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Residual Control of Zidua in Two-pass Weed Program

Trial ID: 11S-THP-CTS-35 Protocol ID: 11S-THP-CTS-205
 Location: Throckmorton Study Director: White/Marquardt
 Project ID: Zidua Soy 06-11-MW Investigator: Dr. Bill Johnson
 Sponsor Contact: BASF- Gery Welker

General Trial Information

Study Director: White/Marquardt **Title:** Research Associate
Investigator: Dr. Bill Johnson **Title:** Professor

Discipline: H herbicide
Trial Status: Established
Initiation Date: 4-8-2011

Trial Location

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

Personnel

Study Director: White/Marquardt **Title:** Research Associate

Affiliation: Purdue University
Address: 915 W State Street
Location: West Lafayette, IN, USA

Postal Code: 47907 **E-mail:** mdwhite@purdue.edu
Phone No.: 765-494-0891

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

Affiliation: Purdue University
Address: 915 W State Street
Location: West Lafayette, IN, USA

Postal Code: 47907 **E-mail:** wji@purdue.edu
Phone No.: 765-494-4656 **Mobile No.:** 765-404-9801

Cooperator/Landowner

Cooperator: Throckmorton Purdue Ag Center **Role:** Purdue Ag Center

Organization: Purdue University
Address 1: 8343 US 231 S

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

Crop Description

Crop 1: GLXMA Glycine max Soybean

Variety: Asgrow AG2931

Description: RR2

BBCH Scale: BSOY
Planting Method: PLANTD planted

Planting Date: 5-10-2011
Rate, Unit: 124000 S/A

Depth, Unit: 1.5 IN
Row Spacing, Unit: 15 IN

Emergence Date: 5-16-2011

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

Plot Width, Unit: 10 FT

Site Type: FIELD field

Plot Length, Unit: 30 FT
Plot Area, Unit: 300 FT²

Experimental Unit: 1 PLOT plot
Tillage Type: CONTIL conventional-till

Replications: 4

Study Design: RACOB Randomized Complete Block (RCB)
Untreated Arrangement: INCLUDED single control randomized in each block

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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
Application Date:	5-11-2011	6-1-2011	7-12-2011
Time of Day:	9:45-10AM	9:30 AM	8:35-8:50
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	ATPLAN	EAPOCR	POSPOS
Application Placement:	SOIL	FOLIAR	FOLIAR
Applied By:	MW	MH	MW
Air Temperature, Unit:	81 F	74.2 F	77 F
% Relative Humidity:	65	47	82
Wind Velocity, Unit:	2.1 MPH	1.8 MPH	1.5 MPH
Wind Direction:	E	SE	SE
Dew Presence (Y/N):	Y yes	Y yes	Y yes
Soil Temperature, Unit:	68 F	70 F	80 F
Soil Moisture:	DRY	SLIWET	SLIWET
% Cloud Cover:	30	20	0

Crop Stage At Each Application

	A	B	C
Crop 1 Code, BBCH Scale:	GLXMA BSOY	GLXMA BSOY	GLXMA BSOY
Stage Scale Used:		BBCH	BBCH
Stage Majority, Percent:		V1	R3
Height, Unit:		2.5 IN	

Pest Stage At Each Application

	A	B	C
Pest 1 Code, Type, Scale:	AMBTR W	AMBTR W	AMBTR W
Height, Unit:		3.5 IN	
Height Minimum, Maximum:		2 5	
Density, Unit:		7 YD2	
Pest 2 Code, Type, Scale:	SETFA W	SETFA W	SETFA W
Height, Unit:		2.5 IN	
Height Minimum, Maximum:		1 4	
Density, Unit:		23 YD2	

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Application Equipment

	A	B	C
Appl. Equipment:	CO2 FORD	CO2 BKPK	CUB
Equipment Type:	SPTRMO	SPRBAC	
Operation Pressure, Unit:		17 PSI	
Nozzle Type:	FLAT FAN	FLAT FAN	FLAT FAN
Nozzle Size:	XR 100 02	XR 110 02	XR 110 02
Nozzle Spacing, Unit:	20 IN	15 IN	20 IN
Nozzles/Row:	6	8	6
Boom Length, Unit:	10 FT	10 FT	10 FT
Boom Height, Unit:	20 IN	18 IN	19 IN
Ground Speed, Unit:	2.1 MPH	3 MPH	2.1 MPH
Carrier:	MEIGS	H2O	MEIGS
Water Hardness (ppm CaCO3):		150	
Spray Volume, Unit:	20 gal/ac	15 gal/ac	20
Mix Size, Unit:	2.5 liters	1.8 liters	
Propellant:	CO2	CO2	
Tank Mix (Y/N):		N no	

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Residual Control of Zidua in Two-pass Weed Program

