

**NATIONAL PEANUT BOARD / SOUTHEAST PEANUT RESEARCH
INITIATIVE**

FINAL REPORT for WORK DONE UNDER RESEARCH AGREEMENT # 26-31-
RE671-663 GACCP RESPONSE TO BEASL

INSTITUTION: University of Georgia
PROJECT TITLE: Peanut Response to Agronomic Management
RES. AGR. NO.: 26-31-RE671-663
PROJECT LEADER: Dr. John P. Beasley, Jr.
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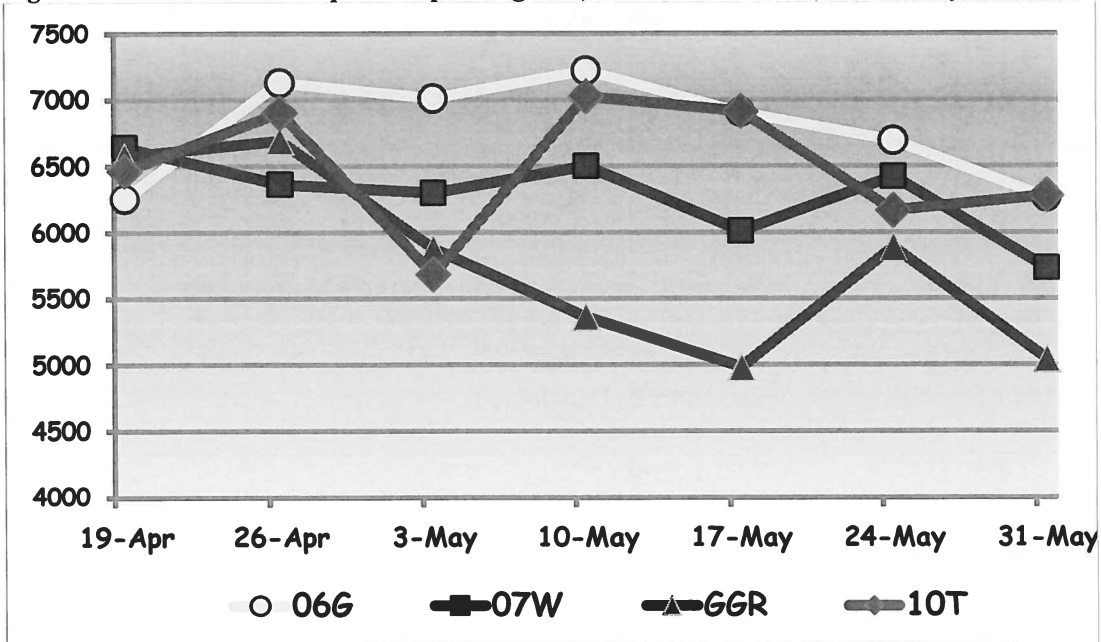
FINAL REPORT:

Agronomic research was conducted in 2011 in the following areas: planting dates, row patterns, seeding rate, irrigation, and plant growth regulators.

Cultivar Response to Planting Dates and Alternative Harvest Determination

Four runner-type cultivars were planted on a weekly basis for seven weeks. The cultivars were Georgia-06G, Georgia-07W, Georgia Greener, and Georgia-10T. Planting dates were: April 19, April 26, May 3, May 10, May 17, May 24, and May 31. Experimental design was a split plot with planting date as the main plot and cultivars as the sub-plot. Individual plots were two rows wide (6 feet) by 40 feet in length and there were 4 replications. All plots received Thimet brand insecticide at the rate of 5 pounds per acre at planting. Standard recommended practices were utilized to manage weeds and diseases. The trial was irrigated on an as needed basis. Maturity determination was evaluated by comparing two new potential methods versus the Hull-Scrape Maturity Profile. Those two methods include a degree day model being evaluated by scientists with the National Peanut Research Lab and a light reflectance system being evaluated by scientists in the UGA Biological and Agricultural Engineering Department in Tifton. For the purposes of this report, the cultivars' yield response to planting date will be examined. All four cultivars had their highest, or near highest yield at the April 26 planting (Figure 1 below).

Figure 1. Peanut cultivar response to planting date, UGA Ponder Farm, Tift County, GA, 2011.



