

**TOLERANCE OF ROUNDUP READY™
COTTON TO MULTIPLE POSTEMERGENCE
APPLICATIONS OF GLYPHOSATE**

**E. C. Murdock
Clemson University, Pee Dee REC
Florence, SC**

Abstract

Tolerance of Roundup Ready cotton to postemergence (POST) and POST-directed applications of Roundup Ultra was evaluated under weed-free conditions at an on-farm site in Horry County, SC. 'Paymaster 1220 BR' cotton was planted May 22, 1998, at a seeding rate of 4.4 seed/row foot. Treatments were arranged in a randomized complete block design with six replications. Crop response was evaluated following POST applications of Roundup Ultra @ 1.12 lb ae/ac (1.5 qt/ac) at the 2,4, and 2 + 4 true leaf stages; POST-directed applications at the same rate at the 6, 8, and 6 + 8 true leaf stages; and POST applications at the same rate at the 2 + 4 true leaf stages followed by (fb) POST-directed applications at the 6, 8, 10, 6 + 8, 8 + 10, 8 + 12, and 10 + 14 true leaf stages. Crop response following POST applications of Roundup Ultra @ .75 lb ae/ac (1.0 qt/ac) at the 2 + 4 leaf stage fb POST-directed applications at the same rate at the 6 + 8 true leaf stages was also evaluated.

Boll location on sympodial branches was similar with and without Roundup Ultra. In the untreated check, 52, 26, and 9% of the bolls were located at the first, second, and third or higher fruiting positions, respectively. Averaged over all Roundup Ultra treatments, 50, 25, and 11% of the bolls were located at these respective positions. Boll location at vertical plant strata was also similar with and without Roundup Ultra. In the untreated check, 56 and 31% of the bolls were located at nodes 6 to 10 and 11 to 15, respectively. Averaged over all Roundup Ultra treatments, 51 and 32% of the bolls were located at nodes 6 to 10 and 11 to 15, respectively. Lint cotton yields for all Roundup Ultra treatments were similar to yields attained in the untreated check. Lint cotton yield in the untreated check was 1046 lb/ac, whereas lint cotton yield averaged over all Roundup Ultra treatments was 1037 lb/ac.