

## Nebraska Soybean Board

### Year-End Summary Research Report Form For Multi-Year Projects

Please use this form to summarize the practical benefits of your research project and what has been accomplished.

Your answers need to convey why the project is important and how the results will impact soybean production.

**Note that this form must be submitted with the 4th Quarter Report in all multi-year projects.**

**Project # and Title:** Next Generation On-Farm Research Initiative

**Principal Investigator:** Laura Thompson

**Year of Multi Year:** 1 of 1 (For example: Year 1 of 3, Year 2 of 2)

#### 1. What was the focus of the research project or educational activity?

The Nebraska On-Farm Research Network (NOFRN) is a statewide on-farm research program addressing critical farmer production, profitability, and sustainability questions. The network provides a venue for research collaboration; farmers, extension educators and specialists, industry, and consultants work together to generate high quality research that will be directly applicable to Nebraska farmers in accordance with objectives set forward by the Nebraska Soybean Board (and Nebraska Corn Board). The NOFRN embraces the use of agriculture technologies to conduct research and perform site-specific analysis which lead to more in-depth understanding of the results.

Our goal is to continue to expand the geographical reach of the project to fully represent soybean (and corn) growing areas of Nebraska by working with cooperators across the state. In 2019, a record 101 studies were conducted.

This project ambitiously pursues new methods of disseminating research. Research opportunities and results are shared in a variety of ways including radio, tv, newspaper, in-person, social media, website, web tools, smartphone app, YouTube, etc. Our goal is to connect all producers with unbiased, research based agronomic information they can use.

#### 2. What are the major findings of the research or impacts of the educational activity?

101 on-farm research studies were completed in 2019. Over 120 studies are in progress for 2020 growing season. Topics include cover crops, seeding rate, starter fertilizer, growth promoters, fungicide application, row spacing, and more. Numerous collaborations with multi-state efforts, UNL researchers, UNL teaching faculty, and Nebraska NRCS result in high quality work and expanded program reach.

Attendees of the annual on-farm research results update meetings reported new knowledge gain and anticipated behavior changes:

- 90% learned new information about how to set up an on-farm research plot
  - 89% had a better understanding of cover crop management as a result of the programming
  - 92% learned new information about crop production practices
  - 80% (east) and 70% (west) plan to make changes to their planting population as a result of the programming
  - 95% have a better understanding of how ag technologies can be used to conduct on-farm research
  - 85% noted they plan to use the "results finder" database to review research information
- One attendee noted: "My favorite program of the year to go to."

#### 3. Briefly summarize, in lay terms, the impact your findings have had, or will have, on improving the productivity of soybeans in Nebraska and the U.S.

Those participating in the on-farm research network were able to work with Extension Educators to gain the skills needed to conduct reliable research on their own farms. Those attending the annual results meetings in February 2020 represented over 2.4 million row crop acres. The value of the knowledge gained in anticipated practice changes averaged \$7.00/acre, resulting in a total program value of \$17 million.

Attendees identified areas they planned to change based on information at the meetings. The most common responses were: (1) Soybean planting population changes (lower pop), (2) Soybean planting date changes (earlier), (3) N management (adjust rate and/or timing, utilize sensor technology), (4) Implement cover crops, (5) adjust soybean row spacing to narrower rows, (6) Reduce inputs that did not show economic results or use selectively on fields where they are more likely to show economic results.

When asked what they liked best about the results update meetings, responses included "seeing research from other farmers", "Ability of participants to look at studies of choosing. Not a set overview of selected research," "Audience participation/exchange of thoughts and ideas," and "Networking with other growers that think outside the box." This is a unique program as the farmers participating in the research play a large role in delivering the research information. This is well received by the other farmers in attendance and is often a highlight for attendees. Research has shown this method of delivery has high impact and we are proud to offer a venue that delivers information in this unique way.

#### 4. Describe how your findings have been (or soon will be) distributed to (a) farmers and (b) public researchers. List specific publications, websites, press releases, etc.

- Presented about the Nebraska On-Farm Research Network as an invited symposium speaker at the Manitoba Agronomists Conference, Winnipeg, Manitoba, Dec. 2019.
- Results of 2019 studies were shared at the Results Update Meetings in Feb. 2020 at 6 locations: Kearney, Norfolk, Mead, Alliance, York, and Beatrice. A total of 355 attended the meetings (122% increase from previous year!).
- Research results were also presented at numerous winter meetings and venues including radio interviews and Nebraska Farmer articles. We also launched a virtual field day series on Twitter.
- The 2019 Growing Season Results book was published as an official UNL Extension Circular: L. Thompson, et al. (2020). Nebraska On-Farm Research Network: 2019 Growing Season Results (EC3047), (pp. 187). <https://cropwatch.unl.edu/OnFarmResearch/2019NebraskaOnFarmResearchReport.pdf> Research study reports are also available in the interactive online database: <http://resultsfinder.unl.edu/> In 2020 to date there have been 2,800 views of research studies on this site.
- CropWatch articles:
  1. Growers Statewide to Share On-Farm Research in February Meetings (Jan. 23, 2020)
  2. Four Nebraska Farmers Share What They Learned From Conducting On-Farm Research Last Year (Feb. 10, 2020)
  3. Investigate Practices to Increase Soybean Yield (Mar. 12, 2020)
  4. Nebraska On-Farm Research Network Publishes Results of 2019 Farmer-conducted Research (April 7, 2020)
  5. Streaming On-Farm Research Offers Live, Timely Results from Research Studies (April 9, 2020)
  6. Using Aerial Imagery to Help Determine the Impact of Cover Crops on Cash Crop Growth and Development (Oct. 15, 2020)
  7. Assessing Cover Crop Biomass Using Aerial Imagery: Lessons Learned During the UNL-NRCS Soil Health Initiative (Oct. 15, 2020)

#### 5. Did the NE soybean checkoff funding of your project, leverage additional State or Federal funding support? Please list sources and dollars approved.

Nebraska Extension - Approximate \$40,000 investment in salary and program development.

Leveraging success of the Nebraska On-Farm program to receive federal grants such as the \$1.2 million NRCS Conservation Innovation On-Farm Trials Grant.

Please email this completed form to the Agriculture Research Division ([jmcmahon10@unl.edu](mailto:jmcmahon10@unl.edu)) based on the reporting schedule given to you. If you have any questions, please call Jen McMahon at the ARD 2-7082.