

Anthem Preemergence and Postemergence in Soybean - Site 1.

Trial ID: 11-DSO-AnthemSB Location: De Soto, IL

Investigator: Bryan Young, Professor, Southern Illinois University, bgyoung@siu.edu  
 City State Zip Country: De Soto IL 62924 USA  
 Trial Status: FINAL Initiation Date: 5-20-11

Objectives: Evaluate glyphosate-resistant waterhemp control from Anthem compared with competitive standards.

Crop 1: GLXMA Soybean Variety: AG 4005 Description: RR  
 Planting Method: SEEDED Planting Date: 5-20-11  
 Rate, Unit: 75 LB/A Depth, Unit: 1.0 IN  
 Row Spacing, Unit: 30 IN

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

Plot Width, Unit: 10 FT Site Type: FIELD  
 Plot Length, Unit: 30 FT Tillage Type: NO-TILL  
 Replications: 3 Study Design: Randomized Complete Block

Prior Crops, Year  
 1. ZEAMD 2010

Field Prep./Maintenance: N 0 LB/A, P205 0 LB/A, K20 0 LB/A

% Sand: 15.4 % OM: 2.4 Texture: SILT LOAM  
 % Silt: 64.7 pH: 6.1 Soil Name: OKAW  
 % Clay: 19.9 CEC: 10.5 Fert. Level: P1 53 LB/A, K 352 LB/A

	Application Description			
	A	B	C	D
Application Date:	5-20-11	6-10-11	6-23-11	6-30-11
Time of Day:	18:00	11:00	7:30	14:00
Application Method:	Spray	Spray	Spray	Spray
Application Timing:	PRE	1-2TRIFOL	3-4"W-1	3-4"W-2
Application Placement:	BROSIOI	BROSIOI	BROSIOI	BROSIOI
Applied By:	JRK	MJA	LAH	CME
Air Temperature, Unit:	84 F	91 F	75 F	93 F
% Relative Humidity:	50	54	57	54
Wind Velocity, Unit:	3 MPH	3 MPH	5 MPH	1 MPH
Wind Direction:	S	S	SW	E
Dew Presence (Y/N):	N	N	N	N
Soil Temperature, Unit:	74 F	85 F	73 F	81 F
Soil Moisture:	NORMAL	BELNOR	NORMAL	NORMAL
% Cloud Cover:	100	10	5	0

	20-5-11	10-6-11	23-6-11	30-6-11
Crop stage at application:	NA	V1-V2	V4	V5-V6
Height Min, Max (inch):		3 7	9 13	10 17

Pest Stage At Each Application				
	5-20-11	6-10-11	6-23-11	6-30-11
Application Date:	5-20-11	6-10-11	6-23-11	6-30-11
Weed Code:	AMATA	AMATA	AMATA	AMATA
Stage Majority (leaves):	NA	4	8	5
Stage Min, Max:		coty 10	coty 12	coty 10
Height Majority:		1 IN	4 IN	2 IN
Height Min, Max:		0.5 6	0.5 7	0.5 6
Density, Unit:		5 FT2	1 FT2	1 FT2

Application Equipment

	CO2 sprayer	CO2 sprayer	CO2 sprayer	CO2 sprayer
Operating Pressure:	30 PSI	30 PSI	30 PSI	30 PSI
Nozzle Type:	Flat fan	Flat fan	Flat fan	Flat fan
Nozzle Size:	XR 8002	XR 8002	XR 8002	XR 8002
Boom Length, Unit:	6.67 FT	6.67 FT	6.67 FT	6.67 FT
Spray Volume, Unit:	15 GPA	15 GPA	15 GPA	15 GPA

