BEYOND PESTICIDES
701 E Street, SE ▪ Washington DC 20003
202-543-5450 phone ▪ 202-543-4791 fax
info@beyondpesticides.org ▪ www.beyondpesticides.org

March 28, 2022

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

Docket # AMS-NOP-21-0087

Re. All Subcommittees: Big Picture Issues

These comments to the National Organic Standards Board (NOSB) on its Spring 2022 agenda are submitted on behalf of Beyond Pesticides. Founded in 1981 as a national, grassroots, membership organization that represents community-based organizations and a range of people seeking to bridge the interests of consumers, farmers, and farmworkers, Beyond Pesticides advances improved protections from pesticides and alternative pest management strategies that reduce or eliminate a reliance on pesticides. Our membership and network span the 50 states and the world.

There are a number of current issues that are crucial to the role of the NOSB in advising the Secretary about organic production, but do not fit into the agenda or the division of labor to subcommittees. Here we address (i) the failure of USDA to complete NOSB recommendations—and its attempt to divide the organic community concerning priorities, (ii) the impacts of PFAS (perfluoro- and polyfluoroalkyl substances) on organic, (iii) the use of plastic in organic production and packaging including the use of bisphenol A (BPA), and (iv) the use of the "toolbox" concept by the NOSB.

USDA has failed to complete NOSB recommendations.

The Organic Foods Production Act (OFPA) established the NOSB to advise the Secretary of Agriculture on implementation of the act, with special attention to the National List of approved and prohibited substances. According to the National Organic Program's (NOP) "NOSB Recommendations Library" last revised on January 13, 2022, a total of 678 recommendations have been approved by the NOSB, not including sunset recommendations passed at the Fall 2021 meeting. The NOP has categorized these recommendations as "complete," "closed," "on hold," or "in process." In the attached report (Appendix A), we analyze these outcomes and their impact on organic production.

The category "closed" is used when NOP chooses not to follow NOSB recommendations. It is accompanied by a lack of transparency and often a failure to justify actions. Decisions concerning the National List are the undisputed purview of the NOSB and certainly should not be "closed" unilaterally by NOP.

If "on hold" means, as we are told, "Action being taken by USDA or another agency, work should hold pending action," then we should ask what action is pending for each of these recommendations. In no case except ammonia extracts can we discern a pending action that should affect the implementation of the recommendation. What these recommendations do have in common is a reflection of organic principles and values—values that may not be held by the "conventional" agriculture stakeholders of USDA. Such values reflect the higher standards to which the organic community expects organic production and processing to be held. It seems to be difficult for USDA to prioritize such issues.

The category "in process" includes recommendations that vary in the amount of action that has been taken. In our report, we further categorize the action as: "action pending," "proposed rule," "other," or "nothing." Although USDA bureaucratic practices may count pending actions as "actions," we do not. Thus, when NOP says that the annotation change for List 4 "inerts" is in process because an Advanced Notice of Proposed Rulemaking is "pending," we will count it as action when we see an actual proposed rule. In addition to these categories, there are also several "complete" sunset recommendations that NOP did not complete per the NOSB vote. See attached Sunset Report (Appendix B).

NOP's failure to complete NOSB recommendations threatens organic integrity. This is particularly true of practice standards. When sunset recommendations are not completed before the next consideration of the materials, NOSB process is confused.

Now NOP has come to the organic community with a request for input concerning the priorities to be assigned to recommendations it has failed to complete. This is totally unacceptable. The organic community has spoken on these issues, but NOP has not done its job. It is improper for NOP to now pit segments of the organic community against one another. We should not need to decide relative priorities of strengthening organic seed guidance and correcting the listings for "inert" ingredients, for example. NOP must do its job, with no excuses. It must ensure that the Office of Management and the Budget, for example, understands the structure of the organic program, including why the National List changes as material sunset. It must give higher priority to completing NOSB recommendations. It is NOP's responsibility to just get it done.

PFAS highlight the need for a precautionary approach.

