

The Ohio State University

Market development soybean treatments

Trial ID: 16 PREPOSTRR
 Protocol ID: 16 PREPOSTRR
 Project ID: 2016-01-24-02 MKT DEV

Location: Western Branch Trial Year: 2016
 Investigator: Dr. Mark M. Loux
 Study Director: Bryan Reeb
 Sponsor Contact: Rod Stevenson, Monsanto

General Trial Information

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

Latitude of LL Corner °: 39.86025 N
Longitude of LL Corner °: 83.67297 W
Altitude of LL Corner, Unit: 1084.00 FT

Conducted Under GLP: No
Conducted Under GEP: No

Contacts

Study Director: Bryan Reeb

Investigator: Dr. Mark M. Loux

Crop Description

Crop 1: GLXMA Glycine max
Variety: AG3536
Description: Asgrow RR2

BBCH Scale: BSOY

Planting Rate, Unit: 175000 S/A
Depth, Unit: 1 IN
Row Spacing, Unit: 15 IN
Soil Temperature, Unit: 67 F
Soil Moisture: DRY dry
Seed Bed: MEDIUM medium

Planting Date: 5-25-2016
Planting Method: PLANTD planted
Planting Equipment: FE Field Equipment
Emergence Date: 6-1-2016

Pest Description

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

Pest 2 Type: W **Code:** ECHCG *Echinochloa crus-galli*
Common Name: Common barnyardgrass

Pest 3 Type: W **Code:** CHEAL *Chenopodium album*
Common Name: Common lambsquarters

Pest 4 Type: W **Code:** AMBTR *Ambrosia trifida*
Common Name: Giant ragweed

Pest 5 Type: W **Code:** SIDSP *Sida spinosa*
Common Name: Prickly sida

Pest 6 Type: W **Code:** AMARE *Amaranthus retroflexus*
Common Name: Redroot pigweed

Site and Design

Treated Plot Width: 10 FT
Treated Plot Length: 30 FT
Treated Plot Area: 300 FT² **Treatments:** 14
Replications: 4

Site Type: FIELD field
Experimental Unit: 1 PLOT plot
Tillage Type: CONTIL conventional-till
Study Design: RACOBL Randomized Complete Block (RCB)

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	B
Application Date:	5-25-2016	6-20-2016
Appl. Start Time:	10:30 AM	10:00 AM
Appl. Stop Time:	10:45 AM	10:15 AM
Interval to Prev. Appl., Unit:		26 DAYS
Application Method:	SPRAY	SPRAY
Application Timing:	PRE	POST 4" WDS
Application Placement:	BROSOL	BROFOL
Applied By:	LAMB	REEB
Air Temperature, Unit:	79 F	81 F
% Relative Humidity:	69	68
Wind Velocity, Unit:	9 MPH	6 MPH
Wind Direction:	SSW	WSW
Dew Presence (Y/N):	N no	N no
Soil Temperature, Unit:	66 F	73 F
Soil Moisture:	DRY	DRY
% Cloud Cover:	75	66
Next Moisture Occurred On:	5-29-2016	6-21-2016
Time to Next Moisture, Unit:	4 D	1 D

Crop Stage At Each Application

	A	B
Crop 1 Code, BBCH Scale:	GLXMA BSOY	GLXMA BSOY
Stage Scale Used:		BBCH
Stage Majority, Percent:		13 100
Stage Minimum, Percent:		V4
Height, Unit:		6 IN

Pest Stage At Each Application

	A	B
Pest 1 Code, Type, Scale:	SETFA W	SETFA W
Stage Majority, Percent:		13 100
Height, Unit:		5 IN
Height Minimum, Maximum:		4 5
Density, Unit:		40 m2
Pest 2 Code, Type, Scale:	ECHCG W	ECHCG W
Stage Majority, Percent:		13 100
Height, Unit:		5 IN
Height Minimum, Maximum:		4 5
Density, Unit:		70 m2
Pest 3 Code, Type, Scale:	CHEAL W	CHEAL W
Stage Majority, Percent:		14 100
Height, Unit:		3 IN
Height Minimum, Maximum:		2 3
Density, Unit:		8 m2
Pest 4 Code, Type, Scale:	AMBTR W	AMBTR W
Stage Majority, Percent:		19 60
Stage Minimum, Percent:		12 40
Stage Maximum, Percent:		19 60
Height, Unit:		8 IN
Height Minimum, Maximum:		8 12
Density, Unit:		3.5 m2
Pest 5 Code, Type, Scale:	SIDSP W	SIDSP W
Stage Majority, Percent:		13 100
Height, Unit:		2 IN
Height Minimum, Maximum:		2 3
Density, Unit:		5 m2
Pest 6 Code, Type, Scale:	AMARE W	AMARE W
Density, Unit:		12 m2

