

**HERBICIDE SYSTEM BY ROUNDUP READY®
(GLYPHOSATE-TOLERANT) AND
CONVENTIONAL CULTIVAR TRIAL**

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Abstract

A field experiment was conducted in 1999 at the Pee Dee Research and Education Center, Florence, SC, to compare yields of Roundup Ready cotton cultivars under two weed management systems (Roundup Ultra only system, standard management system) with yield of conventional cultivars under a standard herbicide system. The standard herbicide system consisted of Prowl @ 2.4 pt/ac preplant-incorporated, Cotoran @ 1.75 qt/ac preemergence, Staple @ 1.2 oz/ac + surfactant (0.25% v/v) applied postemergence (POST), and Cotton-Pro + MSMA @ 1.2 qt + 2.67 pt/ac applied POST-directed at layby. In the Roundup Ultra only system, Roundup Ultra @ 1 qt/ac was applied POST and was POST-directed at layby. POST treatments were applied to cotton in the four-leaf stage of growth.

Roundup Ready cultivars evaluated were Deltapine 458BG/RR, Deltapine 655BG/RR, Deltapine 5415RR, Deltapine 5690RR, and Paymaster1560 BG/RR. Conventional cultivars evaluated were Deltapine 5415, Deltapine 5690, Deltapine 90, Paymaster 1560, and FiberMax 989. Plots were four rows, 35 feet long, with four replications. The row spacing was 38 inches. Roundup Ready cultivars and herbicide systems were arranged factorially in a strip-plot treatment design. Conventional cultivars under the standard herbicide system were added to give an augmented factorial treatment design. Cultivars were nested within herbicide systems.

Lint percent and lint yield were similar with the Roundup Ready cultivars under both herbicide systems compared to the conventional cultivars under the standard herbicide system. Average lint yields for the Roundup Ready cultivars/Roundup Ultra only system, Roundup Ready cultivars/standard herbicide system, and conventional cultivars/standard herbicide system were 580, 514, and 546 lb/ac, respectively. Average lint yields for the Roundup Ready cultivars were greater with the Roundup Ultra only system (580 lb/ac) compared to the standard herbicide system (514 lb/ac).