

Syngenta Overlapping Residuals RR2 and LL Soybean.

Trial ID: 16-1-M130 Location: Belleville Res. Center Trial Year: 2016
Investigator: Karla L. Gage, Ph.D.

<p>Trial Status: F one-year/final Initiation Date: 5-31-16 Completion Date: 10-23-16</p>	Trial Location
<p>City: Belleville Country: USA State/Prov.: Illinois IL Postal Code: 62221</p>	

<p>Objectives: Compare top Syngenta and competitive two-pass systems for weed control in RR2Y and LL systems.</p>

Contacts
<p>Study Director: Karla Gage, Ph.D. Title: Assistant Professor of Weed Science Organization: Southern Illinois University Carbondale Address: 1205 Lincoln Drive MC 4415 Phone No.: 618-453-7679 City+State/Prov: Carbondale, IL Postal Code: 62901 E-mail: kgage@siu.edu Country: USA</p>

Crop Description
<p>Crop 1: GLXMA Glycine max Soybean Variety: See treatment list BBCH Scale: BSOY</p> <p>Planting Rate, Unit: 140000 S/A Planting Date: 5-31-16 Depth, Unit: 1 IN Planting Method: SEEDED Row Spacing, Unit: 30 IN</p>

Pest Description
<p>Pest 1 Type: W Code: AMBTR Ambrosia trifida L. Common Name: ragweed, giant</p> <p>Pest 2 Type: W Code: ABUTH Abutilon theophrasti Medik. Common Name: velvetleaf</p> <p>Pest 3 Type: W Code: AMATA Amaranthus rudis Sauer Common Name: waterhemp, common</p>

Site and Design						
<p>Treated Plot Width: 7.5 FT Total Plot Width: 10 FT Site Type: FIELD Treated Plot Length: 30 FT Total Plot Length: 30 FT Experimental Unit: 1 PLOT Tillage Type: REDTIL reduced-till Replications: 4 Study Design: RACOB L Randomized Complete Block (RCB) Untreated Arrangement: INCLUDED single control randomized in each block</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 5px;"> <thead> <tr> <th>No.</th> <th>Previous Crop</th> <th>Year</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>ZEAMD</td> <td>2015</td> </tr> </tbody> </table>	No.	Previous Crop	Year	1.	ZEAMD	2015
No.	Previous Crop	Year				
1.	ZEAMD	2015				

Maintenance				
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>No.</th> <th>Maintenance Product Name</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>N 0 LB/A, P2O5 50 LB/A, K2O 150 LB/A</td> </tr> </tbody> </table>	No.	Maintenance Product Name	1.	N 0 LB/A, P2O5 50 LB/A, K2O 150 LB/A
No.	Maintenance Product Name			
1.	N 0 LB/A, P2O5 50 LB/A, K2O 150 LB/A			

Soil Description									
<p>Description Name: 01_2013 Texture: SIL silt loam % OM: 2.5 Soil Name: Winfield pH: 6 CEC: 6</p>									
Additional Measured Elements									
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Element</th> <th>Quantity</th> <th>Unit</th> </tr> </thead> <tbody> <tr> <td>P1</td> <td>58</td> <td>lb/A</td> </tr> <tr> <td>K</td> <td>286</td> <td>lb/A</td> </tr> </tbody> </table>	Element	Quantity	Unit	P1	58	lb/A	K	286	lb/A
Element	Quantity	Unit							
P1	58	lb/A							
K	286	lb/A							

Moisture and Weather Conditions
<p>Overall Moisture Conditions: NORMAL Closest Weather Station: ICN - Belleville IL Distance, Unit: 0.5 MI</p>

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No.	Date	Amount	Unit	Type	Type Description	Interval	Unit	Min Temp	Max Temp	Temp Unit
1.	4-29-16	1.94	IN	RAIN	rain	2	DAY			
2.	5-4-16	0.02	IN	RAIN	rain	1	DAY			
3.	5-6-16					7	DAY	44	87	F
4.	5-7-16	0.07	IN	RAIN	rain	1	DAY			
5.	5-9-16	2.12	IN	RAIN	rain	5	DAY			
6.	5-13-16					7	DAY	41	76	F
7.	5-16-16	1.06	IN	RAIN	rain	2	DAY			
8.	5-20-16					7	DAY	51	83	F
9.	5-20-16	0.06	IN	RAIN	rain	1	DAY			
10.	5-25-16	0.68	IN	RAIN	rain	3	DAY			
11.	5-27-16					7	DAY	62	88	F
12.	5-31-16	0.03	IN	RAIN	rain	2	DAY			
13.	6-3-16					7	DAY	55	89	F
14.	6-3-16	0.01	IN	RAIN	rain	1	DAY			
15.	6-4-16	0.72	IN	RAIN	rain	1	DAY			
16.	6-10-16					7	DAY	65	96	F
17.	6-13-16	0.03	IN	RAIN	rain	1	DAY			
18.	6-17-16					7	DAY	67	97	F
19.	6-21-16	0.01	IN	RAIN	rain	1	DAY			
20.	6-24-16					7	DAY	57	95	F
21.	6-25-16	0.02	IN	RAIN	rain	1	DAY			
22.	6-30-16	0.03	IN	RAIN	rain	1	DAY			
23.	7-1-16					7	DAY	60	91	F
24.	7-1-16	2.26	IN	RAIN	rain	4	DAY			
25.	7-6-16	0.32	IN	RAIN	rain	3	DAY			
26.	7-8-16					7	DAY	67	93	F
27.	7-13-16	0.49	IN	RAIN	rain	2	DAY			
28.	7-15-16					7	DAY	68	93	F
29.	7-17-16	0.02	IN	RAIN	rain	1	DAY			
30.	7-19-16	1.47	IN	RAIN	rain	2	DAY			
31.	7-22-16					7	DAY	72	94	F
32.	7-25-16	0.1	IN	RAIN	rain	1	DAY			
33.	7-29-16					7	DAY	69	91	F
34.	7-31-16	0.52	IN	RAIN	rain	3	DAY			
35.	8-3-16	0.75	IN	RAIN	rain	1	DAY			
36.	8-5-16					7	DAY	66	93	F
37.	8-5-16	0.06	IN	RAIN	rain	1	DAY			
38.	8-12-16					7	DAY	68	91	F
39.	8-12-16	4.85	IN	RAIN	rain	5	DAY			
40.	8-19-16					7	DAY	57	93	F

