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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.

Certification, Accreditation and Compliance Subcommittee (CACCS) – Discussion Document: Oversight Improvements to Deter Fraud: Consistent Location Identification

Cornucopia supports requiring certifiers to collect the geolocation for all operations including the fields they certify. 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, GPS coordinates verified onsite at each inspection, and reported to the OID. Previous land affidavits should also be reconciled with GPS location.

If vigorously enforced, the Strengthening Organic Enforcement Rule should reduce the risk of fraud in the organic marketplace. However, enforcement efforts are dependent upon the availability of sufficient and accurate information about each operation. 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, to cover up the illicit conduct, and time to abscond with ill-gotten gains.

Cornucopia continues to urge certifiers and the NOP to vigorously enforce the rules and strive for continuous improvement in the regulatory framework. Requiring GPS location data should be a baseline requirement as it is an essential starting point for an investigation and is both readily available and easily accessible.

Proposal: Organic Is 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 and have a few comments about how this proposal can be improved.

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 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 comments on this issue.

Crops Sunsets – Liquid fish products

We appreciate the discussion being generated around the Crops Subcommittee's (CS) Discussion Document on the use of wild and native fish for liquid fish products (LFPs). LFPs are an important tool for many organic producers.

Unfortunately, this product comes with various complications and concerns. We support the work-agenda request to assess the environmental impact of harvesting wild, native fish for all fertilizer purposes, to protect natural fish populations, and to ensure that liquid fish and other fish-based fertilizer products used in organic production are not harmful to the environment.

Cornucopia feels it is important to gain insight into how using “fish waste” byproduct could support the harvest of wild and native fish in an unsustainable manner. This question also must be considered for farmed fish because all fish farming is not equal in terms of environmental sustainability and harm caused.

Our concerns about the environmental impact arise from several areas. Overfishing is a serious concern in many fisheries and agricultural uses of fish products drive some of the fishing. Cornucopia has concerns about organic producers supporting certain practices by offering economic incentives for their use. Even if it is otherwise considered a “waste product,” fish byproduct is sold and therefore supports potentially harmful harvest practices.

Many farmed fish species are given feed derived from wild and native fish. This means that these fish products are still having a deleterious impact on wild fisheries.

Depending on the species being farmed, the methods used, and where the farm is located, there can be numerous deleterious impacts on the environment and wildlife. Combined with the feed and pharmaceuticals that are put into aquaculture pens, fish waste can impact the local environment by polluting the water and smothering plants and animals on the seafloor. Nutrient pollution can also be a concern for land-based aquaculture systems. There are further risks that diseases and parasites are spread to wild fish from crowded aquaculture pens.

Land-based operations do benefit from fewer risks to the environment. Fish such as tilapia, catfish, cobia, Arctic char, and trout can be raised in onshore systems that do not risk sensitive marine habitats and fisheries but also may have other environmental impacts that must be discussed in the context of fish fertilizers.

With respect to the questions raised by the CS, Cornucopia has concerns about the current allowed uses. While the relevant TR notes that wild fish are not being harvested *solely* for use in fertilizer, this use could further support the harvest of wild fish by providing a lucrative market for the “waste product.” Fertilizers and similar inputs allowed in organic production typically command a higher dollar than their conventional counterparts. It is not clear from the Technical Report whether this question was explored.

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. Overall, Cornucopia would support a narrowed scope of how LFPs can be used in the organic marketplace.

Cornucopia finds the proposed liquid fish products annotation clear: “- can be pH adjusted with sulfuric, citric, or phosphoric acid. The amount of acid used shall not exceed the minimum needed to lower the pH to 3.5.”. Cornucopia believes the annotation is enforceable, but it’s

unclear whether current systems of testing organic-approved products are robust enough to include LFPs.

Crops Sunsets – Newspaper or other recycled paper (205.601(c) and 205.601(b))

The current annotation is still necessary because while there has been a movement away from some of the worst toxins in the colored inks and glossy paper, the substitutes are not non-toxic. Inks, coatings and other paper additives are documented to have environmental and human health impacts. Users of paper products including newspaper are also rarely aware of the exact composition in their paper product and that information is hard for consumers to find.

