

Control of Giant Ragweed in Soybean.

01-24B-E100

OBJECTIVE: Evaluate Gauntlet and other herbicide programs for control of giant ragweed in soybean.

SUMMARY: Soybean injury was less than 5% from any treatment in this study. Giant foxtail control 28 days after the postemergence applications (DAPO) was at least 90% from all treatments except those containing Pendimax. All treatments controlled at least 90% of common cocklebur at 28 DAPO except Domain, Boundary, and Command Xtra applied preemergence (PRE) without a postemergence application. Treatments that included FirstRate or Glyphomax Plus controlled at least 91% of common ragweed. Giant ragweed control 28 DAT was at least 90% from all treatments that included a postemergence application except Pendimax PRE followed by FirstRate plus Cobra. All treatments except Domain and Boundary PRE controlled at least 87% of ivyleaf morningglory. Waterhemp control was at least 90% from all treatments except Squadron and Pendimax plus FirstRate PRE.

HERBICIDES

AUTHORITY 75 WG
 BOUNDARY 7.8 EC
 CANOPY XL 56.3 WG
 COBRA 2 EC
 COMMAND 3 ME
 COMMAND XTRA (CO-PACK)
 DOMAIN 60 WG
 FIRSTRATE 84 WG
 GAUNTLET (CO-PACK)
 GLYPHOMAX PLUS 3 SL
 PENDIMAX 3.3 EC
 ROUNDUP ULTRA MAX 3.7 SL
 SENCOR 75 WG
 SQUADRON 2.33 EC
 SULFENTRAZONE 4 F
 VALOR 50 WG

WEEDS

cocklebur, common
 foxtail, giant
 morningglory, ivyleaf
 nutsedge, yellow
 ragweed, common
 ragweed, giant
 waterhemp, common

CROP

soybean

Bryan Young

PLANT, SOIL AND GENERAL AGRICULTURE DEPARTMENT

SOUTHERN ILLINOIS UNIVERSITY

Control of Giant Ragweed in Soybean.

Project Code: 01-24B-E100 Location: Belleville Reseach Center

Investigator: Bryan Young, Assistant Professor, Southern Illinois University

City State Zip Country: Belleville IL 62221 USA
Trial Status: Final Initiation Date: 4-25-01

Objective:

Evaluate Gauntlet and other herbicide programs for control of
giant ragweed in soybean.

Weed Code	Common Name	Scientific Name
1. SETFA	foxtail, giant	Setaria faberi Herrm.
2. CYPES	nutsedge, yellow	Cyperus esculentus L.
3. XANST	cocklebur, common	Xanthium strumarium L.
4. AMBEL	ragweed, common	Ambrosia artemisiifolia L.
5. AMBTR	ragweed, giant	Ambrosia trifida L.
6. IPOHE	morningglory, ivyleaf	Ipomoea hederacea (L.) Jacq.
7. AMATA	waterhemp, common	Amaranthus rudis Sauer
8. SOLCA	horsenettle	Solanum carolinense L.

Crop 1:	GLXMA soybean	Variety:	B-T 371CR
Planting Method:	Seeded	Planting Date:	5-11-01
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:	Reduced-Till	Study Design:	Randomized complete block		
Previous Crop, Year:	ZEAMX, 2000				
Field Prep./Maintenance:	N 0 LB/A, P205 0 LB/A, K20 150 LB/A				

Soil Name:	Rushville	% OM:	1.1	pH:	6.3	CEC:	13
Texture:	Silt loam	Fert. Level:	P1: 69 LB/A, K: 298 LB/A				

APPLICATION DESCRIPTION

	A	B	C
Application Date:	5-11-01	6-12-01	6-12-01
Time of Day:	16:00	8:00	8:00
Application Method:	Spray	Spray	Spray
Application Timing:	PRE	4-6"W-1	4-6"W-2
Applic. Placement:	BROSOI	BROFOL	BROFOL
Air Temp., Unit:	82 F	76 F	76 F
% Relative Humidity:	44	80	80
Wind Velocity, Unit:	0-2 MPH	2-4 MPH	2-4 MPH
Soil Moisture:	BELNOR	NORMAL	NORMAL

CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	GLXMA NA	GLXMA V2	GLXMA V2
Height, Unit:	NA NA	4-6 IN	4-6 IN

WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code:	SETFA	SETFA	SETFA
Stage(leaves):		3-4	3-4
Height(inches):		4-6	4-6
Density:		High	High
Weed 2 Code:	CYPES	CYPES	CYPES
Stage(leaves):		4-6	4-6
Height(inches):		4-6	4-6
Density:		Low	Low
Weed 3 Code:	XANST	XANST	XANST
Stage(leaves):		3-4	3-4
Height(inches):		3-4	3-4
Density:		Low	Low

Weed 4 Code:	AMBEL	AMBEL	AMBEL
Stage(leaves):		4-6	4-6
Height(inches):		4-6	4-6
Density:		High	High
Weed 5 Code:	AMBTR	AMBTR	AMBTR
Stage(leaves):		4-6	4-6
Height(inches):		2-8	2-8
Density:		Medium	Medium
Weed 6 Code:	IPOHE	IPOHE	IPOHE
Stage(leaves):		1-2	1-2
Height(inches):		2-3	2-3
Density:		Low	Low
Weed 7 Code:	AMATA	AMATA	AMATA
Weed 8 Code:	SOLCA	SOLCA	SOLCA

APPLICATION EQUIPMENT

	A	B	C
Appl. Equipment:	CO2 sprayer	CO2 sprayer	CO2 sprayer
Operating Pressure:	40 PSI	40 PSI	40 PSI
Nozzle Type:	Flat fan	Flat fan	Flat fan
Nozzle Size:	8003	8002	8002
Boom Length, Unit:	7.5 FT	7.5 FT	7.5 FT
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA

NOTES: NOT HARVESTED.

Weed Code									SETFA	SETFA	SETFA	CYPES	CYPES	CYPES	XANST	XANST	XANST				
Crop Code									GLXMA	GLXMA	GLXMA										
Rating Data Type									Injury	Injury	Injury	Control	Control	Control	Control	Control	Control				
Rating Unit									Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent				
Rating Date									5-25-01	6-26-01	7-10-01	6-12-01	6-26-01	7-10-01	6-12-01	6-26-01	7-10-01				
Trt-Eval Interval									14 DAP	14 DAT	28 DAT	0 DAT	14 DAT	28 DAT	0 DAT	14 DAT	28 DAT				
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code												
15	FIRSTRATE	84	WG	0.0315	LB A/A	0.6	OZ/A	PRE	A	0	0	0	68	99	96	93	91	87	99	96	98
15	GLYPHOMAX PLUS	3	SL	0.75	LB AE/A	2	PT/A	4-6"W-2	C												
15	AMS	100	DRY	2.0	% W/W	17	LB/100 GAL	4-6"W-2	C												
16	DOMAIN	60	WG	0.375	LB A/A	10	OZ/A	PRE	A	0	0	0	82	99	96	55	82	84	96	99	99
16	GLYPHOMAX PLUS	3	SL	0.75	LB AE/A	2	PT/A	4-6"W-2	C												
16	AMS	100	DRY	2.0	% W/W	17	LB/100 GAL	4-6"W-2	C												
17	SENCOR	75	WG	0.281	LB A/A	6	OZ/A	PRE	A	0	0	0	50	99	96	28	80	80	98	99	97
17	GLYPHOMAX PLUS	3	SL	0.75	LB AE/A	2	PT/A	4-6"W-2	C												
17	AMS	100	DRY	2.0	% W/W	17	LB/100 GAL	4-6"W-2	C												
18	CANOPY XL	56.3	WG			4.5	OZ/A	PRE	A	2	0	0	83	99	98	99	97	88	99	99	99
18	->CLASSIC	25	WG	0.0264	LB A/A			PRE	A												
18	->AUTHORITY	75	WG	0.132	LB A/A			PRE	A												
18	GLYPHOMAX PLUS	3	SL	0.75	LB AE/A	2	PT/A	4-6"W-2	C												
18	AMS	100	DRY	2.0	% W/W	17	LB/100 GAL	4-6"W-2	C												
19	GLYPHOMAX PLUS	3	SL	0.75	LB AE/A	2	PT/A	4-6"W-1	B		0	0	99	92		90	88			99	99
19	AMS	100	DRY	2.0	% W/W	17	LB/100 GAL	4-6"W-1	B												
20	GLYPHOMAX PLUS	3	SL	0.75	LB AE/A	2	PT/A	4-6"W-1	B		0	0	97	94		96	93			99	99
20	FIRSTRATE	84	WG	0.016	LB A/A	0.3	OZ/A	4-6"W-1	B												
20	AMS	100	DRY	2.0	% W/W	17	LB/100 GAL	4-6"W-1	B												
LSD (P=.05)										1.7	0.9	0.0	6.0	1.9	7.8	13.6	2.4	10.3	13.8	1.9	9.0
Replicate F										0.902	2.111	0.000	0.344	3.779	1.891	0.965	2.029	0.396	3.801	1.927	4.063
Replicate Prob(F)										0.4151	0.1351	1.0000	0.7112	0.0318	0.1648	0.3912	0.1455	0.6758	0.0324	0.1596	0.0252
Treatment F										2.203	9.000	0.000	133.093	1434.454	78.877	33.508	949.676	37.586	24.188	1769.225	64.460
Treatment Prob(F)										0.0245	0.0001	1.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