Comment:

Rainfall was recorded on station and provided by Illinois Climate Network.
Air temperature was recorded at Scott Air Force Base 2.5 miles north and provided by NOAA's National Centers for Environmental Information.
Air temperatures given are summarized as weekly high and low, detailed weather data is available on request.

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Trial ID: 16-1-M130 Location: Belleville Res. Center Trial Year: 2016
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Application Description

	A	B
Application Date:	6-1-16	6-20-16
Appl. Start Time:	9:40	7:35
Appl. Stop Time:	10:20	8:40
Application Method:	Spray	Spray
Application Timing:	PRE	3-4"W
Application Placement:	BROSOI	BROFOL
Applied By:	MCG	MCG
Air Temperature, Unit:	80 F	80 F
% Relative Humidity:	62	70
Wind Velocity, Unit:	2 MPH	5 MPH
Wind Direction:	W	SW
Dew Presence (Y/N):	N	N
Soil Temperature, Unit:	73 F	80 F
Soil Moisture:	NORMAL	BELNOR
% Cloud Cover:	25	25
Next Moisture Occurred On:	6-4-16	6-30-16
Time to Next Moisture, Unit:	3 DAY	10 DAY

Crop Stage At Each Application

	A	B
Crop 1 Code, BBCH Scale:	GLXMA	GLXMA
Stage Scale Used:	DESC	DESC
Stage Majority, Percent:	NA	V2
Stage Minimum, Percent:		V2
Stage Maximum, Percent:		V2
Height, Unit:		4 IN
Height Minimum, Maximum:		3 4

Pest Stage At Each Application

	A	B
Pest 1 Code, Type, Scale:	AMBTR W	AMBTR W
Stage Majority, Percent:	NA	6
Stage Minimum, Percent:		2
Stage Maximum, Percent:		8
Height, Unit:		3 IN
Height Minimum, Maximum:		1 4
Density, Unit:		2 FT2
Pest 2 Code, Type, Scale:	ABUTH W	ABUTH W
Stage Majority, Percent:	NA	3
Stage Minimum, Percent:		COTY
Stage Maximum, Percent:		5
Height, Unit:		2 IN
Height Minimum, Maximum:		0.5 3
Density, Unit:		3 FT2
Pest 3 Code, Type, Scale:	AMATA W	AMATA W
Stage Majority, Percent:	NA	2
Stage Minimum, Percent:		COTY
Stage Maximum, Percent:		2
Height, Unit:		0.5 IN
Height Minimum, Maximum:		0.25 0.5
Density, Unit:		0.01 FT2

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Trial ID: 16-1-M130 Location: Belleville Res. Center Trial Year: 2016
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	A	B
Appl. Equipment:	CO2 sprayer	CO2 sprayer
Equipment Type:	BACSPR	BACSPR
Operation Pressure, Unit:	30 PSI	30 PSI
Nozzle Type:	XR	XR
Nozzle Size:	8002	8002
Boom Length, Unit:	7.5 FT	7.5 FT
Spray Volume, Unit:	15 GPA	15 GPA

