

Purdue University

Glyphosate Resistant Horseweed Efficacy - Postemergence Soybean Treatments

Trial ID: 04-SEPAC-GRH-SPST
Location: SEPAC

Study Dir.:
Investigator: Dr. Bill Johnson

GENERAL TRIAL INFORMATION

Investigator: Dr. Bill Johnson

TRIAL LOCATION

City: Butlerville
State/Prov.: IN
Postal Code: 47223
Country: USA
E-Longitude of LL Corner °: 274.479420 N-Latitude of LL Corner °: 39.034100
Altitude of LL Corner: 766.00 Unit: feet
Directions: Field S10 (south study)

COOPERATOR/LANDOWNER

Cooperator: Southeast Purdue Ag Center Country: USA
Address 1: 4425 E Co Rd 350 N Phone No: 812-458-6977
Address 2: PO Box 216 Fax No: 812-458-6979
City: Butlerville
State/Prov: IN
Postal Code: 47223

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	ERICA	HORSEWEED	ERIGERON CANADENSIS L.

Crop 1: GLXMA SOYBEAN Variety: P93M80
Planting Date: 5/Jun/2004 Planting Method: DRILLED
Rate: 204500 S/A Depth: 1 IN
Row Spacing: 7.5 IN

SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 4
Tillage Type: No-Till Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	soybean	glyphosate	2003

MAINTENANCE

Field Prep./Maintenance:

May 24, 2004 - Field prep / maintenance: SEPAC farm crew applied Fusion (20 oz/acre) to the study area to get rid of the false timothy and annual bluegrass. Most of the winter annuals are gone, and this will provide a fairly pure culture of horseweed.

SOIL DESCRIPTION

% OM: 1.3 Texture: Silt Loam
pH: 5.7 Soil Name: Clermont
CEC: 5.5 Fert. Level: P - 29 ppm, K - 61 ppm

APPLICATION DESCRIPTION

	A
Application Date:	8/Jul/2004
Time of Day:	0930-1015
Application Method:	SPRAY
Application Timing:	Late POST
Applic. Placement:	BROFOL
Air Temp., Unit:	66 F
% Relative Humidity:	90
Wind Velocity, Unit:	3 MPH
Soil Temp., Unit:	72 F
Soil Moisture:	dry surf
% Cloud Cover:	60

Purdue University

CROP STAGE AT EACH APPLICATION

A	
Crop 1 Code, Stage:	GLXMA
Stage Scale:	V4-V5, R1
Height, Unit:	10 IN

WEED STAGE AT EACH APPLICATION

A	
Weed 1 Code, Stage:	ERICA
Stage Scale:	cotyl.-8"
Density, Unit:	100+ M2

APPLICATION EQUIPMENT

A	
Appl. Equipment:	CO2 Backp
Operating Pressure:	25
Nozzle Type:	VS
Nozzle Size:	8002
Nozzle Spacing, Unit:	20 IN
Boom Length, Unit:	10 FT
Ground Speed, Unit:	3 MPH
Carrier:	water
Spray Volume, Unit:	15 gpa
Propellant:	CO2

