

DIRECTED APPLICATIONS OF ROUNDUP ULTRAMAX TANK MIXES IN ROUNDUP READY COTTON

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Abstract

Roundup Ready cotton is grown extensively in modern cotton production. Roundup Herbicide has proven to provide very effective weed control for both annual and perennial weeds wherever cotton is grown.

Introduction

The objective of this experiment was to assess crop safety; weed control spectrum and residual activity of Roundup (glyphosate) tank mix combinations in Roundup Ready cotton.

Materials and Methods

Replicated small block research tests were located at: Courtland, AL, Sasser, GA, Columbia, SC and Marianna, FL. DP 451 B/RR was used at all location with the exception of Sasser, GA where DP 458 B/RR was used. The following post-directed tank mixes with Roundup UltraMax® (glyphosate) at 0.75 lb ae/A were included in this trial: two rates of Direx 4L® (diuron) at 0.5 and 0.75 lb ai/A, two rates of Amplify® (chloransulam-methyl) at 0.016 and 0.032 lb ai/A, two rates of Valor® (flumioxazin) at 0.032 and 0.063 lb ai/A, one rate each of Lorox DF® (linuron) at 0.75 lb ai/A, Strongarm® (diclosulam) at 0.025 lb ai/A, Aim® (carfentrazone ethyl) at 0.0036 lb ai/A, Maverick® (sulfosulfuron) at 0.016 lb ai/A and Permit® (halosulfuron) at 0.048 lb ai/A. In addition 3 Roundup UltraMax (glyphosate) systems utilizing a 2-leaf over-the-top (0.75 lb ae/A) followed by a 4- leaf over-the-top (0.75 lb ae/A) and a post-directed (0.75 lb ae/A).

The following weed species were evaluated: morningglory species (*Ipomoea* spp.), sicklepod (*Cassia obtusifolia*), Palmer amaranth (*Amaranthus palmerii*), Asiatic dayflower (*Commelina communis*), common cocklebur (*Xanthium strumarium*) and Florida beggarweed, (*Desmodium tortuosum*).

Results

The Roundup UltraMax system of treatments at 2nd leaf, followed by 4th leaf followed by a post-directed treatment gave the best control of morningglory species present. The tank mixes with Valor 0.032 and 0.063 lb ai/A provided the best and most consistent control of all the mixtures investigated. The tank mixes of Roundup UltraMax, Amplify, and Roundup UltraMax, Strongarm provided good to excellent morningglory species control. Good to excellent control of Sicklepod, Palmer amaranth, Smallflower morningglory, Asiatic dayflower, cocklebur and Florida beggarweed were obtained with all treatments. Tank mixes with Permit provided only fair control of many weed species.

Phytotoxicity was not a problem with any herbicide tank mixture with the exception of Maverick. Maverick caused excessive chlorosis and stunting at the majority of locations.