

**POSTEMERGENCE MORNINGGLORY CONTROL
PROGRAMS IN OKLAHOMA COTTON UTILIZING AIM**

**T.S. Osborne and J.C. Banks
Oklahoma State University
Altus, OK**

Abstract

The Roundup Ready Cotton system continues to be an effective and popular means of early-season weed control for Oklahoma's cotton producers. However, these growers often remain challenged with morningglory control strategies later in the season. The recent registration of Aim herbicide as a postdirected application in cotton has increased producer options for controlling tough broadleaf weeds. Often times, due to environmental conditions or simple logistics, producers are faced with making herbicide applications beyond the recommended window of labeled Roundup Ready crop tolerance and thus, are forced to direct sprays under the crop canopy. In this situation, producers are often in need of an effective control measure for tough broadleaf weeds such as morningglory. Therefore, the objectives of this research were: (1) compare current weed control programs to programs including AIM herbicide applied postdirected for the control of morningglory and (2) evaluate combinations of residual treatments including AIM herbicide for extended control.

Field studies were conducted in 2002 near the Oklahoma State University Southwest Research and Extension Center near Altus. Treatments were arranged in a randomized complete block design with three replications on a Tillman Hollister Clay Loam soil with a dense infestation of pitted morningglory. The cotton variety DP 458 B/R was conventionally planted in 4 row plots 50 feet in length on the 9th of May. Broadcast over-the-top herbicide applications were made with a compressed air high-clearance research plot sprayer applying 10 gallons of water per acre at 4 mph. Directed applications were made by a John Deere 5420 tractor pulling a redball hooded sprayer calibrated to deliver 15 gallons per acre at 24 PSI with 3 nozzles per 40 inch row at 3 mph. Each plot received a blanket application of Treflan PPI prior to planting, 13 inch banded applications of Roundup Ultramax at the cotyledon and 4 leaf cotton stages in combination with 2 cultivations. The mid-season applications presented below were directed under 12 inch cotton (10-12 nodes) on July 2nd to pitted morningglory less than 5 inches tall. Evaluations were taken at 7, 14 & 35 days after treatment. Treatments evaluated are listed in Table 1.

Beneficial rainfall was received 2 days after treatment, which allowed ample time for treatment absorption and soil activation of residual materials. One week after application all treatments controlled pitted morningglory 86% or greater. Valor, Valor + MSMA, Caparol + MSMA, Aim + Direx and tankmixes of Roundup Ultramax with either Aim, Valor, or Direx improved pitted morningglory control compared to Roundup Ultramax alone. However, Staple, Aim alone, Aim + MSMA, and Aim + Caparol controlled pitted morningglory similar to Roundup Ultramax alone. Two weeks after the postdirected application, most treatments including products with soil activity controlled pitted morningglory slightly better than treatments without. Roundup Ultramax alone and Aim alone controlled pitted morningglory 84% and 80%, respectively, which was similar to Aim + MSMA and Aim + Direx (87%). Staple alone, valor with or without MSMA or Roundup Ultramax and Caparol + MSMA controlled pitted morningglory 94-98%, 14 DAT. By late-season (35 DAT) control observed from treatments without soil activity was expectedly poor. Roundup Ultramax and Aim applied independently or tankmixed controlled pitted morningglory 40-60%. Tankmixing these products (Roundup Ultramax or Aim) with Caparol, Direx or Valor improved morningglory control to at least 80%. Aim + Caparol and Aim + Direx controlled pitted morningglory 83% and 80%, respectively. Treatments including Valor controlled pitted morningglory 86-93%. Caparol + MSMA or Staple controlled approximately 90% of the pitted morningglory population within the plot area.

Table 1.

TREATMENT	RATE(S)
Staple + Crop Oil	1.2 oz./A + 1.25% v/v
Roundup Ultrama	26 oz./A
Aim + Crop Oil	1.0 oz./A + 1.25% v/v
Valor + Induce	0.063 lb ai/A + 0.25% v/v
Aim + MSMA + Crop Oil	1 oz./A + 43 oz./A + 1.25% v/v
Valor + MSMA + Induce	0.063 lb ai/A + 43 oz./A + .25% v/v
Caparol + MSMA + Induce	1 qt/A + 43 oz./A + 0.25% v/v
Roundup Ultramax + Aim + Crop Oil	26 oz./A + 1 oz./A + 1.25% v/v
Roundup Ultramax + Valor	26 oz./A + 0.063 lb ai/A
Roundup Ultramax + Direx	26 oz./A + 1 qt/A
Aim + Caparol + Crop Oil	1 oz./A + 1 qt/A + 1.25% v/v
Aim + Direx + Crop Oil	1 oz./A + 1 qt/A + 1.25% v/v
Untreated	