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Agrilience AMS replacement studies using hard water.

Trial ID: 07S-THP-CTS-61
Location: Throckmorton

Protocol ID: 07S-THP-CTS-61
Study Director: Vince Davis/ Kevin Westerfeld
Investigator: Dr. William G. Johnson

General Trial Information

Study Director: Vince Davis/ Kevin Westerfeld **Title:** Research Associate
Affiliation: Purdue University
Postal Code: 47907 **E-mail:** davisv@purdue.edu, kwesterf@purdue.edu
Investigator: Dr. William G. Johnson **Title:** Associate Professor
Affiliation: Purdue University
Postal Code: 47907 **E-mail:** wgj@purdue.edu

Trial Location

City: Lafayette **Trial Status:** ESTABLISHED
State/Prov.: Indiana
Postal Code: 47909-9049
Country: Country
Map Reference: Field 4A

Objectives:

AMS replacement studies using hard water

Cooperator/Landowner

Cooperator: Throckmorton-Purdue Ag Center (TPAC) **Country:** US
Organization: Purdue University **Phone No:** 765-538-3422
Address 1: 8343 US 231 South **Fax No:** 765-538-3423
City: Lafayette
State/Prov: Indiana
Postal Code: 47909-9049

Crop Description

Crop 1: GLXMA Glycine max Soybean
Variety: AG3305 **Description:** Roundup Ready
BBCH Scale: BSOY **Planting Date:** May/01/2007
Planting Method: DIRECT DRILLED **Rate, Unit:** 150000 S/A
Depth, Unit: 1 IN
Row Spacing, Unit: 30 IN
Seed Bed: MEDIUM **Soil Temperature, Unit:** 60 F
Soil Moisture: DRY **Emergence Date:** May/09/2007

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:** CHEAL **Chenopodium album**
Common Name: Common lambsquarters
Pest 4 Type: W **Code:** STEME **Stellaria media**
Common Name: Common chickweed
Pest 5 Type: W **Code:** IPOSS **Ipomoea sp.**
Common Name: Morningglory
Pest 6 Type: W **Code:** LAMAM **Lamium amplexicaule**
Common Name: Henbit

Site and Design

Plot Width, Unit: 10 FT **Site Type:** FIELD
Plot Length, Unit: 30 FT **Tillage Type:** CONVENTIONAL-TILL
Replications: 4 **Study Design:** Randomized Complete Block
Soil Drainage: G Good

Trial Initiation Comments:

5% Residue

Field Prep./Maintenance:

Field disked on 4/24/07

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Soil Description

Description Name: TPAC 4A
% OM: 3.1 **Texture:** Silty loam
pH: 6 **Soil Name:** Toronto-Millbrook
CEC: 11.1

Analyzed By:
 A&L Great Lakes Laboratories, Inc.; Report #: 04048-006

Additional Measured Elements

Element	Quantity	Unit
K	208	ppm
Mg	325	ppm
Ca	1100	ppm

Moisture and Weather Conditions

Closest Weather Station: On research station **Distance:** 0.5 **Unit:** MI

Application Description

	A
Application Date:	Jun/05/2007
Time of Day:	3:20PM
Application Method:	SPRAY
Application Timing:	LAPOWE
Application Placement:	BROFOL
Applied By:	KW
Air Temperature, Unit:	75 F
% Relative Humidity:	70
Wind Velocity, Unit:	2.5 MPH
Wind Direction:	NW
Dew Presence (Y/N):	N
Water Hardness:	ACRE
Soil Temperature, Unit:	74 F
Soil Moisture:	Moist
% Cloud Cover:	85

Crop Stage At Each Application

	A
Crop 1 Code, BBCH Scale:	GLXMA BSOY
Stage Scale Used:	BBCH
Stage Majority, Percent:	V3
Height, Unit:	4 IN
Height Minimum, Maximum:	3 5

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Pest Stage At Each Application

	A	
Pest 1 Code, Disc., Scale:	SETFA	W
Stage Majority, Percent:	3 till	
Height, Unit:	5	IN
Height Minimum, Maximum:	0	10
Density, Unit:	15	YD2
Pest 2 Code, Disc., Scale:	AMBTR	W
Stage Majority, Percent:	8-12lf	
Height, Unit:	7	IN
Height Minimum, Maximum:	0	15
Density, Unit:	2.5	YD2
Pest 3 Code, Disc., Scale:	CHEAL	W
Stage Majority, Percent:	2-12nd	
Height, Unit:	6	IN
Height Minimum, Maximum:	0	12
Density, Unit:	2	YD2
Pest 4 Code, Disc., Scale:	STEME	W
Stage Majority, Percent:	flower	
Height, Unit:	13	IN
Height Minimum, Maximum:	3	24
Density, Unit:	6.5	YD2
Pest 5 Code, Disc., Scale:	IPOSS	W
Stage Majority, Percent:	2-5lf	
Height, Unit:	2	IN
Height Minimum, Maximum:	0	3
Density, Unit:	3.5	YD2
Pest 6 Code, Disc., Scale:	LAMAM	W
Stage Majority, Percent:	flower	
Height, Unit:	2	IN
Height Minimum, Maximum:	1	3
Density, Unit:	3.5	YD2

Application Equipment

	A	
Appl. Equipment:	Backpack	
Operating Pressure, Unit:	15	psi
Nozzle Type:	XR11002	
Nozzle Spacing, Unit:	15	IN
Nozzles/Row:	6	
Boom Length, Unit:	7.5	FT
Boom Height, Unit:	15	IN
Ground Speed, Unit:	3	MPH
Carrier:	ACRE H20	
Spray Volume, Unit:	15	GPA
Mix Size, Unit:	1.8	Liters
Propellant:	C02	

Trt No Treatment Application Comment

6-18-07: Plots 902, 602 were not sprayed and data was discarded.