Many of us—including organic consumers—probably think of the toxic perfluoro- and polyfluoroalkyl substances (PFAS) as chemicals we can avoid by eating organic food. So it should be. Actually, no one should eat food and drink water contaminated by these toxic chemicals, but a report by the Centers for Disease Control and Prevention (CDC) finds that 97% of

Americans have PFAS in their blood.[1] An analysis by the Safer States Network finds that more than 210 bills will be considered in at least 32 states in 2022 to try to address the problem.[2] How bad is the problem? Probably you do not need to be told, but here are some facts about PFAS and PFAS pollution.[3]

- Starting with Teflon, this family of more than 4000 fluorinated chemicals includes thousands of nonstick, stain-repellent, and waterproof compounds.
- Health risks include:
    - Testicular, kidney, liver, and pancreatic cancer;
    - Reproductive problems;
    - Weakened childhood immunity;
    - Low birth weight;
    - Endocrine disruption;
    - Increased cholesterol;
    - Weight gain in children and dieting adults.
- They are called "forever chemicals" because they do not break down in the environment.

Unfortunately, PFAS also affect organic producers and organic food. Because PFAS last forever, the three-year transition period is not sufficient to prevent contamination of food. An open letter from Songbird Farm illustrates the problem—their farm is contaminated with PFAS from application of biosolids 24 years before they purchased it. They believe that they cannot in good conscience sell their produce until they learn more.[4]

We raise this issue not to focus on PFAS, but to raise awareness of potential inadvertent contamination of organic farms. The NOSB and NOP must take a precautionary approach in approving synthetic inputs. Furthermore, it is important that the NOSB revive work on contaminated inputs that has been languishing for years. The NOP regulations at §205.203 require organic producers to add organic materials, while avoiding contamination with substances prohibited in organic production:

> **§205.203 Soil fertility and crop nutrient management practice standard.**
> (b) The producer must manage crop nutrients and soil fertility through rotations, cover crops, and the application of plant and animal materials.
> (c) The producer must manage plant and animal materials to maintain or improve soil organic matter content in a manner that does not contribute to contamination of crops, soil, or water by plant nutrients, pathogenic organisms, heavy metals, or residues of prohibited substances. Animal and plant materials include:

---

[1] Lewis RC, Johns LE, Meeker JD. 2015. Serum Biomarkers of Exposure to Perfluoroalkyl Substances in Relation to Serum Testosterone and Measures of Thyroid Function among Adults and Adolescents from NHANES 2011–2012. Int J Environ Res Public Health. 12(6): 6098–6114.

[2] Kristina Marusic, 2022. States will weigh more than 210 bills on toxic "forever chemicals" in 2022. Environmental Health News. https://www.ehn.org/pfas-regulations-2656548458.html.

[3] https://www.ewg.org/pfaschemicals/what-are-forever-chemicals.html.

[4] http://www.songbirdorganicfarm.com/pfas-statement-1.

(1) Raw animal manure, which must be composted unless it is:
(i) Applied to land used for a crop not intended for human consumption;
(ii) Incorporated into the soil not less than 120 days prior to the harvest of a product whose edible portion has direct contact with the soil surface or soil particles; or
(iii) Incorporated into the soil not less than 90 days prior to the harvest of a product whose edible portion does not have direct contact with the soil surface or soil particles;
(2) Composted plant and animal materials produced through a process that:
(i) Established an initial C:N ratio of between 25:1 and 40:1; and
(ii) Maintained a temperature of between 131 °F and 170 °F for 3 days using an in-vessel or static aerated pile system; or
(iii) Maintained a temperature of between 131 °F and 170 °F for 15 days using a windrow composting system, during which period, the materials must be turned a minimum of five times.
(3) Uncomposted plant materials.

