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Alfalfa Weevil Hatch is Early in 2012

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Abstract
Alfalfa weevil is an important defoliating pest in alfalfa. Heavy infestations can reduce tonnage and forage quality. Adults can feed on plants, but the larvae typically cause the majority of damage. Newly hatched larvae can be found feeding on terminal leaves, leaving newly expanded leaves skeletonized. Gradually maturing larvae (Fig. 1) move down the plant and begin feeding between leaf veins. Adults (Fig. 2) eat along the leaf margin, leaving irregular notches. A heavily infested field will look frosted or silver (Fig. 3).

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Alfalfa Weevil Hatch is Early in 2012

By Erin Hodgson, Department of Entomology and Adam Sisson, Integrated Pest Management

Alfalfa weevil is an important defoliating pest in alfalfa. Heavy infestations can reduce tonnage and forage quality. Adults can feed on plants, but the larvae typically cause the majority of damage. Newly hatched larvae can be found feeding on terminal leaves, leaving newly expanded leaves skeletonized. Gradually maturing larvae (Fig. 1) move down the plant and begin feeding between leaf veins. Adults (Fig. 2) eat along the leaf margin, leaving irregular notches. A heavily infested field will look frosted or silver (Fig. 3).

Figure 1. Alfalfa weevil larvae have a dark head and pale green body with a white stripe down the back. Fully grown larvae are about 5/16 inches long. *Photo by Clemson Cooperative Extension Slide Series, www.ipmimages.org.*

Figure 2. Alfalfa weevil adults have an elongated snout and elbowed antennae. Their wings and body are mottled or brown in color. *Photo by Joseph Berger, www.ipmimages.org.*

Figure 3. Heavily defoliated alfalfa fields appear frosted from a distance.
Photo by Whitney Cranshaw, Colorado State University, www.ipmimages.org.

Scouting and management

Alfalfa weevils develop based on temperature, or accumulating degree days. Scouting in fields should begin at approximately 200 degree days for areas south of Interstate 80, and 250 degree days north of Interstate 80. Based on accumulated temperatures since January, weevils are active now (Fig. 4). To follow accumulating degree days (base 48°F) throughout the year, visit the ISU Mesonet website.

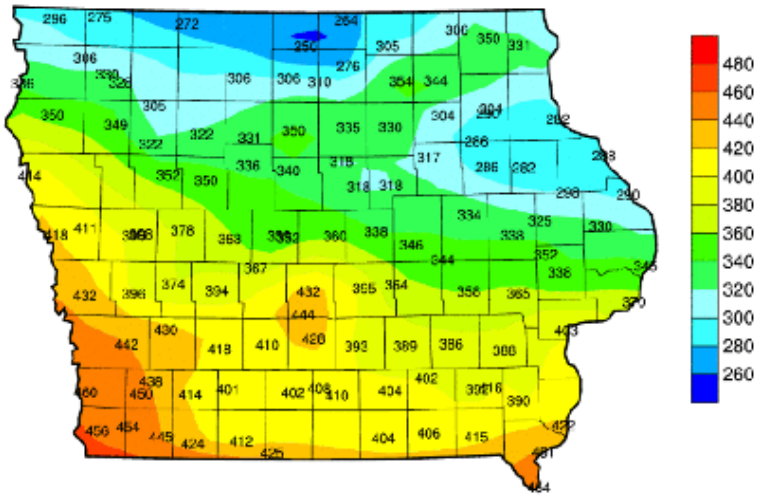

Figure 4. Accumulated growing degree days (base 48°F) in Iowa from 1 January – 2 April 2012. This base 48°F degree day map is updated daily.
Map courtesy of Iowa Environmental Mesonet, ISU Department of Agronomy.

To initially detect alfalfa weevil larvae in the spring, use a sweep net to sample. After finding larvae, collect six alfalfa stems from five locations throughout the field. Take each stem and shake into a bucket to dislodge larvae from the plant. Average the number of larvae per stem and plant height to determine if a foliar insecticide is warranted (Table 1). Remember, cutting alfalfa is an effective management tool for alfalfa weevil larvae, and an insecticide application may be avoided if harvesting within a few days.

Table 1. Economic threshold of alfalfa weevil, based on the average number of larvae in a 30-stem sample

Plant Height (inches)	$40/ton	$70 ton	$100 ton	Management Decision
4	1.8-2.8	0.8-1.3	0.6-0.8	Re-evaluate in four days with another sample. If damage and larval numbers are increasing, consider treating.
6	2.0-3.0	0.8-1.5	0.6-1.0	
8	2.2-3.2	0.9-1.7	0.7-1.2	
10	2.3-3.5	0.9-1.9	0.8-1.4	If pre-bloom, consider treating.
12	2.4-3.8	1.0-2.2	0.9-1.6	
14	2.5-4.2	1.2-2.5	1.0-1.8	If >60 percent of alfalfa is in the bud stage, harvest is recommended with re-evaluation of stubble. If not scheduled to harvest within 7 days, consider treating.
16	2.6-4.6	1.5-2.8	1.1-2.0	
18	2.7-5.0	1.7-3.1	1.2-2.3	
20	2.8-5.8	2.0-3.4	1.4-2.6	
>20	3.0-7.0	2.4-4.0	1.6-3.0	

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