Control of winter annual grasses with fall applications of soybean herbicides. Young, Bryan G. and Ronald F. Krausz. This study was designed to evaluate various fall applied soybean herbicides for control of winter annual grasses. The study was conducted on a Weir silt loam with 1.5% organic matter and pH 6.4 at the Belleville Research Center. Herbicide treatments were applied October 31, 2001. Fertilizer applied was 50 and 150 lb/A P_2O_5 and K_2O, respectively, to an area that had been cropped to corn in 2001. Asgrow brand 'AG 4602 RR' glyphosate-resistant soybean was planted 1.0 inch deep at 75 lb/A into a no-till seedbed on May 30. A blanket application of glyphosate + AMS at 1.2 lbae/A + 2% w/w was applied to all plots on June 11. Plots consisted of four rows with 30 inch row spacing, 28 ft long arranged in a randomized complete block design with 3 replications. The herbicides were broadcast applied with a CO_2 pressurized sprayer using 8002 flat fan tips at 40 PSI in 20 GPA water. Application timing was fall, following harvest of previous crop (FALL). Monthly rainfall in inches was 2.7, 3.9, 3.5, 3.5, 2.0, 1.2, 3.9, 4.9, 6.6, 1.7, 3.7 and 3.6 in September, October, November, December, January, February, March, April, May, June, July and August, respectively. Weed population per 0.25 m^2 in the nontreated plots, on May 1, was 4 little barley, 1 henbit, 2 wild garlic, 2 giant foxtail, 2 barnyardgrass, 4 common ragweed, 3 giant ragweed, and < 1 Pennsylvania smartweed, and common waterhemp.

Application information is listed below.

Date	Oct-31-01
Treatment	FALL
Air temperature (F)	56
Relative humidity (%)	60
Soil moisture	dry
little barley	
leaf no.	0-2
height (inch)	2-3
henbit	
leaf no.	6-8
height (inch)	2-3
wild garlic	
leaf no.	3-4
height (inch)	3-8

Excessive rainfall in May delayed soybean planting until May 30. Treatments that included glyphosate or flumioxazin controlled at least 90% of little barley at 127 DAT. Little barley control increased as the rates of clomazone + sulfentrazone increased, but did not exceed 87%. Summer annual weed control was generally poor from fall applied treatments except the high rate of clomazone + sulfentrazone + tribenuron and chlorimuron & sulfentrazone + tribenuron which provided at least 90% control of barnyardgrass at planting. The combination of chlorimuron & sulfentrazone + tribenuron + glyphosate provided the greatest overall weed control at planting. (Dept. of Plant, Soil and General Agriculture, Southern Illinois University, Carbondale).

Table. Control of winter annual grasses with fall applications of soybean herbicides. (Young and Krausz)

Treatment[a]	Application Rate	Application Time	Control, days after FALL application[b] HORPU 28	HORPU 127	LAMAM 28	LAMAM 127	ALLVI 28	ALLVI 127	Control at planting, May 30 SETFA	ECHCG	AMBEL	AMBTR	POLPY	AMATA
	(lb/A)		%	%	%	%	%	%	%	%	%	%	%	%
Nontreated			0	0	0	0	0	0	0	0	0	0	0	0
Glyphosate(UM)	0.75	FALL	100	100	100	100	50	80	0	0	0	0	0	0
Glyphosate(UM) +2,4-De	0.58 +0.5	FALL	100	100	100	100	67	90	0	0	0	0	0	0
Glyphosate(TD)	0.75	FALL	100	100	100	100	33	60	0	0	0	0	0	0
Imazaquin&glyphosate +2,4-De+AMS+NIS	0.155&0.78 +0.5+2.5+0.25%	FALL	100	100	100	100	77	93	0	0	0	0	0	0
Imazethapyr&glyphosate +2,4-De+AMS+NIS	0.059&0.76 +0.5+2.5+0.25%	FALL	100	100	100	100	92	87	38	30	33	13	13	10
Clomazone+sulfentrazone +tribenuron+2,4-De+COC	0.24+0.12 +0.0047+0.5+1.0%	FALL	50	0	100	100	50	80	33	33	0	0	0	33
Clomazone+sulfentrazone +tribenuron+2,4-De+COC	0.3+0.15 +0.0047+0.5+1.0%	FALL	50	68	100	100	50	83	40	60	0	0	0	62
Clomazone+sulfentrazone +tribenuron+2,4-De+COC	0.36+0.18 +0.0047+0.5+1.0%	FALL	50	82	100	100	77	87	53	63	0	0	0	85
Clomazone+sulfentrazone +tribenuron+2,4-De+COC	0.45+0.23 +0.0047+0.5+1.0%	FALL	100	87	100	100	63	87	78	93	38	33	27	60
Chlorimuron&sulfentrazone +tribenuron+2,4-De+COC	0.0264&0.132 +0.0078+0.5+1.0%	FALL	83	83	100	100	50	80	73	93	85	63	93	57
Flumioxazin+2,4-De+COC	0.063+0.5+1.0%	FALL	100	97	100	100	50	50	17	30	27	0	32	40
Flumioxazin+2,4-De+COC	0.078+0.5+1.0%	FALL	50	90	100	100	50	47	23	17	0	0	0	63
Clomazone+sulfentrazone +tribenuron+2,4-De+glyphosate(UM)	0.24+0.12 +0.0047+0.5+0.375	FALL	100	100	100	100	77	83	23	13	0	0	0	0
Clomazone+sulfentrazone +tribenuron+2,4-De+glyphosate(UM)	0.3+0.15 +0.0047+0.5+0.375	FALL	100	97	100	100	50	70	17	30	0	0	0	0
Clomazone+sulfentrazone +tribenuron+2,4-De+glyphosate(UM)	0.36+0.18 +0.0047+0.5+0.375	FALL	100	100	100	100	63	83	48	58	13	0	13	0
Clomazone+sulfentrazone +tribenuron+2,4-De+glyphosate(UM)	0.45+0.23 +0.0047+0.5+0.375	FALL	100	100	100	100	50	82	47	90	0	0	27	0
Chlorimuron&sulfentrazone +tribenuron+glyphosate(UM)	0.0264&0.132 +0.0078+0.375	FALL	100	100	100	100	47	80	77	90	83	80	96	75
Flumioxazin+glyphosate(UM)	0.063+0.375	FALL	100	100	100	100	47	17	33	23	27	23	20	82
Flumioxazin+glyphosate(UM)	0.078+0.375	FALL	100	100	100	100	33	50	37	30	33	0	23	53
LSD			11	14	0	0	43	32	49	53	30	29	39	50
P			0.01	0.01	1.0	1.0	0.09	0.01	0.01	0.01	0.01	0.01	0.01	0.01

[a]AMS = spray grade ammonium sulfate.
NIS = Activator 90, a nonionic surfactant from Loveland Industries, Inc.
COC = Prime Oil crop oil concentrate, a petroleum based additive with 17% emulsifier from Riverside/Terra.
Glyphosate(UM) was Roundup UltraMax from Monsanto.
Glyphosate(TD) was Touchdown from Syngenta.
A blanket application of glyphosate(UM) + AMS at 1.2 lbae/A + 2% w/w, planned for 3 weeks after planting, was applied on Jun-11-02.
[b]28 and 127 days after FALL application was on Nov-28-01, and Mar-7-02, respectively.