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National Organic Standards Board  
USDA-AMS-NOP  
1400 Independent Ave., SW  
Room 2648-S, Mail Stop 0268  
Washington, D.C. 20250-0268

***Re: Meeting of the National Organic Standards Board***

*Docket # AMS-NOP-20-0041*

Dear National Organic Standards Board Members:

The following comments are submitted to you on behalf of The Cornucopia Institute, whose mission is, in part, to support economic justice for family-scale farming.

COMPLIANCE, ACCREDITATION, & CERTIFICATION SUBCOMMITTEE (CACS)

***Discussion Document: Human Capital Management***

Cornucopia agrees that the lack of qualified organic inspectors and reviewers available to the industry is a serious problem. When speaking to certified organic farmers, many are dismayed by a lack of expertise (or sometimes even basic knowledge) of some inspectors they encounter.

Not having enough inspectors has also been used as an “excuse” for bad actors to skip unannounced and *even* annual inspections. As an excuse, a lack of inspectors is a poor one—certifiers *always* have the choice not to bring on new clients. However, we believe that with more qualified inspectors present in the industry, the NOP’s job in enforcing these bad actors will become measurably easier.

Cornucopia will continue to reach out to our network within the organic community to facilitate discussion in this area.

CROPS SUBCOMMITTEE (CS)

***Proposal: Wild, native fish for liquid fish products***

The issues surrounding Liquid Fish Products (LFPs) are complex. LFPs are important tools for authentic organic producers. However, the importance of a tool is only one factor in its appropriateness for organic production.

As detailed in Cornucopia’s previous comments, the use of native and wild fish in LFPs is harmful to ocean biodiversity. Many farmed species are given feed derived from wild and native

fish. This means that even if a product is derived from farmed fish it could very likely have a deleterious impact on wild fisheries.

The definition of “organic production” in the organic regulations requires that the production system “...foster cycling of resources, promote ecological balance, and conserve biodiversity.”<sup>1</sup> The preamble to the final rule establishing the NOP, further explained this definition: “[t]he use of ‘conserve’ [in the definition of organic production] establishes that the producer must initiate practices to support biodiversity and avoid, to the extent practicable, *any activities* that would diminish it.” [Emphasis added.] Finally, The NOP’s 5020 Guidance on Natural Resources and Biodiversity clarifies the importance of conservation in organic systems, stating “[t]he conservation of natural resources and biodiversity is a primary tenet of organic production.”

The use of the broad words “any activities” and the text, along with requirements that producers commit to biodiversity conservation practices in their organic system plan, show that token nods to *maintaining* biodiversity on-farm are not enough. Instead, it’s clear that organic production is meant to protect biodiversity to the extent possible.

Allowing off-farm inputs derived from wild or native fish—especially when fisheries are under threat across the globe—runs counter to all these foundational requirements of organic production.

While Cornucopia supports either an annotation or addition to section 205.602 to prohibit the use of wild, native fish harvested solely for the manufacture of fertilizer, the annotation should be stricter to better protect biodiversity. Instead, the annotation could require that LFPs be derived from *byproduct* of fish whose primary purpose was something other than use as a farm input. At the very least this change would account for some of the concerns that LFPs would incentivize biodiversity loss. Cornucopia also suggests that the annotation include a requirement that LFPs be sourced from farms that are sustainable, in that they do not cause negative impacts on native or wild fisheries, or the surrounding environment.

Despite these recommendations, Cornucopia also recognizes an inherent problem tied to restricting sourcing for LFPs: *enforceability*. As with other inputs, it will be difficult to tell where and how a product is sourced once it is in fertilizer form. While this problem is highlighted by the debate surrounding LFPs, it is an inherent problem for many off-farm inputs. The risk of fraud is high, though that fraud would be perpetuated by manufacturers rather than organic producers.

Despite these concerns of enforceability, changing the annotation or definition *now* has value in that it gives manufactures notice of what is and isn’t allowed. Though we urge the NOP to provide guidance on how the sourcing on products should be tracked, enforcement may become easier in the future as technologies expand. In any case, waiting to change or add to regulatory language is not the answer the enforceability concerns. Creating an annotation or adding relevant

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<sup>1</sup> 7 CFR § 205.2. Organic production. A production system that is managed in accordance with the Act and regulations in this part to respond to site-specific conditions by integrating cultural, biological, and mechanical practices that foster cycling of resources, promote ecological balance, and *conserve biodiversity*.

text to section 205.602 to prohibit the use of irresponsibly-sourced LFPs is a responsible first step.

