



September 28, 2023

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

Docket # AMS-NOP-23-0026

The Cornucopia Institute uncovers the truth behind organic food and advocates for an organic label you can trust. Through research and investigations into agriculture and food issues, we provide needed information to family farmers, consumers, and other stakeholders in the organic agriculture community.

Hydroponics and Container Production Violates the Organic Standards

The Cornucopia Institute supports the [Organic Agriculture is Soil-Based: Position Statement](#) (Soil Position Statement).¹

The Organic Foods Production Act of 1990 (OFPA)², the existing organic regulations (7 CFR Part 205), and surrounding law and policy all require that the National Organic Program act to assure consumers that organic products meet a *consistent standard*. Specifically, in the stated purpose of OFPA³ and the summary of the final National Organic Program (NOP) was established in 2001, they were tasked with “...facilitating domestic and international marketing of fresh and processed food that is organically produced and assure consumers that such products meet consistent, uniform standards.”⁴

As reviewed in the OFPA itself references the need for soil in organic cropping. The regulations also make it clear that soil-based production is not only the intent of the organic label, but also required. The organic rules and regulations referring to soil-based production make it clear that the language is meant to apply universally. For example: “The producer **must** select and

¹ Note that where Cornucopia refers to “Hydroponics”, we mean any soil-less production where the plants are grown to maturity. This includes traditional aeroponic and hydroponic systems, and systems where plants are grown in an inert (like coconut choir) media in containers.

² Organic Foods Production Act of 1990, as amended (7 U.S.C. 6501-6524).

³ 7 USC § 6501

⁴ Summary of the Final Rule Establishing the National Organic Program National Organic Program. Docket Number: TMD-00-02-FR, Effective: February 20, 2001. <https://www.ams.usda.gov/rules-regulations/establishing-national-organic-program>

implement tillage and cultivation practices that maintain or improve the physical, chemical, and biological condition of soil and minimize soil erosion.” 7 CFR § 205.203(a) (Emphasis added).

The references to soil-based production and its requirements are meticulously laid out in the **Soil Position Statement**, which we urge the National Organic Standards Board (NOSB) and other stakeholders to review. The allowance of soilless production under the organic label is an unintended result and is misaligned with the existing rules. The issue of organic hydroponics is not settled: organic products *cannot* meet a consistent standard while hydroponic production exists outside the requirements for soil.

The NOSB agreed with this premise in 2010 when they made the following recommendation about hydroponics: “Observing the framework of organic farming based on its foundation of sound management of soil biology and ecology, it becomes clear that systems of crop production that eliminate soil from the system, such as hydroponics or aeroponics, cannot be considered as examples of acceptable organic farming practices.”

The position of the National Organic Program (NOP) and the USDA seems to be that because hydroponic growing is soilless, the provisions requiring soil in the organic rules and regulations simply do not apply. This stance sets a dangerous and illogical precedent and completely fails to ensure organic products meet a consistent standard.

Employing this logic on other issues within the organic marketplace illustrates how inconsistent and confusing this stance is:

- If a producer prefers to confine cattle indoors, will the organic regulations requiring “outdoor access” and the “pasture rule” not apply to them?
- If a producer prefers to monocrop their fields, will the standards for biodiversity not apply to them?
- Will the program allow oceanic fish to be certified organic, despite a vacuum in the regulations regarding fish?

In simple terms, aeroponic, hydroponic, and crops grown to maturity in containers do not comply with OFPA or the regulations. It’s not enough to say that the many requirements for soil-based production found in both OFPA and the regulations “do not apply”, as there is no explicit exemption for hydroponic production in the rules for soil-based production. The existence of a vacuum in the organic rules and regulations does not automatically imply that they could be allowed.

The organic certifiers speaking out against certifying organic hydroponics are following the rule of law with more precision, working to prevent inconsistencies in the marketplace on their own. For example, § 205.501(1) requires that accredited certifiers have sufficient expertise in organic production techniques to fully comply with and implement the terms and conditions of the organic certification program. Certifiers that currently certify “organic” hydroponic operations are failing in their duty, because they are not applying requirements for soil found in the regulations.

