

Preemergence Control of Ragweed and Waterhemp.

00-2B-ME90

OBJECTIVE: Evaluate preemergence soybean herbicides for control of common waterhemp and common ragweed.

SUMMARY: Little to no soybean injury was observed from preemergence (PRE) herbicides. Common waterhemp control was at least 96% from treatments that included Canopy XL or Authority at 5.3 oz/A. All treatments provided excellent control of velvetleaf. Canopy XL treatments provided the greatest control of common ragweed. Soybean yield ranged from 23 bu/A in nontreated plots to 34 bu/A. In general, the highest yields were observed in plots treated with Canopy XL, probably due to increased control of common ragweed.

HERBICIDES

AUTHORITY 75 WG
 BOUNDARY 7.8 EC
 CANOPY XL 56.3 WG
 PROWL 3.3 EC
 PURSUIT 70 WG
 RAPTOR 1 AS
 SELECT 2 EC
 SQUADRON 2.33 EC
 STEEL 2.57 EC
 VALOR 50 WG

WEEDS

FOXTAIL, GIANT
 RAGWEED, COMMON
 VELVETLEAF
 WATERHEMP, COMMON

CROP

SOYBEAN

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PLANT, SOIL AND GENERAL AGRICULTURE DEPARTMENT

SOUTHERN ILLINOIS UNIVERSITY

Preemergence Control of Ragweed and Waterhemp.

Project Code: 00-2B-ME90 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. AMBEL	RAGWEED, COMMON	AMBROSIA ARTEMISIIFOLIA L.
3. ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDICUS
4. AMATA	WATERHEMP, COMMON	AMARANTHUS RUDIS SAUER

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:	28 FT	Reps:	3
Tillage Type:	REDUCED-TILL	Study Design:	RCB		
Previous Crop, Year:	ZEAMX, 1999	Fertilizer applied:	N 0 LB/A,	P ₂ O ₅	50 LB/A, K ₂ O 150 LB/A

Soil Name:	WEIR	% OM:	1.8	pH:	6.5	CEC:	9
Texture:	SILT LOAM	P ₁ :	79 LB/A,	K:	436 LB/A		

APPLICATION DESCRIPTION

	A	B
Application Date:	May-12-00	Jun-12-00
Time of Day:	6:00	13:30
Application Method:	SPRAY	SPRAY
Application Timing:	PRE	3-4"W
Applic. Placement:	BROSOL	BROFOL
Air Temp., Unit:	80 F	84 F
% Relative Humidity:	96	75
Wind Velocity, Unit:	0 MPH	6-8 MPH
Soil Moisture:	DRY	DRY

CROP STAGE AT EACH APPLICATION

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

WEED STAGE AT EACH APPLICATION

	A	B
Weed 1 Code:		SETFA
Stage(leaves):		3-4
Height(inches):		3-4
Density:		HIGH
Weed 2 Code:		AMBEL
Stage(leaves):		4-6
Height(inches):		3-4
Density:		HIGH

APPLICATION EQUIPMENT

	A	B
Appl. Equipment:	CO ₂ SPRAY	CO ₂ SPRAY
Operating Pressure:	40 PSI	40 PSI
Nozzle Type:	FLAT FAN	FLAT FAN
Nozzle Size:	8003	8002
Boom Length, Unit:	7.33 FT	7.33 FT
Spray Volume, Unit:	20 GPA	20 GPA

NOTES:

Harvested Oct-24-00, (2) 30 inch rows by 25 ft.

