

Final Report

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**PROGRESS REPORT  
TO  
NORTH CAROLINA PEANUT GROWERS ASSOCIATION, INC.**

**TITLE:**                   **Optimizing Peanut Production and Pest Management through Applied Research**

**LEADERS:**               **David Jordan**

**DEPARTMENTS:**       **Crop Science**

**REPORT:**

Research was conducted in North Carolina during 2009 in Bertie (Peanut Belt Research Station), Duplin, and Edgecombe (Upper Coastal Plain Research Station) counties to evaluate a range of production and pest management practices for peanut. Trials were conducted to evaluate performance of varieties, in particular the performance of the new releases Bailey and Sugg compared with standard varieties. Experiments also included runner, Virginia, and Spanish market types and promising new Virginia and runner market type lines were compared to complement results from the PVQE program. A summary of yield data from these trials is compiled in the *2010 Peanut Information*. Experiments were also conducted in conventional and reduced tillage systems at Lewiston and Rocky Mount to determine interactions of planting date and variety selection. One experiment at Lewiston was conducted with CHAMPS and Perry planted May 5, May 25, and June 8 with digging dates of September 5, September 25, and October 20. The goal of this research is to better define phases of crop development and improve predictions of crop maturity for these varieties. Yield data for this trial are reported in *2010 Peanut Information*. The plant growth regulators Apogee, Stance, and Rescue also were evaluated in trails at several locations with an overall summary presented in *2010 Peanut Information*. The impact of dicamba, glufosinate, and 2,4-D drift on peanut and other crops was documented in several experiments. Long-term rotation experiments were maintained at three research stations, and in 2010 several of these will have key treatments with peanut involving interactions of rotation, in-furrow fungicides, and variety selection. A summary of yield data from these trials through 2009 is present in *2010 Peanut Information*. Research was also conducted to compare efficacy of commercial and experimental inoculants that contain *Bradyrhizobia* as well as comparing nitrogen sources and rates needed to correct nitrogen deficiencies.

A wide range of pest management trials were conducted in 2010. These trials included developing strategies to manage herbicide resistant and non-resistant Palmer amaranth and common ragweed in peanut, comparing disease control with night time sprays for Sclerotinia blight control, and defining interactions of tank mixtures that include up to five-way mixes. Results from these experiments will be included in the compatibility guide developed for peanut.

## **IMPACT STATEMENT**

Results from these activities resulted in continued development of a research base needed to address key production and pest management issues associated with peanut production in all regions of North Carolina. Field tours and training sessions allowed dissemination of information to appropriate clientele and resulted in excellent interaction among components of the peanut industry.