

ABSTRACT

FACTORS AFFECTING GLYPHOSATE CONTROL OF HORSEWEED (*CONYZA CANADENSIS*) AND HAIRY FLEABANE (*CONYZA BONARIENSIS*)

Experiments were conducted in 2006 and 2007 to determine if growth stage and rate would affect glyphosate control of horseweed and hairy fleabane. The Roundup Weathermax® formulation of glyphosate was applied at 0.5, 1.0, 1.5, and 2.0 lb ai/acre at four hairy fleabane growth stages. Horseweed was evaluated at three growth stages and three glyphosate application rates (0.5, 1.0, and 2.0 lb ai/acre). In conjunction with rate and growth factors, a nozzle and spray volume study was conducted in 2007 for each weed species. Glyphosate was applied at a single rate of 1.0 lb ai/acre targeting a single growth stage (late bolting) and applied at three spray volumes (10, 20, and 30 GPA). Three nozzle types were evaluated: TwinJet and XR TeeJet from Spraying Systems, Inc., and Air-Bubble Jet from Billerica Farm Systems. Glyphosate applied at 0.5, 1.0, 1.5, and 2.0 lb ai/acre provided similar control of horseweed and hairy fleabane at the rosette stage. Control decreased significantly after bolting, especially at the lower rates (0.5 and 1.0 lb ai/acre). Overall, the 2.0 lb ai/acre provided greater control of all growth stages compared to all other rates. Glyphosate applied at a low spray volume (10 GPA) provided greater control of horseweed and hairy fleabane as compared to higher spray volumes (30 GPA). Control of horseweed and hairy fleabane by glyphosate was not influenced by nozzle type.

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