

CORN ROOTWORM BEST MANAGEMENT PRACTICES



WHAT YOU'LL LEARN

- Corn rootworm (CRW) larval feeding (Figure 1) can be destructive to unprotected root systems and may impact standability and greatly reduced yield potential.
- Areas that have a history of continuous corn are generally at the greatest risk of heavy CRW pressure. Multiple years of corn following corn promote the growth of corn rootworm populations.
- Areas that attract beetles later in the growing season may also concentrate egg-laying activities, contributing to heavier pressure from larval feeding during the next growing season.
- Following established best management practices (BMP) can improve CRW management and help preserve corn yield potential.

CRW Quick Facts

- High CRW pressure is often a result of a continuous corn-on-corn rotation.
- Scouting throughout the entire crop season may identify fields with growing CRW populations.
- Heavy CRW pressure can develop due to the creation of a “trap crop” situation that serves to attract and concentrate adult beetles during the egg-laying period. Corn in these areas the following season may be subject to extensive damage due to CRW feeding.
- A number of environmental and management-related factors can promote the development of trap crops including
- Delays in maturity within areas of a field due to stress conditions that slow crop development such as prolonged saturation of the soil that may lead to nitrogen deficiency. These areas dry down less quickly and may attract foraging adult beetles later in the season.



Figure 1. 1st, 2nd, and 3rd instars and pupa (inset) of corn rootworm.



Figure 2. Adult corn rootworm.

- Late planted, double cropped, or fuller season corn products (such as corn grown for silage) planted adjacent to earlier maturing products may serve as a late season refuge for adult beetles.
- Higher yielding products grown in the vicinity of poorer performing products may be more attractive as a habitat and potential food source to a number of insects, including CRW.
- Anything that delays maturity, such as late planting, stress due to planting in wet areas, or nitrogen deficiency.
- Planter longer-season products in fields adjacent to shorter-season products.
- High yield potential corn surrounded by lower yield potential corn.
- Late planting that might expose corn to later emerging CRW beetles.

CRW Best Management Practices

Follow recommended Integrated Pest Management (IPM) practices, including cultural control tactics, scouting, and the appropriate use of pest thresholds for chemical control strategies. Implement BMPs in all fields with the probability of high CRW pressure.

- Consider rotating to a non-host crop such as soybeans to break the CRW life cycle. Periodic rotation can benefit each crop in the rotation.
- Plant Genuity® SmartStax® RIB Complete® Corn Blend products that provide dual mode-of-action (pyramided) B.t. traits and deliver excellent CRW protection.



- If rotation or Genuity® SmartStax® RIB Complete® Corn Blend products are not acceptable options, consider using soil-applied insecticides with non-Bt or single mode-of-action products. Planting single mode-of-action technologies such as Genuity® VT Triple PRO® products or Genuity® VT Triple PRO® RIB Complete® Corn Blend products to manage CRW larvae and adults is not recommended when less than satisfactory control of CRW was observed the previous season.

Regardless of which primary control tactic listed above is implemented, growers should adopt the following support activities to maximize success:

- Employ regular and appropriate scouting techniques.
- Use of a foliar insecticide is recommended if thresholds are reached. In general, potential for yield loss in the following year's corn could occur when adult beetle populations exceed 3/4 to 1 beetle per plant during the egg-laying period.
- Control volunteer corn and weedy escapes in soybeans. These plants may attract beetles and encourage concentrated egg-laying within the non-host crop.
- Select CRW control measures that have a minimal impact on beneficial insects.
- Consult the Genuity® Rootworm Manager or your local agronomist for additional CRW management information (www.genuity.com).
- Read the IRM Grower Guide prior to planting and observe all refuge requirements.

Developed in partnership with Technology, Development & Agronomy by Monsanto. For additional resources on this topic, contact your local seed representative or visit your seed brand website.

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