

Valor and Fierce Evaluations in Soybean.

Trial ID: 13-1-W70 Location: Belleville Res. Center Trial Year: 2013
Investigator: Bryan Young

Trial Status: F one-year/final Initiation Date: 7-12-13 Completion Date: 11-9-13	
Trial Location	City: Belleville Country: USA State/Prov.: Illinois IL Postal Code: 62221

Objectives:
 Evalaute weed control and soybean yield from preemergence herbicides followed by glyphosate compared with sequential glyphosate applications.

Contacts	
Study Director: Bryan Young Organization: Southern Illinois University Address: 1205 Lincoln Drive - AG 176 - MC 4415 City+State/Prov: Carbondale IL Postal Code: 62901 Country: USA	Title: Professor Phone No.: 618-453-7679 Mobile No.: 618-713-6471 E-mail: bgyoung@siu.edu

Crop Description	
Crop 1: GLXMA Glycine max Soybean Variety: AG3832 BBCH Scale: BSOY Description: RR2Y	Planting Date: 7-12-13 Planting Method: SEEDED
Planting Rate, Unit: 75 LB/A Depth, Unit: 1 IN Row Spacing, Unit: 30 IN	

Pest Description	
Pest 1 Type: W Code: GGGAN Common Name: grasses, annual Description: Mixture of SETFA and PANDI	
Pest 2 Type: W Code: AMBTR Ambrosia trifida L. Common Name: ragweed, giant	
Pest 3 Type: W Code: AMATA Amaranthus rudis Sauer Common Name: waterhemp, common	
Pest 4 Type: W Code: AMBEL Ambrosia artemisiifolia L. Common Name: ragweed, common	
Pest 5 Type: W Code: ABUTH Abutilon theophrasti Medik. Common Name: velvetleaf	

Site and Design							
Treated Plot Width: 7.5 FT Total Plot Width: 10 FT Treated Plot Length: 31 FT Total Plot Length: 31 FT	Site Type: FIELD Experimental Unit: 1 PLOT Tillage Type: REDTIL reduced-till Study Design: RACOB� Randomized Complete Block (RCB)						
Replications: 6 Untreated Arrangement: INCLUDED single control randomized in each block							
<table border="1" style="width: 100%;"> <tr> <th>No.</th> <th>Previous Crop</th> <th>Year</th> </tr> <tr> <td>1.</td> <td>ZEAMD</td> <td>2012</td> </tr> </table>		No.	Previous Crop	Year	1.	ZEAMD	2012
No.	Previous Crop	Year					
1.	ZEAMD	2012					

Maintenance					
<table border="1" style="width: 100%;"> <tr> <th>No.</th> <th>Maintenance Product Name</th> </tr> <tr> <td>1.</td> <td>N 0 LB/A, P2O5 50 LB/A, K2O 150 LB/A</td> </tr> </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										
% OM: 2.5 Texture: SIL silt loam pH: 6 Soil Name: Winfield CEC: 6										
Additional Measured Elements										
<table border="1" style="width: 100%;"> <tr> <th>Element</th> <th>Quantity</th> <th>Unit</th> </tr> <tr> <td>P1</td> <td>58</td> <td>lb/A</td> </tr> <tr> <td>K</td> <td>286</td> <td>lb/A</td> </tr> </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	
Overall Moisture Conditions: ABONOR Closest Weather Station: ICN - Belleville IL	Distance, Unit: 0.5 MI