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Weed Code																									
Rating Data Type																									
Rating Unit																									
Rating Date																									
Trt-Eval Interval																									
		AMBEL	AMBEL	AMBEL	AMBTR	AMBTR	AMBTR	IPOHE	IPOHE	IPOHE	AMATA	AMATA	AMATA	AMBEL	AMBEL	AMBEL	AMBTR	AMBTR	AMBTR	IPOHE	IPOHE	IPOHE	AMATA	AMATA	AMATA
		Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	
		Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	
		6-12-01	6-26-01	7-10-01	6-12-01	6-26-01	7-10-01	6-12-01	6-26-01	7-10-01	6-12-01	6-26-01	7-10-01	6-12-01	6-26-01	7-10-01	6-12-01	6-26-01	7-10-01	6-12-01	6-26-01	7-10-01	6-12-01	6-26-01	7-10-01
		0 DAT	14 DAT	28 DAT	0 DAT	14 DAT	28 DAT	0 DAT	14 DAT	28 DAT	0 DAT	14 DAT	28 DAT	0 DAT	14 DAT	28 DAT	0 DAT	14 DAT	28 DAT	0 DAT	14 DAT	28 DAT	0 DAT	14 DAT	28 DAT
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code																
1	NONTREATED									0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	GAUNTLET (CO-PACK)					5.9	OZ/A	PRE	A	99	99	96	93	80	79	99	99	99	99	99	99	99	99	99	
2	->FIRSTRATE	84	WG	0.0315	LB A/A	0.6	OZ/A	PRE	A																
2	->AUTHORITY	75	WG	0.248	LB A/A	5.3	OZ/A	PRE	A																
2	COMMAND	3	ME	1.0	LB A/A	2.67	PT/A	PRE	A																
3	DOMAIN	60	WG	0.6	LB A/A	16	OZ/A	PRE	A	80	77	65	69	77	47	87	90	83	99	99	99	99	99	99	
4	BOUNDARY	7.8	EC	1.706	LB A/A	1.75	PT/A	PRE	A	75	67	67	67	80	53	82	82	77	98	99	99	99	99	99	
5	COMMAND XTRA (CO-PACK)					2.2	PT/A	PRE	A	79	53	57	77	68	57	96	95	90	99	90	90	93	93	93	
5	->COMMAND	3	ME	0.6	LB A/A	1.6	PT/A	PRE	A																
5	->SULFENTRAZONE	4	F	0.3	LB A/A	0.6	PT/A	PRE	A																
6	CANOPY XL	56.3	WG			6.8	OZ/A	PRE	A	90	85	72	88	91	61	99	99	96	99	90	90	90	90	90	
6	->CLASSIC	25	WG	0.04	LB A/A			PRE	A																
6	->AUTHORITY	75	WG	0.2	LB A/A			PRE	A																
7	SQUADRON	2.33	EC	0.874	LB A/A	3	PT/A	PRE	A	88	63	62	92	86	72	95	90	90	88	72	60	60	60	60	
