The Organic Center

October 11, 2017

Ms. Michelle Arsenault
National Organic Standards Board
USDA-AMS-NOP
1400 Independence Avenue, SW
Room 2648-So., Ag Stop 0268
Washington, DC 20250-0268

Docket: AMS-NOP-17-0024

RE: Materials Subcommittee - Research Priorities 2017 (Proposal)

Dear Ms. Arsenault:

Thank you very much for this opportunity to provide comments on the Materials Subcommittee proposal on Research Priorities for 2017.

The Organic Center is a non-profit organization with the mission of convening credible, evidence-based science on the environmental and health benefits of organic food and farming and communicating the findings to the public. We are a leading voice in the area of scientific research about organic food and farming, and cover up-to-date studies on sustainable agriculture and health while collaborating with academic and governmental institutions to fill knowledge gaps.

The Organic Center thanks the Materials Subcommittee for its recommendation on Research Priorities. We appreciate the creation of the Research Priority Framework and the efforts made by each Subcommittee to bring forth its research priorities for 2017.

We have reviewed the list of topics included for 2017, and we're particularly pleased to see the inclusion of "Alternatives to Antibiotics (Tetracycline and Streptomycin) for Fire Blight," "Plant Disease Management" and "Celery Powder." The Organic Center is actively involved in conducting and communicating research on these issues, and we expect the prioritization of these topics by NOSB may help us secure further funding.

Alternatives to Antibiotics
We directly addressed the research priority "Alternatives to Antibiotics (Tetracycline and Streptomycin) for Fire Blight" in our recently completed fire blight project, which was carried out in collaboration with researchers from the University of Washington. This projected provided critically needed information on how to prevent fire blight from decimating apple and pear orchards without the use of antibiotics. The published report includes lessons learned from a systems approach to controlling fire blight without antibiotics that have been successfully used

by dozens of Pacific Northwest organic orchardists. These strategies, along with previously existing materials, have been made available for organic orchardists to refer to as they shift to non-antibiotic control. The written report, which is publicly available, covers methods for controlling fire blight holistically as well as issues such as sanitation, vigor control, sequence and timing of control materials, spray coverage, and varietal susceptibility.

Plant Disease Management

Our research project to find organic solutions to control citrus greening disease is an ongoing project in collaboration with the University of Florida, the University of California-Davis, USDA-ARS, citrus growers, and other non-profits. The first phase of our research was recently completed looking at the efficacy of organic pesticides. One of the organic materials—Mycotrol—significantly suppressed psyllid populations. This means that organic growers have resources in their tool bag to combat this disease. We have also initiated a project to develop a farmer-friendly report that consolidates existing literature on allowable methods for combating citrus greening in organic groves. It will detail science-based best practices for organic citrus growers and will be published and distributed, free of charge, to organic citrus growers across the U.S. Finally, we are continuing to seek funding for research that takes a systems-based approach to combat both the bacterium that causes citrus greening disease and its insect vector, the Asian citrus psyllid, in organic systems.

In the past year, we have also begun research to develop Integrated Pest Management strategies for organic rice production in the Southern United States. This project is being conducted in collaboration with Texas A&M University's AgriLife Research & Extension Center, Texas A&M Department of Soil and Crop Sciences, USDA's ARS Dale Bumpers National Rice Research Center, University of Arkansas Rice Research and Extension Center, and University of Arkansas at Pine Bluff Department of Agriculture.

Flooded rice production systems used by organic farmers result in increased pressure from the diseases, weeds, and insect pests not commonly found in dryland cropping systems. This is especially problematic in the South because of the region's warm, humid environments and the long growing season. This project focuses on developing cover crop-based production systems in combination with cultivar choice and seed treatment to enhance disease, weed, insect pest, and nutrient management, allowing producers to grow organic rice more sustainably and profitably in the South.

Celery Powder

In collaboration with the Organic Trade Association's National List Innovation Working Group and the University of Wisconsin-Madison, we are investigating the potential for the development of organically grown celery or other vegetables used in the curing of organic meat products. This OREI-funded research will help identify potential varieties of organic crops that would meet the chemical specification needed for curing, while being easily incorporated into current crop rotation systems. It will also identify potential management protocols to achieve target nitrate

levels in the curing crop to produce the required shelf life and prevent bacteria in the cured meat, and to produce the desired flavor, color and texture in food.

The Organic Center is continually collecting information on research needs from multiple sectors of the organic community. We conduct industry roundtables, work with the Organic Trade Association's Farmers Advisory Council, meet with professors on our Science Advisory Board and hold one-on-one meetings with individual companies, farmers, professors, and consumers. We feel that the proposed NOSB Research Priorities for 2017 are in line with the needs of the organic industry, and appreciate the release of this report as an important resource to guide The Center's own research priorities and project development. Based on feedback we've received during our own outreach efforts, we would also like to suggest that the areas of soil health and biodiversity be considered for inclusion in the Research Priorities for 2018.

