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## TO DETERMINE THE EFFICACY OF GLYFOS X-TRA+IMAZETHAPYR APPLIED AS A BURNDOWN 2-3 WEEKS PRIOR TO PLANTING OR POST 2-3 WEEKS AFTER PLANTING SOYBEAN IN 2007

Trial ID: HGLXMAGFIM0701

Protocol ID: HGLXMAGFIM0701

Location: USA

Study Director:

Investigator: Dr. William G. Johnson

### General Trial Information

**Study Director:** Vince Davis / Kevin Westerfeld **Title:** Research Associate  
**Affiliation:** Purdue University  
**Postal Code:** 47907 **E-mail:** davisv@purdue.edu/kwesterf@purdue.edu  
**Investigator:** Dr. William G. Johnson **Title:** Associate Professor  
**Affiliation:** Purdue University  
**Postal Code:** 47097 **E-mail:** wgj@purdue.edu  
**Keywords:** GLYFOS X-TRA, IMAZAEHTAPYR, REDUCED RATE, EFFICACY, SOYBEAN, BURNDOWN, POST

### Trial Location

**City:** Lafayette  
**State/Prov.:** IN  
**Postal Code:** 47909-9049  
**Country:** USA  
**Directions:**  
 Field U41

### Objectives:

To determine the efficacy of glypos x-tra+imazethapyr applied as a burndown 2-3 weeds prior to planting or post 2-3 weeks after planting soybean in 2007

### Cooperator/Landowner

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

### Crop Description

**Crop 1:** GLXMA Glycine max **Soybean**  
**Variety:** Pioneer 93M95 **Description:** RR; Bill planted  
**BBCH Scale:** BSOY **Planting Date:** May/08/2007  
**Planting Method:** DIRECT DRILLED **Rate, Unit:** 120000 S/A  
**Depth, Unit:** 2 IN  
**Row Spacing, Unit:** 30 IN  
**Soil Moisture:** Moist **Soil Temperature, Unit:** 80 F  
**Emergence Date:** May/15/2007

### Pest Description

**Pest 1 Type:** W **Code:** POAAN **Poa annua**  
**Common Name:** Annual bluegrass  
**Pest 2 Type:** W **Code:** SENGL **Senecio glabellus**  
**Common Name:** Cressleaf groundsel  
**Pest 3 Type:** W **Code:** TAROF **Taraxacum officinale**  
**Common Name:** Common dandelion  
**Pest 4 Type:** W **Code:** ERICA **Erigeron canadensis**  
**Common Name:** Canada horseweed  
**Pest 5 Type:** W **Code:** PANDI **Panicum dichotomiflorum**  
**Common Name:** Fall panicum  
**Pest 6 Type:** W **Code:** DIGSA **Digitaria sanguinalis**  
**Common Name:** Large crabgrass

### Site and Design

**Plot Width, Unit:** 10 FT **Site Type:** FIELD  
**Plot Length, Unit:** 30 FT **Tillage Type:** NO-TILL  
**Replications:** 4 **Study Design:** Randomized Complete Block

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## Soil Description

Description Name: SEPAC U41

% OM:	1.4	Texture:	SILT LOAM
pH:	6	Soil Name:	Avonburg
CEC:	5		

## Additional Measured Elements

Element	Quantity	Unit
P	15	PPM
K	95	PPM
Mg	134	PPM
Ca	735	PPM

## Moisture and Weather Conditions

Closest Weather Station: On the farm      Distance: 0.5      Unit: MI

## Application Description

	A	B
Application Date:	Apr/27/2007	May/25/2007
Time of Day:	12:00pm	8-8:30am
Application Method:	SPRAY	SPRAY
Application Timing:	BRNDWN	2-3 WAP
Application Placement:	BROFOL	BROFOL
Applied By:		VMD
Air Temperature, Unit:	72 F	75 F
% Relative Humidity:	75	76
Wind Velocity, Unit:	2 MPH	4 MPH
Wind Direction:	W	SW
Dew Presence (Y/N):	Y	Y
Water Hardness:	Hard	Hard
Soil Temperature, Unit:	58 F	70 F
Soil Moisture:	Wet	Dry
% Cloud Cover:	0	0

## Crop Stage At Each Application

	A	B
Crop 1 Code, BBCH Scale:	GLXMA BSOY	GLXMA BSOY
Stage Scale Used:		DESC
Stage Majority, Percent:		10
Stage Maximum, Percent:		10
Height, Unit:		2.5 IN
Height Minimum, Maximum:		2 3

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## Pest Stage At Each Application

	A	B
<b>Pest 1 Code, Disc., Scale:</b>	POAAN W	POAAN W
<b>Stage Majority, Percent:</b>		89
<b>Height, Unit:</b>	4 IN	5 IN
<b>Height Minimum, Maximum:</b>	3 6	4 6
<b>Density, Unit:</b>	10 YD2	10 YD2
<b>Pest 2 Code, Disc., Scale:</b>	SENGL W	SENGL W
<b>Stage Majority, Percent:</b>		65
<b>Height, Unit:</b>	12 IN	30 IN
<b>Height Minimum, Maximum:</b>	6 20	24 36
<b>Density, Unit:</b>	3 YD2	3 YD2
<b>Pest 3 Code, Disc., Scale:</b>	TAROF W	TAROF W
<b>Stage Majority, Percent:</b>		65
<b>Diameter, Unit:</b>	3 IN	16 IN
<b>Density, Unit:</b>	80 YD2	40 YD2
<b>Pest 4 Code, Disc., Scale:</b>	ERICA W	ERICA W
<b>Height, Unit:</b>	2 IN	4 IN
<b>Height Minimum, Maximum:</b>	0 3	0 8
<b>Density, Unit:</b>	0.5 YD2	2 YD2
<b>Pest 5 Code, Disc., Scale:</b>	PANDI W	PANDI W
<b>Stage Majority, Percent:</b>		11
<b>Height, Unit:</b>		0.5 IN
<b>Height Minimum, Maximum:</b>		0 1
<b>Density, Unit:</b>		100 YD2
<b>Pest 6 Code, Disc., Scale:</b>	DIGSA W	DIGSA W

