

Ohio State University Horticulture and Crop Science

LL ADJUVANT STUDY

Title No. 2:
Trial ID: 10LLSOYADJ Protocol ID: 10LLSOYADJ
Location: Western Branch F-8 Study Director: Bryan Reeb
Project ID: 10LLSOYADJ Investigator: Dr. Mark M. Loux
Sponsor Contact: DAVE LAMORE, BAYER

General Trial Information

Study Director: Bryan Reeb
Investigator: Dr. Mark M. Loux

Trial Location
City: South Charleston **Latitude of LL Corner °:** 39.86016 N
State/Prov.: Ohio **Longitude of LL Corner °:** 83.67145 W
Postal Code: 45368 **Altitude of LL Corner, Unit:** 1079.00 FT
Country: USA

Personnel

Study Director: Bryan Reeb
Investigator: Dr. Mark M. Loux

Crop Description

Crop 1: GLXMA Glycine max Soybean
Variety: S.C. 3330 LL **Description:** LL
BBCH Scale: BSOY **Planting Date:** May-6-2010
Planting Method: SEEDED seeded **Rate, Unit:** 196000 S/A
Depth, Unit: 0.75 IN
Row Spacing, Unit: 15 IN
Seed Bed: MEDIUM medium
Soil Moisture: GOOD good **Emergence Date:** May-18-2010

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:** POLPY Polygonum pensylvanicum
Common Name: Pennsylvania smartweed
- Pest 4 Type:** W **Code:** CHEAL Chenopodium album
Common Name: Common lambsquarters
- Pest 5 Type:** W **Code:** ABUTH Abutilon theophrasti
Common Name: Velvetleaf
- Pest 6 Type:** W **Code:** AMARE Amaranthus retroflexus
Common Name: Redroot pigweed
- Pest 7 Type:** W **Code:** SOLPT Solanum ptycanthum
Common Name: Eastern black nightshade
- Pest 8 Type:** W **Code:** AMBEL Ambrosia artemisiifolia
Common Name: Common ragweed

Site and Design

Plot Width, Unit: 6.67 FT **Site Type:** FIELD field
Plot Length, Unit: 30 FT **Experimental Unit:** 1 PLOT plot
Plot Area, Unit: 200.1 FT2 **Tillage Type:** CONTIL conventional-till
Replications: 3 **Study Design:** RACOB� Randomized Complete Block (RCB)
Untreated Arrangement: INCLUDED single control randomized in each block

Soil Description

Description Name: F-8 West
% OM: 3.1 **Texture:** SICL silty clay loam
pH: 6.3 **Soil Name:** Kokomo
CEC: 20 **Fert. Level:** G good
Soil Drainage: G good

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Application Description

A
Application Date: Jun-4-2010
Time of Day: 8:30 AM
Application Method: SPRAY
Application Timing: MPO
Application Placement: BROFOL
Air Temperature, Unit: 72.4 F
% Relative Humidity: 85.5
Wind Velocity, Unit: 4 MPH
Wind Direction: SW
Dew Presence (Y/N): Y yes
Soil Temperature, Unit: 68 F
Soil Moisture: WET
% Cloud Cover: 0
Next Rain Occurred On: Jun-4-2010

Crop Stage At Each Application

A
Crop 1 Code, BBCH Scale: GLXMA BSOY
Stage Scale Used: BBCH
Stage Majority, Percent: 12 100
Height, Unit: 6 IN
Height Minimum, Maximum: 5 6

Pest Stage At Each Application

A
Pest 1 Code, Type, Scale: SETFA W
Stage Majority, Percent: 13 100
Height, Unit: 6 IN
Height Minimum, Maximum: 4 6
Density, Unit: 54.4 M2
Pest 2 Code, Type, Scale: AMBTR W
Stage Majority, Percent: 16 100
Height, Unit: 8 IN
Height Minimum, Maximum: 7 8
Density, Unit: 17.2 M2
Pest 3 Code, Type, Scale: POLPY W
Stage Majority, Percent: 14 100
Height, Unit: 3 IN
Height Minimum, Maximum: 2 3
Density, Unit: 2.4 M2
Pest 4 Code, Type, Scale: CHEAL W
Stage Majority, Percent: 14 100
Height, Unit: 2 IN
Height Minimum, Maximum: 1 2
Density, Unit: 38.4 M2
Pest 5 Code, Type, Scale: ABUTH W
Stage Majority, Percent: 13 100
Height, Unit: 3 IN
Height Minimum, Maximum: 2 3
Pest 6 Code, Type, Scale: AMARE W
Stage Majority, Percent: 14 100
Height, Unit: 2 IN
Height Minimum, Maximum: 1 2
Density, Unit: 10.4 M2
Pest 7 Code, Type, Scale: SOLPT W
Stage Majority, Percent: 12 100
Height, Unit: 0.5 IN
Height Minimum, Maximum: 0.5 1
Pest 8 Code, Type, Scale: AMBEL W
Stage Majority, Percent: 14 100
Height, Unit: 3 IN
Height Minimum, Maximum: 2 3
Density, Unit: 4 M2

