

Purdue Weed Science

Monsanto Buffer Zone

Trial ID: 16S-TPAC-SOY-38 Location: TPAC Trial Year: 2016
 Protocol ID: 16S-TPAC-SOY-38 Investigator: Dr. Bill Johnson
 Project ID: Study Director: Joe Ikley
 Sponsor Contact: Monsanto - Dan Childs

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	Crop Description: Soybean	
Variety: AG 30X6		
Description: XTEND		
Planting Rate, Unit: 140000 S/A	Planting Date: May-16-2016	
Depth, Unit: 1.5 IN	Planting Method: PLANTD planted	
Row Spacing, Unit: 30 IN	Planting Equipment: PP Plot Planter	
	Emergence Date: May-25-2016	
Soil Temperature, Unit: 62 F	Harvested Width, Unit: 10 FT	
Soil Moisture: NORMAL normal, adequate	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:** ECHCG Echinochloa crus-galli
Common Name: Common barnyard grass

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:** 9 **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
Application Date:	May-18-2016	Jun-13-2016	Jun-19-2016	Jun-27-2016
Appl. Start Time:	10:00 AM	12:45 PM	5:15 PM	11:20 AM
Appl. Stop Time:	10:30 AM	1:15 PM	5:25 PM	11:40 AM
Application Method:	SPRAY	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	E POST	M POST	L POST
Application Placement:	BROADC	BROADC	BROADC	BROADC
Applied By:	TC	MZ	JI	TC
Air Temperature, Unit:	58 F	83 F	88 F	86 F
% Relative Humidity:	70	40	50	60
Wind Velocity, Unit:	5 MPH	6 MPH	5 MPH	4 MPH
Wind Direction:	ENE	S	S	W
Dew Presence (Y/N):	N no	N no	N no	N no
Soil Temperature, Unit:	58 F	83 F	90 F	81 F
Soil Moisture:	SLIWET	DRY	DRY	SLIWET
% Cloud Cover:	30	10	50	5

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:		13	15	17
Stage Minimum, Percent:		13	14	16
Stage Maximum, Percent:		14	15	18
Height, Unit:		5.5 IN	10.5 IN	14 IN
Height Minimum, Maximum:		5 6	9 12	12 16

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:		31G	35G	31G
Stage Minimum, Percent:		31G	33G	31G
Stage Maximum, Percent:		32G	37G	32G
Height, Unit:		2.5 IN	11 IN	3 IN
Height Minimum, Maximum:		1 4	8 14	2 4
Density, Unit:		45 YD2	75 YD2	25 YD2
Pest 2 Code, Type, Scale:	ECHCG W	ECHCG W	ECHCG W	ECHCG W
Stage Majority, Percent:		14	23	16
Stage Minimum, Percent:		13	22	14
Stage Maximum, Percent:		15	24	18
Height, Unit:		3 IN	7 IN	4.5 IN
Height Minimum, Maximum:		2 4	4 10	3 6
Density, Unit:		10 YD2	75 YD2	75 YD2

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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:	28 PSI	28 PSI	18 PSI	28 PSI
Nozzle Type:	TTI	TTI	FLAT FAN	TTI
Nozzle Size:	110015	110015	XR 11002	110015
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

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	Rate Unit	Growth Stage	Appl Code	Amt Product to Measure	Rep 1	Rep 2	Rep 3	Rep 4
1	UNTREATED									101	208	304	402
2	NON-BUFFER ROWEL FX	40.3 %		WG	0.101 lb ai/a		PRE	A	3.604 g/mx	102	204	303	408
	CLARITY	4 LBAE/GAL		L	0.5 lb ae/a		4-6" AMBTR	B	15.0 ml/mx				
	ROUNDUP POWERMAX	4.5 LBAE/GAL		SL	1.13 lb ae/a		2 WA "B"	D	30.13 ml/mx				
	WARRANT	3 LB/GAL		EC	1.13 lb ai/a		2 WA "B"	D	45.2 ml/mx				
	N-PAK AMS	3.4 LB/GAL		SL	2.5 % v/v		2 WA "B"	D	45.0 ml/mx				
3	NON-BUFFER ROWEL FX	40.3 %		WG	0.101 lb ai/a		PRE	A	3.604 g/mx	103	202	307	401
	ROUNDUP POWERMAX	4.5 LBAE/GAL		SL	1.13 lb ae/a		4-6" AMBTR	B	30.13 ml/mx				
	WARRANT	3 LB/GAL		EC	1.13 lb ai/a		4-6" AMBTR	B	45.2 ml/mx				
	N-PAK AMS	3.4 LB/GAL		SL	2.5 % v/v		4-6" AMBTR	B	45.0 ml/mx				
	CLARITY	4 LBAE/GAL		L	0.5 lb ae/a		2 WA "B"	D	15.0 ml/mx				
4	NON-BUFFER FIERCE XLT	62.41 %		WG	0.176 lb ai/a		PRE	A	4.055 g/mx	104	206	308	406
	CLARITY	4 LBAE/GAL		L	0.5 lb ae/a		4-6" AMBTR	B	15.0 ml/mx				
	ROUNDUP POWERMAX	4.5 LBAE/GAL		SL	1.13 lb ae/a		2 WA "B"	D	30.13 ml/mx				
	WARRANT	3 LB/GAL		EC	1.13 lb ai/a		2 WA "B"	D	45.2 ml/mx				
	N-PAK AMS	3.4 LB/GAL		SL	2.5 % v/v		2 WA "B"	D	45.0 ml/mx				
5	NON-BUFFER FIERCE XLT	62.41 %		WG	0.176 lb ai/a		PRE	A	4.055 g/mx	105	209	305	403
	ROUNDUP POWERMAX	4.5 LBAE/GAL		SL	1.13 lb ae/a		4-6" AMBTR	B	30.13 ml/mx				
	WARRANT	3 LB/GAL		EC	1.13 lb ai/a		4-6" AMBTR	B	45.2 ml/mx				
	N-PAK AMS	3.4 LB/GAL		SL	2.5 % v/v		4-6" AMBTR	B	45.0 ml/mx				
	CLARITY	4 LBAE/GAL		L	0.5 lb ae/a		2 WA "B"	D	15.0 ml/mx				
6	BUFFER ROWEL FX	40.3 %		WG	0.101 lb ai/a		PRE	A	3.604 g/mx	106	203	309	405
	ROUNDUP POWERMAX	4.5 LBAE/GAL		SL	1.13 lb ae/a		8-12" AMBTR	C	30.13 ml/mx				
	WARRANT ULTRA	3.45 LBA/GAL		EC	1.3 lb ai/a		8-12" AMBTR	C	45.21 ml/mx				
	N-PAK AMS	3.4 LB/GAL		SL	2.5 % v/v		8-12" AMBTR	C	45.0 ml/mx				

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 Sponsor Contact: Monsanto - Dan Childs

