

Purdue Weed Science

Liberty/Soy/Efficacy/Residual

Trial ID: 15S-THP-CTS-14 Location: TPAC Trial Year: 2015
 Protocol ID: 15S-THP-CTS-14 Investigator: Dr. Bill Johnson
 Project ID: HP15USAWGB P Study Director: Joe Ikley
 Sponsor Contact: Bayer - Alan Kurtz

General Trial Information

Study Director: Joe Ikley **Title:** Research Associate
Investigator: Dr. Bill Johnson **Title:** Professor

Discipline: H herbicide
Trial Status: E established
Initiation Date: 5/12/2015

Trial Location

Country: USA United States
State/Prov.: Indiana

Conducted Under GLP: No
Conducted Under GEP: No

Study Rules: Default

Contacts

Study Director: Joe Ikley **Title:** Research Associate
Organization: Purdue University
Address: 915 West State Street **Phone No.:** 765-494-0891
City+State/Prov: West Lafayette **Mobile No.:** 410-596-9091
Postal Code: 47907 **E-mail:** jikley@purdue.edu

Investigator: Dr. Bill Johnson **Title:** Professor
Organization: Purdue University
Address: 915 West State Street **Phone No.:** 765-494-4656
City+State/Prov: West Lafayette **Mobile No.:** 765-404-9801
Postal Code: 47907 **E-mail:** wgj@purdue.edu

Cooperator/Landowner

Cooperator: Jay Young **Role:** Superintendent
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
Country: USA United States **E-mail:** jayyoung@purdue.edu

Crop Description

Crop 1: GLXMA Glycine max Soybean
Variety: Beck's 298L4 **BBCH Scale:** BSOY
Description: LL
Planting Rate, Unit: 140000 S/A **Planting Date:** 5/14/2015
Depth, Unit: 1.25 IN **Planting Method:** SEEDED seeded
Row Spacing, Unit: 15 IN **Planting Equipment:** PP Plot Planter
Soil Temperature, Unit: 62 F **Emergence Date:** 5/21/2015
Soil Moisture: SLIDRY slightly dry

Pest Description

Pest 1 Type: W **Code:** AMBTR Ambrosia trifida
Common Name: Giant ragweed
Pest 2 Type: W **Code:** CHEAL Chenopodium album
Common Name: Common lambsquarters
Pest 3 Type: W **Code:** SETFA Setaria faberi
Common Name: Giant foxtail

Site and Design

Treated Plot Width: 10 FT **Site Type:** FIELD field
Treated Plot Length: 30 FT **Experimental Unit:** 1 PLOT plot
Treated Plot Area: 300 FT² **Treatments:** 12
Replications: 4 **Tillage Type:** CONTIL conventional-till
Study Design: RACOB� Randomized Complete Block (RCB)

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Soil Description

Description Name: TPAC -Field 4A
% OM: 3.1 **Texture:** SIL silt loam
pH: 6 **Soil Name:** Toronto-Millbrook
CEC: 11.1

Application Description

	A	B	C	D
Application Date:	5/14/2015	6/6/2015	6/16/2015	7/1/2015
Appl. Start Time:	19:00	9:45	11:35	11:00
Appl. Stop Time:	21:00	11:00	11:55	11:20
Application Method:	SPRAY	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	E POST	M POST	L POST
Application Placement:	SOIL	BROADC	BROADC	BROADC
Applied By:	Jl	Jl	MZ	TC
Air Temperature, Unit:	67 F	66 F	71 F	67 F
% Relative Humidity:	45	75	76	73
Wind Velocity, Unit:	5 MPH	5 MPH	5 MPH	3 MPH
Wind Direction:	SE	ENE	NNW	NE
Dew Presence (Y/N):	N no	N no	N no	N no
Soil Temperature, Unit:	62 F	66 F	80 F	70 F
Soil Moisture:	SLIWET	DRY	WET	WET
% Cloud Cover:	100	80	10	60

Crop Stage At Each Application

	A	B	C	D
Crop 1 Code, BBCH Scale:	GLXMA BSOY	GLXMA BSOY	GLXMA BSOY	GLXMA BSOY
Stage Scale Used:	BBCH	BBCH		BBCH
Stage Majority, Percent:	00	12		17
Stage Minimum, Percent:				17
Stage Maximum, Percent:				18
Height, Unit:		3.5 IN		11 IN
Height Minimum, Maximum:		3 4		10 12