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Pest Code	Crop Code	Rating Date	Rating Type	Rating Unit	Rating Timing	Trt-Eval Interval	GLXMA 10-23-16 Moisture Percent	GLXMA 10-23-16 Test wt. lb/bu	GLXMA 10-23-16 Yield bu/A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code	
1	S39-R9X NONTREATED								1 d	
2	S39-R9X BOUNDARY FLEXSTAR GT MSO AMS - LIQUID	6.5 3.29 100 100	EC SL SL SL	1.63 lb ai/a 1.44 lb ae/a 1 % v/v 2.5 % v/v		2 pt/a 3.5 pt/a 1 % v/v 2.5 % v/v		PRE 3-4"W 3-4"W 3-4"W	A B B B	14.8 a 55.6 a 34 b
3	S39-R9X BOUNDARY DUAL MAGNUM FLEXSTAR GT MSO AMS - LIQUID	6.5 7.62 3.29 100 100	EC EC SL SL SL	1.63 lb ai/a 0.95 lb ai/a 1.44 lb ae/a 1 % v/v 2.5 % v/v		2 pt/a 1 pt/a 3.5 pt/a 1 % v/v 2.5 % v/v		PRE 3-4"W 3-4"W 3-4"W 3-4"W	A B B B B	15.2 a 55.4 a 32 bc
4	S39-R9X BROADAXE XC FLEXSTAR GT MSO AMS - LIQUID	7 3.29 100 100	SC SL SL SL	1.37 lb ai/a 1.44 lb ae/a 1 % v/v 2.5 % v/v		25 fl oz/a 3.5 pt/a 1 % v/v 2.5 % v/v		PRE 3-4"W 3-4"W 3-4"W	A B B B	14.9 a 55.5 a 23 c
5	S39-R9X AUTHORITY XL ROUNDUP POWERMAX AMS - LIQUID	70 4.5 100	WG SL SL	0.28 lb ai/a 1.13 lb ae/a 2.5 % v/v		6.4 oz/a 32 fl oz/a 2.5 % v/v		PRE 3-4"W 3-4"W	A B B	14.9 a 55.6 a 31 bc
6	S39-R9X FIERCE XLT ROUNDUP POWERMAX AMS - LIQUID	62.41 4.5 100	WG SL SL	0.176 lb ai/a 1.13 lb ae/a 2.5 % v/v		4.5 oz/a 32 fl oz/a 2.5 % v/v		PRE 3-4"W 3-4"W	A B B	15.0 a 55.5 a 28 bc
7	P37T09L BOUNDARY LIBERTY 280 AMS - LIQUID	6.5 2.34 100	EC EC SL	1.63 lb ai/a 0.53 lb ai/a 2.5 % v/v		2 pt/a 29 fl oz/a 2.5 % v/v		PRE 3-4"W 3-4"W	A B B	14.7 a 55.5 a 50 a
8	P37T09L BROADAXE XC LIBERTY 280 AMS - LIQUID	7 2.34 100	SC EC SL	1.37 lb ai/a 0.53 lb ai/a 2.5 % v/v		25 fl oz/a 29 fl oz/a 2.5 % v/v		PRE 3-4"W 3-4"W	A B B	14.6 a 55.6 a 49 a
9	P37T09L VALOR XLT LIBERTY 280 AMS - LIQUID	40.3 2.34 100	WG EC SL	0.0756 lb ai/a 0.53 lb ai/a 2.5 % v/v		3.0 oz/a 29 fl oz/a 2.5 % v/v		PRE 3-4"W 3-4"W	A B B	14.4 a 55.7 a 48 a
10	P37T09L SONIC LIBERTY 280 AMS - LIQUID	70 2.34 100	WG EC SL	0.175 lb ai/a 0.53 lb ai/a 2.5 % v/v		4 oz/a 29 fl oz/a 2.5 % v/v		PRE 3-4"W 3-4"W	A B B	14.5 a 55.7 a 50 a
11	P37T09L FIERCE XLT LIBERTY 280 AMS - LIQUID	62.41 2.34 100	WG EC SL	0.176 lb ai/a 0.53 lb ai/a 2.5 % v/v		4.5 oz/a 29 fl oz/a 2.5 % v/v		PRE 3-4"W 3-4"W	A B B	14.6 a 55.6 a 47 a

Means followed by same letter or symbol do not significantly differ (P=.05, LSD)
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.
Could not calculate LSD (% mean diff) for columns 26,20,23,27 because error mean square = 0.

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Pest Code											GLXMA	GLXMA	GLXMA		
Crop Code											10-23-16	10-23-16	10-23-16		
Rating Date											Moisture	Test wt.	Yield		
Rating Type											Percent	lb/bu	bu/A		
Rating Unit															
Rating Timing															
Trt-Eval Interval															
Trt Treatment	Form	Form	Rate	Other	Other	Growth	Appl								
No. Name	Conc	Type	Rate	Unit	Rate	Rate	Unit	Stage	Code						
12 P37T09L													1 d		
NONTREATED															
LSD P=.05											0.62	0.38	10.4		
Standard Deviation											0.43	0.26	7.2		
CV											2.88	0.47	22.08		
Replicate F											0.880	0.570	1.862		
Replicate Prob(F)											0.4637	0.6396	0.1553		
Treatment F											1.195	0.693	23.651		
Treatment Prob(F)											0.3378	0.7093	0.0001		

