

Field Pea Weed Control with Kixor, Carrington, 2009

Greg Endres

The trial was conducted in cooperation with BASF to measure weed control and crop response with soil-applied Kixor (Sharpen and Optill). The field trial was established on a Heimdal-Emrick loam soil with 4.2% organic matter and 5.9 pH. The experimental design was a randomized complete block with three replicates. Herbicide treatments were applied with a CO₂-pressurized hand-boom plot sprayer delivering 10 gal/A at 35 psi through 8001 flat-fan nozzles. PP treatments were applied on May 7 with 49° F, 73% RH, 10% cloudy sky, and dry soil surface to 6-inch tall quackgrass, 1- to 2-leaf volunteer barley, 1-inch tall fairy candelabra, 0.5-inch tall kochia, 1- to 5-inch wide sheperdspurse, and 2-inch wide yellow woodsorrel. Rainfall totaled 0.48 inches during 5 d after PP application of herbicides. Inoculated 'Admiral' field pea was direct-seeded into barley stubble at 300,000 pure live seeds/A on May 15. PRE treatment was applied on May 16 with 43° F, 45% RH, clear sky, and moist soil surface to 6- to 8-inch tall quackgrass, 3-leaf volunteer barley, 1-inch tall fairy candelabra, 1- to 5-inch wide sheperdspurse, 0.5- to 1-inch tall kochia, and 2-inch wide yellow woodsorrel. Rainfall totaled 0.87 inches during 9 d after PRE application of herbicides. The trial was harvested with a plot combine on August 25.

Weed control, except quackgrass, was good to excellent (85 to 95%) with PP Kixor (Sharpen and Optill) plus glyphosate, and greater than weed control with glyphosate on May 15 [8 days after treatment (DAT)] (Table). On May 21 (14 DAT), weed control generally was similar with glyphosate and Kixor plus glyphosate treatments, while the PRE treatment resulted in less control. Kochia control generally was good to excellent with PP and PRE Kixor treatments on June 5 (29 DAT), but declined to 70 to 78% on June 19 (43 DAT). No crop response was observed (data not shown). Field pea seed yield was similar among herbicide treatments and greater than yield with the untreated check.

Table. Field Pea Response to Kixor																			
Herbicide			Weed control ¹																Field pea
			5/15						5/21						6/5			6/19	Yield
Treatment ²	Rate	Timing ³	Qugr	Voba	Faca	Shpu	KOCZ	Yews	Qugr	Voba	Faca	Shpu	KOCZ	Yews	Qugr	Shpu	KOCZ	KOCZ	bu/A
	fl oz product/		%																
Untreated check	x	x	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15.5
Glyphosate	32	PP	40	80	40	70	48	52	82	98	95	96	95	99	91	96	67	40	33.5
Sharpen + glyt	1+16	PP	65	86	92	92	85	90	90	98	99	99	97	99	98	99	84	73	34.9
Sharpen + glyt	1+32	PP	67	87	88	92	87	90	90	95	99	99	97	99	96	99	86	74	33.8
Sharpen + glyt	2+32	PP	70	88	92	95	89	92	90	98	97	99	98	99	99	99	91	76	39.3
Sharpen + glyt	4+32	PP	71	88	93	95	86	88	90	98	99	99	98	99	98	99	90	78	37.5
Optill + glyt	1 oz wt +32	PP	66	86	90	95	86	93	90	97	99	99	97	99	98	99	79	70	34.6
Sharpen + pendamethalin+ glyt	1+40+ 32	PRE	x	x	x	x	x	x	70	90	88	94	80	96	99	99	80	72	32.8
C.V. (%)			5.6	3.3	2.3	4.2	9.4	12.2	4.8	2.6	3.8	2.8	0.5	0.4	6.2	2.1	5.4	4.0	16.7
LSD (0.05)			5	4	3	6	11	16	6	4	6	4	1	1	9	3	7	4	9.5

¹Qugr = quackgrass; Voba = volunteer barley; Faca = fairy candelabra; Shpu = sheperdspurse; KOCZ = kochia; Yews = yellow woodsorrel.

²Glyt = Mirage Plus (Loveland); Sharpen = saflufenacil (BASF); Optill = saflufenacil & imazethapyr (BASF); pendamethalin = ProwlH2O (BASF). Glyphosate includes tank mixture of NIS = Preference (Winfield) at 0.25% v/v and AMS = Cornbelt Amstik (West Central) at 64 fl oz/A. All other treatments include tank mixture of MSO = Destiny HC (Winfield) at 1% v/v and AMS at 64 fl oz/A.

³PP = May 7; PRE = May 16.