

**STRATEGIES FOR IVYLEAF MORNINGGLORY CONTROL IN
ROUNDUP READY COTTON**

L. L. Lyon and J. W. Keeling

Texas Agricultural Experiment Station

Lubbock, TX

P. A. Dotray

**Texas Agricultural Experiment Station, Texas Agricultural
Extension Service, and Texas Tech University**

Lubbock, TX

J. D. Everitt

Texas Agricultural Experiment Station

Lubbock, TX

Abstract

Morningglory species infest approximately 700,000 acres of cotton in Texas. Although morningglories are problem weeds in limited areas on the Texas High Plains, where they are present, they decrease yields and reduce harvest effectiveness. Ivyleaf and red morningglory are the predominant species found in the region.

Field experiments were established in 2000 in Hale County, Texas to compare Roundup Ultra application timings and to evaluate postemergence-topical (POST) and postemergence-directed (PDIR) Roundup Ultra tank mixtures for ivyleaf morningglory control in Roundup Ready cotton. Treatments were made using a tractor-mounted, compressed air or CO₂ backpack sprayer calibrated to deliver 10 GPA. Weed control was evaluated at 7, 14, and 28 days after each application. The experimental design was a randomized block with three replications. The test area received a preplant-incorporated (PPI) application of Prowl at 0.75 lb ai/A. Roundup Ultra application timings were compared to Prowl PPI and Prowl PPI + Caparol at 1.2 lb ai/A preemergence (PE). The addition of Staple to Roundup Ultra POST and PDIR was evaluated also. Roundup Ultra PDIR alone was compared to Roundup Ultra tank mixtures with residual herbicides following Roundup Ultra POST.

Roundup Ultra early POST followed by two PDIR applications of Roundup Ultra controlled ivyleaf morningglory 90% late season compared to 80% with two POST applications and one PDIR application. One POST and one PDIR application controlled morningglory 60%. One POST application of Roundup Ultra did not control morningglory. A POST application of Roundup Ultra at 0.56 lb ae/A + Staple at 0.032 lb ai/A followed by either Roundup Ultra PDIR alone or Roundup Ultra (0.56 lb ae/A) + Staple (0.032 lb/ai/A) PDIR resulted in 90 to 95% season-long morningglory control. Following a POST application of Roundup Ultra, a tank mixture of Roundup Ultra and Direx at 0.75 lb ai/A PDIR controlled morningglory 95% late season compared to 55% control with Roundup Ultra alone PDIR. Morningglory was controlled >90% with the addition of Direx at 0.5 lb ai/A to Roundup Ultra PDIR. Cotoran at 0.75 lb ai/A added to Roundup Ultra PDIR increased ivyleaf morningglory control to 85% and the addition of Caparol at 0.8 lb ai/A increased control to 90%. Roundup Ultra + Aim at 0.0018 and 0.0036 lb ai/A PDIR provided >90% control of morningglory 14 days after treatment (DAT), but declined to <80% control late season. The addition of Goal at 0.2 lb ai/A to Roundup Ultra PDIR increased morningglory control to 95% when compared to Roundup Ultra alone 14 DAT, but late season morningglory control was <70%. Roundup Ultra + FirstRate at 0.016 and 0.032 lb ai/A PDIR controlled morningglory 95% 14 DAT and throughout the remainder of the season. Cotton injury <10% was seen 14 DAT with the addition of Cotoran, Goal, and both rates of FirstRate to Roundup Ultra PDIR, but did not last throughout the season.