At the Spring 2015 meeting, the Crops Subcommittee submitted a report presenting an approach to ensure "that inputs of organic matter do not result in contamination 'of crops, soil, or water by plant nutrients, pathogenic organisms, heavy metals, or residues of prohibited substances.'" The report said, "Our approach is to look at off-site inputs based on feedstocks/pathways. For each, ask: What contaminants might be present here? Which would survive currently prescribed requirements for composting? If there are remaining contaminants known to persist through the composting process at any level, is there a way to restrict the source so that those contaminants would not be present? (e.g., ask a farmer whether arsenic is fed to poultry.) If there are remaining contaminants, do they exceed unavoidable residual contamination levels from a historical, but not current use, of a toxic material? Are there treatments that could be applied to the compost that can eliminate those contaminants?"

The problems surrounding the presence of PFAS on farms and in organic inputs highlight the need to adhere to the precautionary principle in adding to the National List and return to the work on contaminated inputs.

Plastic must be eliminated from organic production and packaging.

Our extensive comments on plastic mulches—including biodegradable biobased bioplastic mulch—can be found in our comments on §205.601 sunsets and will only be summarized here. Here we also extend the consideration of our comments to the use of plastic in packaging.

Natural organic mulches should be the norm in organic production.

The use of natural organic materials in compost and mulch is foundational to organic production. In 2001, the NOSB[5] gave a definition of organic agriculture and went on to say that, among other things, an organic production system is designed to: "optimize soil biological

[5] NOSB Principles of Organic Production and Handling. NOSB Recommendation Adopted October 17, 2001.

activity;" "utilize production methods and breeds or varieties that are well adapted to the region;" "recycle materials of plant and animal origin in order to return nutrients to the land, thus minimizing the use of non-renewable resources;" and "minimize pollution of soil, water, and air." The use of natural mulches—including cover crops—contributes to all of these values.

Organic production systems are also intended to mimic natural ecosystems. In natural systems, plants are fed by the action of soil organisms breaking down plant residues and excreting substances that are plant nutrients. Natural mulches provide a steady diet of organic matter for those soil organisms. This function is one way that we can judge the compatibility of synthetic mulches with organic values.

With regard to the need for plastic mulch "because of the unavailability of wholly natural substitute products," the NOSB and technical reviews have pointed out alternatives. Natural alternatives are organic mulches and living mulches. Alternative practices that could be used include: for weed control, tillage and other mulches; for soil warming, planting adapted plants.

Plastic mulches pose hazards to humans and the environment.

The NOSB's 2015 sunset review of plastic mulch looked at OFPA criteria in greater depth than before. With regard to impacts on human health and the environment, the NOSB said:

- Polyethylene is usually derived from either modifying natural gas (a methane, ethane, propane mix) or from the catalytic cracking of crude oil into gasoline, though it may be made from biological sources.[6]
- Use of plastic mulch leads to environmental contamination because used plastic gets taken to landfills, and pieces are left behind on fields.

Microplastics

Scientists are increasingly concerned about the impacts of microplastics—plastic fragments less than 5 mm in size in size—on a wide range of organisms. Although concerns were first raised about microplastics in the marine environment, impacts on terrestrial organisms are increasingly documented.

A major source of microplastics in surface water is wastewater treatment plants. Although microplastics in soil have been less studied, presumably, microplastics in soil make their way in runoff to surface water. Agricultural soils may receive microplastics from sludge/compost fertilization, plastic mulches, and wastewater irrigation.[7]

Microplastics can cause harmful effects to humans and other organisms through physical entanglement and physical impacts of ingestion. They also act as carriers of toxic chemicals that are adsorbed to their surface. Some studies on fish have shown that

---

[6] Priscilla Lepoutre, The Manufacture of Polyethylene. http://nzic.org.nz/ChemProcesses/polymers/10J.pdf.