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Pest Code	Crop Code	Rating Date	Rating Type	Rating Unit	Rating Timing	Trt-Eval Interval	GLXMA 6-15-16 Injury Percent	GLXMA 6-20-16 Injury Percent	GLXMA 6-27-16 Injury Percent	GLXMA 7-5-16 Injury Percent	GLXMA 7-19-16 Injury Percent
							14 DA-A	0 DA-B	7 DA-B	15 DA-B	29 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code		
1	S39-R9X NONTREATED									0	0
2	S39-R9X BOUNDARY FLEXSTAR GT MSO AMS - LIQUID	6.5 3.29 100 100	EC SL SL SL	1.63 lb ai/a 1.44 lb ae/a 1 % v/v 2.5 % v/v		2 pt/a 3.5 pt/a 1 % v/v 2.5 % v/v		PRE 3-4"W 3-4"W 3-4"W	A B B B	9 a	9 a
3	S39-R9X BOUNDARY DUAL MAGNUM FLEXSTAR GT MSO AMS - LIQUID	6.5 7.62 3.29 100 100	EC EC SL SL SL	1.63 lb ai/a 0.95 lb ai/a 1.44 lb ae/a 1 % v/v 2.5 % v/v		2 pt/a 1 pt/a 3.5 pt/a 1 % v/v 2.5 % v/v		PRE 3-4"W 3-4"W 3-4"W 3-4"W	A B B B B	8 a	8 a
4	S39-R9X BROADAXE XC FLEXSTAR GT MSO AMS - LIQUID	7 3.29 100 100	SC SL SL SL	1.37 lb ai/a 1.44 lb ae/a 1 % v/v 2.5 % v/v		25 fl oz/a 3.5 pt/a 1 % v/v 2.5 % v/v		PRE 3-4"W 3-4"W 3-4"W	A B B B	9 a	9 a
5	S39-R9X AUTHORITY XL ROUNDUP POWERMAX AMS - LIQUID	70 4.5 100	WG SL SL	0.28 lb ai/a 1.13 lb ae/a 2.5 % v/v		6.4 oz/a 32 fl oz/a 2.5 % v/v		PRE 3-4"W 3-4"W	A B B	9 a	9 a
6	S39-R9X FIERCE XLT ROUNDUP POWERMAX AMS - LIQUID	62.41 4.5 100	WG SL SL	0.176 lb ai/a 1.13 lb ae/a 2.5 % v/v		4.5 oz/a 32 fl oz/a 2.5 % v/v		PRE 3-4"W 3-4"W	A B B	3 bc	3 bc
7	P37T09L BOUNDARY LIBERTY 280 AMS - LIQUID	6.5 2.34 100	EC EC SL	1.63 lb ai/a 0.53 lb ai/a 2.5 % v/v		2 pt/a 29 fl oz/a 2.5 % v/v		PRE 3-4"W 3-4"W	A B B	4 b	4 b
8	P37T09L BROADAXE XC LIBERTY 280 AMS - LIQUID	7 2.34 100	SC EC SL	1.37 lb ai/a 0.53 lb ai/a 2.5 % v/v		25 fl oz/a 29 fl oz/a 2.5 % v/v		PRE 3-4"W 3-4"W	A B B	3 bc	3 bc
9	P37T09L VALOR XLT LIBERTY 280 AMS - LIQUID	40.3 2.34 100	WG EC SL	0.0756 lb ai/a 0.53 lb ai/a 2.5 % v/v		3.0 oz/a 29 fl oz/a 2.5 % v/v		PRE 3-4"W 3-4"W	A B B	0 c	0 c
10	P37T09L SONIC LIBERTY 280 AMS - LIQUID	70 2.34 100	WG EC SL	0.175 lb ai/a 0.53 lb ai/a 2.5 % v/v		4 oz/a 29 fl oz/a 2.5 % v/v		PRE 3-4"W 3-4"W	A B B	0 c	0 c
11	P37T09L FIERCE XLT LIBERTY 280 AMS - LIQUID	62.41 2.34 100	WG EC SL	0.176 lb ai/a 0.53 lb ai/a 2.5 % v/v		4.5 oz/a 29 fl oz/a 2.5 % v/v		PRE 3-4"W 3-4"W	A B B	0 c	0 c

Means followed by same letter or symbol do not significantly differ (P=.05, LSD)
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 Could not calculate LSD (% mean diff) for columns 26,20,23,27 because error mean square = 0.

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Pest Code	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA
Crop Code	6-15-16	6-20-16	6-27-16	7-5-16	7-19-16
Rating Date	Injury	Injury	Injury	Injury	Injury
Rating Type	Percent	Percent	Percent	Percent	Percent
Rating Unit					
Rating Timing					
Trt-Eval Interval	14 DA-A	0 DA-B	7 DA-B	15 DA-B	29 DA-B
Trt Treatment	Form	Form	Rate	Other	Other
No. Name	Conc	Type	Rate	Unit	Rate
12 P37T09L					
NONTREATED					
	0	0	0	0	0
LSD P=.05	3.3	3.3	1.4	1.7	.
Standard Deviation	2.3	2.3	1.0	1.1	0.0
CV	52.43	52.43	13.3	35.03	0.0
Replicate F	3.210	3.210	0.788	0.643	0.000
Replicate Prob(F)	0.0387	0.0387	0.5110	0.5941	1.0000
Treatment F	11.458	11.458	342.690	84.857	0.000
Treatment Prob(F)	0.0001	0.0001	0.0001	0.0001	1.0000

