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Control of glyphosate resistant palmer amaranth, waterhemp, and ragweeds.

Trial ID: 13S-THP-CTS-52 Protocol ID: 13S-THP-CTS-52
 Location: Throckmorton Study Director:
 Project ID: VUSA2013COBRAMD64.02 Investigator: Dr. Bill Johnson
 Sponsor Contact: Valent - Eric Ott

General Trial Information

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

Discipline: H herbicide
Trial Status: E established
Initiation Date: Mar-30-2013

Trial Location

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

Objectives:

Determine Cobra efficacy on glyphosate resistant palmer amaranth, waterhemp, and ragweed control.

Personnel

Study Director: Bill Johnson
Investigator: Dr. Bill Johnson **Title:** Professor
Affiliation: Purdue University
Address: 915 W State Street
Location: West Lafayette, IN, USA
Postal Code: 47907 **E-mail:** wgj@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: GLXM02 Glycine max GMO Soybean, Roundup Ready
Variety: Asgrow AG2931 **Description:** RR
BBCH Scale: BSOY **Planting Date:** May-16-2013
Planting Method: SEEDED seeded **Rate, Unit:** 130000 S/A
Depth, Unit: 1 IN
Row Spacing, Unit: 15 IN

Soil Moisture: DRY dry **Soil Temperature, Unit:** 78 F

Pest Description

Pest 1 Type: W **Code:** SETFA Setaria faberi
Common Name: Giant foxtail

Pest 2 Type: W **Code:** AMBTR Ambrosia trifida
Common Name: Giant ragweed

Site and Design

Plot Width, Unit: 10 FT **Site Type:** FIELD field
Plot Length, Unit: 30 FT **Experimental Unit:** 1 PLOT plot
Plot Area, Unit: 300 FT2 **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
Application Date:	May-16-2013	Jun-5-2013
Time of Day:	1:15 PM	9 AM
Application Method:	SPRAY	SPRAY
Application Timing:	EARPRE	POST
Application Placement:	SOIL	FOLIAR
Applied By:	MW	MW
Air Temperature, Unit:	80 F	57 F
% Relative Humidity:	43	64
Wind Velocity, Unit:	1.9 MPH	1.7 MPH
Wind Direction:	N	E
Dew Presence (Y/N):	N no	Y yes
Soil Temperature, Unit:	78 F	50 F
Soil Moisture:	DRY	SLIWET
% Cloud Cover:	40	10

Crop Stage At Each Application		
	A	B
Crop 1 Code, BBCH Scale:	GLXM0 BSOY	GLXM0 BSOY
Stage Scale Used:		BBCH
Stage Majority, Percent:		V1

Pest Stage At Each Application		
	A	B
Pest 1 Code, Type, Scale:	SETFA W	SETFA W
Height, Unit:		1 IN
Density, Unit:		3 YD2
Pest 2 Code, Type, Scale:	AMBTR W	AMBTR W
Height, Unit:		3 IN
Height Minimum, Maximum:		2 3
Density, Unit:		7 YD2

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Application Equipment

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

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Control of glyphosate resistant palmer amaranth, waterhemp, and ragweeds.

Trial ID: 13S-THP-CTS-52 Protocol ID: 13S-THP-CTS-52
 Location: Throckmorton Study Director:
 Project ID: VUSA2013COBRAMD64.02 Investigator: Dr. Bill Johnson
 Sponsor Contact: Valent - Eric Ott

