

Purdue Weed Science

Authority Programs in Conventional Till Liberty-Link Soybean

Trial ID: 16S-TPAC-SOY-09 Location: TPAC Trial Year: 2016
 Protocol ID: 16S-TPAC-SOY-09 Investigator: Dr. Bill Johnson
 Project ID: Study Director: Joe Ikley
 Sponsor Contact: FMC - Nick Hustedde

General Trial Information

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

Conducted Under GLP: No
Conducted Under GEP: No

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 29L84
Description: LL
Planting Rate, Unit: 140000 S/A
Depth, Unit: 1.25 IN
Row Spacing, Unit: 15 IN
Soil Temperature, Unit: 60 F
Soil Moisture: SLIWET slightly wet, moist
Planting Date: May-16-2016
Planting Method: SEEDED seeded
Planting Equipment: PP Plot Planter
Emergence Date: May-25-2016
Harvested Width, Unit: 10 FT
Harvested Length, Unit: 25 FT
% Standard Moisture: 13

Pest Description

Pest 1 Type: W **Code:** AMBTR Ambrosia trifida
Common Name: Giant ragweed

Pest 2 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 **Tillage Type:** CONTIL conventional-till
Replications: 4 **Study Design:** RACOB� Randomized Complete Block (RCB)

Soil Description

Description Name: TPAC - Field 4B
% OM: 2.9 **Texture:** SIL silt loam
pH: 6.2 **Soil Name:** Toronto-Millbrook
CEC: 13.3

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Application Description

	A	B	C	D	E
Application Date:	May-18-2016	Jun-13-2016	Jun-13-2016	Jun-13-2016	Jul-2-2016
Appl. Start Time:	10:00 AM	11:30 AM	11:30 AM	11:30 AM	11:15 AM
Appl. Stop Time:	10:30 AM	12:00 PM	12:00 PM	12:00 PM	11:20 AM
Application Method:	SPRAY	SPRAY	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	MID POST	MID POST	MID POST	L POST
Application Placement:	BROADC	BROADC	BROADC	BROADC	BROADC
Applied By:	TC	MZ	MZ	MZ	JL
Air Temperature, Unit:	58 F	80 F	80 F	80 F	64 F
% Relative Humidity:	70	40	40	40	65
Wind Velocity, Unit:	5 MPH	3 MPH	3 MPH	3 MPH	3 MPH
Wind Direction:	ENE	S	S	S	E
Dew Presence (Y/N):	N no	N no	N no	N no	N no
Soil Temperature, Unit:	62 F	83 F	83 F	83 F	66 F
Soil Moisture:	SLIWET	DRY	DRY	DRY	DRY
% Cloud Cover:	30	10	10	10	100

Crop Stage At Each Application

	A	B	C	D	E
Crop 1 Code, BBCH Scale:	GLXMA BSOY	GLXMA BSOY	GLXMA BSOY	GLXMA BSOY	GLXMA BSOY
Stage Scale Used:		BBCH	BBCH	BBCH	BBCH
Stage Majority, Percent:		13	13	13	65
Stage Minimum, Percent:		13	13	13	65
Stage Maximum, Percent:		14	14	14	69
Height, Unit:		5.5 IN	5.5 IN	5.5 IN	18 IN
Height Minimum, Maximum:		4 6	4 6	4 6	16 20

Pest Stage At Each Application

	A	B	C	D	E
Pest 1 Code, Type, Scale:	AMBTR W	AMBTR W	AMBTR W	AMBTR W	AMBTR W
Stage Majority, Percent:		32G	32G	32G	32G
Stage Minimum, Percent:		32G	32G	32G	31G
Stage Maximum, Percent:		33G	33G	33G	33G
Height, Unit:		5 IN	5 IN	5 IN	3 IN
Height Minimum, Maximum:		3 7	3 7	3 7	2 4
Density, Unit:		45 YD2	45 YD2	45 YD2	10 YD2
Pest 2 Code, Type, Scale:	SETFA W	SETFA W	SETFA W	SETFA W	SETFA W
Stage Majority, Percent:		15	15	15	16
Stage Minimum, Percent:		14	14	14	15
Stage Maximum, Percent:		17	17	17	17
Height, Unit:		3.5 IN	3.5 IN	3.5 IN	6 IN
Height Minimum, Maximum:		3 4	3 4	3 4	2 10
Density, Unit:		15 YD2	15 YD2	15 YD2	10 YD2

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Application Equipment

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

Trial Comments

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

Trt No.	Treatment Name	Form Conc	Form Unit	Form Type	Rate	Unit	Appl Code	Amt Product to Measure	Rep			
									1	2	3	4
1	Untreated Check								101	406	505	802
2	LIBERTY 280 SL	2.34	LB/GAL	SL	29	fl oz/a	D	27.19 ml/mx	102	302	602	703
	N-PAK - AMS	3.4	LBA/GAL	L	2.5	% v/v	D	45.0 ml/mx				
	LIBERTY 280 SL	2.34	LB/GAL	SL	29	fl oz/a	E	27.19 ml/mx				
	N-PAK - AMS	3.4	LBA/GAL	L	2.5	% v/v	E	45.0 ml/mx				
3	AUTHORITY XL	70	%	DF	5	oz/a	A	4.493 g/mx	103	403	504	706
	LIBERTY 280 SL	2.34	LB/GAL	SL	29	fl oz/a	C	27.19 ml/mx				
	N-PAK - AMS	3.4	LBA/GAL	L	2.5	% v/v	C	45.0 ml/mx				
4	AUTHORITY XL	70	%	DF	5	oz/a	A	4.493 g/mx	104	401	502	801
	SENCOR	75	%	WG	5	oz/a	A	4.493 g/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	L	2.5	% v/v	C	45.0 ml/mx				
5	AUTHORITY FIRST	70	%	DF	5	oz/a	A	4.493 g/mx	105	405	606	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	L	2.5	% v/v	C	45.0 ml/mx				
6	AUTHORITY FIRST	70	%	DF	5	oz/a	A	4.493 g/mx	106	303	506	806
	SENCOR	75	%	WG	5	oz/a	A	4.493 g/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	L	2.5	% v/v	C	45.0 ml/mx				
7	AUTHORITY FIRST	70	%	DF	5	oz/a	A	4.493 g/mx	201	305	503	702
	ANTHEM MAXX	4.3	LB/GAL	SE	3	fl oz/a	B	2.812 ml/mx				
	LIBERTY 280 SL	2.34	LB/GAL	SL	29	fl oz/a	B	27.19 ml/mx				
	N-PAK - AMS	3.4	LBA/GAL	L	2.5	% v/v	B	45.0 ml/mx				
8	AUTHORITY ASSIST	4	LB/GAL	SC	8	fl oz/a	A	7.5 ml/mx	202	304	604	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	L	2.5	% v/v	C	45.0 ml/mx				
9	AUTHORITY ASSIST	4	LB/GAL	SC	8	fl oz/a	A	7.5 ml/mx	203	306	501	704
	SENCOR	75	%	WG	5	oz/a	A	4.493 g/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	L	2.5	% v/v	C	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 (1.5642 liters calculated mix size)

