

Purdue University

Residual soybean herbicides and winter weed emergence

Trial ID: 04-ACRE-SOY-WINT
Location: ACRE

Study Dir.:
Investigator: Dr. Bill Johnson

GENERAL TRIAL INFORMATION

Investigator: Dr. Bill Johnson

TRIAL LOCATION

City: West Lafayette
State/Prov.: IN
Postal Code: 47906
Country: USA
E-Longitude of LL Corner °: 272.996680 N-Latitude of LL Corner °: 40.491330
Altitude of LL Corner: 657.00 Unit: FT
Directions: Agronomy Center for Research and Education (ACRE) - Field 102

COOPERATOR/LANDOWNER

Cooperator: Agronomy Center for Res. & Educ. Country: USA
Phone No: 765-463-2632
Address 1: 4540 U.S. 52 West
City: West Lafayette
State/Prov: IN
Postal Code: 47906

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 (marestail)	<i>Conyza canadensis</i>
2.	STEME	Chickweed, common	<i>Stellaria media</i>
3.	TAROF	Dandelion	<i>Taraxacum officinale</i>
4.	CAPBP	Shepherd's purse	<i>Capsella bursa-pastoris</i>
5.	SENGL	Senecio glabellus	<i>Packera glabellus</i>
6.	ERPVE	Spring draba	<i>Draba verna</i>
7.	VARAR	Corn speedwell	<i>Veronica arvensis</i>
8.	RANAB	Buttercup, smallflower	<i>Ranunculus abortivus</i>

Crop 1: GLXMA SOYBEAN

Variety: Harvest Residue

Row Spacing: 30 IN

Crop 2: GLXMA SOYBEAN

Planting Date: 10/May/2004

Planting Method: No-till planted

Row Spacing: 30 IN

SITE AND DESIGN

Plot Width, Unit: 10 FT

Plot Length, Unit: 30 FT Reps: 4

Tillage Type: No-Till

Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	soybean	glyphosate	2003

APPLICATION DESCRIPTION

	A	B
Application Date:	11/May/2004	7/Jun/2004
Time of Day:	1430-1500	1400-1430
Application Method:	SPRAY	SPRAY
Application Timing:	PREPRE	POSPOS
Applic. Placement:	BROSOI	BROFOL
Air Temp., Unit:	82 F	87 F
% Relative Humidity:	66	55
Wind Velocity, Unit:	9 MPH	10 MPH
Soil Temp., Unit:	81 F	84 F
Soil Moisture:	wet surf	dry surf
% Cloud Cover:	60	5

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CROP STAGE AT EACH APPLICATION

	A	B
Crop 1 Code, Stage:	GLXMA residue	GLXMA residue
Stage Scale:	90% resid	not noted
Crop 2 Code, Stage:	GLXMA	GLXMA V1
Stage Scale:	na - pre	4-6", V1
Height, Unit:		5 IN

WEED STAGE AT EACH APPLICATION

	A	B
Weed 1 Code, Stage:	CHEAL residue	CHEAL
Stage Scale:	90% resid	not noted

APPLICATION EQUIPMENT

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

Trt No	Treatment Application Comment
1	split application due to calculation error: ~75% (5/11) & ~25% (5/19)
2	split application due to calculation error: ~75% (5/11) & ~25% (5/19)
3	split application due to calculation error: ~75% (5/11) & ~25% (5/19)
4	split application due to calculation error: ~75% (5/11) & ~25% (5/19)
6	split application due to calculation error: ~75% (5/11) & ~25% (5/19)
8	split application due to calculation error: ~75% (5/11) & ~25% (5/19)