Pest Type				W Weed AMBTR		W Weed AMBTR	W Weed SETFA	W Weed AMBTR
Pest Code				Ambrosia trifi>		Ambrosia trifi>	Setaria faberi	Ambrosia trifi>
Pest Scientific Name				Giant ragweed		Giant ragweed	Giant foxtail	Giant ragweed
Pest Name								
Crop Code	GLXM02				GLXM02			
BBCB Scale	BSOY				BSOY			
Crop Scientific Name	Glycine max GMO				Glycine max GMO			
Crop Name	Soybean, Round>				Soybean, Round>			
Part Rated	PLANT C				PLANT C	PLANT P	PLANT P	
Rating Date	Jun-12-2013			Jun-12-2013	Jun-19-2013	Jun-19-2013	Jun-19-2013	Jul-2-2013
Rating Type	PHYGEN			CONTRO	PHYGEN	CONTRO	CONTRO	CONTRO
Rating Unit	%			%	%	%	%	%
Sample Size, Unit								
Number of Subsamples	1			1	1	1	1	1
Crop Stage Majority	V2				V4-V5			
Pest Stage Majority								36 IN
Pest Density, Unit								10 YD2
Assessed By	DOUG			DOUG	JH	JH	JH	MW
Days After First/Last Applic.	27 7			27 7	34 14	34 14	34 14	47 27
Plant-Eval Interval	27 DP-1			27 DP-1	34 DP-1	34 DP-1	34 DP-1	47 DP-1
Trt Treatment	Rate	Appl						
No. Name	Rate Unit	Code Plot		1	2	3	4	5
1 VALOR SX	2 oz wt/a	A 101		3.0	0.0	0.0	0.0	0.0
		405		3.0	0.0	0.0	0.0	0.0
		702		5.0	0.0	3.0	0.0	0.0
		805		0.0	0.0	0.0	0.0	0.0
		Mean =		2.8	0.0	0.8	0.0	0.0
2 VALOR SX	2 oz wt/a	A 102		5.0	75.0	2.0	50.0	95.0
Roundup PowerMax 4.5 SL	33 fl oz/a	B 404		5.0	70.0	0.0	75.0	100.0
AMS - Liquid	8.5 lb ai/100 gal	B 602		5.0	90.0	0.0	80.0	100.0
		804		8.0	70.0	0.0	65.0	100.0
		Mean =		5.8	76.3	0.5	67.5	98.8
3 VALOR SX	2 oz wt/a	A 104		15.0	35.0	0.0	15.0	25.0
COBRA	12 fl oz/a	B 502		12.0	95.0	7.0	80.0	45.0
COC	1 pt/a	B 704		10.0	50.0	5.0	20.0	50.0
		901		10.0	85.0	0.0	45.0	30.0
		Mean =		11.8	66.3	3.0	40.0	37.5
4 VALOR SX	2 oz wt/a	A 105		10.0	55.0	5.0	45.0	35.0
COBRA	12 fl oz/a	B 402		10.0	90.0	10.0	80.0	20.0
Resource (0.86 EC)	6 fl oz/a	B 605		15.0	92.0	5.0	70.0	90.0
COC	1 pt/a	B 904		10.0	70.0	15.0	25.0	65.0
		Mean =		11.3	76.8	8.8	55.0	52.5
5 VALOR SX	2 oz wt/a	A 201		12.0	85.0	20.0	40.0	80.0
Roundup PowerMax 4.5 SL	33 fl oz/a	B 505		12.0	68.0	7.0	45.0	100.0
COBRA	12 fl oz/a	B 705		12.0	90.0	0.0	40.0	100.0
COC	1 pt/a	B 905		10.0	95.0	7.0	35.0	100.0
AMS - Liquid	8.5 lb ai/100 gal	B						
		Mean =		11.5	84.5	8.5	40.0	95.0