## Application Equipment

	A	B
<b>Appl. Equipment:</b>	Backpack	Backpack
<b>Operating Pressure, Unit:</b>	17 PSI	17 PSI
<b>Nozzle Type:</b>	TeeJet XR	TeeJet XR
<b>Nozzle Size:</b>	11002	11002
<b>Nozzle Spacing, Unit:</b>	15 IN	15 IN
<b>Nozzles/Row:</b>	6	6
<b>Boom Length, Unit:</b>	7.5 FT	7.5 FT
<b>Boom Height, Unit:</b>	15 IN	15 IN
<b>Ground Speed, Unit:</b>	3 MPH	3 MPH
<b>Carrier:</b>	TPAC H2O	TPAC H2O
<b>Spray Volume, Unit:</b>	15 GAL/AC	15 GAL/AC
<b>Mix Size, Unit:</b>	1.8 Liters	1.8 Liters
<b>Propellant:</b>	CO2	CO2

Trial Comments

Trial was crop destructed by mowing and discing on July 10, 2007. VMD

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Trial ID: HGLXMAGFIM0701  
 Location: USA

Protocol ID: HGLXMAGFIM0701  
 Study Director:  
 Investigator: Dr. William G. Johnson

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code	POAAN	SENGL	TAROF	ERICA	POAAN	SENGL	TAROF
Pest Name	Annual blue>	Cressleaf g>	Common dand>	Horseweed	Annual blue>	Cressleaf g>	Common dand>
Crop Code	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA
BBCH Scale	BSOY	BSOY	BSOY	BSOY	BSOY	BSOY	BSOY
Crop Name	Soybean	Soybean	Soybean	Soybean	Soybean	Soybean	Soybean
Crop Variety	P93M95	P93M95	P93M95	P93M95	P93M95	P93M95	P93M95
Part Rated	PLAQUA P	PLAQUA P	PLAQUA P	PLAQUA P	PLAQUA P	PLAQUA P	PLAQUA P
Rating Date	Apr/30/2007	Apr/30/2007	Apr/30/2007	Apr/30/2007	May/08/2007	May/08/2007	May/08/2007
Rating Data Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit	%	%	%	%	%	%	%
Crop Stage	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crop Stage Scale							
Pest Stage	3-6"	8-22"	3-22"	0-1"	3-6"	10-54"	6"
Pest Density, Unit	10 YD2	3 YD2	80 YD2	0.5 YD2	10 YD2	13 YD2	40 YD2
Footnote Number							
Assessed By	VMD KW	VMD KW	VMD KW	VMD KW	VMD KW	VMD KW	VMD KW
Rating Timing	7 DAT A	7 DAT A	7 DAT A	7 DAT A	14 DAT A	14 DAT A	14 DAT A
Days After First/Last Applic.	3 3	3 3	3 3	3 3	11 11	11 11	11 11
Plant-Eval Interval	-8 DP-1	-8 DP-1	-8 DP-1	-8 DP-1	0 DP-1	0 DP-1	0 DP-1
Trt Treatment	Rate	Other	Other	Growth	Appl		
No. Name	Rate	Unit	Rate	Rate Unit	Stage	Code	Plot
							1
							2
							3
							4
							5
							6
							7
1	GLYFOS X-TRA	1 lb ai/a	32 oz/a	BRNDWN	A	101	50.0
	PURSUIT	0.0313 lb ai/a	2 oz/a	BRNDWN	A	205	40.0
	Ammonium Sulfate	2.55 lb ai/a	17 lb/100 gal	BRNDWN	A	302	45.0
						407	55.0
	Mean =						47.5
2	GLYFOS X-TRA	1 lb ai/a	32 oz/a	BRNDWN	A	102	50.0
	PURSUIT	0.047 lb ai/a	3 oz/a	BRNDWN	A	206	45.0
	Ammonium sulfate	2.55 lb ai/a	17 lb/100 gal	BRNDWN	A	308	50.0
						402	50.0
	Mean =						48.8
3	EXTREME	0.81 lb ai/a	3 pt/a	BRNDWN	A	103	50.0
	Ammonium Sulfate	2.55 lb ai/a	17 lb/100 gal	BRNDWN	A	208	50.0
	NIS	0.25 % v/v	0.25 % v/v	BRNDWN	A	303	55.0
						408	50.0
	Mean =						51.3
4	GLYFOS X-TRA	1 lb ai/a	32 oz/a	BRNDWN	A	104	60.0
	PURSUIT	0.0313 lb ai/a	2 oz/a	BRNDWN	A	207	50.0
	Ammonium Sulfate	2.55 lb ai/a	17 lb/100 gal	BRNDWN	A	305	50.0
	GLYFOS X-TRA	1 lb ai/a	32 oz/a	2-3 WAP	B	401	45.0
	PURSUIT	0.0313 lb ai/a	2 oz/a	2-3 WAP	B		
	Ammonium Sulfate	2.55 lb ai/a	17 lb/100 gal	2-3 WAP	B		
	Mean =						51.3
5	GLYFOS X-TRA	1 lb ai/a	32 oz/a	2-3 WAP	B	105	0.0
	PURSUIT	0.0313 lb ai/a	2 oz/a	2-3 WAP	B	203	0.0
	Ammonium Sulfate	2.55 lb ai/a	17 lb/100 gal	2-3 WAP	B	304	0.0
						403	0.0
	Mean =						0.0
6	GLYFOS X-TRA	1 lb ai/a	32 oz/a	2-3 WAP	B	106	0.0
	PURSUIT	0.047 lb ai/a	3 oz/a	2-3 WAP	B	202	0.0
	Ammonium Sulfate	2.55 lb ai/a	17 lb/100 gal	2-3 WAP	B	307	0.0
						406	0.0
	Mean =						0.0



