

Comparative Effectiveness and Profitability Between Fungicide Programs in Eastern Georgia

J.E. MALLARD*, University of Georgia Cooperative Extension, Jenkins County, Millen, GA 30442; K.C. BURCH, University of Georgia Cooperative Extension, Burke County, Waynesboro, GA 30830; R. KEMERAIT, University of Georgia Cooperative Extension, Department of Crop and Soil Sciences, Tifton, GA 31794, A.R. SMITCH, University of Georgia Cooperative Extension, Department of Agricultural and Applied Economics, Tifton, GA 31794

Georgia's peanut crop is affected annually by white mold (*Sclerotium rolfsii*) and early leaf spot (*Cercospora arachidicola*) diseases. There are a number of fungicides labeled to protect peanut crops from these diseases. In an effort to compare the different programs for efficacy and profitability a research trial was established in 2018.

The objective of this study was to evaluate commercial fungicide programs for impact on disease and yield in order to provide research-based information to local producers to allow selection of programs that have the highest yield potential by reducing severity of these diseases. Identifying the most cost-effective program would lead to a greater profitability. The small-plot experiments (2 rows X 30ft.) were planted on May 7. Plots were arranged in a randomized block design with four replications. The treatments included an untreated control and eleven commercial fungicide programs. Fungicides and rates within this trial include: Echo-1.5 pt/A, Echo-1.0 pt/A, Muscle ADV-2.0 pt/A, Propulse-13.6 fl oz/A, Prosaro-13 fl oz/A, Elatus-9.5 fl oz/A, Elatus-7.3 fl oz/A, Miravis-3.4 fl oz/A, Priaxor-6 fl oz/A, Priaxor-8 fl oz/A, Convoy-32 fl oz/A, Convoy-16 fl oz/A, Fontelis-16 fl oz/A, Umbra-36 fl oz/A, Alto-5.5 fl oz/A, and Acropolis-23 fl oz/A. To prevent cross-contamination, plots were separated by two untreated border rows. Peanut plants were rated for leaf spot prior to inversion and white mold after inversion. Once all yield data was collected, means were compared using Fisher's protected LSD and treatments were compared by adjusted net revenues (revenue adjusted for yield, fungicide costs and application costs) in order to determine profitability of the treatments.

The 2018 growing season was unusually wet during the first half of the season. Early Leaf Spot ratings ranged from 1.375 on the Propulse/Prosaro/Elatus Program, to 4.75 on the Echo Program, while the untreated check rated 8.0. White Mold hits per 60 foot ranged from 1.5 on the Alto/Elatus/Miravis Program, to 12.3 on the Echo Program, while the untreated check had 25. The Alto/Elatus/Miravis Program had the highest yield of 6,114 pounds per acre and highest adjusted net revenue of \$960 per acre, therefore being the overall best value.