

Crops

Sticky traps can forecast corn rootworm pressure

BY KYLE KAYSER



STICKY traps can help farmers define the level of corn rootworm pressure in their fields and then make informed management decisions to mitigate the impact of this pest.

Sticky traps provide a snapshot of adult populations in the fields this season. Adults will lay eggs in July and August that will hatch next year as the larvae that will feed on and damage corn. DuPont Pioneer has ordered thousands of low-cost sticky traps for the upcoming season's monitoring in the Dakotas, and will work with area growers to develop protocols for corn rootworm management based on results.

In addition to sticky traps, digging corn roots in late July can help monitor corn rootworm activity. Even if corn rootworm pressure has been low in a particular field in recent years, the pest can resurge if winter and spring conditions favor a high survival of eggs and larvae.

Effective surveying with sticky traps requires six traps in each field. Place the

Key Points

- Check corn rootworm populations this July and August.
- Numbers will indicate what pressure you'll face next year.
- Best management practices will depend on expected pressure.

traps at least 100 feet from the edge of the field during the third or fourth week of July.

Once traps are in place, count the number of beetles per trap once per week. Counts exceeding 50 beetles per trap over seven days indicate a definite threat of corn rootworm pressure for the 2017 season. If counts average less than 50 beetles per trap, place new traps in the field and continue for another seven days.

How long to monitor

Continue this weekly monitoring for a total of four weeks, or until the traps average more than 50 beetles per trap. However, if trap counts are still increasing during the last week of monitoring, it is a good idea to trap for an additional two weeks, or until more than 50 beetles per trap have been captured.

If traps average less than 21 beetles per trap per week, low rootworm populations are anticipated for the following year. Economic damage from corn rootworm can still occur in dry growing conditions, but with low pressure, the need to treat is minimal.

If traps average 21 to 50 beetles per trap per week, moderate rootworm populations are anticipated for the following year. Consider the following corn rootworm control options:

- Plant a corn rootworm *Bt* corn product.
- Control larvae with a soil-applied insecticide at planting.

- Apply foliar insecticide to control adult beetles during late summer, prior to egg laying.

- Rotate to another crop.

If traps average 50 beetles or more per trap per week, high rootworm populations can be anticipated for the following year. Consider the following options:

- Rotate to another crop. This is the best option in areas where western or northern rootworm variants are not a concern, and it brings additional crop-management benefits.



UNWELCOME VISITOR: A corn rootworm crawls across an ear of corn. Sticky traps can help determine adult population levels this year, which will help you decide how to best manage the insect next year.

- If rotation is not an option, use foliar insecticide to control adult beetles prior to egg laying, and follow with a corn rootworm *Bt* hybrid or soil-applied insecticide next season.

- Another option for planting corn following corn where pressure is high is this: Plant a single-trait corn rootworm *Bt* corn hybrid and consider adding a soil-applied insecticide, or use a pyramided rootworm-protection *Bt* product.

Remember, using the same mode of action for control year after year leads to risks that insects will develop resistance to that mode of action.

Ideally, you should not use the same trait in any field for three or more consecutive years.

Kayser, Emery, S.D., is a DuPont Pioneer agronomist.

'Hot streak' first step in boosting yield

CREATING "hot streaks" of nitrogen fertilizer in corn is the first step farmers participating in Peterson Farms Seed's Plus20 Elite Corn Agronomy Club are taking to boost yields by 20 bushels per acre this year.

A hot streak is a strip in a field where excess N is applied in order to eliminate N as a possible yield-limiting factor. Farmers participating in the program put twice as much N in the strip as they did in the rest of the fields.

Soil testing inside and outside of the hot streak will help determine a mid-season N application rate and will provide information to better understand how N moves through the soil, says Nolan Berg, Peterson Farms Seed precision systems agronomist.

"The next steps are where our precision ag specialists get involved as they begin UAV scouting and mapping and N

Key Points

- Club kicks off effort to increase corn yields 20 bushels per acre.
- First step was to create hot streaks of N in fields.
- Peterson Farms Seed organized Plus20 Elite Corn Agronomy Club.

soil testing. At the end of the season, they will create and present a postharvest data analysis to each of our participants."

Peterson Farms Seed is using the 360 SoilsCan from 360 Yield Center for in-season soil testing. 360 SoilsCan allows in-field monitoring of nitrate levels in the field to quickly determine the corn crop's "fuel tank," Berg says.

"This simple, in-season soil test has prompted a number of previous-year Plus20 Elite growers to adopt a new approach to N management," he says. They have dropped their initial base N rate in

anticipation of adding a sidedress application once or twice throughout the season to finish the crop.

"This new N strategy minimizes the risk of running short on N due to leaching and denitrification in the event of a wet spring," Berg says.

"360 SoilsCan enables us to better understand a field's nitrate levels by testing throughout the visually stressed and good areas, as well as inside the hot streak. Those results, coupled with UAV imagery, provide an excellent method of creating a variable-rate sidedressing prescription that is much more efficient and cost-effective than a traditional flat-rate approach."

Source: Peterson Farms Seed

FIRST STEP: Doubling the amount of N in a strip in the cornfield is the first step some Dakota farmers are taking to discover how to increase yields.