The existing “organic” hydroponic operations exist outside of accepted marketplace understanding of organic food. Because there is significant inconsistency in the way these forms of production are being handled by organic certifiers presently, consumer confusion and unfair treatment for soil-based farmers is rampant. To maintain organic integrity, we must manage the marketplace to avoid confusion.

While hydroponic proponents note that consumers do not care about the hydroponic issue, that is not necessarily true: when consumers are educated about the issues and differences between soil-grown organic and hydroponically grown organic they are much more likely to view the hydroponic products negatively.⁵ This has been Cornucopia’s experience as a consumer educator and advocate in the organic sphere. For instance, organic consumers are often looking for the health benefits of soil microbes on produce. Soilless systems cannot offer these benefits. Consumer confusion in this area only serves to fracture the organic marketplace, harming the label as a whole.

Cornucopia ultimately agrees with the Hydroponic and Aquaponic Task Force’s statement to the NOSB in their 2016 report: “No matter what one thinks about which path is best, we can all accept that many in the organic community are opposed to the inclusion of hydroponic as organic. Failure to address that concern will inevitably undermine public and farmer support for the USDA Organic label.”⁶

Consistent and uniform standards require that unintended consequences, misalignment, and “holes” in rulemaking be cured as soon as possible. The fractures in the organic marketplace can only be resolved by issuing noncompliances to existing certifiers and operators allowing soilless production, thereby ending the certification of these operations, *or* by immediate rulemaking to clarify when and how soilless production can be employed.

Curing the problem would also require a moratorium on the certification of new “organic” hydroponic operations until rulemaking can settle the issue.

Cornucopia urges the NOSB to call for a moratorium on the certification of new aeroponic operations, hydroponic operations, and crops grown to maturity in containers until we can utilize our existing NOSB and rulemaking process to move forward with greater consistency.

Inert Ingredients: Tackle the Problem

The Cornucopia Institute supports the National Organic Coalition’s suggestion to adopt a rigorous review process to ensure that toxic “inert” ingredients do not get used in organic agriculture. Updating and streamlining the review process is urgent, and resources must be dedicated to this issue as soon as possible. We recommend that all synthetic ‘inert’ ingredients be named on the National List to remain in compliance with OFPA.

⁵ See Gilmour, D. N., Bazzani, C., Nayga, R. M., & Snell, H. A. (2019). *Do consumers value hydroponics?* Implications for organic certification. *Agricultural Economics*. doi:10.1111/agec.12519

⁶ United States Department of Agriculture (USDA), Agricultural Marketing Service (AMS). July 21, 2016.

"Hydroponic and Aquaponic Task Force Report."

<https://www.ams.usda.gov/sites/default/files/media/2016%20Hydroponic%20Task%20Force%20Report.PDF>

Addressing concerns about “inert” ingredients is an essential inquiry into the integrity of the USDA organic program. Even though these so-called “inerts” often make up a majority of the products being applied to organic crops and livestock, we are concerned that they could be allowed under a blanket allowance that would both out of date and nonsensical. Many “inerts” may be more toxic and compose a greater portion of an applied material than the active ingredients.

Synthetic materials should *never be allowed* in organic products without a thorough review. The Organic Foods Production Act requires this level of scrutiny.⁷ Even though synthetic “inerts” were allowed as ingredients in product formulations as long as they were not of toxicological concern for the Environmental Protection Agency (EPA), the general review requirements of the National List still apply.⁸

While the EPA’s ruling on toxicological concern may be relevant to the material reviews, the EPA is a separate entity with a separate focus than the organic marketplace. The EPA does not review products for compatibility with organic systems, as the NOSB and the NOP are required to do. Also, and of chief importance, many of the “inerts” in question were reviewed by the EPA decades ago. The scientific community as a whole has updated information on effects including endocrine disruption, neurobehavioral effects, or immune system effects for many of these ingredients. The EPA also does not consider aspects that are critical to organic material review, including whether a synthetic material is essential and differences in the level of scrutiny for human health and environmental concerns.

