

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 2019 compared to recent years. Several new peanut cultivars have excellent yield potential and good field resistance to Tomato spotted wilt. However, in 2019, more attention to an integrated disease management system was needed than in several recent years. 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.

Field experiments were conducted comparing new cultivars lines with and without in-furrow application of Thimet insecticide. In 2019, this trial included cultivars Georgia-06G, Georgia-12Y, Georgia-14N, Georgia-16HO, Georgia-18RU, TUF Runner 297, TifNV High O/L, and AU-NPL 17. The trial was planted on May 1, 2018 using a seeding rate of approximately 4.5 seed/ft of row. Incidence in nontreated Georgia-06G was 38.8%, compared to 28.1% with Thimet. Final incidence in Georgia-12T, AU-NPL 17, or TifNV High O/L was 16.5% or lower. Averaged across all varieties, use of Thimet reduced incidence to from 26.3 1% to 17.6% and increased yield from 5322 to 6132. Averaged across Thimet and no Thimet treatments yields in Georgia-12Y and TUF Runner 297 were 6540 and 6715 lb/A, respectively, compared to 5147 for Georgia-6G.

One trial was conducted to examine the effects of Velum Total, and Admire as in- furrow treatments on thrips damage, incidence of tomato spotted wilt, and yield on Georgia-06G in a field without CBR or rootknot nematode infestation. Thrips control with the 18 fl oz/A rate of Velum Total and Admire at 10 fl oz/A was comparable to or better than that of Thimet. Application of Thimet in-furrow reduced incidence of spotted wilt from 19.9 % in the nontreated plots to 13.1%. None of Velum Total, Admire, Propulse, or AgLogic reduced the incidence of spotted wilt. Yields averaged 7549 in treatments that included Thimet and 7097 in treatments with no Thimet. The application of a superabsorbent gel with Thimet in-furrow resulted in final incidence of 8.6% compared to 13.1% with Thimet alone and 19.9 in the nontreated control.