Pest Type			W Weed AMBTR Giant ragweed	W Weed ECHCG Common barnyar>		W Weed AMBTR Giant ragweed	
Pest Code							
Pest Name							
Crop Code	GLXMA				GLXMA		
Crop Name	Soybean				Soybean		
Part Rated	PLOT C		PLOT P	PLOT P	PLOT C	PLOT P	
Rating Date	Jun-13-2016		Jun-13-2016	Jun-13-2016	Jun-19-2016	Jun-19-2016	
Rating Type	PHYGEN		CONTRO	CONTRO	PHYGEN	CONTRO	
Rating Unit	%		%	%	%	%	
Number of Subsamples	1		1	1	1	1	
Days After First/Last Applic.	26 26		26 26	26 26	32 6	32 6	
Trt-Eval Interval	0 DA-B		0 DA-B	0 DA-B	0 DA-C	0 DA-C	
Days After Emergence	19 DE-1		19 DE-1	19 DE-1	25 DE-1	25 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
2 NON-BUFFER		102	0	10	0	0	50
ROWEL FX	0.101 lb ai/a A	204	2	25	0	0	30
CLARITY	0.5 lb ae/a B	303	2	35	0	0	30
ROUNDUP POWERMAX	1.13 lb ae/a D	408	2	35	0	0	60
WARRANT	1.13 lb ai/a A						
N-PAK AMS	2.5 % v/v D						
	Mean =		2	26	0	0	43
3 NON-BUFFER		103	3	10	0	0	70
ROWEL FX	0.101 lb ai/a A	202	0	35	0	0	90
ROUNDUP POWERMAX	1.13 lb ae/a B	307	0	40	0	0	90
WARRANT	1.13 lb ai/a B	401	0	40	0	0	95
N-PAK AMS	2.5 % v/v B						
CLARITY	0.5 lb ae/a D						
	Mean =		1	31	0	0	86
4 NON-BUFFER		104	0	20	45	0	30
FIERCE XLT	0.176 lb ai/a A	206	0	25	30	0	30
CLARITY	0.5 lb ae/a B	308	2	25	20	0	30
ROUNDUP POWERMAX	1.13 lb ae/a D	406	0	45	23	0	60
WARRANT	1.13 lb ai/a D						
N-PAK AMS	2.5 % v/v D						
	Mean =		1	29	30	0	38
5 NON-BUFFER		105	3	28	50	0	85
FIERCE XLT	0.176 lb ai/a A	209	0	25	15	0	90
ROUNDUP POWERMAX	1.13 lb ae/a B	305	2	40	20	0	85
WARRANT	1.13 lb ai/a B	403	0	20	28	0	90
N-PAK AMS	2.5 % v/v B						
CLARITY	0.5 lb ae/a D						
	Mean =		1	28	28	0	88
6 BUFFER		106	0	20	0	0	0
ROWEL FX	0.101 lb ai/a A	203	2	20	0	0	0
ROUNDUP POWERMAX	1.13 lb ae/a C	309	0	40	0	0	20
WARRANT ULTRA	1.3 lb ai/a C	405	0	30	0	0	0
N-PAK AMS	2.5 % v/v C						
	Mean =		1	28	0	0	5
7 BUFFER		107	5	30	40	0	50
FIERCE XLT	0.176 lb ai/a A	205	3	35	20	0	30
ROUNDUP POWERMAX	1.13 lb ae/a C	301	0	45	15	0	20
WARRANT ULTRA	1.3 lb ai/a C	404	3	20	32	0	0
N-PAK AMS	2.5 % v/v C						
	Mean =		3	33	27	0	25
8 BUFFER		108	3	20	45	0	0
ROWEL FX	0.101 lb ai/a A	201	0	28	30	0	0
TRICOR 4L	0.25 lb ai/a A	302	0	43	10	0	20
ROUNDUP POWERMAX	1.13 lb ae/a C	409	0	33	28	0	0
WARRANT ULTRA	1.3 lb ai/a A						
N-PAK AMS	2.5 % v/v C						
	Mean =		1	31	28	0	5

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 Sponsor Contact: Monsanto - Dan Childs

Pest Type		W Weed AMBTR Giant ragweed	W Weed ECHCG Common barnyar>		W Weed AMBTR Giant ragweed
Pest Code					
Pest Name					
Crop Code	GLXMA			GLXMA	
Crop Name	Soybean			Soybean	
Part Rated	PLOT C	PLOT P	PLOT P	PLOT C	PLOT P
Rating Date	Jun-13-2016	Jun-13-2016	Jun-13-2016	Jun-19-2016	Jun-19-2016
Rating Type	PHYGEN	CONTRO	CONTRO	PHYGEN	CONTRO
Rating Unit	%	%	%	%	%
Number of Subsamples	1	1	1	1	1
Days After First/Last Applic.	26 26	26 26	26 26	32 6	32 6
Trt-Eval Interval	0 DA-B	0 DA-B	0 DA-B	0 DA-C	0 DA-C
Days After Emergence	19 DE-1	19 DE-1	19 DE-1	25 DE-1	25 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
9 BUFFER		109	5	35	20
FIERCE XLT	0.176 lb ai/a	A 207	3	30	25
TRICOR 4L	0.25 lb ai/a	A 306	0	42	20
ROUNDUP POWERMAX	1.13 lb ae/a	C 407	0	50	20
WARRANT ULTRA	1.3 lb ai/a	C			
N-PAK AMS	2.5 % v/v	C			
		Mean =	2	39	21
					0
					43

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Pest Type	W Weed		W Weed	W Weed				
Pest Code	ECHCG		AMBTR	ECHCG				
Pest Name	Common barnyar>		Giant ragweed	Common barnyar>				
Crop Code		GLXMA			GLXMA			
Crop Name		Soybean			Soybean			
Part Rated	PLOT P	PLOT C	PLOT P	PLOT P	PLOT C			
Rating Date	Jun-19-2016	Jun-26-2016	Jun-26-2016	Jun-26-2016	Jul-5-2016			
Rating Type	CONTRO	PHYGEN	CONTRO	CONTRO	PHYGEN			
Rating Unit	%	%	%	%	%			
Number of Subsamples	1	1	1	1	1			
Days After First/Last Applic.	32 6	39 7	39 7	39 7	48 8			
Trt-Eval Interval	0 DA-C	7 DA-C	7 DA-C	7 DA-C	16 DA-C			
Days After Emergence	25 DE-1	32 DE-1	32 DE-1	32 DE-1	41 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 UNTREATED				6	7	8	9	10
	101			0	0	0	0	0
	208			0	0	0	0	0
	304			0	0	0	0	0
	402			0	0	0	0	0
	Mean =			0	0	0	0	0

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Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code	ECHCG	AMBTR	ECHCG	ECHCG	ECHCG
Pest Name	Common barnyar>	Giant ragweed	Common barnyar>	Common barnyar>	Common barnyar>
Crop Code		GLXMA		GLXMA	GLXMA
Crop Name		Soybean		Soybean	Soybean
Part Rated	PLOT P	PLOT C	PLOT P	PLOT P	PLOT C
Rating Date	Jun-19-2016	Jun-26-2016	Jun-26-2016	Jun-26-2016	Jul-5-2016
Rating Type	CONTRO	PHYGEN	CONTRO	CONTRO	PHYGEN
Rating Unit	%	%	%	%	%
Number of Subsamples	1	1	1	1	1
Days After First/Last Applic.	32 6	39 7	39 7	39 7	48 8
Trt-Eval Interval	0 DA-C	7 DA-C	7 DA-C	7 DA-C	16 DA-C
Days After Emergence	25 DE-1	32 DE-1	32 DE-1	32 DE-1	41 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	6	7	8
2 NON-BUFFER		102			
ROWEL FX	0.101 lb ai/a A	204	0	0	90
CLARITY	0.5 lb ae/a B	303	0	0	75
ROUNDUP POWERMAX	1.13 lb ae/a D	408	0	0	70
WARRANT	1.13 lb ai/a A		0	0	50
N-PAK AMS	2.5 % v/v D				0
	Mean =		0	0	71
3 NON-BUFFER		103	95	0	90
ROWEL FX	0.101 lb ai/a A	202	95	0	95
ROUNDUP POWERMAX	1.13 lb ae/a B	307	85	0	95
WARRANT	1.13 lb ai/a B	401	95	0	95
N-PAK AMS	2.5 % v/v B				95
CLARITY	0.5 lb ae/a D				95
	Mean =		93	0	94
4 NON-BUFFER		104	85	0	60
FIERCE XLT	0.176 lb ai/a A	206	0	0	60
CLARITY	0.5 lb ae/a B	308	0	0	65
ROUNDUP POWERMAX	1.13 lb ae/a D	406	0	0	90
WARRANT	1.13 lb ai/a D				0
N-PAK AMS	2.5 % v/v D				0
	Mean =		21	0	69
5 NON-BUFFER		105	100	0	95
FIERCE XLT	0.176 lb ai/a A	209	95	0	95
ROUNDUP POWERMAX	1.13 lb ae/a B	305	95	0	90
WARRANT	1.13 lb ai/a B	403	95	0	95
N-PAK AMS	2.5 % v/v B				95
CLARITY	0.5 lb ae/a D				95
	Mean =		96	0	94
6 BUFFER		106	0	5	85
ROWEL FX	0.101 lb ai/a A	203	0	0	70
ROUNDUP POWERMAX	1.13 lb ae/a C	309	0	5	90
WARRANT ULTRA	1.3 lb ai/a C	405	0	5	85
N-PAK AMS	2.5 % v/v C				75
	Mean =		0	4	83
7 BUFFER		107	50	5	95
FIERCE XLT	0.176 lb ai/a A	205	0	0	75
ROUNDUP POWERMAX	1.13 lb ae/a C	301	0	5	90
WARRANT ULTRA	1.3 lb ai/a C	404	0	5	85
N-PAK AMS	2.5 % v/v C				75
	Mean =		13	4	86
8 BUFFER		108	0	5	80
ROWEL FX	0.101 lb ai/a A	201	0	0	80
TRICOR 4L	0.25 lb ai/a A	302	0	0	95
ROUNDUP POWERMAX	1.13 lb ae/a C	409	0	5	85
WARRANT ULTRA	1.3 lb ai/a C				80
N-PAK AMS	2.5 % v/v C				80
	Mean =		0	3	85

