Fall applied soybean trial. Krausz, Ronald F. and Bryan G. Young. This study was designed to evaluate different fall applied soybean programs. The study was conducted on a Stoy silt loam with 1.6 % organic matter and pH 6.1 at the Belleville Research Center. Fertilizer applied was 50 and 100 lb/A of P_2O_5 and K_2O, respectively, to an area that had been cropped to corn in 2003. Asgrow 'AG 4403 RR' soybean was planted 1.0 inch deep at 75 lb/A into a no-till seedbed on June 4, 2004. Plots consisted of four rows with 30 inch row spacing, 27 ft long arranged in a randomized complete block design with 3 replications. The herbicides were broadcast applied with a CO_2 pressurized sprayer using 8003 flat fan tips at 40 PSI and 20 GPA water. Monthly rainfall in inches was 4.2, 5.0, 2.2, 5.9, and 2.9 in August, September, October, November, and December 2003, respectively, and 4.5, 1.0, 2.9, 1.3, 8.7, 2.8, 6.6, and 5.2 in January, February, March, April, May, June, July and August 2004, respectively. Weed populations per 0.25 M^2 in the nontreated plots at planting were: 1 mouseear chickweed; 2 common chickweed; 2 wild garlic; 2 shepherds purse; 8 giant foxtail; 2 common ragweed; 3 little barley; 2 horseweed; 2 common waterhemp; 2 yellow nutsedge; 1 common cocklebur; and less than 1 Pennsylvania smartweed. Application timings were in the fall following harvest of the previous crop (FALL), early preplant at 14 days before the planned planting date (14DBP), preemergence (PRE), and postemergence if needed, as often as needed (POST-IN1, POST-IN2 and POST-IN3). Total rainfall for the 7 days following the PRE application was 4.4 inches. Application information is listed below.

Date	11-20-03	5-3-04	5-21-04	6-5-04	6-18-04	7-12-04
Treatment	FALL	14DBP	PRE	POST-IN1	POST-IN2	POST-IN3
Air temperature (F)	65	52	78	62	74	89
Relative humidity (%)	70	68	84	98	64	68
mouseear chickweed						
leaf no.	10+		10+			
height (inch)	1-2		2-6			
common chickweed						
leaf no.	10+		10+			
height (inch)	1-2		2-6			
wild garlic						
leaf no.	1-3	1-3	1-3			
height (inch)	3-5	6-12	8-14			
shepherds purse						
leaf no.		10+	10+			
height (inch)		6-12	6-12			
giant foxtail						
leaf no.		1-3	5-6	5-6	5-6	18-20
height (inch)		1-2	1-4	10-12	6-12	10-15
common ragweed						
leaf no.		5-6	5-6	5-8	5-6	8-35
height (inch)		1-3	1-4	4-8	2-6	6-22
little barley						
leaf no.	3-5	10+	5-6			
height (inch)	1-3	4-6	4-8			
horseweed						
leaf no.			10+			
height (inch)			2-8			
common waterhemp						
leaf no.					5-10	8-37
height (inch)					2-6	4-20
yellow nutsedge						
leaf no.						6-7
height (inch)						18-19
common cocklebur						
leaf no.						16-18
height (inch)						15-16
Pennsylvania smartweed						
leaf no.			5-8			18-24
height (inch)			4-8			18-20

Fall-applied glyphosate provided 94 to 100% control of wild garlic, mouseear chickweed, and common chickweed by April. However, in plots where glyphosate was applied alone in the fall, giant foxtail and common ragweed control was 47 to 77% by May 3. The addition of a residual herbicide with glyphosate in the fall increased control of giant foxtail and common ragweed by 9 to 52%. Winter annual weed competition in the nontreated plots controlled giant foxtail and common ragweed, 93%. Three glyphosate applications (FALL, 14 DBP, postemergence) were required to control 90 to 100% of giant foxtail, common ragweed, horseweed, and common waterhemp where glyphosate was applied in the fall. Two glyphosate applications (preemergence and postemergence) provided 100% control of these weeds where glyphosate was applied preemergence with or without a residual herbicide. Simazine applied in the fall did not affect soybean grain yield. (Dept. of Plant, Soil and Agricultural Systems, Southern Illinois University, Carbondale)

