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Final Report 2007 (Quarter ending Dec. 31, 2007)

Development of Peanut Cultivars with Improved Water Use Efficiency & Development of Peanut Cultivars with Resistance to Peanut Root-knot Nematodes and TSWV

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PROGRESS REPORT:

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.

A segregating population from the cross of C724-19-15 x Gregory. This population is segregating for nematode resistance, and has been used in a cooperative effort with Peggy Ozias-Akin's lab to develop improved genetic markers for nematode resistance. A greenhouse test was conducted to assess this population for nematode resistance. These data are now being used to attempt to associate genetic markers with these resistance. Documentation for a line (C209-6-13) from an interspecific population was prepared and published to support a germplasm release.