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Application Equipment

	A	B
Appl. Equipment:	10' BACKPACK	6' BACKPACK
Equipment Type:	BACCAI	BACCAI
Operation Pressure, Unit:	50 PSI	44 PSI
Nozzle Type:	AIXR	AIXR
Nozzle Size:	11015	11015
Nozzle Spacing, Unit:	18 IN	18 IN
Nozzles/Row:	6	4
Boom Length, Unit:	10 FT	6.67 FT
Boom Height, Unit:	20 IN	20 IN
Ground Speed, Unit:	3 MPH	3 MPH
Carrier:	WATER	WATER
Spray Volume, Unit:	15 gal/ac	15 gal/ac
Mix Size, Unit:	2 liters	1 liters
Propellant:	COMCO2	COMCO2

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code	SETFA	ECHCG	AMBTR	CHEAL	AMARE
Pest Scientific Name	Setaria faberi	Echinochloa cr>	Ambrosia trifi>	Chenopodium al>	Amaranthus ret>
Pest Name	Giant foxtail	Common barnyar>	Giant ragweed	Common lambsqu>	Redroot pigweed
Rating Date	6-17-2016	6-17-2016	6-17-2016	6-17-2016	6-17-2016
Rating Type	PHYGEN	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit	%	%	%	%	%
Number of Subsamples	1	1	1	1	1
SE Group No.	1	2	3	4	5
Days After First/Last Applic.	23 23	23 23	23 23	23 23	23 23
Plant-Eval Interval	23 DP-1	23 DP-1	23 DP-1	23 DP-1	23 DP-1
Days After Emergence	16 DE-1	16 DE-1	16 DE-1	16 DE-1	16 DE-1

Trt No.	Treatment Name	Other Rate	Other Rate	Appl Unit Code	1*	2*	3*	4*	5*	6*
1	Rowel	3 oz/a		A	0.0 c	45.0 g	42.5 f	7.5 f	86.3 -	90.0 b
	Roundup Power Max	32 oz/a		B						
	Warrant Ultra	50 oz/a		B						
	Class Act NG	1.5 qt/a		B						
2	Rowel FX	4 oz/a		A	3.8 ab	64.3 ef	64.3 de	57.5 abc	97.5 -	100.0 a
	Roundup Power Max	32 oz/a		B						
	Warrant Ultra	50 oz/a		B						
	Class Act NG	1.5 qt/a		B						
3	Rowel	2 oz/a		A	3.3 ab	77.5 b-e	75.0 cd	40.0 a-e	98.3 -	100.0 a
	Warrant	48 oz/a		A						
	Roundup Power Max	32 oz/a		B						
	Warrant Ultra	50 oz/a		B						
	Class Act NG	1.5 qt/a		B						
4	Warrant Ultra	50 oz/a		A	0.8 bc	78.8 b-e	68.8 d	27.5 def	95.0 -	100.0 a
	Roundup Power Max	32 oz/a		B						
	Cobra	10 oz/a		B						
	Class Act NG	1.5 qt/a		B						
5	Warrant	48 oz/a		A	0.0 c	88.8 abc	85.0 abc	42.5 a-d	97.5 -	100.0 a
	Tricor	6 oz/a		A						
	Roundup Power Max	32 oz/a		B						
	Cobra	10 oz/a		B						
	Warrant	48 oz/a		B						
	Class Act NG	1.5 qt/a		B						
6	Authority MTZ	14 oz/a		A	0.8 bc	52.5 fg	50.0 ef	7.5 f	97.5 -	100.0 a
	Roundup Power Max	32 oz/a		B						
	Marvel	7.25 oz/a		B						
	Class Act NG	1.5 qt/a		B						
7	Authority MAXX	6.4 oz/a		A	2.5 bc	65.0 ef	62.5 de	35.0 b-f	96.3 -	98.8 a
	Roundup Power Max	32 oz/a		B						
	Marvel	7.25 oz/a		B						
	Class Act NG	1.5 qt/a		B						
8	Fierce XLT	4.5 oz/a		A	6.3 a	94.0 ab	91.5 ab	63.8 a	98.8 -	100.0 a
	Roundup Power Max	32 oz/a		B						
	Cobra	10 oz/a		B						
	Class Act NG	1.5 qt/a		B						

