

A14972A Evaluation on PPO-Resistant Waterhemp - Study 2.

Project Code: 05-Carlyle Location: Carlyle, IL  
 Investigator: Bryan Young

Investigator: Bryan Young, Assistant Professor, Southern Illinois University

City State Zip Country: Carlyle IL 62231 USA  
 Trial Status: Final Updated: 11-14-05

Objective:  
 Evaluate crop response and control of PPO-resistant waterhemp with A14972A applied postemergence.

Weed Code Common Name Scientific Name  
 1. AMATA waterhemp, common Amaranthus rudis Sauer

Crop 1: GLXMA soybean Variety: NK S43-B1 RR  
 Planting Method: Seeded Planting Date: 5-15-05  
 Rate: 156000 S/A Depth: 1.0 IN  
 Row Spacing: 15 IN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3  
 Tillage Type: Reduced-Till Study Design: Randomized complete block  
 Previous Crop, Year: ZEAMX, 2004

Field Prep./Maintenance: N 0 LB/A, P205 0 LB/A, K20 120 LB/A

Soil Name: Cisne % OM: 1.7 pH: 6.2 CEC: 11  
 Texture: Silt loam Fert. Level: P1: 60 LB/A, K: 200 LB/A

APPLICATION DESCRIPTION

	A	B	C	D
Application Date:	05-16-05	06-09-05	06-09-05	07-01-05
Time of Day:	14:00	10:30	10:30	18:00
Application Method:	Spray	Spray	Spray	Spray
Application Timing:	PRE	4-6"W-1	4-6"W-2	2-4"RG
Applic. Placement:	BROSIO	BROFOL	BROFOL	BROFOL
Air Temp., Unit:	68 F			
% Relative Humidity:	35			
Wind Velocity, Unit:	4 MPH	8 MPH	8 MPH	7 MPH
Dew Presence (Y/N):	N	N	N	N
Soil Temp., Unit:	70 F			
Soil Moisture:	NORMAL	NORMAL	NORMAL	
% Cloud Cover:	CLEAR	CLOUDY	CLOUDY	20%

CROP STAGE AT EACH APPLICATION

	A	B	C	D
Crop 1 Code, Stage:	GLXMA NA	GLXMA V2	GLXMA V2	GLXMA V6
Height, Unit:	NA NA	4-6 IN	4-6 IN	11 IN

WEED STAGE AT EACH APPLICATION

	A	B	C	D
Weed 1 Code:	AMATA	AMATA	AMATA	AMATA
Stage(leaves):	6-10	6-10	7-12	
Height(inches):	4-7	4-7	1-4	
Density:	High	High	Low	

APPLICATION EQUIPMENT

	A	B	C	D
Appl. Equipment:	CO2 sprayer	CO2 sprayer	CO2 sprayer	CO2 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:	7.5 FT	7.5 FT	7.5 FT	7.5 FT
Spray Volume, Unit:	15 GPA	15 GPA	15 GPA	15 GPA

NOTES:

A14972A Evaluation on PPO-Resistant Waterhemp - Study 2.