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Pest Stage At Each Application				
	A	B	C	D
Pest 1 Code, Type, Scale:	AMBTR W	AMBTR W	AMBTR W	AMBTR W
Stage Majority, Percent:		32G	15	15
Stage Minimum, Percent:		31G	12	12
Stage Maximum, Percent:		33G	18	19
Height, Unit:		2.5 IN	4 IN	5 IN
Height Minimum, Maximum:		2 3	1 6	1 8
Density, Unit:		150 YD2	40 YD2	10 YD2
Pest 2 Code, Type, Scale:	CHEAL W	CHEAL W	CHEAL W	CHEAL W
Stage Majority, Percent:		32G		
Stage Minimum, Percent:		31G		
Stage Maximum, Percent:		33G		
Height, Unit:		1.5 IN		
Height Minimum, Maximum:		1 2		
Density, Unit:		125 YD2		
Pest 3 Code, Type, Scale:	SETFA W	SETFA W	SETFA W	SETFA W
Stage Majority, Percent:		14	12	
Stage Minimum, Percent:		12	11	
Stage Maximum, Percent:		16	14	
Height, Unit:		2.5 IN	2.5 IN	
Height Minimum, Maximum:		1 4	0 5	
Density, Unit:		125 YD2	5 YD2	

Application Equipment				
	A	B	C	D
Appl. Equipment:	CO2 BACKPACK	CO2 BACKPACK	CO2 BACKPACK	CO2 BACKPACK
Equipment Type:	BACSPR	BACSPR	BACSPR	BACSPR
Operation Pressure, Unit:	18 PSI	18 PSI	18 PSI	18 PSI
Nozzle Type:	FLAT FAN	FLAT FAN	FLAT FAN	FLAT FAN
Nozzle Size:	XR 11002	XR 11002	XR 11002	XR 11002
Nozzle Spacing, Unit:	15 IN	15 IN	15 IN	15 IN
Nozzles/Row:	8	8	8	8
Boom Length, Unit:	10 FT	10 FT	10 FT	10 FT
Boom Height, Unit:	17 IN	17 IN	17 IN	17 IN
Ground Speed, Unit:	3 MPH	3 MPH	3 MPH	3 MPH
Carrier:	MEIGS	MEIGS	MEIGS	MEIGS
Spray Volume, Unit:	15 gal/ac	15 gal/ac	15 gal/ac	15 gal/ac
Mix Size, Unit:	1.8 liters	1.8 liters	1.8 liters	1.8 liters
Propellant:	CO2	CO2	CO2	CO2

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Liberty/Soy/Efficacy/Residual			
Trial ID: 15S-THP-CTS-14	Location: TPAC Trial Year: 2015		
Protocol ID: 15S-THP-CTS-14	Investigator: Dr. Bill Johnson		
Project ID: HP15USAWGB P	Study Director: Joe Ikley		
	Sponsor Contact: Bayer - Alan Kurtz		

Reps: 4 Plots: 10 by 30 feet
 Spray vol: 15 GAL/AC Mix Size: 1.8 liters (calculated mix size 1.5642)