Table 1. Fall applied soybean trial. (Krausz and Young)

Treatment[a]	Application[b] Rate	Time	Post appls required	Soybean Yield	Soybean Injury[c] 14 DA PRE	Control[d] CERVU DA FALL 21	CERVU DA FALL 133	CERVU DA 14DBP 0	CERVU DA 14DBP 15	STEME DA FALL 21	STEME DA FALL 133	ALLVI DA FALL 21	ALLVI DA FALL 133	ALLVI DA 14DBP 0	ALLVI DA 14DBP 15	CAPBP DA 14DBP 0	CAPBP DA 14DBP 15	HORPU DA 14DBP 0	HORPU DA 14DBP 15
	(lb/A)		No.	bu/A	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Nontreated			0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Glyphosate / glyt / glyt	0.75 / 0.75 / 0.75	FALL / PRE / POST-IN3	1	55	0	50	100	99	99	50	100	50	98	93	93	66	66	99	99
Glyt + chlorimuron & sulfentrazone / glyt / glyt	0.75 + 0.0264 & 0.132 / 0.75 / 0.75	FALL / PRE / POST-IN3	1	57	0	50	100	99	99	50	100	50	99	99	99	99	99	99	99
Glyt / glyt / glyt	0.75 / 0.75 / 0.75	FALL / 14DBP / POST-IN2	1	52	0	50	100	99	99	50	100	50	94	90	99	33	99	83	99
Glyt + clim & suen / glyt / glyt	0.75 + 0.0264 & 0.132 / 0.75 / 0.75	FALL / 14DBP / POST-IN2	1	58	0	50	100	99	99	50	100	50	99	99	99	99	99	99	99
Glyt / glyt	0.75 / 0.75	PRE / POST-IN3	1	57	0														
Glyt + clim & suen / glyt	0.75 + 0.0264 & 0.132 / 0.75	PRE / POST-IN3	1	62	0														
Glyt + cloransulam + flumioxazin / glyt	0.75 + 0.016 + 0.047 / 0.75	PRE / POST-IN3	1	64	0														
Glyt + cloransulam + suen / glyt	0.75 + 0.031 + 0.25 / 0.75	PRE / POST-IN3	1	61	0														
Glyt + simazine / glyt / glyt	0.75 + 1.0 / 0.75 / 0.75	FALL / POST-IN1 / POST-IN3	2	64	0	50	100	99	99	50	100	50	98	90	96	99	99	99	99
LSD				9	0	0	0	0	0	0	0	0	6	4	5	57	42	21	0
P				0.01	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.01	0.01	0.01	0.01	0.01	0.01	1.0

[a]All glyphosate was Roundup WeatherMax. All glyphosate applications included AMS at 2.0% w/w. AMS = spray grade ammonium sulfate.

[b]POST-IN = postemergence if needed, as often as needed, if listed in treatment list, it was needed.

[c]Soybean was also evaluated at 28 days after PRE as well as 54 and 83 days after planting with no observable injury at any time.

[d]DA = Days after application. Zero days after applicatiuon = At application. DA Plant = Days after planting.

Table 2. Fall applied soybean trial. (Krausz and Young)