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Pest Type	W Weed		W Weed	W Weed	
Pest Code	ECHCG		AMBTR	ECHCG	
Pest Name	Common barnyar>		Giant ragweed	Common barnyar>	
Crop Code		GLXMA			GLXMA
Crop Name		Soybean			Soybean
Part Rated	PLOT P	PLOT C	PLOT P	PLOT P	PLOT C
Rating Date	Jun-19-2016	Jun-26-2016	Jun-26-2016	Jun-26-2016	Jul-5-2016
Rating Type	CONTRO	PHYGEN	CONTRO	CONTRO	PHYGEN
Rating Unit	%	%	%	%	%
Number of Subsamples	1	1	1	1	1
Days After First/Last Applic.	32 6	39 7	39 7	39 7	48 8
Trt-Eval Interval	0 DA-C	7 DA-C	7 DA-C	7 DA-C	16 DA-C
Days After Emergence	25 DE-1	32 DE-1	32 DE-1	32 DE-1	41 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	
9 BUFFER				109	30
FIERCE XLT	0.176 lb ai/a	A		207	0
TRICOR 4L	0.25 lb ai/a	A		306	0
ROUNDUP POWERMAX	1.13 lb ae/a	C		407	0
WARRANT ULTRA	1.3 lb ai/a	C			5
N-PAK AMS	2.5 % v/v	C			
Mean =					8
					3
					88
					73
					0

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Pest Type	W Weed AMBTR	W Weed ECHCG		W Weed AMBTR	W Weed ECHCG
Pest Code					
Pest Name	Giant ragweed	Common barnyar>		Giant ragweed	Common barnyar>
Crop Code			GLXMA		
Crop Name			Soybean		
Part Rated	PLOT P	PLOT P	PLOT C	PLOT P	PLOT P
Rating Date	Jul-5-2016	Jul-5-2016	Jul-11-2016	Jul-11-2016	Jul-11-2016
Rating Type	CONTRO	CONTRO	PHYGEN	CONTRO	CONTRO
Rating Unit	%	%	%	%	%
Number of Subsamples	1	1	1	1	1
Days After First/Last Applic.	48 8	48 8	54 14	54 14	54 14
Trt-Eval Interval	16 DA-C	16 DA-C	14 DA-D	14 DA-D	14 DA-D
Days After Emergence	41 DE-1	41 DE-1	47 DE-1	47 DE-1	47 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 UNTREATED		101	11	12	13
		208			
		304			
		402			
		Mean =			
		0	0	0	0
		0	0	0	0
		0	0	0	0
		0	0	0	0
		0	0	0	0

Purdue Weed Science

Monsanto Buffer Zone

Trial ID: 16S-TPAC-SOY-38 Location: TPAC Trial Year: 2016
 Protocol ID: 16S-TPAC-SOY-38 Investigator: Dr. Bill Johnson
 Project ID: Study Director: Joe Ikley
 Sponsor Contact: Monsanto - Dan Childs

				W Weed AMBTR	W Weed ECHCG	GLXMA Soybean		W Weed AMBTR	W Weed ECHCG
				Giant ragweed	Common barnyar>			Giant ragweed	Common barnyar>
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									
Trt Treatment	Rate	Appl							
No. Name	Rate	Unit	Code Plot	11	12	13	14	15	
2 NON-BUFFER			102	95	95	5	99	100	
ROWEL FX	0.101 lb ai/a	A	204	95	95	8	100	100	
CLARITY	0.5 lb ae/a	B	303	99	95	5	100	100	
ROUNDUP POWERMAX	1.13 lb ae/a	D	408	95	90	5	100	100	
WARRANT	1.13 lb ai/a	D							
N-PAK AMS	2.5 % v/v	D							
			Mean =	96	94	6	100	100	
3 NON-BUFFER			103	95	95	5	100	90	
ROWEL FX	0.101 lb ai/a	A	202	100	80	0	100	85	
ROUNDUP POWERMAX	1.13 lb ae/a	B	307	99	75	0	100	70	
WARRANT	1.13 lb ai/a	B	401	95	75	0	99	75	
N-PAK AMS	2.5 % v/v	B							
CLARITY	0.5 lb ae/a	D							
			Mean =	97	81	1	100	80	
4 NON-BUFFER			104	95	95	5	100	100	
FIERCE XLT	0.176 lb ai/a	A	206	99	90	5	100	100	
CLARITY	0.5 lb ae/a	B	308	90	90	7	99	100	
ROUNDUP POWERMAX	1.13 lb ae/a	D	406	99	95	5	100	100	
WARRANT	1.13 lb ai/a	D							
N-PAK AMS	2.5 % v/v	D							
			Mean =	96	93	6	100	100	
5 NON-BUFFER			105	99	95	0	100	95	
FIERCE XLT	0.176 lb ai/a	A	209	100	80	0	99	80	
ROUNDUP POWERMAX	1.13 lb ae/a	B	305	99	75	0	100	80	
WARRANT	1.13 lb ai/a	B	403	95	85	0	99	80	
N-PAK AMS	2.5 % v/v	B							
CLARITY	0.5 lb ae/a	D							
			Mean =	98	84	0	100	84	
6 BUFFER			106	99	100	7	99	99	
ROWEL FX	0.101 lb ai/a	A	203	90	95	0	95	75	
ROUNDUP POWERMAX	1.13 lb ae/a	C	309	90	90	0	90	80	
WARRANT ULTRA	1.3 lb ai/a	C	405	90	90	0	85	90	
N-PAK AMS	2.5 % v/v	C							
			Mean =	92	94	2	92	86	
7 BUFFER			107	99	100	10	99	100	
FIERCE XLT	0.176 lb ai/a	A	205	95	100	0	95	100	
ROUNDUP POWERMAX	1.13 lb ae/a	C	301	95	95	0	99	100	
WARRANT ULTRA	1.3 lb ai/a	C	404	85	95	0	85	85	
N-PAK AMS	2.5 % v/v	C							
			Mean =	94	98	3	95	96	
8 BUFFER			108	99	100	5	95	99	
ROWEL FX	0.101 lb ai/a	A	201	90	90	0	90	85	
TRICOR 4L	0.25 lb ai/a	A	302	95	95	0	95	100	
ROUNDUP POWERMAX	1.13 lb ae/a	C	409	85	90	0	90	95	
WARRANT ULTRA	1.3 lb ai/a	C							
N-PAK AMS	2.5 % v/v	C							
			Mean =	92	94	1	93	95	

