

Herbicide performance in soybeans at Waseca, MN tall waterhemp site in 2002. 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 a site that was heavily infested with tall waterhemp. The research site was a Webster clay loam soil containing 8% organic matter with a pH of 7.4 and soil test P and K levels of 75 and 248 ppm, respectively. The previous crop was soybean that had been fall chisel plowed. 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. Asgrow '2103' soybeans were planted on May 15, 2002 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 10, 2002. Application dates, environmental conditions, crop and weed stages are listed below.

Date	May 15	May 17	June 14	June 24	July 12
Treatment			Post I	Post II	Post III
Application Stage	PPI	Pre	4-inch weeds	6-inch weeds	Crop canopy
air temp °F	75	58	73	84	72
soil temp (4-inch)	70	53	70	76	72
Relative humidity (%)	40	25	30	25	45
Wind	W 8	N 5	NW 10	S 5	N 5
Soil moisture	Dry	Dry	Moist	Moist	Dry
Soybeans					
Stage	-	-	V2	V4	R1
height (inch)	-	-	5	7	14
Tall waterhemp					
leaf no.	-	-	3-4	6-8	3-4
height (inch)	-	-	3-4	6-7	4
Rainfall after application (inch)					
week 1	0.00	0.00	2.19	1.15	0.00
week 2	0.71	0.74	1.15	0.00	0.56
week 3	2.52	2.49	0.00	0.89	1.24

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2002 Soybean Herbicide Evaluation - Waseca
Tall Waterhemp Site

Herbicide	Rate	Tall	Weed Control		
		Waterhemp	Yield	Cost	Returns
	(pt/A)	-(% control)-	(bu/A)	(\$/A)	(\$/A)
<u>PPI 2X / Postemergence (4-inch weeds)</u>					
Prowl / Raptor + Ultra Blazer + NIS + AMS	2.17 / 4 + 12oz + 0.25% + 17 lb/100gal	92	56.2	\$44.00	\$231
Prowl / Raptor + FirstRate + NIS + AMS	2.17 / 4 + 0.2oz + 0.25% + 17 lb/100gal	79	18.4	\$39.93	\$50
Prowl / Extreme + NIS + AMS	2.5 / 3 + 0.25% + 13 lb/100gal	94	54.5	\$43.49	\$223
<u>Preemergence</u>					
Guantlet + Boundary	5.9 oz/A + 1.25	66	20.5	\$32.07	\$69
<u>Pre / Postemergence (4-inch weeds)</u>					
Python / FirstRate + Select + Cobra + NIS + AMS	1 oz / 0.3 oz + 8 oz + 8 oz + 0.25% + 2.5 lb	81	41.1	\$46.49	\$155
Guantlet / Fusion + COC + AMS	5.9 oz / 10 oz + 1 + 2.5 lb	62	35.2	\$37.97	\$135
Valor / FirstRate + Phoenix+ Select + COC + AMS	2.5 oz / 0.3 oz + 8 oz 8 oz + 1% + 2.5 lb	86	43.2	\$49.14	\$163
Boundary / Flexstar + Fusion + COC + AMS	1.25 / 16 oz + 8 oz + 1% + 2.5 lb	89	54.0	\$43.36	\$221
Authority / Flexstar + Assure II + COC + AMS	4.5 oz / 16 oz + 9 oz + 1% + 2.5 lb	94	58.5	\$46.30	\$240
<u>Pre / Postemergence (6-inch weeds)</u>					
Authority / Roundup Ultra Max + Classic + AMS	3.5 oz / 26 oz + 0.33 oz + 2.5	96	58.7	\$44.67	\$243
Python / Glyphomax Plus + AMS	1 oz / 2 oz + 2.5 lb	95	55.9	\$40.48	\$233
Guantlet / Glyphosate Plus + AMS	3 oz / 2 + 2.5	93	59.2	\$39.36	\$251
Valor + Roundup Ultra Max + AMS	2 oz / 26 oz + 2.5	96	60.7	\$40.38	\$257
Boundary / Touchdown IQ + AMS	1.25 / 2 + 2.5	93	57.7	\$42.60	\$240
Domain / Roundup Ultra Max + AMS	10 oz / 19 oz + 2.5	95	60.0	\$36.23	\$258
Authority / Roundup Ultra Max	4 oz / 26 oz + 2.5	87	60.3	\$41.86	\$254
<u>Postemergence (4-inch weeds)</u>					
Flexstar + Fusion + Harmony GT + COC + AMS	16 oz + 10 oz + ¹ / ₃₂ oz + 1% + 2.5 lb	91	54.7	\$29.59	\$238
<u>Pre / Postemergence (6-inch weeds)</u>					
Roundup Ultra Max + AMS / Roundup Ultra Max + AMS	26 oz + 2.5 lb / 26 oz + 2.5 lb	99	60.6	\$41.85	\$255
<u>Postemergence (6-inch weeds)</u>					
Glyphomax Plus + Aim + AMS	2 + 0.25 oz + 2.5 lb	83	51.3	\$27.60	\$224
Glyphomax Plus + FirstRate + AMS	2 + 0.3 oz + 2.5 lb	91	55.9	\$30.36	\$243
Extreme + NIS + AMS	3 + 0.125% + 2.5	71	51.3	\$29.63	\$222
Roundup Ultra Max + AMS	26 oz + 2.5 lb	66	58.7	\$25.93	\$262
<u>Checks</u>					
Weedy	-	0	19.8	\$0.00	\$97
Weed-Free	-	100	59.8	\$0.00	
	LSD(0.10)	18	4.4		\$22

Soybean Price = \$4.90
(Waseca Co. 2002 Loan Rate)