

Soybean weed control with Kixor, Carrington, 2009

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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 21 gal/A at 35 psi through 8002 flat-fan nozzles. PP treatments were applied on May 16 with 55° F, 28% RH, 10 mph wind, 80% clear sky, and dry soil surface to 6- to 9-inch tall quackgrass, 3- to 5-leaf volunteer barley, 1- to 2-inch tall fairy candelabra, 0.5- to 1-inch tall kochia, 2- to 4-inch wide sheperdspurse, and 2-inch wide yellow woodsorrel. Rainfall totaled 0.87 inches during 9 d after application of herbicides. Inoculated Dairyland Seed '401RR' soybean was direct-seeded into barley stubble in 30-inch rows on May 21. POST glyphosate was applied on July 2 with 79° F, 55% RH, 11 mph wind, and 60% clear sky to 2- to 10-inch tall kochia. The trial was harvested with a plot combine on October 14.

Weed control, except quackgrass, generally was good (77 to 92%) with PP Kixor (Sharpen or Optill) plus glyphosate, and greater than weed control with glyphosate on May 20 [4 days after treatment (DAT)] (Table). On May 29 (13 DAT), weed control was similar with glyphosate and Kixor plus glyphosate treatments, and all treatments provided excellent (92 to 99%) weed control. Kochia control declined to 72 to 76% with Kixor treatments on July 2 (47 DAT). POST glyphosate provided good to excellent (85 to 96%) control of kochia when evaluated on August 14 and September 18. No crop response was observed (data not shown). Soybean seed yield was similar among treatments, although yield tended to be highest with Sharpen + Extreme.

Table. Soybean Response to Kixor.																		
			Weed control ¹															Soybean
Herbicide			5/20						5/29				6/12	7/2	8/14	9/18	Seed	
Treatment ²	Rate	Timing ³	Qugr	Voba	Faca	Shpu	KOCZ	Yews	Qugr	Shpu	KOCZ	Yews	Qugr	KOCZ	KOCZ	KOCZ	KOCZ	yield
	fl oz		%															bu/A
	product/																	
Untreated check	x	x	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.6
Glyphosate	22	PP	40	67	39	65	40	55	95	95	96	99	98	83	50	88	91	21.0
Glyt + 2,4-De	22+16	PP	43	75	64	67	40	55	96	97	98	99	94	86	66	85	87	22.2
Sharpen + glyt	1+22	PP	76	82	87	87	86	85	96	96	98	99	96	89	72	88	89	26.3
Optill + glyt	2+22	PP	72	77	86	85	86	85	97	99	97	99	96	96	75	89	92	21.0
Sharpen + Extreme	1+48	PP	78	83	92	86	88	88	92	99	99	99	96	96	76	95	96	33.8
Sharpen + pendamethalin+ glyt	1+32+22	PP	78	82	88	86	86	88	93	98	98	99	97	92	74	92	93	22.5
C.V. (%)			4.6	6.2	4.6	2.4	2.6	11.3	3.5	3.0	1.2	0.0	2.5	6.7	11.3	3.8	3.4	45.2
LSD (0.05)			5	7	6	3	3	13	5	4	2	0	4	9	12	5	5	NS
¹ Qugr = quackgrass; Voba = volunteer barley; Faca = fairy candelabra; Shpu = sheperdspurse; KOCZ = kochia; Yews = yellow woodsorrel.																		
² Glyphosate = Roundup PowerMax (Monsanto); Sharpen = saflufenacil (BASF); Optill = saflufenacil & imazethapyr (BASF); Extreme = glyphosate&imazethapyr (BASF); pendamethalin = ProwlH2O (BASF). Glyphosate and glyphosate + 2,4-De 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. POST treatment applied on July 2 across all plots except untreated check included glyphosate at 22 fl oz/A + NIS + AMS.																		
³ PP = May 16.																		