Trt No.	Treatment Name	Form Conc	Form Unit	Form Type	Rate	Appl Code	Amt to Measure	Rep 1	Rep 2	Rep 3	Rep 4
10	AUTHORITY MTZ	45 %		WG	16 oz/a	A	14.38 g/mx	204	402	605	805
	LIBERTY 280 SL	2.34 LB/GAL		SL	29 fl oz/a	C	27.19 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL	L		2.5 % v/v	C	45.0 ml/mx				
11	BOUNDARY	6.5 LB/GAL		EC	1.5 pt/a	A	22.5 ml/mx	205	404	603	701
	LIBERTY 280 SL	2.34 LB/GAL		SL	29 fl oz/a	C	27.19 ml/mx				
	N-PAK - AMS	3.4 LBA/GAL	L		2.5 % v/v	C	45.0 ml/mx				
12	OPTILL PRO @ 12 OZ/A							206	301	601	705
	OPTILL	68 %		WG	2 oz/a	A	1.797 g/mx				
	OUTLOOK	6 LB/GAL		EC	10 fl oz/a	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	L		2.5 % v/v	C	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 Unit	Form Type	Lot Code
407.812	ml	LIBERTY 280 SL	2.34	LB/GAL	SL	
674.927	ml	N-PAK - AMS	3.4	LBA/GAL	L	
11.234	g	AUTHORITY XL	70	%	DF	
16.851	g	SENCOR	75	%	WG	
16.851	g	AUTHORITY FIRST	70	%	DF	
3.516	ml	ANTHEM MAXX	4.3	LB/GAL	SE	
18.750	ml	AUTHORITY ASSIST	4	LB/GAL	SC	
17.974	g	AUTHORITY MTZ	45	%	WG	
28.125	ml	BOUNDARY	6.5	LB/GAL	EC	
2.247	g	OPTILL	68	%	WG	
11.719	ml	OUTLOOK	6	LB/GAL	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.

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	GLXMA Soybean		GLXMA Soybean		W Weed AMBTR Giant ragweed		W Weed AMBTR Giant ragweed		W Weed SETFA Giant foxtail	
	PLOT C	PLOT C	PLOT P	PLOT C	PLOT P	PLOT C	PLOT P	PLOT P	PLOT P	
	May-31-2016	Jun-13-2016	Jun-13-2016	Jun-21-2016	Jun-21-2016	Jun-21-2016	Jun-21-2016	Jun-21-2016	Jun-21-2016	
	PHYGEN	PHYGEN	CONTRO	PHYGEN	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	
	%	%	%	%	%	%	%	%	%	
	1	1	1	1	1	1	1	1	1	
	13 13	26 26	26 26	34 8	34 8	34 8	34 8	34 8	34 8	
	13 DA-A	0 DA-B	0 DA-B	8 DA-B	8 DA-B	8 DA-B	8 DA-B	8 DA-B	8 DA-B	
	6 DE-1	19 DE-1	19 DE-1	27 DE-1	27 DE-1	27 DE-1	27 DE-1	27 DE-1	27 DE-1	
	P	P	P	P	P	P	P	P	P	
	0	0	0	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	
			406	0	0	0	0	0	0	
			505	0	0	0	0	0	0	
			802	0	0	0	0	0	0	
		Mean =	0	0	0	0	0	0	0	

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 Project ID: Study Director: Joe Ikley
 Sponsor Contact: FMC - Nick Hustedde