Trial Comments

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Protocol ID: 07S-THP-CTS-61
 Study Director: Vince Davis/ Kevin Westerfeld
 Investigator: Dr. William G. Johnson

Pest Type	W Weed	W Weed	W Weed		W Weed	W Weed							
Pest Code	SETFA	AMBTR	CHEAL		SETFA	AMBTR							
Pest Name	Giant foxta>	Giant Ragwe>	Common lamb>		Giant foxta>	Giant Ragwe>							
Crop Code	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA							
BBCH Scale	BSOY	BSOY	BSOY	BSOY	BSOY	BSOY							
Crop Name	Soybean	Soybean	Soybean	Soybean	Soybean	Soybean							
Crop Variety	AG3305	AG3305	AG3305	AG3305	AG3305	AG3305							
Description	RR	RR	RR	RR	RR	RR							
Rating Date	Jun/18/2007	Jun/18/2007	Jun/18/2007	Jun/18/2007	Jul/02/2007	Jul/02/2007							
Rating Data Type	CONTRO	CONTRO	CONTRO	PHYGEN	CONTRO	CONTRO							
Rating Unit	%	%	%	%	%	%							
Crop Stage	R1	R1	R1	R1	R1	R1							
Crop Stage Scale	8-12"	8-12"	8-12"	8-12"	16-20"	16-20"							
Pest Stage	4-14"	6-30"	0-12"		6-36"	6-48"							
Pest Density, Unit	15 YD2	2.5 YD2	2 YD2		15 YD2	2.5 YD2							
Assessed By	GK	GK	GK	GK	VMD	VMD							
Rating Timing	14 DAT	14 DAT	14 DAT	14 DAT	28 DAT	28 DAT							
Days After First/Last Applic.	13 13	13 13	13 13	13 13	27 27	27 27							
Trt-Eval Interval	13 DA-A	13 DA-A	13 DA-A	13 DA-A	27 DA-A	27 DA-A							
Plant-Eval Interval	48 DP-1	48 DP-1	48 DP-1	48 DP-1	62 DP-1	62 DP-1							
Trt No.	Treatment Name	Rate	Other Rate	Other Rate Unit	Growth Stage	Appl Code	Plot	1	2	3	4	5	6
1	Roundup Original Max	0.387 lb ae/a	11 fl oz/a		LAPOWE A	A	101	100.0	95.0	100.0	0.0	100.0	85.0
							501	100.0	92.0	100.0	0.0	98.0	80.0
							701	100.0	95.0	100.0	0.0	98.0	90.0
							1004	100.0	97.0	100.0	0.0	99.0	98.0
							Mean =	100.0	94.8	100.0	0.0	98.8	88.3
2	Roundup Original Max	0.387 lb ae/a	11 fl oz/a		LAPOWE A	A	102	100.0	96.0	100.0	0.0	100.0	90.0
	N-Pac AMS Liquid	5 % v/v	5 % v/v		LAPOWE A	A	504	100.0	99.0	100.0	0.0	98.0	99.0
							603	100.0	98.0	100.0	0.0	98.0	95.0
							905	99.0	100.0	100.0	0.0	98.0	95.0
							Mean =	99.8	98.3	100.0	0.0	98.5	94.8
3	Roundup Original Max	0.387 lb ae/a	11 fl oz/a		LAPOWE A	A	103	100.0	98.0	100.0	0.0	100.0	98.0
	Class Act Next Generation	2.5 % v/v	2.5 % v/v		LAPOWE A	A	306	100.0	85.0	100.0	0.0	100.0	83.0
							801	100.0	100.0	100.0	0.0	96.0	100.0
							1002	100.0	98.0	100.0	0.0	99.0	100.0
							Mean =	100.0	95.3	100.0	0.0	98.8	95.3
4	Roundup Original Max	0.387 lb ae/a	11 fl oz/a		LAPOWE A	A	104	100.0	90.0	100.0	0.0	100.0	65.0
	Alliance (AMS Liquid)	1.25 % v/v	1.25 % v/v		LAPOWE A	A	506	100.0	97.0	99.0	0.0	98.0	93.0
							703	100.0	92.0	100.0	0.0	98.0	78.0
							1001	100.0	97.0	100.0	0.0	99.0	98.0
							Mean =	100.0	94.0	99.8	0.0	98.8	83.5
5	Roundup Original Max	0.387 lb ae/a	11 fl oz/a		LAPOWE A	A	105	100.0	92.0	100.0	0.0	98.0	68.0
	AG 07003	1 % v/v	1 % v/v		LAPOWE A	A	404	100.0	97.0	100.0	0.0	98.0	93.0
							602	.	.	.	.	.	.
							902	.	.	.	.	.	.
							Mean =	100.0	94.5	100.0	0.0	98.0	80.5
6	Roundup Original Max	0.387 lb ae/a	11 fl oz/a		LAPOWE A	A	106	100.0	90.0	100.0	0.0	98.0	70.0
	AG 07003	1.25 % v/v	1.25 % v/v		LAPOWE A	A	403	100.0	98.0	100.0	0.0	98.0	96.0
							605	100.0	93.0	100.0	0.0	99.0	85.0
							904	100.0	98.0	100.0	0.0	100.0	100.0
							Mean =	100.0	94.8	100.0	0.0	98.8	87.8
7	Roundup Original Max	0.387 lb ae/a	11 fl oz/a		LAPOWE A	A	201	100.0	93.0	100.0	0.0	100.0	85.0
	AG 07003	2.5 % v/v	2.5 % v/v		LAPOWE A	A	502	100.0	100.0	100.0	0.0	99.0	100.0
							803	100.0	90.0	100.0	0.0	100.0	90.0
							1005	100.0	98.0	100.0	0.0	99.0	95.0
							Mean =	100.0	95.3	100.0	0.0	99.5	92.5

