

## Weed Control in Reduced Tillage Soybean

Fall applied herbicides. Sellers, Brent A., Jim D. Wait, Jianmei Li and Reid J. Smeda. The objective of this study was to compare various fall applied herbicides for winter annual and residual weed control. This study was conducted at the Bradford Research and Extension Center near Columbia, MO. The soil was a Mexico silt loam with a pH of 5.9 and 1.8% organic matter. Treatments were arranged in a randomized complete block design with four replications of 10 by 35 foot plots. Herbicide applications were made with a CO<sub>2</sub> backpack sprayer equipped with XR8002 flat fan nozzles calibrated to deliver 15 GPA at 15 PSI. Application data are listed below:

Date	Nov 18
Application	Fall
Temperature (F)	
air	61
soil	48
Soil moisture	moist
Wind (mph)	3
Cloud cover	95
Relative humidity (%)	55
Precipitation after application	
week 1 (inch)	0
week 2 (inch)	0
henbit	
no. nodes	2
height (inch)	0.5
infestation (sq. ft.)	60
chickweed, common	
no. nodes	2
height (inch)	1
infestation (sq. ft.)	50
dandelion	
no. nodes	rosette
height (inch)	3
infestation (sq. ft.)	4

Henbit and common chickweed control was  $\leq 15\%$  for all treatments 7 days after application except in the carfentrazone+sulfentrazone+2,4-D ester treatment. Henbit and common chickweed control in this treatment was 28 and 29%, respectively. Henbit control in April ranged from 71-100% with the carfentrazone+sulfentrazone treatment having the lowest control. Common chickweed control was  $>90\%$  in treatments containing glyphosate and when tribenuron was added to carfentrazone+2,4-D ester. All treatments containing glyphosate provided 100% dandelion control, but control was erratic in all treatments containing carfentrazone in April. Horseweed control in April was  $\leq 67\%$  in carfentrazone+2,4-D ester and carfentrazone+sulfentrazone treatments, but was at least 83% in all other treatments. Field pennycress and prickly lettuce control was  $\geq 94\%$  in all treatments by April 15 except in the carfentrazone+sulfentrazone treatment. All treatments provided excellent common ragweed control on April 15. (Department of Agronomy, University of Missouri-Columbia)

Table.

Application	Rate	Time	LAMAM		STEME		TAROF		ERICA	THLAR	LACSE	AMBEL
			11-25	4-15	11-25	4-15	11-25	4-15	4-15	4-15	4-15	4-15
Untreated	(lb/A)	Fall	0	0	0	0	0	0	0	0	0	0
Glyphosate+AMS	0.78+2.0	Fall	3	100	3	98	0	100	98	100	99	90
Glyphosate+carfentrazone+AMS	0.78+0.008 +2.0	Fall	11	99	15	96	5	100	94	100	100	91
Glyphosate+2,4-D ester+AMS	0.51+0.50 +2.0	Fall	0	100	0	91	0	100	83	100	100	91
Glyphosate+2,4-D ester+AMS	0.78+0.50 +2.0	Fall	0	100	4	100	0	100	100	100	100	95
Glyphosate+chlorimuron& sulfentrazone+AMS	0.78+0.015 +0.07+2.0	Fall	8	100	4	100	0	100	100	100	100	98
Carfentrazone+2,4-D ester+COC	0.008+0.50 +1%	Fall	0	97	0	54	3	72	67	100	97	96
Carfentrazone+tribenuron+ 2,4-D ester+COC	0.008+0.005 +0.50+1%	Fall	6	98	1	97	0	85	94	100	94	95
Carfentrazone+sulfentrazone+ COC	0.008+0.19 +1%	Fall	9	71	10	68	5	71	63	75	80	97
Carfentrazone+sulfentrazone+ 2,4-D ester+COC	0.008+0.18 +0.50+1%	Fall	28	100	29	81	3	87	91	100	100	93
LSD (0.05)			12	22	14	24	14	33	28	23	17	8

<sup>a</sup>Glyphosate=Roundup WeatherMax in lb ae/A; 2,4-D=2,4-D Ester.

AMS=ammonium sulfate from MFA Crop Advantage

COC=Relay, Crop Oil Concentrate from MFA Crop Advantage