

Implementation

Administer appropriate corn rootworm management the following year.

Always remember to read the pesticide label.

Reevaluation

- Evaluate your harvest last season. Were there lodged fields?
- Review your crop plan for the previous and coming year to ascertain potential problem fields.
- Consider a plan to scout your fields during egg-laying time to determine the need for rootworm management in 2001.
- For pesticide recommendations please consult the current issue of Cornell Guide for Integrated Field Crop Management.
- Always remember to read the pesticide label.
- For additional help contact your local Cornell Cooperative Extension Educator.



We develop sustainable ways to manage pests and help people to use methods that minimize environmental, health, and economic risks.

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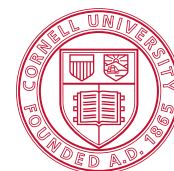
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Corn Rootworm

Management Guide



Cornell University
Cooperative Extension

Identification

- Northern Corn Rootworm (CRW) is green.
- Western Corn Rootworm is yellow with distinct black stripes.
- The female Western Corn Rootworm is slightly larger and more distinctly striped.
- Eggs are laid in the previous season and begin attacking corn as larvae in June the following season.
- Eggs are laid in cornfields, so corn must be following corn for a threat to exist.
- Damage can result in physiological yield loss or harvest loss as a result of lodging.
- Adults begin emerging in late July and feed on the silks.
- Although rare, heavy silk feeding by the adults can interfere with pollination.
- If some silk clipping does occur, as long as there is 1/2 in. of silk showing pollination may occur.
- Late planted fields (relative to other area fields) are at a possible higher risk for damage.



Northern Corn Rootworm. Photo: Winston Beck, Iowa State University, Bugwood.org



Western Corn Rootworm. Photo: Winston Beck, Iowa State University, Bugwood.org

Sampling

- All cornfields that will be planted to corn the following year should be scouted for egg-laying adults from late July until frost. Count beetles per plant and follow the sequential sampling plan shown below. Remember that each Northern counts as 0.5, while each Western counts as 1.0.
- Sample weekly until you have three consecutive below-threshold samples, or you have above threshold numbers.
- If you choose not to scout, remember that the following fields are considered high risk for damage next year:
 - Corn planted late this year, especially if it will be planted early next year.
 - Fields that seem to have high numbers, but no exact count was taken.
 - Fields with evidence of silk clipping and pollination interference due to CRW beetles.

| Sequential Sampling Plan for Corn Rootworm | | | | | | | | | | | | | | | |
|--|---|----|----|-------|----|----|----|-------|----|----|----|-------|----|----|----|
| plant | N | T | RT | plant | N | T | RT | plant | N | T | RT | plant | N | T | RT |
| 1 | | | | 15 | 7 | 23 | | 29 | 20 | 36 | | 43 | 34 | 50 | |
| 2 | | | | 16 | 8 | 24 | | 30 | 21 | 37 | | 44 | 35 | 51 | |
| 3 | | 11 | | 17 | 8 | 25 | | 31 | 22 | 38 | | 45 | 36 | 52 | |
| 4 | | 12 | | 18 | 9 | 26 | | 32 | 23 | 39 | | 46 | 37 | 53 | |
| 5 | | 13 | | 19 | 10 | 27 | | 33 | 24 | 40 | | 47 | 38 | 54 | |
| 6 | | 14 | | 20 | 11 | 28 | | 34 | 25 | 41 | | 48 | 39 | 55 | |
| 7 | | 15 | | 21 | 12 | 28 | | 35 | 26 | 42 | | 49 | 40 | 55 | |
| 8 | | 16 | | 22 | 13 | 29 | | 36 | 27 | 43 | | 50 | 41 | 55 | |
| 9 | 1 | 17 | | 23 | 14 | 30 | | 37 | 28 | 44 | | 51 | 42 | 55 | |
| 10 | 2 | 18 | | 24 | 15 | 31 | | 38 | 29 | 45 | | 52 | 43 | 55 | |
| 11 | 3 | 19 | | 25 | 16 | 32 | | 39 | 30 | 46 | | 53 | 43 | 55 | |
| 12 | 4 | 20 | | 26 | 17 | 33 | | 40 | 31 | 47 | | 54 | 44 | 55 | |
| 13 | 5 | 21 | | 27 | 18 | 34 | | 41 | 32 | 48 | | 55 | 44 | 55 | |
| 14 | 6 | 22 | | 28 | 19 | 35 | | 42 | 33 | 49 | | | | | |

N = Not at Threshold
 T = Threshold reached
 RT = Running Total for all samples

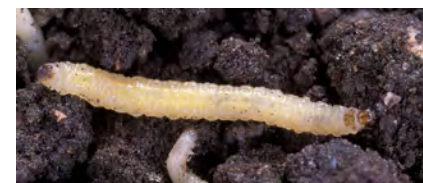
Analysis

Use of the sequential sampling plan will indicate the presence of an economic threshold.

Management Alternatives

Crop rotation is the best way to control corn rootworm.

Chemical control, including use of hybrids containing CRW-resistant Bt genetics, is sometimes necessary when economic populations occur in a field that cannot be rotated out of corn. For selection of an insecticide consult the current issue of Cornell Guide for Integrated Field Crop Management.



Western corn rootworm larvae (about ¼ " long). Photo: Scott Bauer, USDA Agricultural Research Service, Bugwood.org

Sample until a decision is reached (N or T).
 By the way, if you find an average of 5 beetles/plant, you risk having grain-fill problems due to clipped silks.