11/10/2020, 10:12:11 am

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: #1730: Seeding Practices and Nitrogen Management of Irrigated Soybean in Western NE

Principal Investigator: Kelly Bruns

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

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

OBJECTIVE1. To quantify the impact of planting date, seeding rate, row spacing, and nitrogen management on dicamba-tolerant soybean yield and yield quality in western NE.

OBJECTIVE 2. To develop scientific-based resources for growing irrigated soybean in a semiarid environment.

OBJECTIVE 3. To increase adoption of soybeans in western Nebraska for a more sustainable agricultural production.

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

Combined Impact of before-and-after survey conducted at Cover Your Acre (Oberlin, KS; Jan-2019), August Field Day (Grant, NE; Aug-2019) and John Deere Planting Academy (North Platte NE; Feb-2020). Report includes responses from 160 soybean farmers representing 343,000 acres directly managed.
* 30% of the farmers that used to plant corn first will now give priority to planting soybeans
* Farmers will plant soybeans on average 7 days earlier
* 18% of the farmers will switch from wide rows (30 inch) to narrower rows (< 15 inch)
* Reduction in seeding rates by 25,000 seeds/ac
* 15% of farmers that used to chemigate with N will abandon this practice
* 71% of the farmers will consider applying slow release N fertilizers, compost, manure, coated dry fertilizer, foliar, and/or biological products

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.*

Combined Impact of before-and-after survey conducted at Cover Your Acre (Oberlin, KS; Jan-2019), August Field Day (Grant, NE; Aug-2019) and John Deere Planting Academy (North Platte NE; Feb-2020). Report includes responses from 160 soybean farmers representing 343,000 acres directly managed.
* 30% of the farmers that used to plant corn first will now give priority to planting soybeans
* Farmers will plant soybeans on average 7 days earlier
* 18% of the farmers will switch from wide rows (30 inch) to narrower rows (< 15 inch)
* Reduction in seeding rates by 25,000 seeds/ac
* 15% of farmers that used to chemigate with N will abandon this practice
* 71% of the farmers will consider applying slow release N fertilizers, compost, manure, coated dry fertilizer, foliar, and/or biological products

Based on these response farmers, estimated improvement in profitability of irrigated soybeans in western Nebraska ranged from $30-130 per acre.

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.*

All research results from this project have been published on Crop Watch and from there taken over by other popular farm journals. To access all these research results in a more convenient way we combined all published research articles into a single document titled: "Irrigated Soybean in Western Nebraska: Planting dates, row spacing, seeding rates, fertility programs", which can be downloaded from:
https://extension.unl.edu/statewide/perkins-chase/Irrigated%20Soybeans%20in%20Western%20NE%20-%20Research%20and%20Outreach%20Report.pdf

The report will be updated in next 6 months to include the data from the second year of soybean fertility study.

COVID19 prevented us from distributing copies for this document during the field days, but we did send about 40 copies of this report (with UNL's pocketbook guide, hat, pencils, lip balm, and some other goodies) to farmers that left their address the last time they addended Soybean field days at Grant, NE.

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

No, we have been focused on generating data for our region and publicizing it as soon as possible so it is available to farmers.

Unbiased UNL's irrigated soybean variety testing would be, by far the most impactful information in the region. In addition, it would provide the opportunity for us to spread the word about information we already collected on agronomic practices. Some form of herbicide weed control demonstration would also be especially useful. I sincerely hope for some form of collaboration between western NE, western KS, and easter CO on these issues in near future.

Please email this completed form to the Agriculture Research Division (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.