

**Annual weed control with Authority First, Authority Assist, Anthem, Fierce, Prefix and F9324 in soybeans at Lamberton, MN in 2012.**

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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 4.3% organic matter, pH 5.2 and soil test P and K levels of 72 and 358 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 2011 and was moldboard plowed. On June 4, 2012, Asgrow 'AG1431' glyphosate-resistant soybeans were planted in 30-inch rows at a seeding rate of 160,000 seeds/A. 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 4	June 25	July 2
Treatment	PRE	POST I	POST II
Treatment numbers	1-8	7-15	1-6
Temperature (F)			
air	84	70	88
soil (4 inch)	80	76	84
Relative humidity (%)	25	50	55
Wind (mph)	NW 8	E 12	S 8
Sky	clear	clear	clear
Soil moisture	dry	dry	dry
Soybean			
leaf no.	-	V2	V4
height (inch)	-	5	10
Yellow foxtail			
leaf no.	-	2 to 4	4 to 6
height (inch)	-	2 to 4	4 to 6
no./ft <sup>2</sup>	-	2	2
Common lambsquarters			
leaf no.	-	2 to 4	3 to 5
height (inch)	-	1 to 3	2 to 4
no./ft <sup>2</sup>	-	< 1	< 1
Tall waterhemp			
leaf no.	-	2 to 4	4 to 6
height (inch)	-	1 to 3	3 to 6
no./ft <sup>2</sup>	-	3	3
Rainfall after application (inch)			
1 week	0.45	0.00	0.09
2 week	0.27	0.09	0.06
3 week	0.53	0.06	0.21

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

**Table. Annual weed control with Authority First, Authority Assist, Anthem, Fierce, Prefix and F9324 in soybeans at Lamberton, MN in 2012 (Getting).**

Treatment <sup>a</sup>	Rate	Injury <sup>b</sup>			Yellow foxtail				Common lambsquarters				Tall waterhemp				Yield (bu/A) <sup>c</sup>								
		Jun 28	Jul 2	Jul 9	Jun 25	Jul 2	Jul 9	Sep 17	Jun 25	Jul 2	Jul 9	Sep 17	Jun 25	Jul 2	Jul 9	Sep 17									
<b>Preemergence/POST II (6-inch weeds)</b>	(oz/A, pt/A, qt/A or %)	Injury <sup>b</sup> (%)			-----(% control)-----																				
Authority First / Roundup Powermax + AMS	6.4 oz / 22 oz + 2 qt	0 f	0 e	0 c	86 ab	80 cd	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	51.0 a-c
Authority Assist / Roundup Powermax + AMS	9 oz / 22 oz + 2 qt	0 f	0 e	0 c	89 ab	81 cd	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	52.0 a-c
Anthem + Python / Roundup Powermax + AMS	10 oz 1 oz / 22 oz + 2 qt	0 f	0 e	0 c	88 ab	79 d	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	49.6 b-d
Valor SX / Roundup Powermax + AMS	3 oz / 22 oz + 2 qt	0 f	0 e	0 c	86 ab	80 cd	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	48.8 cd
Fierce / Roundup Powermax + AMS	3 oz / 22 oz + 2 qt	0 f	0 e	0 c	89 ab	84 c	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	51.7 a-c
Prefix / Roundup Powermax + AMS	2 pt / 22 oz + 2 qt	0 f	0 e	0 c	91 a	91 b	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	54.0 a
Authority First / Anthem + Roundup Powermax + AMS	5 oz / 6 oz + 22 oz + 2 qt	13 d	11 cd	0 c	83 b	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	53.6 ab
Anthem / F9324 + Roundup Powermax + AMS	8 oz / 7 oz + 22 oz + 2 qt	11 d	9 d	0 c	73 c	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	99 a	51.9 a-c
<b>POST I (2-inch weeds)</b>																									
Anthem + Roundup Powermax + AMS	8 oz + 22 oz + 2 qt	13 d	10 cd	0 c	-	99 a	99 a	99 a	99 a	-	99 a	99 a	99 a	-	99 a	99 a	99 a	-	99 a	99 a	99 a	99 a	99 a	99 a	50.3 a-c
F9324 + Roundup PowerMax + NIS + AMS	7 oz + 22 oz + 0.25% + 2qt	19 c	13 c	0 c	-	99 a	99 a	99 a	99 a	-	99 a	99 a	99 a	-	99 a	99 a	99 a	-	99 a	99 a	99 a	99 a	99 a	99 a	51.0 a-c
F9324 + Roundup PowerMax + MSO + AMS	7 oz + 22 oz + 1% + 2qt	45 a	38 a	20 a	-	99 a	98 b	99 a	99 a	-	99 a	99 a	99 a	-	99 a	99 a	99 a	-	99 a	99 a	99 a	99 a	99 a	99 a	46.1 d
Flexstar GT + AMS	3.5 pt + 2 qt	6 e	3 e	0 c	-	99 a	99 a	99 a	99 a	-	99 a	99 a	99 a	-	99 a	99 a	99 a	-	99 a	99 a	99 a	99 a	99 a	99 a	51.6 a-c
F9324 + Select Max + COC + AMS	7 oz + 10 oz + 1% + 2qt	28 b	19 b	6 b	-	99 a	99 a	99 a	99 a	-	99 a	99 a	99 a	-	99 a	99 a	99 a	-	99 a	99 a	99 a	99 a	99 a	99 a	51.2 a-c
Flexstar + Select Max + COC + AMS	1 pt + 10 oz + 1% + 2qt	20 c	11 cd	0 c	-	99 a	99 a	99 a	99 a	-	99 a	99 a	99 a	-	99 a	99 a	99 a	-	99 a	99 a	99 a	99 a	99 a	99 a	49.6 b-d
Roundup Powermax + AMS	22 oz + 2 qt	0 f	0 e	0 c	-	99 a	99 a	99 a	99 a	-	99 a	99 a	99 a	-	99 a	99 a	99 a	-	99 a	99 a	99 a	99 a	99 a	99 a	51.0 a-c
<b>Checks</b>																									
Weedy Check	-	0 f	0 e	0 c	0 d	0 e	0 c	0 b	0 c	0 c	0 b	0 b	0 d	0 d	0 b	0 b	0 d	0 d	0 b	0 b	0 b	0 b	0 b	0 b	36.9 e
	LSD (0.10)	3.1	2.7	0.7	6.4	4.9	0.6	ns	2.0	0.6	ns	ns	3.9	1.6	ns	ns	4.01								4.01

<sup>a</sup> COC = crop oil concentrate; NIS = nonionic surfactant; MSO = methylated seed oil; AMS = liquid spray grade ammonium sulfate.

<sup>b</sup> June 28 and July 2 injury reported as percent soybean leaf burn, July 9 injury reported as percent soybean plant height reduction.

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