Pest Type			W Weed		W Weed		W Weed	
Pest Code			AMBTR		AMBTR		SETFA	
Pest Name			Giant ragweed		Giant ragweed		Giant foxtail	
Crop Code	GLXMA	GLXMA			GLXMA			
Crop Name	Soybean	Soybean			Soybean			
Part Rated	PLOT C	PLOT C	PLOT P		PLOT C		PLOT P	
Rating Date	May-31-2016	Jun-13-2016	Jun-13-2016		Jun-21-2016		Jun-21-2016	
Rating Type	PHYGEN	PHYGEN	CONTRO		PHYGEN		CONTRO	
Rating Unit	%	%	%		%		%	
Number of Subsamples	1	1	1		1		1	
Days After First/Last Applic.	13 13	26 26	26 26		34 8		34 8	
Trt-Eval Interval	13 DA-A	0 DA-B	0 DA-B		8 DA-B		8 DA-B	
Days After Emergence	6 DE-1	19 DE-1	19 DE-1		27 DE-1		27 DE-1	
ARM Action Codes	P	P	P		P		P	
Number of Decimals	0	0	0		0		0	
Trt Treatment	Rate	Appl						
No. Name	Rate Unit	Code Plot	1	2	3	4	5	6
2 LIBERTY 280 SL	29 fl oz/a	D 102	0	0	0	0	99	100
N-PAK - AMS	2.5 % v/v	D 302	0	0	0	0	95	100
LIBERTY 280 SL	29 fl oz/a	E 602	0	0	0	0	95	90
N-PAK - AMS	2.5 % v/v	E 703	0	0	0	0	90	100
	Mean =		0	0	0	0	95	98
3 AUTHORITY XL	5 oz/a	A 103	0	0	10	0	100	100
LIBERTY 280 SL	29 fl oz/a	C 403	0	0	10	0	95	100
N-PAK - AMS	2.5 % v/v	C 504	0	0	50	0	90	100
		706	0	0	5	0	90	99
	Mean =		0	0	19	0	94	100
4 AUTHORITY XL	5 oz/a	A 104	0	0	0	0	95	100
SENCOR	5 oz/a	A 401	0	0	10	0	90	100
LIBERTY 280 SL	29 fl oz/a	C 502	0	0	5	0	99	99
N-PAK - AMS	2.5 % v/v	C 801	0	0	10	0	95	100
	Mean =		0	0	6	0	95	100
5 AUTHORITY FIRST	5 oz/a	A 105	0	0	10	5	95	100
LIBERTY 280 SL	29 fl oz/a	C 405	0	0	25	0	95	100
N-PAK - AMS	2.5 % v/v	C 606	0	0	10	0	95	95
		803	0	0	15	0	90	100
	Mean =		0	0	15	1	94	99
6 AUTHORITY FIRST	5 oz/a	A 106	0	0	30	0	95	100
SENCOR	5 oz/a	A 303	0	0	35	0	95	95
LIBERTY 280 SL	29 fl oz/a	C 506	0	0	20	0	95	95
N-PAK - AMS	2.5 % v/v	C 806	0	0	20	0	90	95
	Mean =		0	0	26	0	94	96
7 AUTHORITY FIRST	5 oz/a	A 201	0	0	35	5	95	100
ANTHEM MAXX	3 fl oz/a	B 305	0	0	35	5	95	100
LIBERTY 280 SL	29 fl oz/a	B 503	0	0	30	0	95	95
N-PAK - AMS	2.5 % v/v	B 702	0	0	30	0	95	100
	Mean =		0	0	33	3	95	99
8 AUTHORITY ASSIST	8 fl oz/a	A 202	0	0	0	0	90	100
LIBERTY 280 SL	29 fl oz/a	C 304	0	0	0	0	90	100
N-PAK - AMS	2.5 % v/v	C 604	0	0	0	0	90	95
		804	0	0	0	0	95	100
	Mean =		0	0	0	0	91	99
9 AUTHORITY ASSIST	8 fl oz/a	A 203	0	0	0	0	95	100
SENCOR	5 oz/a	A 306	0	0	0	0	95	95
LIBERTY 280 SL	29 fl oz/a	C 501	0	0	0	0	95	95
N-PAK - AMS	2.5 % v/v	C 704	0	0	0	0	90	95
	Mean =		0	0	0	0	94	96
10 AUTHORITY MTZ	16 oz/a	A 204	0	0	0	0	95	100
LIBERTY 280 SL	29 fl oz/a	C 402	0	0	0	0	90	100
N-PAK - AMS	2.5 % v/v	C 605	0	0	0	0	95	95
		805	0	0	0	0	95	100
	Mean =		0	0	0	0	94	99

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Pest Type	GLXMA		GLXMA		W Weed		GLXMA		W Weed		W Weed	
Pest Code	Soybean		Soybean		AMBTR		Soybean		AMBTR		SETFA	
Pest Name	PLOT C		PLOT C		Giant ragweed		PLOT C		Giant ragweed		Giant foxtail	
Crop Code	PLOT C		PLOT C		PLOT P		PLOT C		PLOT P		PLOT P	
Crop Name	May-31-2016		Jun-13-2016		Jun-13-2016		Jun-21-2016		Jun-21-2016		Jun-21-2016	
Part Rated	PHYGEN		PHYGEN		CONTRO		PHYGEN		CONTRO		CONTRO	
Rating Date	%		%		%		%		%		%	
Rating Type	1		1		1		1		1		1	
Rating Unit	13 13		26 26		26 26		34 8		34 8		34 8	
Number of Subsamples	13 DA-A		0 DA-B		0 DA-B		8 DA-B		8 DA-B		8 DA-B	
Days After First/Last Applic.	6 DE-1		19 DE-1		19 DE-1		27 DE-1		27 DE-1		27 DE-1	
Trt-Eval Interval	P		P		P		P		P		P	
Days After Emergence	0		0		0		0		0		0	
ARM Action Codes	0		0		0		0		0		0	
Number of Decimals												
Trt Treatment	Rate	Appl										
No. Name	Rate Unit	Code Plot	1	2	3	4	5	6				
11 BOUNDARY	1.5 pt/a	A 205	0	0	5	0	100	100				
LIBERTY 280 SL	29 fl oz/a	C 404	0	0	0	0	90	95				
N-PAK - AMS	2.5 % v/v	C 603	0	0	0	0	95	95				
		701	0	0	0	0	95	95				
		Mean =	0	0	1	0	95	96				
12 OPTILL PRO @ 12 OZ/A		206	0	0	20	0	95	100				
OPTILL	2 oz/a	A 301	0	0	20	0	95	100				
OUTLOOK	10 fl oz/a	A 601	0	0	25	0	95	95				
LIBERTY 280 SL	29 fl oz/a	C 705	0	0	25	0	95	95				
N-PAK - AMS	2.5 % v/v	C										
		Mean =	0	0	23	0	95	98				

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Pest Type		W Weed AMBTR	W Weed SETFA	W Weed AMBTR	W Weed SETFA	W Weed AMBTR	
Pest Code		Giant ragweed	Giant foxtail	Giant ragweed	Giant foxtail	Giant ragweed	
Pest Name							
Crop Code	GLXMA						
Crop Name	Soybean						
Part Rated	PLOT C	PLOT P	PLOT P	PLOT P	PLOT P	PLOT P	
Rating Date	Jul-1-2016	Jul-1-2016	Jul-1-2016	Jul-14-2016	Jul-14-2016	Aug-5-2016	
Rating Type	PHYGEN	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	
Rating Unit	%	%	%	%	%	%	
Number of Subsamples	1	1	1	1	1	1	
Days After First/Last Applic.	44 18	44 18	44 18	57 12	57 12	79 34	
Trt-Eval Interval	18 DA-B	18 DA-B	18 DA-B	31 DA-B	31 DA-B	53 DA-B	
Days After Emergence	37 DE-1	37 DE-1	37 DE-1	50 DE-1	50 DE-1	72 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	7	8	9	10	11	12
1 Untreated Check	101	0	0	0	0	0	0
	406	0	0	0	0	0	0
	505	0	0	0	0	0	0
	802	0	0	0	0	0	0
	Mean =	0	0	0	0	0	0