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Pest Code								GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA									
Crop Code								10-22-11	10-22-11	10-22-11	6-8-11	6-17-11	6-22-11	7-1-11									
Rating Date								Moisture	Test wt.	Yield	Injury	Injury	Injury	Injury									
Rating Data Type								Percent	lb/bu	bu/A	Percent	Percent	Percent	Percent									
Rating Unit																							
Rating Timing																							
Trt-Eval Interval								14 DAE 7 DA-B 28 DAE 21 DA-B															
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code														
1	ANTHEM	2.15	SE	0.134	lb ai/a	8	fl oz/a	PRE	A	16.3	a	53.9	ab	42	a	1	d			0	d	0	b
1	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-4"W-1	C														
1	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W-1	C														
2	AUTHORITY FIRST	70	WG	0.28	lb ai/a	6.4	oz/a	PRE	A	16.4	a	53.9	ab	46	a	2	bcd			0	d	0	b
2	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-4"W-1	C														
2	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W-1	C														
3	AUTHORITY XL	70	WG	0.23	lb ai/a	5.25	oz/a	PRE	A	16.1	a	53.9	ab	47	a	2	cd			0	d	0	b
3	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-4"W-1	C														
3	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W-1	C														
4	VALOR XLT	40.3	WG			4	oz/a	PRE	A	16.1	a	53.9	ab	46	a	4	ab			0	d	0	b
4	VALOR SX	51	WG	0.075	lb ai/a			PRE	A														
4	CLASSIC	25	WG	0.0258	lb ai/a			PRE	A														
4	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-4"W-1	C														
4	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W-1	C														
5	FIERCE	76	WG	0.143	lb ai/a	3	oz/a	PRE	A	16.2	a	53.9	ab	46	a	5	a			0	d	0	b
5	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-4"W-1	C														
5	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W-1	C														
6	PREFIX	5.29	EC	1.65	lb ai/a	2.5	pt/a	PRE	A	16.4	a	53.9	ab	47	a	2	bcd			0	d	0	b
6	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-4"W-1	C														
6	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W-1	C														
7	AUTHORITY XL	70	WG	0.175	lb ai/a	4	oz/a	PRE	A	16.7	a	53.7	b	48	a	4	abc			3	c	0	b
7	ANTHEM	2.15	SE	0.084	lb ai/a	5	fl oz/a	1-2TRIFOL	B														
7	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	1-2TRIFOL	B														
7	N-PAK AMS	100	SL	5	% v/v	5	% v/v	1-2TRIFOL	B														
8	ANTHEM	2.15	SE	0.101	lb ai/a	6	fl oz/a	1-2TRIFOL	B	15.9	a	54.0	ab	45	a			10	a	6	a	0	b
8	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	1-2TRIFOL	B														
8	N-PAK AMS	100	SL	5	% v/v	5	% v/v	1-2TRIFOL	B														
8	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-4"W-2	D														
8	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W-2	D														
9	PREFIX	5.29	EC	1.32	lb ai/a	2	pt/a	1-2TRIFOL	B	16.2	a	53.9	ab	47	a			9	a	4	b	1	a
9	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	1-2TRIFOL	B														
9	N-PAK AMS	100	SL	5	% v/v	5	% v/v	1-2TRIFOL	B														
9	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-4"W-2	D														
9	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W-2	D														
10	FLEXSTAR GT 3.5	3.5	SL	1.53	lb ai/a	3.5	pt/a	1-2TRIFOL	B	15.9	a	54.0	ab	45	a			3	c	1	d	0	b
10	N-PAK AMS	100	SL	5	% v/v	5	% v/v	1-2TRIFOL	B														
10	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-4"W-2	D														
10	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W-2	D														
11	EXTREME	2.17	SL	0.81	lb ai/a	3	pt/a	1-2TRIFOL	B	16.2	a	53.9	ab	45	a			7	b	1	d	0	b
11	N-PAK AMS	100	SL	5	% v/v	5	% v/v	1-2TRIFOL	B														
11	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-4"W-2	D														
11	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W-2	D														
12	WARRANT	3	CS	1.13	lb ai/a	3	pt/a	1-2TRIFOL	B	15.8	a	54.0	a	46	a			2	c	3	c	0	b
12	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	1-2TRIFOL	B														
12	N-PAK AMS	100	SL	5	% v/v	5	% v/v	1-2TRIFOL	B														
12	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-4"W-2	D														
12	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W-2	D														
13	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	1-2TRIFOL	B	16.2	a	53.9	ab	47	a			0	d	0	d	0	b
13	N-PAK AMS	100	SL	5	% v/v	5	% v/v	1-2TRIFOL	B														
13	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-4"W-2	D														
13	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W-2	D														
LSD (P=.05)										0.89	0.24	5.7	2.4	1.9	1.3	0.8							
Replicate F										9.198	11.074	0.067	3.991	0.455	3.481	1.000							
Replicate Prob(F)										0.0011	0.0004	0.9352	0.0469	0.6472	0.0471	0.3827							
Treatment F										0.573	0.755	0.432	3.815	45.182	23.260	1.000							
Treatment Prob(F)										0.8418	0.6874	0.9344	0.0231	0.0001	0.0001	0.4777							