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		W Weed SETFA Giant foxta> GLXMA BSOY Soybean AG3305 RR Jun/18/2007 CONTRO %	W Weed AMBTR Giant Ragwe> GLXMA BSOY Soybean AG3305 RR Jun/18/2007 CONTRO %	W Weed CHEAL Common lamb> GLXMA BSOY Soybean AG3305 RR Jun/18/2007 CONTRO %	GLXMA BSOY Soybean AG3305 RR Jun/18/2007 PHYGEN %	W Weed SETFA Giant foxta> GLXMA BSOY Soybean AG3305 RR Jul/02/2007 CONTRO %	W Weed AMBTR Giant Ragwe> GLXMA BSOY Soybean AG3305 RR Jul/02/2007 CONTRO %						
Trt No.	Treatment Name	Rate	Other Rate	Other Rate Unit	Growth Stage	Appl Code	Plot	1	2	3	4	5	6
8	Roundup Original Max Placement ProPak	0.387 lb ae/a 1 % v/v	11 fl oz/a 1 % v/v	LAPOWE A	A	202	100.0	92.0	100.0	0.0	98.0	88.0	
						402	100.0	99.0	100.0	0.0	98.0	95.0	
						702	100.0	90.0	100.0	0.0	99.0	78.0	
						903	100.0	100.0	100.0	0.0	100.0	99.0	
						Mean =	100.0	95.3	100.0	0.0	98.8	90.0	
9	Roundup Original Max AG 07046	0.387 lb ae/a 1.25 % v/v	11 fl oz/a 1.25 % v/v	LAPOWE A	A	203	100.0	95.0	100.0	0.0	98.0	85.0	
						406	100.0	98.0	100.0	0.0	95.0	95.0	
						704	100.0	90.0	95.0	0.0	99.0	88.0	
						806	100.0	100.0	100.0	0.0	100.0	97.0	
						Mean =	100.0	95.8	98.8	0.0	98.0	91.3	
10	Roundup Original Max AG 07046	0.387 lb ae/a 2.5 % v/v	11 fl oz/a 2.5 % v/v	LAPOWE A	A	204	100.0	90.0	100.0	0.0	100.0	80.0	
						401	100.0	99.0	100.0	0.0	95.0	100.0	
						606	100.0	98.0	100.0	0.0	98.0	95.0	
						1003	100.0	100.0	100.0	0.0	99.0	98.0	
						Mean =	100.0	96.8	100.0	0.0	98.0	93.3	
11	Roundup Original Max AG 03019	0.387 lb ae/a 0.5 % v/v	11 fl oz/a 0.5 % v/v	LAPOWE A	A	205	100.0	80.0	100.0	0.0	99.0	70.0	
						405	100.0	98.0	100.0	0.0	97.0	90.0	
						604	100.0	90.0	100.0	0.0	99.0	75.0	
						1006	100.0	99.0	100.0	0.0	99.0	97.0	
						Mean =	100.0	91.8	100.0	0.0	98.5	83.0	
12	Roundup Original Max Choice Weather Master	0.387 lb ae/a 0.5 % v/v	11 fl oz/a 0.5 % v/v	LAPOWE A	A	206	100.0	80.0	100.0	0.0	98.0	60.0	
						304	100.0	75.0	100.0	0.0	100.0	80.0	
						601	100.0	98.0	100.0	0.0	97.0	88.0	
						906	99.0	96.0	100.0	0.0	98.0	100.0	
						Mean =	99.8	87.3	100.0	0.0	98.3	82.0	
13	Untreated Check					301	0.0	0.0	0.0	0.0	0.0	0.0	
						505	0.0	0.0	0.0	0.0	0.0	0.0	
						705	0.0	0.0	0.0	0.0	0.0	0.0	
						901	0.0	0.0	0.0	0.0	0.0	0.0	
						Mean =	0.0	0.0	0.0	0.0	0.0	0.0	
14	Roundup WeatherMAX Ammonium Sulfate	0.387 lb ae/a 17 lb ai/100 gal	11 fl oz/a 17 lb/100 gal	LAPOWE A	A	302	100.0	99.0	100.0	0.0	98.0	100.0	
						503	100.0	96.0	100.0	0.0	99.0	96.0	
						802	100.0	100.0	100.0	0.0	99.0	100.0	
						804	100.0	95.0	100.0	0.0	99.0	93.0	
						Mean =	100.0	97.5	100.0	0.0	98.8	97.3	
15	Untreated Check					303	0.0	0.0	0.0	0.0	0.0	0.0	
						305	0.0	0.0	0.0	0.0	0.0	0.0	
						706	0.0	0.0	0.0	0.0	0.0	0.0	
						805	0.0	0.0	0.0	0.0	0.0	0.0	
						Mean =	0.0	0.0	0.0	0.0	0.0	0.0	