Cornucopia supports the annotation and its narrowed scope for newspaper or other recycled paper. However, we ask that the NOSB consider creating a work agenda item and/or supporting a research topic on the constituents of allowed paper products. We reason this extra attention is needed because there are some unanswered questions regarding the persistence and toxicity of currently-allowed products and their use in organic crops.

Crops Sunsets – Plastic mulch and covers

Cornucopia concurs with Beyond Pesticides: the organic community should work to phase-out plastic mulches and covers. As part of the phase-out, this material should first be limited to where it's necessary and other cultivation practices cannot meet the same need.

Cornucopia would also support an annotation requiring the plastic used for these applications to have some recycled content. Research into the most cost- and labor-effective methods of reaching the same or similar results that plastic and cover provide should be prioritized. Biodegradable mulch films should not be considered a blanket alternative to plastic mulch and covers in research or otherwise.

2023 Research Priorities Discussion Document

The Cornucopia Institute is pleased to see relevant and important topics put forward as organic research priorities.

Research should be premised on moving away from input-dependent farming, monocultures, and fragile non-localized food infrastructure. The organic marketplace and organic research are already valuable resources for the entire food system – but we can still improve. Long-term research projects should lead the way, since soil building is a multi-year effort.

Most studies on the effects of fertility additions are conducted on conventionally farmed soils and not soils that have been under continuous organic management. Short-term and conventionally-managed soil research will give a very different picture of soil fertility than the soil in a healthy organic system. Long-term research into continuously managed organic soil fertility using various management practices is needed in *different regions*.

We support all suggested research with the following additional comments:

1. **Evaluate natural alternatives to DL-Methionine in a systems approach for organic poultry feed program**

Cornucopia supports this research priority. The European Union does not allow synthetic methionine in organic production. They don't need it because they require poultry producers to use breeds more appropriate for organic production, require lower stocking densities, and have strict rules ensuring outdoor access and opportunities for legitimate foraging for their birds.

As acknowledged by the NOSB, the use of synthetic methionine is necessitated more from turning chickens into vegetarians rather than a true need for a synthetic.

Cornucopia's own extensive review of all organic egg and poultry brands shows that *most* are using some degree of synthetic methionine. Often, it's less a matter of choice for small and even mid-sized brands because synthetic methionine is included in all organic feed formulas from local and national mills. For those producers that do not use pre-mixed feed formulas, many have moved away from including synthetic methionine. The similarity between the brands that have been able to remove synthetic methionine from the diet is clear: birds with access to high quality outdoor forage and the *physical ability to forage* (which is more of a limitation for broiler strains than laying hens) get enough methionine in their diets without supplementation.

Because pasture management and outdoor access are essential, the question of synthetic methionine relies on more robust standards for avian species.

Research into the area of "natural alternatives" to methionine should therefore include:

1. Types of outdoor systems for foraging methionine,
2. Poultry strains that can best utilize high quality outdoor systems and not require methionine supplementation in the feed mix, and
3. Seasonal additives in addition to the above high-quality outdoor access.

Insect protein or insect supplementation may be a way to boost methionine intake, especially in areas where high-quality outdoor access cannot be provided year-round, as in climates where it regularly drops below 10-20 degrees Fahrenheit, or where there is thick snowpack that prevents birds from accessing forage materials. Insect proteins are an environmentally sound way to produce both protein and methionine for poultry. As a bonus, insect protein is a component of the historical diet of game bird species.

Part of this research into methionine could include looking into the utilization of insects and how to make insect protein more affordable for organic producers.

2. **Climate Change (Reducing Greenhouse Emissions and Sequestering Carbon)**

The singular emphasis of carbon sequestration and soil organic carbon (SOC) is misguided. While research into the carbon carrying capacity of different farming systems and soils is useful information to have, carbon sequestration should not be the focus.

The primary function of agriculture is to produce food. While carbon sequestration is being touted by massive fossil fuel companies to “pay away” the harm they perpetuate on the climate, agriculture is an inappropriate industry to mitigate the damage done by fossil fuels.

