Impact of Prothioconazole Applications with Provost or Artisan/Initiate Fungicides on Severity of Soilborne Diseases of Peanut.

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Soilborne diseases, to include southern blight and Cylindrocladium black rot (CBR), are a critical problem for peanut producers in Effingham County and must be addressed with additional on-farm research to establish “best management” practices. The producers’ current best line of defense to combat these problems involves selection of more-resistant varieties, judicious use of fungicides, and either an in-furrow application of prothioconazole (Proline) or soil fumigation with metam sodium to reduce severity of Cylindrocladium black rot (CBR). Unfortunately, foliar fungicides and more-resistant varieties do not eliminate losses to soilborne diseases in Effingham County and growers are unlikely to use fumigation to manage CBR. Further research is needed to provide recommendations to growers with regards to use of newer fungicides and application strategies for the management of soilborne diseases affecting peanut. In this study conducted over four growing seasons (2008-2011), the effectiveness of prothioconazole (Proline, 5.7 fl oz/A) applied in-furrow at planting and also banded over the row after emergence was evaluated for the management of peanut diseases. Provost (prothioconazole + tebuconazole) and Artisan (flutolanil + propiconazole)/chlorothalonil fungicide programs were evaluated with and without an earlier application of Proline (in-furrow and/or banded early emergence) to determine the optimal strategy for disease protection. The experimental design was a randomized complete block design with at least four replications. Data collected throughout this study included severity of leaf spot, incidence of southern blight, Diplodia collar rot, and CBR and yields. Means were separated using Fisher’s protected LSD. From the research in Effingham County, the effectiveness of prothioconazole as a part of a disease management program to improve plant stand and reduce other disease such as TSWV, CBR, and white mold has been assessed over the past four years in eastern Georgia. Where outbreaks of CBR or southern blight were significant, use of in-furrow or early-season applications of Proline resulted in lower disease severity and increased yields. Where pressure from soilborne diseases was low, use of Proline early in the season did not provide benefits above a standard fungicide program.