October 11, 2017

National Organic Standards Board
USDA-AMS-NOP
1400 Independent Ave., SW
Room 2648-S, Mail Stop 0268
Washington, D.C. 20250-0268
Re: FR Doc. # 2017-10987

Docket # AMS-NOP-17-0024

Dear National Organic Standards Board Members:

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

CROPS SUBCOMMITTTEE

Aeroponic/Aquaponic/Hydroponic/Container-Growing Proposal

SUMMARY

The Cornucopia Institute supports the **prohibition of aeroponic, aquaponic, hydroponic, and hydroponic "container" operations** from eligibility for organic certification**.** Soilless systems are *not* organic systems, because they are removed from the regenerative organic practices that capture carbon and nitrogen from the atmosphere into the soil.

Container operations do not rely on fertile soil, rather they rely on soluble liquid or solid fertility inputs, therefore we are in favor of the prohibition of all container operations. These terms (aeroponic, aquaponic, hydroponic, and container production) should be added to 7 CFR §205.105 as practices prohibited in organic production.

NOTE: The NOP should adopt the **European Union standards** that do not allow "demarcated beds" (their nomenclature for containers) and require organic crops to be grown in the soil connected to the earth, except for edible sprouts, mushrooms, aquatic plants growing outdoors in their native ecosystems, and transplants sold in their containers.

Container Production Proposal:

Subcommittee vote, container production:
Motion that for container production to be certified organic, a limit of 20% of the plants' nitrogen requirement can be supplied by liquid feeding, and a limit of 50% of the plants' nitrogen requirement can be added to the container after the crop has been planted. For perennials, the nitrogen feeding limit is calculated on an annual basis. Transplants, ornamentals, herbs, sprouts, fodder, and aquatic plants are exempted from these requirements.
Motion by: Francis Thicke, Seconded by: Steve Ela
Yes: 6 No: 3 Abstain: 0 Absent: 0 Recuse: 0

Subcommittee vote, hydroponics:
Motion that any container production system that does not meet the standard of a limit of 20% of the plants' nitrogen requirement being supplied by liquid feeding, and a limit of 50% of the plants' nitrogen requirement being added to the container after the crop has been planted is defined as hydroponic and should not be allowed to be certified organic. For perennials, the nitrogen feeding limit is calculated on an annual basis. Transplants, ornamentals, herbs, sprouts, fodder, and aquatic plants are exempted from these requirements.
Motion by: Jesse Buie, Seconded by: Dave Mortensen
Yes: 6 No: 3 Abstain: 0 Absent: 0 Recuse: 0

Rationale:

- Eliot Coleman: "I vote for real organic: grown on a biologically active fertile soil connected to the earth and illuminated by the sun. There should be no containers except for traditional seedling production. Why not? If you do it right, it works perfectly. I don't think we should let anyone into "organic" unless they do it right. The movement needs to be grown by becoming better not just bigger." Coleman is a popular author of books on organic growing and a widely recognized leader in the organic movement, currently farming in Maine.

- John Ikerd: "Industrial agriculture will attempt to either destroy or co-opt and absorb any movement that threatens its supremacy. The ecological, social, and economic integrity of organic foods depends on the willingness of certifiers to give *ethics* priority over *profits*. Those who do so risk being labeled naïve, idealistic, or unrealistic. But, like it or not, *ethics* is the driving force of the organic food movement: to create a permanent, sustainable food system that is essential for humanity's survival. The organic food movement must remain true to its purpose; it must not sacrifice its soul." Dr. Ikerd is an emeritus professor of agricultural economics from the University of Missouri and serves on The Cornucopia Institute's Policy Advisory Panel.

- Bart Hall-Bayer: "***Hydroponics is utterly <u>impossible</u> to inspect for organic certification.*** When you move away from soil and land-based systems, 'organic' becomes purely a question of <u>materials</u>. Are they approved or not. ***You can shift from 'organic' materials to conventional ones with almost zero effort.*** And when an inspection looms it's easy to shift back. Not only that, you can ***easily include neonic systemic insecticides in the watering solution***. Neonics are particularly effective against aphids, a monumental problem in greenhouses,

particularly those producing lettuces and peppers. **The risk factor for cheating with hydroponic operations is astounding**. Without a regime of bi-weekly unannounced inspections -- at grower expense -- there is not really any possibility of ensuring the organic 'integrity' of any produce from such operations." Hall-Bayer is a soil chemist, professional agronomist and organic certification inspector.

- The NOSB/NOP does not have the authority to modify the elements of the Organic Foods Production Act (OFPA) that specifically reference soil-based production as an integral requirement, including the Organic Plan, which requires farmers to "foster soil fertility." When management of the soil is not the "primary" source of fertility, that operation is violating a mandatory part of OFPA. The adoption of regulatory language incompatible with OFPA would likely lead to a legal challenge.

- Allowing soilless, hydroponic/container growing to be labeled "organic" would conflict with international standards. The European Union (EU), Mexico, Japan, and Canada do not allow hydroponic/container growing. This situation has forced the U.S to create a specific hydroponics exception in its trade agreement with Canada. **Unlawful and extreme variations in certification requirements create consumer confusion and undermine the integrity of the organic label, ultimately weakening organic markets, worldwide.**

- **Allowing year-round imports from countries where hydroponic/container growing cannot legally be sold as organic, and then labeling and selling that produce as organic in this country, undercuts legitimate U.S. organic farmers.** It is wrong and patently illegal under the Organic Foods Production Act and the current regulations.

