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RESEARCH INITIATIVE
FINAL REPORT FOR WORK
DONE UNDER RESEARCH AGREEMENT

Final Report
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INSTITUTION: University of Georgia

PROJECT TITLE: Analysis of Production Costs for SE Peanut Producers

RES. AGR. NO.: 2631RE670324 PROJECT LEADER: Dr. Nathan Smith
GACCP Contract NO.:

EXPIRATION DATE: December 31, 2011 NPB CONTACT: Marie Fenn
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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. Dr. Smith's was responsible for analyzing data for Georgia projects. As data was received work was begun on analyses and completed on a number of cases. Research was conducted with the help of an economist hired part-time to complete analyses on data from 2009 and 2010 that was received from principle investigators in 2011.

Completed economic analyses are summarized below:

Row Pattern and Seeding Rate Effects on Agronomics, Diseases, and Economics in Large-Seeded Runner Peanuts manuscript was submitted to and accepted by Peanut Science incorporating economic results. The economic results showed that dropping to a 5.2 seed per foot seeding rate in a single row pattern increased revenue for the trials conducted in 2008 and 2009 at the Southwest Research and Extension Center over the recommended rate of 6 seed per foot. The conventional tillage trials continue to show higher returns for twin-row pattern versus single-row pattern across cultivars. Twin row returns ranged \$9-\$147 per acre more than single row.

Economic Analysis of Inoculants and Starter Fertilizer for Peanuts Under Conservation Tillage

An economic analysis of inoculants and starter fertilizer for peanut under conservation tillage was conducted with Dr. Scott Tubbs as the principle investigator. Treatments included three inoculants (Optimize Lift, Vault Liquid, and Vault SP) and three levels of starter fertilizer. The starter fertilizer was tested at 15 lbs., 30 lbs., and 60 lbs. of nitrogen per acre. The trial was planted using AP-3 cultivar at 6 seed/ft. in single-row pattern using conservation tillage. Fifteen systems were compared against the control of no inoculant and no starter fertilizer. Added costs to the each of the systems were estimated and compared with added revenue for each system. Results showed inoculants increased net returns. Liquid inoculants increased by \$164 per acre and dry inoculant increased by over \$28 per acre. The 2009 average increase was \$57 per acre. Contrary to inoculant results,

starter fertilizer returns decreased in both years analyzed, 2008 and 2009. The increased cost of starter fertilizer was not offset by an increase in yield thus lowering net returns. Returns were reduced on average between \$24-\$29 per acre in 2008 and \$15-\$54 per acre in 2009. The exception in 2009 was at the 15 lb. per acre rate of N which showed an \$18 increase in return. As a result recommendations were not changed for inoculants and starter fertilizer. Results presented at the American Peanut Research and Education Society annual meeting in 2011.

Economic Assessment of Double-Crop and Relay-Intercropping Systems of Peanut with Wheat

Data from Dr. Scott Tubbs 2009 and 2010 peanut wheat relay system project were analyzed. The project objective was to determine the most effective cropping systems to maximize wheat and peanut yield potential and evaluate the economic viability of wheat peanut systems. Trials were conducted in Tifton, GA in 2009 and Plains, GA in 2010. Systems tested included relay intercropping of wheat, double cropping of wheat (strip-till and conventional), wheat cover (strip-till and conventional) and early and late planted peanut. Three peanut cultivars were tested, Georgia Green, Georgia-06G, and Tifguard. Economic analysis was conducted showing that intercropping of peanut and wheat was not profitable for the particular study but that double cropping of wheat and peanut has potential. Early planted peanut provided the highest net return to variable costs in 2009 while double-crop wheat and peanut returns were significantly higher in 2010. The relay-intercropping appears to not give increased profit potential but actually lower returns due to much lower yields for wheat compared to double-cropping wheat.

Agronomic Research

Agronomic research trials that were appropriate for economic analysis under direction of Dr. John Beasley were analyzed. Data were from 2010 tests.

In-furrow soil insecticides were compared by cultivar. Temik and Thimet were compared to a control with no soil insecticide. Cultivars compared were Georgia Green, Georgia Greener, Florida-07, Georgia-06G, Georgia-07W, and Tifguard. Though not significant, nominal dollar return above variable costs showed a higher return to Thimet followed by Temik and then no insecticide. Sub-plot effect returns showed Georgia Greener having the highest return in this particular trial.

An ongoing study by Dr. Beasley at the RDC Pivot in Tifton looks at tillage, row pattern and cultivars for peanuts. The 2010 data included conventional and strip tillage, single and twin row patterns and Georgia Green, Georgia Greener, Georgia-02C, Florida-07, AP4, Georgia-06G, Georgia-07W, Tifguard, Georgia-09B, and UF08301, a test variety. University of Georgia conventional and strip-tillage peanut budgets were used adjusted for production practices in the test to analyze the costs and returns. Yield and grade data was used to calculate gross returns based on \$355 per ton loan rate. Consistent with previous results, net returns averaged across tillage were higher for conventional tillage in 2010 at \$345 per acre compared to \$112 per acre for strip-tillage. Yields averaged across row pattern showed single rows outperforming twin rows by almost double. Single row resulted

in \$303 per acre return above variable costs compared to \$154 per acre for twin rows. Averaged across cultivars, Georgia-06G performed the best followed by Georgia-09B and the new Florida cultivar.

The following studies have been completed for economic analysis and are in process of publication:

Variety x Row Pattern, Sunbelt Expo
 Row Pattern x Seeding Rate, SEREC, Midville
 Berrien, Jeff Davis, Thomas Counties Variety Demo
 Cultivar x Row Pattern x Seeding Rate, SWREC, Plains
 Planting Date x Cultivar, Gibbs Farm, Tifton
 Cultivar x Seeding Rate x Growth Regulator, Attapulcus

Tine Cultivation Effects on Weed Control, Productivity, and Economics of Peanut under Organic Management (D.Q. Wann, R.S. Tubbs, W.C. Johnson, A.R. Smith, N.B. Smith, A.K. Culbreath, and J.W. Davis).

Data from an organic weed control study with Tubbs, Johnson and Culbreath were analyzed for 2009 and results have been incorporated into a journal article submitted to Peanut Science. Results indicate that tine cultivations at least once weekly for either 4 or 5 wk (depending on species and severity of weeds), combined with sweep cultivation and hand-weeding, can significantly improve net revenues in an organic system.

Crop Insurance Final Planting Date

As part of the project objectives for examining cost of production and crop insurance, weather data was collected from the Georgia Automated Environmental Network to look at the potential to extending the final planting date for peanuts in Georgia. The data examined was specific to three consecutive days of temperatures below 45 degree F to indicate the probability of peanut maturity shutting down in the Fall. Data showed that much of Georgia would not be at a greater risk of low yields by moving the planting date a week later from the May 31 deadline. The principle investigator met with the Risk Management Agency Valdosta Regional Office to discuss findings. RMA felt there was enough support to extend the deadline five days to June 5th for all but eight counties in Georgia.