Preemergence Weed Control in Field Pea, Carrington, 2008

Greg Endres

Weed control and field pea response to selected preemergence-applied (PRE) herbicide were evaluated in a randomized complete block design with three replicates. The field experiment was conducted at the NDSU Carrington Research Extension Center on a conventional-tilled Heimdahl-Emrick loam soil with 2.8% organic matter and 6.8 pH. On April 30, inoculated 'DS Admiral' field pea was seeded in 7-inch rows at a rate of 300,000 pure live seeds/A. Herbicide treatments were applied with a CO_2-pressurized, hand-held plot sprayer at 35 psi through 80015 flat-fan nozzles. PRE treatments were applied at 17 gpa on May 6 with 64° F, 33% RH, 100% cloudy sky, and 11 mph wind. Rainfall totaled 1.1 inches within 24 d following PRE application. POST treatments were applied on June 24 with 47° F, 78% RH, clear sky, and no wind to 3- to 4-inch tall field pea, 1- to 3-leaf foxtail (green and yellow) and 2-leaf redroot pigweed. POST treatments were applied on June 12 with 55° F, 75% RH, clear sky, and 14 mph wind to 5- to 6-inch tall field pea, 1- to 4-leaf yellow and green foxtail, 1- to 3-inch tall common lambsquarters, and 1- to 2-inch tall wild buckwheat.

No crop response with PRE treatments was observed when visually evaluated on June 10 (data not shown). Broadleaf weed control was poor to nonexistent with PRE treatments (Table). This was due to delayed rainfall (> 3 wk) to activate PRE herbicides. Foxtail generally was suppressed with POST grass herbicides. Common lambsquarters control ranged from 77 to 90% with POST broadleaf herbicides while wild buckwheat control was poor. Crop injury occurred with POST broadleaf plus grass herbicides.

Pea herbicide treatments.

Table. Preemergence weed management in field pea.

Herbicide			Weed control[1]					Crop response[2]	
			6/10		6/27				
Treatment[3]	Application timing[4]	Rate	colq	wibw	fota	colq	wibw	6/27	7/9
		product/A	%						
Untreated check	x	0	0	0	0	0	0	0	0
Lorox/Assure II + COC	PRE/POST	16 oz/8 fl oz + 1% v/v	40	0	68	0	0	0	0
Lorox/Assure II + COC	PRE/POST	32 oz/8 fl oz + 1% v/v	67	22	68	0	13	0	0
KIH485/Assure II + COC	PRE/POST	2.8 oz/8 fl oz + 1% v/v	27	0	68	0	0	0	0
KIH485/Assure II + COC	PRE/POST	5.6 oz/8 fl oz + 1% v/v	53	0	90	0	0	0	0
Sharpen/Assure II + COC	PRE/POST	2 fl oz/8 fl oz + 1% v/v	47	22	67	0	0	0	0
Sharpen/Assure II + COC	PRE/POST	4 fl oz/8 fl oz + 1% v/v	55	24	65	0	0	0	0
Sharpen + Pursuit	PRE	2 fl oz + 2 fl oz	53	x	67	0	0	0	0
Spartan + Pursuit	PRE	3 fl oz + 2 fl oz	66	22	75	0	0	0	0
Raptor + Basagran + COC + UAN	POST	4 fl oz + 16 fl oz + 1% v/v + 32 fl oz	x	x	76	90	40	15	2
Raptor + RezultB + RezultG + COC + UAN	POST	2 fl oz + 12.8 fl oz + 12.8 + 1% v/v + 32 fl oz	x	x	70	88	53	18	6
RezultB + RezultG + COC + UAN	POST	25.6 fl oz + 25.6 fl oz + 1% v/v + 32 fl oz	x	x	66	77	27	15	8
C.V. (%)			26.0	120.1	6.7	18.2	97.2	37.2	132.0
LSD (0.05)			20	NS	7	7	18	3	3

[1]Colq=common lambsquarters; wibw=wild buckwheat; fota=yellow and green foxtail.

[2]Crop response=plant height reduction.

[3]COC=Destiny (Winfield); UAN=urea ammonium nitrate.

[4]PRE=May 6; POST=June12.