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## Spring and fall applications of dicamba for leafy spurge control

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Dicamba was applied to leafy spurge on hay pasture land near Livingston, Montana. Fall treatments were applied when plants were in the senescent stage on September 23, 1980. Spring applications were made on June 7, 1981 to leafy spurge plants in the pre-bloom stage. The herbicide was applied with a backpack sprayer using 14 gpa at 30 psi for both application dates. Treatments were replicated three times in a randomized complete block. Leafy spurge control and grass injury were evaluated using visual ratings on June 7, 1982.

Trt. No.	Herbicide	Rate lb/A	Treatment		Rated on 6-7-82	
			Form EC	Timing	% Spurge	% Grass
					Control	Injury
1	Banvel	4	4	Fall	27.3	6.0
2	Banvel	5	4	Fall	65.0	7.7
3	Banvel	6	4	Fall	66.0	7.0
4	Banvel	6	10G	Fall	59.0	11.3
5	Banvel	8	10G	Fall	88.7	19.0
6	Banvel	3	4	Spring	92.3	13.7
7	Banvel	4	4	Spring	98.3	7.3
8	Banvel + 2,4-D	2 + .5	4, 4	Spring	88.7	7.3
9	Banvel + 2,4-D	2 + 2	4, 4	Spring	86.3	8.3
10	Check					.0
11	Banvel	4	2	Fall	11.0	4.0
				C.V. -	27.52	68.37
				LSD 5% -	29.09	9.70

Spring applications generally provided the best control of leafy spurge. Fall rates of 6 and 8 pounds/acre with the granular formulation caused significant grass injury.

Concern over grass injury led to further analysis of plant species composition on the site. Visual ratings for percent cover of plant types and stem counts for leafy spurge were evaluated using a 1 ft<sup>2</sup> frame. Readings were replicated four times in each plot.

Spring applications of Banvel provided greater control of leafy spurge than fall applications. Spring applications of Banvel increased the invasion and establishment of annual forbs at all rates tested, which indicates a negative trend on rangeland sites.

Treatment					Rate on 9-22-82			
Trt. No.	Herbicide	Rate lb/A	Form EC	Timing	Ann. Grass	Ann. Forbs	Per Grass	Leafy Spurge
					% Cov. /ft	% Cov. /ft	% Cov. /ft	Stems /ft
1	Banvel	4	4	Fall	27.0	1.0	65.0	4.2
2	Banvel	5	4	Fall	32.5	1.0	68.0	1.9
3	Banvel	6	4	Fall	20.0	.0	76.5	.8
4	Banvel	6	10G	Fall	24.5	.0	66.5	2.4
5	Banvel	8	10G	Fall	22.0	11.5	59.0	5.8
6	Banvel	3	4	Spring	10.0	50.0	55.0	4.2
7	Banvel	4	4	Spring	16.5	34.0	55.0	3.4
8	Banvel + 2,4-D	2 + .5	4, 4	Spring	22.5	24.0	60.0	2.5
9	Banvel + 2,4-D	2 + 2	4, 4	Spring	10.0	28.0	65.0	3.7
10	Check	---			39.5	1.5	63.5	5.9
11	Banvel	4	2	Fall	22.5	6.0	68.0	3.9
				C.V. -	88.09	93.86	25.21	66.40
				LSD 5% -	44.07	29.85	35.82	5.51