Trt No.	Treatment Name	Form Conc	Form Unit	Form Type	Rate	Growth Stage	Appl Code	Amt Product to Measure	Rep 1	Rep 2	Rep 3	Rep 4
1	Untreated Check								101	304	605	703
2	AUTHORITY FIRST	70 %		DF	6.5 oz/a	PRE	A	5.842 g/mx	102	401	502	702
	LIBERTY 280 SL	2.34 LB/GAL		SL	29 fl oz/a		C	27.19 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL		SL	2.5 % v/v	MID POST	C	45.0 ml/mx				
	LIBERTY 280 SL	2.34 LB/GAL		SL	29 fl oz/a		D	27.19 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL		SL	2.5 % v/v	LATE POS	D	45.0 ml/mx				
3	FIERCE	76 %		WG	3.5 oz/a	PRE	A	3.145 g/mx	103	406	604	801
	LIBERTY 280 SL	2.34 LB/GAL		SL	29 fl oz/a		C	27.19 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL		SL	2.5 % v/v	MID POST	C	45.0 ml/mx				
	LIBERTY 280 SL	2.34 LB/GAL		SL	29 fl oz/a		D	27.19 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL		SL	2.5 % v/v	LATE POS	D	45.0 ml/mx				
4	VALOR XLT	40.3 %		WG	3.5 oz/a	PRE	A	3.145 g/mx	104	306	602	701
	LIBERTY 280 SL	2.34 LB/GAL		SL	29 fl oz/a		B	27.19 ml/mx				
	ZIDUA	85 %		WG	2 oz/a		B	1.797 g/mx				
	N-PAK - AMS	3.4 LBA/GAL		SL	2.5 % v/v	<3" WEED	B	45.0 ml/mx				
	LIBERTY 280 SL	2.34 LB/GAL		SL	29 fl oz/a		D	27.19 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL		SL	2.5 % v/v	LATE POS	D	45.0 ml/mx				
5	LIBERTY 280 SL	2.34 LB/GAL		SL	29 fl oz/a		B	27.19 ml/mx	105	404	505	705
	PREFIX	5.29 LB/GAL		EC	2 pt/a		B	30.0 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL		SL	2.5 % v/v	<3" WEED	B	45.0 ml/mx				
	LIBERTY 280 SL	2.34 LB/GAL		SL	29 fl oz/a		C	27.19 ml/mx				
	WARRANT	3 LB/GAL		EC	3 pt/a		C	45.0 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL		SL	2.5 % v/v	MID POST	C	45.0 ml/mx				
6	OPTILL PRO @ 12 OZ/A								106	402	603	806
	OPTILL	68 %		WG	2 oz/a		A	1.797 g/mx				
	OUTLOOK	6 LB/GAL		EC	10 fl oz/a	PRE	A	9.375 ml/mx				
	LIBERTY 280 SL	2.34 LB/GAL		SL	29 fl oz/a		C	27.19 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL		SL	2.5 % v/v	MID POST	C	45.0 ml/mx				
	LIBERTY 280 SL	2.34 LB/GAL		SL	29 fl oz/a		D	27.19 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL		SL	2.5 % v/v	LATE POS	D	45.0 ml/mx				
7	ENVIVE @ 4 OZ/A								201	403	506	706
	CLASSIC	25 %		WG	1.472 oz/a		A	1.323 g/mx				
	VALOR SX	51 %		WG	2.29 oz/a		A	2.058 g/mx				
	HARMONY SG	50 %		SG	0.232 oz/a	PRE	A	0.2085 g/mx				
	LIBERTY 280 SL	2.34 LB/GAL		SL	29 fl oz/a		B	27.19 ml/mx				
	OUTLOOK	6 LB/GAL		EC	14 fl oz/a		B	13.12 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL		SL	2.5 % v/v	<3" WEED	B	45.0 ml/mx				
	LIBERTY 280 SL	2.34 LB/GAL		SL	29 fl oz/a		D	27.19 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL		SL	2.5 % v/v	LATE POS	D	45.0 ml/mx				
8	LIBERTY 280 SL	2.34 LB/GAL		SL	29 fl oz/a		B	27.19 ml/mx	202	305	501	802
	OUTLOOK	6 LB/GAL		EC	14 fl oz/a		B	13.12 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL		SL	2.5 % v/v	<3" WEED	B	45.0 ml/mx				
	LIBERTY 280 SL	2.34 LB/GAL		SL	29 fl oz/a		C	27.19 ml/mx				
	WARRANT	3 LB/GAL		EC	3 pt/a		C	45.0 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL		SL	2.5 % v/v	MID POST	C	45.0 ml/mx				
9	AUTHORITY MAXX	66 %		WG	7 oz/a	PRE	A	6.291 g/mx	203	302	503	803
	LIBERTY 280 SL	2.34 LB/GAL		SL	29 fl oz/a		C	27.19 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL		SL	2.5 % v/v	MID POST	C	45.0 ml/mx				
	LIBERTY 280 SL	2.34 LB/GAL		SL	29 fl oz/a		D	27.19 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL		SL	2.5 % v/v	LATE POS	D	45.0 ml/mx				

