

Reporting period 3. November 1, 2022, to January 31, 2023

Submitted by Bruce Potter 2/24/2023.

Objective I. Evaluate insecticide and fungicide efficacy in an ongoing and systematic way

(Team: Bruce Potter, Dr. Dean Malvick, and Dr. Robert Koch with additional University and Industry collaboration).

a) Soybean foliar fungicide

- Popular press extension article – in prep.

b) Soybean aphid foliar insecticide

- A PDF report on this study was posted to the SW Research and Outreach Center research website: <https://swroc.cfans.umn.edu/research/ipm/research-results>.
- Data from the 2022 foliar insecticide study was included in UMN presentations in pesticide applicator training sessions (Appendix A).

Objective II. Define the distribution and host range of the soybean gall midge within Minnesota.

(Team: Bruce Potter and Dr. Robert Koch)

This project will **a)** Track changes in the distribution of soybean gall midge (SGM) across Minnesota environments and **b)** Examine alternative hosts and determine if additional Minnesota crops are at risk. This funding is requested as a second year to the project funded by the Minnesota Soybean Research and Promotion Council. It will complement other work funded work previously funded by the NCSRP.

a) Soybean surveys

- No research activity this quarter but, growing season data included in extension presentations (appendix A).

b i) Dry edible bean survey

- No research activity this quarter but, growing season data included in extension presentations (Appendix A).

b ii) Prairie legume survey

- No research activity this quarter but, growing season data included in extension presentations (Appendix A).

b iii) Sentinel plants

- Additional analysis of data is ongoing. There is some indication that stem diameter may play a role in suitability of non-soybean hosts. (Figure 1).
- Previously analyzed data include in extension presentations (Appendix A)

Appendix A

Koch, R. 2022. Updates on soybean gall midge. Crop Pest Management Short Course. St Paul, MN. December 8.

Koch, R. 2023. Soybean insect update. Extension Research Update. Waseca, Oronoco, Lamberton, Morris, Willmar, Crookston, MN. January 1-12.

Potter, B. 2022. Do you need an insect risk management program for your farm? 2023 Crop Management Input Seminar. December 13, 2022.

Potter, B. 2022. What's new? The soybean gall midge and other insect discoveries. South Dakota Ag Business Association Agronomy Conference. December,14. Webinar.

Potter, B. 2023. The soybean gall midge in Minnesota: A look at changing distribution and host preferences. MN Ag Expo. Mankato, MN. January 19. Poster presentation.

Potter, B. 2023. Pesticide applicator training: insects. Commercial/ non-commercial pesticide applicator training.

Willmar, Faribault, Mankato. January 24 -26. Note: also included in private/commercial/non-commercial presentations by extension educators.