Related to this issue, Cornucopia also supports and encourages research that would investigate how soil fertility and cycling of resources can be done on-farm *without* the routine application of off-farm inputs. Organic production has become reductive, and allowing inputs without looking at the broader picture adds to this problem of oversimplifying complex ecological systems. To promote ecological balance and conserve biodiversity, it is necessary to consider global factors such as loss of biodiversity and climate change, *as well as* local and regional variation.

***Proposal: Sodium carbonate lignin –petitioned***

Cornucopia opposes the listing of sodium carbonate lignin because it is incompatible with organic production and not “essential” to organic production.

The National List is a “restricted toolbox” for organic farmers and handlers. Substances on the National List can only be used when mechanical, cultural, and biological controls are insufficient to control pests, weeds, and disease.

Under requirements for how petitioned substances must be evaluated for listing, sodium carbonate lignin does not meet the bar (see § 6518(m) of OFPA and 7 CFR. § 205.600(b)).

***Discussion Document: Ammonia Extract –petitioned***

Cornucopia is in agreement with Beyond Pesticides’ comments, opposing any use of ammonia extracts in organic production due to incompatibility with organic production.

Whether synthetic or non-synthetic, ammonia extracts are incompatible with organic production because they cause harm to the soil and do not “foster soil fertility, primarily through the management of the organic content of the soil through proper tillage, crop rotation, and manuring...” as OFPA requires (7 USC § 6513).

Cornucopia recommends listing non-synthetic ammonia extracts on §205.602. Synthetic ammonia extracts are already prohibited (due to being synthetic), and Cornucopia asks that they not be listed on §205.601 as an allowed synthetic for the same reasoning.

***Discussion Document: Biodegradable biobased mulch annotation change***

Cornucopia *does not support an annotation change* to loosen restrictions on bioplastic film. As stated in previous comments, Cornucopia urges the NOSB and the NOP to use the *precautionary principle* with all forms of biodegradable biobased mulch films (BBMF).

BBMF technology has only been in the marketplace for a short time. We do not know with certainty how the soil microbiome, watersheds, or other biological systems will be impacted by their use. What we do know about the impacts of BBMF is concerning, especially with respect to microplastics in the environment.

As noted by the subcommittee, the supplemental TR was inconclusive, since research on these materials is currently limited. Without this data we cannot conclude that biodegradable biobased mulch films are appropriate for organic production. Further study needs to be done on whether BBMF produce microplastics (current evidence suggests these mulches do not degrade entirely, leading to terrestrial microplastic problems). Impacts from microplastic pollution on terrestrial organisms are increasingly documented, and the risk of runoff into surface or coastal waters remains a concern.

Microplastics are shown to be a trigger of combined physical or chemical-like effects in organisms, and can accumulate in terrestrial and continental food webs at levels similar to or higher than in marine counterparts.<sup>2</sup> Other scientific evidence (summarized in the cited articles) is disturbing, and shows that plastic mulches may be of particular concern. Combined effects of microplastic have consequences on water cycling, ecosystem functioning, soil microbial biodiversity, and microbiome.<sup>3</sup> Plastics of all kinds are known for leaching as they degrade. Of particular concern when plastics break down is the potential for endocrine disrupting compounds to be released.<sup>4</sup> Endocrine disruption compounds are proven to have wide-ranging negative effects on vertebrates and some invertebrate species. Microplastic particles have also been found to decrease reproduction in some terrestrial worms.<sup>5</sup>

Plastic mulches like those in the current discussion, packaging, and sewage sludge are three major sources of soil microplastics.<sup>6</sup> Because microplastics may pose a threat to soil fertility, food security, and human health, BBMFs are incompatible with organic production and *will likely remain incompatible in the future*.

Ultimately, the use of plastics as production aids in organic production should be limited.

## **2022 Crops Sunset Reviews: §205.601 & §205.602**

### *Aquatic plant extracts*

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<sup>2</sup> Anderson Abel de Souza, Machado Werner Kloas, Christiane Zarfl , Stefan Hempel, and Matthias C. Rillig. December 15, 2017. "Microplastics as an emerging threat to terrestrial ecosystems." *Glob Change Biol.*, 24: 1405–1416. <https://doi.org/10.1111/gcb.14020>.

