

Glyphosate-Resistant Marestail, Waterhemp or Palmer Amaranth Control

Southern Illinois University

Soybean Response to Glyphosate Tank-Mixtures: Weed Control.

Trial ID: 12-DSO-ISApotTM
Location: De Soto, IL

Investigator: Bryan Young

General Trial Information	
Study Director: Bryan Young Investigator: Bryan Young Title: Professor Trial Status: F - one-year/final Initiation Date: 4-29-12	
Trial Location	
City: De Soto State/Prov.: IL Postal Code: 62924 Country: USA	

Objectives: Evaluate soybean response and glyphosate-resistant waterhemp control from glyphosate tank-mixtures.

Personnel	
Study Director: Bryan Young Investigator: Bryan Young Affiliation: Southern Illinois University Address: 1205 Lincoln Drive - AG 176 - MC 4415 Location: Carbondale IL Postal Code: 62901 Phone No.: 618-453-7679	Title: Professor E-mail: bgyoung@siu.edu Mobile No.: 618-713-6471

Crop Description	
Crop 1: GLXMA Glycine max Soybean Variety: AG 4005 BBCH Scale: BSOY Planting Method: SEEDED Seeded Depth, Unit: 2 IN Row Spacing, Unit: 30 IN	Description: RR Planting Date: 4-29-12 Rate, Unit: 165000 S/A

Pest Description	
Pest 1 Type: W Code: AMATA - Amaranthus rudis Sauer Common Name: waterhemp, common Description: glyphosate-resistant waterhemp	

Site and Design	
Plot Width, Unit: 10 FT Plot Length, Unit: 30 FT Plot Area, Unit: 300 FT ² Replications: 3	Site Type: FIELD field Tillage Type: NOTILL no-till Study Design: RACOB L Randomized Complete Block (RCB)

No.	Previous Crop	Year
1.	ZEAMX	2011

Maintenance	
No.	Maintenance Treatment Name
1.	N 27 LB/A, P205 69 LB/A, K20 90 LB/A

Soil Description	
% Sand: 14 % OM: 2.12 % Silt: 67 pH: 6.9 % Clay: 19 CEC: 12.7	Texture: SIL SILT LOAM Soil Name: OKAW

Additional Measured Elements		
Element	Quantity	Unit
P1	112	LB/A
K	386	LB/A

Moisture and Weather Conditions	
Overall Moisture Conditions: Closest Weather Station: SOUTHERN IL AIRPORT (93810)	BELNOR below normal Distance, Unit: 1.5 MI

Soybean Response to Glyphosate Tank-Mixtures: Weed Control.

Trial ID: 12-DSO-ISApostTM

Location: De Soto, IL

Investigator: Bryan Young

Application Description

	A
Application Date:	6-2-12
Time of Day:	8:00
Application Method:	Spray
Application Timing:	V2-V3
Application Placement:	BROFOL
Applied By:	JRK
Air Temperature, Unit:	60 F
% Relative Humidity:	70
Wind Velocity, Unit:	1 MPH
Wind Direction:	SW
Dew Presence (Y/N):	Y yes
Soil Temperature, Unit:	64 F
Soil Moisture:	BELNOR
% Cloud Cover:	95
Next Rain Occurred On:	6-4-12

Crop Stage At Each Application

	A
Crop 1 Code, BBCH Scale:	GLXMA BSOY
Stage Scale Used:	DESC
Stage Majority, Percent:	V3
Stage Minimum, Percent:	V2
Stage Maximum, Percent:	V3
Height, Unit:	8 IN
Height Minimum, Maximum:	6 8

Pest Stage At Each Application

	A
Pest 1 Code, Type, Scale:	AMATA W DESC
Stage Majority, Percent:	8
Stage Minimum, Percent:	Coty
Stage Maximum, Percent:	12
Height, Unit:	4 IN
Height Minimum, Maximum:	0.5 8
Density, Unit:	10 FT2

Application Equipment

	A
Appl. Equipment:	CO2 sprayer
Equipment Type:	BACSPR
Operation Pressure, Unit:	30 PSI
Nozzle Type:	XR
Nozzle Size:	8002
Boom Length, Unit:	6.67 FT
Spray Volume, Unit:	15 GPA