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Weed Code	ERICA PLAEME P COUPLA	STEME PLAEME P COUPLA	TAROF PLAEME P COUPLA	CAPBP PLAEME P COUPLA	SENGL PLAEME P COUPLA				
Part Rated									
Rating Data Type									
Rating Unit	/sq. m								
Rating Date	21/Dec/2004	21/Dec/2004	21/Dec/2004	21/Dec/2004	21/Dec/2004				
Weed Stage	emerge	emerge	emerge	emerge	emerge				
Assessed By	group	group	group	group	group				
Trt-Eval Interval	197 DA-B								
# Subsamples, Dec.	2 0	2 0	2 0	2 0	2 0				
Trt No.	Treatment Name	Rate	Grow Unit	Stg	1	2	3	4	5
1	Canopy XL		PRE		0 a	0 a	0 a	0 a	1 a
	Authority	0.187 lb ai/a	PRE						
	Classic	0.0375 lb ai/a	PRE						
	Roundup Weathermax	0.77 lb ae/a	POST						
	AMS		POST						
	Roundup Weathermax	0.77 lb ae/a	POST+3W						
	AMS		POST+3W						
2	Gauntlet		PRE		0 a	0 a	0 a	0 a	2 a
	Authority	0.25 lb ai/a	PRE						
	FirstRate	0.0315 lb ai/a	PRE						
	Roundup Weathermax	0.77 lb ae/a	POST						
	AMS		POST						
	Roundup Weathermax	0.77 lb ae/a	POST+3W						
	AMS		POST+3W						
3	Gangster		PRE		0 a	1 a	0 a	0 a	1 a
	Valor	0.096 lb ai/a	PRE						
	FirstRate	0.0315 lb ai/a	PRE						
	Roundup Weathermax	0.77 lb ae/a	POST						
	AMS		POST						
	Roundup Weathermax	0.77 lb ae/a	POST+3W						
	AMS		POST+3W						
4	FirstRate	0.0315 lb ai/a	PRE		0 a	0 a	0 a	0 a	2 a
	Roundup Weathermax	0.77 lb ae/a	POST						
	AMS		POST						
	Roundup Weathermax	0.77 lb ae/a	POST+3W						
	AMS		POST+3W						
5	FirstRate	0.0157 lb ai/a	POST		0 a	0 a	0 a	0 a	1 a
	Roundup Weathermax	0.77 lb ae/a	POST						
	AMS		POST						
	Roundup Weathermax	0.77 lb ae/a	POST+3W						
	AMS		POST+3W						
6	Scepter	0.122 lb ai/a	PRE		0 a	0 a	0 a	0 a	2 a
	Roundup Weathermax	0.77 lb ae/a	POST						
	AMS		POST						
	Roundup Weathermax	0.77 lb ae/a	POST+3W						
	AMS		POST+3W						
7	Scepter	0.061 lb ai/a	POST		0 a	0 a	0 a	0 a	1 a
	Roundup Weathermax	0.77 lb ae/a	POST						
	AMS		POST						
	Roundup Weathermax	0.77 lb ae/a	POST+3W						
	AMS		POST+3W						
8	Sencor 75DF	0.375 lb ai/a	PRE		0 a	0 a	0 a	0 a	1 a
	Python	0.05 lb ai/a	PRE						
	Roundup Weathermax	0.77 lb ae/a	POST						
	AMS		POST						
	Roundup Weathermax	0.77 lb ae/a	POST+3W						
	AMS		POST+3W						

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Weed Code	ERICA	STEME	TAROF	CAPBP	SENGL		
Part Rated	PLAEME P	PLAEME P	PLAEME P	PLAEME P	PLAEME P		
Rating Data Type	COUPLA	COUPLA	COUPLA	COUPLA	COUPLA		
Rating Unit	/sq. m	/sq. m	/sq. m	/sq. m	/sq. m		
Rating Date	21/Dec/2004	21/Dec/2004	21/Dec/2004	21/Dec/2004	21/Dec/2004		
Weed Stage	emerge	emerge	emerge	emerge	emerge		
Assessed By	group	group	group	group	group		
Trt-Eval Interval	197 DA-B	197 DA-B	197 DA-B	197 DA-B	197 DA-B		
# Subsamples, Dec.	2 0	2 0	2 0	2 0	2 0		
Trt No.	Treatment Name	Rate	Rate Unit	Grow Stg			
					1 2 3 4 5		
9	Untreated				0 a 0 a 0 a 0 a 3 a		
	Roundup Weathermax AMS	0.77	lb ae/a	POST			
	Roundup Weathermax AMS	0.77	lb ae/a	POST+3W			
LSD (P=.05)		0.1		0.5	0.3	0.2	1.5
Standard Deviation		0.1		0.3	0.2	0.1	1.1
CV		600.0		310.75	359.69	294.39	74.07
Grand Mean		0.01		0.11	0.06	0.04	1.43
Bartlett's X2		0.0		9.183	2.013	0.061	5.407
P(Bartlett's X2)		.		0.027*	0.365	0.805	0.713
Replicate F		1.000		1.087	1.391	1.692	2.151
Replicate Prob(F)		0.4098		0.3734	0.2696	0.1953	0.1203
Treatment F		1.000		1.369	0.826	2.077	1.491
Treatment Prob(F)		0.4613		0.2595	0.5881	0.0795	0.2125

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.