<https://onlinelibrary.wiley.com/doi/full/10.1111/gcb.14020#:~:text=In%20fact%2C%20microplastic%20bioaccumulation%20might,Schmid%20%26%20Stoeger%2C%202016>)

<sup>3</sup> Id.

<sup>4</sup> Anderson Abel de Souza, Machado Werner Kloas, Christiane Zarfl , Stefan Hempel, and Matthias C. Rillig. December 15, 2017. "Microplastics as an emerging threat to terrestrial ecosystems." *Glob Change Biol.*, 24: 1405–1416. <https://doi.org/10.1111/gcb.14020>.

<https://onlinelibrary.wiley.com/doi/full/10.1111/gcb.14020#:~:text=In%20fact%2C%20microplastic%20bioaccumulation%20might,Schmid%20%26%20Stoeger%2C%202016>)

<sup>5</sup> Lahive E, et al. December, 2019. "Microplastic particles reduce reproduction in the terrestrial worm *Enchytraeus crypticus* in a soil exposure." *Environmental Pollution*, 255(2): 113174.

<https://www.sciencedirect.com/science/article/abs/pii/S026974911931485X>

<sup>6</sup> Wang J, et al. November 15, 2019. "Microplastics as contaminants in the soil environment: A mini-review." *Science of The Total Environment*, 691: 848-857.

<https://www.sciencedirect.com/science/article/abs/pii/S0048969719333236>

Please see Cornucopia's related comments under the ***Proposal: Marine Macroalgae in Crop Fertility Inputs*** section. To reiterate those comments, Cornucopia supports an annotation that lays out strict parameters on harvesting to ease the concerns of irresponsible, damaging, and unsustainable macroalgae harvest.

Cornucopia also requests that the harvest and use of *Ascophyllum nodosum* (rockweed) be prohibited for use in organic products. Other keystone species that are of particular concern should also be considered for a blanket prohibition as more information becomes available.

#### HANDLING SUBCOMMITTEE (HS)

##### ***2022 Handling Sunset Reviews: §205.605 & §205.606***

###### *Inulin-oligofructose enriched, whey protein concentrate, and Turkish bay leaves*

Inulin-oligofructose enriched (IOE), whey protein concentrate, and Turkish bay leaves should be removed from the National List. As the NOSB previously concluded, organic versions of these conventional ingredients are commercially available, and the industry has had five additional years to build supply lines.

In 2017 the National Organic Standards Board (NOSB) recommended disallowing conventional IOE, whey protein concentrate, and Turkish bay leaves from use in organic products because organic options had become commercially available. Organic handlers are permitted to use a non-organic ingredient only if the organic ingredient is commercially unavailable.

The intent of the National List was always to remove materials that are no longer essential or for which there are viable alternatives in the marketplace. IOE, whey protein concentrate, and Turkish bay are no longer essential because there are viable organic alternatives in the marketplace.

##### ***Discussion Document: Whey protein concentrate -petitioned for removal***

Cornucopia supports the removal of whey protein concentrate from the National list. Organic producers can now meet the demand for certified whey protein concentrate, so this listing no longer meets the "necessity" requirement.

#### LIVESTOCK SUBCOMMITTEE (LS)

##### ***Proposal: Fenbendazole -petitioned***

Cornucopia's comments on this substance have been mischaracterized in the past. Cornucopia *does not support* the listing of fenbendazole in the current moment. There are too many unknowns, risks, and a lack of data showing this substance is necessary for authentic poultry operations.

The regulations require the “[s]election of species and types of livestock with regard to suitability for site-specific conditions and resistance to prevalent diseases and parasites...” (7 CFR § 205.238 (a)(1)). Right now, the organic poultry industry utilizes many strains that are commonplace in the conventional industry (this is particularly true for broiler chickens), despite their poor fit for organic systems.

Production methods like frequent pasture rotation and keeping flock sizes low also prevent most parasitic infections. It is imperative that this material is not added to the National List without understanding how it could prop up practices that are not compatible with organic production.<sup>7</sup>

In addition, Cornucopia agrees with Beyond Pesticides’ conclusions that in the absence of the Organic Livestock and Poultry Practices rule (OLPP), the NOSB cannot determine whether fenbendazole is necessary and compatible with organic practices. In the absence of that certainty, fenbendazole should not be listed at this time.

In the Spring of 2018, the NOSB recommended clarifying “emergency” for use of synthetic parasiticides in organic livestock production. Cornucopia supports adding a definition for the “emergency treatment to allow synthetic parasiticide use in livestock” *before* considering the addition of any new parasiticides (or expanded uses) to the National List.

