## TANK MIXTURES OF NARROW-SPECTRUM HERBICIDES WITH ROUNDUP Andy Kendig, Anthony Ohmes, Britton Hinklin and Paula Ezell University of Missouri Delta Center Portageville, MO

## **Abstract**

Roundup or glyphosate is slightly weaker on morningglory (*Ipomoea*) species than it is on weeds such as crabgrass and cocklebur. However, morningglory control has not been a significant problem in Roundup Ready weed control programs in soybeans or cotton. Nevertheless, producers have noticed that Roundup-treated morningglories will sometimes remain yellowed, without completely dying. Because of the slight weakness on morningglory and because Roundup lacks residual activity, a number of herbicides have been promoted as tank-mix partners. In the first few years that Roundup Ready was available, the suggested tank-mix partners tended to be ALS-inhibitor herbicides that often offered residual activity. The tank mix partners ranged in price, but were at least moderately expensive. However, more recently, narrower-spectrum herbicides, which often tend to be PPO inhibitors (or have a burning-type mode of action) have been suggested. A notable difference is that these newer suggestions have exceptionally low costs. These herbicides do not have residual activity; however, morningglory is still a key target, although some other weeds are also targets of the tank-mix partners.

To evaluate the morningglory efficacy, a non-crop study was conducted in 2001. Sencor (metribuzin) at 0.375 lb ai/A was applied to a morningglory infested area to control other broadleaf weeds, and to release ivyleaf (*Ipomoea hederacea*) and entireleaf (*Ipomoea hederacea*, var. *integriuscula*) morningglory. Treatments included tank mix partners that have recently been suggested for corn, cotton and soybean weed control. Treatments were a factorial arrangement of Roundup Ultra at 13, 20 and 26 fl oz/A (glyphosate at 0.375, 0.56 and 0.75 lb ae/A) with Aim at 1/3 and 1/6 oz product/acre (carfentrazone at 0.008 and 0.004 lb ai/A), Harvade at 8 fl oz/A (dimethipin at 0.3 lb/A), Resource at 2 fl oz/A (flumiclorac at 0.013 lb/A) and S-3153 at 0.018 lb/A.

Roundup at 0.375 lb ae/A provided 65% morningglory control. Aim increased the control to 90 and 80% at 0.008 and 0.004 lb ai/A, respectively. Morningglory control from the other tank mixtures was 69 to 71%. Roundup at 0.56 lb ae/A provided 71% morningglory control. Aim increased the control to 92 and 83% at 0.008 and 0.004 lb ai/A, respectively. Morningglory control from the other tank mixtures was 69 to 80%. Roundup at 0,75 lb ai/A provided 86% morningglory control. Aim at 0.008 lb ai/A increased the control to 100%. Morningglory control from other mixtures was 79 to 88%. The higher rate of Aim was the only treatment that consistently improved morningglory control, although the lower rates of Roundup also benefited from lower Aim rates. When the full, 0.75 lb/A rate of Roundup Ultra was used, only the high rate of Aim improved morningglory control. This study did not evaluate repeated Roundup applications; which may have lessened the benefit of the tank mixtures.