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**NATIONAL PEANUT BOARD / SOUTHEAST PEANUT RESEARCH  
INITIATIVE**

FINAL REPORT for WORK DONE UNDER RESEARCH AGREEMENT # 26-31-  
RE671-551 GACCP PNUT CULT RESP BEASL

INSTITUTION: University of Georgia  
PROJECT TITLE: Peanut Cultivar Response to Insect Damage  
RES. AGR. NO.: 26-31-RE671-551  
PROJECT LEADER: Dr. Mark R. Abney  
EXPIRATION DATE: 30 June 2014  
SPRI CONTACT: Jamison Cruce  
NPB CONTACT: Bob Parker

**FINAL REPORT:** The following trials were planted in Georgia, Alabama, and Florida in crop year 2013 to evaluate peanut cultivar response to insect infestation and damage.

Trials were established at the University of Georgia's Gibbs Research Farm in Tift County, GA; a research farm located at the UGA Aquaculture Unit just north of Tifton, GA; the North Florida Research and Education Center near Marianna, FL; and the Wiregrass Research and Extension Center at Headland, AL to evaluate peanut cultivar response to population levels and damage from foliage feeding and/or pod feeding insect species.

Multiple cultivars were planted at each of the locations. There was an irrigated and non-irrigated site at the Wiregrass Research Center in Alabama. The Gibbs Farm at UGA was an irrigated site and the Aquaculture Unit near Tifton, GA was non-irrigated. The Florida trial was irrigated. The sub-plots at each location were two rows spaced 36 inches apart in the single row pattern and 40 feet in length. The experimental design at each location was a split plot with cultivar as the main plot and insecticide treatment as the sub-plot. Each location had four replications of treatments. There were four sub-plots within each cultivar main-plot, which allowed for an untreated check compared to three insecticide treatments in the event of an insect outbreak.

Cultivars planted at each location are:

**Gibbs Farm (GA)** – Georgia-06G, Georgia-07W, Georgia-09B, Georgia Greener, Florida-07, FloRun 107, TUFRunner 727, Tifguard

**Aquaculture Unit (GA)** - Georgia-06G, Georgia-07W, Georgia-09B, Georgia Greener, Florida-07, FloRun 107, TUFRunner 727, Tifguard

**Marianna (FL)** – Florida-07, FloRun ‘107’, TUFRunner ‘727’, Georgia-06G, Georgia-07W, Tifguard

**Headland (AL)** - Georgia-06G, Georgia-07W, Georgia-09B, Georgia Greener, Florida-07, Tifguard

Each trial was scouted weekly season long for foliage feeding and pod feeding insect populations. Insect populations were generally low to non-existent at all locations in 2013, and insecticide treatments were only applied at the two UGA locations. The treatment design was modified such that each main-plot was divided into two, four row sub-plots. One sub-plot remained untreated while the other was treated on 19 Aug (Aquaculture Unit) and 26 Aug (Gibbs Farm) with the insecticide bifenthrin (Fanfare ES) at 5 fluid ounces of formulated product per acre. Treatments were applied using a tractor mounted, CO2 powered plot sprayer delivering 15 gallons finished spray solution per acre at 40 psi.

Because of low insect pressure no data were collected by cooperators in AL or FL.

Analysis of variance was performed on foliage feeding caterpillar data and three cornered alfalfa hopper data in the UGA trials. All caterpillar species were combined for analysis at both UGA locations due to low numbers of individual species. Likewise, adult and immature three cornered alfalfa hopper counts were combined for analysis. There were no significant differences in insect populations between any of the cultivars at the Gibbs Farm or Aquaculture Unit on any sample date. The insecticide treatment significantly reduced three cornered alfalfa hopper numbers one week after application, but no difference in caterpillar populations was observed at the Gibbs Farm location. Caterpillar populations were significantly lower in treated plots one week following insecticide application at the Aquaculture Unit, but three cornered alfalfa hopper numbers did not differ on any sample date by cultivar or treatment.

*Summary*  
Though this research did not identify significant differences between varieties in terms of insect preference or host plant resistance, it did provide insight that led to the development of new research protocols in 2014. That work will continue to evaluate the susceptibility of commercially available varieties to insect damage, but will also examine the economic impact of using integrated pest management tactics in place of calendar based spray programs.