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Application Equipment

	A
Appl. Equipment:	Backpack
Equipment Type:	SPRBAC
Operating Pressure, Unit:	52 PSI
Nozzle Type:	DG
Nozzle Size:	8002
Nozzle Spacing, Unit:	18 IN
Boom Length, Unit:	6.67 FT
Boom Height, Unit:	18 IN
Ground Speed, Unit:	3 MPH
Carrier:	WATER
Spray Volume, Unit:	20 gal/ac
Mix Size, Unit:	0.33 gallons
Propellant:	COMCO2

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Pest Type				W Weed	W Weed	W Weed
Pest Code				SETFA	AMBTR	CHEAL
Pest Scientific Name				Setaria faberi	Ambrosia trifi>	Chenopodium al>
Pest Name				Giant foxtail	Giant ragweed	Common lambsqu>
Crop Code	GLXMA	GLXMA				
BBCH Scale	BSOY	BSOY				
Crop Scientific Name	Glycine max	Glycine max				
Crop Name	Soybean	Soybean				
Rating Date	Jun-10-2010	Jun-18-2010		Jun-18-2010	Jun-18-2010	Jun-18-2010
Rating Type	PHYCHL	PHYGEN		CONTROL	CONTROL	CONTROL
Rating Unit	%	%		%	%	%
Number of Subsamples	1	1		1	1	1
Days After First/Last Applic.	6 6	14 14		14 14	14 14	14 14
Trt-Eval Interval	6 DA-A	14 DA-A		14 DA-A	14 DA-A	14 DA-A
Plant-Eval Interval	35 DP-1	43 DP-1		43 DP-1	43 DP-1	43 DP-1
Days After Emergence	23 DE-	31 DE-		31 DE-	31 DE-	31 DE-
Number of Decimals	0	0		0	0	0

Trt No.	Treatment Name	Form Conc	Form Unit	Other Rate	Other Unit	Appl Code	1	2	3	4	5
1	UTC						0	0	0	0	0
2	Ignite	2.34	LBA/GAL	22 oz/a		A	1	0	80	53	89
	2 N-pak ams	100 %		2 qt/a		A					
3	Ignite	2.34	LBA/GAL	22 oz/a		A	0	0	68	50	55
	3 Weather Gaurd Complete	100 %		2 qt/100 gal		A					
4	Ignite	2.34	LBA/GAL	22 oz/a		A	2	0	50	43	57
	4 Array	100 %		9 lb ai/100 gal		A					
5	Ignite	2.34	LBA/GAL	22 oz/a		A	1	0	72	47	65
	5 Class Act	100 %		5 qt/100 gal		A					
	5 Interlock	100 %		4 oz/a		A					
6	Ignite	2.34	LBA/GAL	22 oz/a		A	2	0	72	50	63
	6 Gardian Plus	100 %		2.5 gal/100 gal		A					
7	Ignite	2.34	LBA/GAL	22 oz/a		A	2	0	80	60	50
	7 Hel-Fire	100 %		2 pt/100 gal		A					
	7 Grounded	100 %		1 gal/100 gal		A					
8	Ignite	2.34	LBA/GAL	22 oz/a		A	2	0	75	53	62
	8 Doubledown	100 %		2.5 gal/100 gal		A					
9	Ignite	2.34	LBA/GAL	22 oz/a		A	2	0	77	43	60
	9 Border Xtra XL	100 %		2.5 gal/100 gal		A					
10	Ignite	2.34	LBA/GAL	22 oz/a		A	2	0	68	47	53
	10 Bronc Max E.D.T.	100 %		2 qt/100 gal		A					
11	Ignite	2.34	LBA/GAL	22 oz/a		A	3	1	83	47	62
	11 Request	100 %		2 qt/100 gal		A					
	11 Grounded	100 %		1 gal/100 gal		A					
12	Ignite	2.34	LBA/GAL	22 oz/a		A	1	0	78	47	60
	12 Spray grade ams	100 %		17 lb ai/100 gal		A					
	LSD (P=.05)						0.7	0.0	8.8	7.8	16.3
	Standard Deviation						0.4	0.0	5.2	4.6	9.6
	CV						26.52	0.0	7.74	10.23	16.99
	Bartlett's X2						0.0	0.0	5.772	2.094	3.026
	P(Bartlett's X2)						1.00	.	0.673	0.954	0.963
	Replicate F						3.215	0.000	0.492	6.286	1.231
	Replicate Prob(F)						0.0596	1.0000	0.6181	0.0069	0.3131
	Treatment F						11.246	0.000	58.099	31.571	13.368
	Treatment Prob(F)						0.0001	1.0000	0.0001	0.0001	0.0001