Purdue University

Glyphosate Resistant Horseweed Efficacy - Postemergence Soybean Treatments

Trial ID: 04-SEPAC-GRH-SPST
Location: SEPAC

Study Dir.:
Investigator: Dr. Bill Johnson

				ERICA GLXMA PLAQUA P CONTRO	ERICA GLXMA PLAQUA C PHYGEN	ERICA GLXMA PLAQUA P CONTRO	ERICA GLXMA PLAQUA P CONTRO
				%control 26/Jul/2004 12-18"	%injury 9/Aug/2004 24"	%control 9/Aug/2004	%control 5/Oct/2004
				R1 1-36"	R4-R5		R8 1-60+" 9-99M2
				50+ M2		50+ M2	
				Earl & Reece 18 DA-A 0	Reece & Vince 32 DA-A 0	Reece & Vince 32 DA-A 0	Reece & Vince 89 DA-A 0
Trt	Treatment	Rate	Grow				
No.	Name	Unit	Stg	1	2	3	4
1	Classic Crop Oil Conc AMS	0.0078 lb ai/a	post post post	81 abc	0 b	84 ab	84 ab
2	FirstRate Crop Oil Conc AMS	0.0157 lb ai/a	post post post	88 ab	0 b	99 a	100 a
3	2,4-DB Ester AMS	0.0312 lb ae/a	post post	12 e	0 b	24 c	18 c
4	Classic 2,4-DB Ester Crop Oil Conc AMS	0.0078 lb ai/a 0.0312 lb ae/a	post post post post	79 abc	3 b	83 ab	69 ab
5	FirstRate 2,4-DB Ester Crop Oil Conc AMS	0.0157 lb ai/a 0.0312 lb ae/a	post post post post	90 a	2 b	94 ab	96 ab
6	Roundup Weathermax AMS	0.77 lb ae/a	post post	46 d	7 b	60 b	69 ab
7	Roundup Weathermax AMS	1.16 lb ae/a	post post	76 abc	0 b	90 ab	95 ab
8	Untreated check			0 e	3 b	0 d	0 c
9	Roundup Weathermax Classic Crop Oil Conc AMS	0.77 lb ae/a 0.0078 lb ai/a	post post post post	60 bcd	6 b	80 ab	88 ab
10	Roundup Weathermax Classic Crop Oil Conc AMS	1.16 lb ae/a 0.0078 lb ai/a	post post post post	86 abc	5 b	93 ab	96 ab
11	Roundup Weathermax FirstRate Crop Oil Conc AMS	0.77 lb ae/a 0.0157 lb ai/a	post post post post	73 abc	0 b	89 ab	97 ab
12	Roundup Weathermax FirstRate Crop Oil Conc AMS	1.16 lb ae/a 0.0157 lb ai/a	post post post post	70 a-d	0 b	89 ab	98 ab
13	Roundup Weathermax 2,4-DB Ester AMS	0.77 lb ae/a 0.0312 lb ae/a	post post post	58 cd	18 a	68 ab	68 ab
14	Roundup Weathermax 2,4-DB Ester AMS	1.16 lb ae/a 0.0312 lb ae/a	post post post	45 d	10 ab	62 b	67 b

Purdue University

Weed Code	ERICA		ERICA		ERICA		ERICA	
Crop Code	GLXMA		GLXMA		GLXMA		GLXMA	
Part Rated	PLAQUA P		PLAQUA C		PLAQUA P		PLAQUA P	
Rating Data Type	CONTRO		PHYGEN		CONTRO		CONTRO	
Rating Unit	%control		%injury		%control		%control	
Rating Date	26/Jul/2004		9/Aug/2004		9/Aug/2004		5/Oct/2004	
Crop Stage	12-18"		24"					
Crop Stage Scale	R1		R4-R5				R8	
Weed Stage	1-36"				1-48"		1-60+"	
Weed Density, Unit	50+ M2				50+ M2		9-99M2	
Assessed By	Earl & Reece		Reece & Vince		Reece & Vince		Reece & Vince	
Trt-Eval Interval	18 DA-A		32 DA-A		32 DA-A		89 DA-A	
# Subsamples, Dec.	0		0		0		0	
Trt No.	Treatment Name	Rate	Unit	Grow Stg	1	2	3	4
15	Roundup Weathermax Classic	0.77	lb ae/a	post	83 abc	0 b	93 ab	90 ab
	2,4-DB Ester	0.0078	lb ai/a	post				
	Crop Oil Conc	0.0312	lb ae/a	post				
	AMS			post				
16	Roundup Weathermax Classic	1.16	lb ae/a	post	87 ab	7 b	94 ab	96 ab
	2,4-DB Ester	0.0078	lb ai/a	post				
	Crop Oil Conc	0.0312	lb ae/a	post				
	AMS			post				
17	Roundup Weathermax FirstRate	0.77	lb ae/a	post	83 abc	10 ab	93 ab	98 ab
	2,4-DB Ester	0.0157	lb ai/a	post				
	Crop Oil Conc	0.0312	lb ae/a	post				
	AMS			post				
18	Roundup Weathermax FirstRate	1.16	lb ae/a	post	69 a-d	10 ab	89 ab	97 ab
	2,4-DB Ester	0.0157	lb ai/a	post				
	Crop Oil Conc	0.0312	lb ae/a	post				
	AMS			post				
LSD (P=.05)					16.6	6.7	19.9	17.8
Standard Deviation					11.7	4.7	14.1	12.6
CV					17.86	107.81	18.31	15.95
Grand Mean					65.76	4.38	76.78	79.1
Bartlett's X2					16.038	9.168	46.628	62.492
P(Bartlett's X2)					0.45	0.422	0.001*	0.001*
Replicate F					1.237	2.452	0.586	3.172
Replicate Prob(F)					0.3061	0.0778	0.6271	0.0319
Treatment F					19.064	4.547	14.178	20.133
Treatment Prob(F)					0.0001	0.0001	0.0001	0.0001

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.