

**Annual weed control with Valor, Fierce, Authority Assist, Authority First, Authority MTZ, Optill, and Prefix in soybeans at Lamberton, MN in 2011.**

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The objective of this study was to evaluate soil applied herbicides for annual grass and annual broadleaf weed control in glyphosate-resistant soybeans. This study was conducted on a Normania loam soil containing 4.2% organic matter, pH 6.1 and soil test P and K levels of 68 and 376 lb/A, respectively. A randomized complete block design with four replications and a plot size of 10 by 30 ft was used. The site was planted to corn in 2010 and was moldboard plowed. On June 7, 2011, Asgrow 'AG1931' glyphosate-resistant soybeans were planted in 30-inch rows at a seeding rate of 160,000 seeds/A. On August 2, all plots were treated with bifenthrin for soybean aphid and spider mite control. All treatments were applied with a tractor-mounted sprayer delivering 20 gpa at a pressure of 40 psi. The sprayer was equipped with 8002 flat-fan nozzles spaced 15 inches apart on the boom. Application dates, environmental conditions, plant sizes and rainfall data are listed below:

Date	June 9	July 3
Treatment	PRE	POST I
Temperature (F)		
air	55	72
soil (4 inch)	66	76
Relative humidity (%)	63	69
Wind (mph)	NE 10	calm
Sky	clear	p. cloudy
Soil moisture	dry	moist
Soybean		
leaf no.	-	V2
height (inch)	-	6
Yellow foxtail/Barnyardgrass		
leaf no.	-	2 to 4
height (inch)	-	4 to 6
no./ft <sup>2</sup>	-	17
Common lambsquarters		
leaf no.	-	4 to 6
height (inch)	-	1 to 3
no./ft <sup>2</sup>	-	2
Tall waterhemp		
leaf no.	-	2 to 4
height (inch)	-	1 to 3
no./ft <sup>2</sup>	-	2
Rainfall after application (inch)		
1 week	5.04	0.23
2 week	2.94	2.02
3 week	0.46	0.00

(Southwest Research and Outreach Center, University of Minnesota, Lamberton).

**Table. Annual weed control with Valor, Fierce, Gangster, Authority Assist, Authority First, Authority MTZ, Optill, and Prefix in soybeans at Lamberton, MN in 2011 (Getting).**

Treatment <sup>a</sup>	Rate (oz/A, pt/A, or %)	Injury		Yellow foxtail				Common lambsquarters				Tall waterhemp				Yield (bu/A) <sup>b</sup>		
		Jun 27	Jul 7	Jul 7	Jul 14	Jul 25	Aug 4	Jul 7	Jul 14	Jul 25	Aug 4	Jul 7	Jul 14	Jul 25	Aug 4			
<b>Preemergence</b>		----(%)----		-----(% control)-----														
Valor SX	2 oz	0 d	0 c	86 c	79 de	76 e	78 e	98 a	97 ab	98 a	98 a	98 a	98 a	98 a	98 a	98 a	98 a	38.4 d
Fierce	3 oz	10 c	3 b	94 ab	90 c	88 c	88 cc	98 a	98 a	98 a	98 a	98 a	98 a	98 a	98 a	98 a	98 a	49.1 ab
Fierce	3.75 oz	11 b	4 ab	97 a	94 ab	93 ab	95 ab	98 a	98 a	98 a	98 a	98 a	98 a	98 a	98 a	98 a	98 a	50.2 ab
Fierce	4.5 oz	14 a	4 a	96 ab	91 bc	91 a-c	94 ab	98 a	98 a	98 a	98 a	98 a	98 a	98 a	98 a	98 a	98 a	51.4 a
Authority Assis <sup>i</sup>	5 oz	0 d	0 c	88 c	80 d	78 de	79 e	98 a	98 a	98 a	98 a	98 a	98 a	98 a	96 ab	98 a	98 a	42.1 cc
Prefix	2 pt	0 d	0 c	97 a	95 a	94 a	97 a	98 a	96 b	98 a	98 a	98 a	98 a	98 a	98 a	98 a	98 a	51.4 a
Authority First	3.2 oz	0 d	0 c	87 c	79 de	79 de	80 e	98 a	98 a	98 a	98 a	98 a	98 a	97 a	97 ab	98 a	98 a	39.7 d
Optill	2 oz	0 d	0 c	89 c	81 d	81 d	85 d	98 a	98 a	98 a	98 a	98 a	98 a	98 a	98 a	98 a	98 a	46.3 bc
Valor SX + V10206 + Classic	2 oz + 1.5 oz + 0.33 oz	0 d	0 c	93 b	88 c	89 bc	91 bc	98 a	97 ab	97 b	98 a	98 a	98 a	98 a	98 a	98 a	98 a	49.5 ab
Optill + V10206	2 oz + 1.5 oz	0 d	0 c	95 ab	89 c	90 a-c	93 ab	98 a	98 a	98 a	98 a	98 a	98 a	98 a	98 a	98 a	98 a	49.1 ab
Authority MTZ	11 oz	0 d	0 c	81 d	76 e	75 e	78 e	98 a	98 a	98 a	98 a	97 b	95 b	95 b	97 ab	97 ab	97 ab	41.0 d
<b>POST (4 to 6-inch weeds)</b>																		
Roundup PowerMax + AMS	22 oz + 2 qt	0 d	0 c	96 ab	91 bc	90 a-c	97 a	98 a	98 a	98 a	98 a	98 a	92 c	92 c	97 b	97 b	97 b	51.0 ab
<b>Check</b>																		
Weedy Check	-	0 d	0 c	0 e	0 f	0 f	0 f	0 b	0 c	0 c	0 b	0 c	0 d	0 d	0 c	0 c	0 c	16.4 e
	LSD (0.10)	1.2	1.1	3.2	3.4	4.5	4.8	ns	1.5	0.5	ns	0.5	1.8	2.6	0.8	0.8	0.8	4.96

<sup>a</sup> AMS = liquid spray grade ammonium sulfate.

<sup>b</sup> Yield adjusted to 13% moisture.