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Pest Type	W Weed	W Weed	W Weed	W Weed							
Pest Code	AMARE	SETFA	AMBEL	AMBTR							
Pest Scientific Name	Amaranthus ret->	Setaria faberi	Ambrosia artem->	Ambrosia trifi->							
Pest Name	Redroot pigweed	Giant foxtail	Common ragweed	Giant ragweed							
Crop Code	GLXMA										
BBCH Scale	BSOY										
Crop Scientific Name	Glycine max										
Crop Name	Soybean										
Rating Date	Jun-18-2010	Jun-25-2010	Jun-25-2010	Jun-25-2010							
Rating Type	CONTROL	PHYGEN	CONTROL	CONTROL							
Rating Unit	%	%	%	%							
Number of Subsamples	1	1	1	1							
Days After First/Last Applic.	14 14	21 21	21 21	21 21							
Trt-Eval Interval	14 DA-A	21 DA-A	21 DA-A	21 DA-A							
Plant-Eval Interval	43 DP-1	50 DP-1	50 DP-1	50 DP-1							
Days After Emergence	31 DE-	38 DE-	38 DE-	38 DE-							
Number of Decimals	0	0	0	0							
Trt No.	Treatment Name	Form Conc	Form Unit	Other Rate	Other Unit	Appl Code	6	7	8	9	10
1	UTC						0	0	0	0	0
2	Ignite	2.34 LBA/GAL		22 oz/a		A	75	0	78	100	62
	2 N-pak ams	100 %		2 qt/a		A					
3	Ignite	2.34 LBA/GAL		22 oz/a		A	77	0	70	97	57
	3 Weather Gaurd Complete	100 %		2 qt/100 gal		A					
4	Ignite	2.34 LBA/GAL		22 oz/a		A	47	0	68	98	43
	4 Array	100 %		9 lb ai/100 gal		A					
5	Ignite	2.34 LBA/GAL		22 oz/a		A	75	0	78	98	58
	5 Class Act	100 %		5 qt/100 gal		A					
	5 Interlock	100 %		4 oz/a		A					
6	Ignite	2.34 LBA/GAL		22 oz/a		A	63	0	73	100	63
	6 Gardian Plus	100 %		2.5 gal/100 gal		A					
7	Ignite	2.34 LBA/GAL		22 oz/a		A	82	0	80	97	75
	7 Hel-Fire	100 %		2 pt/100 gal		A					
	7 Grounded	100 %		1 gal/100 gal		A					
8	Ignite	2.34 LBA/GAL		22 oz/a		A	68	0	75	98	67
	8 Doubledown	100 %		2.5 gal/100 gal		A					
9	Ignite	2.34 LBA/GAL		22 oz/a		A	63	0	75	98	58
	9 Border Xtra XL	100 %		2.5 gal/100 gal		A					
10	Ignite	2.34 LBA/GAL		22 oz/a		A	60	0	68	98	62
	10 Bronc Max E.D.T.	100 %		2 qt/100 gal		A					
11	Ignite	2.34 LBA/GAL		22 oz/a		A	77	0	82	100	57
	11 Request	100 %		2 qt/100 gal		A					
	11 Grounded	100 %		1 gal/100 gal		A					
12	Ignite	2.34 LBA/GAL		22 oz/a		A	72	0	75	100	65
	12 Spray grade ams	100 %		17 lb ai/100 gal		A					
	LSD (P=.05)						19.5	0.0	8.0	3.7	16.8
	Standard Deviation						11.5	0.0	4.7	2.2	9.9
	CV						18.2	0.0	6.88	2.41	17.84
	Bartlett's X2						2.054	0.0	4.783	0.0	4.299
	P(Bartlett's X2)						0.991	.	0.853	1.00	0.891
	Replicate F						0.651	0.000	0.218	1.320	1.725
	Replicate Prob(F)						0.5314	1.0000	0.8057	0.2875	0.2014
	Treatment F						11.043	0.000	65.394	514.600	11.049
	Treatment Prob(F)						0.0001	1.0000	0.0001	0.0001	0.0001