Purdue Weed Science

Monsanto Buffer Zone

Trial ID: 16S-TPAC-SOY-38 Location: TPAC Trial Year: 2016
 Protocol ID: 16S-TPAC-SOY-38 Investigator: Dr. Bill Johnson
 Project ID: Study Director: Joe Ikley
 Sponsor Contact: Monsanto - Dan Childs

Pest Type	W Weed AMBTR	W Weed ECHCG	W Weed AMBTR	W Weed ECHCG
Pest Code	Giant ragweed	Common barnyar>	Giant ragweed	Common barnyar>
Pest Name				
Crop Code			GLXMA	
Crop Name			Soybean	
Part Rated	PLOT P	PLOT P	PLOT C	PLOT P
Rating Date	Jul-5-2016	Jul-5-2016	Jul-11-2016	Jul-11-2016
Rating Type	CONTRO	CONTRO	PHYGEN	CONTRO
Rating Unit	%	%	%	%
Number of Subsamples	1	1	1	1
Days After First/Last Applic.	48 8	48 8	54 14	54 14
Trt-Eval Interval	16 DA-C	16 DA-C	14 DA-D	14 DA-D
Days After Emergence	41 DE-1	41 DE-1	47 DE-1	47 DE-1
ARM Action Codes	P	P	P	P
Number of Decimals	0	0	0	0
Trt Treatment	Rate	Appl		
No. Name	Rate Unit	Code Plot	11	12
9 BUFFER		109	99	100
FIERCE XLT	0.176 lb ai/a A	207	95	95
TRICOR 4L	0.25 lb ai/a A	306	95	95
ROUNDUP POWERMAX	1.13 lb ae/a C	407	99	100
WARRANT ULTRA	1.3 lb ai/a C			
N-PAK AMS	2.5 % v/v C			
	Mean =		97	98
				0
			96	96

Purdue Weed Science

Monsanto Buffer Zone

Trial ID: 16S-TPAC-SOY-38	Location: TPAC	Trial Year: 2016
Protocol ID: 16S-TPAC-SOY-38	Investigator: Dr. Bill Johnson	
Project ID:	Study Director: Joe Ikley	
	Sponsor Contact: Monsanto - Dan Childs	

Pest Type	W Weed		W Weed							
Pest Code	AMBTR		ECHCG							
Pest Name	Giant ragweed		Common barnyar>							
Crop Code	GLXMA		GLXMA		GLXMA		GLXMA		GLXMA	
Crop Name	Soybean		Soybean		Soybean		Soybean		Soybean	
Part Rated	PLOT C		PLOT P		PLOT C		PLOT C		PLOT C	
Rating Date	Jul-19-2016		Jul-19-2016		Jul-19-2016		Oct-23-2016		Oct-23-2016	
Rating Type	PHYGEN		CONTRO		CONTRO		YIELD		YIELD	
Rating Unit	%		%		%		lb/plot		%	
Number of Subsamples	1		1		1		1		1	
Days After First/Last Applic.	62 22		62 22		62 22		158 118		158 118	
Trt-Eval Interval	30 DA-C		30 DA-C		30 DA-C		151 DE-1		151 DE-1	
Days After Emergence	55 DE-1		55 DE-1		55 DE-1		151 DE-1		151 DE-1	
ARM Action Codes	P		P		P				TY1	
Number of Decimals	0		0		0		1		1	
Trt Treatment	Rate	Appl								
No. Name	Rate	Unit	Code	Plot						
1 UNTREATED			101	0	0	0	0	0	0	0
			208	0	0	0	15.8	16.2	44.1	
			304	0	0	0	17.1	16.1	47.9	
			402	0	0	0	17.7	16.9	49.1	
			Mean =	0	0	0	16.9	16.4	47.0	

Purdue Weed Science

Monsanto Buffer Zone

Trial ID: 16S-TPAC-SOY-38 Location: TPAC Trial Year: 2016
 Protocol ID: 16S-TPAC-SOY-38 Investigator: Dr. Bill Johnson
 Project ID: Study Director: Joe Ikley
 Sponsor Contact: Monsanto - Dan Childs

Pest Type		W Weed	W Weed			
Pest Code		AMBTR	ECHCG			
Pest Name		Giant ragweed	Common barnyar>			
Crop Code	GLXMA			GLXMA	GLXMA	GLXMA
Crop Name	Soybean			Soybean	Soybean	Soybean
Part Rated	PLOT C	PLOT P	PLOT P	PLOT C	PLOT C	PLOT C
Rating Date	Jul-19-2016	Jul-19-2016	Jul-19-2016	Oct-23-2016	Oct-23-2016	Oct-23-2016
Rating Type	PHYGEN	CONTRO	CONTRO	YIELD	MOICON	YIELD
Rating Unit	%	%	%	lb/plot	%	BU
Number of Subsamples	1	1	1	1	1	1
Days After First/Last Applic.	62 22	62 22	62 22	158 118	158 118	158 118
Trt-Eval Interval	30 DA-C	30 DA-C	30 DA-C			
Days After Emergence	55 DE-1	55 DE-1	55 DE-1	151 DE-1	151 DE-1	151 DE-1
ARM Action Codes	P	P	P			TY1
Number of Decimals	0	0	0	1	1	1
Trt Treatment	Rate	Appl				
No. Name	Rate Unit	Code Plot	16	17	18	19
2 NON-BUFFER		102	5	100	100	26.6
ROWEL FX	0.101 lb ai/a A	204	5	100	100	26.6
CLARITY	0.5 lb ae/a B	303	5	100	100	23.3
ROUNDUP POWERMAX	1.13 lb ae/a D	408	7	100	100	27.2
WARRANT	1.13 lb ai/a A					16.1
N-PAK AMS	2.5 % v/v D					
	Mean =		6	100	100	25.9
3 NON-BUFFER		103	3	100	75	25.7
ROWEL FX	0.101 lb ai/a A	202	0	100	80	28.4
ROUNDUP POWERMAX	1.13 lb ae/a B	307	0	100	60	28.5
WARRANT	1.13 lb ai/a B	401	0	100	70	.
N-PAK AMS	2.5 % v/v B					.
CLARITY	0.5 lb ae/a D					.
	Mean =		1	100	71	27.5
4 NON-BUFFER		104	5	100	100	28.1
FIERCE XLT	0.176 lb ai/a A	206	2	100	100	26.7
CLARITY	0.5 lb ae/a B	308	5	97	100	25.5
ROUNDUP POWERMAX	1.13 lb ae/a D	406	5	100	100	27.2
WARRANT	1.13 lb ai/a D					17.3
N-PAK AMS	2.5 % v/v D					
	Mean =		4	99	100	26.9
5 NON-BUFFER		105	0	95	90	33.8
FIERCE XLT	0.176 lb ai/a A	209	0	95	75	26.7
ROUNDUP POWERMAX	1.13 lb ae/a B	305	0	100	65	25.9
WARRANT	1.13 lb ai/a B	403	0	100	70	24.1
N-PAK AMS	2.5 % v/v B					17.5
CLARITY	0.5 lb ae/a D					
	Mean =		0	98	75	27.7
6 BUFFER		106	5	100	95	29.5
ROWEL FX	0.101 lb ai/a A	203	0	85	75	28.6
ROUNDUP POWERMAX	1.13 lb ae/a C	309	0	85	80	30.0
WARRANT ULTRA	1.3 lb ai/a C	405	0	90	80	27.3
N-PAK AMS	2.5 % v/v C					16.2
	Mean =		1	90	83	28.9
7 BUFFER		107	2	99	100	26.4
FIERCE XLT	0.176 lb ai/a A	205	0	90	90	28.3
ROUNDUP POWERMAX	1.13 lb ae/a C	301	0	100	100	.
WARRANT ULTRA	1.3 lb ai/a C	404	0	90	95	30.2
N-PAK AMS	2.5 % v/v C					16.0
	Mean =		1	95	96	28.3
8 BUFFER		108	7	90	85	26.3
ROWEL FX	0.101 lb ai/a A	201	0	85	85	.
TRICOR 4L	0.25 lb ai/a A	302	0	90	95	28.1
ROUNDUP POWERMAX	1.13 lb ae/a C	409	0	90	95	28.9
WARRANT ULTRA	1.3 lb ai/a C					16.1
N-PAK AMS	2.5 % v/v C					
	Mean =		2	89	90	27.8
						17.4
						76.6

