Weed control and soybean response to glyphosate plus foliar supplements (project 7.1), Carrington, 2008.
(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 glyphosate plus foliar supplements. Experimental design was a randomized complete block with three replications. The previous crop was spring wheat. The conventional-till trial was established on a Heimdal Emrick loam soil with 89 lb/A (0-24") nitrate-N, 15 ppm P, 231 ppm K, 8 lb/A (0-24") Cl (very low), 68 lb/A (0-24") S, 0.4 ppm B (very low), 0.72 ppm Zn, 64.6 ppm Zn, 12.4 ppm Mn, 0.68 ppm Cu, 425 ppm Mg, 2182 ppm Ca, 0% carbonate, 0.2 mmho/cm (0-6") and 0.26 mmho/cm (6-24") soluble salts, 15.1 meq CEC, 2.8% organic matter and 5.9 pH. Inoculated 'RG600RR' was planted in 7-inch rows at 200,000 seeds/A 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. The V2 soybean growth stage treatments were applied on July 1 with 83 F, 52% RH, 90% clear sky, and 9 mph wind to 4- to 5-leaf yellow and green foxtail,1- to -inch tall common lambsquarters, wild buckwheat, and prostrate and redroot pigweed. Weed density generally was medium to high with all weeds except wild buckwheat. R2 soybean growth stage treatments were applied on August 4 with 76 F, 63% RH, 40% clear sky and 11 mph wind. The trial was harvested with a plot combine on October 2.

No crop response was observed from herbicide treatments and physiological maturity was similar among treatments (data not shown). Soybean seed yield was highest with treatments 1-3 and 5-6 (Table). Weed control generally was excellent, except wild buckwheat (68-79%) when evaluated one week after application of the V2 treatments.

Table.

Treatment						Weed control (%)[1]											
No.	Name	Rate	Unit	Timing	Yield	7/9				7/21				8/21			
					bu/A	fota	colq	piwe	wibw	fota	colq	piwe	wibw	fota	colq	piwe	wibw
1	Makaze	32	fl oz/a	V2	24.0	89	92	92	78	96	97	98	92	98	98	98	83
	LI 6223	5	fl oz/a	V2													
	Choice Weather Master	0.5	%v/v	V2													
	Makaze	32	fl oz/a	R3													
	Choice Weather Master	0.5	%v/v	R3													
2	Makaze	32	fl oz/a	V2	25.2	91	94	93	78	97	96	98	99	98	97	98	93
	LI 6223	10	fl oz/a	V2													
	Choice Weather Master	0.5	fl oz/a	V2													
	Makaze	32	fl oz/a	R3													
	Choice Weather Master	0.5	%v/v	R3													
3	Makaze	32	fl oz/a	V2	25.1	91	93	94	75	96	98	98	98	98	98	98	93
	Choice Weather Master	0.5	%v/v	V2													
	Makaze	32	fl oz/a	R3													
	CitraPlex Mn	1	wt/a	R3													
	Choice Weather Master	0.5	%v/v	R3													
4	Makaze	32	fl oz/a	V2	20.4	91	95	92	79	97	98	99	97	97	98	98	90
	Choice Weather Master	0.5	%v/v	V2													
	Makaze	32	fl oz/a	R3													
	Awaken	48	fl oz/a	R3													
	Choice Weather Master	0.5	%v/v	R3													
5	Makaze	32	fl oz/a	V2	23.2	89	92	90	68	97	97	98	91	98	98	99	94
	Choice Weather Master	0.5	%v/v	V2													
	Makaze	32	fl oz/a	R3													
	LI 6265	16	fl oz/a	R3													
	Choice Weather Master	0.5	%v/v	R3													
6	Makaze	32	fl oz/a	V2	22.0	91	92	93	77	97	99	98	96	98	98	99	94
	Choice Weather Master	0.5	%v/v	V2													
	Makaze	32	fl oz/a	R3													
	LI 6265	32	fl oz/a	R3													
	Choice Weather Master	0.5	%v/v	R3													
7	Makaze	32	fl oz/a	V2	20.5	91	93	93	80	97	97	99	99	98	98	99	94
	Choice Weather Master	0.5	%v/v	V2													
	Makaze	32	fl oz/a	R3													
	Mn EDTA 6%	32	fl oz/a	R3													
	Choice Weather Master	0.5	%v/v	R3													
8	Makaze	32	fl oz/a	V2	18.2	92	95	94	70	96	97	99	86	99	99	99	98
	Choice Weather Master	0.5	%v/v	V2													
	Makaze	32	fl oz/a	R3													
	Choice Weather Master	0.5	%v/v	R3													
C.V. (%)					10.8	2.2	2.6	2.8	7.8	0.8	1.5	0.7	8.3	0.7	0.7	0.5	9.7
LSD (0.05)					4.2	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

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