8	PENDIMAX	3.3	EC	1.24	LB A/A	3	PT/A	PRE	A	96	95	91	92	86	75	96	91	90	88	87	73	73	73	73	
8	FIRSTRATE	84	WG	0.0315	LB A/A	0.6	OZ/A	PRE	A																
9	BOUNDARY	7.8	EC	1.706	LB A/A	1.75	PT/A	PRE	A	94	85	88	78	73	53	95	95	95	98	99	99	99	99	99	
9	CANOPY XL	56.3	WG			4.6	OZ/A	PRE	A																
9	->CLASSIC	25	WG	0.027	LB A/A			PRE	A																
9	->AUTHORITY	75	WG	0.135	LB A/A			PRE	A																
10	FIRSTRATE	84	WG	0.0315	LB A/A	0.6	OZ/A	PRE	A	96	99	99	93	95	89	99	99	98	99	99	99	99	99	99	
10	VALOR	50	WG	0.0781	LB A/A	2.5	OZ/A	PRE	A																
10	PENDIMAX	3.3	EC	1.24	LB A/A	3	PT/A	PRE	A																
11	GAUNTLET (CO-PACK)					5.9	OZ/A	PRE	A	95	99	99	73	95	92	97	98	99	98	99	99	99	99	99	
11	->FIRSTRATE	84	WG	0.0315	LB A/A	0.6	OZ/A	PRE	A																
11	->AUTHORITY	75	WG	0.248	LB A/A	5.3	OZ/A	PRE	A																
11	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	1.6	PT/A	4-6"W-2	C																
11	AMS	100	DRY	2.0	% W/W	17	LB/100 GAL	4-6"W-2	C																
12	GAUNTLET (CO-PACK)					4.43	OZ/A	PRE	A	95	99	99	62	90	90	95	99	99	98	99	99	99	99		
12	->FIRSTRATE	84	WG	0.024	LB A/A	0.457	OZ/A	PRE	A																
12	->AUTHORITY	75	WG	0.186	LB A/A	3.97	OZ/A	PRE	A																
12	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	1.6	PT/A	4-6"W-2	C																
12	AMS	100	DRY	2.0	% W/W	17	LB/100 GAL	4-6"W-2	C																
13	PENDIMAX	3.3	EC	1.24	LB A/A	3	PT/A	PRE	A	78	87	93	43	88	80	80	91	90	92	99	90	90	90		
13	FIRSTRATE	84	WG	0.016	LB A/A	0.3	OZ/A	4-6"W-2	C																
13	COBRA	2	EC	0.094	LB A/A	6	OZ/A	4-6"W-2	C																
13	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	4-6"W-2	C																
14	BOUNDARY	7.8	EC	1.22	LB A/A	1.25	PT/A	PRE	A	65	99	99	57	90	91	77	90	87	95	99	99	99	99		
14	GLYPHOMAX PLUS	3	SL	0.75	LB AE/A	2	PT/A	4-6"W-2	C																
14	AMS	100	DRY	2.0	% W/W	17	LB/100 GAL	4-6"W-2	C																

