is conclusive enough to warrant the USDA making significant investments and educational outreach to promote the value of organic management systems as a way forward in dealing with this impending crisis.

CROPS

PROPOSAL: PAPER (PLANT POTS AND OTHER CROP PRODUCTION AIDS)- PETITIONED

OEFFA continues to view Paper Pots as a necessary part of an innovative and labor-saving transplanting system. We also believe that this system has the potential to diminish the amount of plastic used on mixed vegetable operations that utilize it, as plastic cell trays and plastic mulch are not compatible with the paper pot transplanter. We are grateful for the July 2019 Technical Report on Paper Pots and Containers, and the NOSB's careful consideration of this topic.

We are curious whether the manufacturer or the materials review organization (MRO) will be responsible for testing the biobased carbon percentages. If the MRO will be responsible for this testing, we think it likely that MROs paid by manufacturers or with access to state labs will be those well positioned to review these materials.

A second question we have is related to the ASTM test methods, which have a 3-5% margin of error. It would be helpful if certifiers were provided with guidance regarding how to interpret, for example, a test with 85% +/- 5% as the result. Further, we are aware that ASTM standards are based on lab tests, not field tests, providing little information on how these products will behave in on-farm conditions. The lab protocols utilize optimal conditions that would not likely be found in agricultural fields between growing seasons and do not account for variations in environmental and climatic conditions. The scope of the ASTM "test methods do not address environmental impact, product performance and functionality, determination of geographical origin, or assignment of required amounts of biobased carbon necessary for compliance with federal laws."[13]

Despite these practical concerns, we support the NOSB's motion to add Paper Pots to the National List at 205.2 and 205.601(o).

---

[12] National Sustainable Agriculture Coalition, November 2019. Agriculture and Climate Change: Policy Imperatives and Opportunities to Help Producers Meet the Challenge. Washington D.C.

[13] ASTM International, 1. Scope, https://www.astm.org/DATABASE.CART/HISTORICAL/D6866-12.htm.

Discussion Document: Wild, Native Fish for Liquid Fish Products

OEFFA thanks the NOSB for addressing this work agenda item, as outlined in the Discussion Document, "to assess the impact of harvesting wild, native fish for fertilizer and to ensure that liquid fish and other fish-based fertilizer products used in organic production are not harmful to the environment." Harvesting wild-caught fish for the exclusive use of fertilizer would be a misuse of a resource from the ocean, which is already under extreme environmental stressors, and should not be supported by organic production. That said, liquid fish products are effective, quick sources of nitrogen, and are widely used by OEFFA producers. Finally, we have reason to believe that some producers were under the impression that fish fertilizers were produced exclusively from bycatch. Please also refer to the detailed comments of the National Organic Coalition on this topic, as they address the findings of the TR. We look forward to reading others' input on this topic and hope for a workable solution.

Discussion Document: Biodegradable biobased mulch annotation change

1. OEFFA supports the purpose of this discussion document to result in a work agenda item for the NOSB. Biodegradable biobased mulch films are regularly sought by OEFFA certified producers. Please see our comments under Research Priorities calling for a study of the decomposition rates and effects of biodegradable biobased mulch film residues on soil biology and noting the importance of a safe, biodegradable biobased mulch film.

Our comments will focus on the questions put forth by the subcommittee:

3. What is your opinion on mulch films that could be engineered to include macro or micro- nutrients or pesticides that would then make the mulch film provide more benefits than just a mulch?

Other allowed mulch materials (straw, newspaper, leaves, etc.) break down into nutrients that may be used directly or indirectly by crops via soil biology, and anything that biodegrades will, by definition, be used somehow. Provision of nutrients does not inherently seem reason to deny a product, but perhaps there could be a restriction (similar to the defunct restriction on sodium nitrate) regarding how much of a crop's nutrient needs can be supplied by mulch film. We are less supportive of the concept of including pesticides directly in the mulch film, but if the active ingredients were allowed otherwise, the delivery method could be less significant.

4. Is the risk/benefit of keeping plastic mulches out of landfills part of the Organic Food Production Act criteria the NOSB should consider when reviewing this material?

Yes, we should consider keeping other plastics out of landfills as a motivation to allow biodegradable mulches. For certain production systems that will use plastic mulches as long as any are allowed, it is appropriate to consider effects of each type of mulch in comparison to other tools.

6. Should a future annotation try to include consideration that different soils and climates might not be able to meet the biodegradability standard set in the annotation, and how would certifiers be able to verify the use of the material met the biodegradability standard?

Absolutely. Either a mulch film must be allowed everywhere based on tests in a standard set of circumstances or guidance must be provided so that ACAs/MROs can evaluate for specific requirements. Standardizing testing circumstances would be most efficient and feasible, and should be conducted centrally, rather than by each individual certifier.

2022 Crop Sunset Reviews

Soaps, insecticidal

205.601(e)(8) - As insecticides (including acaricides or mite control).
OEFFA supports the continued listing of insecticidal soap.

Vitamin D3

205.601(g) - as rodenticides.
Several OEFFA producers utilize Vitamin D3 products. Though many of our certified operations report that they are largely ineffective, we support the continued listing of these products in the absence of alternatives.

Lignin sulfonate

205.601(j) As plant or soil amendments. (4) Lignin sulfonate - chelating agent, dust suppressant.
205.601(l)(1) - As floating agents in postharvest handling.
OEFFA supports the relisting of lignin sulfonate.

LIVESTOCK

Discussion Document: Fenbendazole-petitioned

OEFFA urges the Livestock Subcommittee to request a poultry-focused Technical Review (TR) on this topic. The existing TR from 2015 does not specifically address the use of fenbendazole with regard to poultry production, and therefore does not provide the information necessary to make an informed decision.

