

Weed Control in Established Alfalfa at Scottsbluff, Nebraska during the 2007 Growing Season.

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A field study was initiated near Scottsbluff, Nebraska to compare the effectiveness of various herbicides applied postemergence for selective weed control in irrigated established Roundup Ready® alfalfa. The experimental design was a randomized complete block with four replications. Plots were 11 feet wide by 25 feet long and were located on a sandy loam with a pH of 8.1 and organic matter content of 1.0%. Herbicides were applied on May 10, 2007. On May 10, alfalfa had 6 inches of new growth and broadleaf weeds were 2 to 3 inches tall. Herbicides were applied with a tractor mounted sprayer calibrated to deliver 20 gallons of water per acre at 36-psi pressure with Spraying Systems 11002 VS nozzles. Environmental conditions at the time of spraying were: air temperature, 60F; humidity, 56%; wind speed, 6 mph out of the W; time of day was 9:00 a.m.

Visual alfalfa injury was evaluated on May 15. Minor crop injury was observed 5 days after treatment from Prowl H₂O plus Raptor, Pendisate, and Extreme. Alfalfa stand was not influenced by herbicide treatments. There was a trend for forage yield which included alfalfa and weeds to be greater in plots treated with Prowl H₂O plus Raptor. There was also a trend for this treatment to provide the best overall weed control.

Table 1. Weed Control in Established Alfalfa at Scottsbluff, Nebraska during the 2007 Growing Season.

Herbicide treatment ¹	Rate	Alfalfa			Percent weed control ⁴		
		Visual injury ² 5/15	Stand 5/21	First cutting yield ³ 6/1	5/21		
	(lb/acre)	- (%) -	(stems/sq yd)	(tons/acre)	----- (%) -----		
Nontreated	—	0	162	1.3	0	0	0
Prowl H ₂ O + Raptor + UAN + X77	1.42 + 0.031	2	170	1.6	87	89	99
Roundup UltraMax II + AMS	0.75	0	138	1.3	80	64	99
Pendisate (BAS 756) + AMS	1.55	3	168	1.3	28	78	99
Extreme + AMS + X77	0.81	3	174	1.2	84	51	99
LSD at 5%	—		NS	0.25	25	34	NS

¹ Spray additives were added to herbicides at the following rates: surfactant (X77) at 0.25% and liquid nitrogen (UAN) 33-0-0 at 1% per volume of carrier and ammonium sulfate (AMS) at 17 lbs/100 gallons of spray solution.

² Visual evaluations of crop injury were taken on a scale from 0 to 100 with 0 equal to no injury and 100 equal to death of the plant.

³ Alfalfa yield was determined on June 1 by harvesting forage in a 3 ft wide strip through the center of each plot.

⁴ Percent weed control was calculated from weed counts taken on May 21. Weed abbreviations are as follows: Kochia (Kocz), common lambsquarters (Colq), and Russian thistle (Ruth).