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Pest Code	Crop Code	Rating Date	Rating Type	Rating Unit	Rating Timing	Trt-Eval Interval	AMBTR	AMBTR	AMBTR	AMBTR	AMBTR	AMBTR
							6-15-16 Control Percent	6-20-16 Control Percent	7-5-16 Burndown Percent	7-5-16 Residual Percent 34 DA-A	7-19-16 Control Percent	8-1-16 Control Percent
							14 DA-A	0 DA-B	15 DA-B	15 DA-B	29 DA-B	42 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Other Rate	Other Rate	Growth Stage	Other Rate	Other Rate	Growth Stage	Appl Code	
1	S39-R9X NONTREATED											0
2	S39-R9X BOUNDARY FLEXSTAR GT MSO AMS - LIQUID	6.5 3.29 100 100	EC SL SL SL	1.63 lb ai/a 1.44 lb ae/a 1 % v/v 2.5 % v/v	2 pt/a 3.5 pt/a 1 % v/v 2.5 % v/v		PRE 3-4"W 3-4"W 3-4"W			A B B B		13 c 13 c 97 a 94 a 99 a 99 a
3	S39-R9X BOUNDARY DUAL MAGNUM FLEXSTAR GT MSO AMS - LIQUID	6.5 7.62 3.29 100 100	EC EC SL SL SL	1.63 lb ai/a 0.95 lb ai/a 1.44 lb ae/a 1 % v/v 2.5 % v/v	2 pt/a 1 pt/a 3.5 pt/a 1 % v/v 2.5 % v/v		PRE 3-4"W 3-4"W 3-4"W 3-4"W			A B B B B		6 c 6 c 93 a 94 a 97 a 98 ab
4	S39-R9X BROADAXE XC FLEXSTAR GT MSO AMS - LIQUID	7 3.29 100 100	SC SL SL SL	1.37 lb ai/a 1.44 lb ae/a 1 % v/v 2.5 % v/v	25 fl oz/a 3.5 pt/a 1 % v/v 2.5 % v/v		PRE 3-4"W 3-4"W 3-4"W			A B B B		0 c 0 c 96 a 98 a 97 a 98 ab
5	S39-R9X AUTHORITY XL ROUNDUP POWERMAX AMS - LIQUID	70 4.5 100	WG SL SL	0.28 lb ai/a 1.13 lb ae/a 2.5 % v/v	6.4 oz/a 32 fl oz/a 2.5 % v/v		PRE 3-4"W 3-4"W			A B B		78 ab 78 ab 94 a 95 a 94 a 95 bc
6	S39-R9X FIERCE XLT ROUNDUP POWERMAX AMS - LIQUID	62.41 4.5 100	WG SL SL	0.176 lb ai/a 1.13 lb ae/a 2.5 % v/v	4.5 oz/a 32 fl oz/a 2.5 % v/v		PRE 3-4"W 3-4"W			A B B		84 a 84 a 93 a 96 a 93 a 94 cd
7	P37T09L BOUNDARY LIBERTY 280 AMS - LIQUID	6.5 2.34 100	EC EC SL	1.63 lb ai/a 0.53 lb ai/a 2.5 % v/v	2 pt/a 29 fl oz/a 2.5 % v/v		PRE 3-4"W 3-4"W			A B B		0 c 0 c 96 a 94 a 96 a 92 d
8	P37T09L BROADAXE XC LIBERTY 280 AMS - LIQUID	7 2.34 100	SC EC SL	1.37 lb ai/a 0.53 lb ai/a 2.5 % v/v	25 fl oz/a 29 fl oz/a 2.5 % v/v		PRE 3-4"W 3-4"W			A B B		0 c 0 c 94 a 98 a 95 a 91 d
9	P37T09L VALOR XLT LIBERTY 280 AMS - LIQUID	40.3 2.34 100	WG EC SL	0.0756 lb ai/a 0.53 lb ai/a 2.5 % v/v	3.0 oz/a 29 fl oz/a 2.5 % v/v		PRE 3-4"W 3-4"W			A B B		78 ab 78 ab 94 a 97 a 94 a 94 cd
10	P37T09L SONIC LIBERTY 280 AMS - LIQUID	70 2.34 100	WG EC SL	0.175 lb ai/a 0.53 lb ai/a 2.5 % v/v	4 oz/a 29 fl oz/a 2.5 % v/v		PRE 3-4"W 3-4"W			A B B		70 b 70 b 96 a 97 a 96 a 93 cd
11	P37T09L FIERCE XLT LIBERTY 280 AMS - LIQUID	62.41 2.34 100	WG EC SL	0.176 lb ai/a 0.53 lb ai/a 2.5 % v/v	4.5 oz/a 29 fl oz/a 2.5 % v/v		PRE 3-4"W 3-4"W			A B B		78 ab 78 ab 93 a 99 a 93 a 92 cd

Means followed by same letter or symbol do not significantly differ (P=.05, LSD)
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.
 Could not calculate LSD (% mean diff) for columns 26,20,23,27 because error mean square = 0.

Syngenta Overlapping Residuals RR2 and LL Soybean.

Trial ID: 16-1-M130 Location: Belleville Res. Center Trial Year: 2016
Investigator: Karla L. Gage, Ph.D.

