Report to the
Southeastern Peanut Research Initiative
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. A field trial was conducted evaluating the effects of Priaxor fungicide for leaf spot efficacy, compared primarily to Headline, which it is proposed to replace. Various timings were evaluated to examine curative and protectant activity, as well as duration of control of these fungicides. Leaf spot epidemics were severe. In all cases, Priaxor was comparable to or better than Headline. Priaxor looks to have good residual and curative activity comparable to that of 9 fl oz/A of Headline. The pre-mix product Priaxor should be at least as good as Headline when used in ways comparable to the way we have used Headline in the past. Although white mold pressure was not great in our trials, Priaxor was better for white mold than Headline.

B. A field trial 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-09B, Georgia-11J, Georgia-12Y, Georgia-13M, Georgia Greener, Georgia-04S, Florunner-107, CRSP-192T and Tifguard. TSW pressure was light, and few differences incidence among genotypes or between Thimet vs no Thimet were observed. Yields were excellent, but there was no positive yield effect with Thimet. Across genotypes yields were 6387 and 6078 lb/A for no Thimet and Thimet treatments, respectively. Across insecticide treatments, yields were 7338 lb/A for Georgia-12Y, which was higher than that of any other entry. Yields of Georgia-06G and Georgia-09B were 6476 and 6722 lb/A, respectively. Georgia-13M showed good field resistance to TSWV (at least as good as Georgia-06G) and excellent yield potential. A similar trial is nearing completion in 2015.

C. A field trial was completed in which we sampled root tissue for the incidence of TSWV infection in Georgia-06G plots with and without Thimet. For each sampling, we test the tap root for TSWV with ELISA. In of infection in plants without symptoms was low through most of the season, regardless of treatments. For one sampling, there was higher incidence of infection in nontreated plots than in those treated with Thimet.

D. Multiple field trials were planted in early-May to determine whether any of several non
carbamate or organophosphorus insecticides can provide adequate control of tobacco thrips, without increasing the risk of losses to TSWV on Georgia-06G or Georgia-09B. Thrips pressure was heavy. Thimet was superior to plots in which Cruizer Max was used for both thrips control and TSW suppression. In-furrow applications of Admire alone or the experimental fungicide—-insecticide combination “Velum Total”, for which the insecticide component is the same as Admire, did well for thrips control. Experimental insecticide Cyazypyr did well for thrips control, but indications are it may be too expensive for peanut producers. Spotted wilt incidence was relatively light in most of those trials. However, Cruizer Max, Admire or Velum Total had any effect on tomato spotted wilt.

D. Two trials were conducted in which multiple advanced peanut breeding lines were evaluated for field resistance to TSWV. The trials utilized sparse seeding rates, and no insecticide for thrips control. Genotypes included 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 showed better emergence and early season vigor than Georgia-06G. That trial was also maintained without fungicides. Several lines had low levels of late leaf spot, compared to almost complete defoliation in Georgia-06G, and produced yields over 1000 lb/A more than Georgia-06G unsprayed. Tomato spotted wilt incidence was low in both trials, but advanced lines from both Dr. Holbrook’s and Dr. Branch’s program show excellent yield potential compared to the Georgia-06G standard.

F. A field experiment was conducted to examine the effects of in-furrow and early season applications of fungicides on leaf spot epidemics. Border rows were planted in May, and leaf spot epidemics were allowed to progress uninhibited. Plots were planted in August after epidemics in the border rows were severe. Epidemics in the plots developed rapidly. In-furrow applications of Proline fungicide provided at least 21 days protection under heavy pressure. Banded application of Proline or Headline at 21 days after planting showed more potential for helping with leaf spot management than in-furrow application of Proline. Results were similar to those from trials conducted in the previous two years.