

Annual weed control with Valor SX, Gangster, Intro, and Sencor in soybeans at Lamberton, MN in 2008.

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The objective of this study was to evaluate Valor SX, Gangster, Intro, and Sencor for annual grass and annual broadleaf weed control in glyphosate-resistant soybeans. This study was conducted on a Nbrmania loam soil containing 3.8% organic matter, pH 6.1 and soil test P and K levels of 64 and 296 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 2007 and was fall chiseled. On May 20, 2008, Asgrow 'AG 2002' glyphosate-resistant tolerant soybeans were planted in 30-inch rows at a seeding rate of 160,000 seeds/A. On July 29, all plots were treated with Warrior for soybean aphid 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 21	June 18	June 23	July 15
Treatment	PRE	POST I	POST II	POST III
Temperature (F)				
air	50	77	79	84
soil (4 inch)	54	82	78	86
Relative humidity (%)	40	32	34	55
Wind (mph)	calm	calm	S 7	N 6
Sky	clear	p. cloudy	cloudy	clear
Soil moisture	dry	dry	dry	dry
Soybean				
leaf no.	-	V2	V3	R2
height (inch)	-	5	6	22
Yellow foxtail				
leaf no.	-	3 to 4	3 to 5	2 to 4
height (inch)	-	3 to 4	5 to 6	3 to 5
no./ft ²	-	75	69	<1
Common lambsquarters				
leaf no.	-	3 to 5	6 to 8	-
height (inch)	-	2 to 4	3 to 6	-
no./ft ²	-	2	4	-
Tall waterhemp				
leaf no.	-	2 to 4	4 to 6	3 to 5
height (inch)	-	2 to 4	3 to 5	3 to 5
no./ft ²	-	5	6	<1
Rainfall after application (inch)				
1 week	0.18	0.00	0.61	1.14
2 week	0.87	0.61	0.00	1.97
3 week	1.57	0.00	0.02	0.22

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

Table. Annual weed control with Valor SX and Gangster at Lamberton, MN in 2008 (Getting).

Treatment	Rate	Yellow foxtail				Common lambsquarters				Tall waterhemp				Yield
		Jun 20	Jul 2	Jul 16	Sep 25	Jun 20	Jul 2	Jul 16	Sep 25	Jun 20	Jul 2	Jul 16	Sep 25	
Preemergence/POST II (4 to 6-inch weeds)	(oz/A)	-----(% control)-----												(bu/A) ^a
Valor SX / Roundup Powermax	2 oz / 22 oz	86 ab	97 b	90 d	88 c	98 a	100 a	100 a	100 a	98 a	100 a	100 a	99 ab	45.2 ab
Valor SX / Roundup Powermax	2.5 oz / 22 oz	85 b	100 a	93 b	86 cd	98 a	100 a	100 a	100 a	98 a	100 a	100 a	98 b	46.7 ab
Valor SX / Roundup Powermax	3 oz / 22 oz	89 a	98 ab	93 bc	85 d	98 a	100 a	100 a	100 a	98 a	100 a	100 a	100 a	46.1 ab
Gangster FR + Gangster V / Roundup Powermax	0.4 oz + 2 oz / 22 oz	87 ab	98 ab	91 b-d	86 cd	98 a	100 a	100 a	100 a	98 a	100 a	100 a	100 a	44.7 b
Gangster FR + Gangster V / Roundup Powermax	0.5 oz + 2.5 oz / 22 oz	89 a	98 ab	91 cd	88 c	98 a	100 a	100 a	100 a	98 a	100 a	100 a	100 a	46.2 ab
Gangster FR + Gangster V / Roundup Powermax	0.3 oz + 1.5 oz / 22 oz	80 c	98 ab	92 bc	86 cd	98 a	100 a	100 a	100 a	98 a	100 a	100 a	100 a	47.2 ab
Authority Assist / Roundup Powermax	5 oz / 22 oz	59 d	98 ab	95 a	91 b	97 b	100 a	100 a	100 a	98 b	100 a	100 a	100 a	45.4 ab
POST I (4-inch weeds)/POST III (soybean canopy)														
Roundup Powermax / Roundup Powermax	22 oz / 22 oz	0 e	97 ab	95 a	98 a	0 c	100 a	100 a	100 a	0 b	100 a	96 b	100 a	47.5 a
Check														
Weedy Check	-	0 e	0 c	0 e	0 e	0 c	0 b	0 b	0 b	0 b	0 b	0 c	0 c	8.7 c
	LSD (0.10)	3.7	2.3	2.0	3.0	0.6	ns	ns	ns	ns	ns	1.0	2.3	2.66

^a Yield adjusted to 13% moisture.**Table. Annual weed control with Gangster and Intro at Lamberton, MN in 2008 (Getting).**

