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Kansas Insect Newsletter

For Agribusinesses, Applicators, Consultants, and Extension Personnel

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August 26, 2005 No. 18

Soybean Stem Borer – Look for Dying Leaves:

Earlier this week, it was very obvious that significant infestations of soybean stem borer larvae had infested a high percentage of plants in some soybean fields within the Republic County area. Now is a good time to see if you can find signs that tunneling larvae may be present. Take a yardstick, broom handle, pool cue, or other long, thin pole and orient it parallel to the row, right against the stems above ground level, but beneath the canopy. Raise it upwards and push the pole against the canopy so you can see into it as the plants are bent back. Dying mid-canopy leaves, well above the normal leaf abscission zone may be visible; their dark, wilted appearance contrasting sharply with the healthy leaves making up the majority of the canopy. In most instances, there will be only one dead leaf per plant, though sometimes there are more.

Mid-canopy soybean leaves killed by tunneling soybean stem borer larvae

Pull the leaf free from the plant and split the petiole. It should show evidence of having been tunneled and there will be some insect waste products (frass) present within the tunneled area. Look closely at the point where the petiole attached to the plant. An entry hole should be visible, showing where the larva tunneled through the petiole base into the stem itself. This action is typically the event that killed the leaf.

At this stage, many or most larvae will be somewhere inside the stem, engaged in the process of chewing their way down to ground level. Splitting the stem should reveal a legless, yellow larva – which is the immature soybean stem borer.

If your field inspections are well timed, these dying leaves will be readily visible. If dying leaves are commonly observed, avoid delaying harvest after the plants reach physiological maturity. Once a stem borer larva reaches the soil line, it will chew out an overwintering chamber and (just above that point) will girdle the stem from the inside, plugging the tunnel with frass between the girdling location and the overwintering chamber. Girdled plants are very susceptible to lodging and can separate completely from the base of the stem. A large percentage of lodged plants makes for a very frustrating, slow, and often inefficient harvest. The longer harvest is delayed, the greater the chance that stem-borer infested plants will break off and fall to the ground where their pods will shatter and the beans become lost. There is no effective registered insecticidal control that can be applied to stop this possibility from occurring if the larvae have made it into the stem. In fact, spraying currently registered products earlier in the year in an attempt to control egg-laying adults has generally produced questionable results in most research trials where heavy stem-borer pressure was present. Why is that? These beetles (on a population basis) can be active for about 8 weeks. To my knowledge, no product currently registered for application to soybeans has shown that degree of persistence in terms of providing consistent residual suppressive power against these insects following a single application. On-going research may eventually determine how this can be achieved at some point in the future.

These larvae are not social. The overwintering chamber will usually only host one living larva.

Some of this information was made possible by partial financial support provided by the Kansas Soybean Commission.

- Randy Higgins

More holes in bean leaves?:

Could be **bean leaf beetles**, **painted lady larvae**, **grasshoppers**, and (or) **green clover worms** based on recent observations and phone calls. Bean leaf beetles are marked with six black spots near the midline of their back. The outer margin of the wing covers are generally bordered by a narrow black band. They chew small, somewhat round holes and can sometimes cause direct bean loss as they feed through developing pods. The loss of 3 or 4 beans per plant may be enough to trigger insecticide treatment. Some defoliation can be tolerated with little consequence, however, consider treatment if leaf loss reaches or exceeds 20

percent and pods have formed and are beginning to fill. Limited-area treatments have been applied during 2005 in Kansas against late-season bean leaf beetles.

Spiny painted lady larvae generally are not present in treatable, late-season densities, but individual insects may be noticed as they web leaves or leaflets together and feed within their protected shelter. Their waste products often remain in the webbed leaves with them.


Painted Lady Web and Larvae

See our Soybean Insect Management Recommendations for additional advice, including lists of recommended insecticides – and for more advice in determining if their use may be warranted.

- Randy Higgins

Weekly Report from the Kansas State University Insect Diagnostic Laboratory:

The following samples were submitted to the Insect Diagnostic Laboratory from August 18 through August 25, 2005:

8-18-2005, Morris County: Poplar Petiolegall Aphids in Cottonwood.
8-18-2005, Barton County: Oak Leaf Galls (Cynipidae).
8-18-2005, Shawnee County: Oak Lace Bugs on Bur Oak.
8-23-2005, Miami County: Lone Star Tick nymph on person.
8-23-2005, Riley County: Soldier Fly on Pin Oak.
8-25-2005, Shawnee County: Orb Web Spider in home.

If there are any questions regarding these samples or about the identification of any arthropod please contact the Insect Diagnostician at 785-532-4739 or at bbrown@oznet.ksu.edu.

Bobby Brown

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Sincerely,

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