

Evaluation of Host Plant Resistance in Peanut Cultivars to Peanut Burrower Bug

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The peanut burrower bug *Pangaeus bilineatus* (Hemiptera:-Cydniidae), negatively impacts the quality of peanuts especially those produced on non-irrigated acres. In addition, peanuts grown using minimum tillage practices are at increased risk of burrower bug feeding damage compared to those produced using conventional tillage. Each year, significant peanut acreage is planted in non-irrigated fields and managed utilizing minimum tillage systems. Thus, it is important to develop effective management tactics that target burrower bug under these conditions. Host plant resistance has the potential to be a valuable tool against this important economic pest.

Experiments were conducted in Brooks County, GA in 2018 and 2019 to evaluate the resistance of peanut cultivars to burrower bug feeding and pod damage. The trials were implemented in three non-irrigated, commercial peanut fields with a history of burrower bug damage. Eleven cultivars were tested over the two year study. The treatments were planted in 18 by 30 feet plots and were replicated four times. Burrower bug populations were monitored throughout the season using pitfall traps and light traps. Yield was determined at harvest, and a subsample of harvested pods was randomly collected from each plot for analysis of injury and grade. Burrower bugs were present at all test locations, but pest numbers and feeding injury varied by test site. GA-12Y had numerically lower injury than any cultivar in all three site years and sustained less than 5% damage in all field evaluations. Measurements of the mean force required to penetrate the peanut hull suggest that GA-12Y's hull might be more difficult for the insect to penetrate than other cultivars. This finding will be reevaluated in future experiments. The results of this work provide some evidence that host plant resistance present in commercially available cultivars could play a role in managing peanut burrower bug.