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 Location: Throckmorton Study Director: White/Marquardt
 Project ID: Zidua Soy 06-11-MW Investigator: Dr. Bill Johnson
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Pest Type		W Weed SETFA	W Weed AMBTR	W Weed SETFA	W Weed AMBTR	W Weed ABUTH	W Weed SETFA			
Pest Code		Setaria faberi	Ambrosia trifi>	Setaria faberi	Ambrosia trifi>	Abutilon theop>	Setaria faberi			
Pest Scientific Name										
Pest Name		Giant foxtail	Giant ragweed	Giant foxtail	Giant ragweed	Velvetleaf	Giant foxtail			
Crop Code	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA			
BBCH Scale	BSOY	BSOY	BSOY	BSOY	BSOY	BSOY	BSOY			
Crop Scientific Name	Glycine max	Glycine max	Glycine max	Glycine max	Glycine max	Glycine max	Glycine max			
Crop Name	Soybean	Soybean	Soybean	Soybean	Soybean	Soybean	Soybean			
Rating Date	5-24-2011	5-31-2011	5-31-2011	6-15-2011	6-15-2011	6-15-2011	7-14-2011			
Rating Type	PHYGEN	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO			
Rating Unit	%	%	%	%	%	%	%			
Number of Subsamples	1	1	1	1	1	1	1			
Crop Stage Majority		V1	V1	V4	V4	V4				
Pest Stage Majority		2 IN	3 IN	10 IN	12 IN	6 IN	30 IN			
Pest Density, Unit		20 YD2	6 YD2	50 YD2	10 YD2	2 YD2	55 YD2			
Assessed By	CB/BJ			JR/RT	JR/RT	JR/RT				
Days After First/Last Applic.	13 13	20 20	20 20	35 14	35 14	35 14	64 2			
Trt-Eval Interval	13 DA-A									
Plant-Eval Interval	14 DP-1	21 DP-1	21 DP-1	36 DP-1	36 DP-1	36 DP-1	65 DP-1			
Days After Emergence	8 DE-1	15 DE-1	15 DE-1	30 DE-1	30 DE-1	30 DE-1	59 DE-1			
Trt Treatment	Rate	Appl								
No. Name	Rate	Unit	Code	1	2	3	4	5	6	7
1 Untreated Check				0.0 c	0.0 c	0.0 b	0.0 d	0.0 b	0.0 b	0.0 c
2 Roundup PowerMax 4.5 SL AMS - Liquid	0.77 lb ae/a 17 lb ai/100 gal	B B		0.0 c	0.0 c	0.0 b	64.5 c	70.0 a	88.8 a	91.3 ab
3 Zidua (85 WG) Sharpen 2.85 SC Roundup PowerMax 4.5 SL AMS - Liquid	0.106 lb ai/a 0.0223 lb ai/a 0.77 lb ae/a 17 lb ai/100 gal	A A B B		3.8 bc	93.8 a	42.5 ab	95.0 a	73.5 a	97.5 a	97.5 ab
4 Zidua (85 WG) Sharpen 2.85 SC Roundup PowerMax 4.5 SL AMS - Liquid	0.133 lb ai/a 0.0223 lb ai/a 0.77 lb ae/a 17 lb ai/100 gal	A A B B		5.0 bc	90.0 a	31.3 ab	95.8 a	79.3 a	95.0 a	96.0 ab
5 Zidua (85 WG) Valor SX (51 WG) Roundup PowerMax 4.5 SL AMS - Liquid	0.08 lb ai/a 0.064 lb ai/a 0.77 lb ae/a 17 lb ai/100 gal	A A B B		16.3 a	93.5 a	61.3 a	92.0 a	85.3 a	95.0 a	94.8 ab
6 Zidua (85 WG) Verdict (5.57 SC) Roundup PowerMax 4.5 SL AMS - Liquid	0.106 lb ai/a 0.218 lb ai/a 0.77 lb ae/a 17 lb ai/100 gal	A A B B		3.8 bc	94.3 a	35.0 ab	97.3 a	82.0 a	97.5 a	98.5 a
7 Valor SX (51 WG) Classic Roundup PowerMax 4.5 SL AMS - Liquid	1.2 oz ai/a 0.413 oz ai/a 0.77 lb ae/a 17 lb ai/100 gal	A A B B		13.8 ab	93.0 a	42.5 ab	87.8 a	79.0 a	100.0 a	89.8 b
8 Spartan (4F) FirstRate (84 WG) Roundup PowerMax 4.5 SL AMS - Liquid	4.01 oz ai/a 0.51 oz ai/a 0.77 lb ae/a 17 lb ai/100 gal	A A B B		2.5 c	70.0 b	10.0 ab	76.3 b	71.3 a	97.5 a	95.0 ab

Means followed by same letter do not significantly differ (P=0.05, Student-Newman-Keuls)
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

