

## Two-Pass Programs for Control of Giant Ragweed and Waterhemp.

00-50E-MS70

**OBJECTIVE:** Evaluate two-pass programs for control of giant ragweed and common waterhemp in Roundup Ready soybean.

**SUMMARY:** Soybean injury was 7% from Treflan HFP plus FirstRate at 0.6 oz/A at 14 days after planting. By 14 days after postemergence herbicide applications (DAPO), soybean injury was less than 3% from all herbicide treatments.

All herbicide treatments provided good control of giant foxtail and common ragweed at 42 DAPO. Giant ragweed control was 91 to 98% from treatments that included FirstRate pre-plant incorporated or preemergence. All other treatments controlled only 55 to 82% of giant ragweed. Common waterhemp control was at least 92% from all herbicide treatments at 42 DAPO except Treflan HFP plus FirstRate pre-plant incorporated, FirstRate followed by Glyphomax Plus, Glyphomax Plus plus FirstRate, and Glyphomax Plus alone. Common cocklebur control 42 DAPO was good from all herbicide treatments except FirstRate followed by Glyphomax Plus.

Soybean yield ranged from 13 bu/A in nontreated plots to 35 bu/A. The highest soybean yields were observed in plots treated with FirstRate followed by Glyphomax Plus or FirstRate plus Glyphomax Plus.

### HERBICIDES

ACQUIRE 3 SL  
BOUNDARY 7.8 EC  
DOMAIN 60 WG  
EXTREME 2.17 SL  
FIRSTRATE 84 WG  
FLEXSTAR 1.88 EC  
GLYPHOMAX PLUS 3 SL  
OUTLOOK 6 EC  
PENDIMAX 3.3 EC  
PROWL 3.3 EC  
ROUNDUP ULTRA 3 SL  
TREFLAN HFP 4 EC

### WEEDS

COCKLEBUR, COMMON  
FOXTAIL, GIANT  
NUTSEDGE, YELLOW  
RAGWEED, COMMON  
RAGWEED, GIANT  
WATERHEMP, COMMON

### CROP

SOYBEAN

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PLANT, SOIL AND GENERAL AGRICULTURE DEPARTMENT

SOUTHERN ILLINOIS UNIVERSITY

## Two-Pass Programs for Control of Giant Ragweed and Waterhemp.

Project Code: 00-50E-MS70 Location: Belleville Research Center

Investigator: Bryan Young, Assistant Professor, Southern Illinois University

Weed Code	Common Name	Scientific Name
1. SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2. CYPES	NUTSEDGE, YELLOW	CYPERUS ESCULENTUS L.
3. AMATA	WATERHEMP, COMMON	AMARANTHUS RUDIS SAUER
4. AMBEL	RAGWEED, COMMON	AMBROSIA ARTEMISIIFOLIA L.
5. XANST	COCKLEBUR, COMMON	XANTHIUM STRUMARIUM L. SSP. STRUMARIUM
6. AMBTR	RAGWEED, GIANT	AMBROSIA TRIFIDA L.

Crop 1:	GLXMA SOYBEAN	Variety:	B-T 369CR
Planting Method:	SEEDED	Planting Date:	May-11-00
Rate:	75 LB/A	Depth:	1.0 IN
Row Spacing:	30 IN		

Plot Width, Unit:	10 FT	Plot Length, Unit:	27 FT	Reps:	3
Tillage Type:	REDUCED-TILL	Study Design:	RCB		
Previous Crop, Year:	ZEAMX, 1999	Fertilizer applied:	N 0 LB/A,	P <sub>2</sub> O <sub>5</sub> 0 LB/A,	K <sub>2</sub> O 0 LB/A

Soil Name:	WEIR	% OM:	1.9	pH:	6.9	CEC:	12
Texture:	SILT LOAM	P <sub>1</sub> :	87 LB/A,	K:	400 LB/A		

## APPLICATION DESCRIPTION

	A	B	C	D	E
Application Date:	May-11-00	May-11-00	Jun-12-00	Jun-12-00	Jun-15-00
Time of Day:	6:00	10:00	13:00	13:00	9:00
Application Method:	SPRAY	SPRAY	SPRAY	SPRAY	SPRAY
Application Timing:	PPI	PRE	4-6"W-1	4-6"W-2	5WAP
Applic. Placement:	BROSOI	BROSOI	BROFOL	BROFOL	BROFOL
Air Temp., Unit:	66 F	70 F	82 F	82 F	75 F
% Relative Humidity:	96	90	70	70	70
Wind Velocity, Unit:	0 MPH	9-15 MPH	10 MPH	10 MPH	1-3 MPH
Soil Moisture:	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
% Cloud Cover:					0

## CROP STAGE AT EACH APPLICATION

	A	B	C	D	E
Crop 1 Code, Stage:	NA	NA	GLXMA V3	GLXMA V3	GLXMA V3
Height, Unit:	NA	NA	5 IN	5 IN	6 IN

