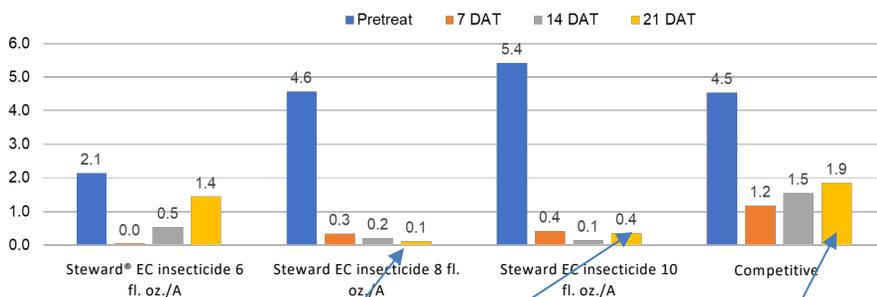




This week, many consultants have started noticing corn rootworm larval feeding. This feeding on corn roots can negatively impact corn in several ways. Corn rootworms are known vectors of several plant pathogens. Aggressive feeding distresses the plant's ability to obtain nutrients and water but also stresses brace roots that help it remain erect. Lodged corn creates harvestability issues.

Corn rootworms are attracted to the CO₂ emitted from plant roots and, while protecting the young plant with at-plant insecticides is a great protective strategy, population control is most readily achieved with foliar adulticides applied right before egg lay. Adults can significantly reduce yields by clipping the silks during maturation.

Let's look at the math based on some data from last year.



- 24 total locations NE, KS, OK, TX, NM
- **Many of the 10 fl. oz. applications were in TX/NM – very high beetle numbers**
- Competitive treatments generally a bifenthrin product or chlorpyrifos/bifenthrin combo at common commercial rates

Steward EC insecticide applications 8-10 fl. oz./A averaged **0.25 beetles** 21 days after treatment.

$$0.25 \times 30,000 \text{ plants/A} = 7,500 \text{ beetles/A}$$

$$7,500 \text{ beetles/A} \times 250 \text{ eggs/female} = 937,500 \text{ eggs/A}$$

If only 10% of those eggs reach maturity, that still means that **93,750** larvae exist that can be controlled with our in-furrow products or CRW Bt traits.

Chlorpyrifos or chlorpyrifos + bifenthrin applications averaged **1.9 beetles** 21 days after treatment

$$1.9 \times 30,000 \text{ plants/A} = 57,000 \text{ beetles/A}$$

$$57,000 \text{ beetles/A} \times 250 \text{ eggs/female} = 7,125,000 \text{ eggs/A}$$

If only 10% of those eggs reach maturity that still means that **712,500** larvae exist that can readily overwhelm chemical or genetic defenses.



Reduce rootworm populations and selection pressure nearly **8X** better than competitive treatments with Steward EC insecticide.

INSIDE THIS ISSUE

July 2, 2020

Corn Rootworm Larvae Rescue

Corn Rootworm Adult Control with Steward EC

Adding Lucento[®] fungicide to the tank

Contact your local FMC representative for more information

Brandon Schrage, PhD, CCA
Technical Service Manager
618-792-5919

Marcus Bartlett
Precisions Platform Specialist
605-848-1548

Dillon Blyth
Northeast NE
303-263-4133

Madelyn Bak
Eastern NE, Southwest I
712-579-4108

Lisa Paul
Southeast NE
402-432-2292

Dan Smydra
Central NE
308-750-6340

Mason Hansen
West NE
970-580-6003

Robb Rainey
Colorado
970-342-6105

Gary Vaupel
West Central KS
785-826-0098

Verle Amthauer
East Central Kansas
620-669-7032

Tom Becker
Northeast KS, Northwest MO
816-550-6021

Larval corn rootworm feeding can occur for several reasons:

- ❖ Lack of crop rotation i.e., corn on corn
- ❖ Bt insecticide resistance, overreliance on corn genetics
- ❖ Failure to use a strong in-furrow product like Capture[®] LFR[®] insecticide or Ethos[®] XB insecticide/fungicide
- ❖ Failure to use an adult treatment the year before
- ❖ Incorrect application method or application rates

How do I know if I have Corn rootworm feeding?