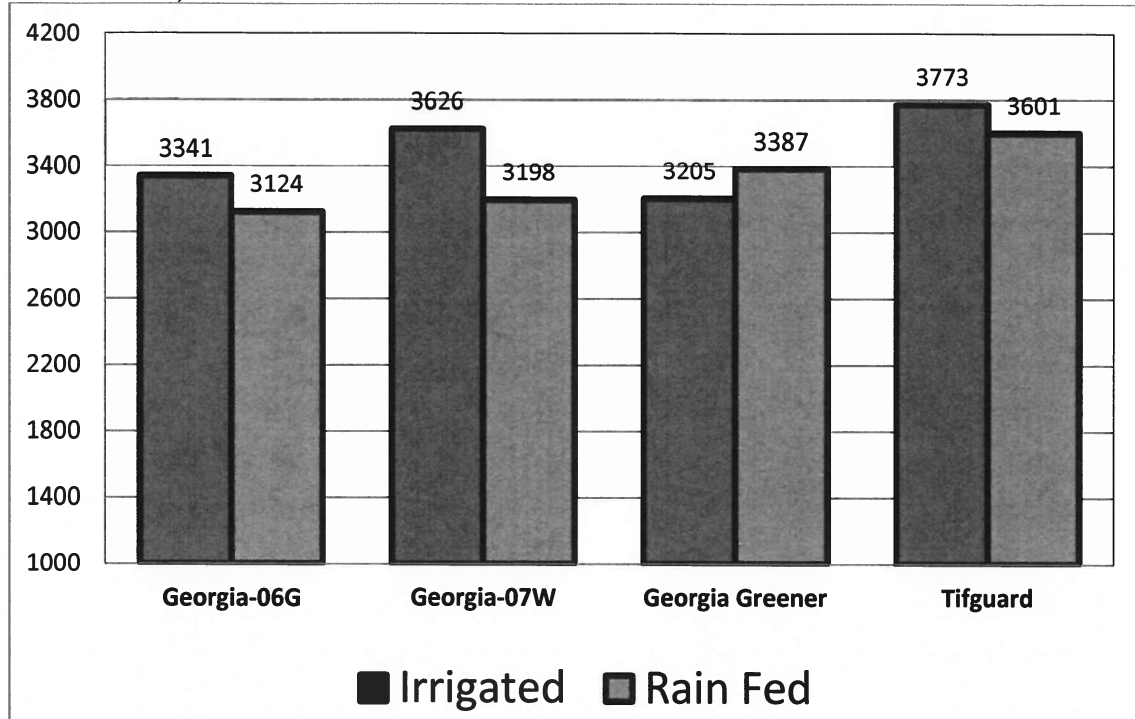
06G = Georgia-06G; 07W = Georgia-07W; GGR = Georgia Greener; 10T = Georgia-10T

Soil temperature was marginal for planting at the April 19th planting date. A week later, conditions were very desirable for planting in regards to soil temperature and soil moisture. Emergence rate was very rapid for the April 26 planting and was slow for the April 19 planting confirming the recommendation of waiting on soil temperature to warm adequately before planting. Georgia-06G had its highest yields at the April 26, May 3 and May 10 plantings. Yield of Georgia-06G dropped off on the May 17, 24 and 31 plantings.

Irrigated versus Non-Irrigated Trial

A trial that was initiated in 2009 was continued in 2010 and 2011 at the University of Georgia's Stripling Irrigation Research Park in Mitchell County to compare the response of four cultivars to irrigated and non-irrigated conditions. The trial was conducted under a lateral irrigation system that allowed irrigated and non-irrigated plots in the same replication. Plots were eight rows by 55 feet in length. The two center rows were used for harvested yield. There were four replications. UGA EASY Pan was used for triggering irrigation. Yield data from the trial is presented in Figure 2 below.

Figure 2. Peanut cultivar response to irrigated and non-irrigated treatments, Stripling Irrigation Research Park, 2011.



Our primary concern the past couple of years is that the large-seeded runner-type cultivars (Georgia-06G, Georgia-07W, Tifguard, and Florida-07) would be poor selections in a non-irrigated system. The data from 2011 at Stripling Irrigation Research Park on small plots in addition to several on-farm, replicated, large plot trials across the state indicate that Georgia-06G is a good choice on non-irrigated farms, primarily due to its excellent yield and grade potential. Tifguard performed well in the trial. Soil testing indicated a minor level of peanut root-knot nematode. Georgia Greener actually had a slightly higher yield in the rain fed scenario.

Summary of Additional Trials

Other trials conducted in 2011 included cultivar response to in-furrow insecticides, cultivar response to single versus twin row, an evaluation of 30-inch versus 36-inch single and 36-inch based twin row spacings, cultivar response to plant growth regulators, row pattern by seeding rate interaction, and seven on-farm trials with county Extension agents. In the cultivar response to row pattern and tillage there was little difference in yield between single and twin row when averaged over conventional and strip tillage. We see less difference between single and twin with the more recent cultivar releases. At the Vidalia Onion and Vegetable Research Farm a trial was established to determine cultivar response to a PGR (Apogee) when peanut is planted following onion harvest. Onions receive high rates of fertilizer and the concern was that excessive residual fertilizer would create excessive vine growth. Four cultivars (Georgia-06G, Georgia Greener, Georgia-07W, and Tifguard) were planted in two-row plots, 40 feet in length. There were 5 replications. Statistical analysis indicated no interaction between cultivars and PGR treatment. When averaged over cultivars, there was no difference between the Apogee treatment and untreated, which is the same result as in the 2010 trial.