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Pest Type		W Weed	W Weed	W Weed	W Weed	W Weed	
Pest Code		AMBTR	SETFA	AMBTR	SETFA	AMBTR	
Pest Name		Giant ragweed	Giant foxtail	Giant ragweed	Giant foxtail	Giant ragweed	
Crop Code	GLXMA						
Crop Name	Soybean						
Part Rated	PLOT C	PLOT P	PLOT P	PLOT P	PLOT P	PLOT P	
Rating Date	Jul-1-2016	Jul-1-2016	Jul-1-2016	Jul-14-2016	Jul-14-2016	Aug-5-2016	
Rating Type	PHYGEN	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	
Rating Unit	%	%	%	%	%	%	
Number of Subsamples	1	1	1	1	1	1	
Days After First/Last Applic.	44 18	44 18	44 18	57 12	57 12	79 34	
Trt-Eval Interval	18 DA-B	18 DA-B	18 DA-B	31 DA-B	31 DA-B	53 DA-B	
Days After Emergence	37 DE-1	37 DE-1	37 DE-1	50 DE-1	50 DE-1	72 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	7	8	9	10	11	12
2 LIBERTY 280 SL	29 fl oz/a D 102	0	99	100	100	100	100
N-PAK - AMS	2.5 % v/v D 302	0	85	100	100	100	100
LIBERTY 280 SL	29 fl oz/a E 602	0	95	100	100	100	100
N-PAK - AMS	2.5 % v/v E 703	0	90	100	100	100	100
	Mean =	0	92	100	100	100	100
3 AUTHORITY XL	5 oz/a A 103	0	99	100	99	100	85
LIBERTY 280 SL	29 fl oz/a C 403	0	90	99	80	95	75
N-PAK - AMS	2.5 % v/v C 504	0	85	100	75	100	75
	706	0	90	100	95	100	92
	Mean =	0	91	100	87	99	82
4 AUTHORITY XL	5 oz/a A 104	0	95	100	80	100	70
SENCOR	5 oz/a A 401	0	85	95	75	100	70
LIBERTY 280 SL	29 fl oz/a C 502	0	99	99	95	100	90
N-PAK - AMS	2.5 % v/v C 801	0	95	100	85	100	80
	Mean =	0	94	99	84	100	78
5 AUTHORITY FIRST	5 oz/a A 105	0	95	100	85	100	80
LIBERTY 280 SL	29 fl oz/a C 405	0	95	100	90	100	95
N-PAK - AMS	2.5 % v/v C 606	0	95	95	85	100	85
	803	0	95	100	99	100	98
	Mean =	0	95	99	90	100	90
6 AUTHORITY FIRST	5 oz/a A 106	0	99	100	99	100	99
SENCOR	5 oz/a A 303	0	95	100	95	100	95
LIBERTY 280 SL	29 fl oz/a C 506	0	95	100	90	100	95
N-PAK - AMS	2.5 % v/v C 806	0	95	100	97	100	97
	Mean =	0	96	100	95	100	97
7 AUTHORITY FIRST	5 oz/a A 201	0	100	100	90	100	90
ANTHEM MAXX	3 fl oz/a B 305	0	90	100	95	100	90
LIBERTY 280 SL	29 fl oz/a B 503	0	99	100	95	100	95
N-PAK - AMS	2.5 % v/v B 702	0	99	100	100	100	100
	Mean =	0	97	100	95	100	94
8 AUTHORITY ASSIST	8 fl oz/a A 202	0	95	100	85	100	75
LIBERTY 280 SL	29 fl oz/a C 304	0	85	100	80	95	65
N-PAK - AMS	2.5 % v/v C 604	0	90	100	75	100	75
	804	0	90	100	90	100	85
	Mean =	0	90	100	83	99	75
9 AUTHORITY ASSIST	8 fl oz/a A 203	0	90	100	85	100	75
SENCOR	5 oz/a A 306	0	90	100	85	100	80
LIBERTY 280 SL	29 fl oz/a C 501	0	85	100	90	100	80
N-PAK - AMS	2.5 % v/v C 704	0	95	100	90	100	80
	Mean =	0	90	100	88	100	79
10 AUTHORITY MTZ	16 oz/a A 204	0	95	100	90	100	85
LIBERTY 280 SL	29 fl oz/a C 402	0	90	99	90	95	80
N-PAK - AMS	2.5 % v/v C 605	0	95	100	85	100	85
	805	0	95	100	95	100	95
	Mean =	0	94	100	90	99	86

Purdue Weed Science

Authority Programs in Conventional Till Liberty-Link Soybean

Trial ID: 16S-TPAC-SOY-09 Location: TPAC Trial Year: 2016
 Protocol ID: 16S-TPAC-SOY-09 Investigator: Dr. Bill Johnson
 Project ID: Study Director: Joe Ikley
 Sponsor Contact: FMC - Nick Hustedde

Pest Type		W Weed AMBTR	W Weed SETFA	W Weed AMBTR	W Weed SETFA	W Weed AMBTR
Pest Code		Giant ragweed	Giant foxtail	Giant ragweed	Giant foxtail	Giant ragweed
Pest Name	GLXMA Soybean					
Crop Code	PLOT C	PLOT P	PLOT P	PLOT P	PLOT P	PLOT P
Crop Name	Jul-1-2016	Jul-1-2016	Jul-1-2016	Jul-14-2016	Jul-14-2016	Aug-5-2016
Part Rated	PHYGEN	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Date	%	%	%	%	%	%
Rating Type	1	1	1	1	1	1
Rating Unit	44 18	44 18	44 18	57 12	57 12	79 34
Number of Subsamples	18 DA-B	18 DA-B	18 DA-B	31 DA-B	31 DA-B	53 DA-B
Days After First/Last Applic.	37 DE-1	37 DE-1	37 DE-1	50 DE-1	50 DE-1	72 DE-1
Trt-Eval Interval	P	P	P	P	P	P
Days After Emergence	0	0	0	0	0	0
ARM Action Codes						
Number of Decimals						
Trt Treatment	Rate Appl					
No. Name	Rate Unit Code Plot	7	8	9	10	11
11 BOUNDARY	1.5 pt/a A 205	0	99	100	95	100
LIBERTY 280 SL	29 fl oz/a C 404	0	80	100	75	100
N-PAK - AMS	2.5 % v/v C 603	0	90	100	95	100
	701	0	85	100	80	100
	Mean =	0	89	100	86	100
12 OPTILL PRO @ 12 OZ/A	206	0	99	100	100	100
OPTILL	2 oz/a A 301	0	95	100	95	100
OUTLOOK	10 fl oz/a A 601	0	100	100	99	100
LIBERTY 280 SL	29 fl oz/a C 705	0	95	100	97	100
N-PAK - AMS	2.5 % v/v C					
	Mean =	0	97	100	98	100

