

## Soybean Herbicide Performance on Annual Weeds at Waseca, MN in 2014

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The objective of this study was to evaluate soybean herbicide marketed to growers on several weed species at Waseca, MN. This study was conducted on a Webster Clay Loam soil containing 6.4% organic matter, pH 6.9 and soil test P and K levels of 15 and 139 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 2013 and fall tillage was done using a moldboard plow. On May 30, 2014, Asgrow 'AG2031' glyphosate resistant soybean was planted in 30-inch rows at a seeding rate of 160,000 seeds/A. All treatments were applied with a tractor-mounted compressed air sprayer delivering 15 gpa at a pressure of 35 psi. The sprayer was equipped with 80015 flat-fan nozzles spaced 15 inches apart on the boom. Application dates, environmental conditions, plant sizes and rainfall data are listed below:

Date	May 30	June 26	July 7
Treatment	Pre	Post I	Post II
Temperature (F)			
Air	78	82	76
Soil (4-inch)	68	73	71
Relative humidity	40	35	30
Wind (mph)	S 4	W 11	Calm
Sky	clear	clear	Clear
Soil moisture	medium	moist	moist
Soybean			
Leaf no.	-	3	4
Height (inch)	-	3	5
Giant foxtail			
Leaf no.	-	2	3
Height (inch)	-	2	4
Common ragweed			
Leaf no.	-	3	4
Height (inch)	-	3	4
Common lambsquarters			
Leaf no.	-	4	6
Height (inch)	-	2	4
Velvetleaf			
Leaf no.	-	2	3
Height (inch)	-	1	2
Redroot pigweed			
Leaf no.	-	2	4
Height (inch)	-	1	3
Rainfall after application (inch)			
1 week	3.44	0.89	0.42
2 week	0.86	0.28	0.00
3 week	7.41	0.26	0.46

(Southern Research and Outreach Center, University of Minnesota, Waseca).

Yield, herbicide rates and weed control are shown in Table1. Both Dual II Magnum and Warrant preemergence resulted in poor common ragweed control rated before postemergence herbicide application. One pass Dual II Magnum plus Flexstar GT postemergence resulted in poor broad leaf weed control.

**Table 1. Soybean Herbicide Performance on Annual Weeds at Waseca, MN in 2014**

Herbicide	Rate	Pre					Final				
		Gift	Corw	Colq	Vele	Amaranth	Gift	Corw	Colq	Vele	Amaranth
<u>Preemergence/ POST II (4-inch weeds)</u>	(Product/A)	% control									
Authority First / Roundup PowerMax + AMS	6.4 oz / 32 oz + 3 qt	90	95	95	95	95	93	95	95	95	95
Authority First / Anthem + Roundup PowerMax + AMS	6.4 oz / 8 oz + 32 oz + 3 qt	88	88	93	95	95	95	95	95	95	95
Boundary / Flexstar GT 3.5 + MSO + AMS	1.5 pt / 3.5 pt + 0.5% + 3 qt	91	85	95	95	95	95	95	95	95	95
Dual II Magnum / Flexstar GT 3.5 + MSO + AMS	2 pt / 3.5 pt + 0.5% + 3 qt	95	58	95	95	95	95	95	95	95	95
Gangster / Roundup PowerMax + AMS	2.4 oz / 32 oz + 3 qt	76	89	95	95	95	95	95	95	95	95
Fierce / Roundup PowerMax + AMS	3 oz / 32 oz + 3 qt	92	78	95	95	95	95	91	95	95	95
Valor SX / Roundup PowerMax + AMS	3 oz / 32 oz + 3 qt	90	89	95	95	95	95	91	95	95	95
Fierce + Classic / Roundup PowerMax + AMS	3 oz + .33 oz / 32 oz + 3 qt	91	76	95	95	95	95	95	95	95	95
Optill Pro / Roundup PowerMax + NIS + AMS	12 oz / 32 oz + .25% + 3 qt	85	91	95	95	95	95	95	95	95	95
Verdict + Outlook / Roundup PowerMax + NIS + AMS	5 oz + 10 oz / 32 oz + 0.25% + 3 qt	93	79	95	95	95	95	95	95	95	95
Zidua + Verdict / Roundup PowerMax + NIS + AMS	2 oz + 5 oz / 32 oz + 0.25% + 3 qt	94	74	95	95	95	95	91	95	95	95
Sonic / Durango DMA + AMS	3 oz / 32 oz + 3 qt	60	73	95	95	95	95	95	95	95	95
Sonic / Durango DMA + AMS	4.5 oz / 32 oz + 3 qt	88	80	95	95	95	95	95	95	95	95
Sonic / Durango DMA + First Rate + AMS	3 oz / 32 oz + 0.3 oz + 3 qt	83	75	95	95	95	95	95	95	95	95
Enlite / Abundit Extra + AMS	2.8 oz / 32 oz + 3 qt	87	91	95	95	95	91	91	95	95	95
Enlite / Abundit Extra + Harmony SG + AMS	2.8 oz / 32 oz + 0.125 oz + 3 qt	89	88	95	95	95	95	95	95	95	95
Warrant / Roundup WeatherMax + AMS	3 pt + 32 oz + 3 qt	91	53	95	95	95	95	90	95	95	95
<u>Preemergence/ POST I (2-inch weeds)</u>											
Valor SX / Warrant + Roundup PowerMax + AMS	2 oz / 3 pt + 32 oz + 3 qt	84	70	95	95	95	95	95	95	95	86
<u>POST II (4-inch weeds)</u>											
Dual II Magnum + Flexstar GT 3.5 + NIS + AMS	10 oz + 3.5 pt + 0.25% + 3 qt	0	0	0	0	0	95	63	73	83	74
<u>POST I (2-inch weeds)/POST III(Canopy)</u>											
Roundup WeatherMax + AMS / Roundup WeatherMax + AMS	32 oz + 3 qt / 32 oz + 3 qt	0	0	0	0	0	95	95	95	95	95
Synchrony + Abundit Extra + AMS / Abundit Extra + AMS	0.375 oz + 32 oz + 3 qt / 32 oz + 3 qt	0	0	0	0	0	95	95	95	95	95
Roundup PowerMax + Cobra + COC + AMS / Roundup PowerMax + AMS	32 oz + 12.5 oz + 1 pt + 3 qt / 32 oz 3 qt	0	0	0	0	0	95	95	95	95	95
<u>Checks</u>											
Weedy Check	-	0	0	0	0	0	0	0	0	0	0
Weed Free	-	100	100	100	100	100	100	100	100	100	100
	LSD(0.10)	10	10	1	1	1	2	4	6	4	6