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Trial ID: 12-DSO-ISApostTM

Location: De Soto, IL

Investigator: Bryan Young

Pest Code Crop Code Rating Date Rating Type							GLXMA 6-6-12 Injury	GLXMA 6-9-12 Injury	GLXMA 6-16-12 Injury	GLXMA 6-30-12 Injury	GLXMA 7-28-12 Injury		
Rating Unit Rating Timing Trt-Eval Interval							Percent 4 DA-A	Percent 7 DA-A	Percent 14 DA-A	Percent 28 DA-A	Percent 56 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Other Rate	Other Rate	Growth Stage	Appl Code					
1	ROUNDUP P-MAX N-PAK AMS	4.5 SL 100 SL		0.77 lb ae/a 5 % v/v	22 fl oz/a 5 % v/v		V2-3 V2-3	A A	0 f	0 g	0 f	0 c	0 a
2	ROUNDUP P-MAX N-PAK AMS	4.5 SL 100 SL		1.55 lb ae/a 5 % v/v	44 fl oz/a 5 % v/v		V2-3 V2-3	A A	0 f	0 g	0 f	0 c	0 a
3	COBRA ROUNDUP P-MAX N-PAK AMS	2 EC 4.5 SL 100 SL		0.094 lb ai/a 0.77 lb ae/a 5 % v/v	6 fl oz/a 22 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	17 cd	16 de	14 b	4 ab	0 a
4	COBRA ROUNDUP P-MAX N-PAK AMS	2 EC 4.5 SL 100 SL		0.094 lb ai/a 1.55 lb ae/a 5 % v/v	6 fl oz/a 44 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	17 cd	20 bc	14 b	5 a	0 a
5	COBRA ROUNDUP P-MAX N-PAK AMS	2 EC 4.5 SL 100 SL		0.188 lb ai/a 0.77 lb ae/a 5 % v/v	12 fl oz/a 22 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	31 a	28 a	16 ab	4 ab	0 a
6	COBRA ROUNDUP P-MAX N-PAK AMS	2 EC 4.5 SL 100 SL		0.188 lb ai/a 1.55 lb ae/a 5 % v/v	12 fl oz/a 44 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	33 a	27 a	17 a	4 ab	0 a
7	FLEXSTAR ROUNDUP P-MAX N-PAK AMS	1.88 EC 4.5 SL 100 SL		0.235 lb ai/a 0.77 lb ae/a 5 % v/v	1 pt/a 22 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	11 e	12 f	10 cde	4 ab	0 a
8	FLEXSTAR ROUNDUP P-MAX N-PAK AMS	1.88 EC 4.5 SL 100 SL		0.235 lb ai/a 1.55 lb ae/a 5 % v/v	1 pt/a 44 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	18 c	20 bc	11 cd	4 ab	0 a
9	FLEXSTAR ROUNDUP P-MAX N-PAK AMS	1.88 EC 4.5 SL 100 SL		0.375 lb ai/a 0.77 lb ae/a 5 % v/v	1.6 pt/a 22 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	14 de	17 cd	11 cd	4 ab	0 a
10	FLEXSTAR ROUNDUP P-MAX N-PAK AMS	1.88 EC 4.5 SL 100 SL		0.375 lb ai/a 1.55 lb ae/a 5 % v/v	1.6 pt/a 44 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	18 cd	18 bcd	12 c	4 ab	0 a
11	CADET ROUNDUP P-MAX N-PAK AMS	0.91 EC 4.5 SL 100 SL		0.00427 lb ai/a 0.77 lb ae/a 5 % v/v	0.6 fl oz/a 22 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	14 de	13 ef	8 e	3 b	0 a
12	CADET ROUNDUP P-MAX N-PAK AMS	0.91 EC 4.5 SL 100 SL		0.00427 lb ai/a 1.55 lb ae/a 5 % v/v	0.6 fl oz/a 44 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	18 cd	15 def	9 de	5 a	0 a
13	CADET ROUNDUP P-MAX N-PAK AMS	0.91 EC 4.5 SL 100 SL		0.0064 lb ai/a 0.77 lb ae/a 5 % v/v	0.9 fl oz/a 22 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	18 c	18 bcd	11 cd	4 ab	0 a
14	CADET ROUNDUP P-MAX N-PAK AMS	0.91 EC 4.5 SL 100 SL		0.0064 lb ai/a 1.55 lb ae/a 5 % v/v	0.9 fl oz/a 44 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	23 b	21 b	12 c	4 ab	0 a

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.