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								W Weed	W Weed	W Weed	W Weed		
Pest Type								CHEAL	SETFA	AMBTR	CHEAL		
Pest Code								Common lamb>	Giant foxta>	Giant Ragwe>	Common lamb>		
Pest Name								GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	
Crop Code								BSOY	BSOY	BSOY	BSOY	BSOY	
BBCH Scale								Soybean	Soybean	Soybean	Soybean	Soybean	
Crop Name								AG3305	AG3305	AG3305	AG3305	AG3305	
Crop Variety								RR	RR	RR	RR	RR	
Description								Jul/02/2007	Aug/02/2007	Aug/02/2007	Aug/02/2007	Aug/02/2007	
Rating Date								CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	
Rating Data Type								%	%	%	%	%	
Rating Unit								R1	R5	R5	R5	R5	
Crop Stage								16-20"	3-3.5'	3-3.5'	3-3.5'	3-3.5'	
Crop Stage Scale									2-4'	2-7'	3-5'		
Pest Stage								2 YD2	15 YD2	2.5 YD2	2 YD2		
Pest Density, Unit								VMD	KW AW	KW AW	KW AW	KW AW	
Assessed By								28 DAT	56 DAT	56 DAT	56 DAT	56 DAT	
Rating Timing								27 27	58 58	58 58	58 58	58 58	
Days After First/Last Applic.								27 DA-A	58 DA-A	58 DA-A	58 DA-A	58 DA-A	
Trt-Eval Interval								62 DP-1	93 DP-1	93 DP-1	93 DP-1	93 DP-1	
Plant-Eval Interval													
Trt No.	Treatment Name	Rate	Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code	Plot	7	8	9	10	11
1	Roundup Original Max	0.387	lb ae/a	11	fl oz/a	LAPOWE	A	101	100.0	90.0	90.0	100.0	0.0
								501	100.0	95.0	90.0	100.0	0.0
								701	100.0	95.0	90.0	95.0	0.0
								1004	100.0	98.0	94.0	100.0	0.0
								Mean =	100.0	94.5	91.0	98.8	0.0
2	Roundup Original Max	0.387	lb ae/a	11	fl oz/a	LAPOWE	A	102	100.0	95.0	96.0	100.0	0.0
	N-Pac AMS Liquid	5	% v/v	5	% v/v	LAPOWE	A	504	100.0	95.0	98.0	100.0	0.0
								603	90.0	95.0	95.0	90.0	0.0
								905	97.0	95.0	99.0	96.0	0.0
								Mean =	96.8	95.0	97.0	96.5	0.0
3	Roundup Original Max	0.387	lb ae/a	11	fl oz/a	LAPOWE	A	103	100.0	96.0	95.0	100.0	0.0
	Class Act Next Generation	2.5	% v/v	2.5	% v/v	LAPOWE	A	306	100.0	99.0	85.0	100.0	0.0
								801	100.0	98.0	99.0	100.0	0.0
								1002	100.0	99.0	95.0	100.0	0.0
								Mean =	100.0	98.0	93.5	100.0	0.0
4	Roundup Original Max	0.387	lb ae/a	11	fl oz/a	LAPOWE	A	104	90.0	95.0	90.0	97.0	0.0
	Alliance (AMS Liquid)	1.25	% v/v	1.25	% v/v	LAPOWE	A	506	100.0	98.0	98.0	100.0	0.0
								703	100.0	98.0	90.0	100.0	0.0
								1001	100.0	99.0	100.0	100.0	0.0
								Mean =	97.5	97.5	94.5	99.3	0.0
5	Roundup Original Max	0.387	lb ae/a	11	fl oz/a	LAPOWE	A	105	100.0	95.0	80.0	100.0	0.0
	AG 07003	1	% v/v	1	% v/v	LAPOWE	A	404	100.0	95.0	95.0	100.0	0.0
								602	.	.	.	.	.
								902	.	.	.	.	.
								Mean =	100.0	95.0	87.5	100.0	0.0
6	Roundup Original Max	0.387	lb ae/a	11	fl oz/a	LAPOWE	A	106	100.0	96.0	75.0	100.0	0.0
	AG 07003	1.25	% v/v	1.25	% v/v	LAPOWE	A	403	100.0	95.0	95.0	100.0	0.0
								605	100.0	95.0	90.0	100.0	0.0
								904	100.0	98.0	98.0	100.0	0.0
								Mean =	100.0	96.0	89.5	100.0	0.0
7	Roundup Original Max	0.387	lb ae/a	11	fl oz/a	LAPOWE	A	201	100.0	100.0	85.0	100.0	0.0
	AG 07003	2.5	% v/v	2.5	% v/v	LAPOWE	A	502	100.0	75.0	100.0	100.0	0.0
								803	95.0	99.0	99.0	95.0	0.0
								1005	100.0	99.0	98.0	100.0	0.0
								Mean =	98.8	93.3	95.5	98.8	0.0
8	Roundup Original Max	0.387	lb ae/a	11	fl oz/a	LAPOWE	A	202	100.0	96.0	90.0	100.0	0.0
	Placement ProPak	1	% v/v	1	% v/v	LAPOWE	A	402	100.0	97.0	98.0	100.0	0.0
								702	100.0	95.0	80.0	100.0	0.0
								903	100.0	98.0	100.0	100.0	0.0
								Mean =	100.0	96.5	92.0	100.0	0.0

