

Mixtures of Sulfur with Sterol Biosynthesis Inhibiting Fungicides for Management of Late Leaf Spot of Peanut

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In the southeastern United States, control of early leaf spot (*Passalora arachidicola*) and late leaf spot (*Nothopassalora personata*) of peanut (*Arachis hypogaea*) is heavily dependent on the use of fungicides. In recent years, control provided by several sterol biosynthesis inhibiting (SBI) fungicides has diminished. The objective of this study was to determine the effect of sulfur on efficacy of SBI fungicides on peanut leaf spot. A field experiment was conducted in Tifton, GA in 2017. The cultivar Georgia-06G was used for the plots. Each plot was bordered on one side by another randomly assigned plot, and on one side by nonsprayed rows of Georgia-13M. Treatments included a nontreated control, and cyproconazole (Alto 100 SL) at 40 g a.i./ha; prothioconazole at 84 g a.i./ha + tebuconazole at 168 g a.i./ha (Provost Opti); alone and in combination with 4.5 kg a.i./ha of sulfur (Microthiol Disperss). Except for the control, all plots were sprayed with chlorothalonil (Bravo WeatherStik) at 1.26 kg a.i./ha for sprays 1,2, and 7 of the 7 total applications, and with the different fungicides and combinations for sprays 3-6. Leaf spot epidemics were severe. Late leaf spot was the predominant foliar disease. Final leaf spot ratings (Florida 1-10 scale) were 9.2 for the control, and 8.8 for the Microthiol alone treatment. Leaf spot ratings were 8.3 and 8.7 for the Provost and Alto treatments alone, respectively, and 6.6 and 7.2 for those respective fungicides with Microthiol (LSD = 0.6). These results indicate that sulfur may improve leaf spot control provided by SBI fungicides used in this trial. Investigations are planned to determine whether effects will be consistent and whether sulfur may improve leaf spot control obtained with other SBI fungicides.