



Wireworm Management

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Integrated Pest Management

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Wireworm: Quick Facts

The wireworm is the common name for the larvae of click beetles (Figure 1). Wireworm populations on PEI have become an increasing concern as high amounts of damage have been observed in many horticultural crops across the Island. The larvae are yellow and/or light brown with a hard shiny skin and 3 sets of legs near the head (Figure 2). In the spring, wireworms feed on seeds and developing roots and shoots, which can cause serious damage to growing crops. In the fall, feeding damage caused by wireworms make the consumption of food crops unappetizing to consumers.

Life cycle

- Click beetles overwinter in the soil and become active in the spring to seek out food and egg-laying sites (mid – May -June).
- Beetles lay eggs in the spring and 3-4 weeks later they hatch.

Figure 1. Adult click beetle (C. Noronha 2014).



Figure 2. Wireworm, the larval stage of the click beetle (C. Noronha 2014).



- During larval stage, wireworms feed on plant roots, shoots and tubers.
- The larval stage can last three to five years, until the insects then pupate and emerge as adults.
- Larvae move upward and downward in the soil profile, responding to moisture, temperature and the presence of food.
- In potato and carrot fields the wireworms spend much of the growing season in the upper 10 cm of soil.
- Wireworms overwinter at deeper soil depths to avoid freezing.



Pest Management

Monitoring - If a wireworm problem is suspected, the field should be monitored by using baiting and trapping techniques for the larval and adult stages, respectively.

Baiting is recommended before planting your crop to determine the level of infestation and can be done in the fall before the first frost or in the spring when temperatures are above 5-10°C.

Fifteen to twenty baits should be placed per acre, and checked every 4 -5 days. Baiting is achieved by :

- Burying 1 cup of either flour, cut up potato or carrot pieces at a soil depth of 6 inches.
- Cover each bait with soil and mark each bait with a stake.
- After 4-5 days, remove the baits and surrounding soil from the area, and count the wireworms.
- If an average of one or more wireworms are present per bait, crop damage is possible.

Pheromone traps are used to attract the adult click beetles. Pheromone traps use female pheromone lures to attract the male click beetles to the trap. Pheromone traps are available for certain species and can be used with larval monitoring to determine the presence of larvae in your field.

Agricultural recommendations

Where wireworm population levels are high, careful consideration must be given to the effect of crop rotation on wireworm population levels.

The use of brown mustard and/or buckwheat within a rotation is proven to have positive effectives at reducing damage caused by wireworms. Brown mustard is considered to be a natural bio-fumigant that produces chemicals known to kill or suppress soil borne diseases and pests.

Best bio-fumigant results are found when the mustard crop is clipped and incorporated into the soil before it goes to seed. The use of mustard or buckwheat in place of forage crops in a rotation may be recommended over the short term in areas with extensive wireworm damage.

Soil cultivation several months before planting may help to reduce wireworm populations, however this technique increases your risk of erosion and may not be the most efficient management practice in areas with high wireworm population levels. When planting your crops you want to make sure you do not have a large amount of rotting material in your field as carbon dioxide is produced and will attract wireworms.

Chemical Control

There currently are limited chemical control products available for Canadian horticulture growers to control wireworm. The registered insecticides for control of wireworm in potatoes include Thimet 15G® and Capture®. However, Thimet 15G® is to be deregistered the summer of 2015.

Another registered product is Titan™ used for the suppression of wireworm in potatoes. Currently there are no registered products available for the home gardener.

For more information or assistance please contact PEI Department of Agriculture and Forestry at (902) 368-4145.