

PREPROPOSAL APPLICATION

Title of Preproposal (150 character limit)

Growing an Organic Farm Research Network: A Framework to Better Connect Organic Producers with University-Based Researchers (117)

Project Description (160 character limit)

Provide a one or two sentence description of the project. This will be used to summarize your project for reviewers.

The Ohio Organic Farm Research Network will connect organic farmers and land-grant scientists to co-produce knowledge and increase innovation and resource sharing in organic agriculture. Our farmer-centered on-farm approach will increase the relevance and impact of research and engagement efforts. (259)

Start and End Dates: *Indicate the proposed start and end dates; start date cannot be earlier than November 1, 2021.*

November 1, 2022 – October 31, 2028

Resubmission? Did you submit this project as a full proposal in a previous year?

No.

Will your proposed research/outreach primarily focus on historically-underserved farmers/ranchers?

*If you answer yes, please provide a brief description of how your project will **focus** on this audience. (75 words)*

No. While all three of our partnering institutions seek participation from underserved communities, it is not the primary focus of this project. However, as an 1890 Land-Grant Institution, Central State University is a historically black university (HBCU) with a legacy and mission of working with underrepresented farmers. Ohio's organic community is diverse and includes large numbers of Amish, beginning, and limited resource farms. CSU, OSU and OEFFA all have experience working with these farm groups. (75)

Project Funding Request

An itemized budget is no longer required at the preproposal stage, but please provide an estimate of your total funding request. You will be asked to mark your proposed request as:

- Less than \$50,000
 - \$50,000 to \$99,999
 - \$100,000 to 149,999
 - \$150,000 to \$200,000
 - ✓ \$200,000 to \$250,000
-

Project Focus

Indicate whether your preproposal is primarily: (check only one of the options)

- ✓ a research project (all research projects should include some outreach)
 - an education outreach/demonstration project
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Long-term Funding Option

Check if this is being submitted as a long-term funding option (see instructions for clarification.)
If checked you will be asked to provide a strong justification for long-term funding and a brief work plan for additional funding cycles beyond the three years allowed for this initial funding cycle.

Yes

Systems Category

Select the ONE Systems category that best represents the project from the following:

Animal Production—including aquaculture and apiary; Crop Production; Education & Training; Energy; Farm Business Management; Natural Resources/Environment; Pest Management; **Production Systems**; Soil Management; Sustainable Communities

Commodity Category

Indicate the ONE Commodity category that best represents the project from the following:

This project is not commodity specific or doesn't apply to commodities; Agronomic; Fruits; Nuts; Vegetables; Other plants (herbs, natives, etc.); Animals; Animal Products; Misc. (mushrooms, syrup, other).

State

Indicate the state where the majority of the work will be done.

The majority of the work will be done in Ohio, but our research and extension outputs will benefit and enhance connections to organic projects and programs in neighboring states. The 3 organizations involved will leverage existing and past partnerships. CSU shares connections with fellow HBCUs, OSU is part of several multi-state partnerships for research and extension education, and OEFFA works in a 12-state region and is well connected with sustainable and organic agricultural organizations nationwide.

IMPACT ON SUSTAINABLE AGRICULTURE IN THE NORTH CENTRAL REGION

Even if your project focuses mostly on one aspect of sustainability, consider and explain how it contributes to the other two aspects of sustainability. In other words, how will the work affect the whole system, economically, environmentally and socially? If your project does not address the specific aspect, note that in the space provided.

Explain how your project will improve the profitability of farms and/or associated agricultural businesses. (75 word limit)

Organic production offers economic incentives because of the increased prices received for certified crops and livestock, but it also requires specialized knowledge, equipment, and labor. Limited data exists on economic returns for many organic practices in the Midwest. This project will generate field data, aggregate knowledge and experience, and connect farmers to help them evaluate the economic pros and cons of new practices before adopting them. (66)

Explain how your project will sustain and improve the environmental quality and natural resource base on which agriculture depends. (75 word limit)

Organic producers have been leaders in integrated pest management, diversified cropping rotations, soil health management practices, and cultural weed control. Data capturing the environmental outcomes on collaborating farms will help identify optimal management strategies for improving the performance of organic systems. Documenting the performance of various organic management practices under working farm conditions can also be a critical step leading to the greater use of these innovative approaches by conventional farms. (71)

Explain how your project will enhance the quality of life for farmers/ranchers, communities, and society as a whole. (75 word limit)

Organic production and marketing offers a viable economic alternative and can offer improved quality of life benefits that are attractive to beginning farmers and diverse/underrepresented groups in agriculture. The project will also build social networks and social capital between farmers and researchers that can benefit both groups. Organic farms can benefit society through access to high quality, organic food and production systems that support water, soil, and community health. (69)

BODY OF THE PREPROPOSAL

Project Summary (250 word limit)

A brief summary of the contents of your preproposal. The Summary should include a brief description of the **problem** and of the **approach/methods** proposed. It should include an abbreviated version of your proposed project **outcomes**, and a statement about how the outcomes are **relevant** to farmers and ranchers in the North Central Region.

