Soybean Pre Herbicide at Lamberton, MN 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 18	July 16
Treatment	PRE	Post I
Temperature (F)		
air	67	78
soil (4 inch)	70	80
Relative humidity (%)	70	72
Wind (mph)	NE 5	S 9
Sky	Partly Cloudy	Clear
Soil moisture	Dry	Dry
Soybeans		
leaf no.	-	V4
height (inch)	-	15"
Yellow foxtail		
leaf no.	-	2 to 8
height (inch)	-	3 to 10
no./ft^2	-	3
Common lambsquarters		
leaf no.	-	3 to 7
height (inch)	-	2 to 6
no./ft^2	-	2
Tall waterhemp		
leaf no.	-	3 to 11
height (inch)	-	3 to 12
no./ft^2	-	2
Rainfall after application (inch)		
1 week	2.56	0.01
2 week	0.58	0.00
3 week	0.00	0.49

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

Table. Soybean Pre Herbicide at Lamberton, MN - 2013 (Vollmer, Potter, Gunsolus and Hoverstad).

Treatment[a]	Rate	Injury	Yellow foxtail		Common lambsquarters		Tall waterhemp		Yield[b]
		July 15	July 15	Aug 16	July 15	Aug 16	July 15	Aug 16	
Preemergence	(oz/A, pt/A, or qt/A)				----------(% control)----------				(bu/A)
Authority First	8 oz	0 a	54 cd	63 bc	100 a	100 a	100 a	100 a	45 a-d
Boundary	3 pt	0 a	96a	93 a	100 a	100 a	100 a	100 a	47 ab
Gangster V + Gangster FR	3 oz + 0.6 oz	0 a	48 de	57 c	100 a	100 ab	100 a	98 a	45 bcd
Pursuit + Sharpen + Outlook	4 oz + 1 oz + 21 oz	0 a	97 a	88 a	100 a	100 ab	100 a	100 a	42 de
Zidua + Valor	3.5 oz + 3 oz	0 a	82 ab	73 b	97 a	97 c	100 a	99 a	48 a
Preemergence / POST I (6" Weeds)									
Authority First / Roundup Powermax + AMS	4 oz / 32 oz + 3 qt	0 a	35 de	100 a	99 a	100 a	99 a	100 a	42 cde
Boundary / Roundup Powermax + AMS	1.8 pt / 32 oz + 3 qt	0 a	81 ab	100 a	71 b	100 a	99 a	100 a	44 bcd
Gangster V + Gangster FR / Roundup Powermax + AMS	1.5 oz + 0.3 oz / 32 oz + 3 qt	0 a	33 e	100 a	95 a	100 a	100 a	100 a	45 bcd
Optill + Outlook / Roundup Powermax + AMS	2 oz + 10 oz / 32 oz 3 qt	0 a	89 a	100 a	100 a	100 a	100 a	100 a	44 bcd
Fierce / Roundup Powermax + AMS	3 oz / 32 oz + 3 qt	0 a	81 ab	100 a	100 a	100 a	100 a	100 a	42 de
Authority First / Flexstar + Fusion + COC + AMS	8 oz / 1 pt + 12 oz + 1 qt + 3 qt	0 a	68 bc	95 a	98 a	100 a	75 b	100 a	45 a-d
Boundary / Flexstar + Fusion + COC + AMS	3 oz / 1 pt + 12 oz + 1 qt + 3 qt	0 a	96 a	100 a	100 a	100 a	100 a	100 a	41 e
Gangster V + Gangster FR / Flexstar + Fusion + COC + AMS	3 oz + 0.6 oz / 1 pt + 12 oz + 1 qt + 3 qt	0 a	53 cd	91 a	98 a	100 ab	100 a	100 a	43 b-e
Pursuit + Sharpen + Outlook / Flexstar + Fusion + COC + AMS	4 oz + 1 oz + 21 oz / 1 pt + 12 oz + 1 qt + 3 qt	0 a	96 a	100 a	100 a	100 a	100 a	100 a	45 abc
Zidua + Valor / Flexstar + Fusion + COC + AMS	3.5 oz + 3 oz / 1 pt + 12 oz + 1 qt + 3 qt	0 a	90 a	96 a	99 a	99 b	100 a	100 a	43 cde
Checks									
Weedy check		0 a	0 f	0 d	0 c	0 d	0 c	0 c	37 f
	LSD (0.10)	0.1	19.7	14.3	14.8	1.0	14.8	1.7	3.6

[a] COC = crop oil concentrate; AMS = liquid spray grade ammonium sulfate.
[b] Yield adjusted to 13% moisture.