Alfalfa weevils are hatching

Marlin E. Rice
Iowa State University, merice@iastate.edu

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Alfalfa weevils are hatching

Abstract
Degree day information indicates that alfalfa weevil larvae should be hatching throughout central and southern Iowa. The snow of April 16 may have frozen some of the larvae, but there are always some larvae that survive these adverse environmental conditions. Proper management of this insect will require timely scouting, correct identification, determining population levels, and if necessary, cultural or chemical control.

Keywords
Entomology

Disciplines
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Alfalfa weevils are hatching

Degree day information [1] indicates that alfalfa weevil larvae should be hatching throughout central and southern Iowa. The snow of April 16 may have frozen some of the larvae, but there are always some larvae that survive these adverse environmental conditions. Proper management of this insect will require timely scouting, correct identification, determining population levels, and if necessary, cultural or chemical control.

Why should fields be scouted for alfalfa weevils?

Alfalfa weevil can be very destructive to first cutting alfalfa. They remove leaf tissue, beginning with the new leaves in the top of the plant, then work down the stem to other leaves. Their feeding reduces forage quality and quantity.

When should scouting begin?

Larvae begin hatching at approximately 200 degree days in fields south of I-80, and 250 degree days in fields north of this highway. The Iowa map shows the accumulated degree days across the nine crop reporting districts. Scouting can begin after the appropriate number of degree days has accumulated in your area.

Where should you start scouting?

Begin on south-facing hillsides. Larvae will hatch here first because these areas warm up quicker than northern hillsides.

How do you scout for alfalfa weevil larvae?

Save some time by using a sweep net to quickly and easily determine if larvae have hatched in your field. If larvae are found in the net, then collect 30 stems and look for larvae in the upper leaves. When collecting stems, do not break them too hard or you will knock off larvae still on the plant. The best way to collect the most larvaes is to grab the tip of the plant with one hand and break the base of the stem with the other hand, or cut it with a knife. Place stems inside a white, 5-gallon bucket and beat them against the side. Large larvae will dislodge and can be counted easily, but newly developing leaves must be pulled apart to find very small, newly hatched larvae hidden in the plant tip.

What do alfalfa weevil larvae look like?
Alfalfa weevils are hatching

They have a very dark head, almost black, and are pale green with a white stripe down the back. They are about 1\(\text{e}1\)6 of an inch in length when they hatch and may be light yellow. After feeding for several days, they turn green. They are 5\(\text{e}1\)6 inch in length when full grown.

[2] Alfalfa weevil are small; less than 5/16-inch long.


Are there any other insects that look like alfalfa weevil larvae?

Yes. Larvae of the clover leaf weevil look very similar, but are larger, have a light brown head, and often have the white stripe edged with pink. Clover leaf weevil larvae usually hide around the base of the plant during the day and feed mostly in lower leaves at night. They rarely cause economic yield losses and should not be counted as part of the alfalfa weevil sample.


When should alfalfa weevils be controlled?

If two or more larvae are found per stem, and 40 percent of the stems show any leaf feeding, the best option is to cut the hay within 5 days, if possible. This method of cultural control avoids the use of insecticides. If the crop is not mature enough to cut, then chemical control may be an option, depending on the economic thresholds.

What are the economic thresholds for chemical control?

New economic thresholds have been developed by University of Nebraska entomologists. These thresholds are for alfalfa at the early bud stage, when third- and fourth-stage larvae do 90 percent of the damage. To use the economic threshold chart, first determine the control costs in dollars per acre, then estimate the forage value in dollars per ton. Where these two values intersect (Table 1) is the average number of alfalfa weevil larvae per stem needed to justify chemical control. For example, if control cost is $10 per acre and forage value is $75 dollars per ton, then an average of 3.4 larvae per stem would be needed to justify chemical management (Table 1).


What if the weevil count is below the economic threshold?
Resample the field in 3 to 5 days. Chemical management may be needed then, or possibly the crop may have reached a stage where it can be cut.

**What chemicals are labeled for alfalfa weevils?**

Several chemicals that can be used for alfalfa weevil control are shown in Table 2. Read and follow all label directions before using any insecticide.

**Table 1. Economic thresholds for alfalfa weevil larvae in early bud stage alfalfa (average number of larvae per stem).**

<table>
<thead>
<tr>
<th>Control cost ($ per acre)</th>
<th>Forage value ($ per ton)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>45</td>
</tr>
<tr>
<td>7</td>
<td>4.0</td>
</tr>
<tr>
<td>8</td>
<td>4.6</td>
</tr>
<tr>
<td>9</td>
<td>5.2</td>
</tr>
<tr>
<td>10</td>
<td>5.8</td>
</tr>
<tr>
<td>11</td>
<td>6.3</td>
</tr>
<tr>
<td>12</td>
<td>6.9</td>
</tr>
<tr>
<td>13</td>
<td>7.4</td>
</tr>
</tbody>
</table>

**Table 2. Insecticides labeled for alfalfa weevil.**

<table>
<thead>
<tr>
<th>Insecticide</th>
<th>Rate per acre at low and high rates</th>
<th>Harvest interval (days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambush 2E</td>
<td>6.4-12.8 ounces</td>
<td>0-14</td>
</tr>
<tr>
<td>Baythroid 2E</td>
<td>1.6-2.8 ounces</td>
<td>7</td>
</tr>
<tr>
<td>Furadan 4F</td>
<td>0.5-2 pints</td>
<td>7-28</td>
</tr>
<tr>
<td>Lannate LV</td>
<td>3 pints</td>
<td>0</td>
</tr>
<tr>
<td>Lorsban 4E</td>
<td>1-2 pints</td>
<td>14-21</td>
</tr>
<tr>
<td>Penncap-M</td>
<td>2-3 pints</td>
<td>15</td>
</tr>
<tr>
<td>Pounce 3.2EC</td>
<td>4-8 ounces</td>
<td>0-14</td>
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<td>-------------------</td>
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</tr>
<tr>
<td>Sevin XLR+</td>
<td>3 pints</td>
<td>7</td>
</tr>
<tr>
<td>Warrior 1T</td>
<td>2.56-3.84 ounces</td>
<td>7</td>
</tr>
</tbody>
</table>

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