

Use of chlorsulfuron for leafy spurge control

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Chlorsulfuron was applied to leafy spurge at three locations in Montana. Rates of 1/8 and 1/4 lb/A were applied with a backpack sprayer using 20 gpa at 30 psi. Treatments were applied in the fall and evaluated the following summer.

A greenhouse experiment was established with chlorsulfuron on leafy spurge. Leafy spurge plants in full bloom were cut off just below the soil surface. Chlorsulfuron was applied to the soil surface at 0, 1/32, 1/16, and 1/8 lb/A. The pots were placed in the greenhouse with a 16-hour daylength. Number of shoots per pot, height of the shoots, weight of the shoots and number of leafs per plant were measured one month after spraying. There were four replications per treatment.

Herbicide	Rate lb/A	# Shoots/pot	Average ht. shoots (cm)	No. of leafs/plt	Dry wt/pot mg
Check	0	11.5	23.2	37.8	7385
Chlorsulfuron	1/32	6.3	26.4	37.5	5465
Chlorsulfuron	1/16	5.3	15.3	31.8	4257
Chlorsulfuron	1/8	5.8	15.2	31.8	1475
LSD (0.5)		4.8	10.5	14.9	2776

There were no differences between the control and the treated plots in the field. In the greenhouse experiment there were differences in number of shoots per pot, height of the shoots and in the amount of dry weight produced per pot. The check produced more shoots per pot than did the treated pots. Chlorsulfuron at 1/32 lb/A produced taller plants than either of the other treated pots. There were no differences in the number of leaves produced per plant. Dry weight per pot decreased with increasing rates of chlorsulfuron. Chlorsulfuron initially inhibited stem elongation of leafy spurge at 1/8 lb/A but the plant outgrew the inhibition. At 1/32 lb/A leafy spurge had extensive internode elongation.