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Pest Type	W Weed	W Weed	W Weed	W Weed								
Pest Code	CHEAL	SETFA	AMBTR	CHEAL								
Pest Name	Common lamb>	Giant foxta>	Giant Ragwe>	Common lamb>								
Crop Code	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA							
BBCH Scale	BSOY	BSOY	BSOY	BSOY	BSOY							
Crop Name	Soybean	Soybean	Soybean	Soybean	Soybean							
Crop Variety	AG3305	AG3305	AG3305	AG3305	AG3305							
Description	RR	RR	RR	RR	RR							
Rating Date	Jul/02/2007	Aug/02/2007	Aug/02/2007	Aug/02/2007	Aug/02/2007							
Rating Data Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO							
Rating Unit	%	%	%	%	%							
Crop Stage	R1	R5	R5	R5	R5							
Crop Stage Scale	16-20"	3-3.5'	3-3.5'	3-3.5'	3-3.5'							
Pest Stage		2-4'	2-7'	3-5'								
Pest Density, Unit	2 YD2	15 YD2	2.5 YD2	2 YD2								
Assessed By	VMD	KW AW	KW AW	KW AW	KW AW							
Rating Timing	28 DAT	56 DAT	56 DAT	56 DAT	56 DAT							
Days After First/Last Applic.	27 27	58 58	58 58	58 58	58 58							
Trt-Eval Interval	27 DA-A	58 DA-A	58 DA-A	58 DA-A	58 DA-A							
Plant-Eval Interval	62 DP-1	93 DP-1	93 DP-1	93 DP-1	93 DP-1							
Trt No.	Treatment Name	Rate	Other Rate	Other Rate Unit	Growth Stage	Appl Code	Plot	7	8	9	10	11
9	Roundup Original Max AG 07046	0.387 lb ae/a 1.25 % v/v	11 fl oz/a 1.25 % v/v		LAPOWE A LAPOWE A	A A	203 406 704 806	100.0 100.0 95.0 100.0	95.0 95.0 98.0 97.0	95.0 95.0 98.0 100.0	100.0 100.0 100.0 100.0	0.0 0.0 0.0 0.0
							Mean =	98.8	96.3	97.0	100.0	0.0
10	Roundup Original Max AG 07046	0.387 lb ae/a 2.5 % v/v	11 fl oz/a 2.5 % v/v		LAPOWE A LAPOWE A	A A	204 401 606 1003	100.0 100.0 100.0 100.0	99.0 95.0 90.0 95.0	90.0 95.0 97.0 100.0	90.0 100.0 100.0 100.0	0.0 0.0 0.0 0.0
							Mean =	100.0	94.8	95.5	97.5	0.0
11	Roundup Original Max AG 03019	0.387 lb ae/a 0.5 % v/v	11 fl oz/a 0.5 % v/v		LAPOWE A LAPOWE A	A A	205 405 604 1006	100.0 100.0 100.0 95.0	97.0 95.0 98.0 99.0	80.0 90.0 80.0 95.0	100.0 100.0 100.0 100.0	0.0 0.0 0.0 0.0
							Mean =	98.8	97.3	86.3	100.0	0.0
12	Roundup Original Max Choice Weather Master	0.387 lb ae/a 0.5 % v/v	11 fl oz/a 0.5 % v/v		LAPOWE A LAPOWE A	A A	206 304 601 906	100.0 98.0 100.0 100.0	97.0 95.0 95.0 95.0	60.0 85.0 95.0 100.0	90.0 100.0 100.0 100.0	0.0 0.0 0.0 0.0
							Mean =	99.5	95.5	85.0	97.5	0.0
13	Untreated Check						301 505 705 901	0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0	5.0 5.0 5.0 5.0
							Mean =	0.0	0.0	0.0	0.0	5.0
14	Roundup WeatherMAX Ammonium Sulfate	0.387 lb ae/a 17 lb ai/100 gal	11 fl oz/a 17 lb/100 gal		LAPOWE A LAPOWE A	A A	302 503 802 804	100.0 100.0 100.0 100.0	95.0 80.0 99.0 97.0	98.0 100.0 100.0 95.0	100.0 100.0 100.0 100.0	0.0 0.0 0.0 0.0
							Mean =	100.0	92.8	98.3	100.0	0.0
15	Untreated Check						303 305 706 805	0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0	5.0 5.0 5.0 5.0
							Mean =	0.0	0.0	0.0	0.0	5.0

