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TO DETERMINE THE HERBICIDAL EFFICACY AND SELECTIVITY WHEN CRUSHER IS APPLIED PREPLANT TO SOYBEAN IN 2014

Trial ID: 14 S-THP-NTS-72 Protocol ID: 14 S-THP-NTS-72
 Location: Throckmorton Study Director:
 Project ID: HGLXMARIMTHI1401 Investigator: Dr. Bill Johnson
 Sponsor Contact: JIM BARRENTINE

General Trial Information

Investigator: Dr. Bill Johnson **Title:** Professor

Discipline: H herbicide
Trial Status: E established

Trial Location

City: Lafayette
State/Prov.: IN
Postal Code: 47909
Country: USA

Keywords: SOYBEAN, CRUSHER (CHA-056), RIMSULFURON, THIFENSULFURON, GLYFOS X-TRA , IGNITE, LEADOFF, EFFICACY, CROP RESPONSE, BURNDOWN, SELECTIVITY, EFFICACY.

Objectives:

COMPARE CRUSHER TO LEADOFF APPLIED PREPLANT/BURNDOWN TO SOYBEAN -EFFICACY & SELECTIVITY

Personnel

Investigator: Dr. Bill Johnson **Title:** Professor
Affiliation: Purdue University
Address: 915 W State Street
Location: West Lafayette, IN, USA
Postal Code: 47907 **E-mail:** wj@purdue.edu
Phone No.: 765-494-4656 **Mobile No.:** 765-404-9801

Cooperator/Landowner

Cooperator: Throckmorton Purdue Ag Center **Role:** Purdue Ag Center
Organization: Purdue University
Address 1: 8343 US 231 S

City: Lafayette **Phone No.:** 765-538-3422
State/Prov: IN **Fax No.:** 765-538-3423
Postal Code: 47909 **E-mail:** jayyoung@purdue.edu
Country: USA United States

Crop Description

Crop 1: GLXMA Glycine max Soybean
Variety: Asgrow 2933 **Description:** RR2
BBCH Scale: BSOY **Planting Date:** May-8-2014
Planting Method: SEEDED seeded **Rate, Unit:** 130000 S/A
Depth, Unit: 1 IN
Row Spacing, Unit: 30 IN
Seed Bed: MEDTRA medium/trashy
Soil Moisture: DRY dry

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Pest Description

- Pest 1 Type:** W **Code:** BROTE Bromus tectorum
Common Name: Downy brome
- Pest 2 Type:** W **Code:** ERICA Conyza canadensis
Common Name: Canada horseweed
- Pest 3 Type:** W **Code:** TAROF Taraxacum officinale
Common Name: Common dandelion
- Pest 4 Type:** W **Code:** THLSS Thlaspi sp.
Common Name: Pennycress
- Pest 5 Type:** W **Code:** LACSE Lactuca serriola
Common Name: Prickly lettuce
- Pest 6 Type:** W **Code:** LAMAM Lamium amplexicaule
Common Name: Henbit
- Pest 7 Type:** W **Code:** STEME Stellaria media
Common Name: Common chickweed

Site and Design

Plot Width, Unit: 10 FT
Plot Length, Unit: 30 FT
Plot Area, Unit: 300 FT2
Replications: 4

Site Type: FIELD field
Experimental Unit: 1 PLOT plot
Tillage Type: NOTILL no-till
Study Design: RACOB� Randomized Complete Block (RCB)
Untreated Arrangement: INCLUDED single control randomized in each block

Soil Description

Description Name: TPAC - Field 5
% OM: 2.3 **Texture:** SIL silt loam
pH: 6.6 **Soil Name:** Longlois
CEC: 9.9

Application Description

	A	B	C	D
Application Date:	Apr-9-2014	May-2-2014	Jun-19-2014	Jul-10-2014
Application Method:	SPRAY	SPRAY	SPRAY	SPRAY
Application Timing:	EPP30	EPP7	EAPOWE	POSPOS
Application Placement:	BROADC	BROADC	BROADC	BROADC
Air Temperature, Unit:	64 F	53 F	77 F	74 F
% Relative Humidity:	46	80	85	69
Wind Velocity, Unit:	5 MPH	4 MPH	3.5 MPH	4 MPH
Wind Direction:	SW	SW	S	NE
Dew Presence (Y/N):	N no	Y yes	N no	Y yes
Soil Temperature, Unit:	45 F	52 F	75 F	70 F
Soil Moisture:	MOIST	MOIST	MOIST	DRY
% Cloud Cover:	50	10	30	0

Crop Stage At Each Application

	A	B	C	D
Crop 1 Code, BBCH Scale:	GLXMA BSOY	GLXMA BSOY	GLXMA BSOY	GLXMA BSOY

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Pest Stage At Each Application				
	A	B	C	D
Pest 1 Code, Type, Scale:	BROTE W	BROTE W	BROTE W	BROTE W
Height, Unit:	1.5 IN	7 IN		
Height Minimum, Maximum:			1 14	10 18
Density, Unit:	8 FT2	6 FT2	9 FT2	6 FT2
Pest 2 Code, Type, Scale:	ERICA W	ERICA W	ERICA W	ERICA W
Height, Unit:	0.5 IN			
Height Minimum, Maximum:				10 20
Density, Unit:	4 FT2			2 YD2
Pest 3 Code, Type, Scale:	TAROF W	TAROF W	TAROF W	TAROF W
Height, Unit:	1 IN	2 IN		
Height Minimum, Maximum:				6 12
Density, Unit:	1 FT2	1 YD2		2 YD2
Pest 4 Code, Type, Scale:	THLSS W	THLSS W	THLSS W	THLSS W
Height, Unit:	0.5 IN	12 IN		
Height Minimum, Maximum:			1 12	
Density, Unit:	4 FT2	4 FT2	1 FT2	
Pest 5 Code, Type, Scale:	LACSE W	LACSE W	LACSE W	LACSE W
Height, Unit:	0.5 IN	4 IN		
Height Minimum, Maximum:			4 18	10 38
Density, Unit:	2 FT2	3 FT2	2 YD2	3 FT2
Pest 6 Code, Type, Scale:	LAMAM W	LAMAM W	LAMAM W	LAMAM W
Height, Unit:	0.5 IN	3 IN		
Density, Unit:	1 FT2	1 FT2		
Pest 7 Code, Type, Scale:	STEME W	STEME W	STEME W	STEME W
Height, Unit:	0.5 IN	3 IN		
Density, Unit:	10 FT2	3 FT2		

Application Equipment				
	A	B	C	D
Appl. Equipment:	CO2 FORD	CO2 FORD	CO2 FORD	CO2 FORD
Equipment Type:	SPTRMO	SPTRMO	SPTRMO	SPTRMO
Operation Pressure, Unit:	25 PSI	25 PSI	25 PSI	25 PSI
Nozzle Type:	FLAT FAN	FLAT FAN	FLAT FAN	FLAT FAN
Nozzle Size:	XR 100 02	XR 100 02	XR 100 02	XR 100 02
Nozzle Spacing, Unit:	20 IN	20 IN	20 IN	20 IN
Nozzles/Row:	6	6	6	6
Boom Length, Unit:	10 FT	10 FT	10 FT	10 FT
Ground Speed, Unit:	2.1 MPH	2.1 MPH	2.1 MPH	2.1 MPH
Carrier:	MEIGS	MEIGS	MEIGS	MEIGS
Spray Volume, Unit:	20 gal/ac	20 gal/ac	20 gal/ac	20 gal/ac
Mix Size, Unit:	2.5 liters	2.5 liters	2.5 liters	2.5 liters
Propellant:	CO2	CO2	CO2	CO2

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Trial ID: 14 S-THP-NTS-72 Protocol ID: 14 S-THP-NTS-72
 Location: Throckmorton Study Director:
 Project ID: HGLXMARIMTHI1401 Investigator: Dr. Bill Johnson
 Sponsor Contact: JIM BARRENTINE

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed	W Weed				
Pest Code	BROTE	THLSS	LACSE	STEME	BROTE	THLSS				
Pest Scientific Name	Bromus tectorum	Thlaspi sp.	Lactuca serrio>	Stellaria media	Bromus tectorum	Thlaspi sp.				
Pest Name	Downy brome	Pennycress	Prickly lettuce	Common chickwe>	Downy brome	Pennycress				
Crop Code										
BBCH Scale										
Crop Scientific Name										
Crop Name										
Rating Date	Apr-23-2014	Apr-23-2014	Apr-23-2014	Apr-23-2014	May-2-2014	May-2-2014				
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO				
Rating Unit	%	%	%	%	%	%				
Sample Size, Unit	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT				
Number of Subsamples	1	1	1	1	1	1				
Crop Stage Majority										
Pest Stage Majority	4	5	2.5	1.5	7	12				
Pest Density, Unit	10 FT2	4 FT2	1 FT2	5 FT2	6 FT2	4 FT2				
Days After First/Last Applic.	14 14	14 14	14 14	14 14	23 23	23 23				
Plant-Eval Interval	-15 DP-1	-15 DP-1	-15 DP-1	-15 DP-1	-6 DP-1	-6 DP-1				
Trt Treatment	Rate	Appl								
No. Name	Rate	Unit	Code	Plot	1	2	3	4	5	6
1 Untreated Check				101	0.0	0.0	0.0	0.0	0.0	0.0
				502	0.0	0.0	0.0	0.0	0.0	0.0
				801	0.0	0.0	0.0	0.0	0.0	0.0
				1002	0.0	0.0	0.0	0.0	0.0	0.0
				Mean =	0.0	0.0	0.0	0.0	0.0	0.0
2 CRUSHER	0.0313 lb ai/a	A		102	85.0	99.0	97.0	95.0	60.0	99.0
Liberty 280 (2.34 SL)	0.585 lb ai/a	A		302	93.0	99.0	99.0	93.0	90.0	99.0
NIS	0.25 % v/v	A		601	87.0	99.0	99.0	97.0	83.0	99.0
AMS - Liquid	8.5 lb ai/100 gal	A		902	83.0	90.0	99.0	90.0	80.0	99.0
Dual II Magnum (7.64 EC)	21 oz ai/a	B								
Canopy	4.5 oz ai/a	B								
2,4-D Ester	0.5 lb ai/a	B								
Glyfos Xtra (3 SL)	12 oz ae/a	B								
AMS - Liquid	8.5 lb ai/100 gal	B								
Glyfos Xtra (3 SL)	12 oz ae/a	C								
AMS - Liquid	8.5 lb ai/100 gal	C								
Glyfos Xtra (3 SL)	12 oz ae/a	D								
AMS - Liquid	8.5 lb ai/100 gal	D								
				Mean =	87.0	96.8	98.5	93.8	78.3	99.0
3 LEADOFF	0.0313 lb ai/a	A		201	80.0	99.0	99.0	95.0	85.0	99.0
Liberty 280 (2.34 SL)	0.585 lb ai/a	A		401	70.0	99.0	99.0	99.0	94.0	99.0
NIS	0.25 % v/v	A		701	83.0	99.0	99.0	93.0	83.0	99.0
AMS - Liquid	8.5 lb ai/100 gal	A		1001	90.0	70.0	99.0	93.0	95.0	99.0
Dual II Magnum (7.64 EC)	21 oz ai/a	B								
Canopy	4.5 oz ai/a	B								
2,4-D Ester	0.5 lb ai/a	B								
Glyfos Xtra (3 SL)	12 oz ae/a	B								
AMS - Liquid	8.5 lb ai/100 gal	B								
Glyfos Xtra (3 SL)	12 oz ae/a	C								
AMS - Liquid	8.5 lb ai/100 gal	C								
Glyfos Xtra (3 SL)	12 oz ae/a	D								
AMS - Liquid	8.5 lb ai/100 gal	D								
				Mean =	80.8	91.8	99.0	95.0	89.3	99.0