### ***2022 Livestock Sunset Reviews: §205.603***

#### *Butorphanol*

Cornucopia asks that more investigation into the metabolites and residues associated with butorphanol use be done as soon as possible. It is incompatible with organic standards to allow the use of a drug that has known human health risks and no definitive guidance on food safety (even with withdrawal times) because the drug is not intended for use in food animals.

Since butorphanol is being used in organic animals intended for meat or dairy, it is essential that no residues or drug metabolites remain in the animal after the designated withholding times. Consumer expectation as well as the “human health” requirements of organic law require this result. If residues of any kind remain, butorphanol should be removed from the National List.

### **MATERIALS SUBCOMMITTEE (MS)**

#### ***Proposal: Marine Macroalgae in Crop Fertility Inputs***

Cornucopia agrees that some natural inputs, including marine macroalgae, deserve more scrutiny for their environmental impact. From expert input, studies, and the analysis done by the materials subcommittee, it seems clear that the harvest of marine macroalgae may be in conflict with organic requirements in some cases but may be sustainable in others. As detailed in the comments above, the organic label is intended to promote ecological balance and conserve biodiversity. This level of uncertainty requires that any decisions be made with extreme caution.

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<sup>7</sup> If this material is not added for use in organic poultry, producers should continue to be required to treat animals if their welfare is at risk, even if it means they lose organic status.

Issues of wild-crop harvest and protection of native or fragile ecosystems also arise when considering the use of marine macroalgae as a crop input. Cornucopia has concerns that native habitat could be harvested for use as an organic material without controls on how and where harvesting of macroalgae takes place.

Further, the wild-crop harvesting practice standard (§205.207) requires that a wild crop cannot be harvested from an area that has had a prohibited substance applied to it for a period of three years before the harvest. If using the wild-crop standard for wild marine plant species, Cornucopia recommends the NOP provide clear guidance. Compared to terrestrial systems, the ocean is highly dynamic. It would be impossible to track, in many cases, whether a prohibited substance was applied to the area in question.

While the wild-crop standard is necessarily general to cover the wide range of crops it can include, guidelines of some kind are needed for how the standard operates in complex marine environments.

Comments from experts in the field and panelists make it clear that while seaweeds do grow back when harvested, the harvest *does* impact the habitat. In addition, it is difficult if not impossible to predict how ocean ecosystems will be impacted by climate change. What we do know is that climate change is a significant stressor on natural ecosystems, and any practice standard for macroalgae harvest needs to take this into account.

In lieu of prohibiting the use of marine macroalgae extraction altogether, Cornucopia supports an annotation that lays out strict parameters on harvesting to ease the concerns of irresponsible, damaging, and unsustainable macroalgae harvest. Currently, Cornucopia cautiously supports the materials subcommittee's proposal for an annotation to §205.601 (j)(1). Cornucopia also supports the proposed listing at §205.602, prohibiting marine macroalgae unless produced in accordance with suggested annotation language.

Follow-up guidance to *any* annotation change or addition to the regulations is of particular importance. Cornucopia agrees that an NOP-appointed scientific task force to elaborate additional guidance and instruction to certifiers is necessary. With different species and harvest locations, it would be impossible to interpret an annotation without said guidance.

Cornucopia also urges that the harvest and use of *Ascophyllum nodosum* (rockweed) be prohibited for use in organic products. Rockweed is a keystone species with significant ecological importance and specific risks and concerns associated with its harvest. The NOP should also prohibit the use and harvest of other sensitive or particularly at-risk species of marine macroalgae in the future, as more information becomes available.

Finally, Cornucopia asks that research into emphasizing whole-farm ecosystems be considered. Using off-farm inputs—especially when those inputs are sourced from native and wild ecosystems—should be non-routine in organic production.

POLICY DEVELOPMENT SUBCOMMITTEE (PDS)

### ***Discussion Document: Consent Calendar Voting***

Cornucopia agrees with the totality of Beyond Pesticides' comments on this topic, opposing consent calendar voting. This methodology is not appropriate for the NOSB due to its form and function.

There are accepted prerequisites for placing business items on a consent agenda (or consent calendar). These business items are generally routine or noncontroversial issues, while all NOSB meeting discussion has the potential to be controversial.