Purdue University

Agrilience AMS replacement studies using hard water.

Trial ID: 07S-THP-CTS-61
 Location: Throckmorton

Protocol ID: 07S-THP-CTS-61
 Study Director: Vince Davis/ Kevin Westerfeld
 Investigator: Dr. William G. Johnson

Pest Type	W Weed	W Weed	W Weed		W Weed	W Weed						
Pest Code	SETFA	AMBTR	CHEAL		SETFA	AMBTR						
Pest Name	Giant foxta>	Giant Ragwe>	Common lamb>		Giant foxta>	Giant Ragwe>						
Crop Code	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA						
BBCH Scale	BSOY	BSOY	BSOY	BSOY	BSOY	BSOY						
Crop Name	Soybean	Soybean	Soybean	Soybean	Soybean	Soybean						
Crop Variety	AG3305	AG3305	AG3305	AG3305	AG3305	AG3305						
Description	RR	RR	RR	RR	RR	RR						
Rating Date	Jun/18/2007	Jun/18/2007	Jun/18/2007	Jun/18/2007	Jul/02/2007	Jul/02/2007						
Rating Data Type	CONTRO	CONTRO	CONTRO	PHYGEN	CONTRO	CONTRO						
Rating Unit	%	%	%	%	%	%						
Crop Stage	R1	R1	R1	R1	R1	R1						
Crop Stage Scale	8-12"	8-12"	8-12"	8-12"	16-20"	16-20"						
Pest Stage	4-14"	6-30"	0-12"		6-36"	6-48"						
Pest Density, Unit	15 YD2	2.5 YD2	2 YD2		15 YD2	2.5 YD2						
Assessed By	GK	GK	GK	GK	VMD	VMD						
Rating Timing	14 DAT	14 DAT	14 DAT	14 DAT	28 DAT	28 DAT						
Days After First/Last Applic.	13 13	13 13	13 13	13 13	27 27	27 27						
Trt-Eval Interval	13 DA-A	13 DA-A	13 DA-A	13 DA-A	27 DA-A	27 DA-A						
Plant-Eval Interval	48 DP-1	48 DP-1	48 DP-1	48 DP-1	62 DP-1	62 DP-1						
Trt No.	Treatment Name	Rate	Other Rate	Other Rate Unit	Growth Stage	Appl Code	1	2	3	4	5	6
1	Roundup Original Max	0.387 lb ae/a	11 fl oz/a		LAPOWE	A	100.0 a	94.8 a	100.0 a	0.0 a	98.8 a	88.3 a
2	Roundup Original Max N-Pac AMS Liquid	0.387 lb ae/a 5 % v/v	11 fl oz/a 5 % v/v		LAPOWE	A	99.8 a	98.3 a	100.0 a	0.0 a	98.5 a	94.8 a
3	Roundup Original Max Class Act Next Generation	0.387 lb ae/a 2.5 % v/v	11 fl oz/a 2.5 % v/v		LAPOWE	A	100.0 a	95.3 a	100.0 a	0.0 a	98.8 a	95.3 a
4	Roundup Original Max Alliance (AMS Liquid)	0.387 lb ae/a 1.25 % v/v	11 fl oz/a 1.25 % v/v		LAPOWE	A	100.0 a	94.0 a	99.8 a	0.0 a	98.8 a	83.5 a
5	Roundup Original Max AG 07003	0.387 lb ae/a 1 % v/v	11 fl oz/a 1 % v/v		LAPOWE	A	100.0 a	94.5 a	100.0 a	0.0 a	98.0 a	80.5 a
6	Roundup Original Max AG 07003	0.387 lb ae/a 1.25 % v/v	11 fl oz/a 1.25 % v/v		LAPOWE	A	100.0 a	94.8 a	100.0 a	0.0 a	98.8 a	87.8 a
7	Roundup Original Max AG 07003	0.387 lb ae/a 2.5 % v/v	11 fl oz/a 2.5 % v/v		LAPOWE	A	100.0 a	95.3 a	100.0 a	0.0 a	99.5 a	92.5 a
8	Roundup Original Max Placement ProPak	0.387 lb ae/a 1 % v/v	11 fl oz/a 1 % v/v		LAPOWE	A	100.0 a	95.3 a	100.0 a	0.0 a	98.8 a	90.0 a
9	Roundup Original Max AG 07046	0.387 lb ae/a 1.25 % v/v	11 fl oz/a 1.25 % v/v		LAPOWE	A	100.0 a	95.8 a	98.8 a	0.0 a	98.0 a	91.3 a
10	Roundup Original Max AG 07046	0.387 lb ae/a 2.5 % v/v	11 fl oz/a 2.5 % v/v		LAPOWE	A	100.0 a	96.8 a	100.0 a	0.0 a	98.0 a	93.3 a
11	Roundup Original Max AG 03019	0.387 lb ae/a 0.5 % v/v	11 fl oz/a 0.5 % v/v		LAPOWE	A	100.0 a	91.8 a	100.0 a	0.0 a	98.5 a	83.0 a
12	Roundup Original Max Choice Weather Master	0.387 lb ae/a 0.5 % v/v	11 fl oz/a 0.5 % v/v		LAPOWE	A	99.8 a	87.3 a	100.0 a	0.0 a	98.3 a	82.0 a
13	Untreated Check						0.0 b	0.0 b	0.0 b	0.0 a	0.0 b	0.0 b
14	Roundup WeatherMAX Ammonium Sulfate	0.387 lb ae/a 17 lb ai/100 gal	11 fl oz/a 17 lb/100 gal		LAPOWE	A	100.0 a	97.5 a	100.0 a	0.0 a	98.8 a	97.3 a
15	Untreated Check						0.0 b	0.0 b	0.0 b	0.0 a	0.0 b	0.0 b
LSD (P=.05)		0.26	6.91				0.26	6.91	0.97	0.00	1.64	11.21
Standard Deviation		0.18	4.84				0.18	4.84	0.68	0.00	1.15	7.84
CV		0.21	5.89				0.21	5.89	0.78	0.0	1.34	10.15
Bartlett's X2		0.0	18.408				0.0	18.408	5.67	0.0	12.647	14.082
P(Bartlett's X2)		.	0.104				.	0.104	0.017*	.	0.317	0.295
Replicate F		2.051	3.244				2.051	3.244	0.823	0.000	2.446	8.510
Replicate Prob(F)		0.1221	0.0318				0.1221	0.0318	0.4891	1.0000	0.0779	0.0002
Treatment F		152264.703	191.002				152264.703	191.002	10761.613	0.000	3658.682	65.740
Treatment Prob(F)		0.0001	0.0001				0.0001	0.0001	0.0001	1.0000	0.0001	0.0001