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				W Weed AMBTR Ambrosia trifi> Giant ragweed	W Weed AMBTR Ambrosia trifi> Giant ragweed	W Weed SETFA Setaria faberi Giant foxtail	W Weed AMBTR Ambrosia trifi> Giant ragweed			
Pest Type	Pest Code	Pest Scientific Name	Pest Name	GLXM02 BSOY Glycine max GMO Soybean, Round>	GLXM02 BSOY Glycine max GMO Soybean, Round>	GLXM02 BSOY Glycine max GMO Soybean, Round>	GLXM02 BSOY Glycine max GMO Soybean, Round>			
Part Rated	Rating Date	Rating Type	Rating Unit	PLANT C Jun-12-2013 PHYGEN %	PLANT P Jun-19-2013 PHYGEN %	PLANT P Jun-19-2013 PHYGEN %	PLANT P Jun-19-2013 PHYGEN %			
Sample Size, Unit	Number of Subsamples	Crop Stage Majority	Pest Stage Majority	1 V2	1 V4-V5	1	1			
Assessed By	Days After First/Last Applic.	Plant-Eval Interval		DOUG 27 7 27 DP-1	DOUG 27 7 27 DP-1	JH 34 14 34 DP-1	JH 34 14 34 DP-1			
Trt No.	Treatment Name	Rate	Appl Code	Plot	1	2	3	4	5	6
6	VALOR SX	2 oz wt/a	A	202	8.0	90.0	2.0	70.0	55.0	70.0
	FLEXSTAR	16 fl oz/a	B	501	10.0	78.0	5.0	65.0	90.0	77.0
	NIS	0.25 % v/v	B	802	6.0	85.0	0.0	35.0	90.0	60.0
				1005	10.0	70.0	0.0	25.0	70.0	55.0
				Mean =	8.5	80.8	1.8	48.8	76.3	65.5
7	VALOR SX	2 oz wt/a	A	204	10.0	68.0	2.0	70.0	100.0	85.0
	FLEXSTAR GT 3.5	4.5 pt/a	B	401	8.0	65.0	7.0	80.0	100.0	85.0
	AMS - Liquid	8.5 lb ai/100 gal	B	601	8.0	90.0	0.0	90.0	100.0	93.0
	NIS	0.25 % v/v	B	902	8.0	83.0	2.0	65.0	100.0	77.0
				Mean =	8.5	76.5	2.8	76.3	100.0	85.0
8	VALOR SX	2 oz wt/a	A	205	7.0	90.0	2.0	75.0	90.0	87.0
	MARVEL HERBICIDE	7 fl oz/a	B	305	6.0	62.0	2.0	50.0	90.0	65.0
	Roundup PowerMax 4.5 SL	33 fl oz/a	B	604	8.0	63.0	0.0	80.0	100.0	80.0
	AMS - Liquid	8.5 lb ai/100 gal	B	1004	15.0	95.0	0.0	85.0	100.0	93.0
				Mean =	9.0	77.5	1.0	72.5	95.0	81.3
9	VALOR SX	2 oz wt/a	A	301	15.0	90.0	12.0	80.0	95.0	80.0
	Roundup PowerMax 4.5 SL	33 fl oz/a	B	304	12.0	85.0	3.0	55.0	85.0	60.0
	COBRA	12 fl oz/a	B	701	15.0	92.0	10.0	85.0	90.0	85.0
	V-10206	1.5 oz wt/a	B	1001	20.0	95.0	10.0	80.0	90.0	77.0
	COC	1 pt/a	B							
	AMS - Liquid	8.5 lb ai/100 gal	B							
				Mean =	15.5	90.5	8.8	75.0	90.0	75.5
10	VALOR SX	2 oz wt/a	A	302	10.0	90.0	10.0	75.0	100.0	95.0
	TOUCHDOWN TOTAL(AE)	33 fl oz/a	B	504	10.0	75.0	5.0	80.0	100.0	83.0
	PREFIX	32 fl oz/a	B	801	10.0	75.0	3.0	40.0	100.0	75.0
				1002	15.0	92.0	2.0	70.0	100.0	83.0
				Mean =	11.3	83.0	5.0	66.3	100.0	84.0
11	VALOR SX	2 oz wt/a	A	103	15.0	80.0	5.0	45.0	100.0	83.0
	Roundup PowerMax 4.5 SL	33 fl oz/a	B	303	15.0	84.0	12.0	60.0	100.0	70.0
	COBRA	12 fl oz/a	B	603	12.0	65.0	5.0	85.0	100.0	75.0
	WARRANT HERBICIDE	3 pt/a	B	803	15.0	88.0	7.0	60.0	100.0	70.0
	COC	1 pt/a	B							
	AMS - Liquid	8.5 lb ai/100 gal	B							
				Mean =	14.3	79.3	7.3	62.5	100.0	74.5

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Pest Type		W Weed		W Weed		W Weed		W Weed
Pest Code		AMBTR		AMBTR		SETFA		AMBTR
Pest Scientific Name		Ambrosia trifi>		Ambrosia trifi>		Setaria faberi		Ambrosia trifi>
Pest Name		Giant ragweed		Giant ragweed		Giant foxtail		Giant ragweed
Crop Code		GLXM02		GLXM02				
BBCH Scale		BSOY		BSOY				
Crop Scientific Name		Glycine max GMO		Glycine max GMO				
Crop Name		Soybean, Round>		Soybean, Round>				
Part Rated		PLANT C		PLANT C		PLANT P		PLANT P
Rating Date		Jun-12-2013	Jun-12-2013	Jun-19-2013	Jun-19-2013	Jun-19-2013	Jun-19-2013	Jul-2-2013
Rating Type		PHYGEN	CONTRO	PHYGEN	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit		%	%	%	%	%	%	%
Sample Size, Unit								
Number of Subsamples		1	1	1	1	1	1	1
Crop Stage Majority		V2		V4-V5				
Pest Stage Majority								36 IN
Pest Density, Unit								10 YD2
Assessed By		DOUG	DOUG	JH	JH	JH	JH	MW
Days After First/Last Applic.		27 7	27 7	34 14	34 14	34 14	34 14	47 27
Plant-Eval Interval		27 DP-1	27 DP-1	34 DP-1	34 DP-1	34 DP-1	34 DP-1	47 DP-1
Trt Treatment	Rate	Appl						
No. Name	Rate Unit	Code Plot	1	2	3	4	5	6
12 Roundup PowerMax 4.5 SL	33 fl oz/a	B 203	15.0	92.0	0.0	85.0	95.0	87.0
COBRA	12 fl oz/a	B 403	10.0	85.0	2.0	75.0	100.0	87.0
V-10206	1.5 oz wt/a	B 703	10.0	88.0	5.0	30.0	100.0	60.0
COC	1 pt/a	B 903	8.0	75.0	3.0	35.0	100.0	60.0
AMS - Liquid	8.5 lb ai/100 gal	B						
		Mean =	10.8	85.0	2.5	56.3	98.8	73.5

