

## Weed Control in Pastures and Forages

Dormant season treatments for weed control in established alfalfa. Peterson, Dallas E. and Zachary A. Deeds. An experiment was conducted near Great Bend, KS in established alfalfa growing on a Pratt-Carwhile sand soil with 0.9% organic matter and a pH of 5.4 to evaluate several dormant season herbicide treatments for winter and summer annual weed control in established alfalfa. Treatments were applied to dormant alfalfa, 1- to 2-inch diameter tansy mustard rosettes, and 2- to 3-leaf Carolina foxtail on March 7, 2003 with 47 F, 47% relative humidity, and mostly clear skies. Treatments were applied with a CO<sub>2</sub> back-pack sprayer delivering 20 gpa at 25 psi through XR8002 flat fan spray tips to the center 6.3 ft of 10- by 25-ft plots. The experiment was a randomized complete block design with three replications. Crop response and winter annual weed control were visually evaluated on May 12. Crop response and Palmer amaranth control were evaluated August 6 and September 6.

None of the herbicide treatments caused any visible injury to alfalfa throughout the season (data not shown). Diuron, hexazinone, imazethapyr, imazamox, the high rate of flumioxazin, and flumioxazin plus paraquat gave 95% or better tansy mustard control. Treatments with hexazinone, metribuzin, or paraquat gave greater than 95% Carolina foxtail control. The combination of flumioxazin plus paraquat tended to provide better tansy mustard and Carolina foxtail control than either herbicide alone. All flumioxazin treatments provided excellent late season Palmer amaranth control, and were the only treatments that gave more than 75% control by the final evaluation. Flumioxazin appears to have good potential for residual *Amaranthus* control in established alfalfa. (Dept. of Agronomy, Kansas State University, Manhattan)

Table. Dormant season treatments for weed control in established alfalfa (Peterson and Deeds).

Treatment <sup>a</sup>	Application	Tansy	Carolina	Palmer amaranth	
	Rate	mustard	foxtail	August 6	September 6
	(lb/A)	-----(% control)-----			
Diuron	0.8	95	50	38	5
Diuron	1.6	100	78	48	30
Hexazinone	0.25	100	98	0	0
Hexazinone	0.5	100	100	0	0
Diruon + hexazinone	0.8 + 0.25	100	100	20	5
Metribuzin	0.38	68	100	0	0
Diuron + metribuzin	0.8 + 0.38	100	100	40	8
Trifluralin	2	0	0	0	0
Sulfentrazone + NIS	0.25	63	83	8	8
Sulfentrazone + NIS	0.38	83	89	79	74
Flumioxazin	0.13	83	40	100	96
Flumioxazin	0.25	100	63	100	99
Flumioxazin + paraquat + NIS	0.13 + 0.46	100	100	98	100
Paraquat+NIS	0.46	60	96	0	0
Imazethapyr + NIS + 28% N	0.063	100	43	0	0
Imazamox + NIS + 28% N	0.031	100	70	0	0
LSD (5%)		11	8	10	11

<sup>a</sup> NIS = Activate Plus nonionic surfactant from Agrilience applied at 0.25% v/v; 28% N = 28% UAN liquid nitrogen fertilizer applied at 2 qt/A.