

Fall Applied Herbicides

1-25-08 (07-1-M40)

Southern Illinois University

General Evaluation of Fall Herbicides Prior to Soybean.

Project Code: 07-1-M40 Location: Belleville Research Center
Investigator: Bryan Young

Investigator: Bryan Young, Associate Professor, Southern Illinois University

City State Zip Country: Belleville IL 62221 USA
Trial Status: Final Updated: 1-23-08

Objective:

Evaluate the efficacy of various herbicide programs applied in the fall prior to soybean planting.

Weed Code	Common Name	Scientific Name
1. LAMAM	henbit	Lamium amplexicaule L.
2. STEME	chickweed, common	Stellaria media (L.) Vill.
3. CAPBP	shepherdspurse	Capsella bursa-pastoris (L.) Medicus
4. POAAN	bluegrass, annual	Poa annua L.
5. CHEAL	lambsquarters, common	Chenopodium album L.
6. AMBTR	ragweed, giant	Ambrosia trifida L.
7. AMATA	waterhemp, common	Amaranthus rudis Sauer

Crop 1:	GLXMA	soybean	Variety:	Asgrow 4404 RR/STS
Planting Method:	Seeded		Planting Date:	5-21-07
Rate:	75	lb/A	Depth:	1.0 IN
Row Spacing:	30	IN		

Plot Width, Unit:	10	FT	Plot Length, Unit:	28	FT	Reps:	3
Tillage Type:	No-Till		Study Design:	Randomized complete block			
Previous Crop, Year:	ZEAMX,	2006					
Field Prep./Maintenance:	N 0 LB/A,	P205 0 LB/A,	K20 100 LB/A				

Soil Name:	Weir	% OM:	1.6	pH:	6.7	CEC:	8
Texture:	Silt loam	Fert. Level:	Pl: 96 LB/A,	K: 327 LB/A			

APPLICATION DESCRIPTION

	A
Application Date:	11-22-06
Time of Day:	13:00
Application Method:	Spray
Application Timing:	FALL
Applic. Placement:	BROFOL
Air Temp., Unit:	60 F
% Relative Humidity:	38
Wind Velocity, Unit:	0 MPH
Soil Moisture:	ABONOR

CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	GLXMA NA
Height, Unit:	NA NA

WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code:	LAMAM
Stage(leaves):	5-6
Height(inches):	1-2
Density:	Medium
Weed 2 Code:	STEME
Stage(leaves):	5-8
Height(inches):	1-2
Density:	Low
Weed 3 Code:	CAPBP
Stage(leaves):	5-6
Height(inches):	1-3
Density:	Low
Weed 4 Code:	POAAN
Stage(leaves):	1-3
Height(inches):	1-2
Density:	Medium

APPLICATION EQUIPMENT

	A
Appl. Equipment:	CO2 sprayer
Operating Pressure:	40 PSI
Nozzle Type:	Flat fan
Nozzle Size:	XR 8002
Boom Length, Unit:	7.5 FT
Spray Volume, Unit:	15 GPA

NOTES:

