Got Organic?

Grown in Nature with Soil or Factories in Water Solution?

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EDITOR'S NOTE: *The vision and practice of the organic system of agriculture is being challenged by hydroponic operations that do not use soil or nurture biodiversity. This shift is taking place in organic production, as the U.S. Department of Agriculture (USDA) allows hydroponic producers to be certified organic as long as inputs are restricted to those permitted under organic law. However, because labeling is not required, consumers are not able to distinguish between those products grown in soil and hydroponic products produced in a liquid solution. In a period of history when there is increasing awareness of the need to advance production systems that regenerate the earth, sequester carbon, and protect and enhance biodiversity, allowing hydroponics —which meets none of these critical needs—to be marketed as organic, and without full disclosure, undermines the basic principles, values, and legal standards that govern the commercial use of the word organic.*

At its Fall 2017 meeting, the National Organic Standards Board (NOSB), in a 7-8 vote, failed to pass a motion to prohibit certifying and labeling as "organic" hydroponic food production that only uses allowed materials under National Organic Program (NOP) regulations. The vote heightens an existing controversy that centers on the very definition of organic production, which recognizes the foundational role of soil biology and the regenerative practices associated with soil health. The meeting saw opposition by founders and leaders in the organic movement, as well as numerous certifiers, to soil-less production practices –including hydroponics, aquaponics, and aeroponics.

The issue of allowing hydroponics to be certified as organic started brewing in the early 2010s when NOP permitted it, despite what most people in the organic community at the time saw as a clear prohibition by the NOSB and organic law. In its May, 2014 newsletter, *Organic Integrity Quarterly*, NOP announced, "Some organic farms use hydroponic growing methods to produce organic crops under the USDA organic regulations," and published an interpretation of history that is widely disputed by longtime organic farmers and those who have been engaged in organic policy for several decades, including the writing of the *Organic Foods Production Act* (OFPA).

HISTORY OF NOSB ACTION ON HYDROPONICS[1]

The NOSB has concluded repeatedly that both OFPA and the USDA organic regulations require those producing organic crops to do so in soil. A 1995 NOSB recommendation states, "Hydroponic production in soil-less media to be labeled organically produced shall be allowed if all provisions of the OFPA have been met." However, when the NOSB proposed regulations for greenhouse standards in 2001, hydroponic production was rejected as not meeting *all* basic organic production principles.

In 2003, the NOSB published a discussion document that asked for public input and stated that rulemaking for hydroponic standards should not proceed until the NOSB has submitted a final recommendation. Despite an NOP agreement not to propose hydroponic standards until the NOSB submitted a final recommendation (a final recommendation rejecting


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hydroponics was adopted by a decisive vote in 2010 as part of a greenhouse standard), hydroponic food labeled organic has continued to grow in the market.

NOSB discussion documents in 2008 and 2009 continued to examine "the overriding question of whether soil-less systems are compatible with organic production." The 2010 NOSB-recommended greenhouse standards concluded that "hydroponic and aeroponic systems are prohibited."[2]

Despite this history, NOP acknowledged in 2014 that food from hydroponic operations was being labeled organic, saying, "Accredited certifying agents are certifying organic hydroponic operations based on the current organic regulations and the operation's Organic System Plan."[3] In view of this conflict between adopted policy and NOP practice, the agency established a Hydroponic and Aquaponic Task Force in 2015 to provide further guidance to the NOSB on whether hydroponic and aquaponic production should be allowed under the current organic regulations. At the April 2015 NOSB meeting, then-NOP Deputy Administrator Miles McEvoy said a rule change would be needed in order to exclude hydroponics, a reversal of the earlier position that the agency would not act until the NOSB recommended a hydroponic standard.

The Task Force "report," completed in July 2016, documented the history and law that prohibits the organic labeling of hydroponic-produced food. The report is actually two reports with very different viewpoints, one from the 2010 NOSB Recommendation Subcommittee requiring soil in organic production, and the other from the Hydroponic and Aquaponic Subcommittee of the Task Force, which promotes certification of "organic" hydroponics. In the Fall of 2016, a majority on the NOSB, whose membership has since changed, went on record as supporting a prohibition of hydroponic systems that have an entirely water-based substrate.

FALL 2017 NOSB FAILURE TO DECIDE

The Crops Subcommittee brought to the Fall 2017 NOSB meeting three motions—to prohibit aeroponics (which passed 14-1), to prohibit hydroponics and aquaponics (which failed 7-8), and to prohibit "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" (which failed 7-8). Only the vote on aquaponics can be characterized as a final recommendation. Nevertheless, NOP interprets the vote as allowing organic certification of hydroponic operations, while questions of legal interpretation of the history and the organic law persist.

VIEWS OF ORGANIC SUPPORTERS[4]

The NOSB attracted commenters and demonstrators from around the country who support organic production in the soil. Fred Kirschenmann, PhD, long-time organic producer and leader in the organic movement, said, "I think we all also need to keep in mind that in the not-too-distant future, all input-intensive systems will become unworkable [because] we are rapidly depleting the non-renewable resources on which most of them depend. . . . So, any of us interested in farming in the future [need to] stay with keeping the soil that is constantly 'brought back to life' in our practices!"