- The key to nutritious produce is healthy soil. A mantra for the organic community is: "Feed the soil, not the plant." Organic farming methods return organic matter into the soil, feeding billions of species in the soil, which then provide plants with nutrients from the mineral fractions of the soil. OFPA makes clear that managing soil health is central to organic agricultural systems, as evidenced by the inclusion of details about what is expected by organic farmers as they design their annual crop and animal production system plans.

  From OFPA: "An organic plan shall contain provisions designed to foster soil fertility primarily through the management of the organic content of the soil through proper tillage, crop rotation, and manuring."

- Attempts by some certifiers, the OTA, and the hydroponic container lobby to distinguish soilless container systems from other hydroponic systems are not scientifically supported. All production systems have "biology" in the system. In fact, recirculating systems use ozone to reduce/kill biological activity that is "out of balance." "Too much biology" in the soil is unheard of. Whether or not fertilizers are added in a soluble form, or solubilized by bacteria, is irrelevant.

- Organic farmers work with natural nutrient cycles, challenging the prevalent industrial, input-based model of agriculture. Organic certification standards require on-farm practices that foster soil health by means of managing crop residue, manures, composting, and cover cropping. Regenerative agriculture, which includes carbon soil sequestration, is not being practiced in hydroponic/container systems.

- Many hydroponic container systems primarily depend on conventionally grown hydrolyzed soybeans, undoubtedly Roundup®-ready/GMO, prohibited in organics. These systems depend on unsustainable soybean farming for their fertility. Any claims that hydrolyzed soybeans are non-GMO cannot be confirmed through testing, because DNA is denatured under the high temperatures and strong acid incurred during soybean hydrolysis.

- Contrary to information in the Task Force Hydroponic and Aquaponic Subcommittee's report, the scientific literature does not support the claim that compost tea is a significant source of plant nutrition. The primary source of nutrients provided in hydroponic/container systems comes from continuously added liquid nutrients that are highly processed and should be considered synthetic (i.e., the process of producing hydrolyzed soybeans requires boiling for hours in acid).

- Hydroponic/container growing is neither legal nor "sustainable." For example, the process of mining peat to fill containers involves draining increasingly rare wetland bogs, removing surface vegetation, and driving over these ecosystems with heavy vacuum harvesters. Scientists have described wetland peat bogs to be as important and fragile as rainforests, harboring many highly specialized, rare native plants. Much like fossil fuels, they are the result of thousands of years of captured atmospheric carbon. Driscoll's and industries that grow in peat moss, in fact, do not represent a "Coalition for Sustainable Organics," despite the self-serving title given to the group they founded and fund.

- Claims of less water use are questionable in container systems. In addition, production for the entire country need not come from desert regions where most of the container production is currently located. The focus on comparable water use is an intentional distraction from the question of whether hydroponic growing is legally organic. Any legitimate, potential water conservation has to be balanced against significantly higher energy costs in many of the hydroponic operating models.

- Prior to this debate, most container growers referred to their own systems as "hydroponic." In scientific literature, and trade publications not focused on the organic debate within the organic industry, it still is.

- Consumers have a right to know how their organic food is grown. Currently, there is no way for customers to identify which food is grown hydroponically and which is not. Most consumers have no idea that soilless hydroponic growing is permitted under existing USDA organic standards. **With increasing publications on "nutrient-dense foods" and the release of the human microbiome project, consumers are more aware of the connections between production practices and nutritious, healthy food.** As the body of scientific literature grows, hydroponic organic food could be deemed nutritionally inferior.

- Cornucopia disagrees with the concept that hydroponic systems could be labeled organic, provided they are required to be labeled "grown without soil" or "hydroponic." It is impossible for these systems to comply with organic regulations that require regenerative soil fertility practices. It is our contention that, in reading both the regulations and the enabling legislation (OFPA), this work-around to appease corporate agribusiness would be illegal.

- The USDA's allowance of hydroponic certification, in the absence of clear and consistent regulations, has created discontent with the NOP by the wider organic community. A demonstration of the strength of the opposition to organic hydroponics was the Moratorium Letter presented to Secretary Vilsack in April 2016, formally requesting the USDA institute an immediate moratorium on the organic certification of all new hydroponic and aquaponic operations. It was signed by 65 organic leaders, 15 former NOSB members, and 40 organizations whose total membership exceeds 2.2 million people.

- Both OFPA and the NOP Final Rule describe organic agricultural production as much more than substituting approved inputs for those not approved. The task force report also states: "It would be difficult to say that growing in a container is maintaining or improving the soil. ***It is our concern that if NOSB accepts growing a crop to maturity in containers, an amendment to the USDA organic regulation may be required.***" [Emphasis added]

- Steve Sprinkle: "There is no point in having more organic product if it is not compliant. Organic is not about supply. It's about quality." Sprinkel, with a long resume in organic certification and farming is a market grower and restaurant owner in Ojai, California. He also serves on The Cornucopia Institute's Policy Advisory Panel.

- Cornucopia supports the 'Keep the Soil in Organic' international movement, including millions of farmers and eaters that want to keep the organic standards in line with the organic movement—not doing so seriously jeopardizes the reputation of the organic label in the marketplace.