

Report to the Georgia Agricultural Commodity Commission for Peanuts-2023 Adaptation of New Fungicides and Application Strategies for Control of Early and Late Leaf Spot of Peanut

Investigators: A. K. Culbreath, T. B. Breneman, R. Kemerait

When used alone, most sterol inhibiting fungicides (such as tebuconazole and cyproconazole) have also lost much of their efficacy against leaf spot. Across trials in 2017-2023, addition of Microthiol Disperss sulfur at 3.75 lb/A significantly improved leaf spot control with sterol inhibiting fungicides such as Umbra, Alto, or Tebuzol. Strobilurin fungicides, such as Abound and Headline likewise, have lost considerable efficacy for leaf spot when used alone. However, addition of sulfur or 1 pt of chlorothalonil greatly improved control with both these fungicides. Improvement in leaf spot control was observed with both liquid flowable and dry formulations of sulfur with particle size averaging ~3 microns. In 2021-2023, mixtures of sulfur with phosphite products (ex K-Phyte) provided good control of leaf spot, whereas neither the sulfur nor the phosphite material was adequate alone.

In-furrow applications of the nematicide/fungicides Velum or Propulse have provided extended control of late leaf spot and should be able to replace the typical initial leaf spot fungicide spray in most cases. In 2023, skipping up to the first three sprays of Bravo after application of Velum did not diminish leaf spot control compared to full season chlorothalonil without any fungicide in-furrow.

The SDHI fungicide “Miravis” continues to be a very effective leaf spot fungicide in many trials in our program. It does not provide white mold or rust control, but can be used in combination with other fungicides that provide control of those diseases. However, in 2021-2023 it has not been as consistent as in previous years, especially in trials with longer application intervals. In extended interval tests in 2022 and 2023, Provysol or Provost Silver provided leaf spot control superior to that of Miravis.

Provysol is a sterol inhibitor fungicide that provides much better leaf spot control than most other sterol inhibitor fungicides such as tebuconazole or cyproconazole. It has not been as consistent as Provost Silver, but it can provide good leaf spot control and serve as a resistance management tool for use with SDHI fungicides or strobilurin fungicides. It should be an effective and versatile mixing partner for several different fungicides. Efficacy is enhanced further when mixed with sulfur. In 2022-2023, the combination of Provysol with tebuconazole provided promising results, compared to either fungicide alone.

Chlorothalonil continues to be an excellent mixing partner with other fungicides. In most cases, however, micronized elemental sulfur works as well as chlorothalonil as a mixing partner for leaf spot control. Sulfur has little/no efficacy against rust, but mixtures with products like Elatus or Excalia show potential for control of leaf spot, rust, and white mold. In the event that chlorothalonil is no longer available, sulfur should be an adequate replacement as a mixing partner in most cases. However, sulfur is inferior to chlorothalonil for leaf spot control when each is applied alone.