Check for Wireworm Injury When Assessing Corn Stands

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Check for Wireworm Injury When Assessing Corn Stands

**Abstract**
Last week, (May 19-22, 2015), some wireworm activity was noted in south-central Iowa. Ideally, **scouting for wireworms** should occur prior to planting because there are no effective rescue treatments. However, most people don’t see the impact this pest can have on a corn stand until corn plants emerge. While assessing corn stands for black cutworm and armyworm feeding, individuals should also consider assessing for wireworm activity.

**Keywords**
Agronomy, Entomology

**Disciplines**
Agricultural Science | Agriculture | Agronomy and Crop Sciences | Entomology

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Check for Wireworm Injury When Assessing Corn Stands

By Rebecca Ahlers, Department of Agronomy and Erin Hodgson, Department of Entomology

Last week, (May 19-22, 2015), some wireworm activity was noted in south-central Iowa. Ideally, scouting for wireworms should occur prior to planting because there are no effective rescue treatments. However, most people don’t see the impact this pest can have on a corn stand until corn plants emerge. While assessing corn stands for black cutworm and armyworm feeding, individuals should also consider assessing for wireworm activity.

Identification

Wireworms are slender larva and range from ½ to 1-1/2 inches (13 to 38 mm) in length. (Photo 1). There are soft- and hard-bodied wireworm species that are pale white or shiny yellow to brown in color. Wireworms have three pairs of legs near the head and lack any fleshy, abdominal prolegs. There is an obvious pair of appendages on the last abdominal segment that form a “keyhole.”

Photo 1: This hard-bodied wireworm was found in a field near Ottumwa, Iowa, on May 22, 2015. Photo by Rebecca Ahlers.

Biology

Wireworms are the larvae of click beetles. Female click beetles lay their eggs around the roots of grasses, which is why wireworms can be problematic in fields with a history of sod. Wireworms can also be found in land that has transitioned from CRP or pasture. It is unclear why wireworms are present in fields without a history of grasses. Wireworms can have an extended development and may live in the soil for up to 6 or 7 years where they feed on the roots of plants, particularly grasses.
Plant Damage

Wireworm feeding commonly occurs when corn is planted early and the weather turns cold, slowing germination. They are more likely to be found in well-drained soils on ridgetops or hillsides. Wireworms feed on the germ of corn kernels, hollowing out seeds sometimes only leaving the seed coat. This will result in gaps in the rows. Wireworms will also feed on the underground portion of the root or stem of young corn plants by tunneling into them (Photo 2). Plants with this type of feeding usually appear stunted or wilted compared to surrounding plants. As soils warm up, wireworms will move deeper in the soil profile, posing less of a threat to corn seedlings.

Photo 2: Wireworms can feed on corn seedlings and tunnel belowground. Photo taken on May 22, 2015 by Rebecca Ahlers.

Management

Fields with a history of wireworm injury should be sampled prior to planting. Unfortunately, there is no rescue treatment available for fields with significant stand loss from wireworms. Instead, insecticidal treatment needs to occur before or at planting time. Treatments would include the use of a seed treatment or a soil-applied insecticide. If a field has significant stand loss, replanting is an option. Table 1 may help in making a replant decision. Consider the seed and insecticide costs associated with replanting as well as the extended weather forecasts and the hybrid maturity before making a replant decision.

Table 1. Relative yield potential of corn by planting date and population
<table>
<thead>
<tr>
<th>Plants/Acre</th>
<th>Planting Date (month/day)</th>
<th>Percent Maximum Yield*</th>
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<tr>
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<td>5/5-5/15</td>
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<td>78</td>
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<tr>
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<td>71</td>
<td>68</td>
</tr>
</tbody>
</table>

*Values based on preliminary ISU research and modeling; 100% yield potential is estimated to occur with a plant population of 35,000 and an early planting date.

Rebecca Ahlers is an Extension Field Agronomist in Southeast/South Central Iowa. She can be reached at rka8@iastate.edu or by calling 319-643-811. Erin Hodgson is an associate professor of entomology with extension and research responsibilities; contact her at ewh@iastate.edu or by calling 515-294-2847.

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