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

Final Report
June, 2013

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-RF332-577 PROJECT LEADER: Dr. Tim Brenneman

EXPIRATION DATE: December 31, 2012
SPRI CONTACT: Emory Murphy NPB CONTACT: Bob Parker

PROGRESS REPORT: Advanced germplasm from four different breeding programs was evaluated for susceptibility to our major peanut diseases in the southeast. A total of 38 advanced lines plus 12 cultivars were planted in replicated plots to evaluate white mold, TSWV, and leaf spot, and a smaller set of those were inoculated with *Cylindrocladium parasiticum* to evaluate CBR. The weather was very favorable for white mold and good epidemics developed. Standard susceptible cultivars like GA-09B and Georgia Green had 93% infected plants, as did the new Virginia cultivar Titan. Known resistant lines like Bailey and York had only 54% and 33% infection, respectively. Most experimental lines had more disease but some had as little as 42%. Leaf spot was slower to develop due the dry weather early, but damaging levels have occurred and there are obvious differences among genotypes. Severity on commercial lines ranged from GA-09B with a 7.3 on the Florida 1-10 scale down to 3.5 with York. Several experimental lines were equal to York in susceptibility to leaf spot. TSWV was low (<15%) on nearly all commercial cultivars and experimental lines, but a few had unusually high incidence. CBR was almost nonexistent in grower fields in 2012, but did develop in our inoculated plots. The lowest levels of disease and least yield loss was in GA-10T, although significant disease occurred in all genotypes. With the minimal fungicide program used, York had the highest yield of commercial cultivars (4671 lb/A), and one experimental line was over 5000 lb/A.