Scout Crops for Aphids

Erin W. Hodgson
Iowa State University, ewh@iastate.edu

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Scout Crops for Aphids

Abstract
Earlier this summer, I found aphids in V4 corn in central Iowa. This early establishment is unusual because most aphids that feed on corn have to migrate from the southern United States every summer. My lab also found soybean aphid in vegetative soybean at most of the Iowa State University Research Farms in June. Although they can overwinter in Iowa, larger colonies have not recently formed until after bloom. Pea aphids have also been reported in alfalfa in northeastern Iowa. All these aphid detections prompted me to summarize a few scouting reminders and treatment thresholds for aphids in field crops.

Keywords
Entomology

Disciplines
Agricultural Science | Agriculture | Entomology

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Scout Crops for Aphids

By Erin Hodgson, Department of Entomology

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Soybean aphid

This is the only species in Iowa that will colonize soybean. Scout weekly from plant emergence until seed set. Aphids prefer to feed on the undersides of leaves and will establish on the newest leaves. If a large colony develops, they will feed on stems. Initial infestations are patchy and located near field edges, but winged aphids can quickly disperse within and between fields. Commercial fields that have reached uniform infestation should be closely monitored in August.

Photo 1. Turn over soybean leaves to estimate soybean aphid density.

The economic threshold for soybean aphid is well established for the north-central region. Consider a foliar application when the average density exceeds 250 per plant. Populations should be increasing and most of the plants have to be infested (>80 percent) to justify an application. This threshold is appropriate until plants reach mid-seed set (R5.5; Photo 2). Spraying at full seed set (R6) or later has not produced a consistent yield.
Aphids in corn

There are several species of aphids that can feed on corn. They prefer to feed on small grains, but will use corn as a host. Aphid infestations in corn have been sporadic in Iowa the last five years, but should be monitored after silking. A widespread outbreak occurred in northwestern Iowa in 2011. Populations are typically aggregated at field edges, but winged aphids can move to field interiors. Aphids will colonize the stalk, leaves and ear (Photo 3).
Currently, there are no treatment thresholds for aphids in corn past tasseling. But regular sampling will help you make educated decisions about a foliar application at this time. Consider a foliar application when most of the plants are infested (>80 percent), and aphids are have exceeded 500-1,000 per plant. An insecticide may be warranted if aphid honeydew and sooty mold are evident above the ear leaf and plants have not reached hard dent (R5).

**Aphids in alfalfa**

Like in corn, there are several species of [aphids that will feed in alfalfa](http://www.extension.iastate.edu/CropNews/2013/0813hodgson.htm). Although considered secondary pests, aphids can build up to high densities. Scout fields weekly to monitor for aphid arrival and spread within a field.
Treatment thresholds for aphids in alfalfa depend on the species and size of plant. Use Table 1 as a management guideline. Depending on the cutting cycle, harvest would be an effective control strategy instead of insecticides.

Table 1. Treatment guidelines for aphids (per stem) in alfalfa.

<table>
<thead>
<tr>
<th>Growth stage</th>
<th>Pea, Cowpea aphid</th>
<th>Blue alfalfa, Spotted alfalfa aphid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seedling</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>&lt; 10&quot;</td>
<td>40</td>
<td>10</td>
</tr>
<tr>
<td>10-20&quot;</td>
<td>75</td>
<td>30</td>
</tr>
<tr>
<td>&gt; 20&quot;</td>
<td>100</td>
<td>50, 100</td>
</tr>
</tbody>
</table>

General aphid management

Ideally, droplets should make contact with the aphids for the greatest knockdown. Increasing volume and pressure will improve the efficacy of foliar insecticides. For ground applications, use 20 gallons of water per acre and 40 pounds of pressure per square inch. Be aware that some foliar insecticides have a 60-day preharvest interval. Check the label and the calendar when making product selections.

Erin Hodgson is an associate professor of entomology with extension and research responsibilities; contact at ewh@iastate.edu or phone 515-294-2847.
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