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Trial ID: 12-DSO-ISApotTM

Location: De Soto, IL

Investigator: Bryan Young

Pest Code	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA				
Crop Code	6-6-12	6-9-12	6-16-12	6-30-12	7-28-12				
Rating Date	Injury	Injury	Injury	Injury	Injury				
Rating Type									
Rating Unit	Percent	Percent	Percent	Percent	Percent				
Rating Timing									
Trt-Eval Interval	4 DA-A	7 DA-A	14 DA-A	28 DA-A	56 DA-A				
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Other Rate	Other Rate	Growth Unit	Appl Stage	Code
15	NONTREATED								
		0 f	0 g	0 f	0 c	0 a			
LSD (P=.05)		3.7	3.7	2.1	1.5	0.0			
Standard Deviation		2.2	2.2	1.3	0.9	0.0			
CV		14.44	14.71	13.02	27.13	0.0			
Replicate F		5.188	0.863	0.014	1.492	0.000			
Replicate Prob(F)		0.0121	0.4328	0.9860	0.2423	1.0000			
Treatment F		58.723	49.159	58.631	12.016	0.000			
Treatment Prob(F)		0.0001	0.0001	0.0001	0.0001	1.0000			

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Pest Code							GLXMA	GLXMA	GLXMA	GLXMA	GLXMA			
Crop Code							6-6-12	6-9-12	6-16-12	6-30-12	7-28-12			
Rating Date							Stunt	Stunt	Stunt	Stunt	Stunt			
Rating Type							Percent	Percent	Percent	Percent	Percent			
Rating Unit							4 DA-A	7 DA-A	14 DA-A	28 DA-A	56 DA-A			
Rating Timing														
Trt-Eval Interval														
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code					
1	ROUNDUP P-MAX N-PAK AMS	4.5 SL 100 SL		0.77 lb ae/a 5 % v/v		22 fl oz/a 5 % v/v		V2-3 V2-3	A A	0 d	0 d	0 a	0 a	0 a
2	ROUNDUP P-MAX N-PAK AMS	4.5 SL 100 SL		1.55 lb ae/a 5 % v/v		44 fl oz/a 5 % v/v		V2-3 V2-3	A A	0 d	0 d	0 a	0 a	0 a
3	COBRA ROUNDUP P-MAX N-PAK AMS	2 EC 4.5 SL 100 SL		0.094 lb ai/a 0.77 lb ae/a 5 % v/v		6 fl oz/a 22 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	0 d	3 bc	0 a	0 a	0 a
4	COBRA ROUNDUP P-MAX N-PAK AMS	2 EC 4.5 SL 100 SL		0.094 lb ai/a 1.55 lb ae/a 5 % v/v		6 fl oz/a 44 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	0 d	4 bc	1 a	0 a	0 a
5	COBRA ROUNDUP P-MAX N-PAK AMS	2 EC 4.5 SL 100 SL		0.188 lb ai/a 0.77 lb ae/a 5 % v/v		12 fl oz/a 22 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	10 a	7 a	2 a	0 a	0 a
6	COBRA ROUNDUP P-MAX N-PAK AMS	2 EC 4.5 SL 100 SL		0.188 lb ai/a 1.55 lb ae/a 5 % v/v		12 fl oz/a 44 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	10 a	7 a	2 a	0 a	0 a
7	FLEXSTAR ROUNDUP P-MAX N-PAK AMS	1.88 EC 4.5 SL 100 SL		0.235 lb ai/a 0.77 lb ae/a 5 % v/v		1 pt/a 22 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	0 d	2 cd	0 a	0 a	0 a
8	FLEXSTAR ROUNDUP P-MAX N-PAK AMS	1.88 EC 4.5 SL 100 SL		0.235 lb ai/a 1.55 lb ae/a 5 % v/v		1 pt/a 44 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	3 c	4 bc	0 a	0 a	0 a
9	FLEXSTAR ROUNDUP P-MAX N-PAK AMS	1.88 EC 4.5 SL 100 SL		0.375 lb ai/a 0.77 lb ae/a 5 % v/v		1.6 pt/a 22 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	0 d	2 cd	0 a	0 a	0 a
10	FLEXSTAR ROUNDUP P-MAX N-PAK AMS	1.88 EC 4.5 SL 100 SL		0.375 lb ai/a 1.55 lb ae/a 5 % v/v		1.6 pt/a 44 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	3 c	2 cd	1 a	0 a	0 a
11	CADET ROUNDUP P-MAX N-PAK AMS	0.91 EC 4.5 SL 100 SL		0.00427 lb ai/a 0.77 lb ae/a 5 % v/v		0.6 fl oz/a 22 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	0 d	0 d	0 a	0 a	0 a
12	CADET ROUNDUP P-MAX N-PAK AMS	0.91 EC 4.5 SL 100 SL		0.00427 lb ai/a 1.55 lb ae/a 5 % v/v		0.6 fl oz/a 44 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	2 cd	1 cd	0 a	0 a	0 a
13	CADET ROUNDUP P-MAX N-PAK AMS	0.91 EC 4.5 SL 100 SL		0.0064 lb ai/a 0.77 lb ae/a 5 % v/v		0.9 fl oz/a 22 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	1 cd	1 cd	0 a	0 a	0 a
14	CADET ROUNDUP P-MAX N-PAK AMS	0.91 EC 4.5 SL 100 SL		0.0064 lb ai/a 1.55 lb ae/a 5 % v/v		0.9 fl oz/a 44 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	6 b	5 ab	0 a	0 a	0 a