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Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed					
Pest Code	SETFA	ECHCG	AMBTR	CHEAL	AMARE					
Pest Scientific Name	Setaria faberi	Echinochloa cr>	Ambrosia trifi>	Chenopodium al>	Amaranthus ret>					
Pest Name	Giant foxtail	Common barnyar>	Giant ragweed	Common lambsqu>	Redroot pigweed					
Rating Date	6-17-2016	6-17-2016	6-17-2016	6-17-2016	6-17-2016					
Rating Type	PHYGEN	CONTRO	CONTRO	CONTRO	CONTRO					
Rating Unit	%	%	%	%	%					
Number of Subsamples	1	1	1	1	1					
SE Group No.	1	2	3	4	5					
Days After First/Last Applic.	23 23	23 23	23 23	23 23	23 23					
Plant-Eval Interval	23 DP-1	23 DP-1	23 DP-1	23 DP-1	23 DP-1					
Days After Emergence	16 DE-1	16 DE-1	16 DE-1	16 DE-1	16 DE-1					
Trt No.	Treatment Name	Other Rate	Other Rate	Appl Unit Code	1*	2*	3*	4*	5*	6*
9	Zidua WG	2.75 oz/a		A	0.0 c	94.0 ab	90.8 ab	15.0 def	91.3 -	100.0 a
	Roundup Power Max	32 oz/a		B						
	Ultra Blazer	16 oz/a		B						
	Class Act NG	1.5 qt/a		B						
10	Verdict	5 oz/a		A	3.3 ab	67.5 def	50.0 ef	42.5 a-d	93.8 -	97.5 a
	Roundup Power Max	32 oz/a		B						
	Ultra Blazer	16 oz/a		B						
	Class Act NG	1.5 qt/a		B						
11	Broadaxe XC	32 oz/a		A	2.5 bc	98.3 a	97.3 a	12.5 ef	98.8 -	100.0 a
	Roundup Power Max	32 oz/a		B						
	Prefix	32 oz/a		B						
	Class Act NG	1.5 qt/a		B						
12	Prefix	32 oz/a		A	1.5 bc	82.5 a-d	75.0 cd	30.0 c-f	91.3 -	100.0 a
	Sequence	56 oz/a		B						
	Class Act NG	1.5 qt/a		B						
13	Trivence @ 8 oz				2.0 bc	75.0 cde	72.5 cd	62.5 ab	99.3 -	100.0 a
	Classic	1.25 oz/a		A						
	Metribuzin	4.76 oz/a		A						
	Valor SX	2 oz/a		A						
	Abundit Extra	32 oz/a		B						
	Cobra	10 oz/a		B						
	Warrant	48 oz/a		B						
	Class Act NG	1.5 qt/a		B						
14	Rowel	3 oz/a		A	6.3 a	83.5 a-d	77.3 bcd	66.3 a	100.0 -	100.0 a
	Tricor	6 oz/a		A						
	Roundup Power Max	32 oz/a		B						
	Warrant Ultra	50 oz/a		B						
	Class Act NG	1.5 qt/a		B						
LSD P=.05					3.01	16.60	15.19	27.99	9.38	4.19
Standard Deviation					2.11	11.61	10.62	19.57	6.56	2.93
CV					90.09	15.24	14.83	53.73	6.84	2.96
Bartlett's X2					3.665	21.415	27.279	7.265	27.991	4.271
P(Bartlett's X2)					0.961	0.065	0.011*	0.888	0.006*	0.118
Skewness					0.9241*	-0.923*	-0.5433	0.2134	-1.9684*	-4.1506*
Kurtosis					0.2555	0.743	-0.0862	-1.1882	3.6875*	17.6698*
Replicate F					0.980	0.570	2.528	0.693	1.571	0.329
Replicate Prob(F)					0.4122	0.6380	0.0714	0.5619	0.2119	0.8045
Treatment F					3.920	7.441	9.769	4.558	1.426	3.375
Treatment Prob(F)					0.0005	0.0001	0.0001	0.0001	0.1915	0.0016

