

**WEED MANAGEMENT IN ROUNDUP
READY (GLYPHOSATE-TOLERANT) COTTON:
CONVENTIONAL AND CONSERVATION
TILLAGE SYSTEMS**

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These results indicate that in either conventional or conservation tillage cotton production systems, Roundup Ultra applied PT improved weed control over residual herbicides applied alone, Roundup Ultra applied PT and PD improved control over Roundup Ultra PT treatments, and using Roundup Ultra in conjunction with Prowl PPI improved control over a Roundup Ultra only system.

Abstract

Field studies were conducted in 1998 and 1999 near Lubbock, TX to evaluate weed control in Roundup Ready cotton produced in conventional and conservation tillage (terminated wheat cover) systems. Treatments included preplant incorporated (PPI) and preemergence (PE) herbicides applied alone or in combination with Roundup Ultra (glyphosate) applied postemergence-topical (PT) and postemergence-directed (PD) compared to Roundup Ultra applied alone. Paymaster 2326RR cotton was planted in both systems in 1998 and 1999. A shielded sprayer was used for PD applications. Visual weed control ratings were made during the growing season and cotton lint yields were determined.

The 1998 growing season was extremely hot and dry while above-average rainfall was received in 1999. In conventional tillage, early-season Palmer amaranth (*Amaranthus palmeri*) and devil's-claw (*Proboscidea louisianica*) control was less effective in 1999. In 1998, Palmer amaranth control ranged from 96-100% with any combination of residual herbicide followed by (fb) Roundup Ultra PT, while Roundup Ultra PT alone controlled Palmer amaranth 87%. In 1999, all treatments controlled Palmer amaranth 96-100%. Roundup Ultra PT alone or in combination with residual herbicides controlled devil's-claw 73-85% in 1998 and 90-100% in 1999. In both years, the most effective season-long Palmer amaranth and devil's-claw control was achieved with Prowl PPI fb Roundup PT fb Roundup PD. This treatment produced the highest lint yields in the conventional tillage test in both years.

At the conservation tillage site, all treatments controlled Palmer amaranth 98-100% in both years. Roundup Ultra PT controlled devil's-claw 95-100% in both years compared to 55-57% Palmer amaranth control with the residual herbicides applied alone. Roundup PD improved Palmer amaranth and devil's-claw control compared to Prowl PPI and Roundup Ultra PT. Most effective late-season Palmer amaranth and devil's-claw control was achieved with Prowl PPI fb Roundup Ultra PT fb Roundup Ultra PD.