

Volunteer flax and canola control in field pea, Carrington, 2003

Endres, Gregory J. and Kirk A. Howatt

Control of volunteer flax and canola, and crop response were evaluated with selected PRE and POST herbicides in field pea. Experiment design was a randomized complete block with four replicates. The experiment was conducted on a Heimdahl loam soil with 7.9 pH and 2.9% organic matter with field history of flax in 2002. Flax and canola seed was broadcast on May 20 and the trial area was harrowed twice on May 23. On May 27, inoculated 'Integra' field pea was planted in 7-inch rows at 300,000 pure live seeds/A. Herbicide treatments were applied at 8.5 gal/A at 30 psi through 8001 flat fan nozzles to 5 by 25 ft plots with a CO₂ pressurized hand-held plot sprayer. PRE treatments were applied on a dry soil surface on May 27 with 77 F, 44% RH, and 95% cloudy sky. A low density of volunteer flax was present. Rainfall totaled 0.93 inches of during the 14-day period following application of PRE treatments. POST treatments were applied on June 10 with 61 F, 76% RH, 8 mph wind, and 100% cloudy sky to 2-inch tall field pea, 1- to 1.5-inch tall flax, and cotyledon to 2-leaf canola. Average plant density in untreated plots: field pea = 8/ft², flax = 9/ft², and canola = 2/ft². Sethoxydim was applied across the trial on June 23 for grass control. The trial was harvested with a plot combine on August 26.

POST metribuzin at 2 and 3 oz/A and bentazon provided 86 to 99% canola control one month after application (Table). However, bentazon injured pea and reduced seed yield. POST metribuzin at 3 oz/A provided 79% and 99% control of flax and canola, respectively, and 1% pea injury one month after application (Table). Pea yield with POST metribuzin at 3 oz/A was 48.9 bu/A, which was higher than yield with the untreated check and herbicide treatments that significantly injured flax.

Table. Volunteer flax and canola control in field pea (Endres and Howatt).

Treatment ^a	Rate (oz ai/A)	Volunteer flax		Volunteer canola		Field pea			Seed yield bu/A
		6/26	7/10	6/26	7/10	6/17	6/26	7/8	
		———— % control ————		———— % control ————		—— % injury ——			
<u>PRE</u>									
metribuzin	3	10	20	76	44	0	0	0	40.3
metribuzin	4.5	71	48	96	77	15	15	11	42.8
metribuzin	6	77	66	97	79	18	25	23	36.6
<u>POST</u>									
metribuzin	1	76	65	88	69	0	0	0	51.1
metribuzin	2	91	69	99	89	12	3	1	46.9
metribuzin	3	94	79	99	99	12	1	1	48.9
bentazon+PO	16+0.25	0	0	98	86	0	20	20	40.0
acifluorfen	3	35	45	69	40	2	1	0	43.7
MCPA	4	0	0	84	71	27	21	17	35.2
untreated	---	0	0	0	0	0	0	0	31.6
LSD (0.05)		14	16	7	14	4	8	5	8.2

^aPO=HI-PER-OIL, a petroleum oil from Agrilance, St. Paul, MN.