ORGANIC FARMING RESEARCH FOUNDATION
Fostering the improvement and widespread adoption of organic farming.

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April 1, 2022

To: National Organic Standards Board (NOSB)
From: Organic Farming Research Foundation
Re: Written comments for NOSB Meetings of April 2022

On behalf of the Organic Farming Research Foundation (OFRF), we would like to submit the following written comments regarding the Research Priorities Discussion Document on pages 79 – 91 of the Proposals & Discussion Documents for the NOSB Meeting of April 26-28, 2022.

OFRF (https://ofrf.org) works nationwide to foster the improvement and widespread adoption of organic farming systems through research, education, and federal policies that bring more farmers and acreage into organic production. Our work includes surveys of organic farmers conducted approximately every five years to identify current and emerging research priorities, and review of USDA-funded organic agricultural research programs to assess how well they are meeting organic producers' needs. Findings of our most recent farmer survey are summarized in our 2022 National Organic Research Agenda (NORA) at https://ofrf.org/research/nora/. We are currently working with the USDA National Institute for Food and Agriculture (NIFA) to review projects funded through the Organic Research and Extension Initiative (OREI) and Organic Transitions Program (ORG) between 2015 and 2021. Our assessments include how well project objectives and subject matter align with NOSB research priorities as well as producer needs identified in the 2022 NORA.

We appreciate and strongly endorse the NOSB approach to organic agriculture research as expressed in the first paragraph of the Research Priorities Discussion Document:

> "The NOSB requests that integrated research be undertaken with consideration of the whole farm system, recognizing the interplay of agroecology, the surrounding environment, and both native and farmed species of plants and animals."

This whole farm, ecological, multidisciplinary approach embodies the underlying philosophy and principles of the organic method since its origins in the early 20th century.

Livestock

We find the five NOSB-proposed research priorities for organic livestock highly relevant, especially item 4, which seeks to enhance dairy production and climate mitigation through improved forage crop rotations and breeding dairy cattle to thrive on 100% forage diets. NOP-

compliant parasite management, natural methionine sources, and diversifying feed grain rations beyond corn and soybean will also address important barriers to successful organic livestock enterprises.

One item missing from this list is additional research to develop regionally adapted, advanced rotational grazing systems for organic livestock. In our NORA survey, 30% of respondents who raise livestock cited grazing management as a substantial production challenge. We believe that advanced grazing research, in combination with the priorities already cited by NOSB, is needed to realize the full potential for organic livestock production to provide climate and environmental benefits as well as farm economic viability and high-quality organic meat, dairy, and eggs for the nation's food system.

Crops

We are also quite impressed with the NOSB proposed list of research priorities for organic cropping systems. Weed management, soil fertility, and the challenge of maintaining both soil health and adequate weed control in organic systems emerged as top priorities in the surveys and farmer focus groups on which our 2022 NORA is based. Thus, we appreciate NOSB's emphasis on co-management of weeds and soil health through organic no-till and minimum tillage (item 3), and management of invasive weeds and insects (item 7).

Given the intensity of the challenge that weeds present to organic producers, and the NOP Standards requirement that tillage and cultivation practices maintain or improve soil condition, we believe that this research priority could be strengthened by dividing priority item 7 into two, addressing weeds as a whole separately from invasive insect pests.

We are especially impressed with item 5 Disease Management, which calls for an integrated approach including crop rotations, sanitation, plant spacing and other cultural practices, crop genetic resistance, biological disease control agents, disease-suppressive plant-soil-microbiome partnerships, low-copper fungicide formulations, and alternatives to copper and streptomycin (fire blight). We suggest that the weed management research priority, currently part of item 7, might be expanded (new language in *italics)*:

> "Weeds pose one of the greatest barriers to successful organic crop production. Invasive weeds include exotic species that aggressively displace both crops and native plant species, as well as creeping perennial species (exotic or native) that are difficult to control without repeated, intensive tillage. The NOP standards require certified organic producers to use tillage and cultivation practices that maintain or improve soil conditions. Development of integrated, organic management strategies that effectively control invasive weeds without excessive tillage continues to emerge as a top research priority for organic producers. *Research into ecologically based integrated weed management (IWM) that combines strategic crop rotation, cover crops, weed competitive crop genetics, mulching, flame, and other non-tillage weed control tactics as well as targeted cultivation with reduced overall tillage intensity has the potential to help certified organic producers maintain soil health, weed control, and crop yields, and better meet the NOP requirements regarding soil-friendly tillage and cultivation practices."*

We would welcome biodegradable mulch as a NOP-allowed organic weed and soil management tool, provided that the research outlined in item 1 Biodegradable Bio-based Mulch Film clearly shows that the candidate products are environmentally benign and do not leave potentially harmful "microplastic" residues in the soil or nearby water resources.

We especially welcome research into Managing Cover Crops for On-Farm Fertility (item 4), Evaluation of Microbial Inoculants, Soil Conditioners, and Other Amendments (item 10), and Side-by-side Comparisons of National List Synthetics and nonsynthetic alternatives (item 9). Respondents to the 2022 NORA survey cited production costs as their second greatest production challenge and a significant technical assistance need. Additional research to fine-tune the regionally optimized use of cover crops to reduce fertilizer input needs, and to impartially evaluate the cost-efficacy of alternative pest control materials and methods, and especially the plethora of microbial and pro-biotic products marketed by vendors of organic amendments can substantially reduce production costs. In addition, the cover crop research will contribute to soil health and long-term sustainability of organic production.

We thank NOSB for prioritizing research into climate change mitigation and resilience through best organic practices (item 12). While 36% of NORA respondents cited climate change as a production challenge, additional respondents cited new and shifting pest, weed, and disease problems related to shifts in seasonal weather patterns, and adverse soil health effects of intense rainfalls and other extreme weather events. Research that verifies and enhances the capacity of the organic method to reduce net greenhouse gas footprints of farming operations and improve resilience will advance our shared objective of establishing NOP-certified organic agriculture as an important part of USDA's Climate Smart Agriculture and Forestry strategy.

Finally, we strongly concur with item 11 Pathogen Prevention for food safety. Functional biodiversity of both micro- and macro-organisms, above and below ground, plays a vital role in the economic success and the ecological benefits of organic production. Research that dispels the perception that highly diverse agroecosystems that provide wildlife habitat and integrates crop and livestock production pose increased food safety risks, and that identifies strategies to achieve the greatest levels of risk reduction, will be especially vital for organic produce farmers who must ensure the safety of foods commonly eaten raw.

Materials/GMO

Farmers in our NORA survey indicated high levels of concern with organic integrity and fraud (77%) and crop contamination with GMO pollen or seed and other NOP-prohibited materials (63%). Therefore, we strongly concur with NOSB that research and policy development to prevent GMO contamination of organic crops (items 3 and 4 under Materials/GMO) and that development of improved technology for testing products labeled "organic" to ensure they were produced in compliance with NOP (item 5) are top research priorities.

General

The 71 transitioning-organic producers who participated in our NORA survey indicated especially high levels of technical assistance needs with weeds, pest, diseases, crop and livestock

production, securing organic sales channels, meeting NOP requirements for certification, and developing their organic system plans. Thus, we are especially happy to see NOSB's priority on research into production barriers that new and aspiring organic farmers face during the three-year transition period.

We thank you for this opportunity to provide input into NOSB research priorities, and we sincerely hope that administrators of USDA organic and sustainable research programs, proposal reviewers, and non-governmental organic agricultural research endeavors will give due consideration to NOSB's priorities and recommenations. Toward this end, OFRF will be evaluating USDA funded organic research between 2015 and 2021 in relation to your priorities as well as those revealed in our most recent NORA survey.

Sincerely,

Brise Tencer

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