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No.	Date	Amount	Unit	Type	Type Description	Interval	Unit	Min Temp	Max Temp	Temp Unit
1.	6-30-13					7	DAY	61	86	F
2.	7-2-13	2.08	IN	RAIN	rain	2	DAY			
3.	7-7-13					7	DAY	62	94	F
4.	7-10-13	0.2	IN	RAIN	rain	1	DAY			
5.	7-14-13					7	DAY	64	94	F
6.	7-15-13	0.03	IN	RAIN	rain	1	DAY			
7.	7-20-13	0.59	IN	RAIN	rain	1	DAY			
8.	7-21-13					7	DAY	56	91	F
9.	7-26-13	0.03	IN	RAIN	rain	1	DAY			
10.	7-28-13					7	DAY	52	87	F
11.	7-30-13	0.46	IN	RAIN	rain	1	DAY			
12.	8-2-13	0.24	IN	RAIN	rain	1	DAY			
13.	8-4-13					7	DAY	62	87	F
14.	8-8-13	0.03	IN	RAIN	rain	3	DAY			
15.	8-11-13					7	DAY	54	85	F
16.	8-12-13	0.57	IN	RAIN	rain	1	DAY			
17.	8-18-13	0.1	IN	RAIN	rain	1	DAY			
18.	8-18-13					7	DAY	61	91	F
19.	8-18-13					7	DAY	61	91	F
20.	8-25-13					7	DAY	62	100	F
21.	8-31-13	0.74	IN	RAIN	rain	1	DAY			
22.	9-1-13					7	DAY	57	92	F
23.	9-8-13	0.26	IN	RAIN	rain	1	DAY			

Application Description

	A	B	C
Application Date:	7-13-13	8-9-13	8-23-13
Appl. Start Time:	18:30	10:30	10:00
Appl. Stop Time:	19:00	11:00	10:30
Application Method:	Spray	Spray	Spray
Application Timing:	PRE	28DAP	42DAP
Application Placement:	BROSOI	BROFOL	BROFOL
Applied By:	RJW	RJW	RFK
Air Temperature, Unit:	82 F	79 F	81 F
% Relative Humidity:	55	72	74
Wind Velocity, Unit:	6 MPH	3 MPH	2 MPH
Wind Direction:	S	NE	E
Dew Presence (Y/N):	N	N	N
Soil Temperature, Unit:	76 F	75 F	75 F
Soil Moisture:	NORMAL	NORMAL	NORMAL
% Cloud Cover:	20	75	0
Next Moisture Occurred On:	7-20-13	8-12-13	8-31-13
Time to Next Moisture, Unit:	7 DAY	3 DAY	8 DAY

Crop Stage At Each Application

	A	B	C
Crop 1 Code, BBCH Scale:	GLXMA	GLXMA	GLXMA
Stage Scale Used:	DESC	DESC	DESC
Stage Majority, Percent:	NA	V5	R2
Stage Minimum, Percent:		V4	R2
Stage Maximum, Percent:		V5	R2
Height, Unit:		12 IN	18 IN
Height Minimum, Maximum:		10 12	14 18

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Pest Stage At Each Application			
	A	B	C
Pest 1 Code, Type, Scale:	GGGAN W	GGGAN W	GGGAN W
Stage Majority, Percent:	NA	4	10+
Stage Minimum, Percent:		2	10
Stage Maximum, Percent:		6	10+
Height, Unit:		4 IN	18 IN
Height Minimum, Maximum:		1 8	10 20
Density, Unit:		3 FT2	0.1 FT2
Pest 2 Code, Type, Scale:	AMBTR W	AMBTR W	AMBTR W
Stage Majority, Percent:	NA	8	10+
Stage Minimum, Percent:		2	10
Stage Maximum, Percent:		12	10+
Height, Unit:		7 IN	30 IN
Height Minimum, Maximum:		1 14	20 50
Density, Unit:		1.5 FT2	1 FT2
Pest 3 Code, Type, Scale:	AMATA W	AMATA W	AMATA W
Stage Majority, Percent:	NA	10	10+
Stage Minimum, Percent:		4	10
Stage Maximum, Percent:		14	10+
Height, Unit:		5 IN	20 IN
Height Minimum, Maximum:		2 12	20 32
Density, Unit:		2.5 FT2	0.01 FT2
Pest 4 Code, Type, Scale:	AMBEL W	AMBEL W	AMBEL W
Stage Majority, Percent:	NA	NA	10
Stage Minimum, Percent:			10
Stage Maximum, Percent:			10+
Height, Unit:			20 IN
Height Minimum, Maximum:			10 30
Density, Unit:			0.01 FT2
Pest 5 Code, Type, Scale:	ABUTH W	ABUTH W	ABUTH W
Stage Majority, Percent:	NA	NA	10
Stage Minimum, Percent:			8
Stage Maximum, Percent:			10
Height, Unit:			10 IN
Height Minimum, Maximum:			8 16
Density, Unit:			0.01 FT2