In response to consumer demand, U.S. organic production continues to grow. However, there are many gaps in our understanding of the agroecological dynamics and optimal management strategies associated with successful organic farming. Additionally, transitioning to organic production involves a substantial learning curve. Traditional land grant university research and extension systems have been slow to address these gaps, and many LGU scientists fail to appreciate or learn from the accumulated experience and knowledge of organic farmers.

Ohio is no exception. The state's rapidly growing organic farm population is seeking locally relevant information to improve their production and marketing practices but lacks the resources and logistical support to conduct such research independently. The state's existing network of research and extension programs targeting organic farmers is fragmented across several universities and organizations. Farmers struggle to find time to network with one another to share information and experiences.

We propose building a farmer-centered, collaborative on-farm organic research network to better connect organic farmers and LGU scientists. The Ohio Organic Farm Research Network (OOFRN) will combine the existing resources, programs, and networks of two major LGUs (Ohio State and Central State universities) and the Ohio Ecological Food and Farming Association (OEFFA), a leading organic certifier. The OOFRN will build partnerships among organic farmers, researchers, and extension educators to co-produce new knowledge through coordinated on-farm research that addresses pressing challenges facing organic farmers. Using a collaborative approach, the OOFRN will build trust and provide the backbone for expanded research and engagement activities to assist organic farmers. (250)

Project Objectives/Outcomes (100 word limit)

List the project objectives, and learning and action outcomes expected from your project activities. Learning outcomes are changes in the knowledge, awareness, skills, and attitudes of participants. Action outcomes include changes in the behavior or practices of the intended audience. You may also list system or condition change outcomes, which will eventually result from your project, even though those outcomes are longer-term outcomes and would be unlikely to occur within the one- to three-year period of your project. Specify the audience that will be involved in the project or that will use project results.

For more information about defining outcomes, see <https://umconnect.umn.edu/repref/>

Project objectives

- Develop a sustainable, collaborative on-farm research network.
- Identify research priorities.
- Implement well executed organic on-farm research.
- Identify and pursue new research funding and other resources.

Learning outcomes

- Co-produce knowledge about organic farm management practices.
- Increase understanding of organic farming techniques, challenges, and benefits among researchers and educators.
- Increase understanding of research methods among organic growers.

Action outcomes

- Build interactions, partnerships, and trust between farmers and researchers.
- Provide organic research experiences for farmers, students, educators, and faculty.
- Identify and respond to emerging organic production challenges.
- Share research results across region.
- Improve viability and performance of organic farms.

(98)

Relevance (300 word limit)

Explain how your project will solve a problem or address an issue significant to agricultural sustainability in the North Central Region. Who will benefit? Tell how your approach is different from or superior to other ways to reach your objectives or proposed outcomes, as well as how it is different from or complementary to other projects that SARE has funded on this subject. (You can use the national projects database on the SARE website <http://www.sare.org> to search for information on other SARE-funded projects.) If your project will use genetically engineered varieties or organisms, state how their use will contribute to your project and make agriculture more sustainable.

Successful organic farming requires learning new production approaches, creating a need for targeted research and education. Traditional LGU research has been criticized for failing to account for the complexities of local organic farming systems, and for failing to capitalize on farmer experiential knowledge. As a result, findings from scientific research on organic systems are often not embraced by farmers. Meanwhile, farmers often experiment with different techniques, but their observations are constrained by a lack of resources and difficulty aggregating findings across farms.

Ohio is no exception. Over the last 20 years, faculty at Ohio's two LGUs have conducted research on organic systems, and each institution has initiated extension programs targeting organic farmers. However, until recently, there has been little coordination between OSU and CSU on organic topics, and the visibility and impact of LGU research among practicing farmers in Ohio has been low. Meanwhile, OEFFA has a well-established network of educators and

programs to support organic growers, but their connections to LGU researchers and extension educators have been inconsistent over time.

