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NATIONAL PEANUT BOARD/SOUTHEAST PEANUT
RESEARCH INITIATIVE

FINAL REPORT

2012

FINAL REPORT FOR WORK
DONE UNDER RESEARCH AGREEMENT

INSTITUTION: University of Georgia

PROJECT TITLE: Integrated Management of Tomato Spotted Wilt, Leaf Spot, Rust, White
Mold, and CBR in Peanut

RES. AGR. NO.: PROJECT LEADER: Albert Culbreath

GACCP Budget No.:

EXPIRATION DATE: June 30, 2013 NPB CONTACT: Bob Parker/Maria Mehok
NPB Budget No.:

REPORT OF PROGRESS:

- A field trial was conducted during the spring and summer of 2012 in which the effects of cultivars Georgia-06G, Georgia-07W, Tifguard, Florid-07, Georgia-09B, and Georgia-10T, on incidence of spotted wilt and leaf spot were evaluated. Leaf spot pressure was heavy toward the end of the season. Tifguard and Georgia-10T exhibited tolerance to leaf spot compared to Georgia-06G, Georgia-07W, and Georgia-09B, with yields of those two cultivars higher than others in the trial in nontreated plots. The test included each of these lines under varying levels of fungicide inputs (0, 3, and 6 applications of fungicides that include chlorothalonil, tebuconazole). The trial was planted in mid-May, 2012. Spotted wilt pressure was light and not evaluated. Tifguard, Georgia-07W, and Georgia-10T had lower white mold ratings than Georgia-06G in nontreated plots, but application of tebuconazole provided good control in all cultivars. In Tifguard and Georgia-10T, three applications of tank mixes of tebuconazole + chlorothalonil provided adequate control of leaf spot and white mold. Yields were highest for Georgia-10T in the nontreated plots, but all cultivars yielded well in 3 and 6 application treatments. A similar trial was conducted in 2013. Results will be analyzed shortly.
- B. A field trial was conducted at the UGA-CPES Lang Farm to determine the effect of in-furrow Thimet applications on tomato spotted wilt severity and yield in peanut cultivars Georgia-06G, Georgia-07W, Georgia-09B, Georgia-10T, Florida-07, Florun-107, and Tifguard. Objectives were to compare effects of the various genotypes on tomato spotted wilt, whether Thimet is needed for spotted wilt management, and if there are yield benefits to Thimet applications. All plots were cover sprayed with Orthene for thrips control. There was a trend of numerically lower incidence of TSW with Thimet treatment in most cultivars, and significant reduction of incidence in Florun-107, Georgia-09B, and Georgia Greener. However, there was no yield benefit with application of Thimet. A similar trial was conducted in 2013.
- C. A field trial was conducted at the UGA-CPES Lang farm to further examine the effect of

seeding rate on the new cultivar Georgia-10T. Previous work indicates that resistance in Georgia-10T is sufficient to allow planting with seeding rates as low as 3 seed/ft of row. Georgia-10T, Tifguard, Georgia-06G, and highly resistant standards Georganic, and NC 94022 was planted at 3 and 6 seed/ft of row. Final ratings indicate resistance in Georgia-10T is similar to that of Georganic, and corroborate previous trials in which 3 seed/ft of row was similar to 6 seed/ft of row for spotted wilt incidence. Yields were numerically higher for 6 vs 3 seed/ft of row, and analysis is being conducted to determine whether the yield increases justified additional cost of higher seeding rates.

- D. Field tests were conducted in which several non carbamate or organophosphorus insecticides were evaluated for control of tobacco thrips and effects on TSWV on Georgia-06G. Early season thrips ratings and initial spotted wilt ratings were made. The new insecticide Cyazypyr shows promise for both thrips control and spotted wilt suppression. Admire insecticide, which increased spotted wilt incidence on susceptible cultivars in the 1990's provided adequate thrips control, and although it did not suppress spotted wilt incidence, incidence was no higher than in the control plots. Karate (Lambda-cyhalothrin), provided suppression of thrips feeding damage early in the season, but was only slightly better than the non-treated control at the second rating. However, thrips feeding injury continued to increase in this treatment such that it became worse than in the nontreated control a few weeks later. In addition, spotted wilt incidence was much higher for this treatment than in any other treatment. Yield was good in even the nontreated control, and no treatment significantly increased yield. However yield in the Karate treatment was numerically less than that of the control. Similar trials were conducted in 2013.
- E. Field trials were conducted in which multiple advanced breeding lines were evaluated for field resistance to TSWV. The trial utilized early planting date, sparse seeding rates, and no Thimet for thrips control. All entries had final incidence of TSW lower than that of the Georgia Green standard. Six lines had final incidence of TSW that was lower than that of the Georgia-06G standard, and yields that were comparable to Georgia-06G. Breeding line C1805-3-36-41 had incidence of spotted wilt that was lower and yield that was higher than that of Georgia-06G. A similar trial was just completed for 2013.