

Introducing the New Adult Corn Rootworm Trap Network

Several US states and Canadian provinces are joining forces to monitor for adult corn rootworm beetles this year. Though some US states have been monitoring adult rootworms using sticky traps for several years now, trapping for adult corn rootworm is relatively new for Ontario. Weekly trap data for all trap sites involved will be collected and mapped in real-time by OMAFRA's GIS specialists.

Given the increase in reports of suspected Bt resistant rootworm in several counties last year in Ontario, monitoring for both western and northern corn rootworm beetles is increasingly important. Especially in regions of high-risk continuous corn acres with a history of repeated use of Bt rootworm hybrids. Traps will help us understand if it is a good rootworm year and will alert us to regions where adult activity is higher than expected and may need further scouting and monitoring for potential resistance issues.

We are looking for trap participants here in Ontario. Free trap supplies are available for approximately 25 sites this year through OMAFRA, especially for fields of continuous corn with a history of repeated use of Bt-RW hybrids. Though anyone is welcome to purchase their own traps and join the network too. If you are interested in getting trap supplies from OMAFRA, please contact Tracey Baute (tracey.baute@ontario.ca) so we can get traps to you before July when trapping will start. Those who want to purchase their own traps can find the trap supply info at the bottom of this article.

Corn Rootworm Trap Network Objectives:

1. increase scouting efforts in continuous corn fields;
2. understand changes in adult rootworm populations between years;
3. raise awareness about changes in western and northern corn rootworm distribution and activity; and
4. identify high risk fields needing additional resistance monitoring efforts

This adult monitoring program is not meant to be used to determine if and when foliar applications on adults is required, nor is it to be used to determine if root protection is required in these fields in the following year. Further scouting is required in these fields to make those management decisions.

Field Sites: Preferred to be set up in continuous corn fields but not required. Can also be set up in soybeans, though traps in soybean fields do not necessarily indicate the presence of the rotation resistant rootworm population.

Timing: Traps should be set up by fresh silk (R1 stage) in corn. In soybeans, by early July. Traps will need to be checked and replaced weekly for up to 8 weeks (minimum of 6 weeks).

Rootworm Trap Set Up and Monitoring

- 1) Four sticky traps per field will be placed in a transect (Fig. 1).
- 2) Place the 1st trap approximately 50 rows in from the fields' edge (not in headland rows). Tie the 1st trap at ear height around the stalk of the plant using the twist tie provided with the trap (Fig. 2). Sticky side of the trap faces out. Remove any corn leaves in the area that may blow into and stick to the trap.
- 3) Staying in the same corn row, walk up the row for approximately 165 feet or 50 metres. Place Traps #2 to #4 in the same method described in Step #2, ensuring each trap is 165 feet or 50 metres from each other but still along the same corn row.
- 4) When finished setting up the 4 traps, use a flag or stake at the fields' edge to mark where you need to enter the field to find the traps again each week.
- 5) Return to the field 7 days later. Count and record the # of western corn rootworm adults (Figs 5 & 6) and northern corn rootworm adults (Fig. 8) for each trap.
- 6) Repeat this for a full 6 (minimum) to 8 weeks (preferred) of monitoring. Bring new traps with you each week and also a garbage bag to discard the old traps in. Replace the old trap with a new one for each of the 4 traps in the field.
- 7) Enter the trap site information and weekly counts into the Rootworm Trap Network Survey123:

<https://arcg.is/uaePa>

Survey 123 app is free and doesn't require you to log in or have an ArcGIS account. More details on how to set up Survey123 and enter trap sites/data can be found on the Rootworm Trap Network Site at:

<https://www.arcgis.com/apps/MapSeries/index.html?appid=008cd878003f44fca4d8a6b5f0fe7b1c>

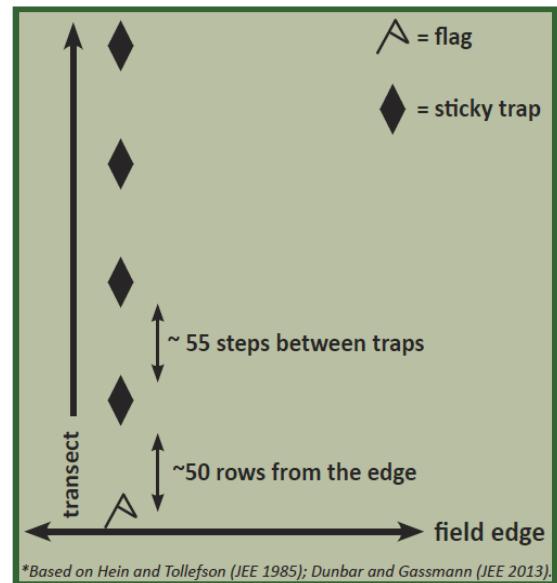


Figure 1. Trap layout for each corn field. 4 sticky traps are placed along a transect approx. 50 metres apart along the corn row. Iowa State University.



Figure 2. Yellow AM No-Bait Sticky Traps are tied to each corn plant near the ear, removing any leaves that could get stuck in the trap. Iowa State University.

Adult Corn Rootworm Identification and Look-a-Likes

Western Corn Rootworm Adults

Western corn rootworm (WCR) adults are yellow to tan with three wavy black stripes that do not reach the end of their wings. Female stripes are wavy (Fig. 5) and their wings are also shorter than their abdomens. Male's stripes bleed together (Fig. 6). Both female and male antennae and legs are black but their bodies/undersides are a dull yellow.



Figure 5. Female western corn rootworm adult. Their three black stripes do not reach the wing tips. T. Baute, OMAFRA



Figure 6. Male western corn rootworm adult. Their three stripes bleed together but do not reach the wing tips. T. Baute, OMAFRA

A look alike to the western corn rootworm is the **striped cucumber beetle**. The striped cucumber beetle is also yellow and black. Their stripes are well defined and reach to the end of their wings while abdomen and underside is black (Fig. 7).



Figure 7. Striped cucumber beetles are also yellow and black but have well defined black stripes and dark undersides. Whitney Cranshaw, Colorado State University, Bugwood.org

Northern Corn Rootworm Adults

Northern corn rootworm (NCR) adults are uniformly green to yellowish beige with no particular markings that differentiate males and females (Fig 8). Their wings are slightly shorter than their abdomen.



Figure 8. Northern corn rootworm adult females and males are green to tan in colour and have no stripes. T. Baute, OMAFRA

Trap Supplies (if you miss out on OMAFRA's free trap supplies)

Supplier: Solida (Ontario/Quebec)

Website: <https://solida.quebec/?lang=en>

T:418-826-0900 E:info@solida.ca

Trap Type: Yellow AM/**No Bait** Trap Product # [301Y302](#)
Do not use the Baited version

Quantity: 32 sticky traps per field (4 traps for 8 weeks of monitoring).
Traps sold individually or in cases of 25 or 100 traps.

Cost: approx. \$3.00 each or,
discount rates available for cases of 25 or 100 traps