TerraLink
Pest Bulletin

Western Corn Rootworm

A new pest in the Fraser Valley, the Western Corn Rootworm (WCRW) was found in the summer of 2016 in the mid and eastern Fraser Valley. It is a serious pest in sweet corn and silage corn. In the United States, WCRW causes a huge loss of crop revenue each year.

Western Corn Rootworm adults
Photo credit: Purdue University

Western Corn Rootworm Larva
Photo Credit: Purdue University

Identification Facts:

- Latin name: *Diabrotica virgifera*
- The adult is a beetle, about 6 mm in length (1/4 inch), yellow with three black stripes.
- The larva is a white worm, about 3 mm long. They have a brown head, behind which there are six small legs, concentrated near the front of the body.
- There are two similar-looking pests to the adult stage of the WCRW. These are the Colorado Potato Beetle and the Striped Cucumber Beetle. This is maybe not too surprising, since all three insects are in the beetle family Chrysomelidae. So far, luckily, neither the Colorado Potato Beetle nor the Striped Cucumber Beetle are found in the Fraser Valley (until 2016, neither was the WCRW).

Similar-looking Insects to Western Corn Rootworm

Colorado Potato Beetle

Striped Cucumber Beetle
Photo Credit: University of Maryland

Life Cycle and Biology

In late summer, adult beetles of WCRW lay eggs in cracks in the soil within established corn stands. These eggs overwinter and hatch the following spring, becoming larvae, which feed on roots of the corn plants. In early summer the larvae become pupae, which develop into adult beetles that emerge from the soil in July, completing the life cycle.

Crop Damage

Both the larval stage and the adults cause damage to corn. The larvae can cause enough root damage, by root pruning and tunneling, to stunt growth of the corn plants, and may cause lodging from weakening them. The adult beetles cause damage in several ways. The adults can consume the top layer of green leaf tissue, resulting in what is called a "window-pane" effect. They will also eat the silks and pollen. This silk "clipping" can be severe enough to interfere with pollination. Exposed kernels will also be consumed. In sweet corn, WCRW contamination in the ears reduces the marketability of the cobs.

Rooted in your community.

TerraLink

"Window-pane" damage: Western corn rootworm beetles strip tissue from leaves
(Purdue University photo/Anoop Sindhu)

Detection of WCRW in Your Field

The method of surveying corn fields for WCRW depends on the stage of the insect. Prior to adult emergence in July, check an individual plant in at least 10 places in the field. Use a shovel to cut a 20 cm section of soil around the plant. Carefully lift the plant and lay the root ball on a dark surface. Break away the soil from the roots and watch for the white larvae. You can also place the root ball in a bucket; the larvae will float to the top and can be counted.

Just before silking has commenced, walk through your field and watch for the adult beetles on the plants. Examine the leaves for window-paning, and check for silk clipping. Beetles are fairly active mid-day, so check early or late in the day. Check your fields every couple of days until silks have been pollinated.

A crop monitoring service will provide the most accurate population detection data.

Controls

Management of Western Corn Rootworm should include cultural activities and chemical options.

- ***Crop Rotation:*** On a 2 - 4 year basis, rotate away from a corn crop in any one field. Keep in mind that the WCRW may be found in crops other than corn.

- ***Seed Treatment:*** Seed is treated at source and is not a pest management practice in the purview of the grower. Ask your seed supplier to ensure your variety of choice has been treated with WCRW in mind.

- ***Bt Genetic Hybrids:*** Where available in the variety of your choice, genetic hybrids can be considered as a management option for WCRW.

- ***In-furrow or banded treatment:*** Force 3G insecticide can be used during planting and is registered for control of WCRW. Lorsban 15G and Pyrifos 15G banded are registered for control of WCRW as well.