

## Preemergence Management Strategies for Roundup Ready Soybean.

Trial ID: 08-52-MS150      Location: Belleville Res. Center

Investigator: Bryan Young, Professor, Southern Illinois University, bgyoung@siu.edu  
 City State Zip Country: Belleville IL 62221 USA  
 Trial Status: FINAL      Initiation Date: 05-20-08

Objectives: Evaluate complimentary preemergence residual herbicides for use  
 in Roundup Ready soybean.

Crop 1: GLXMA Soybean      Variety: AG 4404 RR/STS  
 Planting Method: SEEDDED      Planting Date: 06-15-08  
 Rate, Unit: 75 LB/A      Depth, Unit: 1.0 IN  
 Row Spacing, Unit: 30 IN

Pest 1 Type: W      Code: AMBTR      Ambrosia trifida L.      ragweed, giant  
 Pest 2 Type: W      Code: AMATA      Amaranthus rudis Sauer      waterhemp, common

Plot Width, Unit: 10 FT      Site Type: FIELD  
 Plot Length, Unit: 25 FT      Tillage Type: NO-TILL  
 Replications: 3      Study Design: Randomized Complete Block

## Prior Crops, Year

1. ZEAMD      2007

Field Prep./Maintenance: N 0 LB/A, P205 0 LB/A, K20 100 LB/A

% OM: 2.2      Texture: SILT LOAM  
 pH: 6.9      Soil Name: PIERRON  
 CEC: 9      Fert. Level: P1: 107 LB/A, K: 420 LB/A

## Application Description

A

Application Date: 05-20-08  
 Time of Day: 8:00  
 Application Method: Spray  
 Application Timing: 7EPP  
 Application Placement: BROFOL  
 Applied By: DKT  
 Air Temperature, Unit: 66 F  
 % Relative Humidity: 92  
 Wind Velocity, Unit: 1 MPH  
 Soil Temperature, Unit: 70 F  
 Soil Moisture: ABONOR

05-20-08  
 Crop stage at application: NA

## Pest Stage At Each Application

Application Date: 05-20-08  
 Weed Code: AMBTR  
 Stage Majority (leaves): 4  
 Stage Min, Max: 2 6  
 Height Majority: 6 IN  
 Height Min, Max: 3 8  
 Density, Unit: 4 FT2  
 Weed Code: AMATA  
 Stage Majority (leaves): NA

## Application Equipment

Appl. Equipment: CO2 sprayer  
 Operating Pressure: 30 PSI  
 Nozzle Type: Flat fan  
 Nozzle Size: XR 8002  
 Boom Length, Unit: 7.5 FT  
 Spray Volume, Unit: 15 GPA