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Pest Type		W Weed SETFA	W Weed AMBTR	W Weed SETFA	W Weed AMBTR	W Weed ABUTH	W Weed SETFA			
Pest Code		Setaria faberi	Ambrosia trifi>	Setaria faberi	Ambrosia trifi>	Abutilon theop>	Setaria faberi			
Pest Scientific Name		Giant foxtail	Giant ragweed	Giant foxtail	Giant ragweed	Velvetleaf	Giant foxtail			
Pest Name		GLXMA BSOY	GLXMA BSOY	GLXMA BSOY	GLXMA BSOY	GLXMA BSOY	GLXMA BSOY			
Crop Code		Glycine max	Glycine max	Glycine max	Glycine max	Glycine max	Glycine max			
BBCH Scale		Soybean	Soybean	Soybean	Soybean	Soybean	Soybean			
Crop Scientific Name		5-24-2011	5-31-2011	5-31-2011	6-15-2011	6-15-2011	7-14-2011			
Crop Name		PHYGEN	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO			
Rating Date		%	%	%	%	%	%			
Rating Type		1	1	1	1	1	1			
Rating Unit			V1	V1	V4	V4				
Number of Subsamples			2 IN	3 IN	10 IN	12 IN	30 IN			
Crop Stage Majority			20 YD2	6 YD2	50 YD2	10 YD2	55 YD2			
Pest Stage Majority		CB/BJ			JR/RT	JR/RT				
Pest Density, Unit Assessed By		13 13	20 20	20 20	35 14	35 14	64 2			
Days After First/Last Applic.		13 DA-A			36 DP-1	36 DP-1	65 DP-1			
Trt-Eval Interval		14 DP-1	21 DP-1	21 DP-1	36 DP-1	36 DP-1	65 DP-1			
Plant-Eval Interval		8 DE-1	15 DE-1	15 DE-1	30 DE-1	30 DE-1	59 DE-1			
Days After Emergence										
Trt Treatment	Rate	Rate Unit	Appl Code	1	2	3	4	5	6	7
9 Zidua (85 WG)	0.133	lb ai/a	A	1.3 c	83.8 a	25.0 ab	95.0 a	82.5 a	96.3 a	94.5 ab
Sharpen 2.85 SC	0.0223	lb ai/a	A							
Roundup PowerMax 4.5 SL	0.77	lb ae/a	B							
AMS - Liquid	17	lb ai/100 gal	B							
Priaxor (SC)	0.13	lb ai/a	C							
NIS	0.25	% v/v	C							
10 Zidua (85 WG)	0.08	lb ai/a	A	3.8 bc	86.8 a	36.3 ab	95.0 a	82.0 a	90.0 a	96.0 ab
Verdict (5.57 SC)	0.218	lb ai/a	A							
Roundup PowerMax 4.5 SL	0.77	lb ae/a	B							
AMS - Liquid	17	lb ai/100 gal	B							
LSD (P=.05)				7.08	10.76	33.82	8.75	12.50	11.41	5.24
Standard Deviation				4.88	7.42	23.31	6.03	8.62	7.86	3.61
CV				97.56	10.52	82.13	7.55	12.23	9.17	4.24
Bartlett's X2				5.865	21.839	4.343	25.395	7.408	12.282	17.122
P(Bartlett's X2)				0.556	0.003*	0.74	0.001*	0.493	0.092	0.017*
Replicate F				0.630	3.469	3.186	1.348	5.864	1.846	1.237
Replicate Prob(F)				0.6018	0.0298	0.0397	0.2798	0.0032	0.1627	0.3157
Treatment F				5.195	104.218	2.908	98.813	34.454	59.488	277.278
Treatment Prob(F)				0.0004	0.0001	0.0153	0.0001	0.0001	0.0001	0.0001