Purdue Weed Science

Monsanto Buffer Zone

Trial ID: 16S-TPAC-SOY-38 Location: TPAC Trial Year: 2016
 Protocol ID: 16S-TPAC-SOY-38 Investigator: Dr. Bill Johnson
 Project ID: Study Director: Joe Ikley
 Sponsor Contact: Monsanto - Dan Childs

Pest Type			W Weed	W Weed						
Pest Code			AMBTR	ECHCG						
Pest Name			Giant ragweed	Common barnyar>						
Crop Code	GLXMA				GLXMA		GLXMA		GLXMA	
Crop Name	Soybean				Soybean		Soybean		Soybean	
Part Rated	PLOT C		PLOT P		PLOT P		PLOT C		PLOT C	
Rating Date	Jul-19-2016		Jul-19-2016		Jul-19-2016		Oct-23-2016		Oct-23-2016	
Rating Type	PHYGEN		CONTRO		CONTRO		YIELD		MOICON	
Rating Unit	%		%		%		lb/plot		%	
Number of Subsamples	1		1		1		1		1	
Days After First/Last Applic.	62 22		62 22		62 22		158 118		158 118	
Trt-Eval Interval	30 DA-C		30 DA-C		30 DA-C					
Days After Emergence	55 DE-1		55 DE-1		55 DE-1		151 DE-1		151 DE-1	
ARM Action Codes	P		P		P				TY1	
Number of Decimals	0		0		0		1		1	
Trt Treatment	Rate	Appl								
No. Name	Rate	Unit	Code	Plot	16	17	18	19	20	21
9 BUFFER				109	0	95	100	31.2	16.2	87.2
FIERCE XLT	0.176 lb ai/a	A		207	0	95	90	28.2	16.4	78.8
TRICOR 4L	0.25 lb ai/a	A		306	0	95	90	27.9	16.0	78.3
ROUNDUP POWERMAX	1.13 lb ae/a	C		407	0	100	100	30.0	15.7	84.3
WARRANT ULTRA	1.3 lb ai/a	C								
N-PAK AMS	2.5 % v/v	C								
Mean =					0	96	95	29.3	16.1	82.1

Purdue Weed Science

Monsanto Buffer Zone

Trial ID: 16S-TPAC-SOY-38 Location: TPAC Trial Year: 2016
 Protocol ID: 16S-TPAC-SOY-38 Investigator: Dr. Bill Johnson
 Project ID: Study Director: Joe Ikley
 Sponsor Contact: Monsanto - Dan Childs

Pest Type
 W, Weed, G-BYRW7, G-WedStg = Weed or volunteer crop
Pest Code
 AMBTR, Ambrosia trifida, = US
 ECHCG, Echinochloa crus-galli, = 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*[19]*(100-@MVAVGREP([20]))/87

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	GLXMA	Soybean	PLOT C	Jun-13-2016	PHYGEN	%	1	26 26	0 DA-B	19 DE-1	P	0
W Weed	ECHCG	Common barnyar>	GLXMA	Soybean	PLOT C	Jun-19-2016	CONTRO	%	1	26 26	0 DA-B	19 DE-1	P	0
W Weed	AMBTR	Giant ragweed	GLXMA	Soybean	PLOT P	Jun-19-2016	PHYGEN	%	1	32 6	0 DA-C	25 DE-1	P	0
W Weed	AMBTR	Giant ragweed	GLXMA	Soybean	PLOT P	Jun-19-2016	CONTRO	%	1	32 6	0 DA-C	25 DE-1	P	0
Trt Treatment	Rate	Appl												
No. Name	Rate Unit	Code	1	2	3	4	5							
1 UNTREATED			0 -	0 c	0 b	0 -	0 c							
2 NON-BUFFER			2 -	26 b	0 b	0 -	43 b							
ROWEL FX	0.101 lb ai/a	A												
CLARITY	0.5 lb ae/a	B												
ROUNDUP POWERMAX	1.13 lb ae/a	D												
WARRANT	1.13 lb ai/a	D												
N-PAK AMS	2.5 % v/v	D												
3 NON-BUFFER			1 -	31 ab	0 b	0 -	86 a							
ROWEL FX	0.101 lb ai/a	A												
ROUNDUP POWERMAX	1.13 lb ae/a	B												
WARRANT	1.13 lb ai/a	B												
N-PAK AMS	2.5 % v/v	B												
CLARITY	0.5 lb ae/a	D												
4 NON-BUFFER			1 -	29 ab	30 a	0 -	38 b							
FIERCE XLT	0.176 lb ai/a	A												
CLARITY	0.5 lb ae/a	B												
ROUNDUP POWERMAX	1.13 lb ae/a	D												
WARRANT	1.13 lb ai/a	D												
N-PAK AMS	2.5 % v/v	D												
5 NON-BUFFER			1 -	28 ab	28 a	0 -	88 a							
FIERCE XLT	0.176 lb ai/a	A												
ROUNDUP POWERMAX	1.13 lb ae/a	B												
WARRANT	1.13 lb ai/a	B												
N-PAK AMS	2.5 % v/v	B												
CLARITY	0.5 lb ae/a	D												

Purdue Weed Science

Monsanto Buffer Zone

Trial ID: 16S-TPAC-SOY-38 Location: TPAC Trial Year: 2016
 Protocol ID: 16S-TPAC-SOY-38 Investigator: Dr. Bill Johnson
 Project ID: Study Director: Joe Ikley
 Sponsor Contact: Monsanto - Dan Childs