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)

Purdue University

Pest Type	W Weed	W Weed	W Weed		W Weed	W Weed
Pest Code	SETFA	AMBTR	CHEAL		SETFA	AMBTR
Pest Name	Giant foxta>	Giant Ragwe>	Common lamb>		Giant foxta>	Giant Ragwe>
Crop Code	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA
BBCH Scale	BSOY	BSOY	BSOY	BSOY	BSOY	BSOY
Crop Name	Soybean	Soybean	Soybean	Soybean	Soybean	Soybean
Crop Variety	AG3305	AG3305	AG3305	AG3305	AG3305	AG3305
Description	RR	RR	RR	RR	RR	RR
Rating Date	Jun/18/2007	Jun/18/2007	Jun/18/2007	Jun/18/2007	Jul/02/2007	Jul/02/2007
Rating Data Type	CONTRO	CONTRO	CONTRO	PHYGEN	CONTRO	CONTRO
Rating Unit	%	%	%	%	%	%
Crop Stage	R1	R1	R1	R1	R1	R1
Crop Stage Scale	8-12"	8-12"	8-12"	8-12"	16-20"	16-20"
Pest Stage	4-14"	6-30"	0-12"		6-36"	6-48"
Pest Density, Unit	15 YD2	2.5 YD2	2 YD2		15 YD2	2.5 YD2
Assessed By	GK	GK	GK	GK	VMD	VMD
Rating Timing	14 DAT	14 DAT	14 DAT	14 DAT	28 DAT	28 DAT
Days After First/Last Applic.	13 13	13 13	13 13	13 13	27 27	27 27
Trt-Eval Interval	13 DA-A	13 DA-A	13 DA-A	13 DA-A	27 DA-A	27 DA-A
Plant-Eval Interval	48 DP-1	48 DP-1	48 DP-1	48 DP-1	62 DP-1	62 DP-1

