Report to the Georgia Agricultural Commodity Commission for Peanuts-2024

Effect of In-Furrow and Foliar Insecticide Treatments on Tomato Spotted Wilt and Yield in New TSWV Resistant Cultivars and Breeding Lines

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Pressure from spotted wilt and yield losses to the virus were down 2024 compared to 2022 and 2023. Several new peanut cultivars have excellent yield potential and good field resistance to Tomato spotted wilt. Use of phorate (Thimet) insecticide has been a major factor in management of Tomato spotted wilt with results often more obvious during years with high pressure from the virus. Objectives of this project included determining the response of new peanut cultivars to Thimet and whether Thimet is needed on these cultivars.

Field experiments were conducted comparing new cultivars with and without in-furrow application of Thimet insecticide. Cultivars Georgia-06G, Georgia-12Y, Georgia-18RU, Georgia-19HP, Georgia-21GR, TifNV-HG, CB-2, FloRun'52N', FloRun'T61'and Arnie. The trial was planted on May 3, 2024 using a seeding rate of approximately 4.5 seed/ft of row. Incidence in nontreated Georgia-06G was 35.0% compared to 32.5%% with Thimet. Final incidence in nontreated plots was lowest for Arnie, and multiple cultivars had incidence lower than in Georgia-06G. Few cultivars had a significant reduction of TSW with Thimet. Averaged across all varieties, use of Thimet had no effect on incidence of spotted wilt (20.1% nontreated vs 17.2% with Thimet) or pod yield (4753 lbs/A nontreated vs 4793 lbs/A with Thimet. The new cultivar Arnie looked especially promising.

A field experiment was conducted to determine the effect of multiple peanut genotypes on incidence of TSW. Entries included lines from USDA, UF, and private breeders. Multiple lines from Dr. Holbrook's program (USDA) and Dr. Tillman's program (Univ. Florida) with very low incidence, similar to or lower than that of Georgia-12Y, and much lower than in Georgia-06G.

A field experiment was conducted with graduate student Namrata Maharjan to determine the effect of peanut genotypes on incidence of TSW. Entries included lines developed by Ms. Maharjan and Drs. Bertioli, most with genes ingressed from wild species. Multiple lines had incidence of spotted wilt lower than observed in Georgia-06G.