



Wireworms

K. A. Delahaut



Wireworm larva

Wireworms include the larvae of several species of click beetles (beetles that flip into the air with an audible click when turned upside down). These larvae feed primarily on grasses, including grass crops such as corn and small grains. Wireworms also attack beans, beets, cabbage, carrots, lettuce, onions, peas, potatoes, radishes and other row crops. Asters, phlox, gladioli and dahlias are some of the herbaceous ornamentals often infested by wireworms.

Appearance

Wireworms are thin, shiny, jointed, yellow to reddish-brown, worm-like larvae. They range in length from $\frac{1}{4}$ – $1\frac{1}{2}$ inches and are approximately $\frac{1}{8}$ -inch wide. Different species are distinguished by the ornamentation on the last segment of their bodies. Adults are hard-shelled, brown or black “streamlined” beetles that right themselves from an overturned position with a clicking sound, as described above.

Symptoms and effects

Wireworms feed on the seed, the developing cotyledon (seed leaf) or hypocotyl (seedling plant below the cotyledon). This activity results in reduced germination, snakehead seedlings and wilted or stunted plants. Dead spots scattered throughout a planting may indicate wireworm activity. If you dig up the seedlings in affected areas, you will find them riddled with holes. Larvae may also be found feeding on the roots of wilted plants.

Wireworms tend to cause the most damage 1–4 years after plowing up sod or in poorly drained lowlands, but they are not exclusive to those areas.

Life cycle

Wireworms have an extended life cycle, taking from 1–6 years to complete 1 generation. They overwinter as either adults or larvae. Larvae inhabit the upper 6 inches of soil where they migrate only short distances and feed on seeds and plant roots. Larvae are sensitive to moisture and may burrow deeply into the soil in dry conditions.

Adults become active in spring and begin laying eggs. Adult females may live 10–12 months, spending most of this time in the soil where they might lay up to 100 eggs in sod and grassy weed infestations in row crops.

Eggs hatch over a period of several days to several weeks. The tiny larvae immediately begin to feed on the roots of grasses, weeds and other crops. Because of their extended life cycle, larvae of some species will feed for two to three years before pupating. Adults that emerge from these pupae remain in the pupal chambers until the following spring.

Scouting suggestions

Scheduled scouting is not recommended and no thresholds have been developed for wireworms. If you suspect wireworm damage, dig up several ungerminated seeds or damaged plants along with a 4- to 6-inch core of surrounding soil. Check for wireworms in and around the roots, or in the underground portion of stems. Larvae may be extracted from soil by washing. Bait stations that can be buried in fall or

spring and recovered are another way to check for wireworm larvae.

Control

Non-chemical: Clean cultivation and crop rotations that avoid susceptible crops may reduce wireworm numbers. Some species of wireworms thrive in poorly drained soil and can be reduced by improving drainage. Clean summer fallowing of infested fields has been effective in some areas. Certain soil types (for example, silt loams) are particularly susceptible to this insect.

Several natural enemies have been described but they are not effective in reducing populations.

Chemical: Insecticides registered for wireworm control are rarely recommended since outbreaks are infrequent. If treatment is necessary, make applications at the time of planting. Incorporate them into the soil prior to planting. Refer to the University of Wisconsin publication *Commercial Vegetable Production in Wisconsin* (A3422) for a list of recommended products.

When to scout for wireworm					
April	May	June	July	August	September
early mid late	early mid late	early mid late	early mid late	early mid late	early mid late

Author: K. A. Delahaut is an outreach specialist with the Integrated Pest Management Program at the University of Wisconsin–Madison and the University of Wisconsin–Extension, Cooperative Extension.

Thanks to Jeff Wyman and Phil Pellitteri for reviewing this information.

Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, University of Wisconsin–Extension, Cooperative Extension. University of Wisconsin–Extension provides equal opportunities in employment and programming, including Title IX and ADA requirements. If you need this information in an alternative format, contact the Office of Equal Opportunity and Diversity Programs or call Extension Publishing at (608) 262-2655.



© 2001 by the Board of Regents of the University of Wisconsin System. Send inquiries about copyright permission to: Director, Cooperative Extension Publishing, 201 Hiram Smith Hall, 1545 Observatory Dr., Madison, WI 53706.

To see more Cooperative Extension publications, visit our web site: www.uwex.edu/ces/pubs/