

Purdue University

One and 2 pass soybean systems with pre emergence products.

Trial ID: 10S-THP-CTS-59 Protocol ID: 10S-THP-CTS-59
 Location: Throckmorton Study Director: White/Marquardt
 Project ID: Investigator: Dr. Bill Johnson
 Sponsor Contact: Monsanto - John Willis

General Trial Information

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

Discipline: H herbicide
Trial Status: E established
Initiation Date: 3-17-2010

Trial Location

City: Lafayette USA 49.376656 - 24.53833
State/Prov.: IN -124.715843 - -66.968887
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:** wj@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 AG2939 **Description:** RR2
BBCH Scale: BSOY **Planting Date:** 6-7-2010
Row Spacing, Unit: 15 IN
Soil Temperature, Unit: 80 F
Soil Moisture: DRY dry **Emergence Date:** 6-13-2010

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

Pest 3 Type: W **Code:** AMARE *Amaranthus retroflexus*
Common Name: Redroot pigweed

Pest 4 Type: W **Code:** ABUTH *Abutilon theophrasti*
Common Name: Velvetleaf

Pest 5 Type: W **Code:** CHEAL *Chenopodium album*
Common Name: Common lambsquarters

Purdue University

Site and Design

Plot Width, Unit: 10 FT
 Plot Length, Unit: 30 FT
 Plot Area, Unit: 300 FT²
 Replications: 4

Site Type: FIELD field
 Experimental Unit: 1 PLOT plot
 Tillage Type: CONTIL conventional-till
 Study Design: RACOB� Randomized Complete Block (RCB)
 Untreated Arrangement: INCLUDED single control randomized in each block

Trial Initiation Comments:
 Yields

Soil Description

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

Application Description

	A	B	C	D
Application Date:	6-7-2010	7-6-2010	7-15-2010	
Time of Day:	6 PM	7:55 AM	7:50 AM	
Application Method:	SPRAY	SPRAY	SPRAY	
Application Timing:	ATPLAN	EAPOCR	LAPOWE	
Application Placement:	FOLIAR	FOLIAR	FOLIAR	
Applied By:	MH	MH	MH	
Air Temperature, Unit:	76 F	75 F	78 F	
% Relative Humidity:	46	69.4	78	
Wind Velocity, Unit:	6 MPH	1.4 MPH	1.2 MPH	
Wind Direction:	SE	N	NE	
Dew Presence (Y/N):	N no	N no	N no	
Soil Temperature, Unit:	80 F	77 F	82 F	
Soil Moisture:	DRY	DRY	DRY	
% Cloud Cover:	40	0	70	

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:		V4	V5 90
Stage Minimum, Percent:			V4 10
Stage Maximum, Percent:			V5 90
Height, Unit:		9 IN	14 IN
Height Minimum, Maximum:		8 10	

Purdue University

Pest Stage At Each Application			
	A	B	C
Pest 1 Code, Type, Scale:	SETFA W	SETFA W	SETFA W
Height, Unit:		13 IN	15 IN
Height Minimum, Maximum:		10 16	12 18
Density, Unit:		20 YD2	30 YD2
Pest 2 Code, Type, Scale:	AMBTR W	AMBTR W	AMBTR W
Height, Unit:		9 IN	19 IN
Height Minimum, Maximum:		7 11	10 28
Density, Unit:		10 YD2	7 YD2
Pest 3 Code, Type, Scale:	AMARE W	AMARE W	AMARE W
Height, Unit:			9 IN
Height Minimum, Maximum:			6 12
Density, Unit:			10 YD2
Pest 4 Code, Type, Scale:	ABUTH W	ABUTH W	ABUTH W
Height, Unit:			14 IN
Height Minimum, Maximum:			12 16
Density, Unit:			3 YD2
Pest 5 Code, Type, Scale:	CHEAL W	CHEAL W	CHEAL W
Height, Unit:			7 IN
Height Minimum, Maximum:			6 8
Density, Unit:			2 YD2

