

## 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:** 1745: Soybean Gall Midge: Evaluating Pest Management Tactics and Plant Disease Interactions

**Principal Investigator:** Justin McMechan, Gary Yuen, Tom Hunt, Robert Wright, Keith Glewen, and Aaron Nygran

**Year of Multi Year:** 1 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 soybean gall midge infestation potential and disease interactions on soybean over season using sentinel plants.

Evaluate a foliar insecticide and fungicide for mitigating yield losses from soybean gall midge and to determine the impact of fungal diseases on damage by soybean gall midge

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

With 1 year completed it is difficult to draw any conclusions or impacts. Research shows that there is a long window (~2 months) in which soybean plants are continually infested by adults. A plant disease (suspected to be Diaporthe) was isolated but its role with soybean gall midge isn't clear. Some differences in yield were observed but pressure from gall midge was low at the research site likely due to crop rotation and environmental interactions.

**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.**

This is the first year of this project so its difficult to conclude on any research findings or impacts. Initial findings suggest there is a long window of plant infestation beginning in mid-June and continuing through mid-August. Pathogen isolations are in early stages but a possible plant disease is prevalent in samples but its relationship with gall midge is unclear. Some yield responses were observed between treatments but were relatively small due to low pressure. Low pressure may be a result of soybean-rotation which may have a negative impact on adults under certain environmental conditions. This is only a theory at this point.

**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.**

Towards the end of year two we will begin presenting information on the results of the study at SMFD and other extension events. CropWatch articles as well as tweets will keep clientele updated on progress and findings. A general NebGuide on soybean gall midge is underway and will be updated with information from this project when it is complete.

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

Additional support on the adult emergence network was obtained through NCSRP and a grant with USDA NIFA at \$196,000 was funded to assist with the adult emergence network and larval presence in the soil. The USDA project only partially supports the project through adult emergence but additional data from soil will support understanding on sentinel plant infestation during the season.

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.