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Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed	W Weed				
Pest Code	BROTE	THLSS	LACSE	STEME	BROTE	THLSS				
Pest Scientific Name	Bromus tectorum	Thlaspi sp.	Lactuca serrio>	Stellaria media	Bromus tectorum	Thlaspi sp.				
Pest Name	Downy brome	Pennycress	Prickly lettuce	Common chickwe>	Downy brome	Pennycress				
Crop Code										
BBCH Scale										
Crop Scientific Name										
Crop Name										
Rating Date	Apr-23-2014	Apr-23-2014	Apr-23-2014	Apr-23-2014	May-2-2014	May-2-2014				
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO				
Rating Unit	%	%	%	%	%	%				
Sample Size, Unit	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT				
Number of Subsamples	1	1	1	1	1	1				
Crop Stage Majority										
Pest Stage Majority	4	5	2.5	1.5	7	12				
Pest Density, Unit	10 FT2	4 FT2	1 FT2	5 FT2	6 FT2	4 FT2				
Days After First/Last Applic.	14 14	14 14	14 14	14 14	23 23	23 23				
Plant-Eval Interval	-15 DP-1	-15 DP-1	-15 DP-1	-15 DP-1	-6 DP-1	-6 DP-1				
Trt Treatment	Rate	Unit	Appl Code	Plot	1	2	3	4	5	6
4 Liberty 280 (2.34 SL)	0.585 lb ai/a	A	202		75.0	99.0	99.0	85.0	40.0	99.0
NIS	0.25 % v/v	A	402		85.0	99.0	99.0	80.0	65.0	99.0
AMS - Liquid	8.5 lb ai/100 gal	A	702		80.0	99.0	99.0	95.0	83.0	99.0
Dual II Magnum (7.64 EC)	21 oz ai/a	B	901		75.0	90.0	99.0	90.0	50.0	95.0
Canopy	4.5 oz ai/a	B								
2,4-D Ester	0.5 lb ai/a	B								
Glyfos Xtra (3 SL)	12 oz ae/a	B								
AMS - Liquid	8.5 lb ai/100 gal	B								
Glyfos Xtra (3 SL)	12 oz ae/a	C								
AMS - Liquid	8.5 lb ai/100 gal	C								
Glyfos Xtra (3 SL)	12 oz ae/a	D								
AMS - Liquid	8.5 lb ai/100 gal	D								
Mean =					78.8	96.8	99.0	87.5	59.5	98.0
5 Dual II Magnum (7.64 EC)	21 oz ai/a	B	301		0.0	0.0	0.0	0.0	0.0	0.0
Canopy	4.5 oz ai/a	B	501		0.0	0.0	0.0	0.0	0.0	0.0
2,4-D Ester	0.5 lb ai/a	B	602		0.0	0.0	0.0	0.0	0.0	0.0
Glyfos Xtra (3 SL)	12 oz ae/a	B	802		0.0	0.0	0.0	0.0	0.0	0.0
AMS - Liquid	8.5 lb ai/100 gal	B								
Glyfos Xtra (3 SL)	12 oz ae/a	C								
AMS - Liquid	8.5 lb ai/100 gal	C								
Glyfos Xtra (3 SL)	12 oz ae/a	D								
AMS - Liquid	8.5 lb ai/100 gal	D								
Mean =					0.0	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		
Pest Code	LACSE	STEME	TAROF	LAMAM	BROTE		
Pest Scientific Name	Lactuca serrio>	Stellaria media	Taraxacum offi>	Lamium amplexi>	Bromus tectorum		
Pest Name	Prickly lettuce	Common chickwe>	Common dandel>	Henbit	Downy brome		
Crop Code							
BBCH Scale							
Crop Scientific Name							
Crop Name							
Rating Date	May-2-2014	May-2-2014	May-2-2014	May-2-2014	May-8-2014		
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO		
Rating Unit	%	%	%	%	%		
Sample Size, Unit	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT		
Number of Subsamples	1	1	1	1	1		
Crop Stage Majority							
Pest Stage Majority	4	3	3	2	14		
Pest Density, Unit	3 FT2	3 FT2	1 FT2	1 YD2	10 FT2		
Days After First/Last Applic.	23 23	23 23	23 23	23 23	29 6		
Plant-Eval Interval	-6 DP-1	-6 DP-1	-6 DP-1	-6 DP-1	0 DP-1		
Trt Treatment	Rate	Appl					
No. Name	Rate Unit	Code Plot	7	8	9	10	11
1 Untreated Check		101	0.0	0.0	0.0	0.0	0.0
		502	0.0	0.0	0.0	0.0	0.0
		801	0.0	0.0	0.0	0.0	0.0
		1002	0.0	0.0	0.0	0.0	0.0
		Mean =	0.0	0.0	0.0	0.0	0.0
2 CRUSHER	0.0313 lb ai/a	A 102	99.0	99.0	99.0	99.0	70.0
Liberty 280 (2.34 SL)	0.585 lb ai/a	A 302	99.0	99.0	99.0	99.0	93.0
NIS	0.25 % v/v	A 601	99.0	99.0	99.0	99.0	85.0
AMS - Liquid	8.5 lb ai/100 gal	A 902	99.0	85.0	99.0	60.0	83.0
Dual II Magnum (7.64 EC)	21 oz ai/a	B					
Canopy	4.5 oz ai/a	B					
2,4-D Ester	0.5 lb ai/a	B					
Glyfos Xtra (3 SL)	12 oz ae/a	B					
AMS - Liquid	8.5 lb ai/100 gal	B					
Glyfos Xtra (3 SL)	12 oz ae/a	C					
AMS - Liquid	8.5 lb ai/100 gal	C					
Glyfos Xtra (3 SL)	12 oz ae/a	D					
AMS - Liquid	8.5 lb ai/100 gal	D					
		Mean =	99.0	95.5	99.0	89.3	82.8
3 LEADOFF	0.0313 lb ai/a	A 201	99.0	99.0	99.0	99.0	90.0
Liberty 280 (2.34 SL)	0.585 lb ai/a	A 401	99.0	99.0	99.0	99.0	94.0
NIS	0.25 % v/v	A 701	99.0	99.0	99.0	99.0	80.0
AMS - Liquid	8.5 lb ai/100 gal	A 1001	99.0	99.0	99.0	99.0	94.0
Dual II Magnum (7.64 EC)	21 oz ai/a	B					
Canopy	4.5 oz ai/a	B					
2,4-D Ester	0.5 lb ai/a	B					
Glyfos Xtra (3 SL)	12 oz ae/a	B					
AMS - Liquid	8.5 lb ai/100 gal	B					
Glyfos Xtra (3 SL)	12 oz ae/a	C					
AMS - Liquid	8.5 lb ai/100 gal	C					
Glyfos Xtra (3 SL)	12 oz ae/a	D					
AMS - Liquid	8.5 lb ai/100 gal	D					
		Mean =	99.0	99.0	99.0	99.0	89.5

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Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code	LACSE	STEME	TAROF	LAMAM	BROTE
Pest Scientific Name	Lactuca serrio>	Stellaria media	Taraxacum offi>	Lamium amplexi>	Bromus tectorum
Pest Name	Prickly lettuce	Common chickwe>	Common dandel>	Henbit	Downy brome
Crop Code					
BBCH Scale					
Crop Scientific Name					
Crop Name					
Rating Date	May-2-2014	May-2-2014	May-2-2014	May-2-2014	May-8-2014
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit	%	%	%	%	%
Sample Size, Unit	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples	1	1	1	1	1
Crop Stage Majority					
Pest Stage Majority	4	3	3	2	14
Pest Density, Unit	3 FT2	3 FT2	1 FT2	1 YD2	10 FT2
Days After First/Last Applic.	23 23	23 23	23 23	23 23	29 6
Plant-Eval Interval	-6 DP-1	-6 DP-1	-6 DP-1	-6 DP-1	0 DP-1
Trt Treatment	Rate	Unit	Appl Code	Plot	
No. Name					
					7
					8
					9
					10
					11
4 Liberty 280 (2.34 SL)	0.585 lb ai/a	A	202		99.0
NIS	0.25 % v/v	A	402		99.0
AMS - Liquid	8.5 lb ai/100 gal	A	702		99.0
Dual II Magnum (7.64 EC)	21 oz ai/a	B	901		99.0
Canopy	4.5 oz ai/a	B			
2,4-D Ester	0.5 lb ai/a	B			
Glyphos Xtra (3 SL)	12 oz ae/a	B			
AMS - Liquid	8.5 lb ai/100 gal	B			
Glyphos Xtra (3 SL)	12 oz ae/a	C			
AMS - Liquid	8.5 lb ai/100 gal	C			
Glyphos Xtra (3 SL)	12 oz ae/a	D			
AMS - Liquid	8.5 lb ai/100 gal	D			
Mean =					99.0
5 Dual II Magnum (7.64 EC)	21 oz ai/a	B	301		0.0
Canopy	4.5 oz ai/a	B	501		0.0
2,4-D Ester	0.5 lb ai/a	B	602		0.0
Glyphos Xtra (3 SL)	12 oz ae/a	B	802		0.0
AMS - Liquid	8.5 lb ai/100 gal	B			
Glyphos Xtra (3 SL)	12 oz ae/a	C			
AMS - Liquid	8.5 lb ai/100 gal	C			
Glyphos Xtra (3 SL)	12 oz ae/a	D			
AMS - Liquid	8.5 lb ai/100 gal	D			
Mean =					0.0

