Western Corn Rootworm Rotation-Resistant Variant

- The western corn rootworm (WCR) rotation-resistant variant is creating management challenges for some Midwestern corn growers.
- WCR variant adults lay eggs in soybeans that can hatch into larvae and damage corn roots the following season.
- Scouting soybean fields at least weekly through the first week of September can help identify fields where WCR may attack corn next spring.
- Farmers are encouraged to adopt best management practices to reduce WCR damage to corn roots.

WCR Variant Population Increasing
Some areas of the eastern Midwest have observed a steady and substantial increase of damage in first-year corn due to a behavioral variant of the western corn rootworm (WCR) (*Diabrotica virgifera virgifera*) that has evolved to lay eggs in soybeans and to a lesser extent in other crops. This “rotation-resistant” WCR variant also lays eggs in wheat stubble, alfalfa and oats. When WCR eggs laid in non-corn fields hatch the following season, WCR larvae can cause root damage to corn.

WCR Identification
Male and female adult WCR are yellow to green in color with a black stripe along the sides of their wing covers. They are about 5/16-inch long (Figure 1). Female wing covers usually have regular striped pattern, while male wing covers may be nearly completely black. Northern corn rootworm adults (Figure 2) are tan to pale green, and southern corn rootworm adults (Figure 3) are yellow to green in color, with 11 black spots on the back.

Scouting for WCR
Farmers in or near areas where the WCR variant has been identified should scout soybean fields for adult WCR in August and early September to identify the potential for crop-damaging levels of WCR larvae where corn will be planted next spring. Scouting this summer allows time for planning a WCR management strategy for next spring.

Soybean fields should be scouted in the morning or late afternoon, when WCR adults are most active, using either sweep nets or sticky traps.

Sweeping:
- Using a 15-inch diameter sweep net, take 20 continuous sweeps in 5 different areas of a field, keeping the net closed between the 5 areas.
- Take sweeps from areas that represent differences in topography: high ground, low ground, waterways, wet and dry areas, dark and light soil, etc.
- Sample areas within 50 feet of a corn field separately.
- Sweep the net from left to right with the top of the net slightly above the top of the foliage.
- Reverse the net and sweep through the foliage in the opposite direction.
- Count the total number of WCR adults in 100 sweeps.
- Samples should be taken weekly.
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Sticky Traps:
- Pherocon® AM Yellow sticky traps should be mounted on stakes just above the soybean canopy.
- 12 traps should be placed throughout the field in a grid pattern, avoiding field edges.
- Count and record the number of male and female adult WCR beetles captured on each trap each week.
- Traps should be replaced every 7 days.
- Research suggests that catches of 5 or more WCR beetles per trap per day during any trapping week indicates a potential problem with rootworm the following year.

WCR Variant Best Management Practices
In fields that were planted with products that contain YieldGard VT Triple® or Genuity® VT Triple PRO® technology that experienced greater-than-expected CRW damage during this season:
- Rotate to Genuity® Roundup Ready 2 Yield® soybeans or another non-host crop if soybeans are not a suitable recommendation for that area.
- Switch to a dual-mode-of-action Genuity® SmartStax® RIB Complete® corn blend or Genuity® SmartStax® corn.
- Products with Genuity® SmartStax® technology offer dual modes of action for above- and below-ground insect protection.
- If a dual-mode-of-action product is not available for a specific geography, use a soil- or foliar-applied insecticide on fields planted to a single-mode-of-action technology.

Sources:

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