

The Transformation of Chemical-Intensive Agriculture

PARTICIPATING IN THE TRANSITION TO ORGANIC, SUSTAINABLE, AND REGENERATIVE PRACTICES

As the National Organic Standards Board (NOSB) convened in St. Louis for its Fall four-day meeting on November 16, 2016, the continuing effort to transform chemical-intensive agriculture into a sustainable and regenerative system, still in its infancy, was on full display. Advocates view the transformation of agriculture to organic as essential in combatting major environmental issues of the day, including clean air, water, soil, worker protection, and carbon sequestration to slow global climate change. Two key issues before the board included the allowance of soil-less hydroponic production and the listing of carrageenan as an allowed food additive. Despite an earlier board decision rejecting soil-less hydroponic agriculture as organic, the board returned the issue to subcommittee with a resolution on distinguishing different production systems. The board also voted to prohibit carrageenan because of health concerns, environmental issues associated with the harvesting of its source material seaweed, and failure to find it essential to organic production. Other issues, as usual, tested the board's adherence to organic principles and the law.

Public Participation Critical to Organic Integrity

As a part of the meeting, the public gathered to participate in two days of public comment in what has been established as a democratic decision making process led by a Congressionally created 15-member board of stakeholders. The NOSB is, by law, charged with representing the different constituencies that make up the organic sector—farmers, environmentalists, consumers, processors, retailers, and certifiers. Additionally, a scientist is included on the board so that the process will be informed by independent science. Organic advocates recognize that the process is fraught with challenges that require a high level of public engagement to ensure adherence to principles and values integral to the Organic Foods Production Act (OFPA), which many people and organizations in the room participated in drafting originally and implementing since its passage in 1990 and rulemaking in 2000.

As envisioned under OFPA, those coming together brought a range of perspectives to debate the substances allowed in certified organic production. Foundational to this process are concerns among farmers, consumers, and environmentalists that growing the organic sector requires adherence to the

governing principles and values of OFPA. Organic farmland (including cropland, pasture, and rangeland), despite its exponential growth in acreage—11 percent in the last two years—occupies 5.4 million acres, compared to the total 915 million acres of total U.S. farmland. It is a \$43 billion industry built on a market that has high expectations for standards that are protective of the environment, biodiversity, and public health. Key to these expectations is a rigorous review process that rejects materials that have adverse health and environmental effects, are not compatible with organic systems, or are not essential—and subjects the materials to sunseting and review every five years. This review was developed in contrast to the less rigorous standards applied to toxic materials used in chemical-intensive agriculture.

The Power to Chart the Future of Organic

The NOSB is uniquely empowered as the guardian of organic standards. In fact, OFPA contains a default assumption that synthetic materials are not allowed to be used without NOSB review and a recommendation adopted by a decisive two-thirds vote. Unlike most advisory boards under the Federal Advisory Committee Act (FACA), the Secretary of Agriculture is restricted in allowing discreet groups of synthetic substances only after the NOSB recommends a listing to the National List of Allowed and Prohibited Substances. Historically, the Secretary has not allowed nonsynthetic substances that are recommended for prohibition by the board. USDA is facing ongoing litigation for its failure to follow the procedures of the statute by promulgating changes without public input and recently lost a case in which it allowed pesticide contamination of green waste compost without consulting the public and NOSB (Center for Environmental Health, Center for Food Safety, and Beyond Pesticides v. USDA, U.S. District Court, 15-cv-01690-JSC, June 20, 2016). A similar case is pending on USDA-imposed changes that allow sunsetted materials to remain on the market.

Driving the process at the St. Louis meeting and on an ongoing basis is an organic systems approach to agricultural production that is not based on synthetic materials, but requires an organic plan that contains "provisions designed to foster soil fertility, primarily through the management of the organic content of the soil through proper tillage, crop rotation

Keeping Organic Strong

To track issues being deliberated by the NOSB and facilitate public comment to ensure organic integrity, Beyond Pesticides maintains the webpage *Keeping Organic Strong*. (See bit.ly/KeepingOrganicStrong.) The page provides a guide to the issues at each NOSB meeting. Check out the website about seven weeks before NOSB meetings in the Spring and Fall.

and manuring.” (7 U.S.C. 6513 (b).) It is the role of the NOSB to ensure that the allowed materials are compatible with “biological and chemical interactions in the agroecosystem, including the physiological effects of the substance on soil organisms . . . crops and livestock.” (7 U.S.C. 6518(m)(5).)

