

PERSISTENT PEST OUTSMARTS CROP ROTATION

SITUATION

Northern corn rootworm (NCRW) is one of the most damaging corn pests in North America. Because the NCRW typically has a one-year life cycle, rotating corn with another crop has been a successful management strategy. Unfortunately, some populations of NCRW have successfully adapted to a corn-soybean rotation and now have a two-year life cycle. This is called **extended diapause** because the eggs remain dormant in the soil for almost two years before hatching.

FACTORS TO CONSIDER

- Susceptibility
- Identifying northern corn rootworm
- Recognizing signs of infestation
- Treatment options

ACTION PLAN

- 1. Consider your region.** Extended diapause, first reported in 1965, has traditionally been a problem in parts of northwest Iowa, southwest Minnesota, northeast Nebraska and southeast South Dakota. Recent reports indicate it has been found in other parts of the Corn Belt as well.
- 2. Understand the scope of the issue.** Although extended diapause has been around for decades, the number of eggs remaining dormant continues to increase. When the issue was first discovered, less than 5 percent of eggs had hatching delays. Now, almost 50 percent of eggs can remain dormant, some for up to three years, according to research.
- 3. Make scouting a priority.** Scouting is one of the key management tools for identifying extended diapause. In first-year corn, scout for the presence of **adult beetles** at pollination. If adult beetles are found, dig up the plants and inspect the roots for pruning or injury. At harvest time, investigate a root-lodged crop and also look for pruned roots. Both of these scouting actions can assist you in determining your risk for crop injury from NCRW, and selecting appropriate crop management options.
- 4. Manage treatment plans.** The unpredictability of extended diapauses makes management decisions difficult. Control larvae with granular insecticides or plan ahead to prevent damage. Hybrids with in-plant insect protection such as **SmartStax®** or **Herculex® Insect Protection** reduce insect damage and can protect against insects such as the NCRW.

SUMMARY

In some regions, the NCRW has adapted to traditional crop rotation management practices. Adjust management practices to prevent damage from this insect. Scouting fields and identifying extended diapause history can reduce damage risk. Contact your Mycogen Seeds customer agronomist or trusted agronomic adviser for hybrid options that are effective against above- and below-ground pests.



Scout for the presence of adult beetles at pollination.

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