Weed control with Kixor herbicide in corn, Carrington, 2010. (Greg Endres). The experiment was conducted at the NDSU Carrington Research Extension Center in cooperation with BASF. Experimental design was a randomized complete block with three replicates. The reduced-till trial was conducted on previous wheat ground with 61% crop residue present after planting. Spring soil analysis indicated 3.5% organic matter, 6.7 pH, 94 lb nitrate-N/A, 10 ppm phosphorus, 153 ppm potassium, and 0.69 ppm zinc. DeKalb 'DKC33-53' Roundup Ready corn was planted May 4 at a rate of 26,000 seeds/A. Herbicide treatments were applied with a hand-held boom sprayer delivering 11.5 gal/A at 35 psi through 8001 flat fan nozzles to the center 6.7 ft of 10- by 25-ft plots. PRE treatments were applied on May 5 with 38 F, 94% RH, 95% cloudy sky, and 10 mph wind to 1-inch tall common lambsquarters and wild buckwheat. Rainfall totaled 0.51" during two days following application of herbicides (NDAWN). POST treatments were applied on June 21 with 75 F, 72% RH, 65% cloudy sky, and 11 mph wind to V5 stage corn, 4-leaf to tillering green and yellow foxtail, and 2- to 5-inch tall common lambsquarters and wild buckwheat.

No crop response was noted. Visual evaluation of PRE herbicide performance in June (4 and 7 weeks after treatment) indicated excellent (91-99%) control of all weeds with Integrity and Sharpen plus Harness Xtra tank mixed with glyphosate (Table). Generally excellent (89-99%) control of common lambsquarters was achieved following POST treatments (glyphosate or glyphosate tank mixture) during the evaluation on July 28. Also, wild buckwheat control was good to excellent (86-96%) on July 28 with treatments that included Lumax, Harness Xtra, Sharpen plus Harness Xtra, and Integrity plus Status.

Table.

Herbicide				Weed control (%)[1]								
Treatment[2]		Rate	Timing[3]	2-Jun			21-Jun			28-Jul		
No.		fl oz product/A		fota	colq	wibw	fota	colq	wibw	fota	colq	wibw
1	untreated check	x	x	0	0	0	0	0	0	0	0	0
2	Integrity	13	PRE	91	98	96	75	96	73	70	89	75
3	Lumax	64	PRE	78	99	81	71	99	68	76	99	86
4	Harness Xtra	48	PRE	93	96	81	81	88	69	73	98	91
5	Sharpen	2.5	PRE	96	99	99	90	99	93	71	98	96
	Harness Xtra	48	PRE									
6	SureStart	28	PRE	73	95	74	67	78	65	70	95	75
7	Integrity	13	PRE	92	97	90	78	97	75	72	91	95
	Status	2.5 oz wt	POST									
C.V. (%)				3.5	2.6	11.8	7.3	7.5	7.0	3.5	3.3	9.6
LSD (0.05)				5	4	16	9	11	8	4	5	13

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

[2]PRE and POST treatments include Roundup PowerMax (Monsanto) at 22 fl oz/A plus NIS (Preference, WinField Solutions) at 0.25% v/v plus AMS (N-Pak AMS Liquid, WinField Solutions) at 64 fl oz/A. Integrity and Sharpen treatments also include MSO (Destiny, WinField Solutions) at 1% v/v.

[3]PRE=May 5; POST=June 21.