

Herbicide performance in soybeans at Waseca, MN common ragweed site in 2005. Hoverstad, Thomas R and Jeffrey L. Gunsolus. The objective of this trial was to evaluate soybean weed management systems available to producers in southern Minnesota on several annual weed species. This site had a particularly high infestation of common ragweed. The research site was a Webster clay loam soil containing 6% organic matter with a pH of 7.0 and soil test P and K levels of 38 and 155 ppm, respectively. The previous crop was oats that had been moldboard plowed in the fall of 2004. The entire area was field cultivated once in the spring prior to herbicide application. Following preplant incorporated treatments the entire area was field cultivated twice to a depth of 3 to 4 inches to incorporate herbicides and prepare a seedbed. Garst '1827 RR/STS' soybeans were planted on May 24, 2005 in 30-inch rows. All treatments were applied with a tractor-mounted sprayer delivering 20 gpa at 40 psi using 8002 flat-fan nozzle tips. Visual estimates of weed control were taken on September 2, 2005. Application dates, environmental conditions, crop and weed stages are listed below.

Date	May 24	May 24	June 15	June 22	June 22	July 1
Treatment			Post I	Post II	Post III	Post IV
Application Stage	PPI	Pre	4-inch weeds	6-inch weeds	V2 soybean	Crop canopy
air temp °F	81	81	65	79	79	72
soil temp (4-inch)	60	62	61	65	65	70
Relative humidity (%)	26	25	72	64	64	45
Wind	SE 4	SE 3	N 8	SE 3	SE 3	W 9
Soil moisture	Moist	Moist	Moist	Wet	Wet	Moist
Soybeans						
Stage	-	-	V1	V2	V2	V4
height (inch)	-	-	3	6	6	10
Giant foxtail						
leaf no.	-	-	2	4	4	2
height (inch)	-	-	4	6	6	2
Common ragweed						
leaf no.	-	-	3	4-6	4-6	3
height (inch)	-	-	2	5	5	2
Common lambsquarters						
leaf no.	-	-	4	8	8	4
height (inch)	-	-	2	4	4	2
Redroot pigweed						
leaf no.	-	-	2	3-4	3-4	3
height (inch)	-	-	1	3	3	2
Rainfall after application (inch)						
week 1	0.74	0.74	1.00	2.55	2.55	0.35
week 2	0.37	0.37	1.67	0.35	0.35	0.00
week 3	1.76	1.76	1.23	0.00	0.00	2.27

The dominant weeds in this trial were common ragweed and giant foxtail. Lighter infestations of common lambsquarters and redroot pigweed were also evaluated. Preplant incorporated applications of Pursuit Plus followed by postemergence FirstRate provided slightly less giant foxtail control than where preplant Prowl H2O was followed by Raptor plus FirstRate. Preplant Prowl H2O followed by Extreme also resulted in slightly less giant foxtail control than the majority of treatments. Gangster followed by either FirstRate plus Phoenix plus Select Max or V10139 did not provide good control of common lambsquarters. There was a trend toward lower yields where either Prowl H2O or Pursuit Plus were applied preplant. (University of Minnesota, Southern Research and Outreach Center, Waseca, MN and Dept of Agronomy and Plant Genetics, University of Minnesota, St Paul).

Table. Herbicide performance in soybeans at Waseca, MN common ragweed site in 2005 (Hoverstad and Gunsolus).

Treatment	Rate (Product/A)	Giant foxtail	Common ragweed	Common lambsquarters	Redroot pigweed	Yield Bu/A ^a
		-----(% control)-----				
<u>Preplant incorporate 2X/POST I (4-inch weeds)</u>						
Prowl H2O /	43 oz /	99	99	99	99	49.4
Raptor + First Rate + NIS + AMS	4 oz + 0.3 oz + 0.25% + 3 qt	99	99	99	99	49.4
Pursuit Plus /	2.5 / 0.3 + 0.25% + 3 qt	89	99	99	98	48.6
First Rate + NIS + AMS						
Prowl H2O / Extreme + NIS + AMS	43 oz / 3 pt + 0.125% + 3 qt	89	99	87	99	45.9
<u>Preemergence/ POST I (4-inch weeds)</u>						
Gangster / First Rate + Phoenix + SelectMax + NIS + AMS	3 oz / 0.3 oz + 8 oz + 12 oz + 0.25% + 3 qt	93	99	86	99	53.4
Gangster / First Rate + Phoenix + V10139 + NIS + AMS	3 oz / 0.3 oz + 8 oz + 8 oz + 0.25% + 3 qt	93	99	81	99	50.5
Python / First Rate + Select + Cobra + COC + AMS	1 oz / 0.3 oz + 6 oz + 6 oz + 1% + 3 qt	91	99	95	99	52.4
Boundary / Flexstar + Fusion + First Rate + MSO + 28%	1.5 / 16 oz + 8 oz + 0.3 oz + 1% + 2.5%	95	99	99	99	54.5
<u>Preemergence/ POST II (6-inch weeds)</u>						
IntRRo /	4 /	99	96	99	99	56.0
RoundupWeatherMax + AMS	22 oz + 3 qt					
Prowl H2O + Outlook /	1 + 12.6 oz /	98	95	99	97	56.3
Roundup WeatherMax	22 oz + 3 qt					
Gangster/	1.8 oz /	99	99	99	99	55.4
Roundup OriginalMax + AMS	22 oz + 4 qt					
Boundary /	1.25 /	99	98	99	96	55.4
Touchdown Total + AMS	24 oz + 2 qt					
Valor SX /	2 oz /	96	99	99	99	54.7
Roundup OriginalMax + AMS	22 oz + 4 qt					
Valor SX + Python /	1.5 oz + 0.5 oz /	99	99	99	99	56.0
Roundup OriginalMax + AMS	22 oz + 3 qt					
Valor SX + Sencor /	1.5 oz + 3 oz /	99	99	99	99	56.3
Roundup OriginalMax + AMS	22 oz + 3 qt					
<u>POST III (V2 soybean)</u>						
Sequence + AMS	2.5 pt + 2 qt	97	98	99	99	56.9
<u>POST I (4-inch weeds)/POST IV(Canopy)</u>						
Roundup WeatherMax + AMS /	22 oz + 3 qt /	99	97	99	97	58.9
Roundup WeatherMax + AMS	22 oz + 3 qt					
<u>POST II (6-inch weeds)</u>						
Glyphomax XRT + First Rate + AMS	24 oz + 0.3 oz + 3 qt	99	99	99	98	57.0
Harmony GT +	0.33 oz +	96	99	99	99	59.1
Roundup OriginalMax + AMS	22 oz + 4.7					
Harmony GT + Classic +	0.33 oz + 0.33 oz +	98	96	99	99	55.9
Roundup OriginalMax + AMS	22 oz + 4.7					
Clearout 41 Plus + AMS	32 oz + 3 qt	96	97	99	98	56.9
Glyphomax XRT + AMS	24 oz + 3 qt	96	93	99	99	57.4
Roundup WeatherMax+AMS	22 oz + 3 qt	97	99	99	92	54.9
<u>Checks</u>						
Weedy	-	0	0	0	0	11.2
Hand-Weeded	-	100	100	100	100	55.0
	LSD (0.10)	4	4	9	3	4.1

^b Yield adjusted to 13% moisture.