

## **Influence of Variety and Tillage Practices on Leaf Spot Control with Sulfur**

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Chlorothalonil is the most popular fungicide used to protect peanut from leaf spot disease in part because of low financial cost and multi-site efficacy for resistance management. However, there is concern about the long-term use of chlorothalonil in peanut, especially as discriminating export markets are pursued. Research was conducted to determine if sulfur (Microthiol Disperss) at 5 pounds/acre was as effective as chlorothalonil in traditional use patterns for this fungicide. Two experiments were conducted to compare leaf spot incidence, canopy defoliation, and peanut yield with sulfur and chlorothalonil treatments. In one experiment, peanut was planted into a cereal rye cover crop or no cover using either strip tillage or no till planting. In a second experiment in conventional tillage, fungicide treatments were compared with the Virginia market type cultivars Bailey II, Emery, Sullivan, NC 20, NC 21, Walton, and Tif-NV H/O Jumbo HO and the runner market type cultivars Tif-NV H/O Runner, Florunner 297, and Florunner 511.

Leaf spot incidence, defoliation of peanut caused by leaf spot, and peanut yield varied based on tillage system (strip till vs. no till), cereal rye treatment (with or without), and fungicide treatment. Minor and inconsistent differences in leaf spot incidence and canopy defoliation were noted when comparing tillage and cover crop treatments. Peanut yield was lower in no till compared with strip till on a finer-textured soil while yield was similar on a coarser-textured soil. On both soils, peanut yield was lower when planting in cereal rye compared with planting in absence of cereal rye. Generally, when chlorothalonil was compared with sulfur as a component of each spray in a 5-spray program, leaf spot incidence and canopy defoliation were lower when chlorothalonil was used. However, when sulfur or chlorothalonil were applied as the first spray and the last spray of a 5-spray program, leaf spot control and yield were similar.

In the second experiment, Bailey II, Sullivan, and NC 20 had less disease than other varieties when evaluated at digging. Chlorothalonil provided better protection from leaf spot incidence and defoliation and yield when comparing fungicide programs with either chlorothalonil or sulfur as the only leaf spot component. When applied as the first and last spray in a 5-spray program, leaf spot incidence and canopy defoliation were similar with chlorothalonil or sulfur, however, yield was greater when chlorothalonil was used.