

# Threecornered Alfalfa Hoppers Showing Up In Soybean And Cotton



**DR. SCOTT STEWART**

**JACKSON, TENN.**

**P**hone calls about three-cornered alfalfa hopper (TCAH) have ballooned this week. Tennessee is on the northern edge of their distribution, so we sometimes see low populations in early season following a harsh winter. But with the mild winter last

year, TCAH appear to be off to an early start. These insects have piercing-sucking mouthparts and will feed in a circular pattern (girdle) around stems and petioles of plants including soybean and, less commonly, cotton. Insecticide seed treatments provide some protection, but are not bullet proof. TCAH are much more likely in no-till fields, but any small field or field margins can be affected.

**Soybean:** The primary concern with TCAH infestations in soybean is girdling of seedling plants that will later result in lodging, particularly when the plants get some size on them and following a wind storm. The phone will often ring in July about injury that was sustained many weeks earlier when plants were less than 8-10 inches tall. It takes a lot of TCAH to cause economic injury on plants larger than 10 inches tall. Once past the seedling stage, UT recommends treatment only if populations exceed 1 per sweep (and some states use an even higher threshold). TCAH are hard to scout in seedling soybean. Gentle sweeping and observation can indicate their presence. Treatment is often recommended considering whether a seed treatment was used, the size of the beans, the obvious presence of TCAH, and the amount of girdling that is occurring. The official threshold is when 10 percent or more of soybean plants less than 10-12 inches tall are infested. Pyrethroid insecticides and Acephate/Orthene (at a minimum of 0.67 – 0.75 lb/acre) are recommended for control.

Girdles in seedling soybean often don't become visually obvious until later. One trick is to bend over a row of plants with a yard stick or sweep net handle. Girdled plants will often cleanly break. You may noticed plants "pop-

ping" as you walk through fields. Yield loss is more likely if the plant stands are thin to begin with.

**Cotton:** Feeding in cotton is only rarely a problem. It may be fortunate that girdled cotton plants usually wither and die, and thus don't compete for resources and then break over later in the season as we see in soybean. Girdling on plants with less than 5-6 nodes will typically stunt plants and the stems and leaves (or leaf margins) will often turn a characteristic crimson color above the girdle. The girdle will typically be swollen.



**Threecornered alfalfa hopper adult**

As this is such a rare problem, there are no defined treatment threshold for TCAH in cotton. I'm really not sure at what stage mainstem girdling is no longer likely. Best guesses are to treat if fields are less than 5-6 nodes if there are one or more TCAH every 2-3 foot. The goal is to prevent unacceptable stand loss. Although damage will often be worse along field edges, the good news is that affected plants are typically scattered. Neighboring plants will compensate for the loss of scattered plants. TCAH can be controlled with Acephate/Orthene but use a minimum of 0.67 lb per acre. As with soybean, pyrethroid insecticides work well but on typically discouraged on seedling cotton because they are more likely to flare spider mites or aphids.  $\Delta$

*DR. SCOTT STEWART: IPM Extension Specialist, University of Tennessee*



**Lodging of small plant caused by TCAH**