Regarding the questions posed by the board:

Questions:

1. **Is fenbendazole needed by organic poultry producers? If so, why?**
   We certify over 100 poultry operations in nine states, and to our knowledge have received only one request for parasiticides in the last year and a half.

4. Is there a concern with the 2.4 ppm residue of fenbendazole in eggs? Please submit information that supports this concern, or lack of concern.

A Technical Review would help determine the appropriate "withdrawal" period for eggs laid by hens treated with fenbendazole. Fenbendazole residue in eggs would not benefit organic producers or consumers, so care must be taken to ensure parasiticide residue would not contaminate organic eggs.

Further, we appreciate the board noting the "emergency" language that was previously recommended by the NOSB in Spring of 2018, and we urge the NOP to move forward with those changes. The role of the NOSB in advising the Secretary, and ultimately the NOP, only functions if the NOP takes timely action in response to recommendations.

MATERIALS

DISCUSSION DOCUMENT: NOSB RESEARCH PRIORITIES 2020

OEFFA appreciates the board's overall recommendation that integrated research consider whole farm systems. This is especially pertinent as we head into a long-term climate crisis. We further request that the board and USDA advance research into the role of holistic systems, such as organic agriculture and the role that organic can play as we advance into this crisis. Please refer to OEFFA's comments on the role of "Organic Agriculture as a Solution to Climate Change".

While we support the range of research priorities identified by the NOSB we continue to reiterate the top-line research priorities that we have advanced for the past several years. Given the increases in NIFA funding, please amplify the importance of these sustainable alternatives to the USDA.

The Role of On-Farm Research

The way research is conducted is 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 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. In order to be beneficial to the farming community, research must be pertinent to its needs, answer critical on-farm questions, and results must reach the farmers in a timely fashion.

Livestock

1. Evaluation of methionine for use in organic poultry production

We reiterated for years the increased use of metal methionine hydroxy analogue chelates, or, in common language, synthetic methionine stuck to copper, manganese, or zinc. This has been allowed 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 continued work-around underscores the urgent need for natural methionine sources within a 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. Systems based research on eliminating DL-Methionine in organic poultry feeds should investigate the impacts of natural methionine feed sources, breed, and high-welfare management strategies simultaneously. Holistic management research should take into consideration the methods used for parasite management and mitigation in organic poultry systems. Investigation of natural methionine sources and parasite management in a systems-based approach is urgently needed to prevent the use of synthetic methionine in poultry diets, and the proliferation of requests for synthetics to be included on the national list.

Crops

2. Organic no-till

It is by now common knowledge 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 and yet we are still waiting for substantive research demonstrating the benefits of organic no-till practices. The need for research to address ongoing challenges to implementation remains. Issues of weed, disease, and insect management previously identified by the NOSB are critical issues to be resolved so that organic practices can continue to be the gold standard in sustainable agriculture.

3. Study the decomposition rates and effects of biodegradable biobased mulch film residues on soil biology

A biodegradable biobased mulch film would be a great asset to organic producers, and we have, for years, received requests for its use. We echo the plethora of concerns expressed through public comment over the past several years about the amount of plastic currently in use by organic producers, much of which ends up in the landfill at the end of each season. Just as 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 and whose production contributes to global climate destabilization, an alternative to plastic mulch is long overdue. Research and *development of a safe, biodegradable biobased mulch film for organic production is imperative*.

Coexistence

1. 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. OEFFA was disappointed in the weak recommendation of the NOSB last year regarding the Genetic Integrity Transparency of Organic Seed and its inability to get baseline data on the integrity of the organic corn seed supply. Measures to gather that data are needed if we are to preserve the integrity of an organic system of agriculture and organic markets.

2. Prevention of GMO contamination: Evaluation of effectiveness

OEFFA reiterates previous requests for a better understanding of how prevention strategies are working to maintain the integrity of organic crop production systems. As part of OEFFA's annual residue testing procedure, and by way of example, eighteen samples were tested for GMO contamination in 2019. Of these eighteen samples, eight were negative, and ten tested positive for GMO contamination. All of the ten positive tests fell below 5% contamination, the Non-GMO Project Action Threshold. Nine of the samples positive for GMO contamination were corn, and one was a soybean sample.

Avoiding contamination requires organic farmers to take preventative measures and conventional farmers to adopt practices as good neighbors to help organic farmers avoid contamination, but organic farmers cannot always count on this cooperation. For these instances we need policy research to provide conventional growers with an incentive to take prevention measures, which will also focus on mandatory compensation mechanisms paid to farmers that experience contamination as well as research that identifies techniques for preventing adventitious presence of GE material in organic crops, and evaluation of the effectiveness of current prevention strategies.

Food Handling and Processing

1. Alternatives to Bishpenol-A in organic product packaging

BPA poses serious hazards and OEFFA supports its elimination from organic food packaging. At the same time, since known alternatives to BPA may also present similar problems, the NOSB should approach the issue of food packaging in a comprehensive way. Research on alternatives would help inform NOSB discussion on organic packaging moving forward.

Water quality

1. In Ohio, Iowa and many other areas around the country there are growing concerns about agriculture impacts on water quality. Whether the concerns relate to nitrogen or phosphorous, states and farmers are being looked to urgently for solutions. This is another opportunity to highlight the positive role that organic farmers play in stewarding water resources, and yet there is a distinct lack of water quality research that includes organic farmers. We urge the NOSB and the NOP to share this message widely with research audiences. The funding for organic research has never been higher. We should embrace this growth opportunity.

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

Carol Goland, Ph.D.
Executive Director