[7] Zhu, F., Zhu, C., Wang, C. and Gu, C., 2019. Occurrence and ecological impacts of microplastics in soil systems: a review. *Bulletin of environmental contamination and toxicology*, *102*(6), pp.741-749.

microplastics and their associated toxic chemicals bioaccumulate, resulting in intestinal damage and changes in metabolism.[8] Soil organisms and edible plants have been shown to ingest microplastic particles.[9] Earthworms can move microplastics through the soil, and microplastics can move through the food chain to human food.[10] Microplastics can have a wide range of negative impacts on the soil, which are only beginning to be studied, but include reduction in growth and reproduction of soil microfauna.[11] When looking at the impact of microplastics, it is important to include the impact of associated substances. As noted above, they can carry toxic chemicals. A review by Zhu et al. cites several studies showing, "[M]icroplastics can serve as hotspots of gene exchange between phylogenetically different microorganisms by introducing additional surface, thus having a potential to increase the spread of ARGs [antibiotic resistance genes] and antibiotic resistant pathogens in water and sediments." [12]

Use of plastic in organic packaging must also be eliminated.

The NOSB has not examined the packaging of organic food in a comprehensive way. OFPA §6510(a) says:

> For a handling operation to be certified under this chapter, each person on such handling operation shall not, with respect to any agricultural product covered by this chapter—
> . . .
> (5) use any packaging materials, storage containers or bins that contain synthetic fungicides, preservatives, or fumigants;
> (6) use any bag or container that had previously been in contact with any substance in such a manner as to compromise the organic quality of such product. . .

This language is repeated in the regulations at §205.272(b). Aside from this language, all attention to packaging in the regulations has to do with the language on the label, not the packaging itself. The Handling Subcommittee did place "packaging materials including BPA" (see below) on its agenda, but it has been placed on hold after a technical review was found sufficient in Fall 2018.

Plastic packaging is a major source of environmental contamination. The National Academy of Science finds, "Plastic containers and packaging comprise the largest fraction of the

---

[8] Li, J., Liu, H. and Chen, J.P., 2018. Microplastics in freshwater systems: A review on occurrence, environmental effects, and methods for microplastics detection. *Water Research*, *137*, pp.362-374.
[9] Zhu, F., Zhu, C., Wang, C. and Gu, C., 2019. Occurrence and ecological impacts of microplastics in soil systems: a review. *Bulletin of environmental contamination and toxicology*, *102*(6), pp.741-749.
[10] He, D., Luo, Y., Lu, S., Liu, M., Song, Y. and Lei, L., 2018. Microplastics in soils: analytical methods, pollution characteristics and ecological risks. *TrAC Trends in Analytical Chemistry*, *109*, pp.163-172.
[11] He, D., Luo, Y., Lu, S., Liu, M., Song, Y. and Lei, L., 2018. Microplastics in soils: analytical methods, pollution characteristics and ecological risks. *TrAC Trends in Analytical Chemistry*, *109*, pp.163-172.
[12] Zhu, F., Zhu, C., Wang, C. and Gu, C., 2019. Occurrence and ecological impacts of microplastics in soil systems: a review. *Bulletin of environmental contamination and toxicology*, *102*(6), pp.741-749.

plastic waste stream (41%) and enter the waste stream most quickly after production in the year they are produced."[13]

Studies show that throughout their life cycle, plastics transport, and release toxic chemicals globally, posing serious threats to human health and ecosystems.[14] Plastic has been termed "the new coal" because of its contribution to climate change. Researchers have found, "the U.S. plastics industry is responsible for at least 232 million tons of CO2e gas emissions per year. This amount is equivalent to the average emissions from 116 average-sized (500-megawatt) coal-fired power plants."[15]

Making a transition away from plastic packaging will not be easy, but there are many resources available to help.[16] We encourage the Handling Subcommittee to request a technical review of the degree to which plastic packaging meets the criteria in OFPA and the alternatives available.

Bisphenol A is a hazardous plastic.

Although we often separate out bisphenol A (BPA) as a separate issue, it is a special case of plastic in packaging. BPA is the molecular building block for polycarbonate plastics and epoxy resins. Besides its use in polymerization of plastics, the epoxy resins are also used as a coating for metal cans and other containers.[17]

BPA was listed as a reproductive toxicant by the state of California in 2015.[18] Beyond Pesticides has previously submitted comments on BPA that focus on its endocrine-disrupting effects and alternatives to BPA in can lining. See attached comments from Fall 2018 in Appendix C. The TR commissioned by NOP provides further documentation of human exposure and health effects and examines the validity of studies.[19]

As noted in the TR, studies have shown that BPA leaches from the plastic linings of metal cans. Thus, BPA leaching from the linings of cans violates the prohibitions in OFPA and the regulations against the "use or reuse of any bag or container that has been in contact with any substance in such a manner as to compromise the organic integrity of any organically produced product or ingredient placed in those containers."

