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UT Extension
W201

Soybean Insects

Threecornered Alfalfa Hopper

Scott Stewart, Professor, Entomology and Plant Pathology
Angela Thompson McClure, Associate Professor, Plant Sciences
and Russ Patrick, Professor, Entomology and Plant Pathology

Classification and Description: Threecornered alfalfa hopper (*Spissistilus festinus*) is a homopteran insect in the family Membracidae. Both immatures (nymphs) and adults have piercing-sucking mouthparts. Adults are usually green, sometimes brown, wedged-shaped insects that are about ¼ inch long. Small nymphs are nearly transparent but typically turn green as they grow in size. Nymphs are also wedge-shaped and have projections (spines) along the top of their body. Eggs are laid singly or in small clusters within the plant and therefore are very difficult to find.

Threecornered alfalfa hopper adult

Nymph

Hosts, Life History and Distribution: The threecornered alfalfa hopper is native to the southern United States and Mexico. Adults overwinter in protected areas under pine needles or other plant debris. In the spring and summer, they also feed on a wide variety of cultivated and uncultivated plants, including other legume crops, cotton, clovers, dock, wild geranium and cocklebur. Two generations per year usually occur in soybean.

Girdles on stem

Pest Status and Injury: Threecornered alfalfa hoppers are commonly present but only an occasional pest of soybeans in Tennessee. Both nymph and adult hoppers cause injury. On seedling plants (< 10-12 inches tall), these insects feed on plant sap by girdling the main stem of plants within a few inches of the soil surface. As the plant grows, a swollen callus generally develops on the stem at the feeding site. On larger

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plants, lateral branches, leaf petioles and pod stems are often girdled in a similar fashion. Stem injury on small plants may ultimately cause plants to break and lodge.

Stem breaking at girdle

The feeding on leaf petioles and pod stems interferes with photosynthesis and the flow of nutrients to developing seed.

Management Considerations: Threecornered alfalfa hoppers tend to be more problematic in reduced tillage systems. The highest populations are typically observed in late-planted fields and in double crop soybeans. Lodging caused by feeding on small plants is often first noticed following high winds, once plants have developed a pod load, and long after the girdling was done.

Sampling for threecornered alfalfa hoppers in seedling soybeans is difficult and based on visual examination of plants. In Tennessee, treatment for hoppers is recommended when 10 percent or more of plants less than 10-12 inches tall are infested. Some states also recommend treatment when 50 percent of seedling plants are girdled. For plants setting pods, a treatment threshold of one hopper per sweep (100 per 100 sweeps) is sometimes recommended. Insecticide recommendations are listed in the Tennessee Insect Control Recommendations for Field Crops (PB 1768).

Reference:

Handbook of Soybean Insect Pests, L. G. Higley and D. J. Boethel (eds.), Entomological Society of America, 1994.

This publication contains pesticide recommendations that are subject to change at any time. The recommendations in this publication are provided only as a guide. It is always the pesticide applicator's responsibility, by law, to read and follow all current label directions for the specific pesticide being used. The label always takes precedence over the recommendations found in this publication.

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