Carbon sequestration is only one of the many important pieces of climate change mitigation and resilience. The primary way to benefit and stop a warming climate is to *drastically reduce emissions*. Organic farming *does* reduce emissions, but it’s not wholly through carbon sequestration.

Emphasizing *climate resilience* in agriculture is a more useful rubric than climate mitigation in the food sector. Without climate resilience we cannot ensure food security for current and future generations. Activities that promote climate resilience, such as cover cropping and using compost instead of synthetic fertilizers, also tend to have a lower climate impact.

Organic farming has a significant role to play in both climate mitigation and climate resilience. Expanding the marketplace for organic products will have a direct effect of mitigating greenhouse gas (GHG) emissions from the agricultural sector. Organic farms do not use agrichemicals and synthetic fertilizers, both of which are emission-intensive in their manufacture, transport, and use.¹

Research should focus on the impacts and benefits of agricultural systems, rather than trying to find a way to fit all forms of agriculture into carbon markets.

Diversified organic farming increases food system sustainability and increases and stabilizes ecosystem services, both of which are essential parts of climate resilience.^{2,3} “Agricultural sustainability” is an approach to food and fiber production that is environmentally safe, ecologically balanced, economically viable, and socially acceptable, providing possible ecosystem services without compromising its availability to support future generations.⁴

Conventional farming methods produce more emissions and have less resilience. Research that compares the climate outcomes of both farming styles to back up what we already know about the benefits of organic production is needed.

Organic silvopasture is also a ripe area for research with respect to climate change concerns.⁵ Research dedicated to the benefits of organic silvopasture and how to convert more

¹ See Seufert V and Ramankutty N. March 10, 2017. "Many shades of gray—The context-dependent performance of organic agriculture." *Science Advances*, 3(3).DOI: 10.1126/sciadv.1602638.

<https://www.science.org/doi/10.1126/sciadv.1602638>

² *Organic farms have better soil health and improved soil structure, both of which allow farmers to better cope with the extreme weather associated with climate change.* See Shade J and Tully K. 2020. “Organic Farming Practices for Improving Soil Health.” The Organic Center. https://www.organic-center.org/sites/default/files/publication_files/2020/03/Soil-Health-Review_ShadeTully.pdf

³ Rodale Institute Webpage. September, 2021. “Farming Systems Trial.”

<https://rodaleinstitute.org/science/farming-systems-trial/>

⁴ Rodale Institute. 2014. "Regenerative organic agriculture and climate change: a down-to-earth solution to global warming." https://rodaleinstitute.org/assets/RegenOrgAgricultureAndClimateChange_20140418.pdf

⁵ Liz Carlisle and Niki Mazaroli. March 30, 2023. "The return of silvopasture." Aeon.com.

<https://aeon.co/essays/heres-to-reviving-the-ancient-practice-of-silvopasture>

monocultures into diversified and/or silvopasture systems should be prioritized for climate health.

3. Alternatives to eliminate usage and remediation strategies to mitigate contaminated areas for Per-and Polyfluoroalkyl (PFAS) substances

The Cornucopia Institute supports increased research examining PFAS substances. Research is needed to find safe alternatives to these “forever chemicals” and to assess the impact on agricultural land and water. Consumers of organic food expect a safer product and the presence of PFAS is antithetical to consumer expectations and organic principles.

PFAS found on farmland is usually attributed to a history of sewage sludge application. Because it’s a “forever chemical,” decades may have passed since this application and the land may still be contaminated. Sewage sludge is explicitly prohibited in organic production.

Because organic farmers do not contaminate farmland with PFAS, they should not face farm losses on account of chemicals they do not use. To the extent PFAS is detected on organically farmed land, Cornucopia supports financial and technical assistance for remedial efforts undertaken on these farms. All efforts possible should be made to preserve organic farms, which promote environmental, human, and animal health.

