**Thrips Injury Impact on Yield and Grade of Peanut Cultivars.**

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Tobacco thrips (*Frankliniella fusca*) and Western Flower thrips (*Frankliniella occidentalis*) are serious insect pests in peanut. These two species are the two primary thrips species causing early season damage on peanut in the Southeastern United States. Severe thrips feeding results in symptomology resembling a burned or scorched appearance of the peanut tissue. Peanut has been known to tolerate minimal feeding without significant reduction in yield or percentage of total sound mature kernels (TSMK). Tobacco and Western Flower thrips are also vectors of tomato spotted wilt virus (TSWV). Over the past six years there have been five new runner-type peanut cultivars released for production in the Southeastern U.S. These five cultivars have considerably higher levels of resistance to TSWV than ‘Georgia Green’, the dominant runner-type cultivar during crop years 1996-2006. Trials were conducted in crop years 2010 and 2011 to determine the yield and grade factor response of the more recently released cultivars to thrips injury. ‘Georgia-06G’, ‘Georgia-07’, ‘Georgia Greener’, ‘Florida-07’, and ‘Tifguard’ were planted in late April in both years and evaluated for response to thrips injury when treated with Thimet brand insecticide applied in-furrow at 5.0 lbs/acre at planting compared to no at-plant insecticide. Experimental design was a split-plot with cultivar as the main plot and insecticide treatment as the sub-plot. Individual plots were two rows (6 ft.) by 40 feet in length with four replications. Data collected included plant stand (plants per row-foot) at 10, 20, 30 days after planting and at inversion, thrips injury rating (1-10 scale with 1 being no injury), yield, and grade factors. When pooled over years, data analysis for yield indicated no interaction between cultivar and insecticide treatment. There was a significant difference between the Thimet treatment and the untreated check when averaged over cultivars and years with the Thimet treatment having a significantly higher yield (6825 versus 6505 kg ha-1). Data analysis for total sound mature kernels indicated no interactions but a significantly higher TSMK percentage (75.6%) for the Thimet treatment compared to the untreated check (75.0%). There was significant difference between Thimet (2.3) and the untreated check for thrips injury (6.3) when rated on a 1-10 scale. All five cultivars responded the same to thrips injury when no in-furrow insecticide was applied.