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Location: De Soto, IL

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Pest Code	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA					
Crop Code	6-6-12	6-9-12	6-16-12	6-30-12	7-28-12					
Rating Date	Stunt	Stunt	Stunt	Stunt	Stunt					
Rating Type										
Rating Unit	Percent	Percent	Percent	Percent	Percent					
Rating Timing										
Trt-Eval Interval	4 DA-A	7 DA-A	14 DA-A	28 DA-A	56 DA-A					
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit Unit	Other Rate	Other Rate	Growth Unit	Appl Stage	Code
15	NONTREATED									
		0 d		0 d		0 a		0 a		0 a
LSD (P=.05)		2.6		2.8		1.5		0.0		0.0
Standard Deviation		1.5		1.7		0.9		0.0		0.0
CV		67.67		67.95		231.46		0.0		0.0
Replicate F		1.729		0.101		0.000		0.000		0.000
Replicate Prob(F)		0.1959		0.9043		1.0000		1.0000		1.0000
Treatment F		16.117		6.257		1.900		0.000		0.000
Treatment Prob(F)		0.0001		0.0001		0.0722		1.0000		1.0000

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Pest Code Crop Code Rating Date Rating Type							GLXMA 6-6-12 Chlorosis	GLXMA 6-9-12 Chlorosis	GLXMA 6-16-12 Chlorosis	GLXMA 6-30-12 Chlorosis	GLXMA 7-28-12 Chlorosis			
Rating Unit Rating Timing Trt-Eval Interval							Percent	Percent	Percent	Percent	Percent			
							4 DA-A	7 DA-A	14 DA-A	28 DA-A	56 DA-A			
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code					
1	ROUNDUP P-MAX N-PAK AMS	4.5 SL 100 SL		0.77 lb ae/a 5 % v/v		22 fl oz/a 5 % v/v		V2-3 V2-3	A A	0 a	0 a	0 a	0 a	0 a
2	ROUNDUP P-MAX N-PAK AMS	4.5 SL 100 SL		1.55 lb ae/a 5 % v/v		44 fl oz/a 5 % v/v		V2-3 V2-3	A A	0 a	0 a	0 a	0 a	0 a
3	COBRA ROUNDUP P-MAX N-PAK AMS	2 EC 4.5 SL 100 SL		0.094 lb ai/a 0.77 lb ae/a 5 % v/v		6 fl oz/a 22 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	0 a	0 a	0 a	0 a	0 a
4	COBRA ROUNDUP P-MAX N-PAK AMS	2 EC 4.5 SL 100 SL		0.094 lb ai/a 1.55 lb ae/a 5 % v/v		6 fl oz/a 44 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	0 a	0 a	0 a	0 a	0 a
5	COBRA ROUNDUP P-MAX N-PAK AMS	2 EC 4.5 SL 100 SL		0.188 lb ai/a 0.77 lb ae/a 5 % v/v		12 fl oz/a 22 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	0 a	0 a	0 a	0 a	0 a
6	COBRA ROUNDUP P-MAX N-PAK AMS	2 EC 4.5 SL 100 SL		0.188 lb ai/a 1.55 lb ae/a 5 % v/v		12 fl oz/a 44 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	0 a	0 a	0 a	0 a	0 a