Weed Code	Rating Data Type	Rating Unit	Rating Date	Trt-Eval Interval	AMBEL Control Percent	AMBEL Control Percent	AMBEL Control Percent	AMBTR Control Percent	AMBTR Control Percent	AMBTR Control Percent	IPOHE Control Percent	IPOHE Control Percent	IPOHE Control Percent	AMATA Control Percent	AMATA Control Percent	AMATA Control Percent					
					6-12-01	6-26-01	7-10-01	6-12-01	6-26-01	7-10-01	6-12-01	6-26-01	7-10-01	6-12-01	6-26-01	7-10-01					
					0 DAT	14 DAT	28 DAT	0 DAT	14 DAT	28 DAT	0 DAT	14 DAT	28 DAT	0 DAT	14 DAT	28 DAT					
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code												
15	FIRSTRATE	84	WG	0.0315	LB A/A	0.6	OZ/A	PRE	A	80	99	98	78	99	95	99	91	92	37	98	96
15	GLYPHOMAX PLUS	3	SL	0.75	LB AE/A	2	PT/A	4-6"W-2	C												
15	AMS	100	DRY	2.0	% W/W	17	LB/100 GAL	4-6"W-2	C												
16	DOMAIN	60	WG	0.375	LB A/A	10	OZ/A	PRE	A	78	99	97	33	95	90	73	95	93	99	99	98
16	GLYPHOMAX PLUS	3	SL	0.75	LB AE/A	2	PT/A	4-6"W-2	C												
16	AMS	100	DRY	2.0	% W/W	17	LB/100 GAL	4-6"W-2	C												
17	SENCOR	75	WG	0.281	LB A/A	6	OZ/A	PRE	A	70	99	99	27	90	90	83	90	90	88	99	98
17	GLYPHOMAX PLUS	3	SL	0.75	LB AE/A	2	PT/A	4-6"W-2	C												
17	AMS	100	DRY	2.0	% W/W	17	LB/100 GAL	4-6"W-2	C												
18	CANOPY XL	56.3	WG			4.5	OZ/A	PRE	A	87	99	99	65	91	92	99	99	99	99	99	99
18	->CLASSIC	25	WG	0.0264	LB A/A			PRE	A												
18	->AUTHORITY	75	WG	0.132	LB A/A			PRE	A												
18	GLYPHOMAX PLUS	3	SL	0.75	LB AE/A	2	PT/A	4-6"W-2	C												
18	AMS	100	DRY	2.0	% W/W	17	LB/100 GAL	4-6"W-2	C												
19	GLYPHOMAX PLUS	3	SL	0.75	LB AE/A	2	PT/A	4-6"W-1	B		95	98		90	91		90	92		99	95
19	AMS	100	DRY	2.0	% W/W	17	LB/100 GAL	4-6"W-1	B												
20	GLYPHOMAX PLUS	3	SL	0.75	LB AE/A	2	PT/A	4-6"W-1	B		99	99		95	91		95	95		99	98
20	FIRSTRATE	84	WG	0.016	LB A/A	0.3	OZ/A	4-6"W-1	B												
20	AMS	100	DRY	2.0	% W/W	17	LB/100 GAL	4-6"W-1	B												
LSD (P=.05)										12.9	2.4	6.7	16.1	2.3	17.4	10.0	1.4	3.5	5.5	1.5	3.7
Replicate F										3.604	0.192	0.379	1.972	0.410	6.640	3.592	0.499	0.069	0.752	1.227	0.579
Replicate Prob(F)										0.0381	0.8262	0.6874	0.1548	0.6666	0.0034	0.0384	0.6108	0.9333	0.4793	0.3047	0.5655
Treatment F										25.076	819.273	109.191	21.494	669.254	15.028	45.001	1964.179	300.466	190.488	1959.976	320.932
Treatment Prob(F)										0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

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Project Code: 01-24B-E100 Location: Belleville Reseach Center

Trial Comments

1. Protocol: FMC (trts 1-8, 11 and 12); Dow (trts 13,19 and 20); SIU-BGY (trts 9, 10, and 14-18).
2. DAP = days after planting. DAT days after postemergence application. 0 DAT = prior to postemergence application. 0 DAT was also 32 days after the PRE application.