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								W Weed		W Weed	W Weed	W Weed	W Weed	W Weed
								ERICA		ERICA	TAROF	ERICA	TAROF	
								Horseweed		Horseweed	Common dand->	Horseweed	Common dand->	
								GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	
								BSOY	BSOY	BSOY	BSOY	BSOY	BSOY	
								Soybean	Soybean	Soybean	Soybean	Soybean	Soybean	
								P93M95	P93M95	P93M95	P93M95	P93M95	P93M95	
								PLAQUA P	PLAQUA C	PLAQUA P	PLAQUA P	PLAQUA C	PLAQUA P	
								May/08/2007	Jun/04/2007	Jun/04/2007	Jun/04/2007	Jun/13/2007	Jun/13/2007	
								CONTRO	PHYGEN	CONTRO	CONTRO	PHYGEN	CONTRO	
								%	%	%	%	%	%	
								N/A	V2	V2	V2	V3	V3	
												4-6"	4-6"	
								0.5-4"		0-12"	5-10"		2-24"	
								2 YD2		3 YD2	32 YD2		3 YD2	
								VMD KW	GK JD	GK JD	GK JD	AW MK	AW MK	
								14 DAT A	7 DAT B	7 DAT B	7 DAT B	14 DAT B	14 DAT B	
								11 11	38 10	38 10	38 10	47 19	47 19	
								0 DP-1	27 DP-1	27 DP-1	27 DP-1	36 DP-1	36 DP-1	
Trt No.	Treatment Name	Rate	Unit	Other Rate	Other Unit	Growth Stage	Appl Code Plot	8	9	10	11	12	13	14
1	GLYFOS X-TRA	1	lb ai/a	32	oz/a	BRNDWN A	101	50.0	2.0	100.0	70.0	3.0	98.0	95.0
	PURSUIT	0.0313	lb ai/a	2	oz/a	BRNDWN A	205	83.0	4.0	90.0	70.0	3.0	95.0	85.0
	Ammonium Sulfate	2.55	lb ai/a	17	lb/100 gal	BRNDWN A	302	80.0	0.0	70.0	70.0	5.0	95.0	90.0
							407	93.0	0.0	85.0	80.0	2.0	95.0	80.0
	Mean =							76.5	1.5	86.3	72.5	3.3	95.8	87.5
2	GLYFOS X-TRA	1	lb ai/a	32	oz/a	BRNDWN A	102	65.0	2.0	100.0	85.0	2.0	98.0	95.0
	PURSUIT	0.047	lb ai/a	3	oz/a	BRNDWN A	206	45.0	2.0	100.0	70.0	5.0	95.0	80.0
	Ammonium sulfate	2.55	lb ai/a	17	lb/100 gal	BRNDWN A	308	50.0	2.0	80.0	70.0	5.0	85.0	60.0
							402	54.0	5.0	95.0	75.0	5.0	90.0	45.0
	Mean =							53.5	2.8	93.8	75.0	4.3	92.0	70.0
3	EXTREME	0.81	lb ai/a	3	pt/a	BRNDWN A	103	70.0	0.0	100.0	80.0	3.0	98.0	88.0
	Ammonium Sulfate	2.55	lb ai/a	17	lb/100 gal	BRNDWN A	208	90.0	2.0	100.0	75.0	3.0	95.0	70.0
	NIS	0.25	% v/v	0.25	% v/v	BRNDWN A	303	83.0	0.0	90.0	80.0	4.0	95.0	60.0
							408	93.0	2.0	80.0	80.0	0.0	80.0	75.0
	Mean =							84.0	1.0	92.5	78.8	2.5	92.0	73.3
4	GLYFOS X-TRA	1	lb ai/a	32	oz/a	BRNDWN A	104	60.0	3.0	100.0	95.0	2.0	98.0	98.0
	PURSUIT	0.0313	lb ai/a	2	oz/a	BRNDWN A	207	55.0	2.0	100.0	97.0	4.0	98.0	95.0
	Ammonium Sulfate	2.55	lb ai/a	17	lb/100 gal	BRNDWN A	305	43.0	2.0	95.0	95.0	3.0	95.0	98.0
	GLYFOS X-TRA	1	lb ai/a	32	oz/a	2-3 WAP B	401	55.0	0.0	99.0	97.0	5.0	98.0	99.0
	PURSUIT	0.0313	lb ai/a	2	oz/a	2-3 WAP B								
	Ammonium Sulfate	2.55	lb ai/a	17	lb/100 gal	2-3 WAP B								
Mean =							53.3	1.8	98.5	96.0	3.5	97.3	97.5	
5	GLYFOS X-TRA	1	lb ai/a	32	oz/a	2-3 WAP B	105	0.0	0.0	100.0	0.0	4.0	95.0	75.0
	PURSUIT	0.0313	lb ai/a	2	oz/a	2-3 WAP B	203	0.0	0.0	100.0	30.0	10.0	95.0	85.0
	Ammonium Sulfate	2.55	lb ai/a	17	lb/100 gal	2-3 WAP B	304	0.0	0.0	100.0	10.0	10.0	95.0	60.0
							403	0.0	2.0	95.0	35.0	3.0	90.0	35.0
	Mean =							0.0	0.5	98.8	18.8	6.8	93.8	63.8
6	GLYFOS X-TRA	1	lb ai/a	32	oz/a	2-3 WAP B	106	0.0	0.0	100.0	0.0	7.0	96.0	83.0
	PURSUIT	0.047	lb ai/a	3	oz/a	2-3 WAP B	202	0.0	0.0	100.0	30.0	7.0	95.0	75.0
	Ammonium Sulfate	2.55	lb ai/a	17	lb/100 gal	2-3 WAP B	307	0.0	0.0	80.0	25.0	8.0	87.0	70.0
							406	0.0	0.0	0.0	75.0	3.0	40.0	65.0
	Mean =							0.0	0.0	70.0	32.5	6.3	79.5	73.3
7	EXTREME	0.81	lb ai/a	3	pt/a	2-3 WAP B	107	0.0	0.0	25.0	40.0	5.0	95.0	88.0
	Ammonium sulfate	2.55	lb ai/a	17	lb/100 gal	2-3 WAP B	204	0.0	0.0	50.0	25.0	8.0	85.0	78.0
	NIS	0.25	% v/v	0.25	% v/v	2-3 WAP B	301	0.0	0.0	80.0	80.0	3.0	70.0	85.0
							405	0.0	0.0	78.0	15.0	12.0	90.0	50.0
	Mean =							0.0	0.0	58.3	40.0	7.0	85.0	75.3
8	UNTREATED						108	0.0	0.0	0.0	0.0	0.0	0.0	0.0
							201	0.0	0.0	0.0	0.0	0.0	0.0	0.0
							306	0.0	0.0	0.0	0.0	0.0	0.0	0.0
							404	0.0	5.0	0.0	0.0	0.0	0.0	0.0
	Mean =							0.0	1.3	0.0	0.0	0.0	0.0	0.0

