Soybean leafminers cause impressive crop injury

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Abstract
On August 1, Gary Guge, extension education director; Jeff Bradshaw, graduate student in entomology; and I visited a soybean field north of Little Sioux in Harrison County to view soybean leafminer injury. I must admit that I was skeptical of the amount and magnitude of injury that both Gary and the farmer had described to me over the telephone. When we entered the more than 60-acre field the plants were uniformly small (18-24 inches), mostly from a lack of sufficient moisture, and the entire field had an off-color, light green cast to it from the leaf injury caused by adult soybean leafminers.

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Beetles seemed to be everywhere and the density ranged from 0 to 37 beetles per plant and averaged 5.4 per plant. Ten rows from the field edge, 10 sweeps with a net were taken down the row and produced six bean leaf beetles and 288 adult soybean leafminers. There was a small amount of bean leaf beetle injury (small round holes) in the leaves but a significant amount of injury was caused by soybean leafminers. The adult beetles scrape the leaf surface, causing the leaves to turn light green or white.

Leafminer injury consists of scraping the leaves.

Leaf injury from adult soybean leafminers (scraping) and bean leaf beetles (holes).

A cluster of 37 soybean leafminers in the terminal of a soybean plant.

I would not expect this problem to be widespread; this is the first time that I have heard or seen significant soybean leafminer injury to soybean. Typically, some injury can be expected from the larvae during June and July, but adult injury across a field is very rare. Plants that are experiencing drought stress may have a greater probability for yield loss from this insect.
Strong consideration should be given to the yield potential before a soybean field is sprayed for leafminers.

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