7	FLEXSTAR ROUNDUP P-MAX N-PAK AMS	1.88 EC 4.5 SL 100 SL		0.235 lb ai/a 0.77 lb ae/a 5 % v/v		1 pt/a 22 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	0 a	0 a	0 a	0 a	0 a
8	FLEXSTAR ROUNDUP P-MAX N-PAK AMS	1.88 EC 4.5 SL 100 SL		0.235 lb ai/a 1.55 lb ae/a 5 % v/v		1 pt/a 44 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	0 a	0 a	0 a	0 a	0 a
9	FLEXSTAR ROUNDUP P-MAX N-PAK AMS	1.88 EC 4.5 SL 100 SL		0.375 lb ai/a 0.77 lb ae/a 5 % v/v		1.6 pt/a 22 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	0 a	0 a	0 a	0 a	0 a
10	FLEXSTAR ROUNDUP P-MAX N-PAK AMS	1.88 EC 4.5 SL 100 SL		0.375 lb ai/a 1.55 lb ae/a 5 % v/v		1.6 pt/a 44 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	0 a	0 a	0 a	0 a	0 a
11	CADET ROUNDUP P-MAX N-PAK AMS	0.91 EC 4.5 SL 100 SL		0.00427 lb ai/a 0.77 lb ae/a 5 % v/v		0.6 fl oz/a 22 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	0 a	0 a	0 a	0 a	0 a
12	CADET ROUNDUP P-MAX N-PAK AMS	0.91 EC 4.5 SL 100 SL		0.00427 lb ai/a 1.55 lb ae/a 5 % v/v		0.6 fl oz/a 44 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	0 a	0 a	0 a	0 a	0 a
13	CADET ROUNDUP P-MAX N-PAK AMS	0.91 EC 4.5 SL 100 SL		0.0064 lb ai/a 0.77 lb ae/a 5 % v/v		0.9 fl oz/a 22 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	0 a	0 a	0 a	0 a	0 a
14	CADET ROUNDUP P-MAX N-PAK AMS	0.91 EC 4.5 SL 100 SL		0.0064 lb ai/a 1.55 lb ae/a 5 % v/v		0.9 fl oz/a 44 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	0 a	0 a	0 a	0 a	0 a

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Pest Code	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA				
Crop Code	6-6-12	6-9-12	6-16-12	6-30-12	7-28-12				
Rating Date	Chlorosis	Chlorosis	Chlorosis	Chlorosis	Chlorosis				
Rating Type									
Rating Unit	Percent	Percent	Percent	Percent	Percent				
Rating Timing									
Trt-Eval Interval	4 DA-A	7 DA-A	14 DA-A	28 DA-A	56 DA-A				
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Other Rate	Other Rate	Growth Unit	Appl Stage	Code
15	NONTREATED								
		0 a		0 a		0 a		0 a	
	LSD (P=.05)	0.0		0.0		0.0		0.0	
	Standard Deviation	0.0		0.0		0.0		0.0	
	CV	0.0		0.0		0.0		0.0	
	Replicate F	0.000		0.000		0.000		0.000	
	Replicate Prob(F)	1.0000		1.0000		1.0000		1.0000	
	Treatment F	0.000		0.000		0.000		0.000	
	Treatment Prob(F)	1.0000		1.0000		1.0000		1.0000	