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Weed Code										GLXMA		LAMAM	LAMAM	LAMAM	STEME	STEME	STEME
Crop Code										Injury	Injury	Control	Control	Control	Control	Control	Control
Rating Data Type										Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Rating Unit										6-4-07	6-18-07	3-1-07	4-1-07	5-1-07	3-1-07	4-1-07	5-1-07
Rating Date										14 DAP	28 DAP	99 DA-A	130 DA-A	160 DA-A	99 DA-A	130 DA-A	160 DA-A
Trt-Eval Interval																	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code								
1	NONTREATED									0 a	0 a	0 c	0 c	0 c	0 d	0 d	0 d
2	SCEPTER	70 WG		0.122	lb ai/a	2.8	oz/a	FALL A		0 a	0 a	99 a	99 a	99 a	93 ab	93 ab	93 ab
2	2,4-D LV4	3.8 EC		0.475	lb ai/a		1 pt/a	FALL A									
2	PRIME OIL COC	100 LIQ		1.0	% v/v		1 % v/v	FALL A									
2	AMS	100 DRY		2.0	% w/w		17 lb/100 gal	FALL A									
3	SCEPTER	70 WG		0.092	lb ai/a	2.1	oz/a	FALL A		0 a	0 a	99 a	99 a	96 b	88 b	88 b	88 b
3	WEEDMASTER	3.87 EC				1.5	pt/a	FALL A									
3	->BANVEL	4 EC		0.1874	lb ai/a			FALL A									
3	->2,4-D AMINE 4	3.8 EC		0.5387	lb ai/a			FALL A									
3	PRIME OIL COC	100 LIQ		1.0	% v/v		1 % v/v	FALL A									
3	AMS	100 DRY		2.0	% w/w		17 lb/100 gal	FALL A									
4	EXTREME	2.17 SL		0.81	lb ai/a	3	pt/a	FALL A		0 a	0 a	99 a	99 a	99 a	99 a	99 a	99 a
4	2,4-D LV4	3.8 EC		0.475	lb ai/a		1 pt/a	FALL A									
4	ACTIVATOR 90	100 LIQ		0.125	% v/v	0.125	% v/v	FALL A									
4	AMS	100 DRY		2.0	% w/w		17 lb/100 gal	FALL A									
5	CANOPY EX	29.5 WG				2.2	oz/a	FALL A		0 a	0 a	99 a	99 a	99 a	99 a	99 a	99 a
5	->CLASSIC	25 WG		0.0312	lb ai/a			FALL A									
5	->EXPRESS	75 WG		0.0094	lb ai/a			FALL A									
5	2,4-D LV4	3.8 EC		0.475	lb ai/a	1.0	pt/a	FALL A									
5	PRIME OIL COC	100 LIQ		1.0	% v/v		1 % v/v	FALL A									
6	CANOPY EX	29.5 WG				1.65	oz/a	FALL A		0 a	0 a	99 a	99 a	99 a	99 a	99 a	99 a
6	->CLASSIC	25 WG		0.0234	lb ai/a			FALL A									
