

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

**TITLE:** Expanding On-Farm Testing Through Large-Scale Research  
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**REPORT:**

**SUMMARY:**

Thirty trials were conducted on farms with direction from NC State Extension agents and on research stations to compare yield and market grades for the varieties Bailey II, Emery and Sullivan (6 trials); Bailey II, Emery, Sullivan, and Walton (4 trials); and Bailey II, Emery, Sullivan, Walton, and Tif-Jumbo H/O (2 trials). Peanut response to single and twin rows as compared in one trial while response to the number of Apogee or Kudos sprays was compared in three trials. Response to combinations of AgLogic and inoculant was determined in one trial. Efficacy of Steward to suppress southern corn rootworm was determined in four trials while the effectiveness of Vydate in suppressing thrips compared with commercial standards was evaluated in three trials. Trials were also conducted to determine peanut response to zinc and ammonium sulfate and KMag applied early in the growing season after peanuts emerged. Trials were also conducted to compare leaf spot control with microionized sulfur and chlorothalonil and timing of follow up applications of fungicide in Miravis-Elatus programs.

**RESULTS AND DISCUSSION:**

Results from these trials are presented in a new chapter in *2024 Peanut Information*. A brief summary of results are presented here. Yield of Bailey II, Emery, and Sullivan was similar in 7 of 12 trials. Walton yielded as well as Bailey II, Emery, and Sullivan in 6 trials. Tif Jumbo yielded less than these varieties in 1 of 2 trials. Apogee increased yield in 1 of 3 trials. No difference in yield was noted when peanut was planted in twin rows compared with single rows or when ammonium sulfate or KMag was applied to peanut early in the season. Applying chlorothalonil for the first and last spray protected peanut from leaf spot more effectively than microionized sulfur as the first and last spray. Yield was lower when sulfur was used in place of chlorothalonil. No difference in leaf spot control or peanut yield was observed when the interval between Miravis plus Elatus sprays and follow up fungicides was compared (2, 3, and 4.) Steward applied three times beginning in late June protected peanut from rootworm damage in three of five experiments. However, no difference in yield was observed in two of the trials that were harvested. Vydate suppressed thrips as well as AgLogic in one experiment and more effectively than imidacloprid in three experiments. Market grade characteristics are currently being determined for the majority of these trials.

## IMPACT STATEMENT

Results from these large-plot trials support the historical mission of the land grant system through research, extension, and academic programs with emphasis on peanut. In addition, results from these trials are provided to NC State Extension agents, farmers and others in agribusiness. In addition, results from key trials are included in the annual NC State Extension *Peanut Information* series, formal classroom instruction on campus or at county production meetings, Peanut Notes loaded on the NCCES portal (<https://peanut.ces.ncsu.edu/>) (250 to date in 2023), popular press articles (*V-C Peanut News*, *Peanut Grower* magazine, *Southeast Farm Press*), the peer-reviewed literature, NC State Extension in-service training sessions, and at field days.