TABLE. PREEMERGENCE CONTROL OF RAGWEED AND WATERHEMP. PROJECT CODE:00-2B-ME90

TREATMENT	FORM.	RATE	UNIT	PROD RATE	APPL TIME	APPL CODE	YIELD	GLXMA INJURY		CONTROL, DAYS AFTER PLANTING					
								DAP		SETFA		AMBEL		ABUTH	
								14	28	28	56	28	56	28	56
						BU/A	%	%	%	%	%	%	%		
1 NONTREATED							23	0	0	0	0	0	0	0	
2 CANOPY XL	56.3 WG			5.0 OZ/A	PRE	A	28	0	0	82	99	97	93	99	98
2 ->CLASSIC	25 WG	0.0294	LB A/A		PRE	A									
2 ->AUTHORITY	75 WG	0.1469	LB A/A		PRE	A									
2 AUTHORITY	75 WG	0.047	LB A/A	1.0 OZ/A	PRE	A									
2 SELECT	2 EC	0.094	LB A/A	6.0 OZ/A	3-4"W	B									
2 PRIME OIL COC	100 LIQ	1.0	% V/V	1.0 %V/V	3-4"W	B									
3 CANOPY XL	56.3 WG			5.0 OZ/A	PRE	A	25	0	0	88	99	99	96	99	99
3 ->CLASSIC	25 WG	0.0294	LB A/A		PRE	A									
3 ->AUTHORITY	75 WG	0.1469	LB A/A		PRE	A									
3 AUTHORITY	75 WG	0.094	LB A/A	2.0 OZ/A	PRE	A									
3 SELECT	2 EC	0.094	LB A/A	6.0 OZ/A	3-4"W	B									
3 PRIME OIL COC	100 LIQ	1.0	% V/V	1.0 %V/V	3-4"W	B									
4 CANOPY XL	56.3 WG			6.0 OZ/A	PRE	A	25	0	0	94	99	98	97	99	99
4 ->CLASSIC	25 WG	0.0353	LB A/A		PRE	A									
4 ->AUTHORITY	75 WG	0.1765	LB A/A		PRE	A									
4 AUTHORITY	75 WG	0.047	LB A/A	1.0 OZ/A	PRE	A									
4 SELECT	2 EC	0.094	LB A/A	6.0 OZ/A	3-4"W	B									
4 PRIME OIL COC	100 LIQ	1.0	% V/V	1.0 %V/V	3-4"W	B									
5 CANOPY XL	56.3 WG			5.0 OZ/A	PRE	A	28	0	0	88	99	99	97	99	99
5 ->CLASSIC	25 WG	0.0294	LB A/A		PRE	A									
5 ->AUTHORITY	75 WG	0.1469	LB A/A		PRE	A									
5 SELECT	2 EC	0.094	LB A/A	6.0 OZ/A	3-4"W	B									
5 PRIME OIL COC	100 LIQ	1.0	% V/V	1.0 %V/V	3-4"W	B									
6 CANOPY XL	56.3 WG			6.0 OZ/A	PRE	A	34	0	0	90	99	99	97	99	99
6 ->CLASSIC	25 WG	0.0353	LB A/A		PRE	A									
6 ->AUTHORITY	75 WG	0.1765	LB A/A		PRE	A									
6 SELECT	2 EC	0.094	LB A/A	6.0 OZ/A	3-4"W	B									
6 PRIME OIL COC	100 LIQ	1.0	% V/V	1.0 %V/V	3-4"W	B									
7 CANOPY XL	56.3 WG			6.8 OZ/A	PRE	A	28	0	0	85	98	99	99	99	99
7 ->CLASSIC	25 WG	0.04	LB A/A		PRE	A									
7 ->AUTHORITY	75 WG	0.2	LB A/A		PRE	A									
7 SELECT	2 EC	0.094	LB A/A	6.0 OZ/A	3-4"W	B									
7 PRIME OIL COC	100 LIQ	1.0	% V/V	1.0 %V/V	3-4"W	B									
8 AUTHORITY	75 WG	0.25	LB A/A	5.33 OZ/A	PRE	A	17	0	0	82	99	8	3	98	99
8 SELECT	2 EC	0.094	LB A/A	6.0 OZ/A	3-4"W	B									
8 PRIME OIL COC	100 LIQ	1.0	% V/V	1.0 %V/V	3-4"W	B									
9 STEEL	2.57 EC	0.964	LB A/A	3.0 PT/A	PRE	A	25	0	2	99	93	95	90	99	96
9 AUTHORITY	75 WG	0.14	LB A/A	3.0 OZ/A	PRE	A									