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Pest Code Crop Code Rating Date Rating Type							GLXMA 6-6-12 Necrosis	GLXMA 6-9-12 Necrosis	GLXMA 6-16-12 Necrosis	GLXMA 6-30-12 Necrosis	GLXMA 7-28-12 Necrosis			
Rating Unit Rating Timing Trt-Eval Interval							Percent	Percent	Percent	Percent	Percent			
							4 DA-A	7 DA-A	14 DA-A	28 DA-A	56 DA-A			
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Other Rate	Other Rate	Growth Unit	Appl Stage	Code					
1	ROUNDUP P-MAX N-PAK AMS	4.5 SL 100 SL		0.77 lb ae/a 5 % v/v	22 fl oz/a 5 % v/v		V2-3 V2-3	A A		0 g	0 g	0 d	0 c	0 a
2	ROUNDUP P-MAX N-PAK AMS	4.5 SL 100 SL		1.55 lb ae/a 5 % v/v	44 fl oz/a 5 % v/v		V2-3 V2-3	A A		0 g	0 g	0 d	0 c	0 a
3	COBRA ROUNDUP P-MAX N-PAK AMS	2 EC 4.5 SL 100 SL		0.094 lb ai/a 0.77 lb ae/a 5 % v/v	6 fl oz/a 22 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A		15 cde	11 ef	10 a	4 ab	0 a
4	COBRA ROUNDUP P-MAX N-PAK AMS	2 EC 4.5 SL 100 SL		0.094 lb ai/a 1.55 lb ae/a 5 % v/v	6 fl oz/a 44 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A		15 cde	15 cd	9 ab	5 a	0 a
5	COBRA ROUNDUP P-MAX N-PAK AMS	2 EC 4.5 SL 100 SL		0.188 lb ai/a 0.77 lb ae/a 5 % v/v	12 fl oz/a 22 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A		18 b	20 a	10 a	4 ab	0 a
6	COBRA ROUNDUP P-MAX N-PAK AMS	2 EC 4.5 SL 100 SL		0.188 lb ai/a 1.55 lb ae/a 5 % v/v	12 fl oz/a 44 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A		22 a	19 ab	10 a	4 ab	0 a
7	FLEXSTAR ROUNDUP P-MAX N-PAK AMS	1.88 EC 4.5 SL 100 SL		0.235 lb ai/a 0.77 lb ae/a 5 % v/v	1 pt/a 22 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A		10 f	9 f	7 c	4 ab	0 a
8	FLEXSTAR ROUNDUP P-MAX N-PAK AMS	1.88 EC 4.5 SL 100 SL		0.235 lb ai/a 1.55 lb ae/a 5 % v/v	1 pt/a 44 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A		15 cde	14 cd	8 bc	4 ab	0 a
9	FLEXSTAR ROUNDUP P-MAX N-PAK AMS	1.88 EC 4.5 SL 100 SL		0.375 lb ai/a 0.77 lb ae/a 5 % v/v	1.6 pt/a 22 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A		13 e	12 de	7 bc	4 ab	0 a
10	FLEXSTAR ROUNDUP P-MAX N-PAK AMS	1.88 EC 4.5 SL 100 SL		0.375 lb ai/a 1.55 lb ae/a 5 % v/v	1.6 pt/a 44 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A		15 cde	14 cd	9 ab	4 ab	0 a
11	CADET ROUNDUP P-MAX N-PAK AMS	0.91 EC 4.5 SL 100 SL		0.00427 lb ai/a 0.77 lb ae/a 5 % v/v	0.6 fl oz/a 22 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A		14 de	12 def	7 c	3 b	0 a
12	CADET ROUNDUP P-MAX N-PAK AMS	0.91 EC 4.5 SL 100 SL		0.00427 lb ai/a 1.55 lb ae/a 5 % v/v	0.6 fl oz/a 44 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A		16 b-e	13 cde	7 c	5 a	0 a
13	CADET ROUNDUP P-MAX N-PAK AMS	0.91 EC 4.5 SL 100 SL		0.0064 lb ai/a 0.77 lb ae/a 5 % v/v	0.9 fl oz/a 22 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A		17 bcd	16 bc	8 bc	4 ab	0 a
14	CADET ROUNDUP P-MAX N-PAK AMS	0.91 EC 4.5 SL 100 SL		0.0064 lb ai/a 1.55 lb ae/a 5 % v/v	0.9 fl oz/a 44 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A		17 bc	13 de	9 ab	4 ab	0 a

Southern Illinois University

Soybean Response to Glyphosate Tank-Mixtures: Weed Control.

