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Evaluation of 2,4-D LVE as a treatment prior to light rates of picloram for leafy spurge shoot control

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As costs of controlling leafy spurge (*Euphorbia esula* L.) increase new methods of treatment are being evaluated to decrease costs and improve control. This experiment was established to evaluate the use of 2,4-D LVE as a setup treatment prior to the application of light rates of picloram.

Plots were established June 4, 1985 in a dense stand of leafy spurge 12 to 18 inches tall in the bud to full bloom stage-of-growth. Liquid formulas were applied with a 6-nozzle knapsack spray unit delivering 40 gpa water. There was an understory of perennial grasses 4 to 6 inches tall. Soil moisture was very low and the plots were located on an irrigated slope. Weather conditions were as follows: air temperature 76º F, relative humidity 34%, wind N at 5 mph, sky partly cloudy, and a soil temperature of 108º F at 1 inch. Soil was a sandy loam (72% sand, 15% silt and 13% clay) with 1.3% organic matter and 7.6 pH. Setup treatments with 2,4-D LVE were applied 17 days prior to application of 0.25 and 0.5 lb ai/A picloram. Plots were 9 by 30 feet arranged in a randomized complete design with three replications.

Leafy spurge shoot control

Treatment[1]	Rate lb ai/A	Percent[2] control
*2,4-D LVE + picloram	0.125 + 0.25	0
*2,4-D LVE + picloram	0.25 + 0.25	0
*2,4-D LVE + picloram	0.125 + 0.5	0
*2,4-D LVE + picloram	0.25 + 0.5	0
2,4-D LVE + picloram	0.125 + 0.25	0
2,4-D LVE + picloram	0.25 + 0.25	0
2,4-D LVE + picloram	0.125 + 0.5	0
2,4-D LVE + picloram	0.25 + 0.5	0
picloram + clopyralid	0.125 + 0.125	0
picloram + clopyralid	0.25 + 0.25	0
picloram + clopyralid	0.375 + 0.375	0
picloram	0.25	0
picloram	0.5	0
picloram	0.75	50
picloram	2.0	77

[1]Treatments applied June 4, 1985
[2]Visual evaluations June 4, 1986
*Plots treated with 2,4-D LVE 17 days prior to treatment with picloram

Visual ratings of leafy spurge shoot control made June 4, 1986, showed 2,4-D setup treatments and 2,4-D/picloram combinations to be ineffective in increasing the activity of picloram for the control of leafy spurge. Combinations of picloram + clopyralid were also ineffective. Picloram applied alone at 2.0 lb ai/A resulted in the most effective control at 77%, which is about 20% less than the control normally observed for this rate, one year after application The reduced control may have resulted from picloram leaching due to irrigation. (Wyoming Agric. Exp. Sta., Laramie, WY 82071, SR_____.)