

Annual weed control with Valor, Gangster, Intro, Sonic, and Authority Assist in soybeans at Lamberton, MN in 2009.

Getting, Jodie K.

The objective of this study was to evaluate soybean 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 oats in 2008 and was fall chiseled. On May 14, 2009, Pioneer '92M40' glyphosate-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 14	June 15	July 13
Treatment	PRE	POST I	POST II
Temperature (F)			
air	52	55	61
soil (4 inch)	54	64	78
Relative humidity (%)	50	77	72
Wind (mph)	SW 10	SE 7	E 5
Sky	p. cloudy	cloudy	clear
Soil moisture	dry	dry	dry
Soybean			
leaf no.	-	V3	V8
height (inch)	-	6	26
Yellow foxtail			
leaf no.	-	2 to 4	4 to 6
height (inch)	-	4 to 6	6 to 8
no./ft ²	-	27	9
Common lambsquarters			
leaf no.	-	3 to 5	-
height (inch)	-	3 to 4	-
no./ft ²	-	1	-
Tall waterhemp			
leaf no.	-	2 to 4	4 to 6
height (inch)	-	2 to 4	5 to 7
no./ft ²	-	7	3
Rainfall after application (inch)			
1 week	0.00	1.22	0.02
2 week	0.45	0.46	0.03
3 week	0.05	0.09	0.46

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

Table. Annual weed control with Valor, Gangster, Intrro, Sonic, and Authority Assist in soybeans at Lamberton, MN in 2009 (Getting).

Treatment ^a	Rate (oz/A, pt/A, or lb/A)	Yellow foxtail				Common lambsquarters				Tall waterhemp				Yield (bu/A) ^c
		Jun 15	Jun 25	Jul 13	Sep 15	Jun 15	Jun 25	Jul 13	Sep 15	Jun 15	Jun 25	Jul 13	Sep 15	
----- (% control) -----														
Preemergence/POST I (4 to 6-inch weeds)														
Valor SX /	2 oz /	33 b	98 a	90 ab	79 b	50 b	99 a	99 a	99 a	69 b	99 a	99 a	99 a	53.3 a
Roundup Original Max + AMS	22 oz + 2.5 lb													
Gangster FR + Gangster V /	0.4 oz + 2.0 oz /	33 b	98 a	90 ab	80 b	48 b	99 a	99 a	99 a	75 b	99 a	96 a-c	96 ab	55.2 a
Roundup Original Max + AMS	22 oz + 2.5 lb													
V-10233 /	3 oz /	65 a	98 a	92 a	81 b	91 a	99 a	99 a	99 a	95 a	99 a	98 ab	97 ab	54.1 a
Roundup Original Max + AMS	22 oz + 2.5 lb													
Valor SX + Intrro /	2 oz + 1 pt /	58 a	98 a	89 b	78 b	89 a	99 a	99 a	99 a	91 a	99 a	94 c	99 a	53.5 a
Roundup Original Max + AMS	22 oz + 2.5 lb													
Valor SX + Intrro /	2 oz + 1 qt /	63 a	98 a	92 a	83 b	86 a	99 a	99 a	99 a	90 a	99 a	98 ab	97 ab	56.0 a
Roundup Original Max + AMS	22 oz + 2.5 lb													
Sonic /	3.2 oz /	33 b	98 a	89 b	78 b	53 b	99 a	99 a	99 a	40 d	99 a	93 c	94 b	55.3 a
Roundup Original Max + AMS	22 oz + 2.5 lb													
Authority Assist /	5 oz /	28 b	98 a	91 ab	80 b	53 b	99 a	99 a	99 a	50 c	99 a	95 bc	96 ab	54.1 a
Roundup Original Max + AMS	22 oz + 2.5 lb													
POST I (4 to 6-inch weeds) /POST II (regrowth)														
Roundup Original Max + AMS /	22 oz + 2.5 lb /	0 c	96 b	80 c	99 a	0 c	97 b	99 a	99 a	0 e	96 b	76 d	96 ab	55.5 a
Roundup Original Max + AMS	22 oz + 2.5 lb													
Checks														
Weedy Check	-	0 c	0 c	0 d	0 c	0 c	0 c	0 b	0 b	0 e	0 c	0 e	0 c	3.8 b
	LSD (0.10)	11.6	0.7	2.7	6.1	7.7	0.7	ns	ns	8.2	0.6	3.9	3.6	4.1

^a AMS = spray grade ammonium sulfate.

^b Yield adjusted to 13% moisture.