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									AMBTR	AMBTR						
							GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	06-03-08	06-17-08			
							06-22-08	06-22-08	06-22-08	06-22-08	06-29-08	Control	Control			
							Injury	Chlorosis	Necrosis	GRORED	Injury	Percent	Percent			
							Percent	Percent	Percent	Percent	Percent	Percent	Percent			
							7 DAP	7 DAP	7 DAP	7 DAP	14 DAP	14 DA-A	28 DA-A			
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code							
14	ROUNDUP P-MAX	4.5	SL	0.75	lb ae/a	21.3	fl oz/a	7EPP	A	0 a	0 a	0 a	0 a	0 a	99 a	94 abc
14	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7EPP	A							
14	2,4-D LV 4	3.8	EC	0.475	lb ae/a	1	pt/a	7EPP	A							
14	AUTHORITY MTZ	45	WG	0.31	lb ai/a	11	oz/a	7EPP	A							
15	ROUNDUP P-MAX	4.5	SL	0.75	lb ae/a	21.3	fl oz/a	7EPP	A	0 a	0 a	0 a	0 a	0 a	99 a	95 abc
15	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7EPP	A							
15	2,4-D LV 4	3.8	EC	0.475	lb ae/a	1	pt/a	7EPP	A							
15	VALOR XLT	40.3	WG			3	oz/a	7EPP	A							
15	VALOR SX	51	WG	0.056	lb ai/a			7EPP	A							
15	CLASSIC	25	WG	0.0194	lb ai/a			7EPP	A							
16	ROUNDUP P-MAX	4.5	SL	0.75	lb ae/a	21.3	fl oz/a	7EPP	A	0 a	0 a	0 a	0 a	0 a	99 a	87 a-d
16	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7EPP	A							
16	2,4-D LV 4	3.8	EC	0.475	lb ae/a	1	pt/a	7EPP	A							
16	CLARITY	4	SL	0.5	lb ae/a	16	fl oz/a	7EPP	A							
17	GRAMOXONE INTEON	2	SL	0.75	lb ai/a	3	pt/a	7EPP	A	0 a	0 a	0 a	0 a	0 a	99 a	87 a-d
17	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7EPP	A							
17	2,4-D LV 4	3.8	EC	0.475	lb ae/a	1	pt/a	7EPP	A							
17	SENCOR	75	WG	0.25	lb ai/a	5.33	oz/a	7EPP	A							
18	ROUNDUP P-MAX	4.5	SL	0.75	lb ae/a	21.3	fl oz/a	7EPP	A	0 a	0 a	0 a	0 a	0 a	99 a	96 ab
18	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7EPP	A							
18	2,4-D LV 4	3.8	EC	0.475	lb ae/a	1	pt/a	7EPP	A							
18	GANGSTER FR	84	WG	0.02125	lb ai/a	0.4	oz/a	7EPP	A							
18	GANGSTER V	51	WG	0.06375	lb ai/a	2	oz/a	7EPP	A							
19	ROUNDUP P-MAX	4.5	SL	0.75	lb ae/a	21.3	fl oz/a	7EPP	A	0 a	0 a	0 a	0 a	0 a	99 a	98 a
19	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7EPP	A							
19	2,4-D LV 4	3.8	EC	0.475	lb ae/a	1	pt/a	7EPP	A							
19	VALOR SX	51	WG	0.064	lb ai/a	2	oz/a	7EPP	A							
19	CLASSIC	25	WG	0.02	lb ai/a	1.28	oz/a	7EPP	A							
19	HARMONY SG	50	SG	0.0065	lb ai/a	0.208	oz/a	7EPP	A							
20	ROUNDUP P-MAX	4.5	SL	0.75	lb ae/a	21.3	fl oz/a	7EPP	A	0 a	0 a	0 a	0 a	0 a	99 a	94 abc
20	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7EPP	A							
20	2,4-D LV 4	3.8	EC	0.475	lb ae/a	1	pt/a	7EPP	A							
20	VALOR SX	51	WG	0.064	lb ai/a	2	oz/a	7EPP	A							
20	CLASSIC	25	WG	0.005	lb ai/a	0.32	oz/a	7EPP	A							
20	HARMONY SG	50	SG	.015375	lb ai/a	0.49	oz/a	7EPP	A							
LSD (P=.05)										0.0	0.0	0.0	0.0	0.0	0.0	11.9
Replicate F										0.000	0.000	0.000	0.000	0.000	0.000	0.725
Replicate Prob(F)										1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.4907
Treatment F										0.000	0.000	0.000	0.000	0.000	0.000	1.930
Treatment Prob(F)										1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0418