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Pest Code		SETFA	ECHCG	AMBTR	CHEAL	AMARE				
Pest Scientific Name		Setaria faberi	Echinochloa cr>	Ambrosia trifi>	Chenopodium al>	Amaranthus ret>				
Pest Name		Giant foxtail	Common barnyar>	Giant ragweed	Common lambsqu>	Redroot pigweed				
Rating Date		7-20-2016	7-20-2016	7-20-2016	7-20-2016	7-20-2016				
Rating Type		PHYGEN	CONTRO	CONTRO	CONTRO	CONTRO				
Rating Unit		%	%	%	%	%				
Number of Subsamples		1	1	1	1	1				
SE Group No.		7	8	9	10	11				
Days After First/Last Applic.		56 30	56 30	56 30	56 30	56 30				
Plant-Eval Interval		56 DP-1	56 DP-1	56 DP-1	56 DP-1	56 DP-1				
Days After Emergence		49 DE-1	49 DE-1	49 DE-1	49 DE-1	49 DE-1				
Trt No.	Treatment Name	Other Rate	Other Rate	Appl Unit Code	7*	8*	9*	10*	11*	12*
1	Rowel	3 oz/a		A	3.8 abc	100.0 -	100.0 -	87.5 -	100.0 -	100.0 -
	Roundup Power Max	32 oz/a		B						
	Warrant Ultra	50 oz/a		B						
	Class Act NG	1.5 qt/a		B						
2	Rowel FX	4 oz/a		A	3.8 abc	100.0 -	99.5 -	88.8 -	100.0 -	100.0 -
	Roundup Power Max	32 oz/a		B						
	Warrant Ultra	50 oz/a		B						
	Class Act NG	1.5 qt/a		B						
3	Rowel	2 oz/a		A	0.0 d	100.0 -	100.0 -	91.3 -	100.0 -	100.0 -
	Warrant	48 oz/a		A						
	Roundup Power Max	32 oz/a		B						
	Warrant Ultra	50 oz/a		B						
	Class Act NG	1.5 qt/a		B						
4	Warrant Ultra	50 oz/a		A	5.0 ab	100.0 -	98.8 -	93.8 -	100.0 -	100.0 -
	Roundup Power Max	32 oz/a		B						
	Cobra	10 oz/a		B						
	Class Act NG	1.5 qt/a		B						
5	Warrant	48 oz/a		A	0.8 cd	100.0 -	100.0 -	96.3 -	100.0 -	100.0 -
	Tricor	6 oz/a		A						
	Roundup Power Max	32 oz/a		B						
	Cobra	10 oz/a		B						
	Warrant	48 oz/a		B						
	Class Act NG	1.5 qt/a		B						
6	Authority MTZ	14 oz/a		A	2.0 bcd	98.8 -	99.8 -	85.0 -	100.0 -	100.0 -
	Roundup Power Max	32 oz/a		B						
	Marvel	7.25 oz/a		B						
	Class Act NG	1.5 qt/a		B						
7	Authority MAXX	6.4 oz/a		A	1.8 bcd	100.0 -	100.0 -	82.5 -	100.0 -	100.0 -
	Roundup Power Max	32 oz/a		B						
	Marvel	7.25 oz/a		B						
	Class Act NG	1.5 qt/a		B						
8	Fierce XLT	4.5 oz/a		A	2.5 bcd	100.0 -	96.3 -	88.8 -	100.0 -	100.0 -
	Roundup Power Max	32 oz/a		B						
	Cobra	10 oz/a		B						
	Class Act NG	1.5 qt/a		B						

