

Weed control with Zidua herbicide in corn, Carrington, 2011. 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 conventional-till trial was conducted on previous wheat ground with spring soil analysis indicating 3.8% organic matter and 6.3 pH. DeKalb 'DKC33-53' Roundup Ready corn was planted May 6 at 28,700 seeds/A in 30-inch rows. Treatments were applied with a hand-held boom sprayer delivering PRE herbicides at 21 gal/A and POST herbicides at 9 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 7 with 65 F, 36% RH, and no wind. Rainfall totaled 0.75" during the 3 days following application of herbicides (NDAWN). POST treatments were applied on July 2 with 74 F, 43% RH, and 6 mph wind to V6 stage corn, 3- to 8-inch tall yellow and green foxtail, 12-inch tall volunteer wheat, 6-inch wide and tall redroot and prostrate pigweed, vining (12- to 24-inch wide) wild buckwheat, 2- to 16-inch tall common lambsquarters, and 2- to 6-inch tall Eastern black and hairy nightshade. Hail severely damaged the trial on July 24. The trial was not harvested for grain yield.

Corn emerged about May 26 and no crop response from PRE herbicides was noted on June 3. Before application of POST treatments, weed control was visually evaluated on July 1 (Table). Grass control was similar among treatments with soil residual activity. Harness Xtra, SureStart, Lumax, Verdict and Zidua + Sharpen generally provided excellent (86 to 99%) control of common lambsquarters and pigweed. Excellent wild buckwheat (99%) control was achieved with SureStart and Zidua and Sharpen (2 oz wt + 2.5 fl oz/A). Grass and broadleaf weed control was excellent one month after POST application of treatments.

Table.												
Herbicide				Weed control (%) ¹								
Treatment ²		Rate	Timing ³	1-Jul				3-Aug				
No.		fl oz product/A		grass	cola	piwe	wibw	yefo	colq	piwe	wibw	nish
1	Harness Xtra	64	PRE	79	90	98	82	94	99	99	99	99
2	SureStart	28	PRE	73	86	94	99	95	99	99	99	99
3	Lumax	64	PRE	72	99	95	60	96	99	99	99	99
4	Verdict	13	PRE	74	99	96	85	96	99	99	99	99
5	Zidua + Sharpen	2 oz wt + 2.5	PRE	73	96	99	99	96	99	99	99	99
6	Zidua + Sharpen	2.5 oz wt + 2.5	PRE	77	99	98	87	97	99	99	98	99
7	Zidua	2.5 oz wt	PRE	74	48	83	40	97	99	99	99	99
8	Zidua	2 oz wt	PRE	75	30	86	37	97	99	99	98	99
	Zidua	1 oz wt	POST									
9			PRE	0	0	0	0	95	99	99	98	99
C.V. (%)				7.1	28.5	8.7	37.5	1.7	0.0	0.0	1.0	0.2
LSD (0.05)				8	36	13	44	NS	NS	NS	NS	NS
¹ grass=yellow foxtail and volunteer wheat; colq=common lambsquarters; piwe=prostrate and redroot pigweed; wibw=wild buckwheat; yefo=yellow foxtail; nish=Eastern black and hairy nightshade.												
² All PRE and POST treatments include Roundup PowerMax at 22 fl oz/A plus Class Act NG at 16 fl oz/A. Zidua and Sharpen treatments also include Destiny HC at 12 fl oz/A.												
³ PRE=May 7; POST=July 2.												