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Tebuthiuron applied spring and fall for leafy spurge control

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An experiment was established near Valley City, ND to evaluate tebuthiuron for leafy spurge control. Tebuthiuron as 10 or 20% pellets was applied by hand as spring or fall treatments. The fall treatments were applied on 25 September 1980 when the leafy spurge had vigorous fall growth from previous fall rains. The summer had been very dry and the plants had been drought stressed for most of the growing season. The spring application was made on 18 May 1981 when the soil was very dry, the leafy spurge was 2 to 4 inches tall and emerged stems were sparse. The experimental plots were 10 by 20 feet and replicated twice in a randomized complete block design. Evaluations are based on percent stand reduction as compared to the control and data are shown in the table.

Time of application	Tebuthiuron pellet formulation	Rate (lb/A)	Control		Grass Injury June 82
			Sept 81	June 82	
	%			%	
Fall	10	0.5	0	53	35
Fall	10	1.0	35	34	90
Fall	10	1.5	10	33	70
Fall	20	0.5	30	0	40
Fall	20	1.0	95	49	25
Fall	20	1.5	58	86	25
Spring	10	0.5	0	10	45
Spring	10	1.0	0	16	70
Spring	10	1.5	0	5	20
Spring	20	0.5	35	48	5
Spring	20	1.0	10	50	40
Spring	20	1.5	73	50	7
LSD(0.05)			56	107	

Leafy spurge control with tebuthiuron varied widely within most treatments. The only treatment that provided good leafy spurge control after two years was tebuthiuron 20%G at 1.5 lb/A fall applied which gave 86% control. Other treatments did provide over 90% control in one replication, but nearly zero in the other. Tebuthiuron severely damaged the grasses at all rates of application especially when the 10%G formulation was used. The large variation in leafy spurge control by tebuthiuron could be due to the dryness the year in which the experiment was established. However, the severe damage to the native grasses probably makes tebuthiuron unsuitable for leafy spurge control in most situations.