

COMMON LAMBSQUARTERS CONTROL WITH GLYPHOSATE. LeAnna L. Lyon, Technology Development Representative, Monsanto Agronomy Center, Monmouth, IL 61462.

With the increased awareness of glyphosate resistant weeds, complaints have surfaced over the herbicide's efficacy on several difficult to control weeds, including common lambsquarters. Many of these complaints stem from decreased control on weeds that were subjected to stress conditions immediately before or after the herbicide application. To address these concerns, studies were conducted at multiple locations across the Midwest, Central Plains, and Northeast in 2004 to evaluate alternative recommendations to control common lambsquarters under challenging conditions and to compare the efficacy of Roundup WeatherMax<sup>®</sup> and Roundup OriginalMax<sup>®</sup> to competitor glyphosate formulations.

The treatments included: Roundup WeatherMax at 0.75 lb ae/A + ammonium sulfate (AMS); Roundup WeatherMax at 0.75 lb/A; Roundup WeatherMax at 0.75 lb/A + nonionic surfactant (NIS); Roundup WeatherMax at 1.12 lb/A + AMS; Roundup OriginalMax at 0.75 lb/A + NIS + AMS; Roundup OriginalMax at 0.75 lb/A + AMS; Touchdown IQ<sup>®</sup> at 0.75 lb/A + AMS; Clearout 41 Plus<sup>®</sup> at 0.75 lb/A + AMS; Glyphomax Plus<sup>®</sup> at 0.75 lb/A + AMS; Glystar Plus<sup>®</sup> at 0.75 lb/A + AMS; and Callisto<sup>®</sup> at 0.05 lb ai/A + atrazine at 0.5 lb ai/A + crop oil concentrate (COC) + fertilizer. Ammonium sulfate, NIS, COC and fertilizer rates varied by location, but were within labeled specifications for all products.

Across the thirty locations, no differences in common lambsquarters control were observed at 7 to 14 days after treatment (DAT) when any glyphosate formulation was used and control was greater than 85% in most cases. A few locations did observe decreased control with an application of Callisto + atrazine (50 to 60%). Similar results were observed at 21 to 36 DAT across all locations. All glyphosate products controlled common lambsquarters greater than 87% while Callisto + atrazine provided around 50% control.

Generally speaking, conditions were not as challenging as anticipated; however, several trials did encounter cool or dry conditions prior to application, and common lambsquarters control was still very good. In several instances, the weeds were even over the labeled height for control, but were not stressed, so the herbicides were all effective. These data indicate that common lambsquarters, as with any weed, requires optimum growing conditions for herbicidal activity and must be managed according to the label of any product for the conditions in which the weed is growing.