There is growing interest in engaging Ohio farmers and researchers as equal partners in the co-production of knowledge and innovations through coordinated on-farm research. Listening sessions held over the last 3 years with farmers revealed a strong desire for increased research on organic production challenges, more two-way knowledge exchange between university staff and farmers, and better organizational infrastructure to support long-term engagements.

This proposal is a direct response to this input. Our on-farm research network will create opportunities to combine the different observational skills and resources of farmers and scientists to address compelling research questions and co-create solutions to common problems. By engaging farmers in the design, conduct, and dissemination of research, we expect to build trust and produce knowledge that is more relevant and impactful for organic producers. (300)

Method/Approach (500 word limit) 498

Describe how your project will be implemented, including your general approach, activities and methods. In research preproposals, identify the research question, specify experimental units, treatments or other methods and measurements to be taken to the extent needed to give a general idea of the work to be done and findings it will yield. How will the information be shared in the North Central Region? If you are invited to submit a full proposal, you will provide more details. Similarly, education project preproposals may offer general descriptions of educational activities and intended audience; invited full proposals will be expected to identify specific groups, processes, relationships, etc.

We will build the organizational infrastructure and partnerships to create an Ohio Organic Farm Research Network (OOFRN). The OOFRN will combine the existing resources, programs, and networks of two major land grant institutions (Ohio State and Central State universities) and the Ohio Ecological Food and Farming Association (OEFFA), a leading organic certifier in Ohio and neighboring states. The project will cover the costs of a staff position and logistical expenses to establish and grow a viable farmer-led research network. Funds will also be provided to support specific collaborative research trials involving groups of farmers and researchers addressing priority questions identified by a farmer-centered advisory board. OOFRN will also coordinate outreach and engagement activities and develop informational products to increase the reach and impact of on-farm research.

While specific on-farm projects addressed by OOFRN will answer more concrete research questions (some of which will be detailed in the full proposal), the overall project is motivated by the hypothesis that **a collaborative on-farm research network that integrates contributions from scientists and farmers can dramatically accelerate the discovery and uptake of new knowledge in Ohio's organic farming industry**. Our approach involves several key activities that will help us test this hypothesis:

1. Establish the OOFRN as a formal partnership of OSU, CSU, and OEFFA.
2. Establish a farmer - scientist advisory board to provide direction and oversight, create project selection guidelines, and make final funding decisions.
3. Hire a shared facilitator to coordinate OOFRN activities and enhance network relationships among the partner institutions and collaborating farmers.
4. Provide seed funding and personnel support for farmer-scientist teams to design, initiate, and manage on-farm collaborative research that addresses priority research questions.
5. Provide a venue for participating farmers and scientists to review findings and discuss changes to research agenda and protocols.
6. Identify and pursue outside funding to enable growth and expansion of collaborative organic research.
7. Develop collaborative activities and products to share research results with the broader organic farming community, leveraging existing partner resources.

After formally creating the OOFRN partnership and establishing our advisory board in Fall 2022, we will develop a collaborative on-farm research agenda for the 2023 field season, with the goal of conducting 3-5 on-farm trials the first year. The board will consider proposals for continuation, replication, or expansion of initial projects and/or new projects for the 2024 growing season. We will host our first annual OOFRN research workshop in conjunction with the annual OEFFA conference in February 2024 to share initial results and engage the broader organic farming community. Summer farm field days, and additional winter technical meetings and research workshops will be held through 2025.

Organic farmers in the state represent a broad spectrum of types, including dairy, beef, cash grain, and vegetable farms. Our initial projects will likely focus on topics of broad interest that have emerged from our discussions with producers over the last 2 years, including weed control, tillage, and soil health. As the network grows, we hope to address additional commodity-specific topics. (498)

Team Members (250 word limit)

List team members who are committed to the project. Include name, affiliation, and area of expertise. You may provide a sentence describing their role in the proposed project, but no CVs are needed at the preproposal stage.

PLEASE NOTE: This list is in progress. Not everyone listed has agreed or even been contacted.