Purdue Weed Science

Authority Programs in Conventional Till Liberty-Link Soybean

Trial ID: 16S-TPAC-SOY-09 Location: TPAC Trial Year: 2016
 Protocol ID: 16S-TPAC-SOY-09 Investigator: Dr. Bill Johnson
 Project ID: Study Director: Joe Ikley
 Sponsor Contact: FMC - Nick Hustedde

Pest Type	W Weed			
Pest Code	SETFA			
Pest Name	Giant foxtail			
Crop Code		GLXMA	GLXMA	GLXMA
Crop Name		Soybean	Soybean	Soybean
Part Rated	PLOT P	PLOT C	PLOT C	PLOT C
Rating Date	Aug-5-2016	Oct-19-2016	Oct-19-2016	Oct-19-2016
Rating Type	CONTRO	YIELD	MOICON	YIELD
Rating Unit	%	lb/plot	%	BU
Number of Subsamples	1	1	1	1
Days After First/Last Applic.	79 34	154 109	154 109	154 109
Trt-Eval Interval	53 DA-B			
Days After Emergence	72 DE-1	147 DE-1	147 DE-1	147 DE-1
ARM Action Codes	P			TY1
Number of Decimals	0	1	1	1
Trt Treatment	Rate	Appl		
No. Name	Rate Unit	Code Plot	13	14
1 Untreated Check		101	0	16.1
		406	0	12.0
		505	0	13.9
		802	0	11.7
	Mean =	0	0	13.4
				17.8
				17.9
				18.4
				21.9
				19.0
				36.4

Purdue Weed Science

Authority Programs in Conventional Till Liberty-Link Soybean

Trial ID: 16S-TPAC-SOY-09 Location: TPAC Trial Year: 2016
 Protocol ID: 16S-TPAC-SOY-09 Investigator: Dr. Bill Johnson
 Project ID: Study Director: Joe Ikley
 Sponsor Contact: FMC - Nick Hustedde

Pest Type	W Weed				
Pest Code	SETFA				
Pest Name	Giant foxtail				
Crop Code			GLXMA	GLXMA	GLXMA
Crop Name			Soybean	Soybean	Soybean
Part Rated	PLOT P		PLOT C	PLOT C	PLOT C
Rating Date	Aug-5-2016		Oct-19-2016	Oct-19-2016	Oct-19-2016
Rating Type	CONTRO		YIELD	MOICON	YIELD
Rating Unit	%		lb/plot	%	BU
Number of Subsamples	1		1	1	1
Days After First/Last Applic.	79 34		154 109	154 109	154 109
Trt-Eval Interval	53 DA-B		147 DE-1	147 DE-1	147 DE-1
Days After Emergence	72 DE-1				
ARM Action Codes	P				TY1
Number of Decimals	0		1	1	1
Trt Treatment	Rate	Appl			
No. Name	Rate Unit	Code Plot	13	14	15
2 LIBERTY 280 SL	29 fl oz/a	D 102	100	28.3	17.3
N-PAK - AMS	2.5 % v/v	D 302	100	26.7	16.4
LIBERTY 280 SL	29 fl oz/a	E 602	100	25.2	17.3
N-PAK - AMS	2.5 % v/v	E 703	100	27.1	17.7
		Mean =	100	26.8	17.2
3 AUTHORITY XL	5 oz/a	A 103	100	24.3	16.9
LIBERTY 280 SL	29 fl oz/a	C 403	95	23.4	16.3
N-PAK - AMS	2.5 % v/v	C 504	100	19.0	19.0
		706	100	22.2	17.3
		Mean =	99	22.2	17.4
4 AUTHORITY XL	5 oz/a	A 104	100	19.0	18.6
SENCOR	5 oz/a	A 401	100	18.3	17.0
LIBERTY 280 SL	29 fl oz/a	C 502	100	23.8	17.1
N-PAK - AMS	2.5 % v/v	C 801	100	18.4	16.6
		Mean =	100	19.9	17.3
5 AUTHORITY FIRST	5 oz/a	A 105	100	22.6	16.3
LIBERTY 280 SL	29 fl oz/a	C 405	100	23.7	16.6
N-PAK - AMS	2.5 % v/v	C 606	100	22.5	15.6
		803	100	22.3	17.2
		Mean =	100	22.8	16.4
6 AUTHORITY FIRST	5 oz/a	A 106	100	22.3	17.0
SENCOR	5 oz/a	A 303	100	24.9	17.7
LIBERTY 280 SL	29 fl oz/a	C 506	100	18.3	16.3
N-PAK - AMS	2.5 % v/v	C 806	100	24.8	16.4
		Mean =	100	22.6	16.9
7 AUTHORITY FIRST	5 oz/a	A 201	100	21.0	18.3
ANTHEM MAXX	3 fl oz/a	B 305	100	20.5	18.2
LIBERTY 280 SL	29 fl oz/a	B 503	100	24.4	16.8
N-PAK - AMS	2.5 % v/v	B 702	100	25.1	18.3
		Mean =	100	22.7	17.9
8 AUTHORITY ASSIST	8 fl oz/a	A 202	100	23.8	17.6
LIBERTY 280 SL	29 fl oz/a	C 304	95	18.0	17.7
N-PAK - AMS	2.5 % v/v	C 604	100	20.0	16.4
		804	100	21.0	16.6
		Mean =	99	20.7	17.1
9 AUTHORITY ASSIST	8 fl oz/a	A 203	100	20.6	17.7
SENCOR	5 oz/a	A 306	100	19.4	17.6
LIBERTY 280 SL	29 fl oz/a	C 501	100	21.9	16.7
N-PAK - AMS	2.5 % v/v	C 704	100	24.0	17.0
		Mean =	100	21.5	17.2
10 AUTHORITY MTZ	16 oz/a	A 204	100	20.5	17.5
LIBERTY 280 SL	29 fl oz/a	C 402	100	23.8	17.0
N-PAK - AMS	2.5 % v/v	C 605	100	25.2	17.1
		805	100	22.5	16.1
		Mean =	100	23.0	16.9

