Annual weed control in Liberty-Link soybeans at Lamberton, MN in 2009.

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The objective of this study was to evaluate soybean herbicide combinations for annual grass and annual broadleaf weed control in glufosinate-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 oats in 2008 and was fall chiseled. On May 19, 2009, MBS Genetics 'SG2378LL' glufosinate-resistant soybeans were planted in 30-inch rows at a seeding rate of 160,000 seeds/A. On July 29, 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	May 19	June 18	July 13
Treatment	PRE	POST I	POST II
Temperature (F)			
air	57	82	61
soil (4 inch)	60	78	78
Relative humidity (%)	63	51	72
Wind (mph)	NW 5	S 8	E 5
Sky	clear	p. cloudy	clear
Soil moisture	dry	dry	dry
Soybean			
leaf no.	-	V2	V8
height (inch)	-	6	25
Yellow foxtail			
leaf no.	-	2 to 4	3 to 4
height (inch)	-	4 to 6	5 to 7
no./ft^2	-	56	14
Common lambsquarters			
leaf no.	-	5 to 7	-
height (inch)	-	3 to 4	-
no./ft^2	-	2	-
Tall waterhemp			
leaf no.	-	2 to 4	3 to 5
height (inch)	-	2 to 4	3 to 5
no./ft^2	-	4	2
Rainfall after application (inch)			
1 week	0.34	0.52	0.02
2 week	0.16	0.23	0.03
3 week	1.37	1.21	0.46

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

Table. Annual weed control in Liberty-Link soybeans at Lamberton, MN in 2009 (Getting).

Treatment[a]	Rate	Yellow foxtail				Common lambsquarters				Tall waterhemp				Yield
		Jun 18	Jun 25	Jul 13	Sep 17	Jun 18	Jun 25	Jul 13	Sep 17	Jun 18	Jun 25	Jul 13	Sep 17	
	(oz/A, pt/A, qt/A)	----------(% control)----------												(bu/A)[b]
Preemergence/POST I (22 days after emergence)														
Valor SX / Ignite 280 + AMS	2 oz / 22 oz + 2 qt	35 b	98 a	90 bc	81 d	80 b	99 a	98 a	99 a	93 a	99 a	97 ab	98 a	59.9 a
Authority First / Ignite 280 + AMS	4 oz / 22 oz + 2 qt	23 c	97 b	84 d	78 e	90 a	99 a	98 a	99 a	94 a	99 a	95 b	96 b	59.9 a
Enlite / Ignite 280 + AMS	2.8 oz / 22 oz + 2 qt	38 b	98 a	88 bc	83 d	90 a	99 a	98 a	99 a	95 a	99 a	97 a	98 a	62.2 a
Optill / Ignite 280 + AMS	2 oz / 22 oz + 2 qt	25 c	98 a	90 b	89 c	88 a	99 a	98 a	99 a	93 a	99 a	97 a	98 a	60.4 a
Prefix / Ignite 280 + AMS	1.5 pt / 22 oz + 2 qt	53 a	97 b	96 a	93 b	73 c	99 a	98 a	99 a	86 b	99 a	98 a	99 a	62.7 a
Gangster FR + Gangster V / Ignite 280 + AMS	0.3 oz + 1.5 oz / 22 oz + 2 qt	35 b	97 b	87 c	83 d	90 a	99 a	98 a	99 a	95 a	99 a	97 ab	98 a	60.8 a
POST I (22 days after emergence) /POST II (47 days after emergence)														
Ignite 280 + AMS / Ignite 280 + AMS	22 oz + 2 qt / 22 oz + 2 qt	0 d	98 a	83 d	99 a	0 d	99 a	98 a	99 a	0 c	99 a	83 c	99 a	60.2 a
Checks														
Weedy Check	-	0 d	0 c	0 e	0 f	0 d	0 b	0 b	0 b	0 c	0 b	0 d	0 c	5.8 b
	LSD (0.10)	5.7	1.4	2.6	3.3	4.9	ns	ns	ns	3.0	ns	1.8	2.0	4.62

[a] AMS = liquid spray grade ammonium sulfate.
[b] Yield adjusted to 13% moisture.