

Northwest Minnesota On-Farm Research Network - Backgrounder



The NW MN On-Farm Research Network was formed by producers in Northwest Minnesota. It is funded by the MN Wheat Check-off and the MN Department of Agriculture AGRI - Crop Research Grants. Other partners are welcome.

All producers are invited to participate in the Network. The research results from the Network will be available to all producers in MN.

Below is a description of the Network's Goals, Objectives and Desired Outcomes, along with background material.

Goal: Improve the profitability of wheat production in Minnesota.

Objectives

- 1) Engage growers in the NW MN On-Farm Research Network to conduct multi-location/multi-year, field scale on-farm research.
- 2) Network study results for each priority research question will be developed into working research briefs that synthesize on-farm findings, background literature, strengths and weaknesses of current research, and include recommendations for future study efforts.
- 3) Annually, the Network will host one Research Summit that creates learning opportunities for all growers, agronomists, industry representatives and researchers by including: 1) presentations by collaborators on Network funded research efforts, 2) free flowing discussions, 3) an annual review and updating of priority research areas from growers and 4) distribution of working research briefs highlighting Network funded efforts.

Approach

The Network will incorporate four levels of grower participation, these are:

Level 1) Submit Research Idea Contest - Growers submit a research idea that helps solve a problem or identifies opportunity for improving wheat profitability.

Level 2) Share Your 2015 On-Farm Research Project and Results: - Growers conduct in-field research on their own and share findings at the annual Research Summit.

Level 3) Participate in Coordinated Research - Growers participate in one or more priority research projects (coordinated with other growers) as identified at the Research Summit and throughout the year.

Level 4) Submit a Mini-Research Grant Application - Growers who have substantial experience with managing on-farm research can submit a study proposal for projects they want to conduct but have not been identified as a priority research area.

Anticipated Outcomes

- 1) Participating growers will report cost savings/profitability gains in their own production, as measured by a Network participant survey.
 - i. At least 50% of Network participants will endorse experiencing an improvement in their profitability through adjusting operations based on Network research results.
- 2) Minnesota wheat growers will report finding significant financial value in the research reports produced as a result of grower on-farm research.
- 3) Growers who participate in Network activities will report gaining an enhanced knowledge on how to conduct appropriate research on their own farm.

Background

- Five years ago wheat growers increased the wheat check-off in order to expand applied production wheat research in Minnesota.
 - The check-off was passed in part because there is an ongoing desire for more applied wheat research, farmer input and involvement in wheat.
- Over the past three years research has been conducted by the NW MN On-Farm Research Network. In 2012, over 15 growers participated in 23 trials. In 2013, only two growers participated because of adverse spring planting conditions and limited research questions proposed for study.
- In 2014, a broader range of research projects were implemented. There were 15 growers involved with 20 projects and two ideas.

Need

- Because of the increasing diversity of agricultural products and practices, producers have difficulty knowing which ones consistently work best in their environments and yield the best financial paybacks over time.
- In many years, low protein wheat causes large economic losses for MN wheat producers. Finding practical ways to increase wheat protein/quality, yet maintain yields, through Nitrogen Use Efficiency is critical to increasing the value of the wheat crop and increasing profitability.
- The Network has experienced tremendous growth and interest recently because we modified the program by diversifying the research questions under study and allowing for enhanced grower direction/input.
- Growers can be intimidated by researchers and as a result become passive consumers of research. Educating growers with more knowledge about the scientific process can help instill greater confidence in them to ask the right questions and in turn yield greater engagement in research endeavors.
- Few growers in our region have the training/skills/knowledge to accomplish methodologically sound applied on-farm research. A network of growers and research experts needs to exist to facilitate this process and build confidence and skills in growers.
- Few if any grower and research/extension partnerships exist that involve on-farm research and learning opportunities.

Beneficiaries

- The intended direct beneficiaries are participants in the Network and wheat growers in Minnesota who learn from our on-farm research findings.

Detailed Approach

- We have learned in the past that if grower participants in the Network do not see enough benefit to themselves, (i.e. “what’s in it for me?”), they will default to taking care of business as usual when faced with extenuating management, time or weather issues during the season. The research project ends up being neglected and successful completion of their trial or experiment is threatened. So we developed the Network in a way which we believe provides several answers to the important question of “what’s in it for me.”
- The answer to “what’s in it for me” includes:
 - Research ideas take a bottom up approach and come from the growers, rather than come from the top down. This helps ensure that there is great personal interest and perceived value as well as a willingness to complete more rigorous research protocols and maintain participation.
 - Growers have a choice to participate in research questions that interest them at a level of risk that best suits them (i.e. differential levels of participation). This gives them the most ownership and ‘skin in the game.’
 - The research that growers choose to participate in fits within a pre-existing framework of their structural/mechanical capabilities and in most cases is already a part of their ongoing operation. It is not usually “something extra” in their workload.
 - Opportunities are created for growers to 1) discuss their research ideas and interests with agronomists and topic-specific experts, and 2) get assistance in designing, analyzing and interpreting research specific to their field(s).
 - Participants’ on-farm research activities are replicated by other growers who are interested in the same issues. Thus, research quality is enhanced.
 - Growers can test a product or practice across multiple soil types and climate conditions in one year when multiple collaborators exist.
 - The research increases significantly if there is multi-location/multi-year data.
 - Participants have an opportunity to discuss in-field results with other growers and get their reactions, experiences and ideas.
- Including varied research questions that are spread out both geographically and over multiple producers is essential to our Network maintaining a risk-balanced approach to conducting on-farm research. Further, the diversification of research questions ensures that some success will occur regardless of adverse conditions. The Network allows for an expanded timeline to complete research activities if for some unforeseen reason the research protocols are not able to be completed in the year proposed.
- The Network prides itself in developing applied research based designs that fit within real-world constraints and acknowledge grower’s demands and capabilities.