Purdue Weed Science

Authority Programs in Conventional Till Liberty-Link Soybean

Trial ID: 16S-TPAC-SOY-09 Location: TPAC Trial Year: 2016
 Protocol ID: 16S-TPAC-SOY-09 Investigator: Dr. Bill Johnson
 Project ID: Study Director: Joe Ikley
 Sponsor Contact: FMC - Nick Hustedde

Pest Type	W Weed				
Pest Code	SETFA				
Pest Name	Giant foxtail				
Crop Code		GLXMA	GLXMA	GLXMA	
Crop Name		Soybean	Soybean	Soybean	
Part Rated	PLOT P	PLOT C	PLOT C	PLOT C	
Rating Date	Aug-5-2016	Oct-19-2016	Oct-19-2016	Oct-19-2016	
Rating Type	CONTRO	YIELD	MOICON	YIELD	
Rating Unit	%	lb/plot	%	BU	
Number of Subsamples	1	1	1	1	
Days After First/Last Applic.	79 34	154 109	154 109	154 109	
Trt-Eval Interval	53 DA-B				
Days After Emergence	72 DE-1	147 DE-1	147 DE-1	147 DE-1	
ARM Action Codes	P			TY1	
Number of Decimals	0	1	1	1	
Trt Treatment	Rate	Appl			
No. Name	Rate Unit	Code Plot	13	14	15 16
11 BOUNDARY	1.5 pt/a A	205	100	19.7	17.4 54.2
LIBERTY 280 SL	29 fl oz/a C	404	100	18.4	16.5 51.2
N-PAK - AMS	2.5 % v/v C	603	100	24.1	17.0 66.8
		701	100	21.3	16.2 59.6
		Mean =	100	20.9	16.8 57.9
12 OPTILL PRO @ 12 OZ/A		206	100	25.0	16.2 69.9
OPTILL	2 oz/a A	301	100	22.1	17.3 61.0
OUTLOOK	10 fl oz/a A	601	100	24.2	16.7 67.4
LIBERTY 280 SL	29 fl oz/a C	705	100	23.5	18.0 64.3
N-PAK - AMS	2.5 % v/v C				
		Mean =	100	23.7	17.1 65.6

Purdue Weed Science

Authority Programs in Conventional Till Liberty-Link Soybean

Trial ID: 16S-TPAC-SOY-09 Location: TPAC Trial Year: 2016
 Protocol ID: 16S-TPAC-SOY-09 Investigator: Dr. Bill Johnson
 Project ID: Study Director: Joe Ikley
 Sponsor Contact: FMC - Nick Hustedde

Pest Type
 W, Weed, G-BYRW7, G-WedStg = Weed or volunteer crop
Pest Code
 AMBTR, Ambrosia trifida, = US
 SETFA, Setaria faberi, = 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
 YIELD = yield
 MOICON = moisture content
Rating Unit
 % = percent
 lb/plot = pounds per plot
 BU = bushel
ARM Action Codes
 P = Rating scale of 0 to 100 (e.g. % control or injury)
 $TY1 = 2.904 * [14] * (100 - [15]) / 87$

Pest Type	Pest Code	Pest Name	W Weed AMBTR Giant ragweed	W Weed AMBTR Giant ragweed	W Weed SETFA Giant foxtail	GLXMA Soybean PLOT C	GLXMA Soybean PLOT C	GLXMA Soybean PLOT C			
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
Trt No.	Treatment Name	Rate	Appl Code	1	2	3	4	5	6	7	
	1 Untreated Check			0 -	0 -	0 c	0 -	0 b	0 b	0 -	
	2 LIBERTY 280 SL N-PAK - AMS LIBERTY 280 SL N-PAK - AMS	29 fl oz/a D 2.5 % v/v D 29 fl oz/a E 2.5 % v/v E		0 -	0 -	0 c	0 -	95 a	98 a	0 -	
	3 AUTHORITY XL LIBERTY 280 SL N-PAK - AMS	5 oz/a A 29 fl oz/a C 2.5 % v/v C		0 -	0 -	19 b	0 -	94 a	100 a	0 -	
	4 AUTHORITY XL SENCOR LIBERTY 280 SL N-PAK - AMS	5 oz/a A 5 oz/a A 29 fl oz/a C 2.5 % v/v C		0 -	0 -	6 c	0 -	95 a	100 a	0 -	
	5 AUTHORITY FIRST LIBERTY 280 SL N-PAK - AMS	5 oz/a A 29 fl oz/a C 2.5 % v/v C		0 -	0 -	15 bc	1 -	94 a	99 a	0 -	
	6 AUTHORITY FIRST SENCOR LIBERTY 280 SL N-PAK - AMS	5 oz/a A 5 oz/a A 29 fl oz/a C 2.5 % v/v C		0 -	0 -	26 ab	0 -	94 a	96 a	0 -	
	7 AUTHORITY FIRST ANTHEM MAXX LIBERTY 280 SL N-PAK - AMS	5 oz/a A 3 fl oz/a B 29 fl oz/a B 2.5 % v/v B		0 -	0 -	33 a	3 -	95 a	99 a	0 -	

Purdue Weed Science

Authority Programs in Conventional Till Liberty-Link Soybean

Trial ID: 16S-TPAC-SOY-09 Location: TPAC Trial Year: 2016
 Protocol ID: 16S-TPAC-SOY-09 Investigator: Dr. Bill Johnson
 Project ID: Study Director: Joe Ikley
 Sponsor Contact: FMC - Nick Hustedde