Trial ID: 12-DSO-ISApotTM

Location: De Soto, IL

Investigator: Bryan Young

Pest Code	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA						
Crop Code	6-6-12	6-9-12	6-16-12	6-30-12	7-28-12						
Rating Date	Necrosis	Necrosis	Necrosis	Necrosis	Necrosis						
Rating Type											
Rating Unit	Percent	Percent	Percent	Percent	Percent						
Rating Timing											
Trt-Eval Interval	4 DA-A	7 DA-A	14 DA-A	28 DA-A	56 DA-A						
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Other Rate	Other Rate	Growth Unit	Appl Stage	Code		
15	NONTREATED	0 g						0 d		0 c	0 a
LSD (P=.05)		2.7		3.2		1.7		1.5		0.0	
Standard Deviation		1.6		1.9		1.0		0.9		0.0	
CV		13.0		17.25		15.34		27.13		0.0	
Replicate F		1.045		2.050		0.269		1.492		0.000	
Replicate Prob(F)		0.3650		0.1476		0.7662		0.2423		1.0000	
Treatment F		54.778		33.226		37.332		12.016		0.000	
Treatment Prob(F)		0.0001		0.0001		0.0001		0.0001		1.0000	

Southern Illinois University

Soybean Response to Glyphosate Tank-Mixtures: Weed Control.

Trial ID: 12-DSO-ISApostTM

Location: De Soto, IL

Investigator: Bryan Young

Pest Code Crop Code Rating Date Rating Type Rating Unit Rating Timing Trt-Eval Interval									AMATA-HR	AMATA-HR	AMATA-HR	AMATA-HR	
									6-9-12 Control Percent	6-16-12 Control Percent	6-30-12 Control Percent	7-28-12 Control Percent	
									7 DA-A	14 DA-A	28 DA-A	56 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code				
1	ROUNDUP P-MAX N-PAK AMS	4.5 SL 100 SL		0.77 lb ae/a 5 % v/v		22 fl oz/a 5 % v/v		V2-3 V2-3	A A	33 e	57 f	50 g	40 d
2	ROUNDUP P-MAX N-PAK AMS	4.5 SL 100 SL		1.55 lb ae/a 5 % v/v		44 fl oz/a 5 % v/v		V2-3 V2-3	A A	40 e	70 e	72 e	68 bc
3	COBRA ROUNDUP P-MAX N-PAK AMS	2 EC 4.5 SL 100 SL		0.094 lb ai/a 0.77 lb ae/a 5 % v/v		6 fl oz/a 22 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	87 b	88 bcd	78 cd	68 bc
4	COBRA ROUNDUP P-MAX N-PAK AMS	2 EC 4.5 SL 100 SL		0.094 lb ai/a 1.55 lb ae/a 5 % v/v		6 fl oz/a 44 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	89 ab	90 abc	86 ab	79 ab
5	COBRA ROUNDUP P-MAX N-PAK AMS	2 EC 4.5 SL 100 SL		0.188 lb ai/a 0.77 lb ae/a 5 % v/v		12 fl oz/a 22 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	88 b	89 bcd	85 ab	73 ab
6	COBRA ROUNDUP P-MAX N-PAK AMS	2 EC 4.5 SL 100 SL		0.188 lb ai/a 1.55 lb ae/a 5 % v/v		12 fl oz/a 44 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	95 a	95 a	90 a	79 ab
7	FLEXSTAR ROUNDUP P-MAX N-PAK AMS	1.88 EC 4.5 SL 100 SL		0.235 lb ai/a 0.77 lb ae/a 5 % v/v		1 pt/a 22 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	86 b	88 bcd	84 abc	67 bc
8	FLEXSTAR ROUNDUP P-MAX N-PAK AMS	1.88 EC 4.5 SL 100 SL		0.235 lb ai/a 1.55 lb ae/a 5 % v/v		1 pt/a 44 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	88 b	90 abc	88 ab	82 a
9	FLEXSTAR ROUNDUP P-MAX N-PAK AMS	1.88 EC 4.5 SL 100 SL		0.375 lb ai/a 0.77 lb ae/a 5 % v/v		1.6 pt/a 22 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	89 ab	92 ab	87 ab	82 a
10	FLEXSTAR ROUNDUP P-MAX N-PAK AMS	1.88 EC 4.5 SL 100 SL		0.375 lb ai/a 1.55 lb ae/a 5 % v/v		1.6 pt/a 44 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	91 ab	89 bcd	87 ab	83 a
11	CADET ROUNDUP P-MAX N-PAK AMS	0.91 EC 4.5 SL 100 SL		0.00427 lb ai/a 0.77 lb ae/a 5 % v/v		0.6 fl oz/a 22 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	72 d	75 e	65 f	60 c
12	CADET ROUNDUP P-MAX N-PAK AMS	0.91 EC 4.5 SL 100 SL		0.00427 lb ai/a 1.55 lb ae/a 5 % v/v		0.6 fl oz/a 44 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	78 cd	83 d	82 bc	77 ab
13	CADET ROUNDUP P-MAX N-PAK AMS	0.91 EC 4.5 SL 100 SL		0.0064 lb ai/a 0.77 lb ae/a 5 % v/v		0.9 fl oz/a 22 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	89 ab	86 cd	75 de	68 bc
14	CADET ROUNDUP P-MAX N-PAK AMS	0.91 EC 4.5 SL 100 SL		0.0064 lb ai/a 1.55 lb ae/a 5 % v/v		0.9 fl oz/a 44 fl oz/a 5 % v/v		V2-3 V2-3 V2-3	A A A	86 bc	89 abc	87 ab	74 ab

