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2016

Summary
Southeastern Peanut Research Initiative
Final Report, February 22, 2018
On Progress on Research Supported by the 2016 Grant

“Integrated Management of Tomato Spotted Wilt, Leaf Spot, Rust, White Mold, and CBR in Peanut”

Leaf spot diseases were especially severe in some fields in 2016. The new cultivar “Georgia-13M” is extremely susceptible to late leaf spot. Numerous fungicides, including all of the strobilurin fungicides (such as Abound or Headline) we’ve tested and all but one of the sterol inhibitor fungicides (such as tebuconazole or Alto) are much less effective than they were a few years back. Mixtures of these fungicides with fungicides with other modes of action, however, can still provide adequate leaf spot control. New cultivars have field resistance to Tomato spotted wilt that is better than that of Georgia-06G. Phorate (Thimet) remains the only insecticide available that helps suppress spotted wilt. In-furrow applications of Velum Total had no effect on incidence of spotted wilt but provided substantial early season control of leaf spot.

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Final Report, February 22, 2018
On Progress on Research Supported by the Grant**

“Integrated Management of Tomato Spotted Wilt, Leaf Spot, Rust, White Mold, and CBR in Peanut”

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Update:

- A. Multiple field trials were conducted in which we are evaluated the effects of Priaxor fungicide for leaf spot efficacy, compared to Headline, which it replaced, and other strobilurin fungicides. Various timings are being evaluated to examine curative and protectant activity, as well as duration of control of Priaxor. In both 2015 and 2016 at Tifton and in 2016 at Plains, noticeable declines in efficacy of all available strobilurin fungicides were observed, whereas Priaxor performed much better than any of the strobilurin fungicides applied alone. Similar trials are in progress in 2017.

- B. A field was conducted at the UGA-CPES Rigdon Farm to determine the effect of in-furrow Thimet applications on tomato spotted wilt severity and yield in peanut cultivars Georgia-06G, Georgia-12Y, Georgia-13M, Georgia-14N, TUF Runner 297, TUF Runner 511, FloRun 107, FloRun 157, MRS 37, and MRS 38. TSW pressure was heavier than in recent years, Across all entries, final TSW ratings were 17.1% without Thimet compared to 11.1% with Thimet. Cultivars Georgia-12Y and Georgia-13M had final ratings lower than those of Georgia-06G. TSW Levels were highest in TUFRunner 511, FloRun 107 and FloRun 157. TUFRunner 511, FloRun 157 and Georgia-06G had yield responses of 400 lbs or more with Thimet. Similar trials with new cultivars are in progress in 2017.

- D. Field trials were planted in April or early-May to determine the effect of various insecticides, including the new aldicarb insecticide “AgriLogic” (same active ingredient as Temik) on thrips and tomato spotted wilt.. Thrips pressure was heavy. Thimet, AgriLogic, and multiple imidacloprid treatments provided adequate thrips control. Thimet was the only insecticide that reduced incidence of spotted wilt.

- E. Two trials were conducted progress in which multiple advanced peanut breeding lines from multiple breeding programs are being evaluated for field resistance to TSWV. The trials utilized sparse seeding rates, and no insecticide for thrips control. Genotypes include lines that have both high-oleic oil chemistry and resistance to the peanut root-knot nematode. In one of those trials, multiple lines were planted without fungicide seed treatment. Several lines had final incidence of spotted wilt lower than that of Georgia-06G. In the nonsprayed trial, final severity of leaf spot was highest for Georgia-13M and TufRunner 511, and lowest in Georgia-14N and TifNV-Hi-OL.
- F. Field experiments were conducted to examine the effects of in-furrow and early season applications of fungicides on leaf spot epidemics. In-furrow applications of Velum Total had noticeable reductions in leaf spot 90 days after planting. Similarly, in-furrow application of the fungicide “Luna” which contains only the fluopyram component of Velum Total, provided extended control of leaf spot.
- G. Multiple fungicide trials were conducted in which various labeled and experimental fungicides were evaluated on cultivar Georgia-13M. In 2015, this cultivar was observed to be very susceptible to late leaf spot. With its yield potential, resistance to TSWV, and high-oleic oil chemistry, this cultivar has great potential. However, it will require very effective fungicide programs to prevent problems with leaf spot. Most trials were planted in late May to ensure heavier leaf spot pressure. It was very difficult to control late leaf spot on Georgia-13M. Fontelis, Priaxor, and Elatus were among the best available fungicides for leaf spot control. One experimental fungicide from Syngenta provided excellent control even on Georgia-13M. Additional work on the new experimental fungicide was a major focus of our current program in 2017.
- H.
- I.
- J.
- K.