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Pest Type	W Weed		
Pest Code	AMBTR		
Pest Scientific Name	Ambrosia trifi>		
Pest Name	Giant ragweed		
Crop Code	GLXMA	GLXMA	
BBCH Scale	BSOY	BSOY	
Crop Scientific Name	Glycine max	Glycine max	
Crop Name	Soybean	Soybean	
Rating Date	7-14-2011	10-7-2011	
Rating Type	CONTRO	YIELD	
Rating Unit	%	bu/ac	
Number of Subsamples	1	1	
Crop Stage Majority			
Pest Stage Majority	6 IN		
Pest Density, Unit	8 YD2		
Assessed By			
Days After First/Last Applic.	64 2	149 87	
Trt-Eval Interval			
Plant-Eval Interval	65 DP-1	150 DP-1	
Days After Emergence	59 DE-1	144 DE-1	
Trt Treatment	Rate	Appl	
No. Name	Rate Unit	Code	
			8 9
1 Untreated Check			0.0 b 12.84 b
2 Roundup PowerMax 4.5 SL AMS - Liquid	0.77 lb ae/a 17 lb ai/100 gal	B B	60.0 a 52.65 a
3 Zidua (85 WG) Sharpen 2.85 SC Roundup PowerMax 4.5 SL AMS - Liquid	0.106 lb ai/a 0.0223 lb ai/a 0.77 lb ae/a 17 lb ai/100 gal	A A B B	63.8 a 49.14 a
4 Zidua (85 WG) Sharpen 2.85 SC Roundup PowerMax 4.5 SL AMS - Liquid	0.133 lb ai/a 0.0223 lb ai/a 0.77 lb ae/a 17 lb ai/100 gal	A A B B	65.0 a 46.78 a
5 Zidua (85 WG) Valor SX (51 WG) Roundup PowerMax 4.5 SL AMS - Liquid	0.08 lb ai/a 0.064 lb ai/a 0.77 lb ae/a 17 lb ai/100 gal	A A B B	73.8 a 44.34 a
6 Zidua (85 WG) Verdict (5.57 SC) Roundup PowerMax 4.5 SL AMS - Liquid	0.106 lb ai/a 0.218 lb ai/a 0.77 lb ae/a 17 lb ai/100 gal	A A B B	65.0 a 41.03 a
7 Valor SX (51 WG) Classic Roundup PowerMax 4.5 SL AMS - Liquid	1.2 oz ai/a 0.413 oz ai/a 0.77 lb ae/a 17 lb ai/100 gal	A A B B	67.5 a 44.28 a
8 Spartan (4F) FirstRate (84 WG) Roundup PowerMax 4.5 SL AMS - Liquid	4.01 oz ai/a 0.51 oz ai/a 0.77 lb ae/a 17 lb ai/100 gal	A A B B	66.3 a 46.73 a

Means followed by same letter do not significantly differ (P= .05, Student-Newman-Keuls)
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Pest Type	W Weed	
Pest Code	AMBTR	
Pest Scientific Name	Ambrosia trifida	
Pest Name	Giant ragweed	
Crop Code	GLXMA	GLXMA
BBCH Scale	BSOY	BSOY
Crop Scientific Name	Glycine max	Glycine max
Crop Name	Soybean	Soybean
Rating Date	7-14-2011	10-7-2011
Rating Type	CONTRO	YIELD
Rating Unit	%	bu/ac
Number of Subsamples	1	1
Crop Stage Majority		
Pest Stage Majority	6 IN	
Pest Density, Unit	8 YD2	
Assessed By		
Days After First/Last Applic.	64 2	149 87
Trt-Eval Interval		
Plant-Eval Interval	65 DP-1	150 DP-1
Days After Emergence	59 DE-1	144 DE-1
Trt No.	Treatment	Rate
	Name	Unit
		Appl Code
		8
		9
9	Zidua (85 WG)	0.133 lb ai/a
	Sharpen 2.85 SC	0.0223 lb ai/a
	Roundup PowerMax 4.5 SL	0.77 lb ae/a
	AMS - Liquid	17 lb ai/100 gal
	Priaxor (SC)	0.13 lb ai/a
	NIS	0.25 % v/v
10	Zidua (85 WG)	0.08 lb ai/a
	Verdict (5.57 SC)	0.218 lb ai/a
	Roundup PowerMax 4.5 SL	0.77 lb ae/a
	AMS - Liquid	17 lb ai/100 gal
LSD (P=.05)		21.25
Standard Deviation		14.64
CV		24.66
Bartlett's X2		9.631
P(Bartlett's X2)		0.292
Replicate F		2.125
Replicate Prob(F)		0.1204
Treatment F		8.500
Treatment Prob(F)		0.0001

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)
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Residual Control of Zidua in Two-pass Weed Program

Trial ID: 11S-THP-CTS-35

Protocol ID: 11S-THP-CTS-205

Location: Throckmorton
Project ID: Zidua Soy 06-11-MWStudy Director: White/Marquardt
Investigator: Dr. Bill Johnson

Sponsor Contact: BASF- Gery Welker

Pest Type

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

Pest Code

SETFA, Setaria faberi, = US

AMBTR, Ambrosia trifida, = US

ABUTH, Abutilon theophrasti, = US

Crop Code

GLXMA, BSOY, Glycine max, = US

Rating Type

PHYGEN = phytotoxicity - general / injury

CONTRO = control / burndown or knockdown

YIELD = yield

Rating Unit

% = percent

bu/ac = bushels per acre

YD2 = per square yard

Plant-Eval Interval

14 DP-1 = 1 GLXMA 5-10-2011

21 DP-1 = 1 GLXMA 5-10-2011

36 DP-1 = 1 GLXMA 5-10-2011

65 DP-1 = 1 GLXMA 5-10-2011

150 DP-1 = 1 GLXMA 5-10-2011