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Pest Type									
Pest Code									
Pest Scientific Name									
Pest Name									
Crop Code									
BBCH Scale									
Crop Scientific Name									
Crop Name									
Rating Date									
Rating Type									
Rating Unit									
Sample Size, Unit									
Number of Subsamples									
Crop Stage Majority									
Pest Stage Majority									
Pest Density, Unit									
Days After First/Last Applic.									
Plant-Eval Interval									
Trt Treatment	Rate	Appl							
No. Name	Rate Unit	Code Plot	12	13	14	15	16		
1 Untreated Check		101	0.0	0.0	0.0	0.0	0.0		
		502	0.0	0.0	0.0	0.0	0.0		
		801	0.0	0.0	0.0	0.0	0.0		
		1002	0.0	0.0	0.0	0.0	0.0		
		Mean =	0.0	0.0	0.0	0.0	0.0		
2 CRUSHER	0.0313 lb ai/a	A 102	99.0	99.0	99.0	99.0	60.0		
Liberty 280 (2.34 SL)	0.585 lb ai/a	A 302	93.0	94.0	99.0	99.0	99.0		
NIS	0.25 % v/v	A 601	99.0	99.0	99.0	99.0	99.0		
AMS - Liquid	8.5 lb ai/100 gal	A 902	99.0	99.0	95.0	99.0	99.0		
Dual II Magnum (7.64 EC)	21 oz ai/a	B							
Canopy	4.5 oz ai/a	B							
2,4-D Ester	0.5 lb ai/a	B							
Glyfos Xtra (3 SL)	12 oz ae/a	B							
AMS - Liquid	8.5 lb ai/100 gal	B							
Glyfos Xtra (3 SL)	12 oz ae/a	C							
AMS - Liquid	8.5 lb ai/100 gal	C							
Glyfos Xtra (3 SL)	12 oz ae/a	D							
AMS - Liquid	8.5 lb ai/100 gal	D							
		Mean =	97.5	97.8	98.0	99.0	89.3		
3 LEADOFF	0.0313 lb ai/a	A 201	99.0	97.0	99.0	99.0	90.0		
Liberty 280 (2.34 SL)	0.585 lb ai/a	A 401	99.0	96.0	99.0	99.0	99.0		
NIS	0.25 % v/v	A 701	99.0	99.0	99.0	99.0	99.0		
AMS - Liquid	8.5 lb ai/100 gal	A 1001	99.0	99.0	99.0	99.0	70.0		
Dual II Magnum (7.64 EC)	21 oz ai/a	B							
Canopy	4.5 oz ai/a	B							
2,4-D Ester	0.5 lb ai/a	B							
Glyfos Xtra (3 SL)	12 oz ae/a	B							
AMS - Liquid	8.5 lb ai/100 gal	B							
Glyfos Xtra (3 SL)	12 oz ae/a	C							
AMS - Liquid	8.5 lb ai/100 gal	C							
Glyfos Xtra (3 SL)	12 oz ae/a	D							
AMS - Liquid	8.5 lb ai/100 gal	D							
		Mean =	99.0	97.8	99.0	99.0	89.5		

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Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed			
Pest Code	STEME	TAROF	LAMAM	THLSS	AMBTR			
Pest Scientific Name	Stellaria media	Taraxacum offi>	Lamium amplexi>	Thlaspi sp.	Ambrosia trifi>			
Pest Name	Common chickwe>	Common dandeli>	Henbit	Pennycress	Giant ragweed			
Crop Code								
BBCH Scale								
Crop Scientific Name								
Crop Name								
Rating Date	May-8-2014	May-8-2014	May-8-2014	May-8-2014	May-8-2014			
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO			
Rating Unit	%	%	%	%	%			
Sample Size, Unit	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT			
Number of Subsamples	1	1	1	1	1			
Crop Stage Majority								
Pest Stage Majority	5	3	4	12	1			
Pest Density, Unit	5 FT2	2 YD2	5 YD2	3 YD2	1 YD2			
Days After First/Last Applic.	29 6	29 6	29 6	29 6	29 6			
Plant-Eval Interval	0 DP-1	0 DP-1	0 DP-1	0 DP-1	0 DP-1			
Trt Treatment	Rate	Appl						
No. Name	Unit	Code	Plot	12	13	14	15	16
4 Liberty 280 (2.34 SL)	0.585 lb ai/a	A	202	99.0	60.0	99.0	99.0	99.0
NIS	0.25 % v/v	A	402	95.0	50.0	99.0	99.0	99.0
AMS - Liquid	8.5 lb ai/100 gal	A	702	99.0	70.0	70.0	99.0	99.0
Dual II Magnum (7.64 EC)	21 oz ai/a	B	901	99.0	99.0	99.0	96.0	99.0
Canopy	4.5 oz ai/a	B						
2,4-D Ester	0.5 lb ai/a	B						
Glyphos Xtra (3 SL)	12 oz ae/a	B						
AMS - Liquid	8.5 lb ai/100 gal	B						
Glyphos Xtra (3 SL)	12 oz ae/a	C						
AMS - Liquid	8.5 lb ai/100 gal	C						
Glyphos Xtra (3 SL)	12 oz ae/a	D						
AMS - Liquid	8.5 lb ai/100 gal	D						
Mean =				98.0	69.8	91.8	98.3	99.0
5 Dual II Magnum (7.64 EC)	21 oz ai/a	B	301	85.0	40.0	99.0	60.0	70.0
Canopy	4.5 oz ai/a	B	501	80.0	20.0	99.0	40.0	30.0
2,4-D Ester	0.5 lb ai/a	B	602	60.0	10.0	20.0	50.0	99.0
Glyphos Xtra (3 SL)	12 oz ae/a	B	802	99.0	0.0	0.0	50.0	99.0
AMS - Liquid	8.5 lb ai/100 gal	B						
Glyphos Xtra (3 SL)	12 oz ae/a	C						
AMS - Liquid	8.5 lb ai/100 gal	C						
Glyphos Xtra (3 SL)	12 oz ae/a	D						
AMS - Liquid	8.5 lb ai/100 gal	D						
Mean =				81.0	17.5	54.5	50.0	74.5

Purdue University

Pest Type	W Weed	W Weed	W Weed	W Weed				
Pest Code	BROTE	THLSS	LACSE	TAROF				
Pest Scientific Name	Bromus tectorum	Thlaspi sp.	Lactuca serrio>	Taraxacum offi>				
Pest Name	Downy brome	Pennycress	Prickly lettuce	Common dandel>				
Crop Code					GLXMA	GLXMA		
BBCH Scale					BSOY	BSOY		
Crop Scientific Name					Glycine max	Glycine max		
Crop Name					Soybean	Soybean		
Rating Date	May-19-2014	May-19-2014	May-19-2014	May-19-2014	Jun-3-2014	Jun-3-2014		
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	PHYCHL	PHYSTU		
Rating Unit	%	%	%	%	%	%		
Sample Size, Unit	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT		
Number of Subsamples	1	1	1	1	1	1		
Crop Stage Majority					V1	V1		
Pest Stage Majority	22	12	6	4				
Pest Density, Unit	12 FT2	5 YD2	5 YD2	3 YD2				
Days After First/Last Applic.	40 17	40 17	40 17	40 17	55 32	55 32		
Plant-Eval Interval	11 DP-1	11 DP-1	11 DP-1	11 DP-1	26 DP-1	26 DP-1		
Trt Treatment	Rate	Appl						
No. Name	Rate Unit	Code Plot	17	18	19	20	21	22
1 Untreated Check		101	0.0	0.0	0.0	0.0	0.0	0.0
		502	0.0	0.0	0.0	0.0	0.0	0.0
		801	0.0	0.0	0.0	0.0	0.0	0.0
		1002	0.0	0.0	0.0	0.0	0.0	0.0
		Mean =	0.0	0.0	0.0	0.0	0.0	0.0
2 CRUSHER	0.0313 lb ai/a	A 102	99.0	99.0	99.0	99.0	3.0	5.0
Liberty 280 (2.34 SL)	0.585 lb ai/a	A 302	99.0	99.0	99.0	99.0	0.0	10.0
NIS	0.25 % v/v	A 601	99.0	99.0	99.0	98.0	0.0	7.0
AMS - Liquid	8.5 lb ai/100 gal	A 902	99.0	99.0	99.0	99.0	0.0	5.0
Dual II Magnum (7.64 EC)	21 oz ai/a	B						
Canopy	4.5 oz ai/a	B						
2,4-D Ester	0.5 lb ai/a	B						
Glyfos Xtra (3 SL)	12 oz ae/a	B						
AMS - Liquid	8.5 lb ai/100 gal	B						
Glyfos Xtra (3 SL)	12 oz ae/a	C						
AMS - Liquid	8.5 lb ai/100 gal	C						
Glyfos Xtra (3 SL)	12 oz ae/a	D						
AMS - Liquid	8.5 lb ai/100 gal	D						
		Mean =	99.0	99.0	99.0	98.8	0.8	6.8
3 LEADOFF	0.0313 lb ai/a	A 201	99.0	99.0	99.0	99.0	0.0	10.0
Liberty 280 (2.34 SL)	0.585 lb ai/a	A 401	99.0	99.0	99.0	98.0	0.0	10.0
NIS	0.25 % v/v	A 701	99.0	99.0	99.0	90.0	0.0	5.0
AMS - Liquid	8.5 lb ai/100 gal	A 1001	99.0	99.0	99.0	99.0	0.0	7.0
Dual II Magnum (7.64 EC)	21 oz ai/a	B						
Canopy	4.5 oz ai/a	B						
2,4-D Ester	0.5 lb ai/a	B						
Glyfos Xtra (3 SL)	12 oz ae/a	B						
AMS - Liquid	8.5 lb ai/100 gal	B						
Glyfos Xtra (3 SL)	12 oz ae/a	C						
AMS - Liquid	8.5 lb ai/100 gal	C						
Glyfos Xtra (3 SL)	12 oz ae/a	D						
AMS - Liquid	8.5 lb ai/100 gal	D						
		Mean =	99.0	99.0	99.0	96.5	0.0	8.0

