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Fact sheet

Insect Pests of the Home Garden Series

Wireworms

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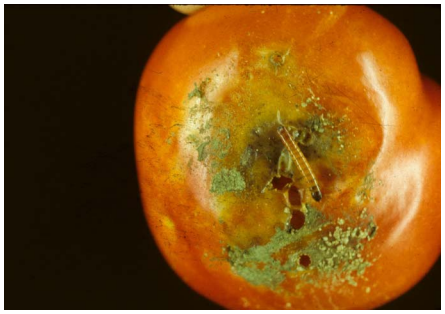
Adult *Melanotus* wireworm.

Adult *Conoderus* wireworm.

Wireworm and damage to potato.

Wireworm and damage to lima bean.

Damage to cauliflower (root damage).



Wireworm and damage to tomato.

Injury:

Wireworm larvae eat small roots, burrow into tubers and fleshy roots, and destroy germinating seeds and seedlings. Early feeding generally appears as shallow holes; late feeding appears as ragged, deep holes. A single root may have 10 or more holes caused by wireworms. Nearly all types of vegetables may be severely damaged, but most frequently attacked crops include the root crops (carrots, potatoes, radishes, sweet potatoes, and turnips), corn seedlings, strawberries, and stems of tomato

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transplants. Less frequently damaged crops include beans, beets, lettuce, melons, onions, peas, and cucumber and tomato fruits that touch the soil surface.

Description:

Several species of wireworms are common in New Jersey, including the corn wireworm, *Melanotus communis* (Gyll.), the tobacco wireworm, *Conoderus vespertinus* (F.), and the southern potato wireworm, *C. falli* Lane. Adults are shiny brown or grayish, hard-shelled, and somewhat elongated "click" beetles ranging in size from 3/8 to 1-1/2 inches in length. The hind angles of the thorax are prolonged into points alongside the abdomen. When placed on their backs, beetles snap or jump into the air in attempts to get back on their feet. Eggs are small, white, and oval. Larvae, known as "wireworms," are well-segmented, elongated, smooth, hard-bodied worms that are waxy and yellow to yellowish-brown or whitish-brown; larvae are entirely soil pests. Pupae are whitish and have the general shape of adults.

Life History:

Although there are many different species of wireworms that attack cultivated crops, their life histories are similar. Wireworms overwinter as larval and adult stages in the soil. Adults emerge in late spring when soil temperatures warm up (about late-May and June in New Jersey), and deposit eggs in damp soil. Larvae hatch and feed on plant roots and other underground portions for 1–6 years, depending on species. Mature larvae will make a small cell up to 8 inches below the soil surface and pupate. In 3–4 weeks the pupa changes into an adult beetle, which remains within the pupal cell until the next spring. Due to the overlapping of generations, wireworms of all sizes and ages of each species may be present in the soil at the same time.

Management of Wireworms:

1. Avoid planting vegetables in infested soils. If wireworms were previously a problem, plant as far away from that area as possible, or rotate to non-host crops.

2. Avoid planting a garden in soil that was previously sod or out of production. Wireworms build up in sod, and when the sod is replaced by garden crops, the wireworms readily feed on the roots of the new crops.

3. Plant baits of germinating peas, beans, corn, cull potatoes or stiff dough 2–4 inches deep in holes at 3–10 feet intervals, then cover with boards or tiles. Dig up every 3–5 days and destroy the wireworms that have been attracted to these baits. Another good bait is nearly full grown carrots, which can be planted every 3 feet apart in the garden. Pull the carrots up after 3–5 days and remove and kill the wireworms from the carrots, then replace the carrot.

4. Several species of wireworms become abundant in poorly drained soils. The proper drainage of these soils will help reduce populations of these species.

5. Ornamentals such as asters, phlox, gladioli, and dahlias are attractive to wireworms. Do not keep ornamentals near the vegetable crops to reduce wireworm problems.

6. Fall plowing and disking will expose wireworms to predators such as birds and other predators.

7. There are no effective insecticides labeled for use in the home garden for wireworm control. Once damage is detected crop rotation is the best management tool.

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