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Soybean Aphids Are Found in Young Soybean

Abstract

Throughout the North Central Region, 2009 reports indicate soybean aphids are present in young soybean (VE-V2). This includes Iowa, other states (Wisconsin, South Dakota, Michigan, Ohio, Minnesota) and southern Canada. Northeastern Iowa Extension Field Agronomist Brian Lang closely monitors early season establishment of soybean aphid. He reported 70 percent of plants in his research plots were infested (5.5 aphids per plant) on June 21.

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Soybean Aphids Are Found in Young Soybean

Erin Hodgson, Department of Entomology

Throughout the North Central Region, 2009 reports indicate soybean aphids are present in young soybean (VE-V2). This includes Iowa, other states (Wisconsin, South Dakota, Michigan, Ohio, Minnesota) and southern Canada. Northeastern Iowa Extension Field Agronomist Brian Lang closely monitors early season establishment of soybean aphid. He reported 70 percent of plants in his research plots were infested (5.5 aphids per plant) on June 21.

Other people have recently reported finding aphids in central and northwestern Iowa. But what does it mean to have soybean aphids so early in the season? Right now, it is too early to make any predictions about widespread aphid outbreaks because there are several scenarios that could take place this summer.

Natural enemies

The first hypothetical option is that natural enemies can help regulate early season numbers and fields will not need to be treated (see circles in Figure 1). Beneficial insects, such as ladybeetles, lacewings, predatory bugs and flies, and parasitic wasps are excellent at finding aphids at low densities. Of course natural enemies are susceptible to broad spectrum insecticides and will be wiped out if the aphids are sprayed, so suppress the urge to make a "just in case" application at this time. Iowa also has naturally-occurring fungi that can quickly wipe out an aphid population. Although it is certainly humid enough for aphid fungi, the evenings are not cool enough to induce sporulation at this time.

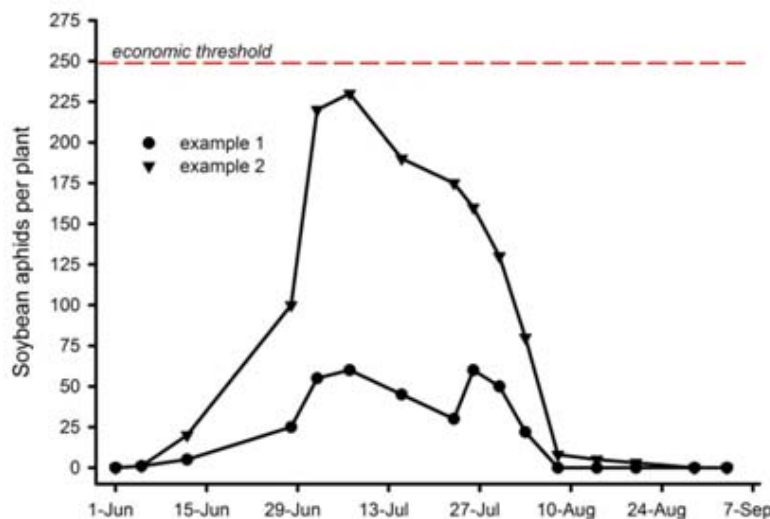


Figure 1. Soybean aphid populations can show up on young soybean but fade out before reaching the economic threshold.

Fly away

The second possibility is that fields get heavily infested early and young plants get crowded, forcing colonies to produce alates, or winged adults. These winged aphids are capable of short and long distance flight, and is historically how much of Iowa soybean is infested each year. When scouting early in the season, look for winged aphids that might be on the move. Fields that have high numbers of winged aphids may dissipate and never build up to damaging populations (see triangles in Figure 1).

Exponential growth and population increase

The third situation that might happen is that aphids start exponential growth and double populations every week. If this type of reproduction is seen, it is likely the economic threshold (250 aphids per plant) could be reached before mid-July (see Figure 2).

But daily temperatures and humidity have to be moderate for optimal reproduction, and the current weather forecast prediction for Iowa is too hot and humid for that trajectory. Fields that are sprayed before bloom may require a second insecticide application if aphids rebound or if the field is reinfested (see circles in Figure 2). It is important to keep scouting for aphids through seed set even if treated with an insecticide earlier that season.

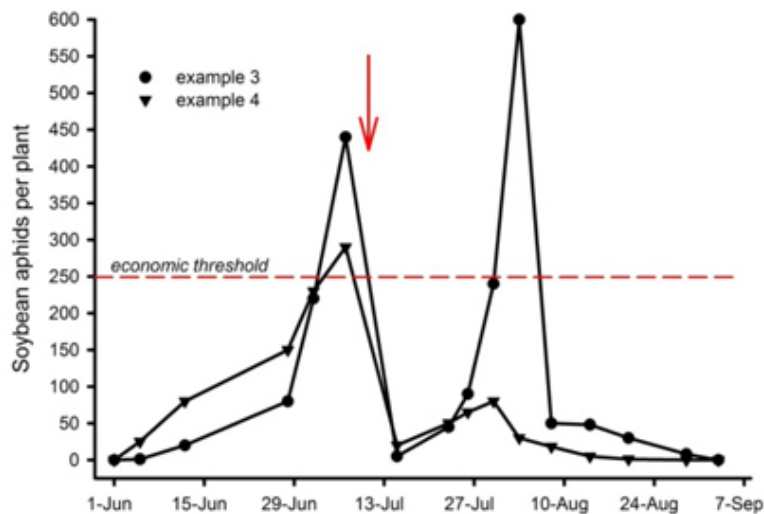


Figure 2. Soybean aphid populations can show up on young soybean and surpass the economic threshold, sometimes twice in one season. Red arrow indicates a properly-timed insecticide application.

Regularly sample every field

There are other possible directions soybean aphid might take this year as well. The most accurate way to predict soybean aphid growth is to **SAMPLE EVERY FIELD** on a regular basis. Counting aphids every 7-10 days will allow you to estimate aphid densities and gauge whether the population is moving up, going down or staying the same.

Especially early in the season, look on the undersides of leaves for first and second instars and winged adults. If you are trying to find aphids in soybean, stop at several locations per field and examine at least 20 to 50 plants per location. After aphids have established, you can reduce the number of sampled plants.



Scouting early in the season may help prevent yield loss from soybean aphid.

Erin Hodgson is an assistant professor of entomology with extension and research responsibilities. She can be contacted by email at ewh@iastate.edu or phone (515) 294-2847.

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