Organic certification has always been a higher bar and inert ingredients should not be the exception to that rule. There are specific rules that limit the use of synthetic materials to the minimum needed to maintain organic production. Cornucopia opposes any broad, non-specific allowance of inerts because it would allow a loophole allowing for widespread use of synthetic inerts without review as to their need and effects.

The NOSB should ensure that synthetic inerts used in organic pesticide formulations meet OFPA and regulatory criteria requiring that they are not harmful to human health and the environment, that they are necessary, and that they are compatible with organic systems of production.

While EPA input is one important consideration among many, the Organic Program should not continue to rely on outdated lists and data. Moving forward, a defined timeline should be created for when and how currently-in-use “inert” ingredients come up for review by the NOSB while allowing their continued use in the meantime (much like current materials that must go through Sunset Review now). Review priority should go toward any inert products that are known to

⁷ For example, section 2118(b) of OFPA specifically states that the National List “shall contain an itemization, by specific use or application, of each synthetic substance permitted under subsection (c)(1) or each natural substance prohibited under subsection (c)(2).

⁸ As stated in the Advanced Notice of Public Rulmaking (ANPR) on ‘inerts’, OFPA allows the use of synthetic “inert” ingredients in a product formulation if the “inerts” are “not classified as ‘inerts’ of toxicological concern by the EPA, in addition to the general considerations for National List substances at 7 U.S.C. 6517 (c)(1)(a) and 6518(m).”

have red flags in terms of toxicity, environmental impact, or incompatibility with organic principles.

Any inerts not already in use should be required to go through the petition process to be added to the National List, both because it would allow stakeholder input and necessitate the use of updated science during the material review process.

Concerns about business and formula confidentiality are overblown. Organic integrity requires a level of transparency that may not be present in other industries – but that transparency is necessary for the functioning of the organic marketplace. Also, the information that the NOSB would compile to review inert ingredients would be primarily from the public sphere, in terms of environmental and human health concerns. Because inert ingredients so often compose the majority of the products applied to organic crops, it is not acceptable to give a blanket allowance to thousands of “inerts” over which organic stakeholders have no control.

Until the inerts problem is cured, new substance and material petitions should not rely on the antiquated EPA lists. Continuing to use EPA List 4 as a reference will only serve to deepen the problem at hand.

Cornucopia also advocates for the NOSB to receive more resources to make the analysis and review process possible. NOP personnel could perform data complication support, for example.

Racial Equity in the Organic Marketplace

The NOSB should prioritize racial equity in all its processes, including how the NOSB prioritizes agenda items. A fair food and agricultural system is a core value of the organic community. Supporting racial justice and environmental justice go hand in hand, as marginalized communities often experience environmental and anthropological stressors at different rates. The NOSB should apply the [USDA’s 2023 Equity Commission](#) recommendations, and embed racial equity in NOSB processes, discussion documents, and public meetings.

CERTIFICATION, ACCREDITATION, COMPLIANCE SUBCOMMITTEE (CACS)

Proposal: Organic and Climate-Smart Agriculture

Cornucopia is pleased to see the depth with which the NOSB has tackled the issues that arise when speaking about climate-smart agriculture and the certified organic label. We support these efforts but still we note that an essential part of this work is being ignored. *Organic agriculture cannot be entirely climate smart while native ecosystems are being destroyed to produce organic food.*

Foremost, consistent with the NOSB’s recommendation, the NOP must eliminate incentives to convert native ecosystems to organic production (native ecosystems regulation). Maintaining these ecosystems through regulation is *absolutely essential* for climate mitigation. If the native ecosystems recommendation is not enacted, the organic program cannot entirely live up to its climate- and eco-friendly claims.

Native ecosystems store much more carbon than converted farmland ever can. These ecosystems also are refuges for pollinators and beneficial wildlife that help maintain and contribute to the benefits afforded by sustainable farming. Native ecosystems also provide services that benefit local farming, supporting the sustainability of food production in the face of climate change.