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Pest Type	W Weed	W Weed		W Weed	W Weed	W Weed	W Weed							
Pest Code	PANDI	DIGSA		ERICA	TAROF	PANDI	DIGSA							
Pest Name	Fall panicum	Large crabg->		Horseweed	Common dand->	Fall panicum	Large crabg->							
Crop Code	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA							
BBCH Scale	BSOY	BSOY	BSOY	BSOY	BSOY	BSOY	BSOY							
Crop Name	Soybean	Soybean	Soybean	Soybean	Soybean	Soybean	Soybean							
Crop Variety	P93M95	P93M95	P93M95	P93M95	P93M95	P93M95	P93M95							
Part Rated	PLAQUA P	PLAQUA P	PLAQUA C	PLAQUA P	PLAQUA P	PLAQUA P	PLAQUA P							
Rating Date	Jun/13/2007	Jun/13/2007	Jun/29/2007	Jun/29/2007	Jun/29/2007	Jun/29/2007	Jun/29/2007							
Rating Data Type	CONTRO	CONTRO	PHYGEN	CONTRO	CONTRO	CONTRO	CONTRO							
Rating Unit	%	%	%	%	%	%	%							
Crop Stage	V3	V3	R1	R1	R1	R1	R1							
Crop Stage Scale	4-6"	4-6"	12-16"	12-16"	12-16"	12-16"	12-16"							
Pest Stage	0-6"	0-2"		2-24"	5-10"	0-6"	0-2"							
Pest Density, Unit	180 YD2	15 YD2		3 YD2	32 YD2	180 YD2	15 YD2							
Footnote Number			1											
Assessed By	AW MK	AW MK	VM MK	VM MK	VM MK	VM MK	VM MK							
Rating Timing	14 DAT B	14 DAT B	28 DAT B	28 DAT B	28 DAT B	28 DAT B	28 DAT B							
Days After First/Last Applic.	47 19	47 19	63 35	63 35	63 35	63 35	63 35							
Plant-Eval Interval	36 DP-1	36 DP-1	52 DP-1	52 DP-1	52 DP-1	52 DP-1	52 DP-1							
Trt No.	Treatment Name	Rate	Other Rate	Other Unit	Growth Stage	Appl Code	Plot	15	16	17	18	19	20	21
1	GLYFOS X-TRA	1 lb ai/a	32 oz/a		BRNDWN A	101		50.0	25.0	3.0	100.0	97.0	93.0	0.0
	PURSUIT	0.0313 lb ai/a	2 oz/a		BRNDWN A	205		25.0	0.0	7.0	97.0	90.0	88.0	8.0
	Ammonium Sulfate	2.55 lb ai/a	17 lb/100 gal		BRNDWN A	302		20.0	10.0	10.0	99.0	96.0	93.0	0.0
						407		0.0	0.0	0.0	93.0	60.0	80.0	10.0
	Mean =							23.8	8.8	5.0	97.3	85.8	88.5	4.5
2	GLYFOS X-TRA	1 lb ai/a	32 oz/a		BRNDWN A	102		10.0	20.0	3.0	99.0	99.0	97.0	0.0
	PURSUIT	0.047 lb ai/a	3 oz/a		BRNDWN A	206		50.0	35.0	5.0	99.0	95.0	96.0	5.0
	Ammonium sulfate	2.55 lb ai/a	17 lb/100 gal		BRNDWN A	308		63.0	80.0	0.0	90.0	75.0	78.0	65.0
						402		70.0	0.0	3.0	95.0	85.0	85.0	5.0
