

Field pea weed control with Sharpen plus Spartan, Carrington, 2011. Greg Endres. The trial was conducted in cooperation with BASF to evaluate weed control and field pea response with soil-applied Sharpen plus Spartan. Experimental design was a randomized complete block with three replicates. The field trial was established on a Heimdal-Emrick loam soil with 4.1% organic matter, 6.6 pH, 40 lb N/A, 9 ppm P, and 227 ppm K. Inoculated 'Admiral' field pea was direct-seeded in flax stubble at 300,000 pls/A in 7-inch rows on May 19. PRE herbicide treatments were applied with a CO₂-hand-boom plot sprayer delivering 10 gal/A at 35 psi through 8001 flat-fan nozzles on May 19 with 73 F, 38% RH, 13 mph wind, 20% clear sky, and dry soil surface to 1-leaf yellow and green foxtail, and 0.5- to 1-inch tall broadleaf weeds. Rainfall totaled 0.41 inches during 3 d after application of herbicides. Assure II at 10 fl oz/A plus MSO at 20 fl oz/A was applied across the trial on June 23. Hail damage occurred in the trial on July 24. The trial was harvested with a plot combine on August 16.

Tank mixtures of Sharpen and/or Spartan with glyphosate provided excellent (91-99%) broadleaf weed control compared to glyphosate alone 2 weeks after treatment (WAT) (Table). Sheperdspurse and kochia control was good to excellent (83-99%) with glyphosate tank mixtures 4 WAT. Weed control was not antagonized with Sharpen plus Spartan tank mixtures with glyphosate. Crop stand was reduced with the high rate of Sharpen plus Spartan compared to the untreated check, but yield generally was similar among herbicide treatments.

Table.										
Herbicide		Weed control ¹							Field pea	
		6/3				6/17			Stand	Yield
Treatment ²	Rate	fota	shpu	KOCZ	wibw	fota	shpu	KOCZ	6/3	
	fl oz product/A	%							plants/A	bu/A
Untreated check	x	0	0	0	0	0	0	0	219224	13.0
Glyphosate	22	77	90	87	77	42	74	77	243898	18.1
Sharpen + glyt	1 + 22	90	99	96	91	71	85	86	229663	13.3
Sharpen + glyt	1.5 + 22	84	98	98	91	62	94	96	205937	20.1
Sharpen + glyt	2 + 22	88	98	98	91	73	94	92	228714	19.5
Spartan + glyt	3 + 22	90	98	98	91	70	83	96	258133	21.9
Sharpen + Spartan + glyt	1 + 3 + 22	93	98	98	92	74	86	99	216377	18.0
Sharpen + Spartan + glyt	2 + 3 + 22	94	99	99	91	75	95	98	229663	24.0
Sharpen + Spartan + glyt	4 + 6 + 22	98	99	99	92	89	98	98	168926	16.9
C.V. (%)		8.4	4.9	3.7	10.6	17.9	5.9	8.1	12.3	21.1
LSD (0.05)		12	7	6	16	19	8	12	47465	6.7
¹ Fota=yellow and green foxtail; shpu=sheperdspurse; KOCZ=kochia; wibw=wild buckwheat.										
² All treatments include Class Act NG (Winfield Solutions) at 16 fl oz/A and all Sharpen treatments include Destiny HC (Winfield Solutions) at 12 fl oz/A; glyphosate=Roundup PowerMax (Monsanto); Sharpen=safalufenacil (BASF); Spartan=sulfentrazone (FMC).										