6	->EXPRESS	75 WG		0.0070	lb ai/a			FALL A									
6	2,4-D LV4	3.8 EC		0.475	lb ai/a	1.0	pt/a	FALL A									
6	PRIME OIL COC	100 LIQ		1.0	% v/v		1 % v/v	FALL A									
7	CANOPY EX	29.5 WG				1.1	oz/a	FALL A		0 a	0 a	99 a	99 a	99 a	99 a	99 a	99 a
7	->CLASSIC	25 WG		0.0156	lb ai/a			FALL A									
7	->EXPRESS	75 WG		0.0047	lb ai/a			FALL A									
7	2,4-D LV4	3.8 EC		0.475	lb ai/a	1.0	pt/a	FALL A									
7	PRIME OIL COC	100 LIQ		1.0	% v/v		1 % v/v	FALL A									
8	AUTUMN	10 WG		.001875	lb ai/a	0.3	oz/a	FALL A		0 a	0 a	98 b	98 b	99 a	98 ab	98 ab	98 ab
8	SENCOR	75 WG		0.25	lb ai/a	5.33	oz/a	FALL A									
8	PRIME OIL COC	100 LIQ		1.0	% v/v		1 % v/v	FALL A									
8	AMS	100 DRY		2.0	% w/w		17 lb/100 gal	FALL A									
9	AUTUMN	10 WG		.001875	lb ai/a	0.3	oz/a	FALL A		0 a	0 a	99 a	99 a	98 ab	68 c	68 c	68 c
9	2,4-D LV4	3.8 EC		0.475	lb ai/a	1	pt/a	FALL A									
9	PRIME OIL COC	100 LIQ		1.0	% v/v		1 % v/v	FALL A									
9	AMS	100 DRY		2.0	% w/w		17 lb/100 gal	FALL A									
10	AUTUMN	10 WG		.001875	lb ai/a	0.3	oz/a	FALL A		0 a	0 a	99 a	99 a	99 a	95 ab	95 ab	95 ab
10	ROUNDUP ORIG MAX	4.5 SL		0.56	lb ae/a	16	fl oz/a	FALL A									
10	AMS	100 DRY		2.0	% w/w		17 lb/100 gal	FALL A									
11	ROUNDUP ORIG MAX	4.5 SL		0.56	lb ae/a	16	fl oz/a	FALL A		0 a	0 a	99 a	99 a	99 a	99 a	99 a	99 a
11	AMS	100 DRY		2.0	% w/w		17 lb/100 gal	FALL A									
12	2,4-D LV4	3.8 EC		0.475	lb ai/a	1	pt/a	FALL A		0 a	0 a	99 a	99 a	99 a	0 d	0 d	0 d
12	PRIME OIL COC	100 LIQ		1.0	% v/v		1 % v/v	FALL A									
LSD (P=.05)										0.0	0.0	1.1	1.1	2.8	10.2	10.2	10.2
Replicate F										0.000	0.000	1.000	1.000	0.608	0.027	0.027	0.027
Replicate Prob(F)										1.0000	1.0000	0.3840	0.3840	0.5532	0.9730	0.9730	0.9730
Treatment F										0.000	0.000	5500.563	5500.563	873.592	115.261	115.261	115.261
Treatment Prob(F)										1.0000	1.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

