

Herbicide performance in soybeans at Waseca, MN common cocklebur 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 common cocklebur. The research site was a Webster clay loam soil containing 5% organic matter with a pH of 6.6 and soil test P and K levels of 36 and 210 ppm, respectively. The previous crop was corn 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 9, 2002. Application dates, environmental conditions, crop and weed stages are listed below.

Date	May 15	May 17	June 14	June 20	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	51	73	87	72
soil temp (4-inch)	70	54	70	76	72
Relative humidity (%)	40	40	30	46	45
Wind	W 8	N 5	NW 10	W 8	N 5
Soil moisture	dry	Dry	Moist	Moist	Moist
Soybeans					
Stage	-	-	V2	V4	R1
height (inch)	-	-	6	8	14
Common cocklebur					
leaf no.	-	-	4	6-10	3-4
height (inch)	-	-	4	4-6	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

(University of Minnesota, Southern Research and Outreach Center, Waseca, MN and Dept of Agronomy and Plant Genetics, University of Minnesota, St Paul).

2002 Soybean Herbicide Evaluation - Waseca
Common Cocklebur Site

Herbicide	Rate	Common		Weed Control	
		Cocklebur	Yield	Cost	Returns
<u>PPI 2X / Postemergence (4-inch weeds)</u>	(pt/A)	-(% control)-	(bu/A)	(\$/A)	(\$/A)
Prowl / Raptor + Ultra Blazer + NIS + AMS	2.17 / 4 + 12oz + 0.25% + 17 lb/100gal	90	50.2	\$44.00	\$202
Prowl / Raptor + FirstRate + NIS + AMS	2.17 / 4 + 0.2oz + 0.25% + 17 lb/100gal	97	49.2	\$39.93	\$201
Prowl / Extreme + NIS + AMS	2.5 / 3 + 0.25% + 13 lb/100gal	99	52.3	\$43.49	\$213
<u>Preemergence</u>					
Guantlet + Boundary	5.9 oz/A + 1.25	20	30.6	\$32.07	\$118
<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	99	48.4	\$46.49	\$190
Guantlet / Fusion + COC + AMS	5.9 oz / 10 oz + 1 + 2.5 lb	40	34.1	\$37.97	\$129
Valor / FirstRate + Phoenix+ Select + COC + AMS	2.5 oz / 0.3 oz + 8 oz + 8 oz + 1% + 2.5 lb	97	50.5	\$49.14	\$198
Boundary / Flexstar + Fusion + COC + AMS	1.25 / 16 oz + 8 oz + 1% + 2.5 lb	95	54.1	\$43.36	\$221
Authority / Flexstar + Assure II + COC + AMS	4.5 oz / 16 oz + 9 oz + 1% + 2.5 lb	91	51.5	\$46.30	\$206
<u>Pre / Postemergence (6-inch weeds)</u>					
Authority / Roundup Ultra Max + Classic + AMS	3.5 oz / 26 oz + 0.33 oz + 2.5	99	54.6	\$44.67	\$223
Python / Glyphomax Plus + AMS	1 oz / 2 oz + 2.5 lb	99	52.6	\$40.48	\$217
Guantlet / Glyphosate Plus + AMS	3 oz / 2 + 2.5	97	55.0	\$39.36	\$230
Valor + Roundup Ultra Max + AMS	2 oz / 26 oz + 2.5	99	54.1	\$40.38	\$225
Boundary / Touchdown IQ + AMS	1.25 / 2 + 2.5	99	54.9	\$42.60	\$227
Domain / Roundup Ultra Max + AMS	10 oz / 19 oz + 2.5	99	53.7	\$36.23	\$227
Authority / Roundup Ultra Max	4 oz / 26 oz + 2.5	97	48.6	\$41.86	\$196
<u>Postemergence (4-inch weeds)</u>					
Flexstar + Fusion + Harmony GT + COC + AMS	16 oz + 10 oz + 1/32 oz + 1% + 2.5 lb	85	48.8	\$29.59	\$209
<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	94	53.7	\$41.85	\$221
<u>Postemergence (6-inch weeds)</u>					
Glyphomax Plus + Aim + AMS	2 + 0.25 oz + 2.5 lb	97	52.6	\$27.60	\$230
Glyphomax Plus + FirstRate + AMS	2 + 0.3 oz + 2.5 lb	97	51.4	\$30.36	\$222
Extreme + NIS + AMS	3 + 0.125% + 2.5	99	51.7	\$29.63	\$224
Roundup Ultra Max + AMS	26 oz + 2.5 lb	94	54.3	\$25.93	\$240
<u>Checks</u>					
Weedy	-	0	9.2	\$0.00	\$45
Weed-Free	-	100	54.9	\$0.00	
	LSD(0.10)	10	6.5		\$32

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