

# Soybean Entomology in the North Central Region: Research and Extension on Emerging Soybean Pests

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## Overview of project objectives

This project represents a uniquely holistic approach to understanding and managing soybean insect pests. It involves collaborative research work on four main areas: soybean gall midge; easier scouting methods for stink bugs; aphid-resistant soybean varieties and virulence management; and extension and outreach. The soybean gall midge objectives include expanding the emergence monitoring program and screening germplasm for midge resistance traits to help with breeding midge-resistant varieties. The team is also exploring mowing and tillage as cultural controls for this new pest. The team will conduct surveys in new areas to determine the midges' range. A second objective includes monitoring stink bugs using sticky traps and pheromone lures as possible alternatives to sweeping vegetation for better scouting. Objective three includes work with aphid insecticide resistance and testing new chemistries. Lastly, the results of these studies will be communicated to farmers to help them employ best management practices.

## Key results

This project builds on past NCSRP projects in entomology research and soybean insect pest management as well as adds new information for these particular insect pests:

- Monitoring of the soybean gall midge took place at 20 sites across four states. Researchers are working to establish a window for adult midge activity when comparing adult emergence dates the previous year. Collections of adult gall midges in 2022 were fewer than in 2021, indicating there could be yearly variation in midge pressure. Gall midges were detected in 15 new counties across three states and one possible new detection in North Dakota, although confirmation tests were inconclusive.
- Experiments using pheromone lure traps for stink bugs were conducted in 12 states. Data is currently being analyzed.
- Researchers began testing four insecticides for the possibility of developing soybean aphid resistance, and work is ongoing with soybean varieties that are aphid resistant.
- A new, second edition of "[Stink Bugs of the North Central Region](#)" was published for distribution.

## Benefit to farmers

This project will provide research that leads to management recommendations and educational material for farmers in the North Central region on key soybean insect pests, including soybean gall midge, stink bugs, and aphids that are resistant to insecticides.

## Links

[Research and extension on emerging soybean pests in the North Central Region](#) *USB National Soybean Checkoff Research Database*

[Soybean Gall Midge Alert Network](#)