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CHALLENGE TO NOSB AND NOP (IN-)ACTION

The 2017 NOSB vote raised questions about the legality of allowing soil-less agriculture to be certified as organic under OFPA. Barely a week after the meeting, the Minnesota Organic Advisory Task Force (OATF) unanimously recommended that the Minnesota Department of Agriculture seek a legal opinion on the legality of hydroponically grown products being certified and labeled "organic." OATF contends that soil-less production systems are out of compliance with some sections of NOP regulations. For example, OFPA states, "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."[5] OATF also maintains that an organic designation for hydroponic and aquaponic products misleads consumers and allows unfair competition to bona fide organic producers.

CONCLUSION

Organic agriculture that embraces the principles developed by early organic adopters and codified by the organic statute and regulations is a long-term solution to myriad problems—health and environmental impacts of toxic pesticide use, productivity of the food system, the climate emergency, and protection of the critical biodiversity on which all life depends. Soil health is the foundation to these solutions.

CONSUMERS CAN PROTECT ORGANIC

In addition to advocacy for NOSB[6] and NOP policy, the consumer of organic food has always been a key element in the exponential growth of the organic market, having grown to a nearly $50 billion market in the last 20 years. Ask your retailer where your food comes from. If those tomatoes are hydroponic, tell your grocer that you want to buy organic food grown in soil, except for plants that naturally grow in water. The organic food market has always been driven by consumer expectations, and in the current political climate, where there are efforts to weaken organic standards, and excessive industry influence over regulations, it is incredibly important for consumers to engage with retailers at the point of sale. Please report to Beyond Pesticides (*info@beyondpesticides.org*) your experience with retailers when discussing hydroponically produced food labeled organic. For more background and Beyond Pesticides' position on hydroponics, see (*bp-dc.org/hydroponics*).

ENDNOTES

1 See the Crops Subcommittee Fall 2017 Proposal for a more thorough treatment of the history. https://www.ams.usda.gov/sites/default/files/media/CSHydroponicsContainersNOPFall2017.pdf.

2 NOSB, 2001. NOSB Final Recommendation Greenhouse Production Systems. www.bp-dc.org/hydroponics. See appendices. See also, NOSB Hydroponic and Aquaponic Task Force Report, 2016. P. 17. https://www.ams.usda.gov/sites/default/files/media/2016%20Hydroponic%20Task%20Force%20Report.PDF.

3 NOP, USDA, Organic Integrity Quarterly, 2014. https://www.ams.usda.gov/sites/default/files/media/2014-Organic-May-Newsletter.pdf.

4 See comments by Beyond Pesticides to the NOSB at https://beyondpesticides.org/assets/media/documents/BP%20comments%20on%20hydroponics.final.pdf.

5 See the entire speech at https://beyondpesticides.org/dailynewsblog/2017/11/organic-board-members-farewell-highlights-industry-influence-usda-organic-program/.

6 OFPA, Section §6513, under Organic plan/Soil fertility.

7 See Beyond Pesticides' Keeping Organic Strong, https://www.beyondpesticides.org/programs/organic-agriculture/keeping-organic-strong.

Francis Thicke, PhD

Iowa Dairy Farmer, Soil Scientist, and Environmentalist Speaks to the Future of Organic on Finishing Term on the NOSB[5]

There are two important things that I have learned during my five years on the NOSB. First, I learned that the NOSB review process for materials petitioned for inclusion on the National List is quite rigorous, with Technical Reviews of petitioned materials and careful scrutiny by both NOSB subcommittees and the full board.

The second thing I learned, over time, is that industry has an outsized and growing influence on USDA—and on the NOSB (including through NOSB appointments)—compared to the influence of organic farmers, who started this organic farming movement. Perhaps that is not surprising, given the growing value of organic sales. As organic is becoming a $50 billion business, the industry not only wants a bigger piece of the pie, they seem to want the whole pie. . . .

[In addition to] "organic" chicken CAFOs [confined animal feeding operations] with 200,000 birds crammed into a building with no real access to the outdoors. . ., "organic" dairy CAFOs with 15,000 cows in a feedlot in a desert, [and] large grain shipments coming into the U.S. that are being sold as organic, but that lack organic documentation, . . . [w]e have a rapidly growing percentage of the organic fruits and vegetables on grocery store shelves being produced hydroponically, without soil, and mostly in huge industrial-scale facilities. And we have a hydroponics industry that has deceptively renamed "hydroponic" production—even with 100% liquid feeding—as "container" production. With their clever deception, they have been able to bamboozle even the majority of NOSB members into complicity with their goal of taking over the organic fruit and vegetable market with their hydroponic products.

Perhaps we shouldn't be surprised to find that big business is taking over the USDA organic program because the influence of money is corroding all levels of our government. At this point, I can see only one way to bring the organic label back in line with the original vision of organic farmers and consumers. We need an add-on organic label for organic farmers who are willing to meet the expectations of discerning consumers who are demanding real organic food.

In summary, organic is at a crossroads. Either we can continue to allow industry interests to bend and dilute the organic rules to their benefit, or organic farmers—working with organic consumers—can step up and take action to ensure organic integrity into the future.