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2014
Annual report & summary
Final Report

NATIONAL PEANUT BOARD/SOUTHEAST PEANUT
RESEARCH INITIATIVE
FINAL REPORT FOR WORK
DONE UNDER RESEARCH AGREEMENT-----

2014

INSTITUTION: University of Georgia

PROJECT TITLE: Uniform screening program for genetic resistance to peanut root
knot nematode, leaf spot, TSWV and soilborne diseases

RES. AGR. NO.: 25-21-RF332-655 PROJECT LEADER: Dr. Tim Brenneman

EXPIRATION DATE: June 30, 2015
SPRI CONTACT: Jamison Cruce NPB CONTACT: Bob Parker

PROGRESS REPORT: Advanced germplasm from four different breeding programs is being evaluated for susceptibility to our major peanut diseases in the southeast. A total of 32 advanced lines plus 8 cultivars were planted in replicated plots in a fumigated field to evaluate white mold (inoculated), TSWV, and leaf spot. A range of susceptibility to leaf spot was found with no experimental lines being highly resistant, but many were better than the susceptible check, GA-09B. Only moderate levels of TSWV were found and no major differences were seen among genotypes. The weather was moderately favorable for white mold and good epidemics developed. Standard susceptible cultivars like GA-09B and GA-06G had severe white mold epidemics and only yielded 3359 and 4054 lb/A, respectively. Cultivars with more disease resistance like GA-12Y and Tufrunner 727 yielded 5462 and 5881 lb/A, respectively. Several experimental lines yielded over 6000 lb/A, with a high of 6800, which is excellent under a minimal spray program and inoculation with white mold. These lines also had high levels of resistance to white mold, with one having only 8% of inoculated plants develop any symptoms at all. This is the highest level of resistance to white mold ever found in this trial. It appears that several breeding programs are developing lines with very promising levels of resistance to this damaging disease combined with high yield potential.