

# Soybean gall midge: Surveying the North Central region, adult monitoring and host plant resistance

**Funding:** \$162,953

## Principal Investigator

Justin McMechan, University of Nebraska

## Overview of project objectives

Although soybean gall midge was recently identified and designated a significant pest of soybean, it had been in isolated Nebraska fields since 2011. By 2018, yield losses were most extensive in Nebraska, Iowa, South Dakota and Minnesota. Emergency funding from the North Central Soybean Research Program in 2019 provided researchers in these states to track soybean gall midge emergence to find the extent of its presence.

This project intends to achieve four objectives:

- I. Determine the distribution and severity of soybean gall midge across the region
- II. Determine the emergence timing and source of the soybean gall midge
- III. Screen soybean varieties for resistance or tolerance to the soybean gall midge
- IV. Disseminate information to stakeholders on current information and soybean gall midge management.

## Key results

Field surveys for soybean gall midge were conducted in Illinois, Iowa, Kansas, Minnesota, Nebraska, Missouri and South Dakota. COVID-19 limited the ability to conduct surveys in the rest of the region but will be conducted in 2021. Based on the completed surveys, no previously un-infested states detected soybean gall midge presence, but there was continued expansion in Iowa, Minnesota, Missouri, Nebraska and South Dakota. Monitoring for adults began on March 1 in Nebraska, and on May 1 in Iowa, Minnesota and South Dakota. On June 10, adults were detected in Cass County, Neb., followed by rapid emergence in the other locations. Duration of adult emergence was an average of 25.6 days, longer than the previous year of 16 days. The proportion of adults collected was similar to 2019 except in east-central Nebraska where there was a 229 percent increase. This provided an opportunity to test a wide range of products and control strategies. No tested product provided complete control, however one product applied at planting provided a significant level of protection. A summary of these products is being prepared. Soybean lines were tested at two Nebraska sites and one Iowa site for soybean gall midge resistance. Significant soybean gall midge pressure was found on all lines. A website was established to provide a central location for growers and Extension personnel to find information, alerts and more. An alert network was created to notify growers through email, phone calls and text messages. To-date, users from seven states have registered.

## Benefit to farmers

Soybean farmers will benefit from knowing whether or not soybean gall midge has reached their area. By continued study of this pest, farmers will have the knowledge of what management practices, insecticides and resistant lines to use to mitigate the soybean gall midge from damaging their crops and yield.

## Links

[Soybean Gall Midge: Surveying the North Central Region, Adult Monitoring and Host Plant Resistance](#) *USB National Soybean Checkoff Research Database*

[SoybeanGallMidge.org](http://SoybeanGallMidge.org)