Treatment	Rate	Yellow foxtail				Common lambsquarters				Tall waterhemp				Yield
		Jun 20	Jul 2	Jul 16	Sep 25	Jun 20	Jul 2	Jul 16	Sep 25	Jun 20	Jul 2	Jul 16	Sep 25	
Preemergence/POST II (4 to 6-inch weeds)	(oz/A, pt/A or qt/A)	-----(% control)-----												(bu/A) ^a
Gangster FR + Gangster V / Roundup Powermax	0.4 oz + 2 oz / 22 oz	88 d	99 ab	91 a	90 ab	97 a	100 a	100 a	100 a	98 a	100 a	100 a	100 a	46.5 a
Gangster FR + Gangster V + Intro / Roundup Powermax	0.4 oz + 2 oz + 1 pt / 22 oz	92 b	99 ab	90 a	88 b	98 a	100 a	100 a	100 a	98 a	100 a	100 a	100 a	47.1 a
Gangster FR + Gangster V + Intro / Roundup Powermax	0.3 oz + 1.5 oz + 1 pt / 22 oz	90 c	98 b	91 a	88 b	98 a	100 a	100 a	100 a	98 a	100 a	100 a	100 a	45.9 a
Gangster FR + Gangster V + Intro / Roundup Powermax	0.3 oz + 1.5 oz + 1 qt / 22 oz	93 b	100 a	93 a	91 ab	98 a	100 a	100 a	100 a	98 a	100 a	100 a	100 a	46.2 a
Gangster FR + Gangster V + Intro / Roundup Powermax	0.4 oz + 2 oz + 1 qt / 22 oz	97 a	98 ab	93 a	91 a	98 a	100 a	100 a	100 a	98 a	100 a	100 a	99 a	46.6 a
Check														
Weedy Check	-	0 e	0 c	0 b	0 c	0 b	0 b	0 b	0 b	0 b	0 b	0 b	0 b	7.4 b
	LSD (0.10)	1.6	2.0	2.8	3.0	0.8	ns	ns	ns	ns	ns	ns	1.3	2.79

^a Yield adjusted to 13% moisture.**Table. Annual weed control with Valor SX and Sencor at Lamberton, MN in 2008 (Getting).**

Treatment	Rate	Yellow foxtail				Common lambsquarters				Tall waterhemp				Yield
		Jun 20	Jul 2	Jul 16	Sep 25	Jun 20	Jul 2	Jul 16	Sep 25	Jun 20	Jul 2	Jul 16	Sep 25	
Preemergence/POST II (4 to 6-inch weeds)	(oz/A)	-----(% control)-----												(bu/A) ^a
Sencor / Roundup Powermax	5 oz / 22 oz	0 e	98 a	96 a	90 ab	74 b	100 a	100 a	100 a	87 b	100 a	100 a	100 a	45.7 b
Valor SX / Roundup Powermax	2 oz / 22 oz	69 c	97 a	94 ab	87 bc	98 a	100 a	100 a	100 a	98 a	100 a	100 a	100 a	48.6 ab
Valor SX + Sencor / Roundup Powermax	2 oz + 3 oz / 22 oz	79 b	97 a	93 b	88 a-c	98 a	100 a	100 a	100 a	98 a	100 a	100 a	100 a	49.0 ab
Valor SX + Sencor / Roundup Powermax	2 oz + 4 oz / 22 oz	79 b	98 a	93 b	86 c	98 a	100 a	100 a	100 a	98 a	100 a	100 a	100 a	47.1 ab
Valor SX + Sencor / Roundup Powermax	2 oz + 5 oz / 22 oz	79 b	98 a	92 b	86 c	98 a	100 a	100 a	100 a	98 a	100 a	100 a	100 a	51.1 a
Valor SX + Sencor + V10206 / Roundup Powermax	2 oz + 4 oz + 1 oz / 22 oz	89 a	96 a	93 b	88 a-c	98 a	100 a	100 a	100 a	98 a	100 a	100 a	100 a	48.2 ab
Valor SX + Sencor / Roundup Powermax	1.75 oz + 4 oz / 22 oz	80 b	98 a	91 b	90 ab	98 a	100 a	100 a	100 a	98 a	100 a	100 a	100 a	46.7 ab
V53482 / Roundup Powermax	9.9 oz / 22 oz	76 b	98 a	91 b	88 a-c	98 a	100 a	100 a	100 a	98 a	100 a	100 a	100 a	49.6 ab
Authority MTZ / Roundup Powermax	11 oz / 22 oz	50 d	98 a	93 b	91 a	96 a	100 a	100 a	100 a	96 a	100 a	100 a	100 a	48.8 ab
Check														
Weedy Check	-	0 e	0 b	0 c	0 d	0 c	0 b	0 b	0 b	0 c	0 b	0 b	0 b	12.0 c
	LSD (0.10)	4.5	2.5	3.0	3.6	2.3	ns	ns	ns	3.9	ns	ns	ns	4.84

^a Yield adjusted to 13% moisture.