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

Purdue University

Pest Type	W Weed	W Weed	W Weed	W Weed							
Pest Code	CHEAL	SETFA	AMBTR	CHEAL							
Pest Name	Common lamb>	Giant foxta>	Giant Ragwe>	Common lamb>							
Crop Code	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA						
BBCH Scale	BSOY	BSOY	BSOY	BSOY	BSOY						
Crop Name	Soybean	Soybean	Soybean	Soybean	Soybean						
Crop Variety	AG3305	AG3305	AG3305	AG3305	AG3305						
Description	RR	RR	RR	RR	RR						
Rating Date	Jul/02/2007	Aug/02/2007	Aug/02/2007	Aug/02/2007	Aug/02/2007						
Rating Data Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO						
Rating Unit	%	%	%	%	%						
Crop Stage	R1	R5	R5	R5	R5						
Crop Stage Scale	16-20"	3-3.5'	3-3.5'	3-3.5'	3-3.5'						
Pest Stage		2-4'	2-7'	3-5'							
Pest Density, Unit	2 YD2	15 YD2	2.5 YD2	2 YD2							
Assessed By	VMD	KW AW	KW AW	KW AW	KW AW						
Rating Timing	28 DAT	56 DAT	56 DAT	56 DAT	56 DAT						
Days After First/Last Applic.	27 27	58 58	58 58	58 58	58 58						
Trt-Eval Interval	27 DA-A	58 DA-A	58 DA-A	58 DA-A	58 DA-A						
Plant-Eval Interval	62 DP-1	93 DP-1	93 DP-1	93 DP-1	93 DP-1						
Trt No.	Treatment Name	Rate	Other Rate	Other Rate Unit	Growth Stage	Appl Code	7	8	9	10	11
1	Roundup Original Max	0.387 lb ae/a	11 fl oz/a		LAPOWE A	A	100.0 a	94.5 a	91.0 a	98.8 a	0.0 b
2	Roundup Original Max N-Pac AMS Liquid	0.387 lb ae/a 5 % v/v	11 fl oz/a 5 % v/v		LAPOWE A LAPOWE A	A	96.8 a	95.0 a	97.0 a	96.5 a	0.0 b
3	Roundup Original Max Class Act Next Generation	0.387 lb ae/a 2.5 % v/v	11 fl oz/a 2.5 % v/v		LAPOWE A LAPOWE A	A	100.0 a	98.0 a	93.5 a	100.0 a	0.0 b
4	Roundup Original Max Alliance (AMS Liquid)	0.387 lb ae/a 1.25 % v/v	11 fl oz/a 1.25 % v/v		LAPOWE A LAPOWE A	A	97.5 a	97.5 a	94.5 a	99.3 a	0.0 b
5	Roundup Original Max AG 07003	0.387 lb ae/a 1 % v/v	11 fl oz/a 1 % v/v		LAPOWE A LAPOWE A	A	100.0 a	95.0 a	87.5 a	100.0 a	0.0 b
6	Roundup Original Max AG 07003	0.387 lb ae/a 1.25 % v/v	11 fl oz/a 1.25 % v/v		LAPOWE A LAPOWE A	A	100.0 a	96.0 a	89.5 a	100.0 a	0.0 b
7	Roundup Original Max AG 07003	0.387 lb ae/a 2.5 % v/v	11 fl oz/a 2.5 % v/v		LAPOWE A LAPOWE A	A	98.8 a	93.3 a	95.5 a	98.8 a	0.0 b
8	Roundup Original Max Placement ProPak	0.387 lb ae/a 1 % v/v	11 fl oz/a 1 % v/v		LAPOWE A LAPOWE A	A	100.0 a	96.5 a	92.0 a	100.0 a	0.0 b
9	Roundup Original Max AG 07046	0.387 lb ae/a 1.25 % v/v	11 fl oz/a 1.25 % v/v		LAPOWE A LAPOWE A	A	98.8 a	96.3 a	97.0 a	100.0 a	0.0 b
10	Roundup Original Max AG 07046	0.387 lb ae/a 2.5 % v/v	11 fl oz/a 2.5 % v/v		LAPOWE A LAPOWE A	A	100.0 a	94.8 a	95.5 a	97.5 a	0.0 b
11	Roundup Original Max AG 03019	0.387 lb ae/a 0.5 % v/v	11 fl oz/a 0.5 % v/v		LAPOWE A LAPOWE A	A	98.8 a	97.3 a	86.3 a	100.0 a	0.0 b
12	Roundup Original Max Choice Weather Master	0.387 lb ae/a 0.5 % v/v	11 fl oz/a 0.5 % v/v		LAPOWE A LAPOWE A	A	99.5 a	95.5 a	85.0 a	97.5 a	0.0 b
13	Untreated Check						0.0 b	0.0 b	0.0 b	0.0 b	5.0 a
14	Roundup WeatherMAX Ammonium Sulfate	0.387 lb ae/a 17 lb ai/100 gal	11 fl oz/a 17 lb/100 gal		LAPOWE A LAPOWE A	A	100.0 a	92.8 a	98.3 a	100.0 a	0.0 b
15	Untreated Check						0.0 b	0.0 b	0.0 b	0.0 b	5.0 a
LSD (P=.05)							3.11	5.88	8.94	3.46	0.00
Standard Deviation							2.18	4.12	6.26	2.42	0.00
CV							2.53	4.97	7.81	2.82	0.0
Bartlett's X2							7.646	43.579	28.137	5.84	0.0
P(Bartlett's X2)							0.177	0.001*	0.005*	0.322	.
Replicate F							0.787	2.168	5.735	1.485	0.000
Replicate Prob(F)							0.5084	0.1068	0.0023	0.2331	1.0000
Treatment F							1028.556	267.467	109.829	828.421	0.000
Treatment Prob(F)							0.0001	0.0001	0.0001	0.0001	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.