

**TOLERANCE OF ROUNDUP READY
(GLYPHOSATE- TOLERANT) COTTON TO
POSTEMERGENCE AND POSTEMERGENCE-
DIRECTED APPLICATIONS OF ROUNDUP ULTRA
(GLYPHOSATE)**

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Abstract

Tolerance of Roundup Ready cotton to multiple applications of Roundup Ultra was evaluated at an on-farm site in Horry County, SC, in 1999. Paymaster 1220BR cotton was planted May 22, 1999. Plots were 4 rows, 30 feet long, and were arranged in a randomized complete block design with 6 replications. Treflan (trifluralin) was applied preplant-incorporated @ 1.5 pt/ac, and Cotoran (fluometuron) was applied preemergence @ 1.5 qt/ac to the entire test area. The test was maintained weed-free. Roundup Ultra treatments evaluated were none, 1.5 qt/ac applied postemergence (POST) when cotton seedlings were in the 2-leaf stage, 1.5 qt/ac applied POST at the 4-leaf stage, 1.5 qt/ac applied POST at the 4-leaf stage followed by (fb) 1.5 qt/ac POST-directed at the 8-leaf stage, 1.5 qt/ac applied POST at the 2-leaf stage fb 1.5 qt/ac POST at the 4-leaf stage fb 1.5 qt/ac applied POST-directed at the 6-leaf stage fb 1.5 qt/ac applied POST-directed at the 8-leaf stage, and 2 qt/ac applied POST at the 4-leaf stage fb 2 qt/ac POST-directed at the 8-leaf stage. Twenty plants/plot were plant-mapped August 15, 1999. The center two rows of each plot were harvested with a spindle-picker in mid-November.

No crop injury (chlorosis, growth reduction) was observed. Roundup Ultra applications did not affect plant height, the location of the first fruiting branch, the number of first- and second-position bolls, or boll location in the vertical plant strata. Where no Roundup Ultra was applied, the plants were 32 inches tall; the average height for the five treatments where Roundup Ultra was applied was 34 inches. The average position of the first fruiting branch was node 5.6 for all treatments. The number of first- and second-position bolls/plant averaged 5.31 and 2.08 where no Roundup Ultra was applied, and 5.25 and 2.07 where Roundup Ultra was applied. The number of first- and second-position bolls/plant for nodes 1 to 5, 6 to 10, and 11+ averaged 0.5, 4.6, and 2.2, respectively, in the untreated check. In treatments that included Roundup Ultra, the average number of first- and

second-position bolls/plant at these respective nodes was 0.7, 4.6, and 2.1.

Lint yields ranged from 696 to 779 lb/ac and were similar for all treatments. Where no Roundup Ultra was applied, the lint yield was 722 lb/ac. The average lint yield where Roundup Ultra was applied was 741 lb/ac.