Purdue University

Pest Type	W Weed	W Weed	W Weed	W Weed						
Pest Code	BROTE	THLSS	LACSE	TAROF						
Pest Scientific Name	Bromus tectorum	Thlaspi sp.	Lactuca serrio>	Taraxacum offi>						
Pest Name	Downy brome	Pennycress	Prickly lettuce	Common dandel>						
Crop Code					GLXMA	GLXMA				
BBCH Scale					BSOY	BSOY				
Crop Scientific Name					Glycine max	Glycine max				
Crop Name					Soybean	Soybean				
Rating Date	May-19-2014	May-19-2014	May-19-2014	May-19-2014	Jun-3-2014	Jun-3-2014				
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	PHYCHL	PHYSTU				
Rating Unit	%	%	%	%	%	%				
Sample Size, Unit	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT				
Number of Subsamples	1	1	1	1	1	1				
Crop Stage Majority					V1	V1				
Pest Stage Majority	22	12	6	4						
Pest Density, Unit	12 FT2	5 YD2	5 YD2	3 YD2						
Days After First/Last Applic.	40 17	40 17	40 17	40 17	55 32	55 32				
Plant-Eval Interval	11 DP-1	11 DP-1	11 DP-1	11 DP-1	26 DP-1	26 DP-1				
Trt Treatment	Rate	Unit	Appl Code	Plot	17	18	19	20	21	22
4 Liberty 280 (2.34 SL)	0.585 lb ai/a	A	202		99.0	99.0	99.0	99.0	0.0	0.0
NIS	0.25 % v/v	A	402		99.0	99.0	99.0	98.0	0.0	5.0
AMS - Liquid	8.5 lb ai/100 gal	A	702		99.0	99.0	99.0	99.0	0.0	7.0
Dual II Magnum (7.64 EC)	21 oz ai/a	B	901		95.0	99.0	99.0	99.0	0.0	0.0
Canopy	4.5 oz ai/a	B								
2,4-D Ester	0.5 lb ai/a	B								
Glyfos Xtra (3 SL)	12 oz ae/a	B								
AMS - Liquid	8.5 lb ai/100 gal	B								
Glyfos Xtra (3 SL)	12 oz ae/a	C								
AMS - Liquid	8.5 lb ai/100 gal	C								
Glyfos Xtra (3 SL)	12 oz ae/a	D								
AMS - Liquid	8.5 lb ai/100 gal	D								
Mean =					98.0	99.0	99.0	98.8	0.0	3.0
5 Dual II Magnum (7.64 EC)	21 oz ai/a	B	301		70.0	99.0	90.0	98.0	0.0	0.0
Canopy	4.5 oz ai/a	B	501		65.0	90.0	99.0	95.0	0.0	0.0
2,4-D Ester	0.5 lb ai/a	B	602		50.0	99.0	99.0	80.0	3.0	0.0
Glyfos Xtra (3 SL)	12 oz ae/a	B	802		30.0	99.0	99.0	80.0	0.0	0.0
AMS - Liquid	8.5 lb ai/100 gal	B								
Glyfos Xtra (3 SL)	12 oz ae/a	C								
AMS - Liquid	8.5 lb ai/100 gal	C								
Glyfos Xtra (3 SL)	12 oz ae/a	D								
AMS - Liquid	8.5 lb ai/100 gal	D								
Mean =					53.8	96.8	96.8	88.3	0.8	0.0

Purdue University

Pest Type			W Weed	W Weed	W Weed	W Weed	W Weed			
Pest Code			ERICA	LACSE	BROTE	SETFA	AMBTR			
Pest Scientific Name			Conyza canadens>	Lactuca serrio>	Bromus tectorum	Setaria faberi	Ambrosia trifi>			
Pest Name			Canada horsewe>	Prickly lettuce	Downy brome	Giant foxtail	Giant ragweed			
Crop Code	GLXMA									
BBCH Scale	BSOY									
Crop Scientific Name	Glycine max									
Crop Name	Soybean									
Rating Date	Jun-3-2014		Jul-9-2014	Jul-9-2014	Jul-9-2014	Jul-9-2014	Jul-9-2014			
Rating Type	PHYLMA		CONTRO	CONTRO	CONTRO	CONTRO	CONTRO			
Rating Unit	%		%	%	%	%	%			
Sample Size, Unit	1	PLOT	1	PLOT	1	PLOT	1	PLOT		
Number of Subsamples	1		1	1	1	1	1			
Crop Stage Majority	V1		V8	V8	V8	V8	V8			
Pest Stage Majority			3-12	7-43	12-24	3-12	6-26			
Pest Density, Unit			2 YD2	2 FT2	6 FT2	3 FT2	1 YD2			
Days After First/Last Applic.	55	32	91	20	91	20	91	20		
Plant-Eval Interval	26 DP-1		62 DP-1	62 DP-1	62 DP-1	62 DP-1	62 DP-1			
Trt Treatment	Rate	Appl								
No. Name	Rate	Unit	Code	Plot	23	24	25	26	27	28
1 Untreated Check				101	0.0	0.0	0.0	0.0	0.0	0.0
				502	0.0	0.0	0.0	0.0	0.0	0.0
				801	0.0	0.0	0.0	0.0	0.0	0.0
				1002	0.0	0.0	0.0	0.0	0.0	0.0
				Mean =	0.0	0.0	0.0	0.0	0.0	0.0
2 CRUSHER	0.0313 lb ai/a	A	A	102	0.0	99.0	99.0	99.0	93.0	98.0
Liberty 280 (2.34 SL)	0.585 lb ai/a	A	A	302	7.0	99.0	99.0	99.0	85.0	99.0
NIS	0.25 % v/v	A	A	601	3.0	99.0	99.0	99.0	99.0	99.0
AMS - Liquid	8.5 lb ai/100 gal	A	A	902	3.0	99.0	99.0	99.0	99.0	99.0
Dual II Magnum (7.64 EC)	21 oz ai/a	B								
Canopy	4.5 oz ai/a	B								
2,4-D Ester	0.5 lb ai/a	B								
Glyfos Xtra (3 SL)	12 oz ae/a	B								
AMS - Liquid	8.5 lb ai/100 gal	B								
Glyfos Xtra (3 SL)	12 oz ae/a	C								
AMS - Liquid	8.5 lb ai/100 gal	C								
Glyfos Xtra (3 SL)	12 oz ae/a	D								
AMS - Liquid	8.5 lb ai/100 gal	D								
				Mean =	3.3	99.0	99.0	99.0	94.0	98.8
3 LEADOFF	0.0313 lb ai/a	A	A	201	5.0	99.0	99.0	99.0	99.0	85.0
Liberty 280 (2.34 SL)	0.585 lb ai/a	A	A	401	5.0	99.0	99.0	99.0	98.0	98.0
NIS	0.25 % v/v	A	A	701	3.0	99.0	99.0	99.0	99.0	99.0
AMS - Liquid	8.5 lb ai/100 gal	A	A	1001	5.0	99.0	99.0	99.0	95.0	95.0
Dual II Magnum (7.64 EC)	21 oz ai/a	B								
Canopy	4.5 oz ai/a	B								
2,4-D Ester	0.5 lb ai/a	B								
Glyfos Xtra (3 SL)	12 oz ae/a	B								
AMS - Liquid	8.5 lb ai/100 gal	B								
Glyfos Xtra (3 SL)	12 oz ae/a	C								
AMS - Liquid	8.5 lb ai/100 gal	C								
Glyfos Xtra (3 SL)	12 oz ae/a	D								
AMS - Liquid	8.5 lb ai/100 gal	D								
				Mean =	4.5	99.0	99.0	99.0	97.8	94.3

