Georgia Peanut Commission
FY2025 Progress Report

Project Title

Optimizing *Aspergillus flavus* Biocontrol Application Methods for Improved Efficacy in Reducing Aflatoxin Contamination in Peanut

Investigators

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Summary

In 2024, we examined the efficacy of two commercial biological control products for aflatoxin mitigation in peanut, AflaGuard and AF36 Prevail, alone or in combination. In 2025, this was expanded to include AflaGuard, AF36 Prevail, AF36 Prime, and FourSure commercial biological control products either alone or in combination with Aflaguard. The experiments were conducted both at the UGA Tifton Campus and at the UGA Southwest Georgia Research and Education Center in Plains, GA. These biocontrol products were applied alone or in combination along with a non-treated control treatment in a randomized complete block design to 30ft (9.1m), two-row plots of Georgia-06G peanuts at label rates and timings in both locations. Dryland conditions were maintained after biocontrol application beginning at 90 DAP in 2025. Peanuts from each plot were mechanically harvested at maturity, dried at 145°F (63°C) for 5-7 days, then shelled for use in aflatoxin testing. Aflatoxins will be quantified using a Veratox method (Neogen).

Very low levels of aflatoxin were observed in the plots from 2024 with levels ranging from 0 – 3.4ppb across all treatments and locations, likely due to a good deal of rainfall during the season. While statistically significant differences between treatments and locations were observed, no meaningful differences were seen with aflatoxin levels being so low overall. In contrast, the 2025 growing season showed greater potential for contamination due to extended periods of hot and dry weather that were interrupted by intense and sudden rain showers in the late season. This large variation in weather conditions may be able to highlight the impact of the environment on the capability of biocontrol agents in mitigation of aflatoxin contamination. Sample processing and analysis for the 2025 season are currently ongoing. The new experimental design examining the additional commercial biocontrol products will be retained for the 2026 season, along with collecting yield data for each plot.