

Weed Control with Zidua Herbicide in Soybean, Carrington; BASF Collaboration

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The experiment was conducted at the NDSU Carrington Research Extension Center in cooperation with BASF to evaluate soybean weed control with Zidua and other soil-applied herbicides. Experimental design was a randomized complete block with three replicates. The field trial was established on a conventionally-tilled Heimdal-Emrick loam soil with 3.1 percent organic matter and 6.4 pH. Treatments were applied with a hand-held boom sprayer delivering 14 gal/A at 35 psi through 8001 flat-fan nozzles to the center 6.7 ft of 10- by 25-ft plots. Preplant treatments were applied on May 17 with 85° F, 24 percent RH, and 9 MPH wind and incorporated with a field cultivator plus harrow set at a soil depth of 1 to 2 inches. Asgrow 'AG0430' Roundup Ready soybean seed was inoculated and planted at 175,000 seeds/A on May 18 in 30-inch rows. POST treatments were applied on June 22 with 68° F, 65 percent RH, and 4 mph wind to 2-trifoliolate soybean, 1- to 4-inch tall green and yellow foxtail, 0.5- 4-inch tall common lambsquarters, and 2- to 4-inch tall wild buckwheat. The trial was harvested for seed yield on September 25.

Soybean emerged about June 3 and no crop response from PPI herbicides was noted on June 12. Foxtail control with soil-applied treatments when visually evaluated on June 15 was good to excellent (81 to 90%) with treatments one through three and nine (Table). Also, common lambsquarters and wild buckwheat control with soil-applied herbicides was excellent, except generally with Sharpen as the only soil-applied treatment. Weed control following POST treatments was good to excellent (87 to 99%). Soybean grain yield and test weight was similar among treatments.

Table 1. Weed control with Zidua herbicide in soybean.

Herbicide				Weed control (%) ¹						Soybean	
Treatment ²		Rate	Timing ³	15-Jun			19-Jul			Yield	Test Weight
No.		fl oz product/A		fota	cola	wibw	grass	cola	wibw	bu/A	lb/bu
1	Zidua + Sharpen	2.5 oz wt + 1	PPI	81	92	92	92	99	88	51.3	56.7
2	Zidua + Sharpen	2 oz wt +1	PPI	81	90	96	91	99	90	48.6	56.3
3	Verdict + Outlook	5 + 12	PPI	90	97	99	94	99	98	48.3	56.5
4	Valor	3 oz wt	PPI	75	98	99	92	99	99	49.8	56.6
5	Valor + Zidua	2 oz wt + 1.5 oz wt	PPI	78	91	97	92	99	97	51.2	56.4
6				0	0	0	95	98	91	47.4	56.8
7	Sharpen	1	PPI	58	80	81	97	98	87	48.3	56.5
	Extreme	36	POST								
8	Sharpen	1	PPI	68	87	91	97	99	96	47.3	56.5
	Zidua	1.5 oz wt	POST								
9	Zidua + Sharpen + Extreme	2 oz wt + 1 + 24	PPI	88	99	99	94	99	99	49.0	56.8
10	Authority MTZ	16 oz wt/A	PPI	72	99	99	92	99	99	47.9	56.5
C.V. (%)				8.2	6.4	8.8	2.4	0.5	6.0	4.7	0.6
LSD (0.05)				10	9	13	4	1	NS	NS	NS

¹fota = green and yellow foxtail; cola = common lambsquarters; wibw = wild buckwheat; grass = green and yellow foxtail, and barnyardgrass.

²All treatments except #7 include POST Roundup PowerMax at 22 fl oz/A plus Class Act NG at 2.5% v/v.

³PPI = May 17; POST = June 22.