

Evaluation of Three Years of On-Farm Peanut Fungicide Programs for Yield and Value in Southwest Georgia

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Peanut (*Arachis hypogea*) is the second largest agronomic commodity in Georgia and was planted on over 37,000 acres in Mitchell County in 2019. Fungicides are critical to protect the crop from *Sclerotium rolfsii*, *Cercospora arachidicola*, and *Cercosporidium personatum*. Peanut fungicide programs vary greatly in cost. Careful selection of fungicides can bring increased profit to a farmer, even if the cost of the “best” program is higher than other less-effective programs. In 1994, the standard fungicide program for growers in Mitchell County was based on tebuconazole and chlorothalonil. Today, newer products have been developed for use by peanut growers. The objective of this study was to evaluate the differential profitability of fungicide programs available to peanut farmers in Mitchell County.

Large-plot, on-farm fungicide studies have been conducted at four commercial fields in southwestern Georgia since 2017. Cultivar ‘Georgia-06G’ was planted on May 10th (Miller County) and June 10th (Decatur County) in 2017, May 20th (Decatur County) in 2018, and May 9th (Mitchell County) in 2019. At each location, five commercial fungicide programs were initiated approximately 30 DAP with subsequent applications on a 14-day interval until approximately 115 DAP. Fungicides included in this study were Elatus, Miravis, Muscle ADV, Fontelis, Propulse, Provost/Provost Silver, Alto, and chlorothalonil. Treatments in each trial were replicated three times. Prior to harvest plots were assessed for leaf spot and ratings ranged from 2.5 to 5 on the Florida 1-10 leaf spot scale. After inverting the plots, incidence of white mold was assessed and ranged from 0 to 40 hits per 200 feet of row. Peanuts at each location were harvested at maturity (~145 DAP) and plot weights (lb ac⁻¹) were collected and averaged over each fungicide treatment replication. Yields ranged from 5219 to 8143 lb ac⁻¹, depending on treatment, location and year. At all locations programs that included ELATUS (azoxystrobin + benzovindiflupyr/solatenol) in combination with additional fungicides for leaf spot control had lowest disease ratings and statistically higher yields that did other fungicide programs. Our standard fungicide program of tebuconazole/chlorothalonil had the highest disease ratings and lowest yields of all tested programs.

Growers in southwestern Georgia are dependent on profitability now more than ever. The average cost of an Elatus-based program has been approximately \$100 per acre; the less-expensive Muscle ADV programs has been \$50 per acre. At current peanut prices, a grower must make an additional 250 pounds of peanuts per acre to cover this increased fungicide cost. In all trials, the increase in yield observed between Elatus-based and tebuconazole-based programs more than covered the increased cost of the fungicide program. Therefore growers should consider investing in programs that protect yield and profit even if there is an increased cost to the program.