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Pest Scientific Name	Setaria faberi	Echinochloa cr>	Ambrosia trifi>	Chenopodium al>	Amaranthus ret>					
Pest Name	Giant foxtail	Common barnyar>	Giant ragweed	Common lambsqu>	Redroot pigweed					
Rating Date	7-20-2016	7-20-2016	7-20-2016	7-20-2016	7-20-2016					
Rating Type	PHYGEN	CONTRO	CONTRO	CONTRO	CONTRO					
Rating Unit	%	%	%	%	%					
Number of Subsamples	1	1	1	1	1					
SE Group No.	7	8	9	10	11					
Days After First/Last Applic.	56 30	56 30	56 30	56 30	56 30					
Plant-Eval Interval	56 DP-1	56 DP-1	56 DP-1	56 DP-1	56 DP-1					
Days After Emergence	49 DE-1	49 DE-1	49 DE-1	49 DE-1	49 DE-1					
Trt No.	Treatment Name	Other Rate	Other Rate	Appl Unit Code	7*	8*	9*	10*	11*	12*
9	Zidua WG	2.75 oz/a		A	0.0 d	100.0 -	100.0 -	86.3 -	100.0 -	100.0 -
	Roundup Power Max	32 oz/a		B						
	Ultra Blazer	16 oz/a		B						
	Class Act NG	1.5 qt/a		B						
10	Verdict	5 oz/a		A	0.0 d	98.8 -	92.5 -	90.0 -	100.0 -	100.0 -
	Roundup Power Max	32 oz/a		B						
	Ultra Blazer	16 oz/a		B						
	Class Act NG	1.5 qt/a		B						
11	Broadaxe XC	32 oz/a		A	0.0 d	100.0 -	100.0 -	88.8 -	100.0 -	100.0 -
	Roundup Power Max	32 oz/a		B						
	Prefix	32 oz/a		B						
	Class Act NG	1.5 qt/a		B						
12	Prefix	32 oz/a		A	0.0 d	100.0 -	100.0 -	96.3 -	100.0 -	100.0 -
	Sequence	56 oz/a		B						
	Class Act NG	1.5 qt/a		B						
13	Trivence @ 8 oz				6.8 a	100.0 -	100.0 -	96.3 -	100.0 -	100.0 -
	Classic	1.25 oz/a		A						
	Metribuzin	4.76 oz/a		A						
	Valor SX	2 oz/a		A						
	Abundit Extra	32 oz/a		B						
	Cobra	10 oz/a		B						
	Warrant	48 oz/a		B						
	Class Act NG	1.5 qt/a		B						
14	Rowel	3 oz/a		A	2.0 bcd	98.8 -	98.8 -	88.8 -	100.0 -	100.0 -
	Tricor	6 oz/a		A						
	Roundup Power Max	32 oz/a		B						
	Warrant Ultra	50 oz/a		B						
	Class Act NG	1.5 qt/a		B						
LSD P=.05					3.70	1.70	4.63	8.91	.	.
Standard Deviation					2.59	1.19	3.24	6.23	0.00	0.00
CV					128.27	1.19	3.27	6.92	0.0	0.0
Bartlett's X2					5.236	0.0	25.621	3.59	0.0	0.0
P(Bartlett's X2)					0.732	.	0.001*	0.995	.	.
Skewness					1.3197*	-4.0752*	-4.1148*	0.0	.	.
Kurtosis					0.6865	15.1476*	17.4672*	-1.3224*	.	.
Replicate F					0.074	0.317	2.429	10.959	0.000	0.000
Replicate Prob(F)					0.9737	0.8129	0.0798	0.0001	1.0000	1.0000
Treatment F					2.735	0.805	1.725	1.909	0.000	0.000
Treatment Prob(F)					0.0076	0.6515	0.0941	0.0597	1.0000	1.0000

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Pest Type

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

Pest Code

SETFA, Setaria faberi, = US
ECHCG, Echinochloa crus-galli, = US
AMBTR, Ambrosia trifida, = US
CHEAL, Chenopodium album, = US
AMARE, Amaranthus retroflexus, = US

Rating Type

PHYGEN = phytotoxicity - general / injury
CONTRO = control / burndown or knockdown

Rating Unit

% = percent

Plant-Eval Interval

23 DP-1 = 1 GLXMA 5-25-2016
56 DP-1 = 1 GLXMA 5-25-2016