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Pest Type				W Weed			
Pest Code				SETFA			
Pest Scientific Name				Setaria faberi			
Pest Name				Giant foxtail			
Crop Code					GLXM02	GLXM02	GLXM02
BBCB Scale					BSOY	BSOY	BSOY
Crop Scientific Name					Glycine max GMO	Glycine max GMO	Glycine max GMO
Crop Name					Soybean, Round>	Soybean, Round>	Soybean, Round>
Part Rated							SEED C
Rating Date				Jul-2-2013	Jul-2-2013	Jul-2-2013	Sep-24-2013
Rating Type				CONTRO	PHYSTU	PHYGEN	YIELD
Rating Unit				%	%	%	BU
Sample Size, Unit							1 A
Number of Subsamples				1	1	1	1
Crop Stage Majority					V6	V6	
Pest Stage Majority				30 IN			
Pest Density, Unit				5 FT2			
Assessed By				MW	MW	MW	
Days After First/Last Applic.				47 27	47 27	47 27	131 111
Plant-Eval Interval				47 DP-1	47 DP-1	47 DP-1	131 DP-1
Trt Treatment	Rate	Appl					
No. Name	Rate Unit	Code Plot		7	8	9	10
1 VALOR SX	2 oz wt/a	A 101		0.0	0.0	0.0	0.50
		405		0.0	0.0	0.0	1.90
		702		0.0	0.0	0.0	37.60
		805		0.0	0.0	0.0	4.60
		Mean =		0.0	0.0	0.0	11.15
2 VALOR SX	2 oz wt/a	A 102		90.0	0.0	3.0	57.70
Roundup PowerMax 4.5 SL	33 fl oz/a	B 404		93.0	0.0	0.0	73.90
AMS - Liquid	8.5 lb ai/100 gal	B 602		93.0	3.0	0.0	79.00
		804		95.0	0.0	3.0	52.10
		Mean =		92.8	0.8	1.5	65.68
3 VALOR SX	2 oz wt/a	A 104		85.0	0.0	0.0	59.68*
COBRA	12 fl oz/a	B 502		87.0	0.0	3.0	60.30
COC	1 pt/a	B 704		85.0	0.0	0.0	45.10
		901		85.0	0.0	0.0	71.30
		Mean =		85.5	0.0	0.8	59.10
4 VALOR SX	2 oz wt/a	A 105		80.0	3.0	0.0	65.85*
COBRA	12 fl oz/a	B 402		80.0	5.0	3.0	81.80
Resource (0.86 EC)	6 fl oz/a	B 605		93.0	10.0	5.0	71.50
COC	1 pt/a	B 904		95.0	15.0	5.0	41.90
		Mean =		87.0	8.3	3.3	65.26
5 VALOR SX	2 oz wt/a	A 201		87.0	7.0	7.0	61.20
Roundup PowerMax 4.5 SL	33 fl oz/a	B 505		93.0	3.0	3.0	60.90
COBRA	12 fl oz/a	B 705		90.0	5.0	0.0	71.50
COC	1 pt/a	B 905		95.0	10.0	3.0	64.00
AMS - Liquid	8.5 lb ai/100 gal	B					
		Mean =		91.3	6.3	3.3	64.40

