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2,4-D dimethylamine SULV for leafy spurge control¹

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Two experiments were established to compare 2,4-D dimethylamine SULV (Thompson-Hayward Co., Kansas City, KS) with 2,4-D amine, 2,4-D ester, dicamba and picloram for leafy spurge control. The first experiment was established near Sheldon, ND on 17 July 1981 when the leafy spurge was 16 to 36 inches tall and most seed had reached maturity. The weather was 84° F, 53% relative humidity, and the soil was dry and 88° F at one inch. The second experiment was established on 11 September 1981 when the leafy spurge was 30 to 40 inches tall and had 2 to 3 inches of new fall growth. The soil was dry and 68° F at one inch. The temperature was 70° F, 56% relative humidity, and the sky was clear. Herbicides were applied broadcast with a tractor mounted sprayer using 8.5 gpa and 35 psi. Ethylene glycol, an additive in the formulation of 2,4-D dimethylamine SULV, was added to 2,4-D amine, 2,4-D ester, dicamba and picloram treatments at 5% (v:v) in the first experiment. The plots were 10 by 30 feet in a randomized complete block design for both experiments. Evaluations were based on percent stand reduction as compared to the control.

The addition of ethylene glycol to the herbicides did not change the leafy spurge control compared to herbicides used alone. The leafy spurge control was similar for all herbicides at the rates tested in the first experiment. In the second experiment, leafy spurge control was similar between 2,4-D dimethylamine SULV, 2,4-D amine and 2,4-D ester when applied at 4.0 lb/A. Picloram at 1.0 and 2.0 lb/A provided 52 and 92% leafy spurge control, respectively, compared to 1 to 8% control for the 2,4-D formulations after one year. The 2,4-D dimethylamine SULV formulation provided similar leafy spurge control to 2,4-D amine and ester formulations. The addition of ethylene glycol did not improve leafy spurge control by any of the herbicides tested.

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Herbicide	Rate	Control	
		June 1982	Aug. 1982
<u>Experiment 1 (treated 17 July 1981)</u>		(%)	
2,4-D dimethylamine SULV amine	1.0	10	3
2,4-D amine (alkanolamine salt)	1.0	8	6
Dicamba	1.0	7	0
Picloram	0.375	13	5
2,4-D amine+ethylene glycol	1.0 + 5%	7	0
Dicamba+ethylene glycol	1.0 + 5%	11	0
Picloram+ethylene glycol	1.0 + 5%	9	11
LSD (0.05)		7	6
<u>Experiment 2 (treated 11 Sept. 1981)</u>		(%)	
2,4-D dimethylamine SULV	2.0	8	2
2,4-D dimethylamine SULV	3.0	6	1
2,4-D dimethylamine SULV	4.0	19	2
2,4-D amine (alkanolamine salt)	4.0	22	8
2,4-D ester (propylene glycol butyl ether)	4.0	13	1
Picloram	1.0	98	52
Picloram	2.0	100	92
LSD (0.05)		12	14