Application Equipment			
	A	B	C
Appl. Equipment:	CO2 sprayer	CO2 sprayer	CO2 sprayer
Equipment Type:	BACSPR	BACSPR	BACSPR
Operation Pressure, Unit:	30 PSI	30 PSI	30 PSI
Nozzle Type:	TTI	XR	XR
Nozzle Size:	11002	8002	8002
Boom Length, Unit:	7.5 FT	7.5 FT	7.5 FT
Spray Volume, Unit:	15 GPA	15 GPA	15 GPA

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Pest Code Crop Code Rating Date Rating Type Rating Unit Rating Timing Trt-Eval Interval							GLXMA 11-9-13 Moisture Percent	GLXMA 11-9-13 Test wt. lb/bu	GLXMA 11-9-13 Yield bu/A	GLXMA 8-23-13 Injury Percent 0 DA-C 14 DA-B	GLXMA 9-6-13 Injury Percent 14 DA-C
Trt Treatment No. Name	Form Conc	Form Type	Rate Rate	Unit Unit	Other Rate	Other Rate	Growth Unit	Appl Code			
1 NONTREATED											
2 ROUNDUP POWERMAX AMS	4.5 SL 100 SG		1.13 lb ae/a 2.5 lb/a		32 fl oz/a 2.5 lb/a		28DAP B 28DAP B				
ROUNDUP POWERMAX AMS	4.5 SL 100 SG		1.13 lb ae/a 2.5 lb/a		32 fl oz/a 2.5 lb/a		42DAP C 42DAP C				
3 VALOR SX ROUNDUP POWERMAX AMS	51 WG 4.5 SL 100 SG		0.064 lb ai/a 1.13 lb ae/a 2.5 lb/a		2 oz/a 32 fl oz/a 2.5 lb/a		PRE A 42DAP C 42DAP C				
4 VALOR XLT ROUNDUP POWERMAX AMS	40.3 WG 4.5 SL 100 SG		0.0756 lb ai/a 1.13 lb ae/a 2.5 lb/a		3 oz/a 32 fl oz/a 2.5 lb/a		PRE A 42DAP C 42DAP C				
5 FIERCE ROUNDUP POWERMAX AMS	76 WG 4.5 SL 100 SG		0.143 lb ai/a 1.13 lb ae/a 2.5 lb/a		3 oz/a 32 fl oz/a 2.5 lb/a		PRE A 42DAP C 42DAP C				
6 FIERCE ROUNDUP POWERMAX AMS	76 WG 4.5 SL 100 SG		0.178 lb ai/a 1.13 lb ae/a 2.5 lb/a		3.75 oz/a 32 fl oz/a 2.5 lb/a		PRE A 42DAP C 42DAP C				
7 AUTHORITY ASSIST ROUNDUP POWERMAX AMS	4 SC 4.5 SL 100 SG		0.156 lb ai/a 1.13 lb ae/a 2.5 lb/a		5 fl oz/a 32 fl oz/a 2.5 lb/a		PRE A 42DAP C 42DAP C				
8 PREFIX ROUNDUP POWERMAX AMS	5.29 EC 4.5 SL 100 SG		1.32 lb ai/a 1.13 lb ae/a 2.5 lb/a		1 qt/a 32 fl oz/a 2.5 lb/a		PRE A 42DAP C 42DAP C				
LSD (P=.05)											
Standard Deviation											
CV											
Replicate F											
Replicate Prob(F)											
Treatment F											
Treatment Prob(F)											

