

**Report to the Georgia Agricultural Commodity Commission for Peanuts-2017
Adaptation of New Fungicides and Application Strategies for Control
of Early and Late Leaf Spot of Peanut**

Investigators: A. K. Culbreath, T. B. Brenneman, R. Kemerait, K. Stevenson

Multiple trials conducted in 2015-2017 indicate that Priaxor is comparable to or better than Bravo for leaf spot control, and both are superior to Headline alone. Direct substitution of Priaxor for Headline should be better for leaf spot control than Headline alone. Since 2015, the strobilurin fungicides Headline, Abound, and Flynt alone have not performed as well. However, in 2015-2017, the fungicide "Elatus", which includes azoxystrobin + solatenol, has performed much better for leaf spot control under heavy late-season pressure in fields where full rates of Abound alone provided little control. Resistance to the strobilurin fungicides is very much suspected. The mixture of fungicides with two different modes of action, such as those used in Priaxor or Elatus may help prolong the efficacy of a fungicide even when resistant populations of leaf spot fungi develop to one of the fungicides in the mixture. The use of strobilurin fungicides as "stand alone" treatments is especially discouraged on more susceptible cultivars such as Georgia-13M or TUFRunner 511.

Sterol inhibiting fungicides (such as tebuconazole and cyproconazole) have also lost much of their efficacy against leaf spot. Prothioconazole is the exception, and still provides leaf spot control alone or in combination with tebuconazole in Provost. However, leaf spot control achieved with Provost has also decreased in 2016-2017. In one trial in 2017, addition of Microthiol Disperss sulfur at 5 lb/A significantly improved leaf spot control with either Provost or Alto, although the sulfur alone provided little leaf spot control.

Trials were conducted to evaluate the relative resistance/tolerance of available cultivars to late leaf spot. In 2017, the cultivars Georgia-13M and TUFRunner 511 had considerably worse leaf spot than Georgia-06G. New cultivar Georgia-16 HO was similar to or slightly more susceptible to late leaf spot than Georgia-06G. New cultivars Georgia-14N, TIFNV HiOL, and AUNPL-17 showed considerable field resistance to late leaf spot, in addition to their resistance to. In the thesis research of Mr. Brian Jordan, across several planting dates in 2015-2017, final leaf spot severity in Georgia-12Y was slightly less than that of Georgia-06G, and both cultivars had heavier leaf spot with later planting dates. The combination of reduced leaf spot with early planting and apparent tolerance in Georgia-12Y show promise for reducing fungicide applications needed for this cultivar as well as potential for use in organic production. Georgia-14N, TIFNV HiOL, and AUNPL-17 show promise for reducing fungicide requirements, and all three have TSWV resistance that should allow use with earlier planting dates.

The experimental fungicide "Miravis" shows great potential for leaf spot control in peanut. It may be available for the 2018 season. However it is not yet labeled. It is the most effective leaf spot fungicides ever evaluated in our program. It does not provide white mold control, but if labeled, could be an excellent addition to leaf spot control programs.