

**2018 Final Report
GEORGIA AGRICULTURAL
COMMODITY COMMISSION FOR PEANUTS**

Project Title:

UGA Extension Peanut Weed Management Program

Principal Investigator:

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Background:

The UGA Extension Peanut Weed Science Program conducts numerous research trials every year. Current topics under investigation include Palmer amaranth control, peanut variety tolerance to herbicides, potential new herbicides, nozzle efficacy, and peanut response to unregistered herbicides (2,4-D, dicamba, metribuzin, terbacil). In 2016 and 2017, the UGA Extension Weed Science Program conducted **46** peanut field trials of which **67% were not funded by any industry group**. Over the last 19 years, the UGA Extension Weed Science Program has been partially supporting peanut weed research with funds obtained for use on other crops such as field corn and soybeans. Additionally, external funding for weed control research is on the decline due to the mergers of several major agri-chemical companies (Dow/Dupont, Bayer/Monsanto, etc.).

Objective:

The objective of the UGA Extension Weed Science Research Program is to provide peanut growers with current information regarding all relevant weed management issues.

Rational and Economic Significance of Project:

Weed management is one of the most important aspects of peanut production systems. According to current UGA budgets, weed control accounts for 6-9% of the total variable costs of production. Therefore, up-to-date information about weed management is critical to future economic success.

Results

In 2018, **20** peanut weed science field trials were conducted on UGA Research Farms (Attapulgus and Ponder) and in grower fields (Bulloch, Miller, and Pierce counties). All peanut weed science field trial results are available on-line on the UGA Weed Science Web-Page (<http://gaweed.com/trials/prostko2018/index.html>). A few noteworthy results are highlighted as follows:

Trial Number	Title	Results
PE-03B-18	Peanut Response to Multiple Simulated Off-Target Events of Xtendimax + Roundup	At 1/50 th X rates, typical dicamba injury symptoms were observable. Foliar glyphosate symptoms were not observed. Peanut stunting was \leq 10%. Dicamba symptomology was less obvious as the season progressed. At 108 DAP, only peanuts that received 90 DAP applications were exhibiting dicamba injury symptoms. Peanut yields were not significantly reduced by any timing of dicamba + glyphosate. However, peanut grade was reduced (2.6-3.0%) with dicamba + glyphosate applied at 60 and 60 + 90 DAP. Additional data is being collected for seed germination, seed size, pod abnormalities, and chemical residues (hull + nut) associated with potential dicamba + glyphosate exposure.
PE-06-18	Flumioxazin Formulation Test (Year 2)	For peanut plant stunting, there was no interaction between formulation and rate. Generally, peanut injury was high due to excessive early season moisture conditions. When averaged over rate, there was no difference in peanut injury between formulations in 3 of 4 ratings. When averaged over formulation, 6 oz/A caused more peanut injury than 3 oz/A. Palmer amaranth, annual grass, smallflower mg, and Florida beggarweed control did not differ between formulations or rate. For peanut yield, there was no interaction between formulation and rate (P=0.9123). Formulation was not significant (P=0.5572). However, when averaged over all formulations, peanut yields were significantly reduced by the 6 oz/A rate (6.9% yield reduction compared to 3 oz/A).
PE-11-18	Peanut Tolerance to Brake and Valor	Brake caused transitory crop injury in the form of stunting and chlorosis (bleaching). Generally, injury increased with rate. Neither Brake nor Valor, at any rate, had an effect on peanut yield (P=0.6431, CV = 7.65).
PE-15-18	Anthem Flex for Weed Control in Peanut	PRE applications of Valor caused significant early season peanut stunting (27-37% stunting). PRE applications of Anthem Flex caused 8-19% early season peanut stunting depending upon rate. Valor + Strongarm + Prowl or Anthem Flex + Strongarm + Prowl PRE treatments provided excellent control of Palmer amaranth, annual grasses, and smallflower mg. Generally, after all PRE, EPOST, and POST treatments were applied control of Palmer amaranth, annual grasses, and Florida beggarweed exceeded 88% except for the following: Prowl + Valor + Strongarm fb Cadre + Anthem Flex = 84% control of annual grasses; Prowl fb Gramoxone + Storm + Anthem Flex fb Cadre + Anthem Flex = 85% control of annual grasses; Prowl fb Gramoxone + Storm + Zidua fb Cadre + Zidua = 78% control of annual grasses and 85% control of Florida beggarweed; and Prowl + Valor + Strongarm fb Cobra + Dual Magnum or Anthem Flex + 2,4-DB = 63-80% control of annual grasses.
NZ-02-18	Auxin Nozzles (TTI) vs. Flat Fan Nozzles (XR) for Peanut Pest Management - II	Kromekote spray card analysis indicated the following: A) XR-11006 nozzles produced smaller droplets than the TTI-11006 nozzles (VMD ₅₀ 374 vs. 525 microns); and B) No differences in spray coverage were observed but computer had difficulty reading lighter depositions. In general, no differences in pest control (weeds, insects, diseases) or peanut yield were observed between nozzle types (P>0.18).