In guidance, the NOP claims that “[t]he conservation of natural resources and biodiversity is a primary tenet of organic production...” (NOP 5020 Natural Resources and Biodiversity Conservation). This language supports both the notion that organic farming is an answer to climate change mitigation and that regulation is needed to protect the resilience of native ecosystems.

The native ecosystems regulation is also very important in these specific contexts:

- New/transitioning farmers must understand that converting native ecosystems to any kind of agricultural production is not climate-smart (exceptions being wild harvest and other activities that do not change the character of the ecosystem).
- Aiding organic farmers through “credit” for native ecosystems already preserved on their land through other existing USDA programs.
- Crop insurance programs should acknowledge the resilience built into organic systems that set aside or support native ecosystems on the same parcel.

The Organic Foods Production Act of 1990 (OFPA) and the organic standards require that organic production be soil-based, incorporate diversity, and maintain or improve natural resources of the operation. Those operations that replace native ecosystems with organic farming are in direct violation of these requirements: and yet, conversion of native ecosystems into organic production is still happening. A native ecosystem regulation is *required* for supporting climate-smart agriculture and uniform organic law.

Cornucopia also endorses and supports Wild Farm Alliance’s (WFA) comments on this issue. WFA has done incredible work showing how managing certification in a way that protects native ecosystems is possible and easily can be folded into existing certification procedures.

Discussion Document: Climate Induced Farming Risk and Crop Insurance

Cornucopia believes organic producers and their accredited certifiers are in the best position to identify the hurdles they encounter in procuring crop insurance and in suggesting viable solutions to problems in crop insurance programs. Organic farming is not only environmentally sustainable but also vital for preserving soil health and biodiversity. By improving crop insurance, policymakers can incentivize more farmers to transition to organic methods, thereby promoting long-term ecological sustainability. Improving crop insurance programs for organic farmers benefits producers and the public. It safeguards environmentally responsible farming practices, ensures a stable supply of organic food, and provides a crucial safety net for organic farmers who face unique challenges. Cornucopia supports CACS’s continued efforts to discern what organic producers need from crop insurance programs.

The CAC Subcommittee points out the risks of transitioning to organic will now come in a time of increased risk from climate change. It's important to acknowledge that holistic ecological practices embodied in the organic standards lead to greater protection from extreme weather events. So while the transition may be made more difficult, supporting and protecting farmers through their transition leads to more food and crop security overall (and compared to conventional cropping systems). This dynamic is not accounted for in current crop insurance tools as they exist today.

Many organic farmers report that when they experienced a loss, their practices were not deemed as "Good Farming Practices" (GFPs) under the Risk Management Agency program and their claims were denied. In other instances, insurance agents failed to document the organic transition appropriately, and farmers who had just come out of their third year of transition were denied organic coverage despite the work they'd put in to get an organic certificate.

It's *essential* that the holes and problems with crop insurance are cured because they ultimately disincentive organic transition. Many of the practices the global agricultural community needs to support to address climate change – including utilizing diverse crop rotations and practices supporting soil health – are specifically disincentivized by crop insurance programs! Also, transitioning farmers should not be treated as beginning farmers when they have other farming experience. Overall, the deck is stacked against organic farmers when it comes to crop insurance. These problems need to be cured to fuel growth in the organic sector.

Cornucopia supports Ohio Ecological Food and Farm Association's (OEFFA) suggested solutions to this issue.

Proposal: Oversight Improvements to Deter Fraud: Consistent Location Identification

Cornucopia supports CACS's recommendation that the NOP provide guidance to all accredited certifiers to obtain consistent location information (geocodes) that can lead to GPS coordinates of all applicants for certification. CACS noted in the proposal that the inspector community that commented was in "complete support of requiring more consistent methods of field location information."