Application Equipment			
	A	B	C
Appl. Equipment:	CO2 BKPK	CO2 Backpack	CO2 Backpack
Equipment Type:	SPRBAC	SPRBAC	SPRBAC
Operating Pressure, Unit:	17 PSI	17 PSI	17 PSI
Nozzle Type:	FLAT FAN	Flat Fan	Flat Fan
Nozzle Size:	XR 110 02	XR11002	XR11002
Nozzle Spacing, Unit:	15 IN	15 IN	15 IN
Nozzles/Row:	8	8	8
Boom Length, Unit:	10 FT	10 FT	10 FT
Boom Height, Unit:	18 IN	18 IN	18 IN
Ground Speed, Unit:	3 MPH	3 MPH	3 MPH
Carrier:	H2O	H2O	H2O
Water Hardness (ppm CaCO3):	150	150	150
Spray Volume, Unit:	15 gal/ac	15 GAL/AC	15 GAL/AC
Mix Size, Unit:	1.8 liters	1.8 Liters	1.8 Liters
Propellant:	CO2	CO2	CO2
Tank Mix (Y/N):	N no	N no	N no

Purdue University

Pest Type	W Weed	W Weed	W Weed			W Weed	W Weed			
Pest Code	SETFA	AMBTR	AMARE			SETFA	AMBTR			
Pest Scientific Name	Setaria faberi	Ambrosia trifi>	Amaranthus ret>			Setaria faberi	Ambrosia trifi>			
Pest Name	Giant foxtail	Giant ragweed	Redroot pigweed			Giant foxtail	Giant ragweed			
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			
Crop Variety										
Description										
Rating Date	7-13-2010	7-13-2010	7-13-2010	7-13-2010	7-26-2010	7-26-2010	7-26-2010			
Rating Type	STUNT	PHYCHL	PHYLMA	PHYNLB	PHYGEN	CONTRO	CONTRO			
Rating Unit	%	%	%	%	%	%	%			
Number of Subsamples	1	1	1	1	1	1	1			
Crop Stage Majority	V7									
Pest Stage Majority	12"	18"	6"			24-48"	48-60"			
Pest Density, Unit	20 YD2	5 YD2	4 YD2			5 FT2	1 FT2			
Assessed By	MW	MW	MW	MW	WGJ	WGJ	WGJ			
Trt Treatment	Rate	Appl								
No. Name	Rate	Unit	Code	1	2	3	4	5	6	7
10 Durango DMA (4 SL)	0.75 lb ae/a	B		3.8 a	6.5 a	8.5 a	0.0 b	3.8 ab	99.0 a	99.0 a
FirstRate (84 WG)	0.0158 lb ai/a	B								
AMS - Liquid	17 lb ai/100 gal	B								
Durango DMA (4 SL)	0.75 lb ae/a	C								
AMS - Liquid	17 lb ai/100 gal	C								
LSD (P=.05)				4.48	3.70	1.95	4.17	7.01	0.00	0.00
Standard Deviation				3.09	2.55	1.34	2.87	4.83	0.00	0.00
CV				142.06	85.76	70.76	229.65	94.21	0.0	0.0
Bartlett's X2				5.775	10.981	2.493	0.348	4.955	0.0	0.0
P(Bartlett's X2)				0.566	0.139	0.778	0.555	0.665	.	.
Replicate F				0.366	1.560	0.406	0.101	0.742	0.000	0.000
Replicate Prob(F)				0.7783	0.2219	0.7501	0.9587	0.5365	1.0000	1.0000
Treatment F				1.205	3.255	17.742	4.888	3.066	0.000	0.000
Treatment Prob(F)				0.3323	0.0083	0.0001	0.0006	0.0116	1.0000	1.0000

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.

Column 1: Weed or volunteer crop; US; US; STUNT; percent; V7; 12"; per square yard; MW
 Column 2: Weed or volunteer crop; US; US; phytotoxicity - chlorosis; percent; 18"; per square yard; MW
 Column 3: Weed or volunteer crop; US; US; phytotoxicity - leaf malformation; percent; 6"; per square yard; MW
 Column 4: US; phytotoxicity - necrosis, leaf blotch; percent; MW
 Column 5: US; phytotoxicity - general / injury; percent; WGJ
 Column 6: Weed or volunteer crop; US; US; control / burndown or knockdown; percent; 24-48"; per square foot; WGJ
 Column 7: Weed or volunteer crop; US; US; control / burndown or knockdown; percent; 48-60"; per square foot; WGJ
 Column 8: Weed or volunteer crop; US; US; control / burndown or knockdown; percent; 37"; per square foot
 Column 9: Weed or volunteer crop; US; US; control / burndown or knockdown; percent; 9"; per square foot
 Column 10: US; yield; bushel 60 lb