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Pest Type	W Weed	W Weed	W Weed	W Weed						
Pest Code	AMARE	CHEAL	SETFA	AMBTR						
Pest Scientific Name	Amaranthus ret->	Chenopodium al->	Setaria faberi	Ambrosia trifi->						
Pest Name	Redroot pigweed	Common lambsqu>	Giant foxtail	Giant ragweed						
Crop Code										
BBCH Scale										
Crop Scientific Name										
Crop Name										
Rating Date	Jun-25-2010	Jun-25-2010	Jul-9-2010	Jul-9-2010						
Rating Type	CONTROL	CONTROL	CONTROL	CONTROL						
Rating Unit	%	%	%	%						
Number of Subsamples	1	1	1	1						
Days After First/Last Applic.	21 21	21 21	35 35	35 35						
Trt-Eval Interval	21 DA-A	21 DA-A	35 DA-A	35 DA-A						
Plant-Eval Interval	50 DP-1	50 DP-1	64 DP-1	64 DP-1						
Days After Emergence	38 DE-	38 DE-	52 DE-	52 DE-						
Number of Decimals	0	0	0	0						
Trt No.	Treatment Name	Form Conc	Form Unit	Other Rate	Other Unit	Appl Code	11	12	13	14
1	UTC						0	0	0	0
2	Ignite	2.34 LBA/GAL		22 oz/a		A	82	85	97	60
	2 N-pak ams	100 %		2 qt/a		A				
3	Ignite	2.34 LBA/GAL		22 oz/a		A	80	70	90	57
	3 Weather Gaurd Complete	100 %		2 qt/100 gal		A				
4	Ignite	2.34 LBA/GAL		22 oz/a		A	58	63	85	40
	4 Array	100 %		9 lb ai/100 gal		A				
5	Ignite	2.34 LBA/GAL		22 oz/a		A	75	73	94	53
	5 Class Act	100 %		5 qt/100 gal		A				
	5 Interlock	100 %		4 oz/a		A				
6	Ignite	2.34 LBA/GAL		22 oz/a		A	72	68	89	57
	6 Gardian Plus	100 %		2.5 gal/100 gal		A				
7	Ignite	2.34 LBA/GAL		22 oz/a		A	82	72	95	70
	7 Hel-Fire	100 %		2 pt/100 gal		A				
	7 Grounded	100 %		1 gal/100 gal		A				
8	Ignite	2.34 LBA/GAL		22 oz/a		A	78	72	92	63
	8 Doubledown	100 %		2.5 gal/100 gal		A				
9	Ignite	2.34 LBA/GAL		22 oz/a		A	63	78	92	50
	9 Border Xtra XL	100 %		2.5 gal/100 gal		A				
10	Ignite	2.34 LBA/GAL		22 oz/a		A	68	68	88	53
	10 Bronc Max E.D.T.	100 %		2 qt/100 gal		A				
11	Ignite	2.34 LBA/GAL		22 oz/a		A	87	67	95	47
	11 Request	100 %		2 qt/100 gal		A				
	11 Grounded	100 %		1 gal/100 gal		A				
12	Ignite	2.34 LBA/GAL		22 oz/a		A	77	73	94	50
	12 Spray grade ams	100 %		17 lb ai/100 gal		A				
	LSD (P=.05)						15.0	12.9	5.2	12.4
	Standard Deviation						8.8	7.6	3.0	7.3
	CV						12.9	11.54	3.62	14.67
	Bartlett's X2						8.707	6.901	4.948	2.77
	P(Bartlett's X2)						0.56	0.735	0.763	0.948
	Replicate F						3.109	0.252	0.654	0.155
	Replicate Prob(F)						0.0647	0.7791	0.5296	0.8574
	Treatment F						20.453	23.961	231.446	17.239
	Treatment Prob(F)						0.0001	0.0001	0.0001	0.0001

