Flax Tolerance to Preemergence Herbicides

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The study was conducted on a Heimdal silt loam soil with a 7.5 pH and 2.7% organic matter. Flax (Cathay) was seeded on May 7th at 41 lbs/A. PRE herbicides were applied immediately after planting with 56° F air, 48° F soil, 60% relative humidity, 5% clouds, and no wind. The soil surface was dry to a depth of 0.75 inches. Treatments were applied to 8-by 25-ft plots with a hand-boom calibrated to deliver 20 gpa at 20 psi through XR8003 flat fan nozzles. The trial was harvest with a plot combine on August 24, 2000. The experimental design was a randomized complete block with three replicates.

Weeds evaluated were common lambsquarters, redroot pigweed, and prostrate pigweed. Both sulfentrazone and flumioxazin provided excellent control of common lambsquarters, redroot pigweed, and prostrate pigweed. DPX-R6447 applied at 0.125 lb ia/A provided excellent common lambsquarters and redroot pigweed control, but was weak on prostrate pigweed.

Weed control in flax.

		Weed control					Flax				
		5/30/00		6/20/00			5/30/00	5/30/00	6/20/00	7/17/00	8/24/00
Treatment	Rate	CHEAL[1]	AMARE[2]	CHEAL	AMARE	AMABL[3]	stand counts	injury			yield
	Lb ia/A	%					# / 3 m of row	%			lbs/A
sulfentrazone	0.125	98	95	94	96	83	267	17	7	0	24
sulfentrazone	0.25	100	98	99	100	95	239	33	20	0	24
sulfentrazone	0.5	100	100	100	100	100	180	70	60	33	21
flumioxazin	0.0938	95	96	92	98	93	236	30	13	0	24
flumioxazin	0.1875	98	100	98	100	100	181	53	50	33	20
DPX-R6447	0.0625	88	88	75	80	53	266	13	5	0	23
DPX-R6447	0.125	96	97	90	88	67	229	27	10	13	24
check	0	0	0	0	0	0	276	0	0	0	18

LSD (0.05)	7	5	6	4	12	57	10	12	5	3

[1]CHEAL = common lambsquarters (Chenopodium album)

[2]AMARE = redroot pigweed (Amaranthus retroflexus)

[3]AMABL = prostrate pigweed (Amaranthus blitoides)

All treatments, except the high rate of sulfentrazone and flumioxazin, had yields greater than the untreated check. Both the high rate of sulfentrazone and flumioxazin caused significant crop injury and reduction in plant stand counts (Table).