Means followed by same letter do not significantly differ (P=.05, LSD)

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

Missing data estimates are included in columns: Average=3

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Pest Code						AMATA	AMATA	AMATA
Crop Code						8-23-13	9-6-13	10-9-13
Rating Date						Control	Control	Control
Rating Type						Percent	Percent	Percent
Rating Unit						0 DA-C		
Rating Timing						14 DA-B	14 DA-C	At Harvest
Trt-Eval Interval								
Trt Treatment No. Name	Form Conc	Form Type	Rate Rate	Unit	Other Rate	Other Rate	Growth Unit Stage	Appl Code
1 NONTREATED								
						0 d	0 c	0 c
2 ROUNDUP POWERMAX AMS	4.5 SL	100 SG	1.13 lb ae/a	2.5 lb/a	32 fl oz/a	2.5 lb/a	28DAP B	28DAP B
ROUNDUP POWERMAX AMS	4.5 SL	100 SG	1.13 lb ae/a	2.5 lb/a	32 fl oz/a	2.5 lb/a	42DAP C	42DAP C
3 VALOR SX	51 WG	100 SG	0.064 lb ai/a	2.5 lb/a	2 oz/a	2.5 lb/a	PRE A	42DAP C
ROUNDUP POWERMAX AMS	4.5 SL	100 SG	1.13 lb ae/a	2.5 lb/a	32 fl oz/a	2.5 lb/a	42DAP C	42DAP C
4 VALOR XLT	40.3 WG	100 SG	0.0756 lb ai/a	2.5 lb/a	3 oz/a	2.5 lb/a	PRE A	42DAP C
ROUNDUP POWERMAX AMS	4.5 SL	100 SG	1.13 lb ae/a	2.5 lb/a	32 fl oz/a	2.5 lb/a	42DAP C	42DAP C
5 FIERCE	76 WG	100 SG	0.143 lb ai/a	2.5 lb/a	3 oz/a	2.5 lb/a	PRE A	42DAP C
ROUNDUP POWERMAX AMS	4.5 SL	100 SG	1.13 lb ae/a	2.5 lb/a	32 fl oz/a	2.5 lb/a	42DAP C	42DAP C
6 FIERCE	76 WG	100 SG	0.178 lb ai/a	2.5 lb/a	3.75 oz/a	2.5 lb/a	PRE A	42DAP C
ROUNDUP POWERMAX AMS	4.5 SL	100 SG	1.13 lb ae/a	2.5 lb/a	32 fl oz/a	2.5 lb/a	42DAP C	42DAP C
7 AUTHORITY ASSIST	4 SC	100 SG	0.156 lb ai/a	2.5 lb/a	5 fl oz/a	2.5 lb/a	PRE A	42DAP C
ROUNDUP POWERMAX AMS	4.5 SL	100 SG	1.13 lb ae/a	2.5 lb/a	32 fl oz/a	2.5 lb/a	42DAP C	42DAP C
8 PREFIX	5.29 EC	100 SG	1.32 lb ai/a	2.5 lb/a	1 qt/a	2.5 lb/a	PRE A	42DAP C
ROUNDUP POWERMAX AMS	4.5 SL	100 SG	1.13 lb ae/a	2.5 lb/a	32 fl oz/a	2.5 lb/a	42DAP C	42DAP C
LSD (P=.05)						5.5	0.7	0.6
Standard Deviation						4.6	0.6	0.5
CV						5.56	0.67	0.54
Replicate F						0.968	1.000	0.396
Replicate Prob(F)						0.4507	0.4321	0.8480
Treatment F						320.340	21952.431	33145.650
Treatment Prob(F)						0.0001	0.0001	0.0001

