

# WIREWORMS



## Soybean Pests



## Overview

Several species of wireworms may feed on soybeans including *Melanotus* spp., *Agriotes mancus*, and *Limonius* spp. Wireworms are slender, hard-bodied, wire-like beetle larvae that can damage young soybean plants. Corn, potatoes, root crops, cabbage, and beans are other common hosts.

Adult wireworms are called click beetles. The name comes from the clicking sound they make while attempting to right themselves after falling or being placed on their backs. Soybean fields likely to be infested with wireworms are those in which sod or small grains were grown the previous year(s), were in set-aside, or which have a history of wireworm damage.

Wireworms have an extended life cycle, requiring one to six years to complete a single generation. Because of this variation, all stages of wireworm can be found at any given time.

Wireworms can be found in all soybean growing regions, however, the particular species may vary by region. It is rare for wireworms to cause economic damage unless damage is so severe as to incur replanting expenses.

## Scouting

### Identification

The larvae are shiny, yellow to chestnut brown in color, and range in size from 1/2 to 1-1/2 inches long (Figure 1).



*Figure 1. Wireworm larvae. Image courtesy of IPM Images.org. Frank Peairs, Colorado State University, Bugwood.org*

Adults are brown or black and are bullet shaped (Figure 2). They have a flexible area between the first and second section of the thorax, which allows the beetle to catapult itself and creates a “clicking noise.”





*Figure 2. Adult click beetle. Image courtesy of IPM Images.org. David Cappaert, Bugwood.org*

Wireworms can feed on and damage one or more portions of a soybean seed or can completely hollow it out, leaving only the seed coat. Wireworms may also cut off small roots or tunnel into the underground portions of young soybean plants. These plants will appear stunted or wilted. Damage to either the seed or seedling can result in gaps in the rows.

### **Bait sampling method**

Two to three weeks before planting, establish bait stations in suspected wireworm fields.

- Create a mixture of untreated corn and wheat (one-half cup total) and soak in water for 24 hours.
- Dig a hole approximately 4 inches deep by 10 inches wide, and bury the mixture. Mound the soil over the top in a dome shape so rainwater runs off.
- Cover the mound with black plastic and mark the station with a flag.
- After one week, collect the bait from each station and calculate the average number of wireworm larvae.
- 10 bait stations per field is recommended.
- If more than one wireworm per trap is found, the risk of crop injury is high.

### **Pre-plant sampling method**

Dig up a 2 feet long by 1 foot wide by 6 inches deep area of soil (1 cubic foot) in each of 5 areas in a field 10 or less days before planting. Place the soil on a piece of black plastic or

cloth or 1/4 hardware cloth and carefully search through the soil, counting the number of live wireworms found. If one wireworm per cubic foot of soil is found, the risk of crop injury is high.

### **Post-planting method**

If suspected wireworm damage (i.e., wilted plants or gaps in the rows) is found during an early field visit, sample the field immediately. In the area(s) where such damage is found, and in 5 randomly selected areas of the field, dig up a 2 feet long by 1 foot wide by 6 inches deep area centered over and down the row. Place the soil on a sheet of black plastic or cloth or 1/4 inch hardware cloth and carefully sort through the sample for live wireworms. Also examine the plants for wireworm feeding damage, most notably small, cleanly bored holes at the base of the plants. If one wireworm per cubic foot of soil is found, use of a seed treatment insecticide or in-furrow insecticide on the replanted soybeans should be considered.

## **Management**

### **Chemical control**

Rescue treatments are not available for this pest. Preventative use of seed-applied or in-furrow insecticides should be considered for fields with wireworm counts above the thresholds outlined in the previous section.

Replant decisions are made similar to those for seedcorn maggot and white grubs. Inspect stand loss during seedling growth stages. Soybean is a resilient crop, able to tolerate relatively high levels of stand loss. The following table may help in making replanting decisions.

If control is necessary, contact your state Cooperative Extension Service for current available products and rates. Always read and follow label recommendations.

## **Resources**

### **Wireworms**

*Purdue University*

<https://extension.entm.purdue.edu/fieldcropsipm/insects/soybean-wireworms.php>



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