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Pest Type	W Weed							
Pest Code	SETFA							
Pest Scientific Name	Setaria faberi							
Pest Name	Giant foxtail							
Crop Code	GLXM02	GLXM02	GLXM02	GLXM02				
BBCH Scale	BSOY	BSOY	BSOY	BSOY				
Crop Scientific Name	Glycine max GMO	Glycine max GMO	Glycine max GMO	Glycine max GMO				
Crop Name	Soybean, Round>	Soybean, Round>	Soybean, Round>	Soybean, Round>				
Part Rated			SEED C					
Rating Date	Jul-2-2013	Jul-2-2013	Jul-2-2013	Sep-24-2013				
Rating Type	CONTRO	PHYSTU	PHYGEN	YIELD				
Rating Unit	%	%	%	BU				
Sample Size, Unit				1 A				
Number of Subsamples	1	1	1	1				
Crop Stage Majority		V6	V6					
Pest Stage Majority	30 IN							
Pest Density, Unit	5 FT2							
Assessed By	MW	MW	MW					
Days After First/Last Applic.	47 27	47 27	47 27	131 111				
Plant-Eval Interval	47 DP-1	47 DP-1	47 DP-1	131 DP-1				
Trt No.	Treatment Name	Rate	Appl Code	Plot	7	8	9	10
6	VALOR SX	2 oz wt/a	A	202	80.0	0.0	0.0	74.20
	FLEXSTAR	16 fl oz/a	B	501	95.0	0.0	0.0	80.40
	NIS	0.25 % v/v	B	802	87.0	0.0	3.0	67.40
				1005	90.0	0.0	0.0	52.40
				Mean =	88.0	0.0	0.8	68.60
7	VALOR SX	2 oz wt/a	A	204	97.0	0.0	3.0	85.90
	FLEXSTAR GT 3.5	4.5 pt/a	B	401	99.0	5.0	0.0	87.60
	AMS - Liquid	8.5 lb ai/100 gal	B	601	95.0	5.0	3.0	94.90
	NIS	0.25 % v/v	B	902	87.0	5.0	3.0	82.60
				Mean =	94.5	3.8	2.3	87.75
8	VALOR SX	2 oz wt/a	A	205	95.0	0.0	3.0	73.36*
	MARVEL HERBICIDE	7 fl oz/a	B	305	87.0	0.0	3.0	70.90
	Roundup PowerMax 4.5 SL	33 fl oz/a	B	604	95.0	5.0	3.0	75.10
	AMS - Liquid	8.5 lb ai/100 gal	B	1004	95.0	5.0	3.0	71.70
				Mean =	93.0	2.5	3.0	72.76
9	VALOR SX	2 oz wt/a	A	301	97.0	5.0	5.0	81.60
	Roundup PowerMax 4.5 SL	33 fl oz/a	B	304	95.0	5.0	3.0	61.60
	COBRA	12 fl oz/a	B	701	93.0	0.0	3.0	78.60
	V-10206	1.5 oz wt/a	B	1001	95.0	0.0	5.0	69.90
	COC	1 pt/a	B					
	AMS - Liquid	8.5 lb ai/100 gal	B					
				Mean =	95.0	2.5	4.0	72.93
10	VALOR SX	2 oz wt/a	A	302	93.0	5.0	5.0	88.80
	TOUCHDOWN TOTAL(AE)	33 fl oz/a	B	504	99.0	0.0	5.0	58.20
	PREFIX	32 fl oz/a	B	801	99.0	0.0	3.0	82.60
				1002	99.0	5.0	5.0	68.40
				Mean =	97.5	2.5	4.5	74.50
11	VALOR SX	2 oz wt/a	A	103	95.0	7.0	5.0	56.00
	Roundup PowerMax 4.5 SL	33 fl oz/a	B	303	99.0	5.0	5.0	72.80
	COBRA	12 fl oz/a	B	603	95.0	5.0	7.0	67.00
	WARRANT HERBICIDE	3 pt/a	B	803	97.0	5.0	7.0	69.50
	COC	1 pt/a	B					
	AMS - Liquid	8.5 lb ai/100 gal	B					
				Mean =	96.5	5.5	6.0	66.33

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Pest Type	W Weed			
Pest Code	SETFA			
Pest Scientific Name	Setaria faberi			
Pest Name	Giant foxtail			
Crop Code	GLXM02	GLXM02	GLXM02	GLXM02
BBCH Scale	BSOY	BSOY	BSOY	BSOY
Crop Scientific Name	Glycine max GMO	Glycine max GMO	Glycine max GMO	Glycine max GMO
Crop Name	Soybean, Round>	Soybean, Round>	Soybean, Round>	Soybean, Round>
Part Rated				SEED C
Rating Date	Jul-2-2013	Jul-2-2013	Jul-2-2013	Sep-24-2013
Rating Type	CONTRO	PHYSTU	PHYGEN	YIELD
Rating Unit	%	%	%	BU
Sample Size, Unit				1 A
Number of Subsamples	1	1	1	1
Crop Stage Majority		V6	V6	
Pest Stage Majority	30 IN			
Pest Density, Unit	5 FT2			
Assessed By	MW	MW	MW	
Days After First/Last Applic.	47 27	47 27	47 27	131 111
Plant-Eval Interval	47 DP-1	47 DP-1	47 DP-1	131 DP-1
Trt Treatment	Rate	Appl		
No. Name	Rate Unit	Code Plot	7	8
			9	10
12 Roundup PowerMax 4.5 SL	33 fl oz/a	B 203	95.0	0.0
COBRA	12 fl oz/a	B 403	97.0	0.0
V-10206	1.5 oz wt/a	B 703	93.0	5.0
COC	1 pt/a	B 903	95.0	0.0
AMS - Liquid	8.5 lb ai/100 gal B			5.0
		Mean =	95.0	3.8
				2.5
				73.05