Pest Type		W Weed AMBTR	W Weed ECHCG		W Weed AMBTR			
Pest Code		Giant ragweed	Common barnyar>		Giant ragweed			
Pest Name								
Crop Code	GLXMA			GLXMA				
Crop Name	Soybean			Soybean				
Part Rated	PLOT C	PLOT P	PLOT P	PLOT C	PLOT P			
Rating Date	Jun-13-2016	Jun-13-2016	Jun-13-2016	Jun-19-2016	Jun-19-2016			
Rating Type	PHYGEN	CONTRO	CONTRO	PHYGEN	CONTRO			
Rating Unit	%	%	%	%	%			
Number of Subsamples	1	1	1	1	1			
Days After First/Last Applic.	26 26	26 26	26 26	32 6	32 6			
Trt-Eval Interval	0 DA-B	0 DA-B	0 DA-B	0 DA-C	0 DA-C			
Days After Emergence	19 DE-1	19 DE-1	19 DE-1	25 DE-1	25 DE-1			
ARM Action Codes	P	P	P	P	P			
Number of Decimals	0	0	0	0	0			
Trt Treatment No. Name	Rate Rate	Unit Unit	Appl Code	1	2	3	4	5
6 BUFFER				1 -	28 b	0 b	0 -	5 c
ROWEL FX	0.101 lb ai/a	A						
ROUNDUP POWERMAX	1.13 lb ae/a	C						
WARRANT ULTRA	1.3 lb ai/a	C						
N-PAK AMS	2.5 % v/v	C						
7 BUFFER				3 -	33 ab	27 a	0 -	25 b
FIERCE XLT	0.176 lb ai/a	A						
ROUNDUP POWERMAX	1.13 lb ae/a	C						
WARRANT ULTRA	1.3 lb ai/a	C						
N-PAK AMS	2.5 % v/v	C						
8 BUFFER				1 -	31 ab	28 a	0 -	5 c
ROWEL FX	0.101 lb ai/a	A						
TRICOR 4L	0.25 lb ai/a	A						
ROUNDUP POWERMAX	1.13 lb ae/a	C						
WARRANT ULTRA	1.3 lb ai/a	C						
N-PAK AMS	2.5 % v/v	C						
9 BUFFER				2 -	39 a	21 a	0 -	43 b
FIERCE XLT	0.176 lb ai/a	A						
TRICOR 4L	0.25 lb ai/a	A						
ROUNDUP POWERMAX	1.13 lb ae/a	C						
WARRANT ULTRA	1.3 lb ai/a	C						
N-PAK AMS	2.5 % v/v	C						
LSD P=.05	2.0	11.7	10.9	.	19.7			
Standard Deviation	1.4	8.0	7.5	0.0	13.5			
CV	125.2	29.47	50.16	0.0	36.74			
Bartlett's X2	4.536	1.226	6.854	0.0	9.085			
P(Bartlett's X2)	0.716	0.99	0.144	.	0.247			
Skewness	1.0834*	-0.6126	0.618	.	0.454			
Kurtosis	0.1235	-0.2586	-0.721	.	-1.1618			
Replicate F	2.335	6.157	4.624	0.000	0.601			
Replicate Prob(F)	0.0992	0.0030	0.0109	1.0000	0.6205			
Treatment F	1.522	7.384	14.689	0.000	23.506			
Treatment Prob(F)	0.2019	0.0001	0.0001	1.0000	0.0001			

Purdue Weed Science

Monsanto Buffer Zone

Trial ID: 16S-TPAC-SOY-38 Location: TPAC Trial Year: 2016
 Protocol ID: 16S-TPAC-SOY-38 Investigator: Dr. Bill Johnson
 Project ID: Study Director: Joe Ikley
 Sponsor Contact: Monsanto - Dan Childs

Pest Type	W Weed		W Weed	W Weed		W Weed
Pest Code	ECHCG		AMBTR	ECHCG		AMBTR
Pest Name	Common barnyar>		Giant ragweed	Common barnyar>		Giant ragweed
Crop Code		GLXMA			GLXMA	
Crop Name		Soybean			Soybean	
Part Rated	PLOT P	PLOT C	PLOT P	PLOT P	PLOT C	PLOT P
Rating Date	Jun-19-2016	Jun-26-2016	Jun-26-2016	Jun-26-2016	Jul-5-2016	Jul-5-2016
Rating Type	CONTRO	PHYGEN	CONTRO	CONTRO	PHYGEN	CONTRO
Rating Unit	%	%	%	%	%	%
Number of Subsamples	1	1	1	1	1	1
Days After First/Last Applic.	32 6	39 7	39 7	39 7	48 8	48 8
Trt-Eval Interval	0 DA-C	7 DA-C	7 DA-C	7 DA-C	16 DA-C	16 DA-C
Days After Emergence	25 DE-1	32 DE-1	32 DE-1	32 DE-1	41 DE-1	41 DE-1
ARM Action Codes	P	P	P	P	P	P
Number of Decimals	0	0	0	0	0	0
Trt Treatment						
No. Name	6	7	8	9	10	11
1 UNTREATED	0 b	0 b	0 d	0 c	0 c	0 c
2 NON-BUFFER	0 b	0 b	71 bc	0 c	10 a	96 ab
ROWEL FX 0.101 lb ai/a A						
CLARITY 0.5 lb ae/a B						
ROUNDUP POWERMAX 1.13 lb ae/a D						
WARRANT 1.13 lb ai/a D						
N-PAK AMS 2.5 % v/v D						
3 NON-BUFFER	93 a	0 b	94 a	93 a	1 c	97 ab
ROWEL FX 0.101 lb ai/a A						
ROUNDUP POWERMAX 1.13 lb ae/a B						
WARRANT 1.13 lb ai/a B						
N-PAK AMS 2.5 % v/v B						
CLARITY 0.5 lb ae/a D						
4 NON-BUFFER	21 b	0 b	69 c	10 c	8 b	96 ab
FIERCE XLT 0.176 lb ai/a A						
CLARITY 0.5 lb ae/a B						
ROUNDUP POWERMAX 1.13 lb ae/a D						
WARRANT 1.13 lb ai/a D						
N-PAK AMS 2.5 % v/v D						
5 NON-BUFFER	96 a	0 b	94 a	94 a	1 c	98 a
FIERCE XLT 0.176 lb ai/a A						
ROUNDUP POWERMAX 1.13 lb ae/a B						
WARRANT 1.13 lb ai/a B						
N-PAK AMS 2.5 % v/v B						
CLARITY 0.5 lb ae/a D						

Purdue Weed Science

Monsanto Buffer Zone

Trial ID: 16S-TPAC-SOY-38 Location: TPAC Trial Year: 2016
 Protocol ID: 16S-TPAC-SOY-38 Investigator: Dr. Bill Johnson
 Project ID: Study Director: Joe Ikley
 Sponsor Contact: Monsanto - Dan Childs

Pest Type	W Weed		W Weed	W Weed		W Weed
Pest Code	ECHCG		AMBTR	ECHCG		AMBTR
Pest Name	Common barnyar>		Giant ragweed	Common barnyar>		Giant ragweed
Crop Code		GLXMA			GLXMA	
Crop Name		Soybean			Soybean	
Part Rated	PLOT P	PLOT C	PLOT P	PLOT P	PLOT C	PLOT P
Rating Date	Jun-19-2016	Jun-26-2016	Jun-26-2016	Jun-26-2016	Jul-5-2016	Jul-5-2016
Rating Type	CONTRO	PHYGEN	CONTRO	CONTRO	PHYGEN	CONTRO
Rating Unit	%	%	%	%	%	%
Number of Subsamples	1	1	1	1	1	1
Days After First/Last Applic.	32 6	39 7	39 7	39 7	48 8	48 8
Trt-Eval Interval	0 DA-C	7 DA-C	7 DA-C	7 DA-C	16 DA-C	16 DA-C
Days After Emergence	25 DE-1	32 DE-1	32 DE-1	32 DE-1	41 DE-1	41 DE-1
ARM Action Codes	P	P	P	P	P	P
Number of Decimals	0	0	0	0	0	0
Trt Treatment	Rate	Rate	Rate	Rate	Rate	Rate
No. Name	Unit	Unit	Unit	Unit	Unit	Unit
	6	7	8	9	10	11
6 BUFFER	0 b	4 a	83 ab	74 b	1 c	92 b
ROWEL FX	0.101 lb ai/a A					
ROUNDUP POWERMAX	1.13 lb ae/a C					
WARRANT ULTRA	1.3 lb ai/a C					
N-PAK AMS	2.5 % v/v C					
7 BUFFER	13 b	4 a	86 a	73 b	1 c	94 ab
FIERCE XLT	0.176 lb ai/a A					
ROUNDUP POWERMAX	1.13 lb ae/a C					
WARRANT ULTRA	1.3 lb ai/a C					
N-PAK AMS	2.5 % v/v C					
8 BUFFER	0 b	3 a	85 a	70 b	0 c	92 b
ROWEL FX	0.101 lb ai/a A					
TRICOR 4L	0.25 lb ai/a A					
ROUNDUP POWERMAX	1.13 lb ae/a C					
WARRANT ULTRA	1.3 lb ai/a C					
N-PAK AMS	2.5 % v/v C					
9 BUFFER	8 b	3 a	88 a	73 b	0 c	97 ab
FIERCE XLT	0.176 lb ai/a A					
TRICOR 4L	0.25 lb ai/a A					
ROUNDUP POWERMAX	1.13 lb ae/a C					
WARRANT ULTRA	1.3 lb ai/a C					
N-PAK AMS	2.5 % v/v C					
LSD P=.05	22.2	2.2	13.2	13.4	2.2	5.3
Standard Deviation	15.2	1.5	9.1	9.2	1.5	3.7
CV	59.51	110.91	12.19	16.99	59.32	4.31
Bartlett's X2	19.911	0.118	14.411	13.656	0.099	7.546
P(Bartlett's X2)	0.001*	0.99	0.044*	0.034*	0.999	0.374
Skewness	1.0803*	1.036*	-1.9188*	-0.5424	1.1717*	-2.5032*
Kurtosis	-0.7703	-0.9848	2.6872*	-1.4527	-0.2368	4.6876*
Replicate F	3.619	4.293	0.911	5.366	7.158	1.912
Replicate Prob(F)	0.0276	0.0147	0.4503	0.0057	0.0013	0.1546
Treatment F	27.251	4.902	41.530	72.511	24.158	303.829
Treatment Prob(F)	0.0001	0.0011	0.0001	0.0001	0.0001	0.0001