Western and Northern corn rootworms begin hatching in June and often reach third instars by the middle of July. While significant feeding can result in lodging or “goosenecking” corn, above-ground symptoms might not always be visible.

To scout for CRW larvae dig a 9” x 9” square around the base of several plants located throughout the field. Start to pull the soil of the roots over a bucket filled with clean water, so that it falls into the bucket. Proceed to wash off the roots to assess feeding damage. Rating scales are available from most university websites. The small larvae will float to the surface of the water for counting. A general threshold that may result in significant feeding and adult emergence is five larvae per root ball.

If we fail to employ a bifenthrin-based control measure in the furrow at planting, there are options. Brigade[®] 2EC insecticide/miticide can be chemigated onto the field in order to penetrate the soil and create a residual layer that will suppress feeding on nodal and brace roots.

Application Requirements:

- ❖ Apply at CRW hatch
- ❖ 6.4 fl. oz. in a minimum of 1” of irrigation water per acre
- ❖ Do not apply to saturated soils
- ❖ Do not apply Brigade 2EC insecticide/miticide broadcast and then attempt to water in with irrigation

It is important to note that, irrespective of in-furrow or POST rescue treatments, if greater than two adult beetles per plant are observed at silking, Steward[®] EC insecticide applications are strongly suggested to reduce egg lay and bring local populations down.

BRIGADE[®]
2EC
INSECTICIDE / MITICIDE



Top to bottom: CRW larvae collected in Sutton, NE in 2020. CRW feeding rating scale courtesy of Virginia Tech. Corn lodging as result of CRW larval feeding. Gravid female signaling time to treat, courtesy of Levine et al. 2002.

How do I maximize the value of that Steward[®] EC insecticide trip across the field?

Answer: Just like corn rootworm control requires a long-residual product like Steward[®] EC insecticide, corn diseases can set in quickly in July and August, but one can never know exactly when. Lucento[®] fungicide applied with Steward EC insecticide gives growers three weeks of protection against corn rootworms and up to eight weeks of control of diseases including blights, gray leaf spot and rusts.



+



- ✓ 10 fl. oz./A
- ✓ 21 days of control
- ✓ Rainfast in two hours
- ✓ Controls pyrethroid-resistant insects
- ✓ Won't flare mites
- ✓ Ground/air/chemigation

- ✓ 5 fl. oz./A
- ✓ 50 days of control
- ✓ Rainfast in two hours
- ✓ Controls strobilurin-resistant diseases
- ✓ Dual MOA
- ✓ Most systemic triazole commercially available
- ✓ Ground/air/chemigation

With CRW and disease control, better coverage is essential.
Recommended air GPA: 3-5

David City, Nebraska
9/26/20



Lucento[®] fungicide 5 fl. oz./A @ R1



Nontreated

2019 Lucento [®] Fungicide On-Farm Grower Trials Across the Midwest Competitive Comparison: Corn		
Comparative Treatment	Lucento [®] Fungicide Advantage - % of trials where Lucento fungicide out yielded competitive comparison (head-to-head).	Lucento Fungicide Advantage vs. Competitive Comparison in Head-to-Head trials (bu/A)
Untreated	96% of trials (24 out of 25 trials across U.S.)	+14.2 bu/A
Trivapro [®] fungicide	78% (7 of 9 locations)	+3.6 bu/A
Headline AMP [®] fungicide	75% (3 of 4 locations)	+4.3 bu/A
Delaro fungicide / Delaro [®] fungicide + Luna [®] fungicide	100% (3 of 3 locations)	+10.9 bu/A
Veltyma [®] fungicide	100% (2 of 2 locations)	+2.3 bu/A