

## **Soybean Weed Management at Lamberton, MN in 2013.**

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The objective of this study was to evaluate soybean herbicide combinations for annual grass and annual broadleaf weed control in soybeans. This study was conducted on a Normania loam soil containing 4.1% organic matter, pH 5.5 and soil test P and K levels of 52 and 348 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 2012 and was fall moldboard plowed. Due to untimely rains, the trial area was tilled with a field cultivator on May 7, June 5 and June 17. On June 17, 2013, Asgrow 'AG 1431' 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 15 gpa at a pressure of 35 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 19	July 10	July 10	July 23
Treatment	PRE	Post I	Post II	Post III
Temperature (F)				
air	71	65	65	74
soil (4 inch)	70	80	80	82
Relative humidity (%)	63	73	73	49
Wind (mph)	S 7	NW 6	NW 6	N 7
Sky	Clear	Clear	Clear	Partly Cloudy
Soil moisture	Dry	Moist	Moist	Dry
Soybeans				
leaf no.	-	V3	V3	V6
height (inch)	-	13"	13"	16"
Yellow foxtail				
leaf no.	-	2 to 7	2 to 7	2 to 10
height (inch)	-	1 to 10	1 to 10	1 to 14
no./ft <sup>2</sup>	-	9	9	10
Common lambsquarters				
leaf no.	-	1 to 4	1 to 4	1 to 7
height (inch)	-	1 to 3	1 to 3	1 to 8
no./ft <sup>2</sup>	-	1	1	2
Tall waterhemp				
leaf no.	-	1 to 6	1 to 6	1 to 8
height (inch)	-	1 to 4	1 to 4	1 to 7
no./ft <sup>2</sup>	-	1	1	2
Rainfall after application (inch)				
1 week	2.97	0.18	0.18	0.00
2 week	0.17	0.01	0.01	0.49
3 week	0.18	0.00	0.00	0.74

