

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: #1737 Evaluating the Impact of Cover Crop Termination Timing on Insect Pests and Weed Pressure in Soybeans

Principal Investigator: Justin McMechan

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

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

Evaluate how the timing of termination of cover crop influences the potential for insect damage and/or weed suppression in the subsequent soybean crop.

Determine the impact of cover crop termination on soybean biomass taken at early vegetative stages of soybean development.

Disseminate findings to clientele.

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

After two years of research across 11 research sites we have found no significant pest presence or risk to soybean following a rye cover crop. Significant arthropod activity was documented both years indicating the presence of predators or beneficial insects. The composition of these arthropods has varied between sites and years. Weed pressure has been marginal to low, although some marginal reductions in weed biomass were documented.

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.

To date, the lack of pest pressure combined with increased beneficial insect activity indicates that soybean farmers may benefit from having some insect allies in their soybean fields where they have cover crops. Such insects may decrease the likelihood of early season pests. In addition, the presence of cover crops even with late termination, doesn't appear to impact soybean yields.

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.

Each year, findings from the study are published in the Soybean Management Field Days Research Report which is distributed to thousands of farmers across the state. A final report will be combined with multi-state data collected through an NCSRP project to be submitted to the Journal of Economic Entomology.

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

As mentioned previously, additional support was provided by the North Central Soybean Research Program. Nebraska's additional funding allows the PI to serve as the lead for this objective and for Nebraska to conduct 4 to 7 times as many sites per year as other states.

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.