Project Co-leaders

- Dr. Douglas Jackson-Smith, Professor and social scientist, School of Environment and Natural Resources, OSU
- Dr. Sakthi Subburayalu, Professor and Soil Scientist, Department of Agricultural Sciences, CSU
- Renee Hunt, OEFFA program director

Project Administration

- Brian Gwin and Cassandra Brown, OSU Organic Food & Farming Education and Research program
- Gary Pierzynski, Associate Dean for Research, OSU
- Eric Pawlowski and Julia Barton, OEFFA educators
- OEFFA Beginning Farm coordinator would be good to add
- Dr. Cindy Folck, Agricultural & Natural Resources Extension program leader, CSU
- *Other CSU admin*

Initial Farmer Collaborators

Ideally, we want diversity in scale, geography, commodity –grains, dairy and other grazers, hort crops large and small. List should also include at least one Amish and one urban grower. (Racial and gender diversity would also be nice to see on this list.)

- Lou Kozma, Hirtzel Farms, integrated organic grain and vegetable production & processing
- **Eli Dean, Timberlane, Organic Farms LLC, OEFFA Grain Growers President**
- Dave Shively, Shively Farm – past president of OEFFA grain grower
- Mike Kline, Organic Valley – Ohio pool manager for organic dairy co-op
- Jordan Settlage, Settlage farms – organic dairy producer
 - *Julia has some additional ideas, including a multi-gen dairy in the Dayton area, the Stollers and James Yoder from the Wooster area.*
- *Hort crops – find 2-3 including large and small acreage, urban growers, minority/underrepresented growers*
 - *Julia has some urban growers in mind near Cleveland.*
 - *CSU suggest growers from their area*
 - *Could ask Greenfield Farms*

Initial Scientific Advisors

Ideally, a mix of institutions, disciplines, experience with participant research, and open to collaborations.

- Dr. Steve Culman, Professor and soil health specialist, OSU
- Dr. Matt Kleinhenz, Professor and vegetable crops specialist, OSU
- Dr. Luciana Da Costa, Assistant Professor, Veterinary Medicine - Preventive Medicine, OSU
- Dr. Cadance Lowell, Chair of Agricultural and Life Sciences department and Weed Science specialist, CSU
- Alan Sundermeier, retired OSU extension educator
- *OSUE educators Tim McDermott (Franklin Co) or Eric Richer (Fulton Co) might be good additions. Tim is in the urban ag arena. Eric's a transitioning grain grower.*
- Marc Amante and Denise Natoli Brooks, CSU extension educators in southwest, and southeast Ohio, respectively

(253)

Farmer Rancher Involvement (200 word limit)

NCR-SARE strongly encourages having farmers, ranchers, local organizations, or others who will use or benefit from the project involved in its planning, design, and implementation. This participation enhances the relevance and impact of a sustainable agriculture research or education project. Describe how farmers, ranchers, or others will be engaged in your project—for example, in defining the research problem, conducting on-farm research, etc. It is helpful to provide names of specific farmers or ranchers if you can. If you can't name specific individuals at the preproposal stage, explain why the names aren't available and give your plan for identifying specific individuals if you are invited to submit a full proposal.

Farmers will be directly involved as advisory board members and as partners for on-farm research. As on-farm research partners, farmers will be directly involved in identifying research questions, designing treatments, and managing trials. We also expect farmers to help with outreach and engagement by reviewing data, assisting with outreach products, hosting field days, and recruiting others to the program. We have existing collaborative relationships with several Ohio organic farmers and organizations and will expand the circle of farmers (and researchers) as the project proceeds.

Prior to submitting this proposal we have discussed potential collaboration with several Ohio organic farmers involved in grain, forage, and/or dairy operations. [List to be expanded, 2021 grant listed Aaron Rook, Jeff Miller, Tim Kline, Shane Hartzler, Eli Dean, Dave Shively, and Eric Richer] all expressed interest in expanded on-farm research collaborations. These producers suggested a variety of research topics and specific projects in soil health, crop management, marketing, evaluating new technology, and evaluating organic food quality and biodiversity on organic farms. Some had collaborated on university research in the past and enjoyed the experience. A collaboration concern frequently expressed was avoiding additional work during the growing season labor bottlenecks, so we will work to avoid this. (201)

Statement Regarding Resubmitted Ideas (100 word limit)

Indicate whether you have submitted this idea to NCR-SARE before, and if so, when and in which grant program. Also, please indicate how you responded to reviewer comments. Resubmission does not guarantee success, but it can be helpful to show reviewers how you have responded to previous reviewer suggestions.

