

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

Final Report

Feb. 21,2007

#16
GA
2006
FINAL

INSTITUTION: University of Georgia

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

RES. AGR. NO.: 25-21-RF332-438

PROJECT LEADER: Dr. Tim Brenneman

EXPIRATION DATE: December 31,2006 (Extended)

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FINAL REPORT: Advanced germplasm from several different breeding programs was collected to evaluate susceptibility to our major peanut diseases in the southeast. A total of 71 genotypes were planted at the Southeast Branch Station in Plains, GA in replicated plots in a field with a history of CBR. Significant CBR developed, but the epidemic was late due to the very hot dry weather. The best data was obtained for the late season genotypes, with some known susceptible cultivars like C-99 having an incidence of 46%. Cultivars with known resistance like GA-02C had less disease (21%), and one experimental line, C34-24-85 had only 9% CBR incidence. Other tests using inoculations yielded more consistent data and may be used in the future. The white mold inoculation test was again successful. Some genotypes demonstrated much lower levels of infection incidence. For example, on Georgia Green only 4% of inoculated plants had no disease, whereas with AP-3, one of our most resistant cultivars, 21% had no disease. Other lines were even higher, with one advanced line from Florida having no disease on 67% of inoculated plants. Large differences were also documented in leaf spot susceptibility, but levels of TSWV were generally low. An additional trial involved plots either inoculated or not inoculated with *Rhizoctonia solani*. This involved many currently grown cultivars since our data base is still marginal on their susceptibility to limb rot. One reason for the lack of data on this disease is that limb rot epidemics can be hard to generate in the field. That was the case this year and there was not sufficient disease to make valid comparisons of genotypes. Overall some very useful data was collected which will help breeders identify promising lines, and has already been helpful in updating the Georgia Fungal Disease Risk Index.