## WEED STAGE AT EACH APPLICATION

	A	B	C	D	E
Weed 1 Code:			SETFA	SETFA	SETFA
Stage(leaves):			4-6	2-4	4-6
Height(inches):			2-5	1-2	4-6
Density:			HIGH	LOW	MEDIUM
Weed 2 Code:			CYPES	CYPES	CYPES
Stage(leaves):			6	4-6	4-6
Height(inches):			4	3-4	4-6
Density:			MEDIUM	HIGH	MEDIUM
Weed 3 Code:			AMATA	AMATA	AMATA
Stage(leaves):			3-6	3-7	4-10
Height(inches):			1-3	0-3	3-7
Density:			HIGH	LOW	MEDIUM
Weed 4 Code:			AMBEL	AMBEL	AMBEL
Stage(leaves):			6	6-8	4-6
Height(inches):			3	2-4	4-7
Density:			LOW	MEDIUM	LOW
Weed 5 Code:			XANST	XANST	XANST
Stage(leaves):			5	2-6	4-6
Height(inches):			4-5	1-4	4-8
Density:			LOW	HIGH	MEDIUM
Weed 6 Code:			AMBTR	AMBTR	AMBTR
Stage(leaves):			4-10	4-10	4-10
Height(inches):			3-6	3-6	6-11
Density:			HIGH	HIGH	HIGH

## APPLICATION EQUIPMENT

	A	B	C	D	E
Appl. Equipment:	CO, SPRAY	CO, SPRAY	CO, SPRAY	CO, SPRAY	CO, SPRAY
Operating Pressure:	40 PSI	40 PSI	40 PSI	40 PSI	40 PSI
Nozzle Type:	FLAT FAN	FLAT FAN	FLAT FAN	FLAT FAN	FLAT FAN
Nozzle Size:	8003	8003	8002	8002	8002
Boom Length, Unit:	7.33 FT	7.33 FT	7.33 FT	7.33 FT	7.33 FT
Incorporation Equip.:	POWHAR 1X				
Hours to Incorp.:	1				
Incorp. Depth, Unit:	2-4 IN				
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA	20 GPA	20 GPA

## NOTES:

Harvested Oct-21-00, (5) 30 inch rows by 24 ft.

TABLE. TWO-PASS PROGRAMS FOR CONTROL OF GIANT RAGWEED AND WATERHEMP. PROJECT CODE:00-50E-MS70

TREATMENT	FORM.	RATE	UNIT	PROD RATE	APPL TIME	APPL CODE	YIELD	GLXMA INJURY			CONTROL, DAYS AFTER TREATMENT												
								14	DAT		SETFA		CYPES		AMBEL		AMBTR		AMATA		XANST		
								DAP	14	42	14	42	14	42	14	42	14	42	14	42	14	42	
BU/A	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%						
1 TREFLAN HFP	4 EC	1.0	LB A/A	1.0	QT/A	PPI	A	27	7	0	0	98	93	93	93	99	99	95	91	90	82	95	93
1 FIRSTRATE	84 WG	0.031	LB A/A	0.6	OZ/A	PPI	A																
2 TREFLAN HFP	4 EC	1.0	LB A/A	1.0	QT/A	PPI	A	32	2	2	0	90	90	78	78	99	99	98	98	99	99	92	92
2 FIRSTRATE	84 WG	0.016	LB A/A	0.3	OZ/A	4-6"W-2	D																
2 FLEXSTAR	1.88 EC	0.235	LB A/A	1.0	PT/A	4-6"W-2	D																
2 PRIME OIL COC	100 LIQ	1.0	% V/V	1.0	%V/V	4-6"W-2	D																
2 28% UAN	100 LIQ	2.5	% V/V	2.5	%V/V	4-6"W-2	D																
3 FIRSTRATE	84 WG	0.031	LB A/A	0.6	OZ/A	PRE	B	35	0	0	0	98	98	86	88	99	99	96	92	95	88	90	73
3 GLYPHOMAX PLUS	3 SL	0.75	LB AE/A	2.0	PT/A	4-6"W-2	D																
3 AMS	100 DRY	2.0	% W/W	2.0	%W/W	4-6"W-2	D																
4 GLYPHOMAX PLUS	3 SL	0.75	LB AE/A	2.0	PT/A	4-6"W-1	C	35		0	0	98	96	75	75	99	99	83	82	86	83	92	90
4 FIRSTRATE	84 WG	0.016	LB A/A	0.3	OZ/A	4-6"W-1	C																
4 ACTIVATOR 90	100 LIQ	0.25	% V/V	0.25	%V/V	4-6"W-1	C																
4 AMS	100 DRY	2.0	% W/W	2.0	%W/W	4-6"W-1	C																
5 GLYPHOMAX PLUS	3 SL	0.75	LB AE/A	2.0	PT/A	4-6"W-1	C	33		0	0	99	97	70	70	98	98	82	79	85	83	91	88
5 AMS	100 DRY	2.0	% W/W	2.0	%W/W	4-6"W-1	C																
6 ROUNDUP ULTRA	3 SL	0.56	LB AE/A	1.5	PT/A	5WAP	E	28		0	0	96	96	80	80	93	93	65	65	95	95	94	93
6 AMS	100 DRY	2.0	LB/A	2.0	LB/A	5WAP	E																
7 BOUNDARY	7.8 EC	1.22	LB A/A	1.25	PT/A	PRE	B	32	0	0	0	99	99	95	95	98	98	75	73	98	98	91	89
7 ROUNDUP ULTRA	3 SL	0.56	LB AE/A	1.5	PT/A	5WAP	E																
7 AMS	100 DRY	2.0	LB/A	2.0	LB/A	5WAP	E																
8 BOUNDARY	7.8 EC	1.71	LB A/A	1.75	PT/A	PRE	B	29	0	0	0	99	99	98	97	99	99	70	68	95	95	91	91
8 ROUNDUP ULTRA	3 SL	0.56	LB AE/A	1.5	PT/A	5WAP	E																
8 AMS	100 DRY	2.0	LB/A	2.0	LB/A	5WAP	E																
9 DOMAIN	60 WG	0.375	LB A/A	10.0	OZ/A	PRE	B	27	0	0	0	98	98	88	88	99	99	67	67	98	98	96	96
9 ROUNDUP ULTRA	3 SL	0.56	LB AE/A	1.5	PT/A	5WAP	E																
9 AMS	100 DRY	2.0	LB/A	2.0	LB/A	5WAP	E																
10 BOUNDARY	7.8 EC	0.975	LB A/A	1.0	PT/A	PRE	B	30	0	2	0	99	99	97	97	98	98	73	70	99	99	92	92
10 ROUNDUP ULTRA	3 SL	0.56	LB AE/A	1.5	PT/A	5WAP	E																
10 AMS	100 DRY	2.0	LB/A	2.0	LB/A	5WAP	E																