Purdue Weed Science

Monsanto Buffer Zone

Trial ID: 16S-TPAC-SOY-38 Location: TPAC Trial Year: 2016
 Protocol ID: 16S-TPAC-SOY-38 Investigator: Dr. Bill Johnson
 Project ID: Study Director: Joe Ikley
 Sponsor Contact: Monsanto - Dan Childs

Pest Type	W Weed		W Weed	W Weed	
Pest Code	ECHCG		AMBTR	ECHCG	
Pest Name	Common barnyar>		Giant ragweed	Common barnyar>	
Crop Code		GLXMA			GLXMA
Crop Name		Soybean			Soybean
Part Rated	PLOT P	PLOT C	PLOT P	PLOT P	PLOT C
Rating Date	Jul-5-2016	Jul-11-2016	Jul-11-2016	Jul-11-2016	Jul-19-2016
Rating Type	CONTRO	PHYGEN	CONTRO	CONTRO	PHYGEN
Rating Unit	%	%	%	%	%
Number of Subsamples	1	1	1	1	1
Days After First/Last Applic.	48 8	54 14	54 14	54 14	62 22
Trt-Eval Interval	16 DA-C	14 DA-D	14 DA-D	14 DA-D	30 DA-C
Days After Emergence	41 DE-1	47 DE-1	47 DE-1	47 DE-1	55 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	12	13	14
1 UNTREATED			0 c	0 c	0 c
2 NON-BUFFER			94 a	6 a	100 a
ROWEL FX	0.101 lb ai/a A				
CLARITY	0.5 lb ae/a B				
ROUNDUP POWERMAX	1.13 lb ae/a D				
WARRANT	1.13 lb ai/a D				
N-PAK AMS	2.5 % v/v D				
3 NON-BUFFER			81 b	1 c	100 a
ROWEL FX	0.101 lb ai/a A				
ROUNDUP POWERMAX	1.13 lb ae/a B				
WARRANT	1.13 lb ai/a B				
N-PAK AMS	2.5 % v/v B				
CLARITY	0.5 lb ae/a D				
4 NON-BUFFER			93 a	6 ab	100 a
FIERCE XLT	0.176 lb ai/a A				
CLARITY	0.5 lb ae/a B				
ROUNDUP POWERMAX	1.13 lb ae/a D				
WARRANT	1.13 lb ai/a D				
N-PAK AMS	2.5 % v/v D				
5 NON-BUFFER			84 b	0 c	100 a
FIERCE XLT	0.176 lb ai/a A				
ROUNDUP POWERMAX	1.13 lb ae/a B				
WARRANT	1.13 lb ai/a B				
N-PAK AMS	2.5 % v/v B				
CLARITY	0.5 lb ae/a D				

Purdue Weed Science

Monsanto Buffer Zone

Trial ID: 16S-TPAC-SOY-38 Location: TPAC Trial Year: 2016
 Protocol ID: 16S-TPAC-SOY-38 Investigator: Dr. Bill Johnson
 Project ID: Study Director: Joe Ikley
 Sponsor Contact: Monsanto - Dan Childs

Pest Type	W Weed		W Weed	W Weed				
Pest Code	ECHCG		AMBTR	ECHCG				
Pest Name	Common barnyar>		Giant ragweed	Common barnyar>				
Crop Code		GLXMA			GLXMA			
Crop Name		Soybean			Soybean			
Part Rated	PLOT P	PLOT C	PLOT P	PLOT P	PLOT C			
Rating Date	Jul-5-2016	Jul-11-2016	Jul-11-2016	Jul-11-2016	Jul-19-2016			
Rating Type	CONTRO	PHYGEN	CONTRO	CONTRO	PHYGEN			
Rating Unit	%	%	%	%	%			
Number of Subsamples	1	1	1	1	1			
Days After First/Last Applic.	48 8	54 14	54 14	54 14	62 22			
Trt-Eval Interval	16 DA-C	14 DA-D	14 DA-D	14 DA-D	30 DA-C			
Days After Emergence	41 DE-1	47 DE-1	47 DE-1	47 DE-1	55 DE-1			
ARM Action Codes	P	P	P	P	P			
Number of Decimals	0	0	0	0	0			
Trt Treatment No. Name	Rate	Unit	Appl Code	12	13	14	15	16
6 BUFFER				94 a	2 c	92 b	86 b	1 b
ROWEL FX	0.101 lb ai/a	A						
ROUNDUP POWERMAX	1.13 lb ae/a	C						
WARRANT ULTRA	1.3 lb ai/a	C						
N-PAK AMS	2.5 % v/v	C						
7 BUFFER				98 a	3 bc	95 b	96 a	1 b
FIERCE XLT	0.176 lb ai/a	A						
ROUNDUP POWERMAX	1.13 lb ae/a	C						
WARRANT ULTRA	1.3 lb ai/a	C						
N-PAK AMS	2.5 % v/v	C						
8 BUFFER				94 a	1 c	93 b	95 a	2 b
ROWEL FX	0.101 lb ai/a	A						
TRICOR 4L	0.25 lb ai/a	A						
ROUNDUP POWERMAX	1.13 lb ae/a	C						
WARRANT ULTRA	1.3 lb ai/a	C						
N-PAK AMS	2.5 % v/v	C						
9 BUFFER				98 a	0 c	96 ab	96 a	0 b
FIERCE XLT	0.176 lb ai/a	A						
TRICOR 4L	0.25 lb ai/a	A						
ROUNDUP POWERMAX	1.13 lb ae/a	C						
WARRANT ULTRA	1.3 lb ai/a	C						
N-PAK AMS	2.5 % v/v	C						
LSD P=.05				5.9	3.1	4.5	8.5	2.1
Standard Deviation				4.0	2.1	3.1	5.8	1.4
CV				4.94	104.58	3.59	7.13	91.44
Bartlett's X2				10.811	8.034	38.488	1.921	7.284
P(Bartlett's X2)				0.147	0.154	0.001*	0.86	0.20
Skewness				-2.3311*	1.1068*	-2.5004*	-2.1921*	1.1308*
Kurtosis				4.1075*	-0.1222	4.6722*	3.6591*	-0.3607
Replicate F				6.786	4.114	1.837	3.138	4.357
Replicate Prob(F)				0.0018	0.0173	0.1674	0.0440	0.0138
Treatment F				238.543	4.543	439.483	116.810	7.902
Treatment Prob(F)				0.0001	0.0018	0.0001	0.0001	0.0001