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Weed Code				ERPVE	VERAR	RANAB	
Part Rated				PLAEME P	PLAEME P	PLAEME P	
Rating Data Type				COUPLA	COUPLA	COUPLA	
Rating Unit				/sq. m	/sq. m	/sq. m	
Rating Date				21/Dec/2004	21/Dec/2004	21/Dec/2004	
Weed Stage				emerge	emerge	emerge	
Assessed By				group	group	group	
Trt-Eval Interval				197 DA-B	197 DA-B	197 DA-B	
# Subsamples, Dec.				2 0	2 0	2 0	
Trt No.	Treatment Name	Rate	Unit	Grow Stg	6	7	8
1	Canopy XL			PRE	0 a	0 a	0 a
	Authority	0.187	lb ai/a	PRE			
	Classic	0.0375	lb ai/a	PRE			
	Roundup Weathermax	0.77	lb ae/a	POST			
	AMS			POST			
	Roundup Weathermax	0.77	lb ae/a	POST+3W			
	AMS			POST+3W			
2	Gauntlet			PRE	0 a	0 a	0 a
	Authority	0.25	lb ai/a	PRE			
	FirstRate	0.0315	lb ai/a	PRE			
	Roundup Weathermax	0.77	lb ae/a	POST			
	AMS			POST			
	Roundup Weathermax	0.77	lb ae/a	POST+3W			
	AMS			POST+3W			
3	Gangster			PRE	0 a	0 a	0 a
	Valor	0.096	lb ai/a	PRE			
	FirstRate	0.0315	lb ai/a	PRE			
	Roundup Weathermax	0.77	lb ae/a	POST			
	AMS			POST			
	Roundup Weathermax	0.77	lb ae/a	POST+3W			
	AMS			POST+3W			
4	FirstRate	0.0315	lb ai/a	PRE	0 a	0 a	0 a
	Roundup Weathermax	0.77	lb ae/a	POST			
	AMS			POST			
	Roundup Weathermax	0.77	lb ae/a	POST+3W			
	AMS			POST+3W			
5	FirstRate	0.0157	lb ai/a	POST	0 a	0 a	0 a
	Roundup Weathermax	0.77	lb ae/a	POST			
	AMS			POST			
	Roundup Weathermax	0.77	lb ae/a	POST+3W			
	AMS			POST+3W			
6	Scepter	0.122	lb ai/a	PRE	0 a	0 a	0 a
	Roundup Weathermax	0.77	lb ae/a	POST			
	AMS			POST			
	Roundup Weathermax	0.77	lb ae/a	POST+3W			
	AMS			POST+3W			
7	Scepter	0.061	lb ai/a	POST	0 a	0 a	0 a
	Roundup Weathermax	0.77	lb ae/a	POST			
	AMS			POST			
	Roundup Weathermax	0.77	lb ae/a	POST+3W			
	AMS			POST+3W			
8	Sencor 75DF	0.375	lb ai/a	PRE	0 a	0 a	0 a
	Python	0.05	lb ai/a	PRE			
	Roundup Weathermax	0.77	lb ae/a	POST			
	AMS			POST			
	Roundup Weathermax	0.77	lb ae/a	POST+3W			
	AMS			POST+3W			

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Weed Code				ERPVE	VERAR	RANAB	
Part Rated				PLAEME P	PLAEME P	PLAEME P	
Rating Data Type				COUPLA	COUPLA	COUPLA	
Rating Unit				/sq. m	/sq. m	/sq. m	
Rating Date				21/Dec/2004	21/Dec/2004	21/Dec/2004	
Weed Stage				emerge	emerge	emerge	
Assessed By				group	group	group	
Trt-Eval Interval				197 DA-B	197 DA-B	197 DA-B	
# Subsamples, Dec.				2 0	2 0	2 0	
Trt No.	Treatment Name	Rate	Rate Unit	Grow Stg	6	7	8
9	Untreated				1 a	0 a	0 a
	Roundup Weathermax AMS	0.77	lb ae/a	POST			
	Roundup Weathermax AMS	0.77	lb ae/a	POST+3W			
LSD (P=.05)				1.0	0.3	0.2	
Standard Deviation				0.7	0.2	0.1	
CV				600.0	454.61	433.01	
Grand Mean				0.11	0.04	0.03	
Bartlett's X2				0.0	1.315	0.0	
P(Bartlett's X2)				.	0.252	0.001*	
Replicate F				1.000	0.710	0.640	
Replicate Prob(F)				0.4098	0.5557	0.5967	
Treatment F				1.000	0.871	0.840	
Treatment Prob(F)				0.4613	0.5538	0.5774	

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.