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Re-emerging Pests in the Peace Region



Scouting Techniques:

- * Inspect the seedlings on at least a weekly basis, from mid-May to mid-June.
- * Cutworms are nocturnal, feeding at night and hiding during the day, making them hard to detect.
- * Feeding by cutworms results in notched, wilted, dead, or cut-off plants (weed or crop seedlings). Plants may be missing from rows and bare patches may appear in fields because of cutworm feeding.
- * Often cutworms will be close to the cut or shriveled plants they have just damaged and can be found by digging around these plants.

Monitoring adult moths:
Pheromone baited lures which will attract males

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Introduction

The pests mentioned in this factsheet have already been established here in the Peace region and other parts of the Prairies. It should be noted however that their populations have been seen in previous seasons to be rising and the potential damage to crops caused by these insects could be irreparable.

Cutworms and Clickworms have had high numbers in the Peace Region in previous years, and neighboring

Cutworms (*Noctuidae*)

Cutworms are a natural part of the prairie habitat. Some cutworms are likely to be in most crop fields in any given year, but usually at levels well below where they would be an economical concern or worth trying to manage. However, there are some species of cutworms that in some years can get to levels that are of economical concern in field crops.

Between each instar stage, the larvae "moult" or shed their skin. All cutworms belong to a family of moths known as Noctuidae. Some species overwinter as eggs (eg, the Redbacked cutworm and Darksided cutworm); others, as partly-grown larvae (dingy, army, glassy, and black army cutworms). Still others do not overwinter in the Prairies but rather re-invade annually from the U.S., aided by southerly winds. Most of our pest species have only one generation per year

provinces have seen an increase in outbreaks of Cutworms in the 2016 growing season. Here in the BC Peace it has been noticed that there were increasing high numbers of Click Beetles during fall surveys.

Although both insects have been seen in isolated areas, producers should continue to monitor their fields for presence of these pests.



Most Common Species:

Crops may be damaged in late May or June by sporadic outbreaks of cutworms. The most commonly found species of cutworms are:

- **Redbacked cutworm** (*Euxoa ochrogaster*), can be the most damaging species.

Damaging populations often include larvae of other cutworm species, particularly these species:

- **Darksided cutworm** (*Euxoa messoria*)
- **Dingy cutworm** (*Feltia jaculifera*)
- **Glassy Cutworm** (*Apamea devastator*) can sometimes be abundant in grassy crops.
- **Army Cutworm** (*Euxoa auxiliaris*)

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Wireworm/Click Beetle (Elateridae)

Wireworms are larvae of a family of beetles known as Click Beetles (*Elateridae*). There are many species that can feed on crops, and in Canada there are about 30 economically important species of wireworms. Larvae can live for several years, and different species may prefer different conditions. The two most widespread species of economic concern in the Canadian prairie provinces are the:

- 1) Prairie Grain wireworm (*Selatosomus aereipennis destructor*),
- 2) Common wireworm (*Hypnoidus bicolor*).

These two main species may frequently be found together in the same field



Common wireworm has been the most common species found in crops in the Canadian prairie provinces, however, historically the prairie grain wireworm has been considered the more destructive of the two species. Another species that can sometimes occur in crops in the Canadian prairie provinces is *Aeolus mellillus*. Larvae of this species are both plant feeders and predaceous, and may help reduce populations of the other pest species. *Aeolus mellillus* also feeds on cereals differently than the other species, feeding at the soil surface and cutting stems off completely rather than boring into and shredding wheat stems.

Feeding:

- Larvae of wireworms feed underground on seeds, roots and other below-ground plant parts.
- They are attracted to germinating seeds by the CO₂ given off during germination/respiration. They may shred the emerging tissue when it is still underground. The central leaves may emerge with feeding damage.
- In heavy infestations, bare patches may appear in the field and reseeding may be necessary. In most crops, wireworms do most of their damage in early spring, when they are near the soil surface. Wireworms can also burrow into potato seed pieces in the spring and into developing tubers in the fall.

References:

Government of Manitoba, Agricultural section. <http://www.gov.mb.ca/agriculture/crops/insects/index.html> [Accessed January, 2017]
 North Dakota State University. <https://www.ag.ndsu.edu/cpr/entomology/aster-leafhoppers-in-winter-wheat-5-14-15> [Accessed January 2017]
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Description:

- Wireworms are slender, have hard bodies, and have 3 pairs of legs behind the head.
- The last abdominal segment is flattened with a keyhole-shaped notch.
- Size of fully-grown larvae varies between species. Larvae of the prairie grain wireworm are the larger of the 2 main species in the Canadian prairie provinces, and can reach a length of about 20 mm.
- How long larvae spend in the soil before pupating also varies between species of wireworms.
- The prairie grain wireworm normally remains in the larval stage for 3 to 4 years.



Host Crops:

- Cereal crops, potatoes, carrots, onions, and strawberries.
- Rapeseed was found to be attractive to larvae of the prairie grain wireworm when no other choices of food were available, but was less attractive when available in combination with crested wheatgrass and brome grass.
- For some crops the amount of feeding by wireworms may depend on what food choices are available.

Scouting Techniques:

- Baits buried at marked locations in the spring or late summer can indicate where wireworms are present.
- Several types of baited have been studied for monitoring wireworm populations, including presoaked corn/wheat mixtures, oats, and potatoes.
- Baits are buried 7.5 to 15 cm deep in the soil, and checked for wireworms 7 to 10 days later. Competition from an abundant food supply in the soil around where the baits are buried can greatly reduce the number of wireworms recovered.
- Soil may also be sieved through a screen to look for wireworms.



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