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Reps: 4 Plots: 10 by 30 feet
 Spray vol: 15 GAL/AC Mix Size: 1.8 liters (calculated mix size 1.5642)

Trt No.	Treatment Name	Form Conc	Form Unit	Form Type	Rate	Growth Stage	Appl Code	Amt Product to Measure	Rep 1	2	3	4
10	AUTHORITY MTZ	45 %		WG	11 oz/a	PRE	A	9.886 g/mx	204	301	601	804
	LIBERTY 280 SL	2.34 LB/GAL	SL		29 fl oz/a		C	27.19 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL	SL		2.5 % v/v	MID POST	C	45.0 ml/mx				
	LIBERTY 280 SL	2.34 LB/GAL	SL		29 fl oz/a		D	27.19 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL	SL		2.5 % v/v	LATE POS	D	45.0 ml/mx				
11	FIERCE	76 %		WG	3.5 oz/a	PRE	A	3.145 g/mx	205	405	504	805
	LIBERTY 280 SL	2.34 LB/GAL	SL		29 fl oz/a		C	27.19 ml/mx				
	WARRANT	3 LB/GAL	EC		3 pt/a		C	45.0 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL	SL		2.5 % v/v	MID POST	C	45.0 ml/mx				
	LIBERTY 280 SL	2.34 LB/GAL	SL		29 fl oz/a		D	27.19 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL	SL		2.5 % v/v	LATE POS	D	45.0 ml/mx				
12	VERDICT	5.57 LB/GAL	EC		5 fl oz/a	PRE	A	4.687 ml/mx	206	303	606	704
	LIBERTY 280 SL	2.34 LB/GAL	SL		29 fl oz/a		C	27.19 ml/mx				
	OUTLOOK	6 LB/GAL	EC		14 fl oz/a		C	13.12 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL	SL		2.5 % v/v	MID POST	C	45.0 ml/mx				
	LIBERTY 280 SL	2.34 LB/GAL	SL		29 fl oz/a		D	27.19 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL	SL		2.5 % v/v	LATE POS	D	45.0 ml/mx				

Sort Order: Replicate 1

Product quantities required for listed treatments and applications of trials included in this table:

Amount*	Unit	Treatment Name	Form Conc	Form Type	Lot Code
7.302	g	AUTHORITY FIRST	70	DF	
747.655	ml	LIBERTY 280 SL	2.34	SL	
1,237.366	ml	N-PAK - AMS	3.4	SL	
7.864	g	FIERCE	76	WG	
3.932	g	VALOR XLT	40.3	WG	
2.247	g	ZIDUA	85	WG	
37.500	ml	PREFIX	5.29	EC	
168.750	ml	WARRANT	3	EC	
2.247	g	OPTILL	68	WG	
60.937	ml	OUTLOOK	6	EC	
1.654	g	CLASSIC	25	WG	
2.573	g	VALOR SX	51	WG	
0.261	g	HARMONY SG	50	SG	
7.864	g	AUTHORITY MAXX	66	WG	
12.357	g	AUTHORITY MTZ	45	WG	
5.859	ml	VERDICT	5.57	EC	

* 'Per area' calculations based on spray volume= 15 GAL/AC, mix size= 1.8 liters (mix size basis).

* Product amount calculations increased 25 % for overage adjustment.

* 'Per volume' calculations use spray volume= 15 GAL/AC, mix size= 1.8 liters.

Purdue Weed Science

Liberty/Soy/Efficacy/Residual

Trial ID: 15S-THP-CTS-14 Location: TPAC Trial Year: 2015
 Protocol ID: 15S-THP-CTS-14 Investigator: Dr. Bill Johnson
 Project ID: HP15USAWGB P Study Director: Joe Ikley
 Sponsor Contact: Bayer - Alan Kurtz