Means followed by same letter do not significantly differ (P=.05, LSD)

General Evaluation of Fall Herbicides Prior to Soybean.

Project Code: 07-1-M40 Location: Belleville Research Center
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Weed Code	CAPBP	CAPBP	CAPBP	POAAN	POAAN	POAAN
Crop Code						
Rating Data Type	Control	Control	Control	Control	Control	Control
Rating Unit	Percent	Percent	Percent	Percent	Percent	Percent
Rating Date	3-1-07	4-1-07	5-1-07	3-1-07	4-1-07	5-1-07
Trt-Eval Interval	99 DA-A	130 DA-A	160 DA-A	99 DA-A	130 DA-A	160 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code						
1	NONTREATED										0 b	0 b	0 b	0 c	0 c
2	SCEPTER	70	WG	0.122	lb ai/a	2.8	oz/a	FALL	A	99 a	99 a	99 a	0 c	0 c	0 c
2	2,4-D LV4	3.8	EC	0.475	lb ai/a	1	pt/a	FALL	A						
2	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	FALL	A						
2	AMS	100	DRY	2.0	% w/w	17	lb/100 gal	FALL	A						
3	SCEPTER	70	WG	0.092	lb ai/a	2.1	oz/a	FALL	A	99 a	99 a	99 a	0 c	17 c	17 c
3	WEEDMASTER	3.87	EC			1.5	pt/a	FALL	A						
3	->BANVEL	4	EC	0.1874	lb ai/a			FALL	A						
3	->2,4-D AMINE 4	3.8	EC	0.5387	lb ai/a			FALL	A						
3	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	FALL	A						
3	AMS	100	DRY	2.0	% w/w	17	lb/100 gal	FALL	A						
4	EXTREME	2.17	SL	0.81	lb ai/a	3	pt/a	FALL	A	99 a	99 a	99 a	99 a	99 a	99 a
4	2,4-D LV4	3.8	EC	0.475	lb ai/a	1	pt/a	FALL	A						
4	ACTIVATOR 90	100	LIQ	0.125	% v/v	0.125	% v/v	FALL	A						
4	AMS	100	DRY	2.0	% w/w	17	lb/100 gal	FALL	A						
5	CANOPY EX	29.5	WG			2.2	oz/a	FALL	A	99 a	99 a	99 a	99 a	99 a	96 a
5	->CLASSIC	25	WG	0.0312	lb ai/a			FALL	A						
5	->EXPRESS	75	WG	0.0094	lb ai/a			FALL	A						
5	2,4-D LV4	3.8	EC	0.475	lb ai/a	1.0	pt/a	FALL	A						
5	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	FALL	A						
6	CANOPY EX	29.5	WG			1.65	oz/a	FALL	A	99 a	99 a	99 a	93 a	93 ab	93 ab
6	->CLASSIC	25	WG	0.0234	lb ai/a			FALL	A						
6	->EXPRESS	75	WG	0.0070	lb ai/a			FALL	A						
6	2,4-D LV4	3.8	EC	0.475	lb ai/a	1.0	pt/a	FALL	A						
6	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	FALL	A						
7	CANOPY EX	29.5	WG			1.1	oz/a	FALL	A	99 a	99 a	99 a	94 a	91 ab	91 ab
7	->CLASSIC	25	WG	0.0156	lb ai/a			FALL	A						
7	->EXPRESS	75	WG	0.0047	lb ai/a			FALL	A						
7	2,4-D LV4	3.8	EC	0.475	lb ai/a	1.0	pt/a	FALL	A						
7	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	FALL	A						
8	AUTUMN	10	WG	.001875	lb ai/a	0.3	oz/a	FALL	A	99 a	99 a	99 a	98 a	98 a	98 a
8	SENCOR	75	WG	0.25	lb ai/a	5.33	oz/a	FALL	A						
8	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	FALL	A						
8	AMS	100	DRY	2.0	% w/w	17	lb/100 gal	FALL	A						
9	AUTUMN	10	WG	.001875	lb ai/a	0.3	oz/a	FALL	A	99 a	99 a	99 a	77 b	77 b	77 b
9	2,4-D LV4	3.8	EC	0.475	lb ai/a	1	pt/a	FALL	A						
9	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	FALL	A						
9	AMS	100	DRY	2.0	% w/w	17	lb/100 gal	FALL	A						
10	AUTUMN	10	WG	.001875	lb ai/a	0.3	oz/a	FALL	A	99 a	99 a	99 a	99 a	99 a	99 a
10	ROUNDUP ORIG MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	FALL	A						
10	AMS	100	DRY	2.0	% w/w	17	lb/100 gal	FALL	A						
11	ROUNDUP ORIG MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	FALL	A	99 a	99 a	99 a	99 a	99 a	99 a
11	AMS	100	DRY	2.0	% w/w	17	lb/100 gal	FALL	A						
12	2,4-D LV4	3.8	EC	0.475	lb ai/a	1	pt/a	FALL	A	99 a	99 a	99 a	0 c	0 c	0 c
12	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	FALL	A						
LSD (P=.05)										0.0	0.0	0.0	12.3	17.9	18.1
Replicate F										0.000	0.000	0.000	0.913	1.983	1.982
Replicate Prob(F)										1.0000	1.0000	1.0000	0.4160	0.1615	0.1617
Treatment F										0.000	0.000	0.000	125.275	54.503	53.021
Treatment Prob(F)										1.0000	1.0000	1.0000	0.0001	0.0001	0.0001