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Pest Code	Crop Code	Rating Date	Rating Type	Rating Unit	Rating Timing	Trt-Eval Interval	AMBEL	AMBEL	AMBEL	ABUTH	ABUTH	ABUTH
							8-23-13 Control Percent 0 DA-C 14 DA-B	9-6-13 Control Percent 14 DA-C	10-9-13 Control Percent At Harvest	8-23-13 Control Percent 0 DA-C 14 DA-B	9-6-13 Control Percent 14 DA-C	10-9-13 Control Percent At Harvest
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code			
1	NONTREATED									0 b	0 b	0 b
2	ROUNDUP POWERMAX AMS	4.5 SL 100 SG		1.13 lb ae/a 2.5 lb/a		32 fl oz/a 2.5 lb/a		28DAP B 28DAP B		99 a	99 a	99 a
	ROUNDUP POWERMAX AMS	4.5 SL 100 SG		1.13 lb ae/a 2.5 lb/a		32 fl oz/a 2.5 lb/a		42DAP C 42DAP C				
3	VALOR SX ROUNDUP POWERMAX AMS	51 WG 4.5 SL 100 SG		0.064 lb ai/a 1.13 lb ae/a 2.5 lb/a		2 oz/a 32 fl oz/a 2.5 lb/a		PRE A 42DAP C 42DAP C		97 a	99 a	99 a
4	VALOR XLT ROUNDUP POWERMAX AMS	40.3 WG 4.5 SL 100 SG		0.0756 lb ai/a 1.13 lb ae/a 2.5 lb/a		3 oz/a 32 fl oz/a 2.5 lb/a		PRE A 42DAP C 42DAP C		99 a	99 a	99 a
5	FIERCE ROUNDUP POWERMAX AMS	76 WG 4.5 SL 100 SG		0.143 lb ai/a 1.13 lb ae/a 2.5 lb/a		3 oz/a 32 fl oz/a 2.5 lb/a		PRE A 42DAP C 42DAP C		98 a	99 a	99 a
6	FIERCE ROUNDUP POWERMAX AMS	76 WG 4.5 SL 100 SG		0.178 lb ai/a 1.13 lb ae/a 2.5 lb/a		3.75 oz/a 32 fl oz/a 2.5 lb/a		PRE A 42DAP C 42DAP C		99 a	99 a	99 a
7	AUTHORITY ASSIST ROUNDUP POWERMAX AMS	4 SC 4.5 SL 100 SG		0.156 lb ai/a 1.13 lb ae/a 2.5 lb/a		5 fl oz/a 32 fl oz/a 2.5 lb/a		PRE A 42DAP C 42DAP C		96 a	99 a	99 a
8	PREFIX ROUNDUP POWERMAX AMS	5.29 EC 4.5 SL 100 SG		1.32 lb ai/a 1.13 lb ae/a 2.5 lb/a		1 qt/a 32 fl oz/a 2.5 lb/a		PRE A 42DAP C 42DAP C		98 a	99 a	99 a
LSD (P=.05)							3.0	0.2	0.0	9.9	0.2	0.5
Standard Deviation							2.6	0.1	0.0	8.4	0.1	0.4
CV							3.0	0.17	0.0	10.77	0.17	0.48
Replicate F							0.794	1.000	0.000	0.959	1.000	0.778
Replicate Prob(F)							0.5617	0.4321	1.0000	0.4557	0.4321	0.5724
Treatment F							1092.063	352667.321	0.000	106.442	352667.321	42797.713
Treatment Prob(F)							0.0001	0.0001	1.0000	0.0001	0.0001	0.0001

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Trial Comments

1. Protocol: Valent (Fierce 64.01).
2. Ratings: CI/WC at 14 DA-B (28DAP), and 14 DA-C (42DAP), and at harvest.
3. Yield.
4. Following the PRE application the first rainfall event, beginning 7 days later, was 0.59 inch over 1 day.
5. GGGAN = Annual grasses including 50% SETFA (giant foxtail) and 50% PANDI (fall panicum).
6. Harvested 11-9-13, (2) 30 inch rows by 28 ft.