---

[13] National Academies of Sciences, Engineering, and Medicine, 2021. Reckoning with the US Role in Global Ocean Plastic Waste.

[14] G. Benoit, 2021. Plastics and Microplastics: A threat to the environment and health. Environment and Human Health, Inc. https://static1.squarespace.com/static/5eda91260bbb7e7a4bf528d8/t/61fc1ecd155e7250e645db15/1643912946056/Plastics+and+Microplastics+EEHI+Report+12-2021.pdf.

[15] Beyond Plastics at Bennington College, 2021. The New Coal: Plastics and Climate Change. https://static1.squarespace.com/static/5eda91260bbb7e7a4bf528d8/t/616ef29221985319611a64e0/1634661022294/REPORT_The_New-Coal_Plastics_and_Climate-Change_10-21-2021.pdf.

[16] See, for example, https://www.beyondplastics.org/ and https://www.ehhi.org/.

[17] BPA Technical Evaluation Report (TR), 2017. Lines 69-73.

[18] BPA TR, Lines 88-92.

[19] BPA TR, Lines 407-974.

BPA also poses environmental hazards as a result of the use of polycarbonate plastic packaging and epoxy resin coatings. The TR documents BPA contamination of surface waters, toxicity to aquatic organisms (including endocrine disruption leading to reproductive dysfunction), and bioaccumulation leading to contaminated fish in supermarkets.[20]

We must also be aware of problems associated with some "alternatives" to BPA, which are also plastics resins.

NOP should not control the NOSB agenda.

Failures mentioned above—among others—highlight the problems that arise when the NOSB is not allowed to control its own agenda. NOP forced the NOSB to drop BPA as an agenda item, for example, when there was a board member knowledgeable about the issue who wanted to work on it. The same thing happened repeatedly with "inerts," in spite of repeated NOSB recommendations and support from the Environmental Protection Agency for addressing the issue. Dropping the workplan item of contaminated inputs has eliminated a framework that the NOSB might use for addressing PFAS contamination.

The NOSB should abandon the "toolbox" concept in evaluating potential National List materials.

Finally, we have been disturbed to hear NOSB members refer to the need to add more synthetic substances to the National List in order to have more "tools in the toolbox." As an organization working with those transitioning away from the use of toxic chemicals, we repeatedly hear this insistence on more "tools in the toolbox" outside of a framework that establishes priority for nontoxic practices.

A toolbox is a container that makes tools available to the user without regard for the priority of use. There are situations calling for a hammer and others calling for a screwdriver, and the toolbox provides easy access to both. It doesn't make sense to say, "You should always try the hammer first, and if that doesn't work, use the screwdriver." However, both organic production and true integrated pest management (IPM)—which we are now forced to call "strong IPM" or "ecological pest management" (EPM) because the chemical industry has coopted the term "IPM"[21]—do place priorities on approaches to problems. §205.206 of the organic regulations lays out a hierarchal crop pest, weed, and disease management practice standard that gives first priority to prevention, then mechanical, physical, and biological management methods, and

> (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

[20] BPA TR, Lines 353-401.

[21] https://www.beyondpesticides.org/resources/safety-source-on-pesticide-providers/what-is-integrated-pest-management.

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.

While NOSB members are undoubtedly aware of this hierarchy, the use of the term "toolbox" encourages us to think of synthetics on the National List as equivalent to, for example, natural mulches or crop rotation. We strongly encourage NOSB members to avoid the use of the toolbox metaphor and, instead, evaluate each material according to its need if other practices are insufficient.

Thank you for your consideration of these comments.

Sincerely,

Terry Shistar, Ph.D.
Board of Directors