Pest Code	AMBTR	AMBTR	AMBTR	AMBTR	AMBTR	AMBTR	
Crop Code							
Rating Date	6-15-16	6-20-16	7-5-16	7-5-16	7-19-16	8-1-16	
Rating Type	Control	Control	Burndown	Residual	Control	Control	
Rating Unit	Percent	Percent	Percent	Percent	Percent	Percent	
Rating Timing				34 DA-A			
Trt-Eval Interval	14 DA-A	0 DA-B	15 DA-B	15 DA-B	29 DA-B	42 DA-B	
Trt Treatment	Form	Form	Rate	Other	Other	Growth	Appl
No. Name	Conc	Type	Rate	Unit	Rate	Rate	Unit Stage Code
12 P37T09L NONTREATED							
	0	0	0	0	0	0	0
LSD P=.05	13.0	13.0	4.6	4.0	3.8	3.4	
Standard Deviation	9.0	9.0	3.2	2.8	2.6	2.3	
CV	22.15	22.15	3.37	2.89	2.78	2.46	
Replicate F	3.169	3.169	0.485	2.813	0.305	2.235	
Replicate Prob(F)	0.0404	0.0404	0.6958	0.0582	0.8212	0.1071	
Treatment F	75.815	75.815	0.765	1.610	1.963	6.103	
Treatment Prob(F)	0.0001	0.0001	0.6485	0.1624	0.0849	0.0001	

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Syngenta Overlapping Residuals RR2 and LL Soybean.

Trial ID: 16-1-M130 Location: Belleville Res. Center Trial Year: 2016
Investigator: Karla L. Gage, Ph.D.

Pest Code							ABUTH	ABUTH	ABUTH	ABUTH	ABUTH	ABUTH
Crop Code							6-15-16	6-20-16	7-5-16	7-5-16	7-19-16	8-1-16
Rating Date							Control	Control	Burndown	Residual	Control	Control
Rating Type							Percent	Percent	Percent	Percent	Percent	Percent
Rating Unit							14 DA-A	0 DA-B	15 DA-B	15 DA-B	29 DA-B	42 DA-B
Rating Timing												
Trt-Eval Interval												
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Other Rate	Other Rate	Growth Stage	Appl Code				
1	S39-R9X NONTREATED								0	0	0	0
2	S39-R9X BOUNDARY FLEXSTAR GT MSO AMS - LIQUID	6.5 3.29 100 100	EC SL SL SL	1.63 lb ai/a 1.44 lb ae/a 1 % v/v 2.5 % v/v		2 pt/a 3.5 pt/a 1 % v/v 2.5 % v/v	PRE 3-4"W 3-4"W 3-4"W	A B B B	75 b	75 b	97 a	91 a 97 a 97 a 98 a
3	S39-R9X BOUNDARY DUAL MAGNUM FLEXSTAR GT MSO AMS - LIQUID	6.5 7.62 3.29 100 100	EC EC SL SL SL	1.63 lb ai/a 0.95 lb ai/a 1.44 lb ae/a 1 % v/v 2.5 % v/v		2 pt/a 1 pt/a 3.5 pt/a 1 % v/v 2.5 % v/v	PRE 3-4"W 3-4"W 3-4"W 3-4"W	A B B B B	80 b	80 b	96 a	95 a 96 a 96 a 98 a
4	S39-R9X BROADAXE XC FLEXSTAR GT MSO AMS - LIQUID		7 SC 3.29 SL 100 SL 100 SL	1.37 lb ai/a 1.44 lb ae/a 1 % v/v 2.5 % v/v		25 fl oz/a 3.5 pt/a 1 % v/v 2.5 % v/v	PRE 3-4"W 3-4"W 3-4"W	A B B B	80 b	80 b	97 a	98 a 97 a 97 a 98 a
5	S39-R9X AUTHORITY XL ROUNDUP POWERMAX AMS - LIQUID		70 WG 4.5 SL 100 SL	0.28 lb ai/a 1.13 lb ae/a 2.5 % v/v		6.4 oz/a 32 fl oz/a 2.5 % v/v	PRE 3-4"W 3-4"W	A B B	89 a	89 a	99 a	98 a 99 a 99 a
6	S39-R9X FIERCE XLT ROUNDUP POWERMAX AMS - LIQUID	62.41	WG 4.5 SL 100 SL	0.176 lb ai/a 1.13 lb ae/a 2.5 % v/v		4.5 oz/a 32 fl oz/a 2.5 % v/v	PRE 3-4"W 3-4"W	A B B	94 a	94 a	98 a	97 a 98 a 99 a
7	P37T09L BOUNDARY LIBERTY 280 AMS - LIQUID		6.5 EC 2.34 EC 100 SL	1.63 lb ai/a 0.53 lb ai/a 2.5 % v/v		2 pt/a 29 fl oz/a 2.5 % v/v	PRE 3-4"W 3-4"W	A B B	80 b	80 b	95 a	91 a 95 a 97 a
8	P37T09L BROADAXE XC LIBERTY 280 AMS - LIQUID		7 SC 2.34 EC 100 SL	1.37 lb ai/a 0.53 lb ai/a 2.5 % v/v		25 fl oz/a 29 fl oz/a 2.5 % v/v	PRE 3-4"W 3-4"W	A B B	78 b	78 b	96 a	98 a 96 a 96 a
9	P37T09L VALOR XLT LIBERTY 280 AMS - LIQUID		40.3 WG 2.34 EC 100 SL	0.0756 lb ai/a 0.53 lb ai/a 2.5 % v/v		3.0 oz/a 29 fl oz/a 2.5 % v/v	PRE 3-4"W 3-4"W	A B B	89 a	89 a	97 a	98 a 97 a 98 a
10	P37T09L SONIC LIBERTY 280 AMS - LIQUID		70 WG 2.34 EC 100 SL	0.175 lb ai/a 0.53 lb ai/a 2.5 % v/v		4 oz/a 29 fl oz/a 2.5 % v/v	PRE 3-4"W 3-4"W	A B B	78 b	78 b	98 a	98 a 98 a 98 a
11	P37T09L FIERCE XLT LIBERTY 280 AMS - LIQUID	62.41	WG 2.34 EC 100 SL	0.176 lb ai/a 0.53 lb ai/a 2.5 % v/v		4.5 oz/a 29 fl oz/a 2.5 % v/v	PRE 3-4"W 3-4"W	A B B	89 a	89 a	97 a	98 a 97 a 98 a