This idea was submitted as a 2021 SARE Research and Education preproposal. The feedback was encouraging and provided many suggestions for improving our proposal. Responses to our reviewers included:

- Clarified the different strengths and weaknesses of our organizations and how partnering would fill gaps left by the current model.
- Expanded our list of initial team members to better represent the diversity of Ohio's organic community and university leadership.
- Provided additional detail on the grant selection process and the plan to leverage our network and SARE funding with additional sources of research funding and staff support.

(95)

Long-term Funding Justification and Work Plan (500 word limit)

Provide a strong justification for why long-term funding is necessary for this project. What about this project requires more than 3-4 years to accomplish? Is the set-up of the project complex, or require long-term relationship building? Are there ecosystem processes that take time to develop and show change as in long-term cropping system rotations? Most research projects can make use of additional time or lead to more studies, but that is not our intention with this funding option. Be very clear about why this could not be accomplished with 3-4 years of funding.

Relationships and trust take time to build, especially when a group feels it has been underserved and misunderstood. Co-learning research also require farmers and scientists to learn and grow into new roles that differ from those found in traditional research and extension programs. While we have experience working in this manner, we expect the first 3-year phase to be an incubation period where we will implement and continuously refine our approach based on feedback from farmers and scientists.

The initial funding period begins in November 2022, and by the time it runs out in fall 2025, we will have been able to complete and debrief only 2 years of field research (2023 and 2024; though 2025 fieldwork will have taken place, we will just be launching data analysis and preparing for winter/spring workshops). By the end of the first 3-year period, we will have demonstrated the value and impact of our co-learning model to the participating farmers and scientists, generated important data to address the initial research questions, and will be in the early stages of engaging and disseminating this information with a broader organic farming audience.

A second 3-year funding period would allow us to build on our early successes and expand our work to include new groups of Ohio producers, refine and increase the extent of our engagement and outreach efforts, and secure additional funding sources. In a second phase of funding, we would triple the number of farmers and double the number of scientists involved in the OOFRN, expand to new commodity types new focused research questions, expand the frequency of on-farm field days for peer-to-peer learning, and develop a suite of print and digital products (factsheets, videos, and reports) for distribution in Ohio and nationally.

We would also hope to broaden the geographic footprint of the project in a second phase by networking with and learning from other farmer-led research groups in neighboring states, like OGRAIN in Wisconsin or Practical Farmers of Iowa. Finally, we will leverage the OOFRN to increase the success rate for competitive research proposals submitted to USDA-OREI/ORG and AFRI programs and other state, regional or national competitive grant opportunities. (357)

Provide a proposed work plan for a second three-year cycle of this project.
Include outcomes/objectives that would be accomplished, activities that would be undertaken, outreach or outputs that would be produced.

If a third funding cycle is envisioned include a work plan, again identifying outcomes/objectives, activities, outreach or outputs.

NA

2021 Preproposal and Proposal Evaluation Criteria

Review of NCR-SARE preproposals and proposals is a multi-stage process. Members of the NCR-SARE Administrative Council (AC) and a few members of the Technical Committee review preproposals in subgroups during the winter. The NCR-SARE AC then notifies applicants and invites full proposals in early February, due in April, for review by the Technical Committee and by external reviewers. The Technical Committee provides a list of technically acceptable proposals to the Council for its consideration at its late summer meeting. The AC decides final awards for funding and all proposed project coordinators are notified. Funds for projects recommended for funding are expected to become available in fall of the decision year.

The Administrative Council will consider the following factors in evaluating preproposals:

- **Relevance:** Will the outcome of the project contribute to meeting NCR-SARE sustainability goals (listed below)? Does it attempt to solve a problem or address an issue significant in the region?
 - Improving the profitability of farmers and associated agricultural businesses,
 - Sustaining and improving the environmental quality and natural resource base on which agriculture depends,
 - Enhancing the quality of life for farmers/ranchers, communities, and society as a whole.

If applicable, was use of genetically engineered organisms addressed in terms of relevance to sustainable agriculture?

- **Method/Approach:** Is the proposed approach/method likely to achieve the objectives or lead to the outcomes proposed? Did they address previous work, and how the proposed work differs from, or will build upon previous work?
- **Farmer/Rancher or other end-user involvement:** Are farmers engaged in the project as advisors, collaborators? Did farmers/ranchers identify the need for the research/extension-education?
- **Project Team:** Does the project team include the disciplines and expertise necessary to carry out the project?
- **Project Coordinator's reporting history for previous NCR-SARE grants:** The Administrative Council may choose to reject preproposals from Project Coordinators who have delinquent reports for previous NCR-SARE projects.