Pest Type		W Weed		W Weed		W Weed		
Pest Code		AMBTR		AMBTR		AMBTR		
Pest Name		Giant ragweed		Giant ragweed		Giant ragweed		
Crop Code	GLXMA		GLXMA		GLXMA			
Crop Name	Soybean		Soybean		Soybean			
Part Rated	PLOT C	PLOT P	PLOT C	PLOT P	PLOT C	PLOT P		
Rating Date	6/4/2015	6/4/2015	6/16/2015	6/16/2015	7/6/2015	7/6/2015		
Rating Type	PHYGEN	CONTRO	PHYGEN	CONTRO	PHYGEN	CONTRO		
Rating Unit	%	%	%	%	%	%		
Number of Subsamples	1	1	1	1	1	1		
Days After First/Last Applic.	21 21	21 21	33 10	33 10	53 5	53 5		
Trt-Eval Interval	21 DA-A	21 DA-A	10 DA-B	10 DA-B	20 DA-C	20 DA-C		
Days After Emergence	14 DE-1	14 DE-1	26 DE-1	26 DE-1	46 DE-1	46 DE-1		
ARM Action Codes	P	P	P	P	P	P		
Number of Decimals	0	0	0	0	0	0		
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
		304	0	0	0	0	0	0
		605	0	0	0	0	0	0
		703	0	0	0	0	0	0
		Mean =	0	0	0	0	0	0
2 AUTHORITY FIRST	6.5 oz/a	A 102	0	30	0	25	5	100
LIBERTY 280 SL	29 fl oz/a	C 401	0	30	0	0	5	100
N-PAK - AMS	2.5 % v/v	C 502	0	80	0	15	5	99
LIBERTY 280 SL	29 fl oz/a	D 702	0	30	0	20	5	100
N-PAK - AMS	2.5 % v/v	D						
		Mean =	0	43	0	15	5	100
3 FIERCE	3.5 oz/a	A 103	0	40	20	35	5	99
LIBERTY 280 SL	29 fl oz/a	C 406	5	30	5	0	5	100
N-PAK - AMS	2.5 % v/v	C 604	10	90	25	75	10	100
LIBERTY 280 SL	29 fl oz/a	D 801	15	80	5	50	5	100
N-PAK - AMS	2.5 % v/v	D						
		Mean =	8	60	14	40	6	100
4 VALOR XLT	3.5 oz/a	A 104	0	70	15	95	5	99
LIBERTY 280 SL	29 fl oz/a	B 306	0	80	20	95	5	99
ZIDUA	2 oz/a	B 602	0	50	15	95	5	99
N-PAK - AMS	2.5 % v/v	B 701	3	80	20	95	5	97
LIBERTY 280 SL	29 fl oz/a	D						
N-PAK - AMS	2.5 % v/v	D						
		Mean =	1	70	18	95	5	99
5 LIBERTY 280 SL	29 fl oz/a	B 105	0	0	30	95	5	95
PREFIX	2 pt/a	B 404	0	0	20	95	5	92
N-PAK - AMS	2.5 % v/v	B 505	0	0	25	100	5	100
LIBERTY 280 SL	29 fl oz/a	C 705	0	0	15	100	5	99
WARRANT	3 pt/a	C						
N-PAK - AMS	2.5 % v/v	C						
		Mean =	0	0	23	98	5	97
6 OPTILL PRO @ 12 OZ/A		106	0	80	0	65*	5	95
OPTILL	2 oz/a	A 402	0	70	0	80	5	100
OUTLOOK	10 fl oz/a	A 603	0	65	0	55	5	100
LIBERTY 280 SL	29 fl oz/a	C 806	0	80	0	50	5	100
N-PAK - AMS	2.5 % v/v	C						
LIBERTY 280 SL	29 fl oz/a	D						
N-PAK - AMS	2.5 % v/v	D						
		Mean =	0	74	0	62	5	99

