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

Final Report

Jan. 21, 2008

INSTITUTION: University of Georgia

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

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RES. AGR. NO.: 25-21-RF332-442 PROJECT LEADER: Dr. Tim Brenneman

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EXPIRATION DATE: December 31, 2007
SPRI CONTACT: Emory Murphy NPB CONTACT: Marie Fenn

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 73 genotypes were planted at the Southeast Branch Station in Plains, GA in replicated plots in a field with a history of CBR, and additional inoculum of *C. parasiticum* was applied to all plots to increase uniformity of disease development. However, the epidemic was still not severe and developed late due to the very hot, dry weather. The number of plants per plot with CBR ranged from 11-65 indicating a range of susceptibilities, and pod yield was widely variable with late maturity genotypes producing some high yields. The white mold inoculation test in Tifton was again successful and 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 only 8% of inoculated plants had no disease, whereas with AP-3, one of our most resistant cultivars, 21% had no disease. Some of the advance lines had no disease on 30-40% of the inoculated plants. Large differences were also documented in leaf spot susceptibility, with Florida 1-10 ratings ranging from 3.1 – 8.9 representing a huge range of susceptibilities. Levels of TSWV were generally low with the best entries having almost no symptoms; however, other lines had up to 14% indicating potential problems with this disease. Other useful data was 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.