



What You Need to Know about The Soybean Gall Midge

A relatively new soybean pest was first reported in Nebraska in 2011 and has since been found in Iowa, Minnesota, and South Dakota in 2018. Management of this pest is still under investigation and while management tactics may be lacking, we need to familiarize ourselves with the insect and the subsequent damage to soybean.

History

The soybean gall midge was first detected in a hail-damaged soybean field in Nebraska in 2011. It has been assumed that the hail injury was attractive to the adult midge and the larvae were feeding on the decaying plant material. In 2018, observations in soybeans in late June indicated infestations on non-injured soybean. Surveys of soybean fields in Iowa, Nebraska, and South Dakota found that the fields with the heaviest damage were adjacent to previous soybean fields. Additionally, injury seemed to be greatest next to waterways and field ditches that contained brome grass. Taxonomically, the soybean gall midge is considered a new species to science.

Preliminary Research

Observational information from Eastern Nebraska has indicated that all maturity groups can be infested and all but the soybean planted in late June was infested. This would seem to indicate that management of this pest cannot be achieved by planting date or maturity group.

Yield Impact

The soybean gall midge can impact yield directly and indirectly. Direct injury can result in plant death. Injury to the conductive tissue in the plant can result in loss of water and nutrient movement upward and photosynthetic products moving to the pod and other portions of the plant. Injury is often more severe closer to the field margin and decreases into the field.

Symptoms Confused with Plant Diseases

The resulting injury can be confused with primarily two plant diseases: Phytophthora and Pythium. However, if the stem is inspected from the soil surface to about 6 to 8 inches above the soil line and small orange or pale white legless maggots are observed feeding on the stem, it most likely is soybean gall midge.



Figure 1. Darkened area at the base of a soybean plant (A) associated with soybean gall midge. Peeling back the outer layer reveals large numbers of soybean gall midge larvae (B). Less developed larvae appear white in color until the 3rd instar (C). Image Collage Courtesy of Justin McMechan at University of Nebraska-Lincoln

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Management options

Currently, management options are not available for this pest. There is still some debate as to the impact of the gall midge and if it is actually a primary pest or a secondary pest invading the plant after some injury. If you find this insect, report it to your local state extension professional.

References

McMechan, J., Wright, R., Hunt, T., and Nygren, A. 2018. Orange gall midge in soybeans. University of Nebraska. Institute of Agricultural and Natural Resources. <https://cropwatch.unl.edu/2018/orange-gall-midge-soybeans>

McMechan, J., Wright, R., and Hunt, T. 2019. Soybean gall midge: An emerging pest of soybeans. University of Nebraska. Institute of Agricultural and Natural Resources. <https://cropwatch.unl.edu/2019/soybean-gall-midge-emerging-pest-soybeans>

Legal Statements

Performance may vary, from location to location and from year to year, as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible and should consider the impacts of these conditions on the grower's fields.

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