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

Final Report

Feb 13, 2010

INSTITUTION: University of Georgia

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

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RES. AGR. NO.: 25-21-RF332-467 PROJECT LEADER: Dr. Tim Brenneman

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EXPIRATION DATE: December 31, 2009

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**FINAL REPORT:** Advanced germplasm or recent releases from five different breeding programs were evaluated for susceptibility to our major peanut diseases in the southeast. A total of 57 genotypes were planted in replicated plots in a field previously fumigated with methyl bromide. Individual plants were inoculated with *Sclerotium rolfsii* and damaging levels of disease soon developed, but the range of disease severity demonstrated that germplasm is available with significant resistance to this damaging disease. Some genotypes demonstrated much lower levels of infection incidence. For example, on Georgia Green none of the inoculated plants had no disease, and the average disease locus was 74 cm long, and on A152-8 the average locus was twice that length. With York, one of our most resistant cultivars, 46% had no disease and the average locus was only 19 cm long. Some of the advanced lines had disease levels similar to York. Leaf spot was severe due to the wet weather and large differences were documented in susceptibility, with Florida 1-10 ratings ranging from 4.8 – 9.5 representing a huge range of susceptibilities. Levels of TSWV were all quite low and were not evaluated. Susceptibility to CBR was evaluated in paired plots in the field either inoculated or not inoculated. Some susceptible lines such as Tifguard, GA-07W, GA-08V and GA-06G lost more than 1000 lb/a in the inoculated versus noninoculated plots. GA-02C, GA Greener and some numbered lines had less disease and lower yield loss. The root knot nematode screen was conducted again also and showed the excellent resistance of Tifguard, and the susceptibility of most of the other germplasm evaluated. Some differences were noted in vigor and egg production among the other lines. Other useful data were collected on the relative disease susceptibility of the most recently released commercial cultivars. With the flood of new peanut cultivars being released, this is needed each year to enable us to update the Georgia Fungal Disease Risk Index and help growers make the best disease management decisions.