	Mean =							48.3	33.8	2.8	95.8	88.5	89.0	18.8
3	EXTREME	0.81 lb ai/a	3 pt/a		BRNDWN A	103		30.0	10.0	3.0	97.0	94.0	97.0	0.0
	Ammonium Sulfate	2.55 lb ai/a	17 lb/100 gal		BRNDWN A	208		10.0	5.0	5.0	98.0	96.0	96.0	0.0
	NIS	0.25 % v/v	0.25 % v/v		BRNDWN A	303		80.0	20.0	5.0	95.0	94.0	94.0	15.0
						408		60.0	25.0	0.0	80.0	.	85.0	0.0
	Mean =							45.0	15.0	3.3	92.5	94.7	93.0	3.8
4	GLYFOS X-TRA	1 lb ai/a	32 oz/a		BRNDWN A	104		99.0	98.0	0.0	99.0	99.0	100.0	97.0
	PURSUIT	0.0313 lb ai/a	2 oz/a		BRNDWN A	207		99.0	99.0	0.0	99.0	99.0	98.0	70.0
	Ammonium Sulfate	2.55 lb ai/a	17 lb/100 gal		BRNDWN A	305		99.0	99.0	0.0	100.0	99.0	97.0	96.0
	GLYFOS X-TRA	1 lb ai/a	32 oz/a		2-3 WAP B	401		98.0	98.0	0.0	97.0	98.0	96.0	93.0
	PURSUIT	0.0313 lb ai/a	2 oz/a		2-3 WAP B									
	Ammonium Sulfate	2.55 lb ai/a	17 lb/100 gal		2-3 WAP B									
	Mean =							98.8	98.5	0.0	98.8	98.8	97.8	89.0
5	GLYFOS X-TRA	1 lb ai/a	32 oz/a		2-3 WAP B	105		99.0	99.0	5.0	97.0	97.0	100.0	93.0
	PURSUIT	0.0313 lb ai/a	2 oz/a		2-3 WAP B	203		98.0	99.0	3.0	98.0	83.0	99.0	98.0
	Ammonium Sulfate	2.55 lb ai/a	17 lb/100 gal		2-3 WAP B	304		99.0	99.0	10.0	99.0	95.0	99.0	98.0
						403		98.0	98.0	0.0	97.0	77.0	97.0	95.0
	Mean =							98.5	98.8	4.5	97.8	88.0	98.8	96.0
6	GLYFOS X-TRA	1 lb ai/a	32 oz/a		2-3 WAP B	106		99.0	99.0	0.0	100.0	93.0	100.0	95.0
	PURSUIT	0.047 lb ai/a	3 oz/a		2-3 WAP B	202		98.0	98.0	5.0	97.0	83.0	99.0	98.0
	Ammonium Sulfate	2.55 lb ai/a	17 lb/100 gal		2-3 WAP B	307		98.0	98.0	0.0	94.0	93.0	100.0	98.0
						406		99.0	99.0	0.0	.	87.0	98.0	98.0
	Mean =							98.5	98.5	1.3	97.0	89.0	99.3	97.3
7	EXTREME	0.81 lb ai/a	3 pt/a		2-3 WAP B	107		99.0	99.0	3.0	94.0	95.0	100.0	96.0
	Ammonium sulfate	2.55 lb ai/a	17 lb/100 gal		2-3 WAP B	204		99.0	99.0	3.0	85.0	90.0	100.0	98.0
	NIS	0.25 % v/v	0.25 % v/v		2-3 WAP B	301		99.0	99.0	0.0	92.0	93.0	100.0	95.0
						405		98.0	98.0	10.0	97.0	65.0	100.0	100.0
	Mean =							98.8	98.8	4.0	92.0	85.8	100.0	97.3
8	UNTREATED					108		0.0	0.0	20.0	0.0	0.0	0.0	0.0
						201		0.0	0.0	20.0	0.0	0.0	0.0	0.0
						306		0.0	0.0	20.0	0.0	0.0	0.0	0.0
						404		0.0	0.0	20.0	0.0	0.0	0.0	0.0
	Mean =							0.0	0.0	20.0	0.0	0.0	0.0	0.0