Means followed by same letter do not significantly differ (P=.05, LSD)

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Investigator: Bryan Young

Weed Code	CHEAL	CHEAL	CHEAL	AMBTR	AMBTR	AMATA
Crop Code						
Rating Data Type	Control	Control	Control	Control	Control	Control
Rating Unit	Percent	Percent	Percent	Percent	Percent	Percent
Rating Date	4-1-07	5-1-07	6-18-07	5-1-07	6-18-07	6-18-07
Trt-Eval Interval	130 DA-A	160 DA-A	28 DAP	160 DA-A	28 DAP	28 DAP

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code						
1	NONTREATED									92 a	82 ab	73 ab	73 a	73 a	88 a
2	SCEPTER	70	WG	0.122	lb ai/a	2.8	oz/a	FALL	A	63 abc	63 a-d	53 bc	81 a	68 a	88 a
2	2,4-D LV4	3.8	EC	0.475	lb ai/a	1	pt/a	FALL	A						
2	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	FALL	A						
2	AMS	100	DRY	2.0	% w/w	17	lb/100 gal	FALL	A						
3	SCEPTER	70	WG	0.092	lb ai/a	2.1	oz/a	FALL	A	33 cde	43 bcd	33 cd	55 a	37 a	87 ab
3	WEEDMASTER	3.87	EC			1.5	pt/a	FALL	A						
3	->BANVEL	4	EC	0.1874	lb ai/a			FALL	A						
3	->2,4-D AMINE 4	3.8	EC	0.5387	lb ai/a			FALL	A						
3	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	FALL	A						
3	AMS	100	DRY	2.0	% w/w	17	lb/100 gal	FALL	A						
4	EXTREME	2.17	SL	0.81	lb ai/a	3	pt/a	FALL	A	33 cde	25 de	10 de	60 a	50 a	82 ab
4	2,4-D LV4	3.8	EC	0.475	lb ai/a	1	pt/a	FALL	A						
4	ACTIVATOR 90	100	LIQ	0.125	% v/v	0.125	% v/v	FALL	A						
4	AMS	100	DRY	2.0	% w/w	17	lb/100 gal	FALL	A						
5	CANOPY EX	29.5	WG			2.2	oz/a	FALL	A	88 a	90 a	90 a	65 a	62 a	10 d
5	->CLASSIC	25	WG	0.0312	lb ai/a			FALL	A						
5	->EXPRESS	75	WG	0.0094	lb ai/a			FALL	A						
5	2,4-D LV4	3.8	EC	0.475	lb ai/a	1.0	pt/a	FALL	A						
5	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	FALL	A						
6	CANOPY EX	29.5	WG			1.65	oz/a	FALL	A	83 ab	87 a	87 a	97 a	86 a	0 d
6	->CLASSIC	25	WG	0.0234	lb ai/a			FALL	A						
6	->EXPRESS	75	WG	0.0070	lb ai/a			FALL	A						
6	2,4-D LV4	3.8	EC	0.475	lb ai/a	1.0	pt/a	FALL	A						
6	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	FALL	A						
7	CANOPY EX	29.5	WG			1.1	oz/a	FALL	A	88 a	88 a	87 a	91 a	68 a	0 d
7	->CLASSIC	25	WG	0.0156	lb ai/a			FALL	A						
7	->EXPRESS	75	WG	0.0047	lb ai/a			FALL	A						
7	2,4-D LV4	3.8	EC	0.475	lb ai/a	1.0	pt/a	FALL	A						
7	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	FALL	A						
8	AUTUMN	10	WG	.001875	lb ai/a	0.3	oz/a	FALL	A	50 a-d	0 e	0 e	63 a	40 a	63 c
8	SENCOR	75	WG	0.25	lb ai/a	5.33	oz/a	FALL	A						
8	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	FALL	A						
8	AMS	100	DRY	2.0	% w/w	17	lb/100 gal	FALL	A						
9	AUTUMN	10	WG	.001875	lb ai/a	0.3	oz/a	FALL	A	33 cde	33 cde	33 cd	96 a	80 a	82 ab
9	2,4-D LV4	3.8	EC	0.475	lb ai/a	1	pt/a	FALL	A						
9	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	FALL	A						
9	AMS	100	DRY	2.0	% w/w	17	lb/100 gal	FALL	A						
10	AUTUMN	10	WG	.001875	lb ai/a	0.3	oz/a	FALL	A	17 de	0 e	0 e	94 a	76 a	75 bc
10	ROUNDUP ORIG MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	FALL	A						
10	AMS	100	DRY	2.0	% w/w	17	lb/100 gal	FALL	A						
11	ROUNDUP ORIG MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	FALL	A	0 e	0 e	0 e	49 a	40 a	85 ab
11	AMS	100	DRY	2.0	% w/w	17	lb/100 gal	FALL	A						
12	2,4-D LV4	3.8	EC	0.475	lb ai/a	1	pt/a	FALL	A	43 b-e	70 abc	43 bc	66 a	53 a	82 ab
12	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	FALL	A						
LSD (P=.05)										43.8	39.7	32.2	61.6	55.9	12.7
Replicate F										1.405	0.096	0.696	2.674	1.675	1.121
Replicate Prob(F)										0.2666	0.9090	0.5094	0.0913	0.2103	0.3439
Treatment F										4.238	7.121	10.512	0.662	0.779	68.922
Treatment Prob(F)										0.0019	0.0001	0.0001	0.7575	0.6569	0.0001

Means followed by same letter do not significantly differ (P=.05, LSD)

Trial Comments

1. Protocol: BASF, DuPont, Bayer.
2. Ratings: WC March 1, April 1 and May 1. CI at 14 + 28 DAP.
WC for summer annuals at 28 DAP.
3. Plant volunteer RR corn into trt 2 in all reps (treated and nontreated areas).
4. Blanket application at 35 DAP, RWM 22 fl oz/A + AMS 2%.
5. DA-A = Days after FALL application. DAP = Days after planting.
6. On 6-18-07 at 28 DAP, there was no control of RR corn in treatment 2.
7. In the nontreated plots, non-zero weed control is a result of competition among weeds.