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Pest Code												
Crop Code												
Rating Date												
Rating Data Type												
Rating Unit												
Rating Timing												
Trt-Eval Interval										14 DAE	7 DA-B	28 DAE 21 DA-B

Trt No.	Treatment Name	Form Conc	Form Type	Form Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code
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Means followed by same letter do not significantly differ (P=.05, LSD)

Anthem Preemergence and Postemergence in Soybean - Site 1.

Trial ID: 11-DSO-AnthemSB Location: De Soto, IL

								AMATA-HR	AMATA-HR	AMATA-HR	AMATA-HR		
								6-22-11	7-1-11	7-21-11	7-28-11		
								Control	Control	Control	Control		
								Percent	Percent	Percent	Percent		
								-1 DA-C	1 DA-D				
								28 DAE	21 DA-B	28 DA-C	28 DA-D		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code				
1	ANTHEM	2.15	SE	0.134	lb ai/a	8	fl oz/a	PRE	A	67 e	88 ef	81 d	81 c
1	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-4"W-1	C				
1	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W-1	C				
2	AUTHORITY FIRST	70	WG	0.28	lb ai/a	6.4	oz/a	PRE	A	94 ab	98 ab	97 a	96 a
2	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-4"W-1	C				
2	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W-1	C				
3	AUTHORITY XL	70	WG	0.23	lb ai/a	5.25	oz/a	PRE	A	93 ab	96 abc	92 abc	92 ab
3	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-4"W-1	C				
3	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W-1	C				
4	VALOR XLT	40.3	WG			4	oz/a	PRE	A	82 cd	94 cd	92 ab	92 ab
4	VALOR SX	51	WG	0.075	lb ai/a			PRE	A				
4	CLASSIC	25	WG	0.0258	lb ai/a			PRE	A				
4	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-4"W-1	C				
4	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W-1	C				
5	FIERCE	76	WG	0.143	lb ai/a	3	oz/a	PRE	A	75 de	86 f	80 d	80 c
5	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-4"W-1	C				
5	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W-1	C				
6	PREFIX	5.29	EC	1.65	lb ai/a	2.5	pt/a	PRE	A	90 abc	96 abc	95 a	95 a
6	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-4"W-1	C				
6	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W-1	C				
7	AUTHORITY XL	70	WG	0.175	lb ai/a	4	oz/a	PRE	A	98 a	99 a	96 a	96 a
7	ANTHEM	2.15	SE	0.084	lb ai/a	5	fl oz/a	1-2TRIFOL	B				
7	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	1-2TRIFOL	B				
7	N-PAK AMS	100	SL	5	% v/v	5	% v/v	1-2TRIFOL	B				
8	ANTHEM	2.15	SE	0.101	lb ai/a	6	fl oz/a	1-2TRIFOL	B	95 ab	94 bcd	92 abc	92 ab
8	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	1-2TRIFOL	B				
8	N-PAK AMS	100	SL	5	% v/v	5	% v/v	1-2TRIFOL	B				
8	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-4"W-2	D				
8	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W-2	D				
9	PREFIX	5.29	EC	1.32	lb ai/a	2	pt/a	1-2TRIFOL	B	98 a	98 abc	97 a	96 a
9	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	1-2TRIFOL	B				
9	N-PAK AMS	100	SL	5	% v/v	5	% v/v	1-2TRIFOL	B				
9	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-4"W-2	D				
9	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W-2	D				
10	FLEXSTAR GT 3.5	3.5	SL	1.53	lb ai/a	3.5	pt/a	1-2TRIFOL	B	97 a	96 abc	95 a	95 a
10	N-PAK AMS	100	SL	5	% v/v	5	% v/v	1-2TRIFOL	B				
10	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-4"W-2	D				
10	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W-2	D				
11	EXTREME	2.17	SL	0.81	lb ai/a	3	pt/a	1-2TRIFOL	B	85 bcd	90 de	83 bcd	83 bc
11	N-PAK AMS	100	SL	5	% v/v	5	% v/v	1-2TRIFOL	B				
11	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-4"W-2	D				
11	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W-2	D				
12	WARRANT	3	CS	1.13	lb ai/a	3	pt/a	1-2TRIFOL	B	92 abc	96 abc	93 a	92 ab
12	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	1-2TRIFOL	B				
12	N-PAK AMS	100	SL	5	% v/v	5	% v/v	1-2TRIFOL	B				
12	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-4"W-2	D				
12	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W-2	D				
13	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	1-2TRIFOL	B	78 d	86 f	83 cd	79 c
13	N-PAK AMS	100	SL	5	% v/v	5	% v/v	1-2TRIFOL	B				
13	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-4"W-2	D				
13	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W-2	D				
LSD (P=.05)										10.3	4.0	9.6	10.9
Replicate F										3.188	5.096	0.461	0.468
Replicate Prob(F)										0.0592	0.0143	0.6360	0.6319
Treatment F										7.760	10.646	3.745	3.120
Treatment Prob(F)										0.0001	0.0001	0.0029	0.0085