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Pest Type Pest Code Pest Name Crop Code Crop Name Part Rated Rating Date Rating Type Rating Unit Number of Subsamples Days After First/Last Applic. Trt-Eval Interval Days After Emergence ARM Action Codes Number of Decimals			W Weed AMBTR Giant ragweed		W Weed AMBTR Giant ragweed		W Weed AMBTR Giant ragweed	
	GLXMA Soybean PLOT C 6/4/2015 PHYGEN % 1 21 21 21 DA-A 14 DE-1 P 0		PLOT P 6/4/2015 CONTRO % 1 21 21 21 DA-A 14 DE-1 P 0		GLXMA Soybean PLOT C 6/16/2015 PHYGEN % 1 33 10 10 DA-B 26 DE-1 P 0		GLXMA Soybean PLOT C 6/16/2015 PHYGEN % 1 33 10 10 DA-B 26 DE-1 P 0	
Trt Treatment No. Name	Rate	Appl Unit Code Plot	1	2	3	4	5	6
7 ENVIVE @ 4 OZ/A CLASSIC VALOR SX HARMONY SG LIBERTY 280 SL OUTLOOK N-PAK - AMS LIBERTY 280 SL N-PAK - AMS Mean =	1.472 oz/a 2.29 oz/a 0.232 oz/a 29 fl oz/a 14 fl oz/a 2.5 % v/v 29 fl oz/a 2.5 % v/v	A 201 A 403 A 506 A 706 B B B D D	5 10 5 10 8	50 10 90 90 60	5 10 25 20 15	95 95 100 100 98	5 0 5 5 4	99 97 99 99 99
8 LIBERTY 280 SL OUTLOOK N-PAK - AMS LIBERTY 280 SL WARRANT N-PAK - AMS Mean =	29 fl oz/a 14 fl oz/a 2.5 % v/v 29 fl oz/a 3 pt/a 2.5 % v/v	B 202 B 305 B 501 C 802 C C	0 0 0 0 0	0 0 0 0 0	5 5 5 15 8	85 95 90 90 90	5 0 5 5 4	95 95 90 95 94
9 AUTHORITY MAXX LIBERTY 280 SL N-PAK - AMS LIBERTY 280 SL N-PAK - AMS Mean =	7 oz/a 29 fl oz/a 2.5 % v/v 29 fl oz/a 2.5 % v/v	A 203 C 302 C 503 D 803 D	0 0 0 0 0	30 0 50 10 23	0 0 0 0 0	0 0 0 0 0	5 5 5 10 6	100 100 100 100 100
10 AUTHORITY MTZ LIBERTY 280 SL N-PAK - AMS LIBERTY 280 SL N-PAK - AMS Mean =	11 oz/a 29 fl oz/a 2.5 % v/v 29 fl oz/a 2.5 % v/v	A 204 C 301 C 601 D 804 D	0 0 0 0 0	85 0 0 35 30	0 0 0 0 0	20 0 40 0 15	5 5 5 5 5	100 100 100 100 100
11 FIERCE LIBERTY 280 SL WARRANT N-PAK - AMS LIBERTY 280 SL N-PAK - AMS Mean =	3.5 oz/a 29 fl oz/a 3 pt/a 2.5 % v/v 29 fl oz/a 2.5 % v/v	A 205 C 405 C 504 C 805 D D	5 10 10 10 9	95 90 90 60 84	10 15 10 10 11	65 55 75 0 49	5 5 5 10 6	99 100 100 100 100
12 VERDICT LIBERTY 280 SL OUTLOOK N-PAK - AMS LIBERTY 280 SL N-PAK - AMS Mean =	5 fl oz/a 29 fl oz/a 14 fl oz/a 2.5 % v/v 29 fl oz/a 2.5 % v/v	A 206 C 303 C 606 C 704 D D	0 0 0 0 0	90 0 85 55 58	0 0 0 5 1	55 0 75 55 46	5 5 15 5 8	100 100 100 100 100

Pest Type
 W, Weed, G-BYRW7, G-WedStg = Weed or volunteer crop
Pest Code
 AMBTR, Ambrosia trifida, = US
Crop Code
 GLXMA, BSOY, Glycine max, = US
Part Rated
 PLOT = plot
 C = Crop is Part Rated
 P = Pest is Part Rated
Rating Type
 PHYGEN = phytotoxicity - general / injury

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CONTRO = control / burndown or knockdown

Rating Unit

% = percent

ARM Action Codes

P = Rating scale of 0 to 100 (e.g. % control or injury)