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		W Weed ERICA	W Weed LACSE	W Weed BROTE	W Weed SETFA	W Weed AMBTR				
Pest Type										
Pest Code										
Pest Scientific Name		Conyza canadensis	Lactuca serriola	Bromus tectorum	Setaria faberii	Ambrosia trifida				
Pest Name		Canada horseweed	Prickly lettuce	Downy brome	Giant foxtail	Giant ragweed				
Crop Code	GLXMA									
BBCH Scale	BSOY									
Crop Scientific Name	Glycine max									
Crop Name	Soybean									
Rating Date	Jun-3-2014	Jul-9-2014	Jul-9-2014	Jul-9-2014	Jul-9-2014	Jul-9-2014				
Rating Type	PHYLMA	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO				
Rating Unit	%	%	%	%	%	%				
Sample Size, Unit	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT				
Number of Subsamples	1	1	1	1	1	1				
Crop Stage Majority	V1	V8	V8	V8	V8	V8				
Pest Stage Majority		3-12	7-43	12-24	3-12	6-26				
Pest Density, Unit		2 YD2	2 FT2	6 FT2	3 FT2	1 YD2				
Days After First/Last Applic.	55 32	91 20	91 20	91 20	91 20	91 20				
Plant-Eval Interval	26 DP-1	62 DP-1	62 DP-1	62 DP-1	62 DP-1	62 DP-1				
Trt Treatment	Rate	Unit	Appl Code	Plot	23	24	25	26	27	28
4 Liberty 280 (2.34 SL)	0.585 lb ai/a	A	202	0.0	99.0	99.0	99.0	99.0	99.0	99.0
NIS	0.25 % v/v	A	402	0.0	99.0	99.0	99.0	99.0	80.0	99.0
AMS - Liquid	8.5 lb ai/100 gal	A	702	0.0	99.0	99.0	99.0	99.0	95.0	99.0
Dual II Magnum (7.64 EC)	21 oz ai/a	B	901	0.0	99.0	99.0	99.0	99.0	99.0	99.0
Canopy	4.5 oz ai/a	B								
2,4-D Ester	0.5 lb ai/a	B								
Glyfos Xtra (3 SL)	12 oz ae/a	B								
AMS - Liquid	8.5 lb ai/100 gal	B								
Glyfos Xtra (3 SL)	12 oz ae/a	C								
AMS - Liquid	8.5 lb ai/100 gal	C								
Glyfos Xtra (3 SL)	12 oz ae/a	D								
AMS - Liquid	8.5 lb ai/100 gal	D								
Mean =				0.0	99.0	99.0	99.0	99.0	93.3	99.0
5 Dual II Magnum (7.64 EC)	21 oz ai/a	B	301	0.0	99.0	99.0	99.0	99.0	99.0	99.0
Canopy	4.5 oz ai/a	B	501	0.0	99.0	99.0	99.0	99.0	98.0	99.0
2,4-D Ester	0.5 lb ai/a	B	602	0.0	99.0	99.0	99.0	99.0	97.0	99.0
Glyfos Xtra (3 SL)	12 oz ae/a	B	802	0.0	99.0	99.0	99.0	99.0	99.0	99.0
AMS - Liquid	8.5 lb ai/100 gal	B								
Glyfos Xtra (3 SL)	12 oz ae/a	C								
AMS - Liquid	8.5 lb ai/100 gal	C								
Glyfos Xtra (3 SL)	12 oz ae/a	D								
AMS - Liquid	8.5 lb ai/100 gal	D								
Mean =				0.0	99.0	99.0	99.0	99.0	98.3	99.0

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Pest Type					
Pest Code					
Pest Scientific Name					
Pest Name					
Crop Code				GLXMA	
BBCB Scale				BSOY	
Crop Scientific Name				Glycine max	
Crop Name				Soybean	
Rating Date				Jul-9-2014	
Rating Type				HEIGHT	
Rating Unit				cm	
Sample Size, Unit				1 PLOT	
Number of Subsamples				6	
Crop Stage Majority					
Pest Stage Majority					
Pest Density, Unit					
Days After First/Last Applic.				91 20	
Plant-Eval Interval				62 DP-1	
Trt No.	Treatment Name	Rate	Unit	Appl Code	Plot
					29
1	Untreated Check				101 50.1666730
					502 38.3333359
					801 45.1666725
					1002 52.0000052
					Mean = 46.4166726
2	CRUSHER	0.0313 lb ai/a		A	102 36.1666716
	Liberty 280 (2.34 SL)	0.585 lb ai/a		A	302 30.5000031
	NIS	0.25 % v/v		A	601 42.3333363
	AMS - Liquid	8.5 lb ai/100 gal		A	902 54.5000055
	Dual II Magnum (7.64 EC)	21 oz ai/a		B	
	Canopy	4.5 oz ai/a		B	
	2,4-D Ester	0.5 lb ai/a		B	
	Glyfos Xtra (3 SL)	12 oz ae/a		B	
	AMS - Liquid	8.5 lb ai/100 gal		B	
	Glyfos Xtra (3 SL)	12 oz ae/a		C	
	AMS - Liquid	8.5 lb ai/100 gal		C	
	Glyfos Xtra (3 SL)	12 oz ae/a		D	
	AMS - Liquid	8.5 lb ai/100 gal		D	
					Mean = 40.8750041
3	LEADOFF	0.0313 lb ai/a		A	201 33.6666713
	Liberty 280 (2.34 SL)	0.585 lb ai/a		A	401 31.5000032
	NIS	0.25 % v/v		A	701 44.8333365
	AMS - Liquid	8.5 lb ai/100 gal		A	1001 54.3333375
	Dual II Magnum (7.64 EC)	21 oz ai/a		B	
	Canopy	4.5 oz ai/a		B	
	2,4-D Ester	0.5 lb ai/a		B	
	Glyfos Xtra (3 SL)	12 oz ae/a		B	
	AMS - Liquid	8.5 lb ai/100 gal		B	
	Glyfos Xtra (3 SL)	12 oz ae/a		C	
	AMS - Liquid	8.5 lb ai/100 gal		C	
	Glyfos Xtra (3 SL)	12 oz ae/a		D	
	AMS - Liquid	8.5 lb ai/100 gal		D	
					Mean = 41.0833362

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Pest Type					
Pest Code					
Pest Scientific Name					
Pest Name					
Crop Code					GLXMA
BBCH Scale					BSOY
Crop Scientific Name					Glycine max
Crop Name					Soybean
Rating Date					Jul-9-2014
Rating Type					HEIGHT
Rating Unit					cm
Sample Size, Unit					1 PLOT
Number of Subsamples					6
Crop Stage Majority					
Pest Stage Majority					
Pest Density, Unit					
Days After First/Last Applic.					91 20
Plant-Eval Interval					62 DP-1
Trt No.	Treatment Name	Rate	Unit	Appl Code	Plot
					29
4	Liberty 280 (2.34 SL)	0.585 lb	ai/a	A	202
	NIS	0.25 %	v/v	A	402
	AMS - Liquid	8.5 lb	ai/100 gal	A	702
	Dual II Magnum (7.64 EC)	21 oz	ai/a	B	901
	Canopy	4.5 oz	ai/a	B	
	2,4-D Ester	0.5 lb	ai/a	B	
	Glyfos Xtra (3 SL)	12 oz	ae/a	B	
	AMS - Liquid	8.5 lb	ai/100 gal	B	
	Glyfos Xtra (3 SL)	12 oz	ae/a	C	
	AMS - Liquid	8.5 lb	ai/100 gal	C	
	Glyfos Xtra (3 SL)	12 oz	ae/a	D	
	AMS - Liquid	8.5 lb	ai/100 gal	D	
Mean =					57.0833378
5	Dual II Magnum (7.64 EC)	21 oz	ai/a	B	301
	Canopy	4.5 oz	ai/a	B	501
	2,4-D Ester	0.5 lb	ai/a	B	602
	Glyfos Xtra (3 SL)	12 oz	ae/a	B	802
	AMS - Liquid	8.5 lb	ai/100 gal	B	
	Glyfos Xtra (3 SL)	12 oz	ae/a	C	
	AMS - Liquid	8.5 lb	ai/100 gal	C	
	Glyfos Xtra (3 SL)	12 oz	ae/a	D	
	AMS - Liquid	8.5 lb	ai/100 gal	D	
Mean =					58.1250058

Purdue University

TO DETERMINE THE HERBICIDAL EFFICACY AND SELECTIVITY WHEN CRUSHER IS APPLIED PREPLANT TO SOYBEAN IN 2014

Trial ID: 14 S-THP-NTS-72 Protocol ID: 14 S-THP-NTS-72
 Location: Throckmorton Study Director:
 Project ID: HGLXMARIMTHI1401 Investigator: Dr. Bill Johnson
 Sponsor Contact: JIM BARRENTINE

Pest Type

W, Weed, G-BYRW7, G-WedStg = Weed or volunteer crop

Pest Code

BROTE, Bromus tectorum, = US
 THLSS, Thlaspi sp., = US
 LACSE, Lactuca serriola, = US
 STEME, Stellaria media, = US
 TAROF, Taraxacum officinale, = US
 LAMAM, Lamium amplexicaule, = US
 AMBTR, Ambrosia trifida, = US
 ERICA, Conyza canadensis, = US
 SETFA, Setaria faberi, = US

Crop Code

GLXMA, BSOY, Glycine max, = US

Rating Type

CONTRO = control / burndown or knockdown
 PHYCHL = phytotoxicity - chlorosis
 PHYSTU = phytotoxicity - stunting
 PHYLMA = phytotoxicity - leaf malformation
 HEIGHT = height

Rating Unit

% = percent
 cm = centimeter

PLOT = total plot

Pest Stage Majority

12 = 2 true leaves, leaf pairs or whorls unfolded
 14 = 4 true leaves, leaf pairs or whorls unfolded
 22 = 2 side shoots visible; G 2 tillers visible

FT2 = per square foot

YD2 = per square yard

Plant-Eval Interval

-15 DP-1 = 1 GLXMA May-8-2014
 -6 DP-1 = 1 GLXMA May-8-2014
 0 DP-1 = 1 GLXMA May-8-2014
 11 DP-1 = 1 GLXMA May-8-2014
 26 DP-1 = 1 GLXMA May-8-2014
 62 DP-1 = 1 GLXMA May-8-2014

Purdue University

TO DETERMINE THE HERBICIDAL EFFICACY AND SELECTIVITY WHEN CRUSHER IS APPLIED PREPLANT TO SOYBEAN IN 2014

Trial ID: 14 S-THP-NTS-72 Protocol ID: 14 S-THP-NTS-72
 Location: Throckmorton Study Director:
 Project ID: HGLXMARIMTHI1401 Investigator: Dr. Bill Johnson
 Sponsor Contact: JIM BARRENTINE

