

Waterhemp Control in Roundup Ready Soybean with Various Herbicides.

00-52-W60

OBJECTIVE: To evaluate common waterhemp control in Roundup Ready soybean.

SUMMARY: Authority applied preemergence controlled common waterhemp, 100%, whereas Prowl controlled common waterhemp, 77%. Blazer, Cobra, Flexstar, Roundup Ultra, and Touchdown 5 applied postemergence controlled common waterhemp, 87 to 99%. Authority caused no soybean height reduction or stand reduction 14 and 28 days after treatment (DAT). Cobra and Blazer caused 32% and 25% height reduction 14 DAT, respectively. However, no height reduction was observed 56 DAT. Despite the injury, Blazer, Cobra, and Flexstar did not reduce yield when compared with Roundup Ultra. Yield ranged from 9 to 34 bu/A. Season-long weed competition from common waterhemp reduced yield by 74%.

HERBICIDES

AUTHORITY 75 WG
BLAZER 2 EC
COBRA 2 EC
FLEXSTAR 1.88 EC
PROWL 3.3 EC
ROUNDUP ULTRA 3 SL
TOUCHDOWN 5 5 SL

WEEDS

WATERHEMP, COMMON

CROP

SOYBEAN

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SOUTHERN ILLINOIS UNIVERSITY

Waterhemp Control in Roundup Ready Soybean with Various Herbicides.

Project Code: 00-52-W60 Location: Belleville Research Center

Investigator: Bryan Young, Assistant Professor, Southern Illinois University

Weed Code 1. AMATA	Common Name WATERHEMP, COMMON	Scientific Name AMARANTHUS RUDIS SAUER
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Crop 1: Planting Method: Rate: Row Spacing:	GLXMA SOYBEAN SEEDED 75 LB/A 30 IN	Variety: Planting Date: Depth:	BT 369CR May-17-00 1.0 IN
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Plot Width, Unit: Tillage Type: Previous Crop, Year:	10 FT REDUCED-TILL GLXMA, 1999	Plot Length, Unit: Study Design: Fertilizer applied:	30 FT RCB N 0 LB/A,	Reps: 3 P ₂ O ₅ 0 LB/A,	K ₂ O 150 LB/A
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Soil Name: Texture:	WEIR SILT LOAM	% OM: 1.8 P ₁ : 83 LB/A,	pH: 6.9 K: 302 LB/A	CEC: 12
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APPLICATION DESCRIPTION

	A	B	C	D
Application Date:	May-17-00		Jun-16-00	Jun-21-00
Time of Day:	15:00		6:00	9:00
Application Method:	SPRAY	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	2-4"W	4-6"W	6-8"W
Applic. Placement:	BROSOL	BROFOL	BROFOL	BROFOL
Air Temp., Unit:	83 F	F	80 F	78 F
% Relative Humidity:	64		96	94
Wind Velocity, Unit:	5-10 MPH	MPH	0-2 MPH	2-4 MPH
Soil Moisture:	NORMAL		NORMAL	WET
% Cloud Cover:	60		50	100

CROP STAGE AT EACH APPLICATION

	A	B	C	D
Crop 1 Code, Stage:	NA	NA	GLXMA V2	GLXMA V3
Height, Unit:	NA	NA	6-8 IN	10-13 IN

WEED STAGE AT EACH APPLICATION

	A	B	C	D
Weed 1 Code:			AMATA	AMATA
Stage(leaves):			6-10+	6-10+
Height(inches):			3-8	3-12
Density:			HIGH	HIGH

APPLICATION EQUIPMENT

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

NOTES:

Harvested Oct-20-00, (2) 30 inch rows by 24 ft.

TABLE. WATERHEMP CONTROL IN ROUNDUP READY SOYBEAN WITH VARIOUS HERBICIDES. PROJECT CODE:00-52-W60

TREATMENT	FORM.	RATE	UNIT	PROD RATE	APPL TIME	APPL CODE	YIELD	GLXMA, DAYS AFTER TREATMENT									
								STUNT			STAND REDUCTION			AMATA CONTROL DAYS AFTER TREATMENT			
								14	28	56	14	28	56	14	28	56	
						BU/A	%	%	%	%	%	%	%	%			
1 NONTREATED							9	0	0	0	0	0	0	0	0		
2 AUTHORITY	75 WG	0.25	LB A/A	5.3	OZ/A	PRE	A	31	0	0	0	0	0	0	100	100	100
3 PROWL	3.3 EC	1.0	LB A/A	2.42	PT/A	PRE	A	20	0	0	0	0	0	0	100	87	77
4 PROWL	3.3 EC	1.0	LB A/A	2.42	PT/A	PRE	A	34	0	0	0	0	0	0	100	100	100
4 AUTHORITY	75 WG	0.25	LB A/A	5.3	OZ/A	PRE	A										
5 ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0	PT/A	4-6"W	C	34	0	0	0	0	0	0	90	87	87
6 TOUCHDOWN 5	5 SL	1.0	LB A/A	1.6	PT/A	4-6"W	C	31	0	0	0	0	0	0	90	88	88
7 COBRA	2 EC	0.2	LB A/A	13.0	OZ/A	4-6"W	C	32	32	18	0	0	0	0	100	88	90
7 PRIME OIL COC	100 LIQ	1.0	% V/V	1.6	PT/A	4-6"W	C										
7 28% UAN	100 LIQ	2.0	QT/A	4.0	PT/A	4-6"W	C										
8 FLEXSTAR	1.88 EC	0.294	LB A/A	1.25	PT/A	4-6"W	C	29	8	0	0	0	0	0	100	99	99
8 SUN-IT II	100 LIQ	1.0	% V/V	1.6	PT/A	4-6"W	C										
8 28% UAN	100 LIQ	2.0	QT/A	4.0	PT/A	4-6"W	C										
9 BLAZER	2 EC	0.375	LB A/A	1.5	PT/A	4-6"W	C	30	25	13	0	0	0	0	98	93	93
9 PRIME OIL COC	100 LIQ	1.0	% V/V	1.6	PT/A	4-6"W	C										
9 28% UAN	100 LIQ	2.0	QT/A	4.0	PT/A	4-6"W	C										
10 ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0	PT/A	6-8"W	D	31	0	0	0	0	0	0	97	99	99
11 TOUCHDOWN 5	5 SL	1.0	LB A/A	1.6	PT/A	6-8"W	D	32	0	0	0	0	0	0	97	97	97
12 AUTHORITY	75 WG	0.25	LB A/A	5.33	OZ/A	PRE	A	29	0	0	0	0	0	0	100	100	100
12 ROUNDUP ULTRA	3 SL	0.56	LB AE/A	1.5	PT/A	2-4"W	B										
LSD								10	3	2	0	0	0	0	2	6	12
P								0.01	0.01	0.01	1.0	1.0	1.0	1.0	0.01	0.01	0.01

1. PROTOCOL: SIU/RFK.
2. RATING DATES:
 14 DAYS AFTER PRE, 4-6"W, AND 6-8"W APPLICATIONS ON MAY-31-00, JUN-30-00, AND JUL-3-00, RESPECTIVELY.
 28 DAYS AFTER PRE, 4-6"W, AND 6-8"W APPLICATIONS ON JUN-14-00, JUL-14-00, AND JUL-19-00, RESPECTIVELY.
 56 DAYS AFTER PRE, 4-6"W, AND 6-8"W APPLICATIONS ON JUL-12-00, AUG-11-00, AND AUG-16-00, RESPECTIVELY.
3. 2-4"W APPLICATION WAS NOT APPLIED BECAUSE IT WAS NOT NEEDED.