

# BROOM SNAKEWEED CONTROL WITH PICLORAM AND AN ORGANOSILICONE ADDITIVE

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Broom snakeweed is a common noxious range weed and often sprayed commercially over vast areas. In New Mexico, about 100,000 to 200,000 acres are sprayed annually primarily with picloram. The accepted commercial rate is 0.25 lb. ai/ac applied from late September until December. This experiment established near Corona, NM was designed to investigate sub-recommended rates with the inclusion of an organosilicone surfactant (XRM-5234). Treatments were applied under various environmental conditions on seven dates. An original objective was to spray under relatively high (morning) and low (afternoon) humidity conditions on a particular date as was the case on October 24-25 and December 5-6, 1991. Because environmental conditions did not sufficiently change during a 48 hour period only a single set of treatments were applied on November 14, 1991, and April 8 and May 8, 1992.

Addition of 0.125% v/v organosilicone surfactant did not enhance the effectiveness of picloram for broom snakeweed control. There was a dosage response, however picloram was less effective when applied in December and May compared to other dates. Results from morning and afternoon spraying were inconclusive but snakeweed control tended to be higher when sprayed under relatively high humidity conditions on October 23 (60% RH) compared to lower humidity on October 24, 1991 (25% RH).

The table below shows snakeweed mortality following applications of picloram and picloram plus organosilicone surfactant (XRM-5234) under various environmental conditions on the NMSU Corona Research Ranch. Treatments evaluated 18 August 1992.

Date	10/25/91	10/24/91	11/14/91	12/6/91	12/5/91	4/8/92	5/8/92
Spray Time	8:15-9:15	3:45-4:30	8:30-9:20	8:45-9:30	2:10-2:45	9:15-10:15	11:15-12:15
Air Temp °C	8.6	18.5	8.8	6.8-11.6	13.8-11.8	18	19.5
Soil Temp (10, 50 cm)	12.7, 16.3	19, 16	8.8, 8.7	1.2, 4.2	2.9, 4.1	9.3, 9.5	14.7, 15.2
% RH	70-50%	25%	89%	42-25%	18%	17%	36%
Wind Speed (km/hr)	2.9	4.2	3	5.5	<3	<3	4.7

  

	Dosage (kg/ha)	-----Snakeweed Mortality (%)-----						
Picloram	0.07	5	8	14	4	15	11	3
+ Surfactant	0.125%	5	13	11	5	9	18	4
Picloram	0.14	17	32	38	25	27	66	4
+ Surfactant	0.125%	26	44	31	21	13	54	13
Picloram	0.21	78	68	80	18	33	85	23
Picloram	0.28	93	78	85	55	55	95	35
Surfactant	0.125%	4	6	7	1	5	2	2
Control	-	7	5	11	2	6	1	2
LSD=(0.05)		14	25	34	24	18	26	6