

Soybean (Dectes) Stem Borer Control

HERO 
INSECTICIDE

Dectes stem borer is a soybean stem boring insect pest that can cause severe lodging and yield reduction.



ABOVE: Adult Dectes stem borer is gray colored long horn beetle. Adults are 3/8 inch long and long antennae with dark bands around the antennae.

LIFE CYCLE- Dectes Stem Borer

Dectes texanus texanus

The Dectes stem borer is believed to have one generation per year. Adult stem borers emerge in late June through early August, and will feed on stems and petioles of soybeans, leaving a feeding scar. Female adult stem borers will chew a hole into the petiole or stem where a single egg is laid. After hatching, the larvae bores into the soybean petiole or stem and tunnels to the main stem. The stem borer larvae feeds on pith until it matures reaching $\frac{1}{2}$ to $\frac{3}{4}$ in length. In late summer, the stem borer larvae burrows down to the base of the soybean plant and girdles the inside of the soybean stem. This girdling can be from ground level up to 3 inches high and will make an over wintering site inside the stem. The top of the stem where the stem borer over winters will be packed with chewed up plant debris and frass. In the spring, the over wintering larvae will pupate, pupae will turn from a yellowish tan to dark brown before hatching and emerging as adults again in summer. Domestic sunflower is a preferred host, so areas that produce both soybeans and sunflowers can be ideal regions for heavy infestations in both crops. Other hosts can include wild sunflowers, cocklebur, ragweed, coreopsis, and woolly croton.

DAMAGE, THRESHOLDS AND TREATMENT

Dectes stem borer damage is the result of the interior girdling of the soybean stem resulting in snapped off, lodged soybean plants prior to harvest with high winds in the fall. Reports of 30 to 50% lodging of soybean plants just prior to harvest (R8—fully mature soybeans) are quite common.

Start scouting for adult stem borers starting in late June through August. Since they overwinter in soybean stems, fields with No-till or reduced-till soybeans or sunflowers have a higher probability of being a better over wintering site for stem borer larvae. Thresholds have been difficult to establish and currently are associated with the emergence of adult stem borers. If you catch 1 Dectes stem borer adult (beetle) per 10 sweep, data has shown that treatment is needed and a timely application of an insecticide can provide a positive yield response. (Kansas State University).

Once thresholds have been reached the timing of a Hero® EC application can begin. Research has shown the ideal time to treat for stem borer is approximately 21 days after first emergence of stem borer adults. This timing allows for maximum adult emergence to occur, but before peak egg-laying occurs. Hero at 4-5 oz/A rate has been shown to provide excellent control of Dectes stem borers and protect soybean yields. The residual properties of Hero insecticide provide lasting control of stem borer as well as other insects including grasshoppers, podworms, stinkbugs, bean leaf beetle, soybean aphids, webworms and other pests.



LEFT: Adult Dectes stem borer feeding scars on soybean stem.

RIGHT: Dectes stem borer oviposition site.



LEFT: Early instar Dectes stem borer inside of soybean stem.

RIGHT: Overwintering later instar Dectes stem borer in soybean stem.

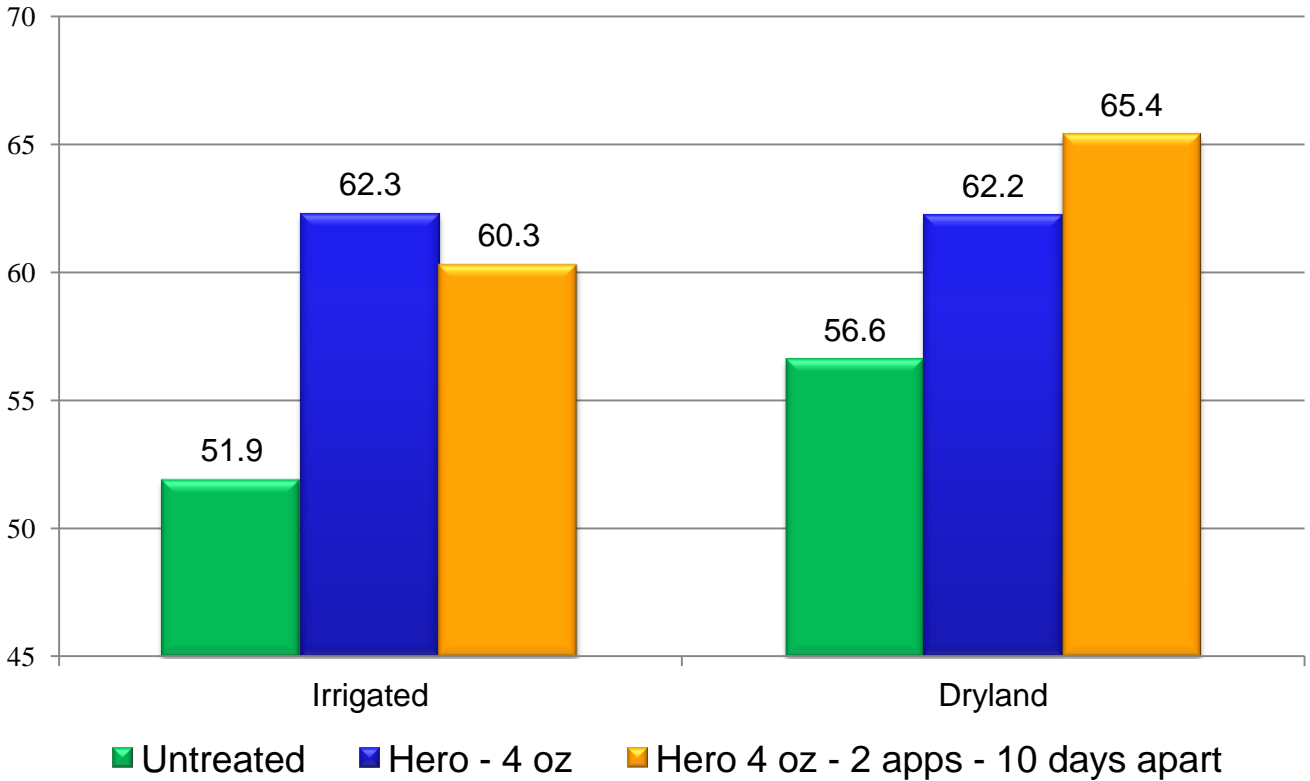
Photos courtesy Kansas State University

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Hero® – Stem Borer – 2008 Soybean Yield – Bu/A Republic Co. – KSU



Hero – Soybean Stem Borer Applications

- Use Rate: 4.0-5.0 oz/A
- Application Timing: approximately 21 days after first adults emerge
- Treatment threshold: 1 adult / 10 sweeps with sweep net
- Application: 2-3 gpa by aerial, 10-20 gpa by ground
- Re-entry interval: 12 hours
- Pre-harvest interval: 21 days
- May be tank-mixed with fungicides or herbicides. Follow all label recommendations and restrictions for companion products.