Stalk borer migration set to begin

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Stalk borer migration set to begin

**Abstract**
Stalk borer eggs have hatched and many larvae are now in brome or other grasses bordering corn. Some stalk borers already may be in corn because they hatched from eggs that were laid on grass or giant ragweed out in the field last fall, or they moved directly into border row corn instead of the grass when they hatched. Most stalk borers that hatch in grass stay there until they grow to a size that is too big for the grass stem. Then they migrate in search of larger diameter plants, which often is corn. As of May 31, there were two reports of stalk borer migration in southwest Iowa. This article discusses management for stalk borers only in grass adjacent to corn, but occasionally stalk borer damage may extend through fields when there are suitable host weeds present in the field for early larval development.

**Disciplines**
Agriculture | Entomology

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Supplemental N will need to be applied with high-clearance equipment. With UAN solutions, injection or drop tubes between every other row or every row will work equally well. Rainfall after late N applications will be important for plant uptake. If the applied N is within the active root system, and if there is a need for the N, corn yield can be increased with N applied until shortly after silking.

**Late spring soil nitrate test.** Details about this test can be found in the ISU Extension publication PM 1714, *Nitrogen Fertilizer Recommendations for Corn in Iowa,* and has been discussed in previous newsletter articles. See the nitrogen topic area of the ISU Agronomy Extension Web site to find these articles at http://extension.agron.iastate.edu/soilfertility/nutrienttopics/nutrienttopics.html.

**Calculating N loss.** An amount of N to apply is calculated based on an estimate of nitrate formation and denitrification loss. This method for estimating N loss has been discussed in previous newsletter articles. See the nitrogen topic area of the ISU Agronomy Extension Web site to find these articles at http://extension.agron.iastate.edu/soilfertility/nutrienttopics/nutrienttopics.html.

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**Insects and Mites**

**Stalk borer migration set to begin**

by Marlin E. Rice and Rich Pope, Department of Entomology

Talk borer eggs have hatched and many larvae are now in brome or other grasses bordering corn. Some stalk borers already may be in corn because they hatched from eggs that were laid on grass or giant ragweed out in the field last fall, or they moved directly into border row corn instead of the grass when they hatched. Most stalk borers that hatch in grass stay there until they grow to a size that is too big for the grass stem. Then they migrate in search of larger diameter plants, which often is corn. As of May 31, there were two reports of stalk borer migration in southwest Iowa. This article discusses management for stalk borers only in grass adjacent to corn, but occasionally stalk borer damage may extend through fields when there are suitable host weeds present in the field for early larval development.

The predicted dates for the early stages of stalk borer migration are shown in the map on page 105. These dates predict when about 10 percent of the larvae will move out of brome grass. Ten percent will have moved by the time 1,400 degree days (base 41°F) have accumulated, and 50 percent will have migrated by 1,700 degree days.

When 1,300–1,400 degree days have occurred in your area, scout to determine if the larvae are moving into corn. Begin by scouting corn adjacent to grassed terraces, waterways, fence lines, or where stalk borer damage occurred last year. Look for small larvae visible in brome grass. When brome grass goes to the dead-heading stage, signaling migration of stalk borer larvae, begin scouting for larvae. (Marlin E. Rice)

Migrating stalk borer larva search for larger diameter plants, often corn. (Marlin E. Rice)
Labeled insecticides and rates per acre include Ambush 2E (6.4–12.8 ounces), Asana XL (5.8–9.6 ounces), Baythroid 3 (1.6–2.8 ounces), Capture 2EC (2.1–6.4 ounces), Discipline 2EC (2.1–6.4 ounces), Lorsban 4E (1–2 pints), Mustang Max (2.74–4 ounces), Nufos 4E (1–2 pints), Pounce 3.2EC (4–8 ounces), and Warrior 1E or T (2.56–3.84 ounces). Always read and follow label directions.

**Stalk borer economic thresholds (percent infested plants to warrant treatment)**

<table>
<thead>
<tr>
<th>Leaf stage</th>
<th>Percent infested plants at three corn prices</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$2/bu.</td>
</tr>
<tr>
<td>1</td>
<td>10%</td>
</tr>
<tr>
<td>2</td>
<td>12%</td>
</tr>
<tr>
<td>3</td>
<td>15%</td>
</tr>
<tr>
<td>4</td>
<td>16%</td>
</tr>
<tr>
<td>5</td>
<td>17%</td>
</tr>
<tr>
<td>6</td>
<td>34%</td>
</tr>
<tr>
<td>7</td>
<td>100%</td>
</tr>
</tbody>
</table>

These economic injury levels are based on $13/acre control costs and 80 percent control with an insecticide.

Marlin E. Rice is a professor of entomology with extension and research responsibilities. Rich Pope is an extension program specialist in entomology with responsibilities in integrated pest management.