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code	BROTE	THLSS	LACSE	STEME	BROTE	THLSS
Pest Scientific Name	Bromus tectorum	Thlaspi sp.	Lactuca serrio>	Stellaria media	Bromus tectorum	Thlaspi sp.
Pest Name	Downy brome	Pennycress	Prickly lettuce	Common chickwe>	Downy brome	Pennycress
Crop Code						
BBCH Scale						
Crop Scientific Name						
Crop Name						
Rating Date	Apr-23-2014	Apr-23-2014	Apr-23-2014	Apr-23-2014	May-2-2014	May-2-2014
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit	%	%	%	%	%	%
Sample Size, Unit	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples	1	1	1	1	1	1
Crop Stage Majority						
Pest Stage Majority	4	5	2.5	1.5	7	12
Pest Density, Unit	10 FT2	4 FT2	1 FT2	5 FT2	6 FT2	4 FT2
Days After First/Last Applic.	14 14	14 14	14 14	14 14	23 23	23 23
Plant-Eval Interval	-15 DP-1	-15 DP-1	-15 DP-1	-15 DP-1	-6 DP-1	-6 DP-1
Trt Treatment	Rate	Appl	Rate	Appl	Rate	Appl
No. Name	Rate	Unit	Code	Rate	Unit	Code
1 Untreated Check			1			6
2 CRUSHER	0.0313 lb ai/a	A	1	87.0 a	0.0 b	2
Liberty 280 (2.34 SL)	0.585 lb ai/a	A	3		96.8 a	3
NIS	0.25 % v/v	A	4		98.5 a	4
AMS - Liquid	8.5 lb ai/100 gal	A	5		93.8 a	5
Dual II Magnum (7.64 EC)	21 oz ai/a	B	6		78.3 a	6
Canopy	4.5 oz ai/a	B	7		99.0 a	7
2,4-D Ester	0.5 lb ai/a	B	8			8
Glyfos Xtra (3 SL)	12 oz ae/a	B	9			9
AMS - Liquid	8.5 lb ai/100 gal	B	10			10
Glyfos Xtra (3 SL)	12 oz ae/a	C	11			11
AMS - Liquid	8.5 lb ai/100 gal	C	12			12
Glyfos Xtra (3 SL)	12 oz ae/a	D	13			13
AMS - Liquid	8.5 lb ai/100 gal	D	14			14
3 LEADOFF	0.0313 lb ai/a	A	1	80.8 a	91.8 a	99.0 a
Liberty 280 (2.34 SL)	0.585 lb ai/a	A	2			95.0 a
NIS	0.25 % v/v	A	3			89.3 a
AMS - Liquid	8.5 lb ai/100 gal	A	4			99.0 a
Dual II Magnum (7.64 EC)	21 oz ai/a	B	5			
Canopy	4.5 oz ai/a	B	6			
2,4-D Ester	0.5 lb ai/a	B	7			
Glyfos Xtra (3 SL)	12 oz ae/a	B	8			
AMS - Liquid	8.5 lb ai/100 gal	B	9			
Glyfos Xtra (3 SL)	12 oz ae/a	C	10			
AMS - Liquid	8.5 lb ai/100 gal	C	11			
Glyfos Xtra (3 SL)	12 oz ae/a	D	12			
AMS - Liquid	8.5 lb ai/100 gal	D	13			

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	LACSE	STEME	TAROF	LAMAM	BROTE
Pest Scientific Name	Lactuca serrio>	Stellaria media	Taraxacum offi>	Lamium amplexi>	Bromus tectorum
Pest Name	Prickly lettuce	Common chickwe>	Common dandel>	Henbit	Downy brome
Crop Code					
BBCB Scale					
Crop Scientific Name					
Crop Name					
Rating Date	May-2-2014	May-2-2014	May-2-2014	May-2-2014	May-8-2014
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit	%	%	%	%	%
Sample Size, Unit	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples	1	1	1	1	1
Crop Stage Majority					
Pest Stage Majority	4	3	3	2	14
Pest Density, Unit	3 FT2	3 FT2	1 FT2	1 YD2	10 FT2
Days After First/Last Applic.	23 23	23 23	23 23	23 23	29 6
Plant-Eval Interval	-6 DP-1	-6 DP-1	-6 DP-1	-6 DP-1	0 DP-1
Trt Treatment					
No. Name	7	8	9	10	11
1 Untreated Check	0.0 b	0.0 b	0.0 b	0.0 b	0.0 d
2 CRUSHER	0.0313 lb ai/a	99.0 a	95.5 a	99.0 a	89.3 a
Liberty 280 (2.34 SL)	0.585 lb ai/a				
NIS	0.25 % v/v				
AMS - Liquid	8.5 lb ai/100 gal				
Dual II Magnum (7.64 EC)	21 oz ai/a				
Canopy	4.5 oz ai/a				
2,4-D Ester	0.5 lb ai/a				
Glyphos Xtra (3 SL)	12 oz ae/a				
AMS - Liquid	8.5 lb ai/100 gal				
Glyphos Xtra (3 SL)	12 oz ae/a				
AMS - Liquid	8.5 lb ai/100 gal				
Glyphos Xtra (3 SL)	12 oz ae/a				
AMS - Liquid	8.5 lb ai/100 gal				
3 LEADOFF	0.0313 lb ai/a	99.0 a	99.0 a	99.0 a	89.5 a
Liberty 280 (2.34 SL)	0.585 lb ai/a				
NIS	0.25 % v/v				
AMS - Liquid	8.5 lb ai/100 gal				
Dual II Magnum (7.64 EC)	21 oz ai/a				
Canopy	4.5 oz ai/a				
2,4-D Ester	0.5 lb ai/a				
Glyphos Xtra (3 SL)	12 oz ae/a				
AMS - Liquid	8.5 lb ai/100 gal				
Glyphos Xtra (3 SL)	12 oz ae/a				
AMS - Liquid	8.5 lb ai/100 gal				
Glyphos Xtra (3 SL)	12 oz ae/a				
AMS - Liquid	8.5 lb ai/100 gal				

Purdue University

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code	LACSE	STEME	TAROF	LAMAM	BROTE
Pest Scientific Name	Lactuca serrio>	Stellaria media	Taraxacum offi>	Lamium amplexi>	Bromus tectorum
Pest Name	Prickly lettuce	Common chickwe>	Common dandel>	Henbit	Downy brome
Crop Code					
BBCH Scale					
Crop Scientific Name					
Crop Name					
Rating Date	May-2-2014	May-2-2014	May-2-2014	May-2-2014	May-8-2014
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit	%	%	%	%	%
Sample Size, Unit	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples	1	1	1	1	1
Crop Stage Majority					
Pest Stage Majority	4	3	3	2	14
Pest Density, Unit	3 FT2	3 FT2	1 FT2	1 YD2	10 FT2
Days After First/Last Applic.	23 23	23 23	23 23	23 23	29 6
Plant-Eval Interval	-6 DP-1	-6 DP-1	-6 DP-1	-6 DP-1	0 DP-1
Trt Treatment	Rate	Rate	Rate	Rate	Rate
No. Name	Unit	Unit	Unit	Unit	Unit
	7	8	9	10	11
4 Liberty 280 (2.34 SL)	0.585 lb ai/a				
NIS	0.25 % v/v				
AMS - Liquid	8.5 lb ai/100 gal				
Dual II Magnum (7.64 EC)	21 oz ai/a				
Canopy	4.5 oz ai/a				
2,4-D Ester	0.5 lb ai/a				
Glyfos Xtra (3 SL)	12 oz ae/a				
AMS - Liquid	8.5 lb ai/100 gal				
Glyfos Xtra (3 SL)	12 oz ae/a				
AMS - Liquid	8.5 lb ai/100 gal				
Glyfos Xtra (3 SL)	12 oz ae/a				
AMS - Liquid	8.5 lb ai/100 gal				
		99.0 a	94.5 a	94.3 a	91.8 a
5 Dual II Magnum (7.64 EC)	21 oz ai/a				
Canopy	4.5 oz ai/a				
2,4-D Ester	0.5 lb ai/a				
Glyfos Xtra (3 SL)	12 oz ae/a				
AMS - Liquid	8.5 lb ai/100 gal				
Glyfos Xtra (3 SL)	12 oz ae/a				
AMS - Liquid	8.5 lb ai/100 gal				
Glyfos Xtra (3 SL)	12 oz ae/a				
AMS - Liquid	8.5 lb ai/100 gal				
		0.0 b	0.0 b	0.0 b	41.8 c
LSD (P=.05)		0.00	6.41	6.55	14.60
Standard Deviation		0.00	4.16	4.25	9.48
CV		0.0	7.2	7.27	16.92
Bartlett's X2		0.0	0.254	0.0	0.251
P(Bartlett's X2)		.	0.614	.	0.616
Replicate F		0.000	0.393	1.000	2.574
Replicate Prob(F)		1.0000	0.7603	0.4262	0.1026
Treatment F		0.000	644.353	631.748	116.945
Treatment Prob(F)		1.0000	0.0001	0.0001	0.0001

Purdue University

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code	STEME	TAROF	LAMAM	THLSS	AMBTR	BROTE
Pest Scientific Name	Stellaria media	Taraxacum offi>	Lamium amplexi>	Thlaspi sp.	Ambrosia trifi>	Bromus tectorum
Pest Name	Common chickwe>	Common dandel>	Henbit	Pennycress	Giant ragweed	Downy brome
Crop Code						
BBCB Scale						
Crop Scientific Name						
Crop Name						
Rating Date	May-8-2014	May-8-2014	May-8-2014	May-8-2014	May-8-2014	May-19-2014
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit	%	%	%	%	%	%
Sample Size, Unit	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples	1	1	1	1	1	1
Crop Stage Majority						
Pest Stage Majority	5	3	4	12	1	22
Pest Density, Unit	5 FT2	2 YD2	5 YD2	3 YD2	1 YD2	12 FT2
Days After First/Last Applic.	29 6	29 6	29 6	29 6	29 6	40 17
Plant-Eval Interval	0 DP-1	0 DP-1	0 DP-1	0 DP-1	0 DP-1	11 DP-1
Trt Treatment						
No. Name	12	13	14	15	16	17
1 Untreated Check	0.0 c	0.0 c	0.0 b	0.0 c	0.0 b	0.0 c
2 CRUSHER	0.0313 lb ai/a					
Liberty 280 (2.34 SL)	0.585 lb ai/a	97.5 a	97.8 a	98.0 a	99.0 a	89.3 a
NIS	0.25 % v/v					
AMS - Liquid	8.5 lb ai/100 gal					
Dual II Magnum (7.64 EC)	21 oz ai/a					
Canopy	4.5 oz ai/a					
2,4-D Ester	0.5 lb ai/a					
Glyphos Xtra (3 SL)	12 oz ae/a					
AMS - Liquid	8.5 lb ai/100 gal					
Glyphos Xtra (3 SL)	12 oz ae/a					
AMS - Liquid	8.5 lb ai/100 gal					
Glyphos Xtra (3 SL)	12 oz ae/a					
AMS - Liquid	8.5 lb ai/100 gal					
3 LEADOFF	0.0313 lb ai/a	99.0 a	97.8 a	99.0 a	99.0 a	89.5 a
Liberty 280 (2.34 SL)	0.585 lb ai/a					
NIS	0.25 % v/v					
AMS - Liquid	8.5 lb ai/100 gal					
Dual II Magnum (7.64 EC)	21 oz ai/a					
Canopy	4.5 oz ai/a					
2,4-D Ester	0.5 lb ai/a					
Glyphos Xtra (3 SL)	12 oz ae/a					
AMS - Liquid	8.5 lb ai/100 gal					
Glyphos Xtra (3 SL)	12 oz ae/a					
AMS - Liquid	8.5 lb ai/100 gal					
Glyphos Xtra (3 SL)	12 oz ae/a					
AMS - Liquid	8.5 lb ai/100 gal					