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Control of glyphosate resistant palmer amaranth, waterhemp, and ragweeds.

Trial ID: 13S-THP-CTS-52
 Location: Throckmorton
 Project ID: VUSA2013COBRAMD64.02

Protocol ID: 13S-THP-CTS-52
 Study Director:
 Investigator: Dr. Bill Johnson
 Sponsor Contact: Valent - Eric Ott

Pest Type

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

Pest Code

AMBTR, Ambrosia trifida, = US

SETFA, Setaria faberi, = US

Part Rated

PLANT = plant

SEED = seed

C = Crop is Part Rated

P = Pest is Part Rated

Rating Type

PHYGEN = phytotoxicity - general / injury

CONTRO = control / burndown or knockdown

PHYSTU = phytotoxicity - stunting

YIELD = yield

Rating Unit

% = percent

BU = bushel

A = acre

YD2 = per square yard

FT2 = per square foot

Plant-Eval Interval

27 DP-1 = 1 GLXM02 May-16-2013

34 DP-1 = 1 GLXM02 May-16-2013

47 DP-1 = 1 GLXM02 May-16-2013

131 DP-1 = 1 GLXM02 May-16-2013

Purdue University

Control of glyphosate resistant palmer amaranth, waterhemp, and ragweeds.

Trial ID: 13S-THP-CTS-52 Protocol ID: 13S-THP-CTS-52
 Location: Throckmorton Study Director:
 Project ID: VUSA2013COBRAMD64.02 Investigator: Dr. Bill Johnson
 Sponsor Contact: Valent - Eric Ott

Pest Type			W Weed AMBTR Ambrosia trifi> Giant ragweed		W Weed AMBTR Ambrosia trifi> Giant ragweed	W Weed SETFA Setaria faberi Giant foxtail	W Weed AMBTR Ambrosia trifi> Giant ragweed
Pest Code							
Pest Scientific Name							
Pest Name							
Crop Code	GLXM02			GLXM02			
BBCH Scale	BSOY			BSOY			
Crop Scientific Name	Glycine max GMO			Glycine max GMO			
Crop Name	Soybean, Round>			Soybean, Round>			
Part Rated	PLANT C			PLANT C	PLANT P	PLANT P	
Rating Date	Jun-12-2013	Jun-12-2013	Jun-12-2013	Jun-19-2013	Jun-19-2013	Jun-19-2013	Jul-2-2013
Rating Type	PHYGEN	CONTRO	PHYGEN	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit	%	%	%	%	%	%	%
Sample Size, Unit							
Number of Subsamples	1	1	1	1	1	1	1
Crop Stage Majority	V2			V4-V5			
Pest Stage Majority							36 IN
Pest Density, Unit							10 YD2
Assessed By	DOUG	DOUG	JH	JH	JH	JH	MW
Days After First/Last Applic.	27 7	27 7	34 14	34 14	34 14	34 14	47 27
Plant-Eval Interval	27 DP-1	27 DP-1	34 DP-1	34 DP-1	34 DP-1	34 DP-1	47 DP-1
Trt Treatment	Rate	Appl					
No. Name	Rate Unit	Code	1	2	3	4	5
1 VALOR SX	2 oz wt/a	A	2.8 e	0.0 b	0.8 a	0.0 b	0.0 c
2 VALOR SX	2 oz wt/a	A	5.8 de	76.3 a	0.5 a	67.5 a	98.8 a
Roundup PowerMax 4.5 SL	33 fl oz/a	B					
AMS - Liquid	8.5 lb ai/100 gal	B					
3 VALOR SX	2 oz wt/a	A	11.8 abc	66.3 a	3.0 a	40.0 a	37.5 b
COBRA	12 fl oz/a	B					
COC	1 pt/a	B					
4 VALOR SX	2 oz wt/a	A	11.3 abc	76.8 a	8.8 a	55.0 a	52.5 b
COBRA	12 fl oz/a	B					
Resource (0.86 EC)	6 fl oz/a	B					
COC	1 pt/a	B					
5 VALOR SX	2 oz wt/a	A	11.5 abc	84.5 a	8.5 a	40.0 a	95.0 a
Roundup PowerMax 4.5 SL	33 fl oz/a	B					
COBRA	12 fl oz/a	B					
COC	1 pt/a	B					
AMS - Liquid	8.5 lb ai/100 gal	B					
6 VALOR SX	2 oz wt/a	A	8.5 cd	80.8 a	1.8 a	48.8 a	76.3 a
FLEXSTAR	16 fl oz/a	B					
NIS	0.25 % v/v	B					
7 VALOR SX	2 oz wt/a	A	8.5 cd	76.5 a	2.8 a	76.3 a	100.0 a
FLEXSTAR GT 3.5	4.5 pt/a	B					
AMS - Liquid	8.5 lb ai/100 gal	B					
NIS	0.25 % v/v	B					
8 VALOR SX	2 oz wt/a	A	9.0 bcd	77.5 a	1.0 a	72.5 a	95.0 a
MARVEL HERBICIDE	7 fl oz/a	B					
Roundup PowerMax 4.5 SL	33 fl oz/a	B					
AMS - Liquid	8.5 lb ai/100 gal	B					

