

NICOSULFURON PLUS METSULFURON COMBINATIONS FOR JOHNSONGRASS CONTROL IN BERMUDAGRASS. Walter H. Fick, Associate Professor, Department of Agronomy, Kansas State University, Manhattan, KS 66506.

Johnsongrass is a perennial warm-season grass that reproduces by rhizomes and seeds. Johnsongrass is a noxious weed in Kansas and is particularly troublesome in the southeastern part of the state. The objective of this research was to compare the efficacy of single and sequential applications of nicosulfuron plus metsulfuron for Johnsongrass control in bermudagrass pasture. The study site was located in Montgomery County. Herbicides were applied in 187 L ha⁻¹ spray volumes using a CO₂-pressurized backpack sprayer. Individual plots were 4 by 7.6 m in size and treatments were replicated in 3 blocks. Herbicides were first applied July 13, 2007 to 40-cm tall Johnsongrass plants about 15 days after harvesting the bermudagrass for hay. The sequential treatments were applied on August 17, 2007, 18 days after a second hay harvest. Plots were evaluated for percent control 2 weeks after the first application, at the time of the sequential treatment applications, and at the end of the season on September 28, 2007. Single applications contained 7.2 to 10.8 g ha⁻¹ nicosulfuron plus 1.1 to 1.7 g ha⁻¹ metsulfuron. Sequential treatments contained 5.4 to 10.8 g ha⁻¹ nicosulfuron plus 0.9 to 1.7 g ha⁻¹ metsulfuron. Other treatments applied only once included nicosulfuron + metsulfuron + diuron (7.2 + 1.1 + 147 g ha⁻¹ and 10.8 + 1.7 + 147 g ha⁻¹) and sulfosulfuron at 11.5 g ha⁻¹. All treatments except those containing diuron provided greater than 70% control of Johnsongrass 2 weeks after treatment. Diuron appeared to be antagonistic with nicosulfuron and/or metsulfuron and initially caused significant leaf burn on the bermudagrass. On August 17, at the time of applying the sequential treatments, all treatments provided greater than 80% control of Johnsongrass. At the end of the growing season, only the sequential treatments and sulfosulfuron provided greater than 90% control of Johnsongrass.