Purdue Weed Science

Monsanto Buffer Zone

Trial ID: 16S-TPAC-SOY-38 Location: TPAC Trial Year: 2016
 Protocol ID: 16S-TPAC-SOY-38 Investigator: Dr. Bill Johnson
 Project ID: Study Director: Joe Ikley
 Sponsor Contact: Monsanto - Dan Childs

Pest Type	W Weed	W Weed			
Pest Code	AMBTR	ECHCG			
Pest Name	Giant ragweed	Common barnyar>			
Crop Code			GLXMA	GLXMA	GLXMA
Crop Name			Soybean	Soybean	Soybean
Part Rated			PLOT C	PLOT C	PLOT C
Rating Date	PLOT P Jul-19-2016	PLOT P Jul-19-2016	Oct-23-2016	Oct-23-2016	Oct-23-2016
Rating Type	CONTRO	CONTRO	YIELD	MOICON	YIELD
Rating Unit	%	%	lb/plot	%	BU
Number of Subsamples	1	1	1	1	1
Days After First/Last Applic.	62 22	62 22	158 118	158 118	158 118
Trt-Eval Interval	30 DA-C	30 DA-C			
Days After Emergence	55 DE-1	55 DE-1	151 DE-1	151 DE-1	151 DE-1
ARM Action Codes	P	P			TY1
Number of Decimals	0	0	1	1	1
Trt Treatment					
No. Name	Rate Unit Appl Code				
1 UNTREATED			19	20	21
			0 e	0 f	16.9 c
			17	18	16.4 -
2 NON-BUFFER			19	20	47.0 c
ROWEL FX	0.101 lb ai/a A		0 e	0 f	16.9 c
CLARITY	0.5 lb ae/a B		17	18	16.4 -
ROUNDUP POWERMAX	1.13 lb ae/a D		19	20	47.0 c
WARRANT	1.13 lb ai/a D		0 e	0 f	16.9 c
N-PAK AMS	2.5 % v/v D		17	18	16.4 -
3 NON-BUFFER			19	20	71.3 b
ROWEL FX	0.101 lb ai/a A		0 e	0 f	16.9 c
ROUNDUP POWERMAX	1.13 lb ae/a B		17	18	16.4 -
WARRANT	1.13 lb ai/a B		19	20	47.0 c
N-PAK AMS	2.5 % v/v B		0 e	0 f	16.9 c
CLARITY	0.5 lb ae/a D		17	18	16.4 -
4 NON-BUFFER			19	20	76.7 ab
FIERCE XLT	0.176 lb ai/a A		0 e	0 f	16.9 c
CLARITY	0.5 lb ae/a B		17	18	16.4 -
ROUNDUP POWERMAX	1.13 lb ae/a D		19	20	47.0 c
WARRANT	1.13 lb ai/a D		0 e	0 f	16.9 c
N-PAK AMS	2.5 % v/v D		17	18	16.4 -
5 NON-BUFFER			19	20	74.6 ab
FIERCE XLT	0.176 lb ai/a A		0 e	0 f	16.9 c
ROUNDUP POWERMAX	1.13 lb ae/a B		17	18	16.4 -
WARRANT	1.13 lb ai/a B		19	20	47.0 c
N-PAK AMS	2.5 % v/v B		0 e	0 f	16.9 c
CLARITY	0.5 lb ae/a D		17	18	16.4 -

Purdue Weed Science

Monsanto Buffer Zone

Trial ID: 16S-TPAC-SOY-38 Location: TPAC Trial Year: 2016
 Protocol ID: 16S-TPAC-SOY-38 Investigator: Dr. Bill Johnson
 Project ID: Study Director: Joe Ikley
 Sponsor Contact: Monsanto - Dan Childs

Pest Type	W Weed	W Weed						
Pest Code	AMBTR	ECHCG						
Pest Name	Giant ragweed	Common barnyar>						
Crop Code			GLXMA	GLXMA	GLXMA			
Crop Name			Soybean	Soybean	Soybean			
Part Rated			PLOT C	PLOT C	PLOT C			
Rating Date	Jul-19-2016	Jul-19-2016	Oct-23-2016	Oct-23-2016	Oct-23-2016			
Rating Type	CONTRO	CONTRO	YIELD	MOICON	YIELD			
Rating Unit	%	%	lb/plot	%	BU			
Number of Subsamples	1	1	1	1	1			
Days After First/Last Applic.	62 22	62 22	158 118	158 118	158 118			
Trt-Eval Interval	30 DA-C	30 DA-C						
Days After Emergence	55 DE-1	55 DE-1	151 DE-1	151 DE-1	151 DE-1			
ARM Action Codes	P	P			TY1			
Number of Decimals	0	0	1	1	1			
Trt Treatment								
No. Name	Rate	Unit	Appl Code	17	18	19	20	21
6 BUFFER				90 cd	83 cd	28.9 ab	16.1 -	80.8 a
ROWEL FX	0.101 lb ai/a	A						
ROUNDUP POWERMAX	1.13 lb ae/a	C						
WARRANT ULTRA	1.3 lb ai/a	C						
N-PAK AMS	2.5 % v/v	C						
7 BUFFER				95 bc	96 ab	28.3 ab	16.0 -	79.3 ab
FIERCE XLT	0.176 lb ai/a	A						
ROUNDUP POWERMAX	1.13 lb ae/a	C						
WARRANT ULTRA	1.3 lb ai/a	C						
N-PAK AMS	2.5 % v/v	C						
8 BUFFER				89 d	90 bc	27.8 ab	17.4 -	76.6 ab
ROWEL FX	0.101 lb ai/a	A						
TRICOR 4L	0.25 lb ai/a	A						
ROUNDUP POWERMAX	1.13 lb ae/a	C						
WARRANT ULTRA	1.3 lb ai/a	C						
N-PAK AMS	2.5 % v/v	C						
9 BUFFER				96 ab	95 ab	29.3 a	16.1 -	82.1 a
FIERCE XLT	0.176 lb ai/a	A						
TRICOR 4L	0.25 lb ai/a	A						
ROUNDUP POWERMAX	1.13 lb ae/a	C						
WARRANT ULTRA	1.3 lb ai/a	C						
N-PAK AMS	2.5 % v/v	C						
LSD P=.05	4.8			4.8	8.7	3.13	1.42	8.87
Standard Deviation	3.3			3.3	6.0	2.12	0.97	6.01
CV	3.87			3.87	7.57	8.92	6.53	9.09
Bartlett's X2	8.841			8.841	2.678	9.866	22.233	10.101
P(Bartlett's X2)	0.116			0.116	0.749	0.275	0.005*	0.258
Skewness	-2.4623*			-2.4623*	-1.9569*	-1.4819*	2.2966*	-1.3876*
Kurtosis	4.554*			4.554*	2.8928*	2.8201*	6.0892*	2.4624*
Replicate F	1.502			1.502	1.919	0.510	0.478	0.638
Replicate Prob(F)	0.2394			0.2394	0.1535	0.6798	0.7012	0.5993
Treatment F	381.368			381.368	110.426	9.916	1.177	9.735
Treatment Prob(F)	0.0001			0.0001	0.0001	0.0001	0.3599	0.0001

Purdue Weed Science

Monsanto Buffer Zone

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Protocol ID: 16S-TPAC-SOY-38	Investigator: Dr. Bill Johnson	
Project ID:	Study Director: Joe Ikley	
	Sponsor Contact: Monsanto - Dan Childs	

Pest Type

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

Pest Code

AMBTR, Ambrosia trifida, = US

ECHCG, Echinochloa crus-galli, = 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 = $2.904 * [19] * (100 - @MVAVGREP([20])) / 87$