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2007
Final

Project Title:

Evaluation of advanced lines and selection for peanut variety adaptability to West Texas.

Personnel and Agency:

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Project Update: April 30, 2007

This is an ongoing peanut breeding and variety development program. Our original objects were to revive the Mycogen/Dow AgroSciences peanut breeding program and look for advanced lines that were high oleic, early maturing and high yielding when grown in West Texas. The breeding lines were planting in 2004 near Brownfield, Texas and every year since. Single plant selections and advanced lines have been made each year. Starting in 2005, selected lines were tested in replicated field trials. Currently, ACI has over 1000 lines for selection, over 100 uniform lines under evaluation, and are making crosses to develop additional high oleic, high yielding, early maturing, disease resistant lines.

The research plots for 2007 have been planted. The ACI peanut breeding nursery was planted near Brownfield April 19-21 2007. Planted were 1030 segregating lines for single plant selection. The emphasis of our program continues to be early maturing high oleic runner peanuts with disease resistance. Single plant selections will be made based on these criteria.

ACI also planted two replicated variety tests near Brownfield and an advance line test near Seminole, Texas. At Brownfield, ACI has a preliminary test of 25 previously untested lines, all high oleic and showing characteristics of early maturity. Also, at Brownfield, ACI has an advanced test with 13 lines that

have been tested for 1-3 years previously and have been superior to check varieties in yield, grade, and maturity.

Two lines in the advanced test, WT03-0048 and WT03-0051, are in seed increase and approximately 280,000 lbs of seed are currently available for planting Spring of 2007. Both of these lines have out yielded Flavor Runner 458 in replicated field trials and consistently grade better than Flavor Runner. These lines appear to be 7-10 days earlier than Flavor Runner. Currently, we are in the process of evaluating lines that are more than 25 days earlier than Flavor Runner. All lines in the advanced test are high oleic runner lines competitive in yield and grade with Flavor Runner 458.