

## SOYBEAN GALL MIDGE IN NEBRASKA



1824 N St, Ste 102 • Auburn NE 68305  
402-274-4755 • [www.nemaha.unl.edu](http://www.nemaha.unl.edu)

In 2023, the soybean gall midge was reported in eight new counties—two in Kansas and six in Iowa, bringing the total documented counties in the United States to 164. This "field edge pest" was initially observed in Nebraska in 2011, and it was formally identified as a new soybean pest in 2019.

### Symptoms and life cycle:

Soybean plants with the presence of gall midge larvae shows signs of stunted growth, wilting, and eventual death along the field borders adjacent to a field planted with soybeans the previous year. The adult gall midge overwinters in the previous year's soybean field and subsequently flies to the adjacent field to lay eggs on young soybean plants. That is why it is crucial to scout field borders for early detection of soybean gall midge. Once the egg hatches, young larvae commence feeding on soybean plants. This results in dark brown or black discoloration at the base of the plant below the cotyledonary nodes and plant becomes prone to breaking off at the base. As the larval population increases, discoloration spreads around the stem. Peeling back the outer layer of the stem reveals orange or white larvae. Larvae can be observed as early as the V2 stage (2nd leaf stage) of soybeans.

### Field Survey and Distribution Analysis:

Drs. Ana Velez, Thomas Hunt, and Justin McMechan at the University of Nebraska-Lincoln received funding from the Nebraska Soybean Board to track soybean gall midge distribution and severity in the state through a field survey. The survey, conducted from late July to mid-August this year, revealed that among the southeast Nebraska counties, Nemaha, Johnson, and Otoe observed 6-12% wilting or dead plants along the field edge. Nemaha County recorded an average of 5-10 larvae per plant, followed by Johnson County with 15-20 larvae per plant, and Otoe County with more than 20 larvae per plant.

### Pest Management Strategies:

The Entomology team at University of Nebraska Lincoln are continuously working to identify effective management strategies for soybean gall midge. In 2020, Dr. Justin McMechan and his team did a study in eastern Nebraska. They found that using Thimet 20G (phorate) significantly lowered the number of larvae, reduced plant damage, and increased yield compared to plots without treatment. However, using Thimet requires special equipment. In 2021, another study was conducted in Lancaster, Cass, and Otoe Counties to see if non-chemical control is effective or not. Results from this study showed that hilling (covering the stem base with soil) significantly reduced the number of infested plants, larvae per plant, and plant damage compared to not hilling. Despite promising findings, further studies are needed to fully understand the management strategies for soybean gall midge.

For more information on soybean gall midge and to receive alert notifications of soybean gall midge adult emergence visit [soybeangallmidge.org](http://soybeangallmidge.org)

Ritika Lamichhane  
Extension Educator-Nemaha County  
[rlamichhane3@unl.edu](mailto:rlamichhane3@unl.edu)  
402-274-4755  
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