

UTILIZATION OF FLUMIOXAZIN IN MIDWESTERN MINIMUM AND NO-TILL CORN. Eric J. Ott, Dawn E. Refsell, Trevor M. Dale and John A. Pawlak, Field Market Development Specialists, Product Development Manager, Valent USA Corporation, Walnut Creek, CA 94596.

Flumioxazin is a protoporphyrinogen oxidase (PPO) inhibiting herbicide which has been registered for use in wide range of crops in the Midwest. Flumioxazin recently received registration for use in no-till and minimum till field corn production up to 14 days prior to planting at a use rate of 0.064 lb ai/A in 2009.

Eight trials were conducted across the north-central United States in 2009 in no-till glyphosate-resistant field corn. Early pre-plant (EPP) were applied 14 days prior to planting. Treatments included; 1) EPP glyphosate (0.77 lb ae/A) followed by POST glyphosate (0.77 lb ae/A), 2) EPP flumioxazin (0.064 lb ai/A) + glyphosate (0.77 lb ae/A) followed by POST glyphosate (0.77 lb ae/A) + atrazine (1 lb ai/A), 3) EPP flumioxazin (0.064 lb ai/A) + atrazine (1 lb ai/A) + glyphosate (0.77 lb ae/A) followed by POST glyphosate (0.77 lb ae/A), 4) EPP s-metolachlor (0.87 lb ai/A) + atrazine (0.87 lb ai/A) + mesotrione (0.112 lb ai/A) followed by POST glyphosate (0.77 lb ae/A).

An EPP application of flumioxazin (+/- atrazine EPP) controlled foxtail species and morningglory species similar to that of an EPP application of s-metolachlor + atrazine + mesotrione, and significantly better than an EPP application of glyphosate at the time of the POST glyphosate application. Flumioxazin treatments controlled velvetleaf significantly better than the glyphosate alone applied at EPP, but control was significantly less than the s-metolachlor + atrazine + mesotrione treatment at the time of the POST glyphosate application. Adding EPP atrazine 1 lb ai/A to flumioxazin controlled velvetleaf similarly to s-metolachlor + atrazine + mesotrione. Flumioxazin EPP treatments controlled foxtail species, common lambsquarters, velvetleaf, common waterhemp, and morningglory species similar to s-metolachlor + atrazine + mesotrione 14 days after the POST glyphosate application, and controlled the previously mentioned weeds significantly better than the EPP glyphosate application followed by a POST glyphosate application.

A 14 day pre-plant application of flumioxazin plus glyphosate provides broad spectrum residual weed control, controls many glyphosate resistant weeds, provides crop rotational flexibility to corn or soybeans, and allows for POST use of atrazine premix products with glyphosate for extended in-season residual control.