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

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Pest Type		W Weed		W Weed	W Weed	W Weed			
Pest Code		AMBTR		AMBTR	SETFA	AMBTR			
Pest Scientific Name		Ambrosia trifi>		Ambrosia trifi>	Setaria faberi	Ambrosia trifi>			
Pest Name		Giant ragweed		Giant ragweed	Giant foxtail	Giant ragweed			
Crop Code	GLXM02		GLXM02						
BBCH Scale	BSOY		BSOY						
Crop Scientific Name	Glycine max GMO		Glycine max GMO						
Crop Name	Soybean, Round>		Soybean, Round>						
Part Rated	PLANT C		PLANT C	PLANT P	PLANT P				
Rating Date	Jun-12-2013	Jun-12-2013	Jun-19-2013	Jun-19-2013	Jun-19-2013	Jul-2-2013			
Rating Type	PHYGEN	CONTRO	PHYGEN	CONTRO	CONTRO	CONTRO			
Rating Unit	%	%	%	%	%	%			
Sample Size, Unit									
Number of Subsamples	1	1	1	1	1	1			
Crop Stage Majority	V2		V4-V5						
Pest Stage Majority						36 IN			
Pest Density, Unit						10 YD2			
Assessed By	DOUG	DOUG	JH	JH	JH	MW			
Days After First/Last Applic.	27 7	27 7	34 14	34 14	34 14	47 27			
Plant-Eval Interval	27 DP-1	27 DP-1	34 DP-1	34 DP-1	34 DP-1	47 DP-1			
Trt No.	Treatment Name	Rate	Appl Code	1	2	3	4	5	6
		Rate Unit							
9	VALOR SX	2 oz wt/a	A	15.5 a	90.5 a	8.8 a	75.0 a	90.0 a	75.5 a
	Roundup PowerMax 4.5 SL	33 fl oz/a	B						
	COBRA	12 fl oz/a	B						
	V-10206	1.5 oz wt/a	B						
	COC	1 pt/a	B						
	AMS - Liquid	8.5 lb ai/100 gal	B						
10	VALOR SX	2 oz wt/a	A	11.3 abc	83.0 a	5.0 a	66.3 a	100.0 a	84.0 a
	TOUCHDOWN TOTAL(AE)	33 fl oz/a	B						
	PREFIX	32 fl oz/a	B						
11	VALOR SX	2 oz wt/a	A	14.3 ab	79.3 a	7.3 a	62.5 a	100.0 a	74.5 a
	Roundup PowerMax 4.5 SL	33 fl oz/a	B						
	COBRA	12 fl oz/a	B						
	WARRANT HERBICIDE	3 pt/a	B						
	COC	1 pt/a	B						
	AMS - Liquid	8.5 lb ai/100 gal	B						
12	Roundup PowerMax 4.5 SL	33 fl oz/a	B	10.8 abc	85.0 a	2.5 a	56.3 a	98.8 a	73.5 a
	COBRA	12 fl oz/a	B						
	V-10206	1.5 oz wt/a	B						
	COC	1 pt/a	B						
	AMS - Liquid	8.5 lb ai/100 gal	B						
	LSD (P=.05)			3.49	19.68	5.44	26.69	15.38	19.15
	Standard Deviation			2.42	13.63	3.77	18.49	10.65	13.26
	CV			24.05	18.67	89.61	33.61	13.54	19.46
	Bartlett's X2			10.409	13.982	20.518	11.43	28.336	11.346
	P(Bartlett's X2)			0.494	0.174	0.039*	0.325	0.001*	0.331
	Replicate F			0.801	0.421	0.803	0.996	2.834	0.499
	Replicate Prob(F)			0.5024	0.7391	0.5012	0.4070	0.0532	0.6857
	Treatment F			8.286	12.157	3.020	5.333	36.581	11.487
	Treatment Prob(F)			0.0001	0.0001	0.0068	0.0001	0.0001	0.0001

