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 up in 2022 and 2023 compared to previous years. 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-16HO, Georgia-18RU, Georgia-19HP, Georgia-20HO, Georgia-21GR, TifNV-HG, CB-2, and and AU-NPL 17. The trial was planted on May 5, 2023 using a seeding rate of approximately 4.5 seed/ft of row. Incidence in nontreated Georgia-06G was 42.5%%, compared to 30.7% with Thimet. Final incidence in nontreated plots was lowest for Georgia-12Y, and multiple cultivars had incidence lower than in Georgia-06G. All cultivars had a significant reduction of TSW with Thimet. Averaged across all varieties, use of Thimet reduced incidence to from 30.3% to 18.8% and increased yield from 3982 to 4512. In plots with Thimet, yields were highest in TifNV-HG, 5699 lb/A, compared to 4102 lb/A for Georgia-06G.

A field experiment was conducted to determine the effect of multiple peanut genotypes on incidence of TSW. Entires 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.