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

**Table. Soybean Weed Management at Lamberton, MN in 2013 (Vollmer, Potter, Gunsolus and Hoverstad).**

Treatment <sup>a</sup>	Rate	Injury		Yellow foxtail			Common lambsquarters			Tall waterhemp			(bu/A)
		July 12	July 15	July 8	July 15	Aug 16	July 8	July 15	Aug 16	July 8	July 15	Aug 16	
<b>Preemergence / POST I (2" weeds)</b>		-----(% control)-----											
Valor SX / Warrant + Roundup Weathermax + AMS	2 oz / 3 pt + 32 oz + 3 qt	0 e	0 e	70 bc	91 bcd	100 a	100 a	99 a	100 a	100 a	99 a	100 a	
<b>Preemergence / POST II (4" weeds)</b>													
Authority First / Roundup Powermax + AMS	6.4 oz / 32 oz + 3 qt	0 e	0 e	61 c	98 abc	100 a	75 b	100 a	100 a	75 a	100 a	100 a	
Boundary / Flexstar GT 3.5 + MSO +AMS	1.5 pt / 3.5 pt + 0.5% + 3 qt	3 b	2 b	95 a	97 abc	100 a	100 a	100 a	100 a	78 a	100 a	100 a	
Boundary / Touchdown Total + AMS	1.5 pt / 28 oz + 3 qt	0 e	0 e	98 a	100 ab	100 a	100 a	100 a	100 a	100 a	100 a	100 a	
Gangster V + Gangster FR / Roundup Powermax + AMS	2 oz + 0.4 oz / 32 oz + 3 qt	0 e	0 e	59 c	82 efg	99 ab	100 a	100 a	100 a	100 a	100 a	100 a	
Fierce / Roundup Powermax + AMS	3 oz / 32 oz + 3 qt	0 e	1 de	95 a	99 ab	99 a	100 a	100 a	100 a	100 a	100 a	100 a	
Valor SX / Roundup Powermax + AMS	3 oz / 32 oz + 3 qt	0 e	0 e	86 ab	95 a-d	100 a	75 b	100 a	100 a	75 a	100 a	100 a	
Fierce + Classic / Roundup Powermax + AMS	3 oz + 0.33 oz / 32 oz + 3 qt	0 e	0 e	70 bc	99 ab	100 a	75 b	100 a	100 a	75 a	100 a	100 a	
Optill Pro (Optill + Outlook) / Roundup Powermax + NIS + AMS	(2 oz + 10 oz) / 32 oz + 0.25% + 3 qt	0 e	0 e	98 a	100 a	100 a	100 a	100 a	100 a	78 a	100 a	100 a	
Verdict + Outlook / Roundup Powermax + NIS + AMS	5 oz + 10 oz / 32 oz + 0.25% + 3 qt	0 e	0 e	95 a	100 ab	100 a	100 a	100 a	100 a	100 a	100 a	100 a	
Zidua + Verdict / Roundup Powermax + NIS +AMS	2 oz + 5 oz / 32 oz + 0.25% + 3 qt	1 d	0 e	96 a	100 a	100 a	75 b	100 a	100 a	75 a	100 a	100 a	
Sonic / Durango DMA + AMS	3 oz / 24 oz + 3 qt	0 e	0 e	0 d	75 gh	100 a	100 a	100 a	100 a	98 a	100 a	100 a	
Sonic / Durango DMA + AMS	4.5 oz / 24 oz + 3 qt	0 e	0 e	23 d	90 cde	100 a	100 a	100 a	100 a	100 a	100 a	100 a	
Enlite / Abundit S + AMS	2.8 / 32 oz + 3 qt	0 e	0 e	60 c	87 de	98 bc	100 a	100 a	100 a	100 a	100 a	100 a	
Enlite / Abundit S + Harmony SG + AMS	2.8 oz + 32 oz + 0.125 oz + 3 qt	2 c	3 b	58 c	86 def	98 c	100 a	100 a	100 a	100 a	100 a	100 a	
Warrant / Roundup Weathermax + AMS	3 pt / 32 oz + 3 qt	0 e	0 e	93 ab	100 ab	100 a	98 ab	100 a	100 a	100 a	100 a	100 a	
<b>Post I (2" weeds)</b>													
Marvel + Roundup Powermax + NIS + AMS	6 oz + 32 oz + 0.25% + 3 qt	4 a	2 b	-	75 gh	100 a	-	98 ab	100 a	-	98 a	95 b	
<b>POST I (2" weeds) / POST III (6 trifoliolate)</b>													
Roundup Weathermax + AMS / Roundup Weathermax + AMS	32 oz + 3 qt / 32 oz + 3 qt	0 e	0 e	-	78 fgh	100 a	-	100 a	100 a	-	83 b	100 a	
Durango DMA + FirstRate + AMS / Durango DMA + AMS	24 oz + 0.3 oz + 3 pt / 24 oz + 3 qt	2 cd	1 cd	-	65 i	100 a	-	100 a	100 a	-	85 b	98 a	
Flexstar GT 3.5 + MSO + AMS / Touchdown Total + AMS	3.5 pt + 0.5% + 3 qt / 28 oz + 3 qt	3 b	2 bc	-	73 hi	100 a	-	98 ab	100 a	-	100 a	100 a	
Synchrony + Abundit S + AMS / Abundit S + AMS	0.375 oz + 32 oz + 3 qt / 32 oz + 3 qt	2 cd	0 e	-	75 gh	100 a	-	95 b	100 a	-	84 b	100 a	
Roundup Powermax + Cobra + COC + AMS / Roundup Powermax + AMS	32 oz + 12.5 oz + 1 pt + 3 qt / 32 oz + 3 qt	4 a	4 a	-	83 efg	100 a	-	100 a	100 a	-	100 a	100 a	
<b>Checks</b>													
Weedy check		0 e	0 e	0 d	0 j	0 d	0 c	0 c	0	0 b	0 c	0 c	
Weed-free		0 e	0 e	100 a	100 a	100 a	100 a	100 a	100	100 a	100 a	100 a	
	LSD (0.10)	0.5	1.0	24.7	8.5	1.2	24.3	3.0	ns	29.1	9.7	2.5	

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

<sup>b</sup> Yield adjusted to 15.5% moisture.