(CONTINUED)

TABLE. TWO-PASS PROGRAMS FOR CONTROL OF GIANT RAGWEED AND WATERHEMP. PROJECT CODE:00-50E-MS70 (CONTINUED)

TREATMENT	FORM.	RATE	UNIT	PROD RATE	APPL TIME	APPL CODE	YIELD	GLXMA INJURY			CONTROL, DAYS AFTER TREATMENT											
								14 DAP	DAT		SETFA		CYPES		AMBEL		AMBTR		AMATA		XANST	
									%	%	%	%	%	%	%	%	%	%	%	%	%	
11 PENDIMAX	3.3 EC	1.05 LB A/A	2.55 PT/A	PRE	B	31	0	0	0	99	99	78	78	96	96	73	70	97	97	96	93	
11 GLYPHOMAX PLUS	3 SL	0.75 LB AE/A	2.0 PT/A	4-6"W-2	D																	
11 AMS	100 DRY	2.0 LB/A	2.0 LB/A	4-6"W-2	D																	
12 PROWL	3.3 EC	1.05 LB A/A	2.55 PT/A	PRE	B	24	0	0	0	99	99	80	80	98	98	70	68	93	92	95	95	
12 EXTREME	2.17 SL	0.813 LB A/A	3.0 PT/A	4-6"W-2	D																	
12 ACTIVATOR 90	100 LIQ	0.25 % V/V	0.25 %V/V	4-6"W-2	D																	
12 AMS	100 DRY	2.0 LB/A	2.0 LB/A	4-6"W-2	D																	
13 OUTLOOK	6 EC	0.75 LB A/A	16.0 OZ/A	PRE	B	25	0	0	0	99	99	93	93	98	98	58	55	97	97	92	91	
13 ACQUIRE	3 SL	0.75 LB AE/A	2.0 PT/A	4-6"W-2	D																	
13 ACTIVATOR 90	100 LIQ	0.5 % V/V	0.5 %V/V	4-6"W-2	D																	
13 AMS	100 DRY	2.0 LB/A	2.0 LB/A	4-6"W-2	D																	
14 NONTREATED						13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
LSD						8	2	2	0	3	4	19	19	5	5	21	20	6	7	8	19	
P						0.01	0.01	0.6	1.0	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	

1. PROTOCOL: DOW TRTS 1-5; NOVARTIS TRTS 6-10 (DK08 BA).
2. DAT = DAYS AFTER TREATMENT. DAP = DAYS AFTER PLANTING.
3. RATING DATES:  
 14 DAP WAS ON MAY-25-00.  
 14 DAYS AFTER 4-6"W-1, 4-6"W-2 AND 5WAP (WEEKS AFTER PLANTING) ON JUN-26-00, JUN-26-00 AND JUN-29-00, RESPECTIVELY.  
 42 DAYS AFTER 4-6"W-1, 4-6"W-2 AND 5WAP (WEEKS AFTER PLANTING) ON JUL-24-00, JUL-24-00 AND JUL-27-00, RESPECTIVELY.