

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 2021 compared to 2020, but not as high as in 2019. 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. Objectives of this project included determining the response of new peanut cultivars to Thimet and whether Thimet is needed on these cultivars.

In 2021, field experiments were conducted comparing new cultivars lines with and without in-furrow application of Thimet insecticide. In 2020, this trial included cultivars Georgia-06G, Georgia-12Y, Georgia-14N, Georgia-16HO, Georgia-18RU, Georgia-20HO, TUF Runner 297, TUFRunner 331, TUFRunner 511, TifNV High O/L, and AU-NPL 17. The trial was planted on May 3, 2021 using a seeding rate of approximately 4.5 seed/ft of row. Incidence in nontreated Georgia-06G was 25.0%, compared to 13.4% with Thimet. Final incidence in nontreated plots of Georgia-12T, Georgia-20HO, or AU-NPL 17 was 8.9% or lower. Averaged across all varieties, use of Thimet reduced incidence to from 18.0% to 11.2% and increased yield from 5222 to 5613. Averaged across Thimet and no Thimet treatments yields in TUFRunner 297, Georgia-16HO, and Georgia-12Y were 5864, 5808, and 5726 lb/A, respectively, compared to 5172 (LSD = 435 lbs) for Georgia-06G.

Velum Total, the combination of Fluopyram and Imidacloprid was replaced by Velum Prime, which contains only Fluopyram. Since it does not provide thrips control, we looked at it in combination with either Thimet in furrow or followed by broadcast applications of Orthene for thrips control. Velum Prime had no effect on thrips or TSW either applied alone or in combination with Thimet or Orthene. Final incidence in nontreated plots was 46.1%, where incidence in plots with Thimet was 17.5 averaged across other combination treatments and Thimet alone. Incidence in treatment with two applications of Orthene as an early foliar spray, had incidence of 20.7%.