

FORAMSULFURON (AE F130360) HERBICIDE PERFORMANCE IN POSTEMERGENT WEED CONTROL PROGRAMS. Marc A. Hoobler*, Jayla R. Allen, and Chad J. Effertz, Aventis CropScience, ResearchTriangle Park, NC.

Foramsulfuron (AE F130360; 1-(4,6-dimethoxypyrimidin-2-yl)-3-(2-dimethylcarbamoyl-5-formamidophenylsulfonyl)urea) is a novel sulfonylurea herbicide for post-emergence use in corn. Foramsulfuron is effective against major grass weed species, as well as some broad-leaved weeds. It is applied with the safener, isoxadifen-ethyl (AE F122006; ethyl 5,5-diphenyl-2-isoxazoline-3-carboxylate). Foramsulfuron and isoxadifen-ethyl are always applied at a 1:1 ratio. Several research trials were conducted at universities and by Aventis CropScience across the midwest in 2000 and 2001 to evaluate the performance of foramsulfuron on grass and broadleaf weeds.

In university trials, foramsulfuron provided superior broadleaf weed control and equivalent grass control when compared to nicosulfuron. Control in eighty-six paired broadleaf comparisons was 80 and 65 percent respectively, while control in forty-one paired grass comparisons was 89 and 89 percent respectively. Significant broadleaf advantages were realized on velvetleaf, common ragweed, giant ragweed, common lambsquarters, prickly sida and common cocklebur. Foramsulfuron provided similar grass control and inferior broadleaf control when compared to nicosulfuron+rimsulfuron+atrazine. Control in seventy-eight paired broadleaf comparisons was 79 and 90 percent respectively, while control in thirty-seven paired grass comparisons was 88 and 90 percent respectively. Nicosulfuron+rimsulfuron+atrazine broadleaf advantages were realized on ALS-resistant waterhemp and kochia. The addition of atrazine to foramsulfuron provided 96 percent control of all broadleaf weeds in comparison to 91 percent for nicosulfuron+rimsulfuron+atrazine. Foramsulfuron+atrazine provided better control of velvetleaf and ragweed species than did nicosulfuron+rimsulfuron+atrazine.

In trials conducted by Aventis CropScience, similar results were found. Foramsulfuron+atrazine provided similar grass and broadleaf weed control when compared to nicosulfuron+rimsulfuron+ atrazine. Control in fifty-three paired broadleaf comparisons was 91 and 93 percent respectively, while control in 22 paired grass comparisons was 93 and 95 percent respectively.

In university trials, maximum corn injury occurred within seven days after treatment and was highest with nicosulfuron+rimsulfuron+atrazine with an average of 4.8 percent injury in thirty trials. Foramsulfuron injury averaged 3.2 percent in sixty-three trials and nicosulfuron injury averaged 1.2 percent in 31 trials.

In Aventis CropScience trials, maximum corn injury also occurred within seven days after treatment. Foramsulfuron+atrazine and nicosulfuron+rimsulfuron+atrazine injury averaged less than 1 percent when applied at an early postemergent timing.