Purdue University

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code	STEME	TAROF	LAMAM	THLSS	AMBTR	BROTE
Pest Scientific Name	Stellaria media	Taraxacum offi>	Lamium amplexi>	Thlaspi sp.	Ambrosia trifi>	Bromus tectorum
Pest Name	Common chickwe>	Common dandeli>	Henbit	Pennycress	Giant ragweed	Downy brome
Crop Code						
BBCH Scale						
Crop Scientific Name						
Crop Name						
Rating Date	May-8-2014	May-8-2014	May-8-2014	May-8-2014	May-8-2014	May-19-2014
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit	%	%	%	%	%	%
Sample Size, Unit	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples	1	1	1	1	1	1
Crop Stage Majority						
Pest Stage Majority	5	3	4	12	1	22
Pest Density, Unit	5 FT2	2 YD2	5 YD2	3 YD2	1 YD2	12 FT2
Days After First/Last Applic.	29 6	29 6	29 6	29 6	29 6	40 17
Plant-Eval Interval	0 DP-1	0 DP-1	0 DP-1	0 DP-1	0 DP-1	11 DP-1
Trt Treatment	Rate	Rate	Rate	Rate	Rate	Rate
No. Name	Unit	Unit	Unit	Unit	Unit	Unit
	12	13	14	15	16	17
4 Liberty 280 (2.34 SL)	0.585 lb ai/a					
NIS	0.25 % v/v					
AMS - Liquid	8.5 lb ai/100 gal					
Dual II Magnum (7.64 EC)	21 oz ai/a					
Canopy	4.5 oz ai/a					
2,4-D Ester	0.5 lb ai/a					
Glyfos Xtra (3 SL)	12 oz ae/a					
AMS - Liquid	8.5 lb ai/100 gal					
Glyfos Xtra (3 SL)	12 oz ae/a					
AMS - Liquid	8.5 lb ai/100 gal					
Glyfos Xtra (3 SL)	12 oz ae/a					
AMS - Liquid	8.5 lb ai/100 gal					
		81.0 b	17.5 c	54.5 a	50.0 b	74.5 a
5 Dual II Magnum (7.64 EC)	21 oz ai/a					
Canopy	4.5 oz ai/a					
2,4-D Ester	0.5 lb ai/a					
Glyfos Xtra (3 SL)	12 oz ae/a					
AMS - Liquid	8.5 lb ai/100 gal					
Glyfos Xtra (3 SL)	12 oz ae/a					
AMS - Liquid	8.5 lb ai/100 gal					
Glyfos Xtra (3 SL)	12 oz ae/a					
AMS - Liquid	8.5 lb ai/100 gal					
LSD (P=.05)	11.30	20.18	35.96	5.72	28.58	12.15
Standard Deviation	7.33	13.09	23.34	3.71	18.55	7.89
CV	9.77	23.16	33.99	5.36	26.33	11.28
Bartlett's X2	12.442	17.995	17.008	6.006	2.142	8.795
P(Bartlett's X2)	0.002*	0.001*	0.001*	0.014*	0.343	0.003*
Replicate F	1.087	0.357	1.364	1.000	0.751	1.254
Replicate Prob(F)	0.3920	0.7849	0.3007	0.4262	0.5426	0.3337
Treatment F	135.171	48.361	13.274	564.250	18.928	122.637
Treatment Prob(F)	0.0001	0.0001	0.0002	0.0001	0.0001	0.0001

Purdue University

Pest Type	W Weed	W Weed	W Weed				W Weed		
Pest Code	THLSS	LACSE	TAROF				ERICA		
Pest Scientific Name	Thlaspi sp.	Lactuca serrio>	Taraxacum offi>				Conyza canaden>		
Pest Name	Pennycress	Prickly lettuce	Common dandel>				Canada horsewe>		
Crop Code				GLXMA	GLXMA	GLXMA			
BBCB Scale				BSOY	BSOY	BSOY			
Crop Scientific Name				Glycine max	Glycine max	Glycine max			
Crop Name				Soybean	Soybean	Soybean			
Rating Date	May-19-2014	May-19-2014	May-19-2014	Jun-3-2014	Jun-3-2014	Jun-3-2014	Jul-9-2014		
Rating Type	CONTRO	CONTRO	CONTRO	PHYCHL	PHYSTU	PHYLMA	CONTRO		
Rating Unit	%	%	%	%	%	%	%		
Sample Size, Unit	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT		
Number of Subsamples	1	1	1	1	1	1	1		
Crop Stage Majority				V1	V1	V1	V8		
Pest Stage Majority	12	6	4				3-12		
Pest Density, Unit	5 YD2	5 YD2	3 YD2				2 YD2		
Days After First/Last Applic.	40 17	40 17	40 17	55 32	55 32	55 32	91 20		
Plant-Eval Interval	11 DP-1	11 DP-1	11 DP-1	26 DP-1	26 DP-1	26 DP-1	62 DP-1		
Trt Treatment	Rate	Appl							
No. Name	Rate Unit	Code	18	19	20	21	22	23	24
1 Untreated Check			0.0 b	0.0 b	0.0 c	0.0 a	0.0 b	0.0 b	0.0 b
2 CRUSHER	0.0313 lb ai/a	A	99.0 a	99.0 a	98.8 a	0.8 a	6.8 a	3.3 a	99.0 a
Liberty 280 (2.34 SL)	0.585 lb ai/a	A							
NIS	0.25 % v/v	A							
AMS - Liquid	8.5 lb ai/100 gal	A							
Dual II Magnum (7.64 EC)	21 oz ai/a	B							
Canopy	4.5 oz ai/a	B							
2,4-D Ester	0.5 lb ai/a	B							
Glyfos Xtra (3 SL)	12 oz ae/a	B							
AMS - Liquid	8.5 lb ai/100 gal	B							
Glyfos Xtra (3 SL)	12 oz ae/a	C							
AMS - Liquid	8.5 lb ai/100 gal	C							
Glyfos Xtra (3 SL)	12 oz ae/a	D							
AMS - Liquid	8.5 lb ai/100 gal	D							
3 LEADOFF	0.0313 lb ai/a	A	99.0 a	99.0 a	96.5 a	0.0 a	8.0 a	4.5 a	99.0 a
Liberty 280 (2.34 SL)	0.585 lb ai/a	A							
NIS	0.25 % v/v	A							
AMS - Liquid	8.5 lb ai/100 gal	A							
Dual II Magnum (7.64 EC)	21 oz ai/a	B							
Canopy	4.5 oz ai/a	B							
2,4-D Ester	0.5 lb ai/a	B							
Glyfos Xtra (3 SL)	12 oz ae/a	B							
AMS - Liquid	8.5 lb ai/100 gal	B							
Glyfos Xtra (3 SL)	12 oz ae/a	C							
AMS - Liquid	8.5 lb ai/100 gal	C							
Glyfos Xtra (3 SL)	12 oz ae/a	D							
AMS - Liquid	8.5 lb ai/100 gal	D							

Purdue University

Pest Type	W Weed	W Weed	W Weed				W Weed
Pest Code	THLSS	LACSE	TAROF				ERICA
Pest Scientific Name	Thlaspi sp.	Lactuca serrio>	Taraxacum offi>				Conyza canaden>
Pest Name	Pennycress	Prickly lettuce	Common dandel>				Canada horsewe>
Crop Code				GLXMA	GLXMA	GLXMA	
BBCH Scale				BSOY	BSOY	BSOY	
Crop Scientific Name				Glycine max	Glycine max	Glycine max	
Crop Name				Soybean	Soybean	Soybean	
Rating Date	May-19-2014	May-19-2014	May-19-2014	Jun-3-2014	Jun-3-2014	Jun-3-2014	Jul-9-2014
Rating Type	CONTRO	CONTRO	CONTRO	PHYCHL	PHYSTU	PHYLMA	CONTRO
Rating Unit	%	%	%	%	%	%	%
Sample Size, Unit	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples	1	1	1	1	1	1	1
Crop Stage Majority				V1	V1	V1	V8
Pest Stage Majority	12	6	4				3-12
Pest Density, Unit	5 YD2	5 YD2	3 YD2				2 YD2
Days After First/Last Applic.	40 17	40 17	40 17	55 32	55 32	55 32	91 20
Plant-Eval Interval	11 DP-1	11 DP-1	11 DP-1	26 DP-1	26 DP-1	26 DP-1	62 DP-1
Trt Treatment	Rate	Rate	Rate	Rate	Rate	Rate	Rate
No. Name	Unit	Unit	Unit	Unit	Unit	Unit	Unit
	18	19	20	21	22	23	24
4 Liberty 280 (2.34 SL)	0.585 lb ai/a						
NIS	0.25 % v/v						
AMS - Liquid	8.5 lb ai/100 gal						
Dual II Magnum (7.64 EC)	21 oz ai/a						
Canopy	4.5 oz ai/a						
2,4-D Ester	0.5 lb ai/a						
Glyphos Xtra (3 SL)	12 oz ae/a						
AMS - Liquid	8.5 lb ai/100 gal						
Glyphos Xtra (3 SL)	12 oz ae/a						
AMS - Liquid	8.5 lb ai/100 gal						
Glyphos Xtra (3 SL)	12 oz ae/a						
AMS - Liquid	8.5 lb ai/100 gal						
5 Dual II Magnum (7.64 EC)	21 oz ai/a						
Canopy	4.5 oz ai/a						
2,4-D Ester	0.5 lb ai/a						
Glyphos Xtra (3 SL)	12 oz ae/a						
AMS - Liquid	8.5 lb ai/100 gal						
Glyphos Xtra (3 SL)	12 oz ae/a						
AMS - Liquid	8.5 lb ai/100 gal						
Glyphos Xtra (3 SL)	12 oz ae/a						
AMS - Liquid	8.5 lb ai/100 gal						
LSD (P=.05)	3.10	3.10	6.87	1.52	3.26	2.09	0.00
Standard Deviation	2.01	2.01	4.46	0.99	2.12	1.35	0.00
CV	2.56	2.56	5.83	329.14	59.64	87.36	0.0
Bartlett's X2	0.0	0.0	23.881	0.0	0.62	2.766	0.0
P(Bartlett's X2)	.	.	0.001*	.	0.733	0.096	.
Replicate F	1.000	1.000	1.618	0.615	1.409	1.045	0.000
Replicate Prob(F)	0.4262	0.4262	0.2371	0.6181	0.2882	0.4079	1.0000
Treatment F	1915.000	1915.000	371.031	0.692	12.390	10.255	0.000
Treatment Prob(F)	0.0001	0.0001	0.0001	0.6114	0.0003	0.0008	1.0000

