

CONTROL OF HORSEWEED WITH GLYPHOSATE. Glen P. Murphy, Tim E. Dutt, Robert F. Montgomery, Teresa S. Willard, and Greg. A. Elmore, Monsanto Company, St. Louis, MO.

Horseweed (*Conyza canadensis*), commonly referred to as marehail, can be a difficult weed to control with glyphosate. The Monsanto field trial database was searched to determine the historical effectiveness of glyphosate in controlling horseweed. This search of spring burndown applications included data from trials conducted at multiple locations across the United States from 1973 to 2000. Data averages from this search showed better than 90% control of horseweed up to 12 inches tall at application with 0.75 lb. acid equivalent (ae) glyphosate per acre. Control averages dropped to less than 60% as the height of horseweed increased up to 36 inches at application. The addition of 2,4-D at 0.5 lb active ingredient (ai) per acre to glyphosate improved horseweed control. In general, there was better and more consistent control with glyphosate when horseweed was smaller and when 2,4-D was added.

Laboratory and field tests have recently confirmed the presence of glyphosate-resistant horseweed biotypes in Delaware and Tennessee. Field trials were also conducted in New Jersey, Maryland, Delaware, and Kentucky during 2001 and 2002 to determine the most effective programs for control of horseweed with glyphosate in no-till glyphosate-resistant soybeans (*Glycine max*). In these tests, a spring burndown application of glyphosate @ 0.75 lb ae/A + 2,4-D @ 0.5 lb. ai/A + cloransulam @ 0.016 lb. ai/A followed by an in-crop application of glyphosate @ 0.75 lb. ae/A resulted in an average 96% control with 90% or better control obtained at all locations. Glyphosate + 2,4-D (burndown) followed by glyphosate + cloransulam (in-crop) resulted in an average 91% control with better than 90% control obtained at 4 of 6 locations. Glyphosate + 2,4-D (burndown) followed by glyphosate (in-crop) resulted in an average 76%. Glyphosate (burndown) followed by glyphosate + cloransulam (in-crop) resulted in an average 57% control with better than 90% control obtained at only 1 of 6 locations. Results indicate that control of horseweed with glyphosate can be variable depending on the biotype (susceptible or resistant), stage of growth, and environmental conditions. The addition of 2,4-D increased control of horseweed at burndown. Cloransulam also increased horseweed control especially when combined with 2,4-D at burndown or when applied with glyphosate @ 0.75 lb ae/A as an in-crop application following glyphosate plus 2,4-D. Testing showed it is best to control horseweed when it is small (<6 inches) with a spring burndown application before soybean planting.

Monsanto recommends glyphosate @ 0.75 lb ae/A plus 2,4-D applied preplant for control of horseweed prior to planting soybean and corn. Preplant applications should be made prior to horseweed reaching 6 inches in height. Cloransulam plus glyphosate @ 0.75 lb ae/A is recommended for in-crop applications in glyphosate resistant soybeans where preplant control efforts were not effective in controlling horseweed. Atrazine and atrazine containing premix products may be added to preplant applications in corn for enhanced control. In-crop applications for glyphosate resistant corn should include glyphosate plus 2,4-D or dicamba where preplant control efforts were not effective in controlling horseweed.