

Weed management in glyphosate-resistant soybeans II. Waltz, Aaron L., Alex R. Martin, and Jess J. Spotanski. A field study was conducted to evaluate pre, sequential pre/post, and postemergent weed control in conventionally-tilled, glyphosate-resistant soybeans. A randomized complete block design with three replications per treatment was utilized. The study was conducted on a Sharpsburg silty clay loam with 3.2% organic matter and a pH of 6.6. Seedbed preparation consisted of disking one week prior to planting and field cultivation the day of planting. Individual plots consisted of six 30-inch rows, each 30 feet long. 'Asgrow AG3003RR' soybeans were planted May 24 at a population of 150,000 seeds/acre. Treatments were applied with a tractor-mounted sprayer traveling 3.0 mph. Application, crop, weed, and environmental data are presented below:

Date	May 24	June 17	July 1
Treatment	PRE	POST	LPOST
Sprayer			
gpa	15	15	15
psi	30	30	30
Temperature (°F)			
Air	51	78	75
Soil (4 inch)	57	77	77
Soil Moisture	Adequate	Dry	Dry
Wind (mph)	6	10	10
Sky (% cloudy)	100	10	0
Relative Humidity (%)	64	51	59
Precip. after appl.			
Week 1 (inch)	2.09	0.0	0.4
Week 2 (inch)	0.0	0.0	0.04
Soybean			
Leaf no.	--	V3	V5
Height (inch)	--	6	10
Common sunflower			
Leaf no.	--	5	--
Height (inch)	--	4-6	--
Infestation (m ²)	--	2	--
Velvetleaf			
Leaf no.	--	8	many
Height (inch)	--	2-5	5-16
Infestation (m ²)	--	20	10
Annual grasses			
Leaf no.	--	5	5
Height (inch)	--	3-4	3-6
Infestation (m ²)	--	15	5
Pigweed species			
Leaf no.	--	6-10	--
Height (inch)	--	2-5	--
Infestation (m ²)	--	25	--

Summary comments: Summary comments: Precipitation was good until early June, then conditions were very dry. Grass species include green and giant foxtail with some fall panicum and large crabgrass. Pigweed species include mostly Palmer amaranth, with some redroot pigweed and common waterhemp. The PRE only treatment did not give good common sunflower and velvetleaf control. Most of the other treatments gave adequate season-long weed control of common sunflower, annual grasses, and pigweed species. However, late-season velvetleaf control was a problem for some treatments. Results of the study are summarized in the following table (Dept. of Agronomy and Horticulture, University of Nebraska-Lincoln).

Table. Weed management in glyphosate-resistant soybeans II (Waltz, Martin, and Spotanski).

Treatment	Application		-----HELAN-----			-----ABUTH-----			-----GGGAN ^a -----			-----AMASS ^b -----		
	Rate	Timing	7/2	7/15	8/19	7/2	7/15	8/19	7/2	7/15	8/19	7/2	7/15	8/19
	(lb/A)		-----% weed control-----											
S-metolachlor& metribuzin	1.18	PRE	85	70	70	55	50	45	98	98	98	95	93	93
	0.28													
S-metolachlor& metribuzin/ glyphosate ^c + AMS ^d	1.18	PRE/	100	98	98	95	95	93	100	100	100	100	100	100
	0.28													
	0.94	EPOST												
	2.5													
Glyphosate ^c	0.94	EPOST	100	97	97	75	73	73	97	96	96	92	90	90
Glyphosate ^c + AMS	0.94	EPOST	100	100	93	87	88	85	99	99	99	95	93	90
	2.5													
Glyphosate ^e	1.02	EPOST	97	95	93	82	83	75	97	96	96	92	90	90
Glyphosate ^e + AMS	1.02	EPOST	97	93	85	93	92	83	99	99	99	98	97	95
	2.5													
Glyphosate ^f + AMS&NIS ^g	1.0	EPOST	100	100	100	92	90	83	100	98	98	98	93	88
	2.5%													
Sulfentrazone/ glyphosate ^e + AMS	0.188	PRE/	100	100	97	97	96	90	100	100	100	100	100	100
	1.02	EPOST												
	2.0													
Flumetsulam+ pendimethalin/ glyphosate ^h + AMS	0.04	PRE/	100	100	100	98	95	92	100	100	100	100	100	100
	0.825													
	1.0	EPOST												
	1.9													
Flumetsulam+ cloransulam/ glyphosate ^h + AMS	0.25	PRE/	97	83	77	60	50	43	80	80	80	92	87	87
	0.032													
	1.0	EPOST												
	1.9													
Flumetsulam+ cloransulam/ glyphosate ^h + AMS	0.169	PRE/	100	100	100	98	96	93	100	100	100	100	98	98
	0.021													
	1.0	EPOST												
	1.9													
Pendimethalin+ flumetsulam+ cloransulam/ glyphosate ^h + AMS	0.825	PRE/	100	100	100	60	90	90	72	99	99	100	100	100
	0.169													
	0.021													
	1.0	POST												
	1.9													
Pendimethalin+ cloransulam/ glyphosate ^h + AMS	0.825	PRE/	100	100	100	88	88	77	99	99	99	100	100	98
	0.016													
	0.75	EPOST												
	1.9													
Pendimethalin/ cloransulam+ glyphosate ^h + AMS	1.24	PRE/	100	100	100	97	94	85	100	100	100	100	100	100
	0.016	EPOST												
	0.75													
	1.9													
cloransulam+ glyphosate ^h + AMS	0.016	EPOST	100	98	93	92	92	83	99	97	97	100	98	98
	1.0													
	1.9													
Glyphosate ^h + AMS	1.0	EPOST	100	100	100	88	88	85	99	99	99	100	98	98
	1.9													
Check			0	0	0	0	0	0	0	0	0	0	0	0
LSD (P=.05)			4	5	8	9	8	7	9	5	5	5	5	6

^aGGGAN = green and giant foxtail, with some fall panicum and large crabgrass^bAMASS = mostly Palmer amaranth, with little common waterhemp and redroot pigweed^cglyphosate = 'Touchdown' by Syngenta^dAMS = 'N-Pa-K' by Agrilience^eglyphosate = 'Roundup UltraMax' by Monsanto^fglyphosate = 'Cornerstone' by Agrilience^gAMS&NIS = 'Class Act Next Generation' by Agrilience^hglyphosate = 'Glyphomax Plus' by Dow AgroSciences