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Pest Type	W Weed	W Weed	W Weed
Pest Code	AMBEL	AMARE	CHEAL
Pest Scientific Name	Ambrosia artem>	Amaranthus ret>	Chenopodium al>
Pest Name	Common ragweed	Redroot pigweed	Common lambsqu>
Crop Code			
BBCH Scale			
Crop Scientific Name			
Crop Name			
Rating Date	Jul-9-2010	Jul-9-2010	Jul-9-2010
Rating Type	CONTROL	CONTROL	CONTROL
Rating Unit	%	%	%
Number of Subsamples	1	1	1
Days After First/Last Applic.	35 35	35 35	35 35
Trt-Eval Interval	35 DA-A	35 DA-A	35 DA-A
Plant-Eval Interval	64 DP-1	64 DP-1	64 DP-1
Days After Emergence	52 DE-	52 DE-	52 DE-
Number of Decimals	0	0	0

Trt No.	Treatment Name	Form Conc	Form Unit	Other Rate	Other Unit	Appl Code	15	16	17
1	UTC						0	0	0
2	Ignite	2.34	LBA/GAL	22 oz/a		A	100	100	100
	2 N-pak ams	100 %		2 qt/a		A			
3	Ignite	2.34	LBA/GAL	22 oz/a		A	100	100	100
	3 Weather Gaurd Complete	100 %		2 qt/100 gal		A			
4	Ignite	2.34	LBA/GAL	22 oz/a		A	100	100	100
	4 Array	100 %		9 lb ai/100 gal		A			
5	Ignite	2.34	LBA/GAL	22 oz/a		A	100	100	100
	5 Class Act	100 %		5 qt/100 gal		A			
	5 Interlock	100 %		4 oz/a		A			
6	Ignite	2.34	LBA/GAL	22 oz/a		A	100	98	100
	6 Gardian Plus	100 %		2.5 gal/100 gal		A			
7	Ignite	2.34	LBA/GAL	22 oz/a		A	100	98	100
	7 Hel-Fire	100 %		2 pt/100 gal		A			
	7 Grounded	100 %		1 gal/100 gal		A			
8	Ignite	2.34	LBA/GAL	22 oz/a		A	100	100	100
	8 Doubledown	100 %		2.5 gal/100 gal		A			
9	Ignite	2.34	LBA/GAL	22 oz/a		A	100	100	100
	9 Border Xtra XL	100 %		2.5 gal/100 gal		A			
10	Ignite	2.34	LBA/GAL	22 oz/a		A	98	100	100
	10 Bronc Max E.D.T.	100 %		2 qt/100 gal		A			
11	Ignite	2.34	LBA/GAL	22 oz/a		A	100	100	100
	11 Request	100 %		2 qt/100 gal		A			
	11 Grounded	100 %		1 gal/100 gal		A			
12	Ignite	2.34	LBA/GAL	22 oz/a		A	100	100	100
	12 Spray grade ams	100 %		17 lb ai/100 gal		A			
	LSD (P=.05)						1.4	2.0	0.0
	Standard Deviation						0.8	1.2	0.0
	CV						0.91	1.32	0.0
	Bartlett's X2						0.0	0.0	0.0
	P(Bartlett's X2)						.	.	.
	Replicate F						1.000	0.478	0.000
	Replicate Prob(F)						0.3840	0.6262	1.0000
	Treatment F						3590.091	1712.174	0.000
	Treatment Prob(F)						0.0001	0.0001	1.0000

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LL ADJUVANT STUDY

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Location: Western Branch F-8 Study Director: Bryan Reeb
Project ID: 10LLSOYADJ Investigator: Dr. Mark M. Loux
Sponsor Contact: DAVE LAMORE, BAYER

Pest Type

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

Pest Code

SETFA, Setaria faberi, = US
AMBTR, Ambrosia trifida, = US
CHEAL, Chenopodium album, = US
AMARE, Amaranthus retroflexus, = US
AMBEL, Ambrosia artemisiifolia, = US

Crop Code

GLXMA, BSOY, Glycine max, = US

Rating Type

PHYCHL = phytotoxicity - chlorosis
PHYGEN = phytotoxicity - general / injury

Rating Unit

% = percent

Plant-Eval Interval

35 DP-1 = 1 May-6-2010
43 DP-1 = 1 May-6-2010
50 DP-1 = 1 May-6-2010
64 DP-1 = 1 May-6-2010