Pest Type			W Weed AMBTR Giant ragweed		W Weed AMBTR Giant ragweed	W Weed SETFA Giant foxtail			
Pest Code									
Pest Name									
Crop Code	GLXMA	GLXMA		GLXMA			GLXMA		
Crop Name	Soybean	Soybean		Soybean			Soybean		
Part Rated	PLOT C	PLOT C	PLOT P	PLOT C	PLOT P	PLOT P	PLOT P	PLOT C	
Rating Date	May-31-2016	Jun-13-2016	Jun-13-2016	Jun-21-2016	Jun-21-2016	Jun-21-2016	Jun-21-2016	Jul-1-2016	
Rating Type	PHYGEN	PHYGEN	CONTRO	PHYGEN	CONTRO	CONTRO	PHYGEN		
Rating Unit	%	%	%	%	%	%	%	%	
Number of Subsamples	1	1	1	1	1	1	1	1	
Days After First/Last Applic.	13 13	26 26	26 26	34 8	34 8	34 8	44 18		
Trt-Eval Interval	13 DA-A	0 DA-B	0 DA-B	8 DA-B	8 DA-B	8 DA-B	18 DA-B		
Days After Emergence	6 DE-1	19 DE-1	19 DE-1	27 DE-1	27 DE-1	27 DE-1	37 DE-1		
ARM Action Codes	P	P	P	P	P	P	P	P	
Number of Decimals	0	0	0	0	0	0	0	0	
Trt Treatment No. Name	Rate	Appl							
	Rate Unit	Code	1	2	3	4	5	6	7
8 AUTHORITY ASSIST LIBERTY 280 SL N-PAK - AMS	8 fl oz/a A 29 fl oz/a C 2.5 % v/v C		0 -	0 -	0 c	0 -	91 a	99 a	0 -
9 AUTHORITY ASSIST SENCOR LIBERTY 280 SL N-PAK - AMS	8 fl oz/a A 5 oz/a A 29 fl oz/a C 2.5 % v/v C		0 -	0 -	0 c	0 -	94 a	96 a	0 -
10 AUTHORITY MTZ LIBERTY 280 SL N-PAK - AMS	16 oz/a A 29 fl oz/a C 2.5 % v/v C		0 -	0 -	0 c	0 -	94 a	99 a	0 -
11 BOUNDARY LIBERTY 280 SL N-PAK - AMS	1.5 pt/a A 29 fl oz/a C 2.5 % v/v C		0 -	0 -	1 c	0 -	95 a	96 a	0 -
12 OPTILL PRO @ 12 OZ/A OPTILL OUTLOOK LIBERTY 280 SL N-PAK - AMS	2 oz/a A 10 fl oz/a A 29 fl oz/a C 2.5 % v/v C		0 -	0 -	23 ab	0 -	95 a	98 a	0 -
LSD P=.05	.	.	10.3	1.5	3.8	2.7	.	.	
Standard Deviation	0.0	0.0	7.2	1.1	2.7	1.9	0.0	0.0	
CV	0.0	0.0	70.27	343.48	3.1	2.11	0.0	0.0	
Bartlett's X2	0.0	0.0	22.078	0.061	3.226	16.603	0.0	0.0	
P(Bartlett's X2)	.	.	0.001*	0.805	0.919	0.084	.	.	
Skewness	.	.	1.1422*	3.7325*	-3.0551*	-3.0661*	.	.	
Kurtosis	.	.	0.366	12.4486*	7.7987*	7.8378*	.	.	
Replicate F	0.000	0.000	0.499	1.658	2.728	10.663	0.000	0.000	
Replicate Prob(F)	1.0000	1.0000	0.6853	0.1951	0.0597	0.0001	1.0000	1.0000	
Treatment F	0.000	0.000	11.437	2.096	413.585	896.116	0.000	0.000	
Treatment Prob(F)	1.0000	1.0000	0.0001	0.0497	0.0001	0.0001	1.0000	1.0000	

Purdue Weed Science

Authority Programs in Conventional Till Liberty-Link Soybean

Trial ID: 16S-TPAC-SOY-09 Location: TPAC Trial Year: 2016
 Protocol ID: 16S-TPAC-SOY-09 Investigator: Dr. Bill Johnson
 Project ID: Study Director: Joe Ikley
 Sponsor Contact: FMC - Nick Hustedde

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code	AMBTR	SETFA	AMBTR	SETFA	AMBTR	SETFA
Pest Name	Giant ragweed	Giant foxtail	Giant ragweed	Giant foxtail	Giant ragweed	Giant foxtail
Crop Code						
Crop Name						
Part Rated						
Rating Date	PLOT P Jul-1-2016	PLOT P Jul-1-2016	PLOT P Jul-14-2016	PLOT P Jul-14-2016	PLOT P Aug-5-2016	PLOT P Aug-5-2016
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit	%	%	%	%	%	%
Number of Subsamples	1	1	1	1	1	1
Days After First/Last Applic.	44 18	44 18	57 12	57 12	79 34	79 34
Trt-Eval Interval	18 DA-B	18 DA-B	31 DA-B	31 DA-B	53 DA-B	53 DA-B
Days After Emergence	37 DE-1	37 DE-1	50 DE-1	50 DE-1	72 DE-1	72 DE-1
ARM Action Codes	P	P	P	P	P	P
Number of Decimals	0	0	0	0	0	0
Trt Treatment						
No. Name	Rate	Rate	Rate	Rate	Rate	Rate
	Unit	Unit	Unit	Unit	Unit	Unit
	Code	Code	Code	Code	Code	Code
1 Untreated Check	0 b	0 b	0 c	0 b	0 f	0 b
2 LIBERTY 280 SL	29 fl oz/a D	100 a	100 a	100 a	100 a	100 a
N-PAK - AMS	2.5 % v/v D					
LIBERTY 280 SL	29 fl oz/a E					
N-PAK - AMS	2.5 % v/v E					
3 AUTHORITY XL	5 oz/a A	100 a	87 ab	99 a	82 cde	99 a
LIBERTY 280 SL	29 fl oz/a C					
N-PAK - AMS	2.5 % v/v C					
4 AUTHORITY XL	5 oz/a A	99 a	84 b	100 a	78 de	100 a
SENCOR	5 oz/a A					
LIBERTY 280 SL	29 fl oz/a C					
N-PAK - AMS	2.5 % v/v C					
5 AUTHORITY FIRST	5 oz/a A	99 a	90 ab	100 a	90 a-d	100 a
LIBERTY 280 SL	29 fl oz/a C					
N-PAK - AMS	2.5 % v/v C					
6 AUTHORITY FIRST	5 oz/a A	100 a	95 ab	100 a	97 ab	100 a
SENCOR	5 oz/a A					
LIBERTY 280 SL	29 fl oz/a C					
N-PAK - AMS	2.5 % v/v C					
7 AUTHORITY FIRST	5 oz/a A	100 a	95 ab	100 a	94 abc	100 a
ANTHEM MAXX	3 fl oz/a B					
LIBERTY 280 SL	29 fl oz/a B					
N-PAK - AMS	2.5 % v/v B					

