

Identification

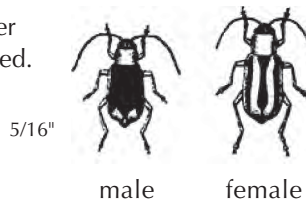


Northern Corn Rootworms are green.

1/4"

Western Corn Rootworms are yellow with black stripes.

- Females are slightly larger and more distinctly striped.



5/16"

male

female

Eggs laid during late summer and fall overwinter; larvae hatch and begin attacking corn roots in June the following year.

1/8–1/2"



- Eggs are laid in cornfields, so corn must follow corn for a threat to exist.

Damage can result in yield loss or harvest loss from lodging.

Adults begin emerging in late July and feed on the silks, pollen, and leaves.

- Although it's rare, heavy silk feeding can interfere with pollination if silks are clipped to less than 1/2 inch.

Consider planting fields last that you've scheduled to rotate out of corn the following year. The fields you plant last have the highest risk of attracting adult females.

Sampling

Scout any fields you intend to replant to corn next year. Begin scouting from the onset of pollination, from late July until mid-August, and count all adult beetles per plant sampled. Because western species are more damaging than northern types, count each western as 1.0 and each northern as 0.5.

Sample weekly until you have three consecutive below-threshold samples, or until you go over threshold.

Randomly select plants for sampling from different areas of the field. Don't sample adjacent plants.

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	17			23	14	30		37	28	44		51	42	55	
10	18			24	15	31		38	29	45		52	43	55	
11	19			25	16	32		39	30	46		53	43	55	
12	20			26	17	33		40	31	47		54	44	55	
13	21			27	18	34		41	32	48		55	44	55	
14	22			28	19	35		42	33	49					

Follow this sequential sampling plan:

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

Analysis

Are some fields at higher risk for damage than others are? Yes... such as

- fields planted late this year will that will be replanted next year

- fields with evidence of silk clipping *and* poor grain fill
- corn grown for silage is at greater risk than grain corn

Does your sampling indicate any fields at action threshold?

Management Alternatives

Crop rotation is the best way to manage corn rootworm.

Chemical control may be necessary the following year when you go over threshold and can't rotate out of corn; insecticide seed coatings are available and Bt-containing resistant hybrids are being developed.

To select an insecticide, consult the *Cornell Guide for Integrated Field Crop Management*. Always read and follow the pesticide label.

Implementation

Crop Rotation (1-2 year where possible)

Chemical control (soil insecticides, insecticide seed coatings, and Bt hybrids)

Reevaluation

Evaluate last seasons harvest records. Did you have any lodged fields or goosenecking?

Review crop records and plans from last year and for the coming year. Pay special attention to scouting and yield records for your third and fourth year fields.

Put scouting on the docket for next year.

For pesticide recommendations please consult the current issue of *Cornell Guide for Integrated Field Crop Management*.

Always remember to read and follow the pesticide label.

For more help contact your local Cornell Cooperative Extension educator.



Cornell Cooperative Extension provides equal program and employment opportunities.

New York State Integrated Pest Management (IPM) Program

We encourage people to adopt a sustainable approach to managing pests, combining methods that minimize economic, health, and environmental risks.

The IPM strategy integrates the use of several pest-suppression technologies, including

- Biological control: beneficial organisms, such as insect predators
- Cultural techniques: practices such as crop rotation, sanitation
- Mechanical and physical methods: screens, traps, cultivation, and temperature modification
- Chemical control: judicious use of pesticides and other chemicals
- Genetic control: traditional selective breeding and new biotechnology practices that produce pest-resistant varieties
- Regulatory control: state and federal regulations that prevent the spread of pest organisms.

The New York State IPM Program funds projects to improve IPM strategies and offers educational programs and resources.

Many organizations and individuals assist in this effort. The New York State Department of Agriculture and Markets, New York State Department of Environmental Conservation, Cornell University, and Cornell Cooperative Extension jointly fund the NYS IPM Program.

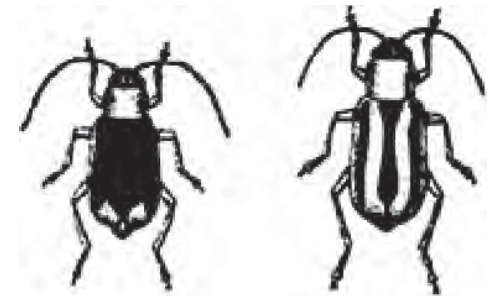


***New York State
Agricultural Experiment Station***

Geneva, NY 14456 • (800) 635-8356 • FAX: (315) 787-2360
<http://www.nysipm.cornell.edu/>



Corn rootworm



Management Guide