

**WEED CONTROL SYSTEMS FOR  
ROUNDUP READY® COTTON**

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**Abstract**

Field studies were established in 1996 to evaluate different weed control systems for Roundup Ready cotton. A study was established near Rohwer to evaluate Roundup Ultra (glyphosate) applied alone postemergence (POST), and when following soil applied Treflan (trifluralin) pre-plant incorporated (PPI) and Cotoran (fluometuron) preemergence (PRE). A standard POST treatment of Staple (pyrithiobac) followed by Cotoran plus MSMA post-directed (PDS) was added for comparison purposes. The other study was established near Little Rock to evaluate Roundup Ultra applied alone POST, and following soil applied Zorial (norflurazon) PPI and PRE plus Cotoran PRE. Roundup Ultra tank-mixed with Staple POST was also evaluated.

Near Rohwer, the weeds evaluated were barnyardgrass [*Echinochloa crus-galli* (L.) Beauv.] and common purslane (*Portulaca oleracea* L.). At 2 weeks after the PDS application (WAA), control of barnyardgrass was greater than 90% for all treatments. Common purslane control was above 95% for all treatments. At 4 WAA, all treatments continued to control barnyardgrass and common purslane above 90%. Roundup Ultra applied POST at 1.0 qt/A followed by Roundup Ultra at 1.5 pt/A PDS provided the same control as the conventional treatment of Treflan at 1.0 qt/A PPI followed by Cotoran at 1.6 pt/A PRE followed by Staple at 1.2 oz/A POST followed by Cotoran plus MSMA PDS. Seed cotton yields were above 2500 lb/A for all herbicide treatments compared to less than 1200 lb/A for the nontreated.

Near Little Rock, the weeds evaluated were Palmer amaranth (*Amaranthus palmeri* S.Wats.) and common cocklebur (*Xanthium strumarium* L.). At 3 weeks after the final POST application (WAA), all treatments provided at least 90% control of Palmer amaranth and common cocklebur. At 9 WAA, Zorial at 0.75 lb/A PPI followed by Cotoran at 2.4 pt/A PRE followed by a POST application of Roundup Ultra at 1.5 pt/A to 1 true leaf cotton provided 78% control of Palmer amaranth. All other treatments had greater than 85% control. Common cocklebur control was 53% for the previous treatment. However, two applications of Roundup Ultra at 1.0 pt/A POST to 1 and 4 leaf cotton gave 88% control, and two applications Roundup Ultra at

1.0 pt/A plus Staple at 0.6 oz/A POST to 1 and 4 leaf cotton provided 100% control of common cocklebur. This study was not taken to yield.

In summary, Roundup Ready cotton has excellent potential for weed control in a cotton production system. The cotton has excellent tolerance to Roundup Ultra and other cotton herbicides. The yield potential of the Roundup Ready cotton is also high. With these characteristics, Roundup Ready cotton can have a place in a cotton production system.