Purdue University

Pest Type				W Weed	W Weed		
Pest Code				SETFA	AMBTR		
Pest Scientific Name				Setaria faberi	Ambrosia trifida		
Pest Name				Giant foxtail	Giant ragweed		
Crop Code				GLXMA	GLXMA	GLXMA	
BBCH Scale				BSOY	BSOY	BSOY	
Crop Scientific Name				Glycine max	Glycine max	Glycine max	
Crop Name				Soybean	Soybean	Soybean	
Crop Variety							
Description							
Rating Date				9-8-2010	9-8-2010	10-18-2010	
Rating Type				CONTRO	CONTRO	YIELD	
Rating Unit				%	%	BU60LB	
Number of Subsamples				1	1	1	
Crop Stage Majority							
Pest Stage Majority				37"	9'		
Pest Density, Unit				5 FT2	1 FT2		
Assessed By							
Trt No.	Treatment Name	Rate	Appl Unit	Code	8	9	10
1	Untreated Check				0.0 b	0.0 b	34.60 b
2	Roundup PowerMax 4.5 SL AMS - Liquid	0.75 lb ae/a	B		99.0 a	99.0 a	74.08 a
	Roundup PowerMax 4.5 SL AMS - Liquid	0.75 lb ae/a	C				
3	Roundup PowerMax 4.5 SL MON 63410 (3 CS) AMS - Liquid	0.75 lb ae/a 1.125 lb ai/a	B B		99.0 a	99.0 a	76.93 a
4	Optil (68 WG) Roundup PowerMax 4.5 SL MON 63410 (3 CS) AMS - Liquid	0.085 lb ai/a 0.75 lb ae/a 1.125 lb ai/a	A B B		99.0 a	99.0 a	74.43 a
5	Optil (68 WG) Roundup PowerMax 4.5 SL AMS - Liquid	0.085 lb ai/a 0.75 lb ae/a	A C		99.0 a	99.0 a	78.50 a
6	Valor SX (51 WG) Roundup PowerMax 4.5 SL MON 63410 (3 CS) AMS - Liquid	1 oz ai/a 0.75 lb ae/a 1.125 lb ai/a	A B B		99.0 a	99.0 a	78.60 a
7	Valor SX (51 WG) Roundup PowerMax 4.5 SL AMS - Liquid	1 oz ai/a 0.75 lb ae/a	A C		99.0 a	99.0 a	76.33 a
8	Extreme (2.17 SL) AMS - Liquid	0.81 lb ai/a 17 lb ai/100 gal	B B		98.5 a	99.0 a	76.20 a
9	Roundup PowerMax 4.5 SL Dual II Magnum (7.64 EC) AMS - Liquid	0.75 lb ae/a 1.125 lb ai/a	B B		99.0 a	99.0 a	77.50 a

Purdue University

Pest Type	W Weed	W Weed	
Pest Code	SETFA	AMBTR	
Pest Scientific Name	Setaria faberi	Ambrosia trifida	
Pest Name	Giant foxtail	Giant ragweed	
Crop Code	GLXMA	GLXMA	GLXMA
BBCH Scale	BSOY	BSOY	BSOY
Crop Scientific Name	Glycine max	Glycine max	Glycine max
Crop Name	Soybean	Soybean	Soybean
Crop Variety			
Description			
Rating Date	9-8-2010	9-8-2010	10-18-2010
Rating Type	CONTRO	CONTRO	YIELD
Rating Unit	%	%	BU60LB
Number of Subsamples	1	1	1
Crop Stage Majority			
Pest Stage Majority	37"	9'	
Pest Density, Unit	5 FT2	1 FT2	
Assessed By			
Trt No.	Treatment Name	Rate	Appl Code
		Unit	
8			
9			
10			
	10 Durango DMA (4 SL)	0.75 lb ae/a	B
	FirstRate (84 WG)	0.0158 lb ai/a	B
	AMS - Liquid	17 lb ai/100 gal	B
	Durango DMA (4 SL)	0.75 lb ae/a	C
	AMS - Liquid	17 lb ai/100 gal	C
	LSD (P=.05)	0.46	0.92
	Standard Deviation	0.32	0.63
	CV	0.36	0.71
	Bartlett's X2	0.0	0.0
	P(Bartlett's X2)	.	.
	Replicate F	1.000	1.000
	Replicate Prob(F)	0.4079	0.4079
	Treatment F	39161.004	9780.001
	Treatment Prob(F)	0.0001	0.0001
			5.836
			4.022
			5.53
			9.728
			0.373
			1.804
			0.1702
			45.148
			0.0001