

Reprinted with permission from: 1987 Leafy Spurge Annual Meeting. Fargo, North Dakota. July 8-9, 1987. pp. 83-84.

Published by: Great Plains Agricultural Council: Leafy Spurge Symposium.

Leafy spurge control with spring applications of sulfometuron

M. A. FERRELL and T. D. WHITSON

Leafy spurge is a major broadleaf, perennial weed problem in rangeland. This research was conducted in Crook County, WY, to compare the efficacy of spring applications of sulfometuron on leafy spurge.

Plots were established May 14, 1986 to a dense stand of leafy spurge in a rangeland setting. The leafy spurge was in the prebud stage. Perennial grasses 4 to 6 inches tall were present as an understory. Herbicides were applied with a 6-nozzle knapsack spray unit with a carrier volume of 40 gpa delivered at 40 psi pressure through 8004 flat fan nozzles. Weather conditions were as follows: air temp. 45° F, relative humidity 60%, wind SW at 5 mph, sky cloudy, soil temp. – 0 inch 60° F, 1 inch 54° F, 2 inch 50° F, 4 inch 50° F. Soil was a silt loam (22% sand, 58% silt and 20% clay) with 1.8% organic matter and 6.3 pH. Plots were 9 by 30 feet and arranged in a randomized complete block design with four replications.

Percent leafy spurge control and grass suppression were evaluated visually on August 13, 1986 and July 7, 1987. With the exception of metsulfuron, all treatments exhibited varying degrees of control three months after application, with sulfometuron + 2,4-D LVE and picloram providing good control (see table). Evaluations were taken 14 months after herbicide applications and it was found that sulfometuron + 2,4-D LVE provided poor weed control while picloram provided fair weed control. However, treatments containing sulfometuron did exhibit some suppression of leafy spurge with no grass suppression 14 months after treatment application. (Wyoming Agric. Exp. Sta., Laramie, WY 82071, SR 1519.)

Leafy spurge shoot control.

Treatment ¹	Rate lb ai/A	Percent control ²		Percent grass suppression ²	
		1986	1987	1986	1987
sulfometuron	.0468	53	0	83	0
sulfometuron	.0938	55	0	91	0
metsulfuron	.0188	0	0	0	0
metsulfuron	.0375	0	0	0	0
sulfometuron + metsulfuron	.0468 + .0188	58	0	85	0
sulfometuron + metsulfuron	.0468 + .0375	59	0	90	0
sulfometuron + metsulfuron	.0625 + .0188	55	0	90	0
sulfometuron + metsulfuron	.0625 + .0375	60	0	90	0
sulfometuron + glyphosate	.0625 + .75	53	0	98	8
fosamine	1.0	3	0	0	0
fosamine	2.0	5	0	0	0
sulfometuron + fosamine	.0938 + 1.0	59	0	85	0
sulfometuron + 2,4-D LVE	4.0	87	34	69	0
picloram	2.0	87	60	0	0
LSD (0.05) =		8	3	11	ns
CV =		14	33	15	599

¹ Treatments applied May 14, 1986; surfactant, X-77, added to all treatments at 0.5% v/v.

² Visual evaluations August 13, 1986 and July 7, 1987.