Hot Issues

The most hotly debated questions at the Fall meeting were whether carrageenan should be sunsetted as an allowed food additive in organic food, and whether hydroponic production should be eligible for certification as organic.

Carrageenan

Carrageenan, a thickener made from red seaweed, has been linked to a number of serious health impacts. The testimony and board discussion concerning carrageenan included health effects, essentiality, and the economic impacts of delisting carrageenan. Discussion of health impacts was largely concerned with whether one accepted industry science or independent science. Beyond Pesticides argued that the NOSB should take a precautionary approach in evaluating the science, given that the technical report was unable to give carrageenan a clean bill of health.

Organic food processors who have been following the carrageenan issue since it was last considered for sunset five years ago have mostly removed it from their products. Although some processors made the claim that it is essential, there is clear evidence that any organic product containing carrageenan is available in an organic form without it.

FMC, the manufacturer of carrageenan, brought in a stream of seaweed farmers from Indonesia and the Philippines to testify on the importance of carrageenan to their livelihood. Each of them was asked by the NOSB, “What proportion of the carrageenan produced goes into organic food?” When an answer was finally given, it was “a small amount,” but FMC is concerned about the precedent of removing carrageenan.

The NOSB voted to remove carrageenan from the National List. However, questions still remain. The NOP’s new sunset

rules, which are being litigated, can be read as allowing the NOP to decide not to remove carrageenan. The law requires that USDA “may not include exemptions for the use of specific synthetic substances in the National List other than those exemptions contained in the Proposed National List or Proposed Amendments to the National List.” This provision does not apply to carrageenan, which has been classified as nonsynthetic. However, OFPA also requires that the National List be “based upon” recommendations of the NOSB. In fact, in view of past actions of the NOP, it is not certain that NOP will actually remove carrageenan.

Hydroponics

The second major issue that was hotly debated at the meeting was the question of whether hydroponic growing systems are eligible for certification as organic. While the NOSB made it clear six years ago that hydroponics is not an acceptable organic production system, NOP has been allowing hydroponics to be certified contrary to the NOSB 2010 recommendation. Therefore, a group of soil-based farmers brought the issue to the NOSB. A task force was appointed to study the issue, and the Crops Subcommittee developed a proposal framed by NOP, to settle the issue.

The Hydroponics Task Force divided into two groups and produced separate reports presented under one cover. The task force addressed not only “hydroponics,” but also variations known as “bioponics,” “aquaponics,” and “container-based culture.” The Crops Subcommittee addressed all those variations. A discussion document on container systems was also prepared.

The major positions concerning hydroponics and its variants are: (1) it should not be allowed; (2) it should be allowed; and (3) it should not be allowed, but since NOP has been allowing it, it cannot be prohibited now. In addition, there were others who claimed that definitions needed to be clarified, and that perhaps aquaponics should be allowed, but not bioponics. In the end, the issue was sent back to the subcommittee, and the NOSB passed a resolution expressing opposition to the most extreme version of hydroponics—those operations that have a “water-based substrate.”

The issue of hydroponics/bioponics/aquaponics and container growing is fundamental to organic production. It is connected with organic production as a system that works with nature, as opposed to conventional chemical-based production that works within an environment that is, to some extent, artificially controlled. Many of those opposed to hydroponics point out the precepts of organic production that are contrary to such systems: “Feed the soil, not the plant. “Return to the soil what you take from it.” “Conserve biodiversity.”

As an issue addressed by the NOSB, it is also important because it highlights NOP’s willingness to defy the will of the board.