Cornucopia agrees with Beyond Pesticides that "Transparency is important to the functioning of the NOSB in its role of guiding the National Organic Program. Procedures such as the consent agenda decrease transparency and should be rejected."

### **GENERAL COMMENTS**

#### ***Inaction on Eliminating the Incentive to Convert Native Ecosystems to Organic Production***

The Cornucopia Institute is focused on our collective health, access to clean, nutrient-dense food, and the livelihoods of farmers who produce organic food and the health of the planet. We object to the USDA's refusal to follow the recommendations of the NOSB—its own advisory board.

Over the years since its inception, key decisions by the NOSB have been dominated by corporate interests and the Board's power has been shifted to the USDA. The USDA secretary also demonstrates unwillingness to act on the NOSB's advice—despite that being the *statutorily required relationship between the NOSB and USDA*.

One of the most egregious breakdowns in this advisory role is the lack of action on the part of the NOP to adopt the NOSB's 2018 formal recommendation: Eliminating the Incentive to Convert Native Ecosystems to Organic Production.<sup>8</sup>

The issue of native ecosystems and wild lands being destroyed due to organic production is still a serious and urgent threat.

OFPA gives the NOP broad authority to enact regulation to further the aims of the statute. The formal recommendation from the NOSB in this particular case does exactly that, since organic production is explicitly required to support biodiversity and prevent environmental harm.

We urge the NOSB to continue to put pressure on the NOP to pass the resolution on Eliminating the Incentive to Convert Native Ecosystems to Organic Production, as well as other essential recommendations made by the NOSB.

#### ***Request for Standards for Hydroponics***

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<sup>8</sup> <https://www.ams.usda.gov/sites/default/files/media/CACSNativeEcosystems.pdf>

Cornucopia does not support hydroponic production in certified organic agriculture, as indicated in our comments and testimony over years. The following comments should be understood in the context of that foundational stance.

Given the unfortunate 2017 vote by the NOSB to allow hydroponic and aquaponic production, Cornucopia urges the creation of *comprehensive standards* for certified organic hydroponic production *as soon as possible*.

Existing regulations pertain only to soil-based operations, with the exception of sprouts. There are no current standards for *non-soil based agriculture*.

As a result, hydroponic operations have been allowed to spray the ground with prohibited substances immediately prior to organic certification. In blatant disregard for the three-year transition requirements, the argument has been made that applying prohibited substances is allowable because no soil is formally involved in the production system. This goes against basic and universal requirements in both OFPA and the regulations.

Additionally, research suggests that the metabolites of glyphosate volatilize into the air.<sup>9</sup> Nearby plants and produce are likely exposed to these metabolites, although more study is needed. Other Organophosphates in common use in non-organic agriculture produce varying levels of toxicity in humans, animals, plants, and insects.<sup>10</sup>

Despite suggestions that the soil under these operations is not certified, OFPA does preclude destruction of biodiversity. Also, the regulations still require that all organic producers "...foster cycling of resources, promote ecological balance, and conserve biodiversity."<sup>11</sup> Hydroponic and aquaponic operations cannot be exempt from these requirements. The question then becomes: which rules and regulations actually apply to certified hydroponic and aquaponic operations? The answer cannot be "none" because the organic label is premised on federal oversight.

Clear, enforceable standards are needed for certified organic hydroponic operations. Without these, certifiers operate from a diversity of interpretations. Organic integrity is at risk.

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<sup>9</sup> Martha Mertens, et al. February, 2018. "Glyphosate, a chelating agent—relevant for ecological risk assessment?" *Environ Sci Pollut Res Int*, 25(6):5298-5317. doi: 10.1007/s11356-017-1080-1.

<https://pubmed.ncbi.nlm.nih.gov/29294235/>

<sup>10</sup> Gurpreet Kaur Sidhu, Simranjeet Singh, Vijay Kumar, Daljeet Singh Dhanjal, Shivika Datta & Joginder Singh. 2019. "Toxicity, monitoring and biodegradation of organophosphate pesticides: A review." *Critical Reviews in Environmental Science and Technology*, 49:13, 1135-1187, DOI: 10.1080/10643389.2019.1565554.

<https://www.tandfonline.com/doi/abs/10.1080/10643389.2019.1565554>

<sup>11</sup> 7 CFR § 205.2. Organic production. A production system that is managed in accordance with the Act and regulations in this part to respond to site-specific conditions by integrating cultural, biological, and mechanical practices that foster cycling of resources, promote ecological balance, *and conserve biodiversity*.