

Alabama Farmers Cotton Commission Committee

Title: Maximizing Cotton Potassium Fertility on Blackbelt Soils of Alabama

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Location: Blackbelt Area

Objective: Determine cotton potassium uptake and availability in Blackbelt soils

2008 Summary Report

Soil and cotton leaf samples collected three times during the growing season. Routine soil and leaf analysis were done at Auburn University Soil Testing lab. Cotton lint quality (lint (%), micronaire, length, strength and uniformity) was determined by USDA AMS Cotton Program Classing office. Alabama did not fully recover from the previous two dry years (2006 and 2007), but 2008 was much better, and cotton growth and yield improved accordingly.

Two very important findings were elucidated from the 2008 experiment.

1. Potassium fertilizer will increase cotton yield on Blackbelt soils even if the current soil test is rated “very high”. Hence, revising the current soil test rating is needed for these soils.
2. Cotton leaf defoliation is directly related to potassium fertility on Blackbelt soils. It could be triggered due to nutrient translocation to cotton bolls and/or potassium deficiency might have made cotton vulnerable for cotton leaf spot diseases that might have aggravated the situation. This was visual evident from the different potassium treatments of the experimental plots.