

## **Management of Threecornered Alfalfa Hopper (Hemiptera: Membracidae) in Peanut**

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Threecornered alfalfa hopper (TCAH), *Spissistilus festinus*, is a commonly present true bug in mid to late season peanut fields. TCAH injures peanut by feeding on and girdling stems and leaf petioles. While there are currently no empirically-based economic injury levels or thresholds, TCAH is commonly treated with broad-spectrum insecticides which could increase the risk of secondary pest outbreaks. To determine the effect of feeding injury on yield, a caged study was done with various infestation rates (0, 10, 20, 30) at two farm locations. An insecticide efficacy evaluation was also done to identify an effective management option. The cages were infested on August 4<sup>th</sup>, 2017 when you would commonly see TCAH and feeding injury and dried biomass (vegetative and pod) was recorded at harvest. The insecticide efficacy evaluation involved five foliar treatments and sampling was conducted at 1, 5, 9, and 16 days after treatment.

There was a significant location effect for feeding injury by infestation rate at both locations. Locations were combined to analyze a significant effect on infestation rate and pod weight (yield). There was no significant correlation between yield and injury at either location or when combined. It is suggested that there is a complex feeding and damage relationship in peanut that cannot be explained based on visible injury alone. For the efficacy evaluation, bifenthrin significantly reduced populations at 16 DAT as compared to the untreated check. TCAH adults are highly mobile; the insect's mobility combined with relatively small plot size may have contributed to the lack of treatment effects seen in this trial. TCAH nymphs were rare; additional study is needed to evaluate efficacy of alternative active ingredients against nymphs.