Soil Health

The U.S Department of Agriculture's Natural Resource Conservation Service (USDA's NRCS) defines soil health as "the continued capacity of the soil to function as a vital living ecosystem that sustains plants, animals and humans." While many other definitions of soil health exist, the majority of modern definitions exemplify the ecological attributes of soils, recognizing that their importance extends far beyond simple crop production.

A growing body of scientific literature evaluates the relative contribution of different management practices for improving soil health. However, significant variation in characteristics assessed and the methods used to gauge them means that oftentimes results across different studies are not comparable. Even when scientific studies do use comparable measures of soil health they may come to contradictory conclusions. Management decisions that lead to an improvement in soil quality in one study may be less effective in another suggesting that some protocols must be carefully considered based on localized conditions to achieve best results. As such, reaching solid conclusions on best-management practices for achieving optimal soil health and fertility can be difficult, particularly for organic farmers who cannot rely on formulaic recommendations for fertilizer application.

To address this concern, The Organic Center is collaborating with researchers from the University of Maryland-College Park to conduct a comprehensive review of the most current science that evaluates organic-compliant methods for optimizing soil health to develop best practices for organic farmers. Specifically, this project seeks to (1) review the literature comparing soil health on organic and conventional farms and discuss practices that differ between them that could be contributing to this difference; (2) understand variance in characterization of soil health and indicators used to assess it within the scientific literature; (3) identify science-supported best practices for maintaining and building soil health in organic systems; (4) identify practices that lead to variable results based on geography, climate, soil type, or commodity grown and therefore must be optimized based on local variables, and (5) identify areas where more research is needed.

Biodiversity

A growing body of literature suggests that organic farming systems can help conserve biodiversity. For instance, common organic farming practices such as crop rotations, use of cover crops and prohibition of synthetic pesticides have been shown to positively impact a wide range of organisms. Conserving and promoting biodiversity on farms can also provide significant benefits to the surrounding environment and the farm in the form of ecosystem services such as pollination, biological control, soil quality, and runoff reduction. These ecosystem services may reduce the need for external inputs and increase yields—improving profits and sustainability. However, different conservation practices each have associated benefits and risks that will vary based on geography, surrounding habitat, climate, local biodiversity, and the type of commodity being grown. In some cases, studies have shown that there can be tradeoffs associated with increases in biodiversity on the farm. For example, one study found that increasing insectivorous birds in fields reduces pest pressure in strawberry fields but these same birds will also indulge in the fruit, leading to reduced overall savings in crop protection (Sciligo per communication). Studies that assess not just the effect of different practices on biodiversity but also the economic costs and benefits – both short- and long-term – of those practices are key to increasing farmer adoption.

Research in the area of biodiversity will be particularly important as the National Organic Program's new Biodiversity and Resource Conservation Guidance comes online. To aid farmers and certifiers in compliance and documentation of measures to increase biodiversity on farms, The Organic Center has partnered with Dr. John Quinn of Furman University to design and disseminate a calculator that will allow farmers to document their practices and track their progress in increasing biodiversity on their farms. Because variation in farm size, type, and geographic location all influence the feasibility and effectiveness of biodiversity-friendly farming techniques, making a "one-size fits all" conservation recommendation is impossible. The proposed project will directly facilitate compliance with new NOP guidance by providing a farmer-friendly tool with an interactive front-end interface that includes the mandates released by NOP to aid farmers in technical decisions to increase on-farm biodiversity. Farmers will be able to enter specific information associated with their farming operations to evaluate numerous conservation techniques to maximize biodiversity and ecosystem services.

Organic Representation on USDA Research Boards

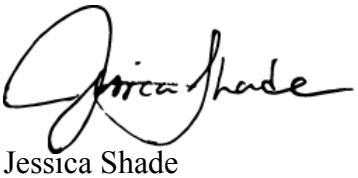
Finally, The Organic Center recently held its second Organic Confluences Conference: A Summit to Turn Environmental Evidence into Policy Practice. This summit brought together scientists, policymakers, farmers and industry to connect research on the environmental benefits of organic farming practices with policy to improve the sustainability of U.S. agriculture. One critical message that was once again voiced throughout the conference is the need to increase organic representation on agricultural advisory panels that can influence policy decisions ranging from agricultural support programs to research prioritization. By guaranteeing adequate organic representation on USDA research boards and committees, we can ensure that the organic sector's

interests and research needs are adequately and fairly represented. As such, The Organic Center is requesting that NOSB draft a letter to USDA requesting mandatory organic representation on USDA research boards and committees. The organic sector must ensure that all USDA appointed research boards include at least one member representing the interests of organic. The Organic Center encourages NOSB to take this opportunity to request that organic representation be a requirement of any USDA board or committee.

Please do not hesitate to contact us for information on the data that we have been collecting or with questions you would like us to pose the research community.

Again, on behalf of The Organic Center, I would like to extend my thanks to the Materials Subcommittee for its commitment to furthering organic agriculture.

Respectfully submitted,



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