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Pest Code					AMATA-HR	AMATA-HR	AMATA-HR	AMATA-HR
Crop Code								
Rating Date					6-22-11	7-1-11	7-21-11	7-28-11
Rating Data Type					Control	Control	Control	Control
Rating Unit					Percent	Percent	Percent	Percent
Rating Timing					-1 DA-C	1 DA-D		
Trt-Eval Interval					28 DAE	21 DA-B	28 DA-C	28 DA-D

Trt No.	Treatment Name	Form Conc	Form Type	Form Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code
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Means followed by same letter do not significantly differ (P=.05, LSD)

## Trial Comments

1. Protocol: FMC.
2. Ratings: CI at 14 and 28 DAE for treatments with a PRE (A) application; CI 7 and 21 DA-B; WC at C and 28 DA-C, WC at D and 28 DA-D, rate treatment 7 WC at 0 and 28 DA-D.
3. Yield.
4. Blanket application of Roundup WeatherMax (22 floz/A) + 2,4-D LV4 (1 pt/A) + NPAK AMS (2.5 %v/v) was applied to all plots on 4-2-11.  
Blanket burndown application of Gramoxone Inteon (3.5 pt/A) plus COC (1% v/v) was applied to all plots on 5-20-11.
5. AMATA-HR = Herbicide-resistant waterhemp (glyphosate).  
DAE = Days after crop emergence.
6. Rainfall for the week prior to planting and the PRE application was 1.2 inch.  
Rainfall (weekly totals) for the the next six weeks were 2.18, 0, 0, 0.75, 1.81, and 4.38 inch.
7. Harvested 10-22-11, (2) 30 inch rows by 26.5 ft.