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Could not calculate LSD (% mean diff) for columns 26,20,23,27 because error mean square = 0.

Syngenta Overlapping Residuals RR2 and LL Soybean.

Trial ID: 16-1-M130 Location: Belleville Res. Center Trial Year: 2016
 Investigator: Karla L. Gage, Ph.D.

Pest Code	ABUTH	ABUTH	ABUTH	ABUTH	ABUTH	ABUTH
Crop Code	6-15-16	6-20-16	7-5-16	7-5-16	7-19-16	8-1-16
Rating Date	Control	Control	Burndown	Residual	Control	Control
Rating Type	Percent	Percent	Percent	Percent	Percent	Percent
Rating Unit						
Rating Timing						
Trt-Eval Interval	14 DA-A	0 DA-B	15 DA-B	15 DA-B	29 DA-B	42 DA-B
Trt Treatment	Form	Form	Rate	Other	Other	Growth
No. Name	Conc	Type	Rate	Unit	Rate	Rate
12 P37T09L						
NONTREATED	0	0	0	0	0	0
LSD P=.05	8.1	8.1	3.6	6.6	3.6	1.8
Standard Deviation	5.6	5.6	2.5	4.5	2.5	1.2
CV	6.72	6.72	2.54	4.7	2.54	1.25
Replicate F	3.054	3.054	5.004	2.762	5.004	7.830
Replicate Prob(F)	0.0454	0.0454	0.0069	0.0614	0.0069	0.0006
Treatment F	5.232	5.232	0.869	1.521	0.869	1.804
Treatment Prob(F)	0.0004	0.0004	0.5635	0.1907	0.5635	0.1137

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Syngenta Overlapping Residuals RR2 and LL Soybean.

Trial ID: 16-1-M130 Location: Belleville Res. Center Trial Year: 2016
 Investigator: Karla L. Gage, Ph.D.

Pest Code	Crop Code	Rating Date	Rating Type	Rating Unit	Rating Timing	Trt-Eval Interval	AMATA	AMATA	AMATA	AMATA	AMATA	AMATA	
							6-15-16 Control Percent	6-20-16 Control Percent	7-5-16 Burndown Percent	7-5-16 Residual Percent 34 DA-A	7-19-16 Control Percent	8-1-16 Control Percent	
							14 DA-A	0 DA-B	15 DA-B	15 DA-B	29 DA-B	42 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code				
1	S39-R9X NONTREATED									0	0	0	0
2	S39-R9X BOUNDARY FLEXSTAR GT MSO AMS - LIQUID	6.5 3.29 100 100	EC SL SL SL	1.63 1.44 1 2.5	lb ai/a lb ae/a % v/v % v/v	2 3.5 1 2.5	pt/a pt/a % v/v % v/v	PRE 3-4" 3-4" 3-4"	A B B B	99 a	99 a	99 a	99 a
3	S39-R9X BOUNDARY DUAL MAGNUM FLEXSTAR GT MSO AMS - LIQUID	6.5 7.62 3.29 100 100	EC EC SL SL SL	1.63 0.95 1.44 1 2.5	lb ai/a lb ai/a lb ae/a % v/v % v/v	2 1 3.5 1 2.5	pt/a pt/a pt/a % v/v % v/v	PRE 3-4" 3-4" 3-4" 3-4"	A B B B B	99 a	99 a	99 a	99 a
4	S39-R9X BROADAXE XC FLEXSTAR GT MSO AMS - LIQUID	7 3.29 100 100	SC SL SL SL	1.37 1.44 1 2.5	lb ai/a lb ae/a % v/v % v/v	25 3.5 1 2.5	fl oz/a pt/a % v/v % v/v	PRE 3-4" 3-4" 3-4"	A B B B	99 a	99 a	99 a	99 a
5	S39-R9X AUTHORITY XL ROUNDUP POWERMAX AMS - LIQUID	70 4.5 100	WG SL SL	0.28 1.13 2.5	lb ai/a lb ae/a % v/v	6.4 32 2.5	oz/a fl oz/a % v/v	PRE 3-4" 3-4"	A B B	99 a	99 a	99 a	99 a
6	S39-R9X FIERCE XLT ROUNDUP POWERMAX AMS - LIQUID	62.41 4.5 100	WG SL SL	0.176 1.13 2.5	lb ai/a lb ae/a % v/v	4.5 32 2.5	oz/a fl oz/a % v/v	PRE 3-4" 3-4"	A B B	99 a	99 a	99 a	99 a
7	P37T09L BOUNDARY LIBERTY 280 AMS - LIQUID	6.5 2.34 100	EC EC SL	1.63 0.53 2.5	lb ai/a lb ai/a % v/v	2 29 2.5	pt/a fl oz/a % v/v	PRE 3-4" 3-4"	A B B	99 a	99 a	99 a	99 a
8	P37T09L BROADAXE XC LIBERTY 280 AMS - LIQUID	7 2.34 100	SC EC SL	1.37 0.53 2.5	lb ai/a lb ai/a % v/v	25 29 2.5	fl oz/a fl oz/a % v/v	PRE 3-4" 3-4"	A B B	99 a	99 a	99 a	99 a
9	P37T09L VALOR XLT LIBERTY 280 AMS - LIQUID	40.3 2.34 100	WG EC SL	0.0756 0.53 2.5	lb ai/a lb ai/a % v/v	3.0 29 2.5	oz/a fl oz/a % v/v	PRE 3-4" 3-4"	A B B	99 a	99 a	99 a	99 a
10	P37T09L SONIC LIBERTY 280 AMS - LIQUID	70 2.34 100	WG EC SL	0.175 0.53 2.5	lb ai/a lb ai/a % v/v	4 29 2.5	oz/a fl oz/a % v/v	PRE 3-4" 3-4"	A B B	95 b	95 b	99 a	99 a
11	P37T09L FIERCE XLT LIBERTY 280 AMS - LIQUID	62.41 2.34 100	WG EC SL	0.176 0.53 2.5	lb ai/a lb ai/a % v/v	4.5 29 2.5	oz/a fl oz/a % v/v	PRE 3-4" 3-4"	A B B	98 a	98 a	99 a	99 a