Cornucopia supports the NOSB's additional research requests concerning PFAS. The most urgent of NOSB’s requests is the need to find reliable tools to identify, measure, and remediate PFAS contamination that has already occurred in the environment on organic and non-organic farmland. As it stands, many organic farmers are losing their livelihoods and family farms due to PFAS contamination that occurred many years before they may have owned the property.

4. Organic No-Till and Minimum Tillage.

The Cornucopia Institute supports increased research in the development of no-till and reduced till systems, while recognizing that different techniques, including skillful tillage, may be suitable depending on the specific farm’s ecosystem.

Cornucopia supports less extractive agriculture, a long-standing premise of organic farming, and recognizes there is no one-size fits all approach to tillage. Many organic farms successfully incorporate biomass in the soil through skillful tillage, thus promoting healthy soil – the essential component in organic farming – and an environmentally friendly system of agriculture. As research advances in this area, we note that metrics of success should be designated and evaluated thoughtfully, taking into account the complexity of ecology, varying climates, and differences in crop varieties.

5. Nutritional Value of Organic Crops

The Cornucopia Institute supports research into how organic farming practices affect the nutritional value or “nutrient density” of organically produced crops. Many consumers readily identify organic foods as grown without synthetic pesticides and often make their purchasing

decisions based on the lack of chemical inputs. Increasingly, consumers are indicating they select organic because they believe it tastes better and is nutritionally superior. To better inform their purchasing decisions, consumers want to know more about research-backed nutritional advantages that organically produced foods have over their conventional counterparts. While there are studies that conclude certain organic foods boast specific nutritional advantages, more robust research is needed to enhance consumer education. Additional research into nutrient density could further substantiate yet another benefit of organic food production – positive individual health impacts.

6. Increasing Access to Organic Foods

The Cornucopia Institute supports funding incentives that would increase access to organic foods. Commonly cited obstacles in accessing organic food include, but are not limited to: geographic hurdles, economic barriers, and a lack of familiarity with organic food.

Community-specific and geographic-based studies are needed to address the unique obstacles faced by different populations. Funding for studies that evaluate local and regional solutions should be explored. For example, in some areas, introducing farmers markets could serve to improve access to organic food and have a positive competitive impact on prices. Improving distribution routes, access to public transportation, and increasing demand through educational outreach programs are areas where research and funding should be prioritized depending on community-specific needs. Priority should also be placed on increasing access to organic food in hospitals and schools.

7. Barriers to Transitioning to Organic Production

The Cornucopia Institute supports reducing barriers to transitioning to organic production. Farmers report that the three-year transition period presents multiple economic challenges while they await any benefits of an organic price premium. Cornucopia supports a statistical analysis of the economic impact during the transition to help growers anticipate the economic impact and to ultimately complete transition. This study should include a yield analysis, but also account for costs incurred for certification, and include potential solutions for mitigating and recovering any financial losses experienced during the transition. In addition to knowing what to expect, organic farmers should have access to financial and technical assistance throughout the three-year transition to address challenges.

Materials Subcommittee – Plant Breeding Techniques “TBD List”

Cornucopia supports the work to ensure definitions are clear as new genetic engineering (GE) technologies come onto the market. It is important that the organic standards and guidelines maintain clear guard rails: traditional plant breeding methods should be allowed and supported, while GE technologies should be prohibited under the organic label.

Handling Sunsets – Flavors

Cornucopia supports the de-listing of “flavors” as a blanket category.

Cornucopia is concerned that allowing blanket listing for “natural flavors” flies in the face of transparency in labeling. Many consumers of organic food have specific dietary requirements or health needs that cannot be met by conventional foods. One reason consumers select organic foods is that the production methods and even handling of organic foods is more transparent due to government oversight that is not present in conventional food.

In support of these consumers and a more transparent food system in general, Cornucopia advocates for disclosure of everything that a food has come into contact with, including processing agents, on the packaging or label. In the case of “natural flavors” extra labeling should be a given: potential allergens could be explicitly added to the finished product.

While we recognize that natural flavors are often proprietary formulations developed specifically for their intended purpose, the proprietary needs of a business *do not* outweigh the needs of the consumer.