

# 34  
2005  
FINAL

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

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Quarter ending

December 31, 2005

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INSTITUTION: University of Georgia

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PROJECT TITLE: Development of Peanut Cultivars with Improved Water Use  
Efficiency and Development of Peanut Cultivars with Resistance to  
the Peanut Root-knot Nematode and TSWV

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RES. AGR. NO.: 25-21-RD328-746 PROJECT LEADER: Dr. C. Corley Holbrook  
GACCP Control NO.: 4-823-653-5

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EXPIRATION DATE: December 31, 2005 NPB CONTACT: Chris Destino  
NPB Control NO.: 376

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**REPORT OF PROGRESS:**

During this year we conducted numerous field tests containing breeding lines that we are evaluating to assess their tolerance to drought. These lines were planted in replicated studies in our field at the Gibbs Farm that has ten rain out shelters. The shelters were then used to impose heat and drought stress for the 40 days immediately prior to harvest. Plots were visually rated for drought stress, and the yield and aflatoxin contamination was measured. Breeding lines that have relatively high yield and relatively low aflatoxin were identified. Documentation for one of these lines (C76-16) is being prepared to support a germplasm release.

An interspecific population was also planted at the Gibbs Farm. This population is segregating for nematode resistance, and has been used in a cooperative effort with Peggy Ozias-Akin's lab to develop an improved genetic marker for nematode resistance. The field test was used to assess the interspecific population for resistance to TSWV and leaf spot. These data are now being used to attempt to associate genetic markers with these resistances. Documentation for a line (C209-6-13) from another interspecific population was prepared to support a germplasm release.