Southern Illinois University

Soybean Response to Glyphosate Tank-Mixtures: Weed Control.

Trial ID: 12-DSO-ISApotTM

Location: De Soto, IL

Investigator: Bryan Young

Pest Code	AMATA-HR	AMATA-HR	AMATA-HR	AMATA-HR
Crop Code				
Rating Date	6-9-12	6-16-12	6-30-12	7-28-12
Rating Type	Control	Control	Control	Control
Rating Unit	Percent	Percent	Percent	Percent
Rating Timing				
Trt-Eval Interval	7 DA-A	14 DA-A	28 DA-A	56 DA-A
Trt No.				
Treatment Name				
Form Conc				
Form Type				
Rate Rate				
Unit Unit				
Other Rate				
Other Rate				
Growth Stage				
Appl Code				
15 NONTREATED	0 f	0 g	0 h	0 e
LSD (P=.05)	7.5	5.8	6.4	12.6
Standard Deviation	4.5	3.5	3.9	7.5
CV	6.03	4.4	5.19	11.27
Replicate F	1.070	5.506	3.440	1.219
Replicate Prob(F)	0.3565	0.0096	0.0461	0.3106
Treatment F	113.280	143.559	108.273	24.445
Treatment Prob(F)	0.0001	0.0001	0.0001	0.0001

Soybean Response to Glyphosate Tank-Mixtures: Weed Control.

Trial ID: 12-DSO-ISApstTM
Location: De Soto, IL

Investigator: Bryan Young

Trial Comments

1. Protocol: ISA.
2. Ratings: CI (overall, stunting, chlorosis, necrosis) at 4, 7, 14, 28, and 56 DAT.
WC at 7, 14, 28, and 56 DAT.
3. Blanket EPP application of Roundup WeatherMax (22 floz/A) + 2,4-D LV4 (1 pt/A) + NPAK AMS (2.5 %v/v) was needed to control winter annual weeds, applied on 4-12-12.
Blanket burndown of Gramoxone Inteon (4 pt/A) plus NIS (0.5%) was applied on 4-28-12.
4. AMATA-HR = Herbicide-resistant waterhemp (glyphosate).
5. Not harvested.