Soybean weed control with selected glyphosate products, Carrington, 2010. (Greg Endres)

A field study was conducted at the NDSU Carrington Research Extension Center in cooperation with Loveland Products to examine weed control and soybean performance with various glyphosate products. Experimental design was a randomized complete block with three replications. Inoculated Dairyland Seed 'DSR0401' Roundup Ready soybean was direct-planted in wheat stubble at 200,000 seeds/A in 30-inch rows on May 19. Treatments were applied with a CO_2-pressurized hand-boom sprayer delivering 10 gal/A at 35 psi with 8001 flat-fan nozzles. Initial treatments were applied to unifoliate- to first trifoliate (V1) soybean on June 14 with 68 F, 50% RH, 9 mph wind, 50% clear sky to headed volunteer wheat, 3- to 4-leaf yellow and green foxtail, 1- to 15-inch tall common lambsquarters, 4- to 14-inch tall horseweed, and 3- to 5-inch tall wild buckwheat. Early flower (R1) soybean treatments were applied on July 9 with 83 F, 39% RH, 8 mph wind, and 75% clear sky to tillering (4- to 6-inch tall) yellow and green foxtail, 1- to 8-inch tall common lambsquarters, and vining wild buckwheat. The trial was harvested with a plot combine on October 4.

Weed control generally was similar among glyphosate treatments (Tables 1 and 2). No crop response was observed from herbicide treatments when visually evaluated on June 28 and July 27 (data not shown). Physiological maturity (PM) and seed yield were similar among treatments.

Table 1. Weed control after V1 appllication of glyphosate.

Treatment					Weed control (%)[1]									
No.	Name	Rate	Unit	Timing	28-Jun					9-Jul				
					vowh	fota	howe	colq	wibw	vowh	fota	howe	colq	wibw
1	LI6285	32	fl oz/a	V1	99	93	96	93	75	99	73	99	78	73
	Weathergard Complete	0.5	%v/v	V1										
	Makaze	32	fl oz/a	R1										
	Weathergard Complete	0.5	%v/v	R1										
2	RU PowerMax	22	fl oz/a	V1	99	92	91	97	80	99	73	96	85	73
	Weathergard Complete	0.5	%v/v	V1										
	RU PowerMax	22	fl oz/a	R1										
	Weathergard Complete	0.50	%v/v	R1										
3	Mad Dog Plus	32	fl oz/a	V1	99	92	91	88	73	99	72	96	80	70
	Weathergard Complete	0.5	%v/v	V1										
	Mad Dog Plus	32	fl oz/a	R1										
	Weathergard Complete	0.50	%v/v	R1										
4	RU WeatherMax	22	fl oz/a	V1	99	93	92	98	77	99	74	93	91	73
	Weathergard Complete	0.5	%v/v	V1										
	RU WeatherMax	22	fl oz/a	R1										
	Weathergard Complete	0.50	%v/v	R1										
5	Makaze	32	fl oz/a	V1	99	94	90	95	83	99	73	95	88	80
	Weathergard Complete	0.5	%v/v	V1										
	Makaze	32	fl oz/a	R1										
	Weathergard Complete	0.50	%v/v	R1										
C.V. (%)					0	2.3	4.6	3.0	7.8	0	4.1	3.6	8.7	10.6
LSD (0.05)					NS	NS	NS	5	NS	NS	NS	NS	NS	NS

[1]vowh=volunteer wheat; fota=green and yellow foxtail; howe=horseweed; colq=common lambsquarters; wibw=wild buckwheat.

Table 2. Weed control after V1 and R1 appllication of glyphosate, and soybean response.

Treatment					Weed control (%)[1]						Soybean	
No.	Name	Rate	Unit	Timing	27-Jul			5-Aug			PM	Yield
					fota	colq	wibw	fota	colq	wibw	Jday	bu/A
1	LI6285	32	fl oz/a	V1	95	96	82	94	95	83	264	32.1
	Weathergard Complete	0.5	%v/v	V1								
	Makaze	32	fl oz/a	R1								
	Weathergard Complete	0.5	%v/v	R1								
2	RU PowerMax	22	fl oz/a	V1	95	96	81	94	96	84	264	34.2
	Weathergard Complete	0.5	%v/v	V1								
	RU PowerMax	22	fl oz/a	R1								
	Weathergard Complete	0.50	%v/v	R1								
3	Mad Dog Plus	32	fl oz/a	V1	94	95	82	93	95	80	263	35.6
	Weathergard Complete	0.5	%v/v	V1								
	Mad Dog Plus	32	fl oz/a	R1								
	Weathergard Complete	0.50	%v/v	R1								
4	RU WeatherMax	22	fl oz/a	V1	95	96	83	92	95	81	264	35.8
	Weathergard Complete	0.5	%v/v	V1								
	RU WeatherMax	22	fl oz/a	R1								
	Weathergard Complete	0.50	%v/v	R1								
5	Makaze	32	fl oz/a	V1	94	97	85	92	95	86	264	36.1
	Weathergard Complete	0.5	%v/v	V1								
	Makaze	32	fl oz/a	R1								
	Weathergard Complete	0.50	%v/v	R1								
C.V. (%)					1.2	0.8	2.6	3.1	1.7	3.8	0.5	7.1
LSD (0.05)					NS	NS	NS	NS	NS	NS	NS	NS

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