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**TO DETERMINE THE EFFICACY OF GLYFOS X-TRA+IMAZETHAPYR APPLIED AS A BURNDOWN 2-3  
WEEKS PRIOR TO PLANTING OR POST 2-3 WEEKS AFTER PLANTING SOYBEAN IN 2007**

Trial ID: HGLXMAGFIM0701

Protocol ID: HGLXMAGFIM0701

Location: USA

Study Director:

Investigator: Dr. William G. Johnson

Footnote 1: Crop injury due to weed competition

# Purdue University

**TO DETERMINE THE EFFICACY OF GLYFOS X-TRA+IMAZETHAPYR APPLIED AS A BURNDOWN 2-3 WEEKS PRIOR TO PLANTING OR POST 2-3 WEEKS AFTER PLANTING SOYBEAN IN 2007**

Trial ID: HGLXMAGFIM0701  
 Location: USA

Protocol ID: HGLXMAGFIM0701  
 Study Director:  
 Investigator: Dr. William G. Johnson

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed	W Weed	W Weed						
Pest Code	POAAN	SENGL	TAROF	ERICA	POAAN	SENGL	TAROF						
Pest Name	Annual blue>	Cressleaf g>	Common dand>	Horseweed	Annual blue>	Cressleaf g>	Common dand>						
Crop Code	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA						
BBCH Scale	BSOY	BSOY	BSOY	BSOY	BSOY	BSOY	BSOY						
Crop Name	Soybean	Soybean	Soybean	Soybean	Soybean	Soybean	Soybean						
Crop Variety	P93M95	P93M95	P93M95	P93M95	P93M95	P93M95	P93M95						
Part Rated	PLAQUA P	PLAQUA P	PLAQUA P	PLAQUA P	PLAQUA P	PLAQUA P	PLAQUA P						
Rating Date	Apr/30/2007	Apr/30/2007	Apr/30/2007	Apr/30/2007	May/08/2007	May/08/2007	May/08/2007						
Rating Data Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO						
Rating Unit	%	%	%	%	%	%	%						
Crop Stage	N/A	N/A	N/A	N/A	N/A	N/A	N/A						
Crop Stage Scale													
Pest Stage	3-6"	8-22"	3-22"	0-1"	3-6"	10-54"	6"						
Pest Density, Unit	10 YD2	3 YD2	80 YD2	0.5 YD2	10 YD2	13 YD2	40 YD2						
Footnote Number													
Assessed By	VMD KW	VMD KW	VMD KW	VMD KW	VMD KW	VMD KW	VMD KW						
Rating Timing	7 DAT A	7 DAT A	7 DAT A	7 DAT A	14 DAT A	14 DAT A	14 DAT A						
Days After First/Last Applic.	3 3	3 3	3 3	3 3	11 11	11 11	11 11						
Plant-Eval Interval	-8 DP-1	-8 DP-1	-8 DP-1	-8 DP-1	0 DP-1	0 DP-1	0 DP-1						
Trt No.	Treatment Name	Rate	Other Rate	Other Rate Unit	Growth Stage	Appl Code	1	2	3	4	5	6	7
1	GLYFOS X-TRA	1 lb ai/a	32 oz/a		BRNDWN	A	47.5 a	30.0 b	24.5 b	25.0 b	98.3 a	100.0 a	72.5 a
	PURSUIT	0.0313 lb ai/a	2 oz/a		BRNDWN	A							
	Ammonium Sulfate	2.55 lb ai/a	17 lb/100 gal		BRNDWN	A							
2	GLYFOS X-TRA	1 lb ai/a	32 oz/a		BRNDWN	A	48.8 a	35.0 a	29.5 a	27.5 a	93.3 a	100.0 a	65.3 a
	PURSUIT	0.047 lb ai/a	3 oz/a		BRNDWN	A							
	Ammonium sulfate	2.55 lb ai/a	17 lb/100 gal		BRNDWN	A							
3	EXTREME	0.81 lb ai/a	3 pt/a		BRNDWN	A	51.3 a	33.3 ab	31.3 a	25.0 b	96.0 a	100.0 a	77.0 a
	Ammonium Sulfate	2.55 lb ai/a	17 lb/100 gal		BRNDWN	A							
	NIS	0.25 % v/v	0.25 % v/v		BRNDWN	A							
4	GLYFOS X-TRA	1 lb ai/a	32 oz/a		BRNDWN	A	51.3 a	36.5 a	31.3 a	27.8 a	96.8 a	100.0 a	67.0 a
	PURSUIT	0.0313 lb ai/a	2 oz/a		BRNDWN	A							
	Ammonium Sulfate	2.55 lb ai/a	17 lb/100 gal		BRNDWN	A							
	GLYFOS X-TRA	1 lb ai/a	32 oz/a		2-3 WAP	B							
	PURSUIT	0.0313 lb ai/a	2 oz/a		2-3 WAP	B							
	Ammonium Sulfate	2.55 lb ai/a	17 lb/100 gal		2-3 WAP	B							
5	GLYFOS X-TRA	1 lb ai/a	32 oz/a		2-3 WAP	B	0.0 b	0.0 c	0.0 c	0.0 c	0.0 b	0.0 b	0.0 b
	PURSUIT	0.0313 lb ai/a	2 oz/a		2-3 WAP	B							
	Ammonium Sulfate	2.55 lb ai/a	17 lb/100 gal		2-3 WAP	B							
6	GLYFOS X-TRA	1 lb ai/a	32 oz/a		2-3 WAP	B	0.0 b	0.0 c	0.0 c	0.0 c	0.0 b	0.0 b	0.0 b
	PURSUIT	0.047 lb ai/a	3 oz/a		2-3 WAP	B							
	Ammonium Sulfate	2.55 lb ai/a	17 lb/100 gal		2-3 WAP	B							
7	EXTREME	0.81 lb ai/a	3 pt/a		2-3 WAP	B	0.0 b	0.0 c	0.0 c	0.0 c	0.0 b	0.0 b	0.0 b
	Ammonium sulfate	2.55 lb ai/a	17 lb/100 gal		2-3 WAP	B							
	NIS	0.25 % v/v	0.25 % v/v		2-3 WAP	B							
8	UNTREATED						0.0 b	0.0 c	0.0 c	0.0 c	0.0 b	0.0 b	0.0 b
LSD (P=.05)							4.99	3.80	3.88	1.93	3.75	0.00	20.38
Standard Deviation							3.39	2.58	2.64	1.31	2.55	0.00	13.85
CV							13.65	15.34	18.11	9.97	5.31	0.0	39.34
Bartlett's X2							4.403	3.117	1.286	0.327	7.634	0.0	14.038
P(Bartlett's X2)							0.221	0.21	0.732	0.567	0.054	.	0.003*
Replicate F							1.155	0.279	1.311	0.309	3.892	0.000	1.772
Replicate Prob(F)							0.3502	0.8396	0.2971	0.8189	0.0234	1.0000	0.1833
Treatment F							245.971	196.334	141.831	461.868	1624.780	0.000	29.795
Treatment Prob(F)							0.0001	0.0001	0.0001	0.0001	0.0001	1.0000	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.