			Control[c]																
			SETFA						AMBEL						ERICA				
	Application[b]		DA 14DBP		DA PRE		DA plant		DA 14DBP		DA PRE		DA plant		15 DA	DA PRE		DA plant	
Treatment[a]	Rate	Time	0	15	14	28	54	83	0	15	14	28	54	83	14DBP	14	28	54	83
	(lb/A)		%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Nontreated			93	87	0	0	0	0	93	90	0	0	0	0	30	0	0	0	0
Glyphosate / glyt / glyt	0.75 / 0.75 / 0.75	FALL / PRE / POST-IN3	47	27	100	89	95	100	90	90	100	100	100	100	90	100	100	100	100
Glyt + chlorimuron & sulfentrazone / glyt / glyt	0.75 + 0.0264 & 0.132 / 0.75 / 0.75	FALL / PRE / POST-IN3	99	87	100	93	87	100	99	99	100	100	100	100	99	100	100	100	100
Glyt / glyt / glyt	0.75 / 0.75 / 0.75	FALL / 14DBP / POST-IN2	77	96	80	0	98	98	77	99	100	66	100	100	99	100	100	100	100
Glyt + clim & suen / glyt / glyt	0.75 + 0.0264 & 0.132 / 0.75 / 0.75	FALL / 14DBP / POST-IN2	99	96	93	30	93	90	99	99	100	100	100	100	99	100	100	100	100
Glyt / glyt	0.75 / 0.75	PRE / POST-IN3			100	60	88	100			100	100	100	100		100	100	100	100
Glyt + clim & suen / glyt	0.75 + 0.0264 & 0.132 / 0.75	PRE / POST-IN3			100	100	91	100			100	100	100	100		100	100	100	100
Glyt + cloransulam + flumioxazin / glyt	0.75 + 0.016 + 0.047 / 0.75	PRE / POST-IN3			100	100	88	100			100	100	100	100		100	100	100	100
Glyt + cloransulam + suen / glyt	0.75 + 0.031 + 0.25 / 0.75	PRE / POST-IN3			100	100	94	100			100	100	100	100		100	100	100	100
Glyt + simazine / glyt / glyt	0.75 + 1.0 / 0.75 / 0.75	FALL / POST-IN1 / POST-IN3	17	0	0	100	85	100	99	93	90	100	100	100	99	100	100	100	100
LSD			48	36	4	40	9	6	17	5	0	31	0	0	39	0	0	0	0
P			0.02	0.01	0.01	0.01	0.01	0.01	0.1	0.01	1.0	0.01	1.0	1.0	0.01	1.0	1.0	1.0	1.0

[a]All glyphosate was Roundup WeatherMax. All glyphosate applications included AMS at 2.0% w/w. AMS = spray grade ammonium sulfate.

[b]POST-IN = postemergence if needed, as often as needed, if listed in treatment list, it was needed.

[c]DA = Days after application. Zero days after applicatiuon = at application. DA Plant = days after planting.

Table 3. Fall applied soybean trial. (Krausz and Young)

Treatment[a]	Application[b] Rate	Application[b] Time	AMATA control[c] 28 DA	AMATA control[c] DA plant 54	AMATA control[c] DA plant 83
	(lb/A)		PRE %	%	%
Nontreated			0	0	0
Glyphosate / glyt / glyt	0.75 / 0.75 / 0.75	FALL / PRE / POST-IN3	0	83	100
Glyt + chlorimuron & sulfentrazone / glyt / glyt	0.75 + 0.0264 & 0.132 / 0.75 / 0.75	FALL / PRE / POST-IN3	33	90	100
Glyt / glyt / glyt	0.75 / 0.75 / 0.75	FALL / 14DBP / POST-IN2	0	97	97
Glyt + clim & suen / glyt / glyt	0.75 + 0.0264 & 0.132 / 0.75 / 0.75	FALL / 14DBP / POST-IN2	33	100	100
Glyt / glyt	0.75 / 0.75	PRE / POST-IN3	0	90	100
Glyt + clim & suen / glyt	0.75 + 0.0264 & 0.132 / 0.75	PRE / POST-IN3	67	98	100
Glyt + cloransulam + flumioxazin / glyt	0.75 + 0.016 + 0.047 / 0.75	PRE / POST-IN3	100	100	100
Glyt + cloransulam + suen / glyt	0.75 + 0.031 + 0.25 / 0.75	PRE / POST-IN3	100	100	100
Glyt + simazine / glyt / glyt	0.75 + 1.0 / 0.75 / 0.75	FALL / POST-IN1 / POST-IN3	100	98	100
LSD			40	6	3
P			0.01	0.01	0.01

[a]All glyphosate was Roundup WeatherMax. All glyphosate applications included AMS at 2.0% w/w. AMS = spray grade ammonium sulfate.

[b]POST-IN = postemergence if needed, as often as needed, if listed in treatment list, it was needed.

[c]DA = Days after application. Zero days after applicatiuon = at application. DA Plant = days after planting.