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Syngenta Overlapping Residuals RR2 and LL Soybean.

Trial ID: 16-1-M130 Location: Belleville Res. Center Trial Year: 2016
 Investigator: Karla L. Gage, Ph.D.

Pest Code	AMATA	AMATA	AMATA	AMATA	AMATA	AMATA
Crop Code						
Rating Date	6-15-16	6-20-16	7-5-16	7-5-16	7-19-16	8-1-16
Rating Type	Control	Control	Burndown	Residual	Control	Control
Rating Unit	Percent	Percent	Percent	Percent	Percent	Percent
Rating Timing				34 DA-A		
Trt-Eval Interval	14 DA-A	0 DA-B	15 DA-B	15 DA-B	29 DA-B	42 DA-B
Trt Treatment	Form	Form	Rate	Other	Other	Growth
No. Name	Conc	Type	Rate	Unit	Rate	Rate
				Unit	Unit	Stage
						Code
12 P37T09L	0	0	0	0	0	0
NONTREATED						
LSD P=.05	1.9	1.9	.	.	.	0.5
Standard Deviation	1.3	1.3	0.0	0.0	0.0	0.3
CV	1.36	1.36	0.0	0.0	0.0	0.33
Replicate F	1.351	1.351	0.000	0.000	0.000	0.643
Replicate Prob(F)	0.2789	0.2789	1.0000	1.0000	1.0000	0.5941
Treatment F	3.962	3.962	0.000	0.000	0.000	0.643
Treatment Prob(F)	0.0026	0.0026	1.0000	1.0000	1.0000	0.7508

Means followed by same letter or symbol do not significantly differ (P=.05, LSD)
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.
 Could not calculate LSD (% mean diff) for columns 26,20,23,27 because error mean square = 0.

Syngenta Overlapping Residuals RR2 and LL Soybean.

Trial ID: 16-1-M130 Location: Belleville Res. Center Trial Year: 2016
Investigator: Karla L. Gage, Ph.D.

Trial Comments

1. Protocol: Syngenta (EHLs01-2016).
2. Ratings:
CI 14 and 28 DA-A; prior to B; 7, 14, and 28 DA-B.
WC 14 and 28 DA-A; prior to B; 14, 28, and 42 DA-B.
Rate before spray application B.
3. Yield.
4. Photos not requested.
5. Rainfall following the PRE application A was 0.73 inch over 2 days beginning 3 days later.
Rainfall following the 3-4"W application B was 2.61 inch over 9 days beginning 10 days later.
6. Crop injury at 14 DA-A was leaf crinkling and a slightly delayed emergence in some plots.
On 6-19-16, one day prior to the 3-4"W application B, there was no change in crop injury or weed control ratings from the 14 DA-A ratings made five days earlier, probably due to dry soil conditions.
7. Weed control ratings are overall except on 7-5-16, which followed rainfall starting on 6-30-16, where Burndown = postemergence control of emerged weeds and Residual = control of new emergence.
Weed control rating increases at 42 DA-B compared to 28 DA-B are due crop canopy.
8. Harvested 10-23-16, (2) 30 inch rows by 27 ft.