# Purdue University

Pest Type	W Weed		W Weed		W Weed		W Weed		W Weed				
Pest Code	ERICA		ERICA		TAROF		ERICA		TAROF				
Pest Name	Horseweed		Horseweed		Common dand->		Horseweed		Common dand->				
Crop Code	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA			
BBCH Scale	BSOY		BSOY		BSOY		BSOY		BSOY				
Crop Name	Soybean		Soybean		Soybean		Soybean		Soybean				
Crop Variety	P93M95		P93M95		P93M95		P93M95		P93M95				
Part Rated	PLAQUA P		PLAQUA C		PLAQUA P		PLAQUA C		PLAQUA P				
Rating Date	May/08/2007		Jun/04/2007		Jun/04/2007		Jun/04/2007		Jun/13/2007				
Rating Data Type	CONTRO		PHYGEN		CONTRO		PHYGEN		CONTRO				
Rating Unit	%		%		%		%		%				
Crop Stage	N/A		V2		V2		V2		V3				
Crop Stage Scale							4-6"		4-6"				
Pest Stage	0.5-4"		0-12"		.5-10"		2-24"		.5-10"				
Pest Density, Unit	2 YD2		3 YD2		32 YD2		3 YD2		32 YD2				
Footnote Number													
Assessed By	VMD KW		GK JD		GK JD		AW MK		AW MK				
Rating Timing	14 DAT A		7 DAT B		7 DAT B		14 DAT B		14 DAT B				
Days After First/Last Applic.	11 11		38 10		38 10		47 19		47 19				
Plant-Eval Interval	0 DP-1		27 DP-1		27 DP-1		36 DP-1		36 DP-1				
Trt No.	Treatment	Rate	Other Rate	Other Rate Unit	Growth Stage	Appl Code	8	9	10	11	12	13	14
1	GLYFOS X-TRA	1 lb ai/a	32 oz/a		BRNDWN A		76.5 a	1.5 a	86.3 a	72.5 a	3.3 ab	95.8 a	87.5 ab
	PURSUIT	0.0313 lb ai/a	2 oz/a		BRNDWN A								
	Ammonium Sulfate	2.55 lb ai/a	17 lb/100 gal		BRNDWN A								
2	GLYFOS X-TRA	1 lb ai/a	32 oz/a		BRNDWN A		53.5 b	2.8 a	93.8 a	75.0 a	4.3 ab	92.0 a	70.0 b
	PURSUIT	0.047 lb ai/a	3 oz/a		BRNDWN A								
	Ammonium sulfate	2.55 lb ai/a	17 lb/100 gal		BRNDWN A								
3	EXTREME	0.81 lb ai/a	3 pt/a		BRNDWN A		84.0 a	1.0 a	92.5 a	78.8 a	2.5 ab	92.0 a	73.3 b
	Ammonium Sulfate	2.55 lb ai/a	17 lb/100 gal		BRNDWN A								
	NIS	0.25 % v/v	0.25 % v/v		BRNDWN A								
4	GLYFOS X-TRA	1 lb ai/a	32 oz/a		BRNDWN A		53.3 b	1.8 a	98.5 a	96.0 a	3.5 ab	97.3 a	97.5 a
	PURSUIT	0.0313 lb ai/a	2 oz/a		BRNDWN A								
	Ammonium Sulfate	2.55 lb ai/a	17 lb/100 gal		BRNDWN A								
	GLYFOS X-TRA	1 lb ai/a	32 oz/a		2-3 WAP B								
	PURSUIT	0.0313 lb ai/a	2 oz/a		2-3 WAP B								
	Ammonium Sulfate	2.55 lb ai/a	17 lb/100 gal		2-3 WAP B								
5	GLYFOS X-TRA	1 lb ai/a	32 oz/a		2-3 WAP B		0.0 c	0.5 a	98.8 a	18.8 bc	6.8 a	93.8 a	63.8 b
	PURSUIT	0.0313 lb ai/a	2 oz/a		2-3 WAP B								
	Ammonium Sulfate	2.55 lb ai/a	17 lb/100 gal		2-3 WAP B								
6	GLYFOS X-TRA	1 lb ai/a	32 oz/a		2-3 WAP B		0.0 c	0.0 a	70.0 a	32.5 b	6.3 a	79.5 a	73.3 b
	PURSUIT	0.047 lb ai/a	3 oz/a		2-3 WAP B								
	Ammonium Sulfate	2.55 lb ai/a	17 lb/100 gal		2-3 WAP B								
7	EXTREME	0.81 lb ai/a	3 pt/a		2-3 WAP B		0.0 c	0.0 a	58.3 a	40.0 b	7.0 a	85.0 a	75.3 b
	Ammonium sulfate	2.55 lb ai/a	17 lb/100 gal		2-3 WAP B								
	NIS	0.25 % v/v	0.25 % v/v		2-3 WAP B								
8	UNTREATED						0.0 c	1.3 a	0.0 b	0.0 c	0.0 b	0.0 b	0.0 c
LSD (P=.05)							12.59	2.07	30.49	24.65	3.41	14.89	15.98
Standard Deviation							8.56	1.40	20.73	16.76	2.32	10.12	10.87
CV							25.62	128.38	27.74	32.43	55.3	12.75	16.08
Bartlett's X2							3.214	3.403	30.682	31.867	7.8	32.359	15.595
P(Bartlett's X2)							0.36	0.638	0.001*	0.001*	0.253	0.001*	0.016*
Replicate F							0.810	1.157	0.665	0.642	1.018	2.136	5.674
Replicate Prob(F)							0.5024	0.3496	0.5830	0.5965	0.4047	0.1260	0.0052
Treatment F							75.481	1.773	10.409	16.136	4.312	41.537	29.053
Treatment Prob(F)							0.0001	0.1462	0.0001	0.0001	0.0042	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.

