

Effect of Planting Date on Three Cultivars and Three Advanced Breeding Lines on Leaf Spot Severity and Yield when Grown without Fungicides

B. S. JORDAN*, Dept. of Plant Pathology, University of Georgia, Tifton, GA 31793-5766; **W. D. BRANCH**, Dept. of Crop and Soil Science, University of Georgia, Tifton, GA 31793-5766; and **A. K. CULBREATH**, Dept. of Plant Pathology, University of Georgia, Tifton, GA 31793-5766.

Planting date can affect the risk of losses to early and late leaf spot caused by, *Passalora arachidicola* and *Nothopassalora personata*, respectively, of peanut, *Arachis hypogaea*, in both conventional and organic systems. The objective of this study was to characterize the effect of planting date on leaf spot epidemics and yield in new cultivars and advanced breeding lines with moderate tolerance to these diseases. Field trials were conducted in 2016 and 2017 in Tifton, GA. Treatments were three planting dates (11 and 25 April, and 16 May in 2016 and 10 and 25 April and 15 May in 2017) arranged factorially with three cultivars and three advanced breeding lines, Georgia-06G, Georgia-12Y, Georgia-14N, GA-072523-1, GA-072525-9, and GA-072523-10. Experimental design was a randomized complete block design with 4 replications. No foliar fungicides were applied. Late leaf spot was the predominant disease in both years. Epidemics were severe in plots planted at the later dates in both years. Yield decreased in all lines in later planting dates. Final leaf spot ratings (Florida 1-10 scale) and AUDPC increased linearly with later planting date (ordinal day) for all cultivars and advanced breeding lines. Across planting dates in both years, final leaf spot severity and AUDPC were lower, and yield was highest for Georgia-12Y and lowest for Georgia-06G. The combination of early planting with Georgia-12Y shows potential for reducing risks of losses leaf spot and maximizing yield in situations such as organic production where fungicide use would be minimal.