Project Code: 05-Carlyle Location: Carlyle, IL  
 Investigator: Bryan Young

Weed Code	Crop Code	Rating Data Type	Rating Unit	Rating Date	Trt-Eval Interval	GLXMA Injury Percent	GLXMA Injury Percent	GLXMA Injury Percent	AMATA Control Percent	AMATA Control Percent	AMATA Control Percent	
						06-13-05	06-23-05	07-07-05	06-13-05	06-23-05	07-07-05	
						21 DAE	31 DAE	45 DAE	21 DAE	31 DAE	45 DAE	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code			
1	NONTREATED									0	0	0
2	A14972A	5.3	EC	0.66	lb ai/a	0.5	qt/a	PRE	A	0	0	0
3	A14972A	5.3	EC	0.99	lb ai/a	0.75	qt/a	PRE	A	0	0	0
4	A14972A	5.3	EC	1.33	lb ai/a	1.0	qt/a	PRE	A	0	0	0
5	A14972A	5.3	EC	1.66	lb ai/a	1.25	qt/a	PRE	A	0	0	0
6	A14972A	5.3	EC	1.99	lb ai/a	1.5	qt/a	PRE	A	0	0	0
7	BOUNDARY	6.5	EC	1.22	lb ai/a	1.5	pt/a	PRE	A	0	0	0
8	BOUNDARY	6.5	EC	1.46	lb ai/a	1.8	pt/a	PRE	A	0	0	0
9	DOMAIN	60	WG	0.375	lb ai/a	10	oz/a	PRE	A	0	0	0
10	A14972A	5.3	EC	0.66	lb ai/a	0.5	qt/a	PRE	A	0	0	0
10	TOUCHDOWN TOTAL	4.17	SC	0.78	lb ae/a	24	fl oz/a	4-6"W-2	C	12	97	96
11	A14972A	5.3	EC	0.99	lb ai/a	0.75	qt/a	PRE	A	0	0	0
11	TOUCHDOWN TOTAL	4.17	SC	0.78	lb ae/a	24	fl oz/a	4-6"W-2	C	13	98	96
12	A14972A	5.3	EC	1.33	lb ai/a	1.0	qt/a	PRE	A	0	0	0
12	TOUCHDOWN TOTAL	4.17	SC	0.78	lb ae/a	24	fl oz/a	4-6"W-2	C	23	99	97
13	A14972A	5.3	EC	1.66	lb ai/a	1.25	qt/a	PRE	A	0	0	0
13	TOUCHDOWN TOTAL	4.17	SC	0.78	lb ae/a	24	fl oz/a	4-6"W-2	C	50	99	97
14	A14972A	5.3	EC	1.99	lb ai/a	1.5	qt/a	PRE	A	0	0	0
14	TOUCHDOWN TOTAL	4.17	SC	0.78	lb ae/a	24	fl oz/a	4-6"W-2	C	30	99	99
15	BOUNDARY	6.5	EC	1.22	lb ai/a	1.5	pt/a	PRE	A	0	0	0
15	TOUCHDOWN TOTAL	4.17	SC	0.78	lb ae/a	24	fl oz/a	4-6"W-2	C	23	97	97
16	BOUNDARY	6.5	EC	1.46	lb ai/a	1.8	pt/a	PRE	A	0	0	0
16	TOUCHDOWN TOTAL	4.17	SC	0.78	lb ae/a	24	fl oz/a	4-6"W-2	C	33	97	97
17	TOUCHDOWN TOTAL	4.17	SC	0.78	lb ae/a	24	fl oz/a	4-6"W-1	B	0	0	93
18	TOUCHDOWN TOTAL	4.17	SC	0.78	lb ae/a	24	fl oz/a	4-6"W-1	B	0	0	95
18	TOUCHDOWN TOTAL	4.17	SC	0.78	lb ae/a	24	fl oz/a	2-4"RG	D	0	0	98
19	FLEXSTAR	1.88	EC	0.352	lb ai/a	24	fl oz/a	4-6"W-1	B	10	0	47
19	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	4-6"W-1	B	0	0	37
19	28% UAN	100	LIQ	2.5	% v/v	2.5	% v/v	4-6"W-1	B	0	0	37
20	RAPTOR	1	AS	0.039	lb ai/a	5	fl oz/a	4-6"W-1	B	0	0	5
20	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	4-6"W-1	B	0	0	12
20	28% UAN	100	LIQ	2.5	% v/v	2.5	% v/v	4-6"W-1	B	0	0	12
21	SENCOR	75	WG	0.234	lb ai/a	5	oz/a	PRE	A	0	0	23
22	SEQUENCE	5.25	EW	1.97	lb ai/a	3	pt/a	4-6"W-1	B	0	0	98
LSD (P=.05)						0.0	0.0	0.0	20.9	14.6	13.9	
Replicate F						0.000	0.000	0.000	5.675	3.124	7.083	
Replicate Prob(F)						1.0000	1.0000	1.0000	0.0078	0.0543	0.0022	
Treatment F						0.000	0.000	0.000	3.679	69.483	71.955	
Treatment Prob(F)						1.0000	1.0000	1.0000	0.0008	0.0001	0.0001	

Trial Comments

1. Protocol: Syngenta.
2. Ratings: CI 28 DAE; WC 28 and 42 DAE (PRE trts) and 14 and 28 DAT (POST trts).  
Rate PRE trts with the POST trts.
3. Observe handling and mixing characteristics.
4. DAE = Days after emergence.  
Ratings on 7-7-05 were also 28 days after the 4-6"W-1 and 4-6"W-2 applications and 6 days after the 2-4"RG application.