Purdue Weed Science

Authority Programs in Conventional Till Liberty-Link Soybean

Trial ID: 16S-TPAC-SOY-09
 Protocol ID: 16S-TPAC-SOY-09
 Project ID:

Location: TPAC Trial Year: 2016
 Investigator: Dr. Bill Johnson
 Study Director: Joe Ikley
 Sponsor Contact: FMC - Nick Hustedde

Pest Type			
Pest Code			
Pest Name			
Crop Code	GLXMA	GLXMA	GLXMA
Crop Name	Soybean	Soybean	Soybean
Part Rated	PLOT C	PLOT C	PLOT C
Rating Date	Oct-19-2016	Oct-19-2016	Oct-19-2016
Rating Type	YIELD	MOICON	YIELD
Rating Unit	lb/plot	%	BU
Number of Subsamples	1	1	1
Days After First/Last Applic.	154 109	154 109	154 109
Trt-Eval Interval			
Days After Emergence	147 DE-1	147 DE-1	147 DE-1
ARM Action Codes			TY1
Number of Decimals	1	1	1
Trt Treatment	Rate	Appl	
No. Name	Rate Unit	Code	
1 Untreated Check			14 15 16
2 LIBERTY 280 SL	29 fl oz/a D		13.4 c 19.0 - 36.4 c
N-PAK - AMS	2.5 % v/v D		26.8 a 17.2 - 74.2 a
LIBERTY 280 SL	29 fl oz/a E		
N-PAK - AMS	2.5 % v/v E		
3 AUTHORITY XL	5 oz/a A		22.2 ab 17.4 - 61.3 ab
LIBERTY 280 SL	29 fl oz/a C		
N-PAK - AMS	2.5 % v/v C		
4 AUTHORITY XL	5 oz/a A		19.9 b 17.3 - 54.8 b
SENCOR	5 oz/a A		
LIBERTY 280 SL	29 fl oz/a C		
N-PAK - AMS	2.5 % v/v C		
5 AUTHORITY FIRST	5 oz/a A		22.8 ab 16.4 - 63.5 ab
LIBERTY 280 SL	29 fl oz/a C		
N-PAK - AMS	2.5 % v/v C		
6 AUTHORITY FIRST	5 oz/a A		22.6 ab 16.9 - 62.6 ab
SENCOR	5 oz/a A		
LIBERTY 280 SL	29 fl oz/a C		
N-PAK - AMS	2.5 % v/v C		
7 AUTHORITY FIRST	5 oz/a A		22.7 ab 17.9 - 62.3 ab
ANTHEM MAXX	3 fl oz/a B		
LIBERTY 280 SL	29 fl oz/a B		
N-PAK - AMS	2.5 % v/v B		

Purdue Weed Science

Authority Programs in Conventional Till Liberty-Link Soybean

Trial ID: 16S-TPAC-SOY-09
 Protocol ID: 16S-TPAC-SOY-09
 Project ID:

Location: TPAC Trial Year: 2016
 Investigator: Dr. Bill Johnson
 Study Director: Joe Ikley
 Sponsor Contact: FMC - Nick Hustedde

Pest Type			
Pest Code			
Pest Name			
Crop Code	GLXMA	GLXMA	GLXMA
Crop Name	Soybean	Soybean	Soybean
Part Rated	PLOT C	PLOT C	PLOT C
Rating Date	Oct-19-2016	Oct-19-2016	Oct-19-2016
Rating Type	YIELD	MOICON	YIELD
Rating Unit	lb/plot	%	BU
Number of Subsamples	1	1	1
Days After First/Last Applic.	154 109	154 109	154 109
Trt-Eval Interval			
Days After Emergence	147 DE-1	147 DE-1	147 DE-1
ARM Action Codes			TY1
Number of Decimals	1	1	1
Trt Treatment	Rate	Appl	
No. Name	Rate Unit	Code	
		14	15
		16	
8 AUTHORITY ASSIST	8 fl oz/a A	20.7 b	17.1 -
LIBERTY 280 SL	29 fl oz/a C		57.3 b
N-PAK - AMS	2.5 % v/v C		
9 AUTHORITY ASSIST	8 fl oz/a A	21.5 b	17.2 -
SENCOR	5 oz/a A		59.3 b
LIBERTY 280 SL	29 fl oz/a C		
N-PAK - AMS	2.5 % v/v C		
10 AUTHORITY MTZ	16 oz/a A	23.0 ab	16.9 -
LIBERTY 280 SL	29 fl oz/a C		63.8 ab
N-PAK - AMS	2.5 % v/v C		
11 BOUNDARY	1.5 pt/a A	20.9 b	16.8 -
LIBERTY 280 SL	29 fl oz/a C		57.9 b
N-PAK - AMS	2.5 % v/v C		
12 OPTILL PRO @ 12 OZ/A		23.7 ab	17.1 -
OPTILL	2 oz/a A		65.6 ab
OUTLOOK	10 fl oz/a A		
LIBERTY 280 SL	29 fl oz/a C		
N-PAK - AMS	2.5 % v/v C		
LSD P=.05		3.13	1.31
Standard Deviation		2.17	0.91
CV		10.03	5.26
Bartlett's X2		7.716	12.054
P(Bartlett's X2)		0.738	0.36
Skewness		-0.9076*	2.1251*
Kurtosis		1.0508	8.3939*
Replicate F		0.638	0.507
Replicate Prob(F)		0.5960	0.6801
Treatment F		8.360	2.061
Treatment Prob(F)		0.0001	0.0537

Purdue Weed Science

Authority Programs in Conventional Till Liberty-Link Soybean

Trial ID: 16S-TPAC-SOY-09 Location: TPAC Trial Year: 2016
 Protocol ID: 16S-TPAC-SOY-09 Investigator: Dr. Bill Johnson
 Project ID: Study Director: Joe Ikley
 Sponsor Contact: FMC - Nick Hustedde

Pest Type

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

Pest Code

AMBTR, Ambrosia trifida, = US

SETFA, Setaria faberi, = 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

YIELD = yield

MOICON = moisture content

Rating Unit

% = percent

lb/plot = pounds per plot

BU = bushel

ARM Action Codes

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

TY1 = $2.904 * [14] * (100 - [15]) / 87$