Other Issues

- The board passed a policy expanding on the definition of “excluded methods” terminology, which includes the definitions of genetic engineering, modern biotechnology, synthetic biology, non-GMO, and traditional breeding.
- Except for carrageenan, all materials up for sunset consideration stayed on the National List. These materials included copper sulfate, ozone gas, paracetic acid, List 3 inerts, calcium chloride, agar agar, animal enzymes, calcium sulfate, tartaric acid, cellulose, potassium hydroxide, silicone dioxide, and beta-carotene extract. No new materials were added to the National List. A motion to remove the parasitic ivermectin passed.
- The board voted to send to the Secretary of Agriculture a report on the impact of USDA’s allowance of genetically engineered crops on organic producers.
- The NOSB also approved a revised schedule for reviewing sunset materials and several revisions to the Policy and Procedures Manual.
- There has been no movement on the so-called “inert” ingredients in listed substances. To the extent that there are products allowed on the list that are not identified as active but in the product formulations, previous boards have determined that they need to be evaluated in accordance with the National List process. Those boards established a review process that has never been completed. This is a critical issue in the context of compliance with OFPA standards and is a good example of an issue that will require more public pressure to move to resolution.

The Future of Organic Integrity

The legal structure is in place for advancing organic in accordance with standards that establish farming and manufacturing practices that are compatible with the ecosystems in which they operate. The actual organic practices that have proved effective, productive, and economically viable are expanding at a fast rate. However, as the pace of organic acreage and the market grows, pressure to relax oversight, standards, and even the underlying law will increase. It will take a vigilant public to protect the basic values and principles that form the foundation of organic and have propelled it to this point to ensure its future. Organic requires a future that has integrity, public trust, and the exponential growth that is needed to protect the environment and people’s health.

Please visit *Beyond Pesticides’ Keeping Organic Strong* webpage, for more details.

— Terry Shistar, Ph.D., Jay Feldman, and Carla Curle contributed to this piece.

Peer Review Findings

A peer review panel conducted a review of the National Organic Program (NOP), the office within the U.S. Department of Agriculture that implements the Organic Foods Production Act (OFPA). In addition to assessing NOP compliance with procedures, the review evaluated the program’s oversight of the agencies that certify farmers and processors who are authorized to display the organic label on their products. Many of the “opportunities for improvement” appear to be bureaucratic details. However, a closer look at the reports of the individual panel members identifies key issues:

- Two reviewers identified problems with transparency—some documents were publicly available, while others were for internal NOP distribution without justification. NOP policy states, “[P]rogram guidance documents are developed with adequate public participation, and are readily available to the public.”
- NOP seems to lack clarity about the distinction between regulations, which are enforceable, and guidance, which is not. This is reflected in word use, such as “recommend,” “require,” “should,” “shall,” “must,” and “may.” It is also reflected in NOP’s use of guidance as the basis for findings of non-compliance.
- The NOP organizational chart does not include the National Organic Standards Board (NOSB), which has specific statutory authority under OFPA.
- There was no evidence that NOP assessed compliance with NOP regulations requiring notification of “application, including drift, of a prohibited substance” or other changes that may affect compliance. In addition, requirements for certifiers do not mention submission of analyses and residue test results, as required by regulations.
- NOP auditors do not assess product composition or the method used to calculate the percentage of organic ingredients, which directly affect the label claim that can be used on a product making an “organic” label claim.
- NOP auditors have no guidance for assessing the regulatory status of ingredients and processing aids allowed by certifying agents, including guidance on the use of minor ingredients, processing aids and other non-agricultural substances, including nutrient vitamins and minerals in infant formula; verification that all ingredients and processing aids are used consistent with the National List annotation; and prohibition of optional materials rejected by the NOSB.
- Among the certifiers reviewed was Ecological Farming Control Organization (ETKO). ETKO was reviewed, in part, because NOP had been unsuccessful in suspending its certification. Based in Turkey, it has been criticized by Organic Farmers’ Agency for Relationship Marketing, Inc. (OFARM). ETKO’s certification has been suspended by the European Union and Canada. The peer review found that NOP’s proposed suspension failed because, “In the letter of proposed suspension, the NOP did not provide sufficient details for the suspension, as required by 205.665(c1).”
- This review did not assess the NOP’s compliance with regulations addressing the approval of foreign governments’ accreditation programs and equivalency agreements.