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Western Corn Rootworm

Q&A: with Alexis Arthur, Sales Rep and Tracy Hueppelsheuser, Entomologist, Ministry of Agriculture

1. What do the worms look like?

“Worms” are actually thin white larvae of the Western Corn Rootworm beetle. These larvae can be found in corn root masses and feed on and can destroy the brace roots and main roots of the corn plants.

The plant can grow and seem healthy but is weak and can bend (U shaped or ‘goosenecked’ stalks) or lodge later in season, and will appear drought stressed.

2. What do the adults look like?

The adults are 8 mm long yellow beetles with 3 black lengthwise stripes. Beetles have dark antennae and feed on corn leaves, leaves, silks and pollen. Beetles will readily fly in search of pollen, but will return to corn fields to lay eggs in the soil.

3. When do rootworms/beetles appear and what is their cycle?

Eggs are laid in established corn fields in late summer in cracks in soil and eggs overwinter. Larvae hatch and develop from late May onwards, and feed on corn roots until pupation in the soil. Beetles emerge from soil in late July. They feed, fly, mate, and lay eggs through August and September. Each beetle lives for about 1 month.

4. Can you spray for beetles?

Yes, foliar sprays can be done to protect silks at pollination from beetle feeding. However, the best strategy is to plan to prevent larvae survival in soil.

5. What deterrents and control methods are there for larvae (rootworms)?

Crop rotation out of corn every 3-4 years, insecticide seed treatment, Force insecticide application at planting, and choosing properly Trained corn seed. *Talk to your seed rep for more details on variety choices and planning for 2018.*

6. If I rotate out of corn for a year will that work?

Yes, one season can prevent survival of larvae in the soil but it will not stop beetles flying into your field. It is possible that eggs can survive more than one year in the soil, therefore a longer break from corn is best where possible (2 years is better than 1).

7. If I just use Force when I plant, will that work?

Yes, it can kill the larvae in the soil and protect roots but it will not stop beetles flying into your field. Consider where you are farming—are you in the known higher population areas of Sumas, Matsqui, Chilliwack?

9. Do they live in all soils?

This insect survives best in soils prone to cracking rather than loose or sandier locations.

10. Where did Corn Rootworm come from?

Western Corn Rootworm is a native pest to the Americas, and is widespread as a critical corn pest in central and eastern North America. The BC Ministry of Agriculture confirmed its presence in BC in August 2016. They have also appeared in WA State in 2016 and 2017. This pest has naturally spread to BC from southern regions in North America. Late spring planting in 2017 has contributed to a significant impact by this pest in Fraser Valley corn.

11. How do I decide what to do in 2018?

Consider your risk factors this year to next:

Higher risk fields will have some or all of these characteristics:

1. Late planting
2. Non-sand soil
3. Known high populations in area from 2017 survey
4. Over 3 years in corn
5. History of seeing beetles, lodging, or root damage in the field

For High risk fields, consider the management tools:

1. Rotate out of corn every 3-4 years for 1-2 years where possible.

If cannot do that, consider doing some or all of these:

1. Seed treatment
2. Strongly consider Force at planting
3. Strongly recommend Bt-traited corn variety

For medium risk fields: consider:

1. Rotate out of corn every 3-4 years for 1-2 years where possible.

If cannot do that, consider doing some or all of these:

1. Seed treatment
2. Consider Force at planting
3. Maybe use Bt-traited corn variety

For Low risk fields: consider

1. Rotate out of corn every 3—4 years, for 1-2 years where possible.

If cannot do that, consider doing some or all of these:

1. Seed treatment
2. Consider Force at planting
3. Probably don't need to plant Bt-traited corn variety