(CONTINUED)

TABLE. PREEMERGENCE CONTROL OF RAGWEED AND WATERHEMP. PROJECT CODE:00-2B-ME90 (CONTINUED)

TREATMENT	FORM.	RATE	UNIT	PROD RATE	APPL TIME	APPL CODE	YIELD	GLXMA INJURY DAP		CONTROL, DAYS AFTER PLANTING					
								14	28	SETFA		AMBEL		ABUTH	
								%	%	28	56	28	56	28	56
10 STEEL	2.57 EC	0.964	LB A/A	3.0 PT/A	PRE	A	23	0	2	98	95	88	90	99	99
10 AUTHORITY	75 WG	0.25	LB A/A	5.33 OZ/A	PRE	A									
11 SQUADRON	2.33 EC	0.87	LB A/A	3.0 PT/A	PRE	A	18	0	0	94	30	82	30	99	83
11 AUTHORITY	75 WG	0.186	LB A/A	4.0 OZ/A	PRE	A									
12 SQUADRON	2.33 EC	0.87	LB A/A	3.0 PT/A	PRE	A	22	2	0	96	93	94	92	99	99
12 AUTHORITY	75 WG	0.25	LB A/A	5.33 OZ/A	PRE	A									
13 STEEL	2.57 EC	0.964	LB A/A	3.0 PT/A	PRE	A	25	2	0	97	97	96	95	98	88
13 VALOR	50 WG	0.063	LB A/A	2.0 OZ/A	PRE	A									
14 STEEL	2.57 EC	0.964	LB A/A	3.0 PT/A	PRE	A	21	0	0	96	87	88	73	96	73
14 VALOR	50 WG	0.094	LB A/A	3.0 OZ/A	PRE	A									
15 SQUADRON	2.33 EC	0.87	LB A/A	3.0 PT/A	PRE	A	25	2	5	93	70	95	92	99	82
15 VALOR	50 WG	0.063	LB A/A	2.0 OZ/A	PRE	A									
16 PROWL	3.3 EC	1.05	LB A/A	2.55 PT/A	PRE	A	22	3	8	99	93	3	82	99	80
16 VALOR	50 WG	0.063	LB A/A	2.0 OZ/A	PRE	A									
16 PURSUIT	70 WG	0.063	LB A/A	1.44 OZ/A	3-4"W	B									
16 ACTIVATOR 90	100 LIQ	0.25	% V/V	0.25 %V/V	3-4"W	B									
16 28% UAN	100 LIQ	1.0	QT/A	1.0 QT/A	3-4"W	B									
17 VALOR	50 WG	0.063	LB A/A	2.0 OZ/A	PRE	A	31	2	8	90	99	89	97	99	99
17 RAPTOR	1 AS	0.039	LB A/A	5.0 OZ/A	3-4"W	B									
17 ACTIVATOR 90	100 LIQ	0.25	% V/V	0.25 %V/V	3-4"W	B									
17 28% UAN	100 LIQ	1.0	QT/A	1.0 QT/A	3-4"W	B									
18 BOUNDARY	7.8 EC	1.71	LB A/A	1.75 PT/A	PRE	A	28	0	0	99	95	99	98	99	99
18 CANOPY XL	56.3 WG			6.0 OZ/A	PRE	A									
18 ->CLASSIC	25 WG	0.0353	LB A/A		PRE	A									
18 ->AUTHORITY	75 WG	0.1765	LB A/A		PRE	A									
LSD							7	3	2	5	12	9	9	3	12
P							0.01	0.3	0.01	0.01	0.01	0.01	0.01	0.01	0.01

1. PROTOCOL: DUPONT TRTS 1-8 (USA-00-156); AMCY TRTS 9-17.
2. DAP = DAYS AFTER PLANTING
3. RATING DATES:
14 DAP, 28 DAP, AND 56 DAP ON MAY-26-00, JUN-9-00, AND JUL-7-00, RESPECTIVELY.