Purdue University

Pest Type	W Weed					
Pest Code	SETFA					
Pest Scientific Name	Setaria faberi					
Pest Name	Giant foxtail					
Crop Code	GLXM02	GLXM02	GLXM02	GLXM02		
BBCH Scale	BSOY	BSOY	BSOY	BSOY		
Crop Scientific Name	Glycine max GMO	Glycine max GMO	Glycine max GMO	Glycine max GMO		
Crop Name	Soybean, Round>	Soybean, Round>	Soybean, Round>	Soybean, Round>		
Part Rated				SEED C		
Rating Date	Jul-2-2013	Jul-2-2013	Jul-2-2013	Sep-24-2013		
Rating Type	CONTRO	PHYSTU	PHYGEN	YIELD		
Rating Unit	%	%	%	BU		
Sample Size, Unit				1 A		
Number of Subsamples	1	1	1	1		
Crop Stage Majority		V6	V6			
Pest Stage Majority	30 IN					
Pest Density, Unit	5 FT2					
Assessed By	MW	MW	MW			
Days After First/Last Applic.	47 27	47 27	47 27	131 111		
Plant-Eval Interval	47 DP-1	47 DP-1	47 DP-1	131 DP-1		
Trt No.	Treatment No.	Rate	Appl Code			
		Rate Unit				
7						
8						
9						
10						
9 VALOR SX	2 oz wt/a	A	95.0 abc	2.5 ab	4.0 abc	72.93 ab
Roundup PowerMax 4.5 SL	33 fl oz/a	B				
COBRA	12 fl oz/a	B				
V-10206	1.5 oz wt/a	B				
COC	1 pt/a	B				
AMS - Liquid	8.5 lb ai/100 gal	B				
10 VALOR SX	2 oz wt/a	A	97.5 a	2.5 ab	4.5 ab	74.50 ab
TOUCHDOWN TOTAL(AE)	33 fl oz/a	B				
PREFIX	32 fl oz/a	B				
11 VALOR SX	2 oz wt/a	A	96.5 ab	5.5 ab	6.0 a	66.33 ab
Roundup PowerMax 4.5 SL	33 fl oz/a	B				
COBRA	12 fl oz/a	B				
WARRANT HERBICIDE	3 pt/a	B				
COC	1 pt/a	B				
AMS - Liquid	8.5 lb ai/100 gal	B				
12 Roundup PowerMax 4.5 SL	33 fl oz/a	B	95.0 abc	3.8 ab	2.5 abc	73.05 ab
COBRA	12 fl oz/a	B				
V-10206	1.5 oz wt/a	B				
COC	1 pt/a	B				
AMS - Liquid	8.5 lb ai/100 gal	B				
LSD (P=.05)			5.60	3.85	2.52	16.313
Standard Deviation			3.87	2.67	1.74	11.298
CV			4.58	89.48	65.85	17.35
Bartlett's X2			20.85	9.826	7.244	13.341
P(Bartlett's X2)			0.022*	0.277	0.612	0.272
Replicate F			1.288	2.403	0.721	1.830
Replicate Prob(F)			0.2949	0.0852	0.5469	0.1631
Treatment F			193.230	4.007	3.959	10.671
Treatment Prob(F)			0.0001	0.0009	0.0010	0.0001

Purdue University

Control of glyphosate resistant palmer amaranth, waterhemp, and ragweeds.

Trial ID: 13S-THP-CTS-52
 Location: Throckmorton
 Project ID: VUSA2013COBRAMD64.02

Protocol ID: 13S-THP-CTS-52
 Study Director:
 Investigator: Dr. Bill Johnson
 Sponsor Contact: Valent - Eric Ott

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