

**EVALUATION OF ROUNDUP READY COTTON
TOLERANCE TO ROUNDUP ULTRA HERBICIDE
IN COMMERCIAL SIZE PLOTS IN MISSISSIPPI**

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Abstract

In 1999 large scale, commercial size plots were established at six locations in Mississippi to evaluate the effects of Roundup Ultra herbicide on Roundup Ready cotton varieties.

The primary objective was to compare fruiting characteristics, maturity and yield of a Roundup Ready variety treated with Roundup Ultra to the same variety treated with conventional herbicides and not sprayed with Roundup Ultra. Plots were established in Hinds, Yazoo, Leflore, Bolivar and Coahoma counties and represented both hill and delta soils. All plots were located on commercial farms, where they were planted, sprayed and managed by growers and treated consistent with their normal operations.

DPL 458 variety was planted at all locations in Hinds, Yazoo, Leflore and Bolivar counties. Paymaster 1218 variety was planted at the Coahoma county location. Experimental design was a paired comparison with replications varying from four to eight, depending on location. All Roundup Ultra treated plots received at least an over- the-top application followed by a directed spray treatment. Plots not treated received PPI, or PPI/PRE treatments followed by directed sprays as necessary to insure weed control. All plots were treated with a residual layby application.

No differences due to treatment were observed in plant height, total nodes, number of vegetative bolls, or Nodes Above White Flower at plant mapping times. While locations varied, when averaged across location, there was a significant effect on boll numbers in first positions. The Roundup Ultra treated plots tended to produce more bolls in second and third positions and less bolls in first positions than the conventionally treated plots. This was more evident at nodes below eleven. Very little differences in percent boll retention were observed. Node above cracked boll data favored the Roundup Ultra treatment; however no

manageable difference in maturity was observed in the field.

There was no significant effect on yield due to treatment effects, within or averaged across locations. Averaged across locations, the Roundup Ultra treated plots averaged 931 pounds of lint per acre, while the conventionally treated plots averaged 920 pounds of lint per acre.

This study will be repeated.