

Alabama Farmers Cotton Commission Committee

Title: Maximizing Cotton Potassium Fertility on Blackbelt Soils of Alabama

Investigator: Gobena Huluka and Charles C. Mitchell, Department of Agronomy and Soils

Location: Blackbelt Area

Objective: Determine cotton potassium uptake and availability in Blackbelt soils

2007 Summary Report

Even though there was a historic drought in the whole state of Alabama during 2007, we executed the project as planned by collecting soil and/or cotton leaf samples on 4/11, 7/6, 7/16/, 7/23, 7/30, 8/6, 8/15 and 8/29, 2007. The potassium treatments were 0, 20, 40, 60, 80 and 100 K₂O/A. All samples were analyzed for potassium using standard lab methods.

The lint yields were 585, 784, 803, 922, 806 and 1076 (lbs/A) for 0, 20, 40, 60, 80 and 100 K₂O fertilizer rates, respectively. In general, potassium tissue concentration increased as K₂O rates increased, and the absolute values decreased with time after cotton bloomed. Though these lint yields are respectable compared to the previous year, the cotton tissue potassium contents were below the sufficiency range in contrast to the plant available soil potassium that was very high for cotton.