Purdue University

Pest Type	W Weed	W Weed	W Weed	W Weed			
Pest Code	LACSE	BROTE	SETFA	AMBTR			
Pest Scientific Name	Lactuca serrio>	Bromus tectorum	Setaria faberi	Ambrosia trifi>			
Pest Name	Prickly lettuce	Downy brome	Giant foxtail	Giant ragweed			
Crop Code					GLXMA		
BBCH Scale					BSOY		
Crop Scientific Name					Glycine max		
Crop Name					Soybean		
Rating Date	Jul-9-2014	Jul-9-2014	Jul-9-2014	Jul-9-2014	Jul-9-2014		
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	HEIGHT		
Rating Unit	%	%	%	%	cm		
Sample Size, Unit	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT		
Number of Subsamples	1	1	1	1	6		
Crop Stage Majority	V8	V8	V8	V8			
Pest Stage Majority	7-43	12-24	3-12	6-26			
Pest Density, Unit	2 FT2	6 FT2	3 FT2	1 YD2			
Days After First/Last Applic.	91 20	91 20	91 20	91 20	91 20		
Plant-Eval Interval	62 DP-1	62 DP-1	62 DP-1	62 DP-1	62 DP-1		
Trt Treatment	Rate	Appl					
No. Name	Rate Unit	Code	25	26	27	28	29
1 Untreated Check			0.0 b	0.0 b	0.0 b	0.0 b	46.4166726 b
2 CRUSHER	0.0313 lb ai/a	A	99.0 a	99.0 a	94.0 a	98.8 a	40.8750041 b
Liberty 280 (2.34 SL)	0.585 lb ai/a	A					
NIS	0.25 % v/v	A					
AMS - Liquid	8.5 lb ai/100 gal	A					
Dual II Magnum (7.64 EC)	21 oz ai/a	B					
Canopy	4.5 oz ai/a	B					
2,4-D Ester	0.5 lb ai/a	B					
Glyphos Xtra (3 SL)	12 oz ae/a	B					
AMS - Liquid	8.5 lb ai/100 gal	B					
Glyphos Xtra (3 SL)	12 oz ae/a	C					
AMS - Liquid	8.5 lb ai/100 gal	C					
Glyphos Xtra (3 SL)	12 oz ae/a	D					
AMS - Liquid	8.5 lb ai/100 gal	D					
3 LEADOFF	0.0313 lb ai/a	A	99.0 a	99.0 a	97.8 a	94.3 a	41.0833362 b
Liberty 280 (2.34 SL)	0.585 lb ai/a	A					
NIS	0.25 % v/v	A					
AMS - Liquid	8.5 lb ai/100 gal	A					
Dual II Magnum (7.64 EC)	21 oz ai/a	B					
Canopy	4.5 oz ai/a	B					
2,4-D Ester	0.5 lb ai/a	B					
Glyphos Xtra (3 SL)	12 oz ae/a	B					
AMS - Liquid	8.5 lb ai/100 gal	B					
Glyphos Xtra (3 SL)	12 oz ae/a	C					
AMS - Liquid	8.5 lb ai/100 gal	C					
Glyphos Xtra (3 SL)	12 oz ae/a	D					
AMS - Liquid	8.5 lb ai/100 gal	D					

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Pest Type	W Weed	W Weed	W Weed	W Weed				
Pest Code	LACSE	BROTE	SETFA	AMBTR				
Pest Scientific Name	Lactuca serrio>	Bromus tectorum	Setaria faberi	Ambrosia trifi>				
Pest Name	Prickly lettuce	Downy brome	Giant foxtail	Giant ragweed				
Crop Code					GLXMA			
BBCH Scale					BSOY			
Crop Scientific Name					Glycine max			
Crop Name					Soybean			
Rating Date	Jul-9-2014	Jul-9-2014	Jul-9-2014	Jul-9-2014	Jul-9-2014			
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	HEIGHT			
Rating Unit	%	%	%	%	cm			
Sample Size, Unit	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT			
Number of Subsamples	1	1	1	1	6			
Crop Stage Majority	V8	V8	V8	V8				
Pest Stage Majority	7-43	12-24	3-12	6-26				
Pest Density, Unit	2 FT2	6 FT2	3 FT2	1 YD2				
Days After First/Last Applic.	91 20	91 20	91 20	91 20	91 20			
Plant-Eval Interval	62 DP-1	62 DP-1	62 DP-1	62 DP-1	62 DP-1			
Trt Treatment	Rate	Unit	Appl Code					
No. Name				25	26	27	28	29
4 Liberty 280 (2.34 SL)	0.585 lb ai/a	A		99.0 a	99.0 a	93.3 a	99.0 a	57.0833378 a
NIS	0.25 % v/v	A						
AMS - Liquid	8.5 lb ai/100 gal	A						
Dual II Magnum (7.64 EC)	21 oz ai/a	B						
Canopy	4.5 oz ai/a	B						
2,4-D Ester	0.5 lb ai/a	B						
Glyphos Xtra (3 SL)	12 oz ae/a	B						
AMS - Liquid	8.5 lb ai/100 gal	B						
Glyphos Xtra (3 SL)	12 oz ae/a	C						
AMS - Liquid	8.5 lb ai/100 gal	C						
Glyphos Xtra (3 SL)	12 oz ae/a	D						
AMS - Liquid	8.5 lb ai/100 gal	D						
5 Dual II Magnum (7.64 EC)	21 oz ai/a	B		99.0 a	99.0 a	98.3 a	99.0 a	58.1250058 a
Canopy	4.5 oz ai/a	B						
2,4-D Ester	0.5 lb ai/a	B						
Glyphos Xtra (3 SL)	12 oz ae/a	B						
AMS - Liquid	8.5 lb ai/100 gal	B						
Glyphos Xtra (3 SL)	12 oz ae/a	C						
AMS - Liquid	8.5 lb ai/100 gal	C						
Glyphos Xtra (3 SL)	12 oz ae/a	D						
AMS - Liquid	8.5 lb ai/100 gal	D						
LSD (P=.05)				0.00	0.00	7.14	4.34	8.09986196
Standard Deviation				0.00	0.00	4.63	2.82	5.25696902
CV				0.0	0.0	6.05	3.6	10.79
Bartlett's X2				0.0	0.0	12.607	10.811	7.139
P(Bartlett's X2)				.	.	0.006*	0.001*	0.129
Replicate F				0.000	0.000	2.057	1.195	7.920
Replicate Prob(F)				1.0000	1.0000	0.1595	0.3534	0.0035
Treatment F				0.000	0.000	342.891	966.615	10.261
Treatment Prob(F)				1.0000	1.0000	0.0001	0.0001	0.0008

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TO DETERMINE THE HERBICIDAL EFFICACY AND SELECTIVITY WHEN CRUSHER IS APPLIED PREPLANT TO SOYBEAN IN 2014

Trial ID: 14 S-THP-NTS-72 Protocol ID: 14 S-THP-NTS-72
 Location: Throckmorton Study Director:
 Project ID: HGLXMARIMTHI1401 Investigator: Dr. Bill Johnson
 Sponsor Contact: JIM BARRENTINE

Pest Type

W, Weed, G-BYRW7, G-WedStg = Weed or volunteer crop

Pest Code

BROTE, Bromus tectorum, = US
 THLSS, Thlaspi sp., = US
 LACSE, Lactuca serriola, = US
 STEME, Stellaria media, = US
 TAROF, Taraxacum officinale, = US
 LAMAM, Lamium amplexicaule, = US
 AMBTR, Ambrosia trifida, = US
 ERICA, Conyza canadensis, = US
 SETFA, Setaria faberi, = US

Crop Code

GLXMA, BSOY, Glycine max, = US

Rating Type

CONTRO = control / burndown or knockdown
 PHYCHL = phytotoxicity - chlorosis
 PHYSTU = phytotoxicity - stunting
 PHYLMA = phytotoxicity - leaf malformation
 HEIGHT = height

Rating Unit

% = percent
 cm = centimeter

PLOT = total plot

Pest Stage Majority

12 = 2 true leaves, leaf pairs or whorls unfolded
 14 = 4 true leaves, leaf pairs or whorls unfolded
 22 = 2 side shoots visible; G 2 tillers visible

FT2 = per square foot

YD2 = per square yard

Plant-Eval Interval

-15 DP-1 = 1 GLXMA May-8-2014
 -6 DP-1 = 1 GLXMA May-8-2014
 0 DP-1 = 1 GLXMA May-8-2014
 11 DP-1 = 1 GLXMA May-8-2014
 26 DP-1 = 1 GLXMA May-8-2014
 62 DP-1 = 1 GLXMA May-8-2014