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

INSTITUTION: University of Georgia

PROJECT TITLE: Analysis of Production Costs for SE Peanut Producers

RES. AGR. NO.: 26-31-RE670-200 PROJECT LEADER : Dr. Nathan Smith

EXPIRATION DATE: December 31, 2014 NPB CONTACT: Bob Parker/Maria Hehok
NPB Control NO.: 308

FINAL REPORT:

Project 26-31-RE670-324 titled Analysis of Production Costs for SE Peanut Producers is a project to conduct economic analyses for SPRI research projects that lend themselves to economic analysis.

Crop Insurance:

The project leader assisted AgriLogic, Inc. and Georgia Peanut Commission with development of a Peanut Revenue Insurance Program Concept Proposal submitted as 508h project to the Risk Management Agency. The proposal was approved and the PI provided data and expertise to AgriLogic on possible designs for a revenue policy for peanuts. Dr. Smith also collaborated with Bill Smith on looking at quality adjustment provisions for the peanut crop insurance policy. Quality loss payments were delayed in many cases as these payments were dependent on the value of the peanuts. Growers with Seg 2 and Seg 3 peanuts in the loan or as part of a marketing cooperative would have wait until the crop insurance company could determine the value based on the sale of the peanuts which could up to a year. The quality adjustment provision was proposed to go back to using the grade value to determine the loss and payment.

Economics of Seed Treatment and Seeding Rate:

Economic analysis was conducted on a three year study conducted by Dr. Scott Tubbs and Dr. John Beasley. Gross returns adjusted for yield, grade, production systems and marketing costs were calculated and compared for two seeding rates (3.8 seed/ft. vs 5.7 seed/ft) and untreated seed versus seed treated with Dynasty. The study was conducted in Plains, GA at the Southwest Georgia Experiment Station and the Tifguard peanut variety was planted. Summarizing the results, a lower seeding rate of 3.8 seed/ft. at the Plains location was more profitable by \$40 per acre than planting at a rate of 5.7 seed per foot. For the same study, seed treatments were analyzed and despite agronomic differences, there was no difference in profitability of treated seed over untreated. At the 3.8 seed/ft. seeding rate, the untreated seed averaged \$3.40 per acre more than the

dynasty treatment across the 2009-2011 years. The untreated seed averaged \$5.78 per acre more than the dynasty treatment on the 5.7 seed/ft. rate.

Hi-Oleic Variety Premium:

A premium was offered for peanuts with the Hi-Oleic trait. The premium offered was \$50 per ton added to option contracts for hi-oleic peanuts like Georgia-09B. Yield data for Georgia-06G and Georgia-09B (hi-oleic) were collected from two sources, the Georgia statewide variety trials and the RDC Pivot in Tifton. The variety trial data covered years 2012 and 2013 and non-irrigated and irrigated. Yield and grade data were available for three locations, Midville, Plains and Tifton research stations. Assuming costs are equal except for seed cost, the difference in gross returns was compared between Georgia-06G and Georgia-09B with the \$50 per ton premium included in the Georgia-09B price. A \$425 per ton price was used for Georgia-06G versus and \$475 per ton price for Georgia-09B. The statewide variety trial data suggests that the \$50 premium is worth consideration under irrigated practice as the gross return per acre for Georgia-09B, adjusted for grade and seed premium, averaged \$50.10 more than the Georgia-06G. Georgia-09B was higher in both years and all locations except for Plains in 2012. For the non-irrigated trials the Georgia-06G gross return averaged \$118.49 higher per acre. The return was greater for Georgia-06G for both years and all locations except Plains in 2013.

The data collected from continuous variety, row spacing and tillage trial at the RDC Pivot in Tifton, Georgia resulted in Georgia-06G averaging the highest gross return adjusted for grade and premium. The trial was all irrigated and Georgia-06G was higher by \$11.53 per acre for all tillage and row spacing.

Peanut Cost of Production:

Peanut enterprise budgets are developed and updated each year. These budgets are used a templates for economic analyses of production research and modified according the inputs and practices used in research studies. The budgets estimate the cost of production that are representative of a peanut operation. The peanut budgets were revised and updated in 2013 and 2014 reflecting higher yields and larger harvest machinery. The irrigated peanut yield was raised from 4,200 pounds in 2012 to 4,500 pounds in 2013, and to 4,700 pounds in 2014. Non-irrigated peanut yield was raised from 2,800 pounds per acres in 2012 to 3,000 pounds per acre in 2013, and to 3,200 pounds per acre in 2014. The yields were updated based on yields from research trials and expert opinion of specialists. A survey with county agents was conducted on the size of machinery typical in their county. The tillage and tractor size were found to be representative but most counties responded that harvest machinery for a majority of farms had upgraded in size to six row. The budgets were modified to reflect six row harvest equipment in 2014 lowering cost per acre due to efficiencies gained by being able to harvest more acres. Fixed costs fell from \$94.96 per acre to \$76.24 per acre for a six row combine and six

row digger/invertor with a 200 hp MFWD tractor and 21 foot peanut wagon. Variable costs per acre were lowered by \$17.79 per acre due more acres covering in an hour.

Tractor Speed:

Dr. Scott Tubbs conducted a trial using different tractor speeds for planting peanuts. The trial was conducted in 2010 (Tifton, Plains), 2011 (Attapulgus, Plains) and 2012 (Tifton). The treatments included three low gears, L2, L3, and L4 and six different speeds, 2, 2.4, 2.8, 3.2, 3.7 and 4.1 miles per hour. Yields and grade were recorded and gross returns calculated adjusted for grade and planter operating cost at the different speeds. A field efficiency of 65% is assumed due to stopping to load seed and turning at end rows. The economic results showed the low speeds produced higher returns per acre. The average adjusted gross return was the highest for L2 gear at \$762.98 per acre using loan rate of \$355 per ton. The next highest average return was L3 gear at \$749.76 per acre, followed by L4 at \$727.83. The lower speeds produced higher average adjusted gross return with 2.4 mph returning \$767.71 per acre followed by 2 mph at \$758.25. The fastest speed was the lowest return at \$723.81 per acre. The results suggest it doesn't pay to get in too much of a hurry in planting peanuts as far as tractor speed.

Gear	Adj Gross Rev	Speed	Adj Gross Rev
L2	\$762.98	2	\$758.25
L3	\$749.76	2.4	\$767.71
L4	\$727.83	2.8	\$741.65
		3.2	\$757.87
		3.7	\$731.84
		4.1	\$723.81