

Western Corn Rootworm

Diabrotica virgifera

<i>Order:</i>	Coleoptera (beetles)
<i>Family:</i>	Chrysomelidae (leaf beetles)
<i>Metamorphosis:</i>	Complete (egg-larva-pupa-adult)
<i>Mouthparts:</i>	Chewing in larvae and adults



Larva of **WESTERN CORN ROOTWORM**, *Diabrotica virgifera*, see color print, Fig. 13A, on publication B-1013.

The western corn rootworm is a problem in eastern Wyoming and may be spreading in a northwesterly direction. While both larvae and adults feed on corn, usually only the larvae cause economic damage.

Body Form

Eggs: Eggs are not noticed because they are laid in the soil.

Larvae: The larvae are slender and legless. Mature larvae are about 3/8 inch in length. They have a white or pale yellow body with a black head capsule and a black spot at the end of the abdomen. The end of the abdomen is slightly forked instead of rounded. Larvae are found in the soil.

Pupae: The pupae are also found in the soil. They are immobile, but if disturbed, the posterior half of the body may swivel. The anterior half of the body is hardened.

Adults: The adult is about 1/4 inch long. It is yellow with black stripes running down the length of each wing cover. In males, the posterior half of each wing cover may be black.

Life History

Western corn rootworms overwinter as eggs laid in soil near the base of corn plants. The eggs hatch in spring, and the larvae move to corn roots to feed. After three larval stages, they pupate in the soil. After adults have emerged, they feed on corn silks and pollen. After the adults mate, the eggs are laid in soil from mid- to late-summer, completing the life cycle. There is one generation per year.

Plant Injury

Larvae tunnel in and feed on the roots of corn plants. Fewer nutrients can be taken up by damaged roots. Damaged plants produce fewer ears of corn. Also, damaged roots offer less plant support, which can result in lodging. A wound made by larvae may also allow for the entry of various disease-causing organisms. Adults feed on silk and pollen, which can result in incompletely filled ears.

Management

Cultural practices are helpful in lessening corn rootworm damage. Crop rotation into non-host plants eliminates the food source for spring-hatching larvae. Although adults may be found feeding on the foliage of plants other than corn, larvae will soon die without roots of corn. Other strategies include early planting, which may allow young plants to escape rootworm damage. Extra nitrogen added to the soil can provide nutrients to help corn replace damaged roots. Resistant corn varieties, if suited to a growing area, are able to tolerate severe rootworm damage because of their ability to rapidly regenerate damaged roots.



Adult **WESTERN CORN ROOTWORM**, *Diabrotica virgifera*, see color print, Fig. 13B, on publication B-1013.

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