Specifically, Cornucopia supports the use of a universal system, the GPS, to obtain specific location data information of all certified operations (fields, production units – grower groups, handling locations, importers, brokers, certifiers). This data should be recorded in Organic System Plans and reported to the Organic Integrity Database, with GPS coordinates verified onsite at each inspection.

The Strengthening Organic Enforcement Rule (SOE) should reduce the risk of fraud in the organic marketplace. A certifying agent must be able to locate the certified operation to comply with the mandates of SOE. Accurate location data is essential, particularly for unannounced inspections. Any delay in locating an operation due to inaccurate or incomplete location data allows perpetrators of fraud to continue the activity and to cover up the illicit conduct.

Cornucopia calls upon the NOP to vigorously ensure that certifiers maintain up-to-date procedures and systems to comply with the requirements of SOE, including consistent location identification. The NOP must be able to confirm certifier compliance through system audits to verify that exact location identification procedures are in place.

Discussion Document: Oversight to Deter Fraud: Residue Testing in a Global Supply Chain

Cornucopia supports the NOSB's proposal to require [residue testing](#) for handling operations.

Cornucopia has long advocated for enhanced residue testing protocols, most recently in the context of organic grain imports which were shown to be fraudulently labeled and wreaked havoc on the domestic grain market. As the CACS is aware, this large-scale fraud was a primary driver of the Strengthening Organic Enforcement Rule. As was the case during the height of the grain import fraud investigation, Cornucopia maintains that bulk shipments of organic product should be tested at the port of origin and upon arrival in the United States. By conducting rigorous testing, we can ensure organic products genuinely meet these organic standards, thereby safeguarding consumer trust.

CROPS SUBCOMMITTEE (CS)

Petitioned Material Proposal: Potassium Sorbate as an active ingredient for plant disease and insect control/suppression

Cornucopia *opposes* the listing of Potassium Sorbate to the National List for the proposed uses. It is clear from the meeting materials and the CS analysis that this product is not compatible with organic principles of human and environmental safety and that many alternative products and cultural practices exist.

In addition, the formulation for the finished product the Petitioner hopes to use includes inert ingredients that Cornucopia finds concerning and incompatible with the principles of organic production. (Please see Cornucopia's comment on inert ingredients above for more context about this concern.)

LIVESTOCK SUBCOMMITTEE (CS)

2024 Livestock Sunset Reviews: Biologics, Vaccines

§205.603(a) As disinfectants, sanitizer, and medical treatments as applicable. (4) Biologics – Vaccines

Cornucopia supports the continued listing of vaccines as they are crucial for maintaining healthy organic herds and promoting animal welfare.

Recently, we've seen increased concern among stakeholders for the presence of excluded methods which are used to produce vaccines. We feel that concerns about transparency in

vaccine use are justified, as the process through which vaccines are used and approved for organic livestock is not always clear.

We acknowledge that the increasing rates of novel viral pathogens and globalization of animal agriculture necessitate continuous improvement and development in vaccine technology. If it is not possible to entirely eliminate the use of GMO vaccines, setting clear standards for how GMO vaccines can be used in organic livestock and how these excluded methods are reviewed is urgently needed by the industry.

SUGGESTIONS FOR THE NOSB AGENDA

Cornucopia supports the NOSB's continued work in maintaining stakeholder relationships and working toward continuous improvement. We'd like to see the following items added to the NOSB agenda for discussion and proposal development:

1. **Vaccines.** We ask the NOSB to discuss and develop improved guidelines that would allow for consistent enforcement and transparency surrounding vaccines (especially those produced with excluded methods).
2. **Swine and pork production standards.** Cornucopia is hopeful that the Organic Livestock and Poultry Standards will be finalized soon, but even with those standards finally in place there is more work to do in the development of standards that relate to the production and processing of swine. We would like to request the Livestock Subcommittee add the topic of swine management to its work agenda to begin addressing the gaps in the existing and proposed standards.
3. **Native ecosystems.** We ask that the NOSB put the issue of native ecosystems back on the agenda to try to address the NOP's mistaken belief that protecting native ecosystems is outside the scope of OFPA.