# Purdue University

Pest Type	W Weed	W Weed		W Weed	W Weed	W Weed	W Weed						
Pest Code	PANDI	DIGSA		ERICA	TAROF	PANDI	DIGSA						
Pest Name	Fall panicum	Large crabg>		Horseweed	Common dand>	Fall panicum	Large crabg>						
Crop Code	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA						
BBCH Scale	BSOY	BSOY	BSOY	BSOY	BSOY	BSOY	BSOY						
Crop Name	Soybean	Soybean	Soybean	Soybean	Soybean	Soybean	Soybean						
Crop Variety	P93M95	P93M95	P93M95	P93M95	P93M95	P93M95	P93M95						
Part Rated	PLAQUA P	PLAQUA P	PLAQUA C	PLAQUA P	PLAQUA P	PLAQUA P	PLAQUA P						
Rating Date	Jun/13/2007	Jun/13/2007	Jun/29/2007	Jun/29/2007	Jun/29/2007	Jun/29/2007	Jun/29/2007						
Rating Data Type	CONTRO	CONTRO	PHYGEN	CONTRO	CONTRO	CONTRO	CONTRO						
Rating Unit	%	%	%	%	%	%	%						
Crop Stage	V3	V3	R1	R1	R1	R1	R1						
Crop Stage Scale	4-6"	4-6"	12-16"	12-16"	12-16"	12-16"	12-16"						
Pest Stage	0-6"	0-2"		2-24"	.5-10"	0-6"	0-2"						
Pest Density, Unit	180 YD2	15 YD2		3 YD2	32 YD2	180 YD2	15 YD2						
Footnote Number			1										
Assessed By	AW MK	AW MK	VM MK	VM MK	VM MK	VM MK	VM MK						
Rating Timing	14 DAT B	14 DAT B	28 DAT B	28 DAT B	28 DAT B	28 DAT B	28 DAT B						
Days After First/Last Applic.	47 19	47 19	63 35	63 35	63 35	63 35	63 35						
Plant-Eval Interval	36 DP-1	36 DP-1	52 DP-1	52 DP-1	52 DP-1	52 DP-1	52 DP-1						
Trt No.	Treatment Name	Rate	Other Rate	Other Unit	Growth Stage	Appl Code	15	16	17	18	19	20	21
1	GLYFOS X-TRA	1 lb ai/a	32 oz/a		BRNDWN A		23.8 bc	8.8 c	5.0 b	97.3 a	85.8 a	88.5 b	4.5 b
	PURSUIT	0.0313 lb ai/a	2 oz/a		BRNDWN A								
	Ammonium Sulfate	2.55 lb ai/a	17 lb/100 gal		BRNDWN A								
2	GLYFOS X-TRA	1 lb ai/a	32 oz/a		BRNDWN A		48.3 b	33.8 b	2.8 b	95.8 a	88.5 a	89.0 b	18.8 b
	PURSUIT	0.047 lb ai/a	3 oz/a		BRNDWN A								
	Ammonium sulfate	2.55 lb ai/a	17 lb/100 gal		BRNDWN A								
3	EXTREME	0.81 lb ai/a	3 pt/a		BRNDWN A		45.0 b	15.0 bc	3.3 b	92.5 a	94.7 a	93.0 ab	3.8 b
	Ammonium Sulfate	2.55 lb ai/a	17 lb/100 gal		BRNDWN A								
	NIS	0.25 % v/v	0.25 % v/v		BRNDWN A								
4	GLYFOS X-TRA	1 lb ai/a	32 oz/a		BRNDWN A		98.8 a	98.5 a	0.0 b	98.8 a	98.8 a	97.8 a	89.0 a
	PURSUIT	0.0313 lb ai/a	2 oz/a		BRNDWN A								
	Ammonium Sulfate	2.55 lb ai/a	17 lb/100 gal		BRNDWN A								
	GLYFOS X-TRA	1 lb ai/a	32 oz/a		2-3 WAP B								
	PURSUIT	0.0313 lb ai/a	2 oz/a		2-3 WAP B								
	Ammonium Sulfate	2.55 lb ai/a	17 lb/100 gal		2-3 WAP B								
5	GLYFOS X-TRA	1 lb ai/a	32 oz/a		2-3 WAP B		98.5 a	98.8 a	4.5 b	97.8 a	88.0 a	98.8 a	96.0 a
	PURSUIT	0.0313 lb ai/a	2 oz/a		2-3 WAP B								
	Ammonium Sulfate	2.55 lb ai/a	17 lb/100 gal		2-3 WAP B								
6	GLYFOS X-TRA	1 lb ai/a	32 oz/a		2-3 WAP B		98.5 a	98.5 a	1.3 b	97.0 a	89.0 a	99.3 a	97.3 a
	PURSUIT	0.047 lb ai/a	3 oz/a		2-3 WAP B								
	Ammonium Sulfate	2.55 lb ai/a	17 lb/100 gal		2-3 WAP B								
7	EXTREME	0.81 lb ai/a	3 pt/a		2-3 WAP B		98.8 a	98.8 a	4.0 b	92.0 a	85.8 a	100.0 a	97.3 a
	Ammonium sulfate	2.55 lb ai/a	17 lb/100 gal		2-3 WAP B								
	NIS	0.25 % v/v	0.25 % v/v		2-3 WAP B								
8	UNTREATED						0.0 c	0.0 c	20.0 a	0.0 b	0.0 b	0.0 c	0.0 b
LSD (P=.05)							24.50	19.28	4.48	6.11	12.44	5.74	17.58
Standard Deviation							16.66	13.11	3.05	4.14	8.43	3.91	11.95
CV							26.06	23.2	59.85	4.94	10.7	4.69	23.52
Bartlett's X2							69.655	69.97	3.079	14.833	24.718	18.507	34.517
P(Bartlett's X2)							0.001*	0.001*	0.688	0.022*	0.001*	0.002*	0.001*
Replicate F							0.601	1.032	0.649	1.114	3.638	3.252	1.521
Replicate Prob(F)							0.6218	0.3985	0.5923	0.3670	0.0305	0.0422	0.2384
Treatment F							22.894	49.248	16.809	269.463	58.176	302.365	63.160
Treatment Prob(F)							0.0001	0.0001	0.0001	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.

Footnote 1: Crop injury due to weed competition