Pest Type		W Weed AMBTR Giant ragweed		W Weed AMBTR Giant ragweed		W Weed AMBTR Giant ragweed		
Pest Code								
Pest Name								
Crop Code	GLXMA			GLXMA		GLXMA		
Crop Name	Soybean			Soybean		Soybean		
Part Rated	PLOT C	PLOT P		PLOT C	PLOT P	PLOT C	PLOT P	
Rating Date	6/4/2015	6/4/2015		6/16/2015	6/16/2015	7/6/2015	7/6/2015	
Rating Type	PHYGEN	CONTRO		PHYGEN	CONTRO	PHYGEN	CONTRO	
Rating Unit	%	%		%	%	%	%	
Number of Subsamples	1	1		1	1	1	1	
Days After First/Last Applic.	21 21	21 21		33 10	33 10	53 5	53 5	
Trt-Eval Interval	21 DA-A	21 DA-A		10 DA-B	10 DA-B	20 DA-C	20 DA-C	
Days After Emergence	14 DE-1	14 DE-1		26 DE-1	26 DE-1	46 DE-1	46 DE-1	
ARM Action Codes	P	P		P	P	P	P	
Number of Decimals	0	0		0	0	0	0	
Trt Treatment	Rate	Appl						
No. Name	Rate	Unit Code	1	2	3	4	5	6
1 Untreated Check			0 b	0 e	0 e	0 c	0 c	0 d
2 AUTHORITY FIRST	6.5 oz/a	A	0 b	43 bcd	0 e	15 c	5 ab	100 a
LIBERTY 280 SL	29 fl oz/a	C						
N-PAK - AMS	2.5 % v/v	C						
LIBERTY 280 SL	29 fl oz/a	D						
N-PAK - AMS	2.5 % v/v	D						
3 FIERCE	3.5 oz/a	A	8 a	60 abc	14 bc	40 b	6 ab	100 a
LIBERTY 280 SL	29 fl oz/a	C						
N-PAK - AMS	2.5 % v/v	C						
LIBERTY 280 SL	29 fl oz/a	D						
N-PAK - AMS	2.5 % v/v	D						
4 VALOR XLT	3.5 oz/a	A	1 b	70 ab	18 ab	95 a	5 ab	99 ab
LIBERTY 280 SL	29 fl oz/a	B						
ZIDUA	2 oz/a	B						
N-PAK - AMS	2.5 % v/v	B						
LIBERTY 280 SL	29 fl oz/a	D						
N-PAK - AMS	2.5 % v/v	D						
5 LIBERTY 280 SL	29 fl oz/a	B	0 b	0 e	23 a	98 a	5 ab	97 b
PREFIX	2 pt/a	B						
N-PAK - AMS	2.5 % v/v	B						
LIBERTY 280 SL	29 fl oz/a	C						
WARRANT	3 pt/a	C						
N-PAK - AMS	2.5 % v/v	C						
6 OPTILL PRO @ 12 OZ/A			0 b	74 ab	0 e	62 b	5 ab	99 ab
OPTILL	2 oz/a	A						
OUTLOOK	10 fl oz/a	A						
LIBERTY 280 SL	29 fl oz/a	C						
N-PAK - AMS	2.5 % v/v	C						
LIBERTY 280 SL	29 fl oz/a	D						
N-PAK - AMS	2.5 % v/v	D						
7 ENVIVE @ 4 OZ/A			8 a	60 abc	15 b	98 a	4 b	99 ab
CLASSIC	1.472 oz/a	A						
VALOR SX	2.29 oz/a	A						
HARMONY SG	0.232 oz/a	A						
LIBERTY 280 SL	29 fl oz/a	B						
OUTLOOK	14 fl oz/a	B						
N-PAK - AMS	2.5 % v/v	B						
LIBERTY 280 SL	29 fl oz/a	D						
N-PAK - AMS	2.5 % v/v	D						
8 LIBERTY 280 SL	29 fl oz/a	B	0 b	0 e	8 cd	90 a	4 b	94 c
OUTLOOK	14 fl oz/a	B						
N-PAK - AMS	2.5 % v/v	B						
LIBERTY 280 SL	29 fl oz/a	C						
WARRANT	3 pt/a	C						
N-PAK - AMS	2.5 % v/v	C						

Purdue Weed Science

Pest Type		W Weed		W Weed		W Weed				
Pest Code		AMBTR		AMBTR		AMBTR				
Pest Name		Giant ragweed		Giant ragweed		Giant ragweed				
Crop Code	GLXMA		GLXMA		GLXMA					
Crop Name	Soybean		Soybean		Soybean					
Part Rated	PLOT C	PLOT P	PLOT C	PLOT P	PLOT C	PLOT P				
Rating Date	6/4/2015	6/4/2015	6/16/2015	6/16/2015	7/6/2015	7/6/2015				
Rating Type	PHYGEN	CONTRO	PHYGEN	CONTRO	PHYGEN	CONTRO				
Rating Unit	%	%	%	%	%	%				
Number of Subsamples	1	1	1	1	1	1				
Days After First/Last Applic.	21 21	21 21	33 10	33 10	53 5	53 5				
Trt-Eval Interval	21 DA-A	21 DA-A	10 DA-B	10 DA-B	20 DA-C	20 DA-C				
Days After Emergence	14 DE-1	14 DE-1	26 DE-1	26 DE-1	46 DE-1	46 DE-1				
ARM Action Codes	P	P	P	P	P	P				
Number of Decimals	0	0	0	0	0	0				
Trt No.	Treatment Name	Rate	Unit	Appl Code	1	2	3	4	5	6
9	AUTHORITY MAXX	7 oz/a	A		0 b	23 de	0 e	0 c	6 ab	100 a
	LIBERTY 280 SL	29 fl oz/a	C							
	N-PAK - AMS	2.5 % v/v	C							
	LIBERTY 280 SL	29 fl oz/a	D							
	N-PAK - AMS	2.5 % v/v	D							
10	AUTHORITY MTZ	11 oz/a	A		0 b	30 cde	0 e	15 c	5 ab	100 a
	LIBERTY 280 SL	29 fl oz/a	C							
	N-PAK - AMS	2.5 % v/v	C							
	LIBERTY 280 SL	29 fl oz/a	D							
	N-PAK - AMS	2.5 % v/v	D							
11	FIERCE	3.5 oz/a	A		9 a	84 a	11 bc	49 b	6 ab	100 a
	LIBERTY 280 SL	29 fl oz/a	C							
	WARRANT	3 pt/a	C							
	N-PAK - AMS	2.5 % v/v	C							
	LIBERTY 280 SL	29 fl oz/a	D							
	N-PAK - AMS	2.5 % v/v	D							
12	VERDICT	5 fl oz/a	A		0 b	58 abc	1 de	46 b	8 a	100 a
	LIBERTY 280 SL	29 fl oz/a	C							
	OUTLOOK	14 fl oz/a	C							
	N-PAK - AMS	2.5 % v/v	C							
	LIBERTY 280 SL	29 fl oz/a	D							
	N-PAK - AMS	2.5 % v/v	D							
LSD	P=.05				3.0	33.2	7.0	24.8	2.9	2.3
Standard Deviation					2.1	23.1	4.9	17.2	2.0	1.6
CV					101.87	55.39	66.25	34.03	41.77	1.75
Bartlett's X2					6.487	10.737	11.075	29.033	2.979	22.812
P(Bartlett's X2)					0.09	0.217	0.086	0.001*	0.703	0.002*
Skewness					1.7984*	0.0769	0.9224*	-0.1282	0.8891*	-3.0774*
Kurtosis					2.0728*	-1.6732*	-0.4578	-1.6847*	4.8666*	7.8799*
Replicate F					2.524	2.680	0.542	2.267	2.449	0.540
Replicate Prob(F)					0.0746	0.0629	0.6567	0.0997	0.0810	0.6580
Treatment F					11.736	6.989	11.430	19.431	3.385	1300.356
Treatment Prob(F)					0.0001	0.0001	0.0001	0.0001	0.0032	0.0001

Pest Type
 W, Weed, G-BYRW7, G-WedStg = Weed or volunteer crop
Pest Code
 AMBTR, Ambrosia trifida, = US
Crop Code
 GLXMA, BSOY, Glycine max, = US
Part Rated
 PLOT = plot
 C = Crop is Part Rated
 P = Pest is Part Rated
Rating Type
 PHYGEN = phytotoxicity - general / injury
 CONTRO = control / burndown or knockdown
Rating Unit
 % = percent
ARM Action Codes
 P = Rating scale of 0 to 100 (e.g. % control or injury)