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

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Pest Code	AMATA
Crop Code	
Rating Date	06-17-08
Rating Data Type	Control
Rating Unit	Percent
Rating Timing	
Trt-Eval Interval	28 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	4.5	SL	0.75	lb ae/a	21.3	fl oz/a	7EPP	A	72 abc
1	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7EPP	A	
1	2,4-D LV 4	3.8	EC	0.475	lb ae/a	1	pt/a	7EPP	A	
2	GRAMOXONE INTEON	2	SL	0.75	lb ai/a	3	pt/a	7EPP	A	60 abc
2	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7EPP	A	
2	2,4-D LV 4	3.8	EC	0.475	lb ae/a	1	pt/a	7EPP	A	
3	ROUNDUP P-MAX	4.5	SL	0.75	lb ae/a	21.3	fl oz/a	7EPP	A	55 abc
3	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7EPP	A	
3	2,4-D LV 4	3.8	EC	0.475	lb ae/a	1	pt/a	7EPP	A	
3	FIRSTRATE	84	WG	0.016	lb ai/a	0.3	oz/a	7EPP	A	
4	ROUNDUP P-MAX	4.5	SL	0.75	lb ae/a	21.3	fl oz/a	7EPP	A	89 ab
4	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7EPP	A	
4	2,4-D LV 4	3.8	EC	0.475	lb ae/a	1	pt/a	7EPP	A	
4	VALOR SX	51	WG	0.064	lb ai/a	2	oz/a	7EPP	A	
5	ROUNDUP P-MAX	4.5	SL	0.75	lb ae/a	21.3	fl oz/a	7EPP	A	92 a
5	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7EPP	A	
5	2,4-D LV 4	3.8	EC	0.475	lb ae/a	1	pt/a	7EPP	A	
5	VALOR SX	51	WG	0.096	lb ai/a	3	oz/a	7EPP	A	
6	EXTREME	2.17	SL	0.82	lb ai/a	3	pt/a	7EPP	A	30 c
6	ACTIVATOR 90	100	SL	0.125	% v/v	0.125	% v/v	7EPP	A	
6	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7EPP	A	
6	2,4-D LV 4	3.8	EC	0.475	lb ae/a	1	pt/a	7EPP	A	
7	ROUNDUP P-MAX	4.5	SL	0.75	lb ae/a	21.3	fl oz/a	7EPP	A	27 c
7	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7EPP	A	
7	2,4-D LV 4	3.8	EC	0.475	lb ae/a	1	pt/a	7EPP	A	
7	INTRRO	4	SC	2	lb ai/a	2	qt/a	7EPP	A	
8	ROUNDUP P-MAX	4.5	SL	0.75	lb ae/a	21.3	fl oz/a	7EPP	A	49 abc
8	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7EPP	A	
8	2,4-D LV 4	3.8	EC	0.475	lb ae/a	1	pt/a	7EPP	A	
8	INTRRO	4	SC	1.5	lb ai/a	1.5	qt/a	7EPP	A	
8	VALOR SX	51	WG	0.064	lb ai/a	2	oz/a	7EPP	A	
9	ROUNDUP P-MAX	4.5	SL	0.75	lb ae/a	21.3	fl oz/a	7EPP	A	53 abc
9	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7EPP	A	
9	2,4-D LV 4	3.8	EC	0.475	lb ae/a	1	pt/a	7EPP	A	
9	PROWL H2O	3.8	CS	0.95	lb ai/a	2	pt/a	7EPP	A	
10	ROUNDUP P-MAX	4.5	SL	0.75	lb ae/a	21.3	fl oz/a	7EPP	A	27 c
10	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7EPP	A	
10	2,4-D LV 4	3.8	EC	0.475	lb ae/a	1	pt/a	7EPP	A	
10	CANOPY EX	29.5	WG			1.1	oz/a	7EPP	A	
10	CLASSIC	25	WG	0.0156	lb ai/a			7EPP	A	
10	EXPRESS	50	SG	0.00468	lb ai/a			7EPP	A	
11	ROUNDUP P-MAX	4.5	SL	0.75	lb ae/a	21.3	fl oz/a	7EPP	A	33 bc
11	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7EPP	A	
11	2,4-D LV 4	3.8	EC	0.475	lb ae/a	1	pt/a	7EPP	A	
11	SYNCHRONY XP	28.4	WG			1	oz/a	7EPP	A	
11	CLASSIC	25	WG	0.01344	lb ai/a			7EPP	A	
11	HARMONY SG	50	SG	0.00431	lb ai/a			7EPP	A	
12	ROUNDUP P-MAX	4.5	SL	0.75	lb ae/a	21.3	fl oz/a	7EPP	A	98 a
12	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7EPP	A	
12	2,4-D LV 4	3.8	EC	0.475	lb ae/a	1	pt/a	7EPP	A	
12	AUTHORITY FIRST	70	WG	0.141	lb ai/a	3.22	oz/a	7EPP	A	
13	ROUNDUP P-MAX	4.5	SL	0.75	lb ae/a	21.3	fl oz/a	7EPP	A	58 abc
13	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7EPP	A	
13	2,4-D LV 4	3.8	EC	0.475	lb ae/a	1	pt/a	7EPP	A	
13	SENCOR	75	WG	0.25	lb ai/a	5.33	oz/a	7EPP	A	

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Rating Date	06-17-08
Rating Data Type	Control
Rating Unit	Percent
Rating Timing	
Trt-Eval Interval	28 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code	
14	ROUNDUP P-MAX	4.5	SL	0.75	lb ae/a	21.3	fl oz/a	7EPP	A	95 a
14	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7EPP	A	
14	2,4-D LV 4	3.8	EC	0.475	lb ae/a	1	pt/a	7EPP	A	
14	AUTHORITY MTZ	45	WG	0.31	lb ai/a	11	oz/a	7EPP	A	
15	ROUNDUP P-MAX	4.5	SL	0.75	lb ae/a	21.3	fl oz/a	7EPP	A	95 a
15	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7EPP	A	
15	2,4-D LV 4	3.8	EC	0.475	lb ae/a	1	pt/a	7EPP	A	
15	VALOR XLT	40.3	WG			3	oz/a	7EPP	A	
15	VALOR SX	51	WG	0.056	lb ai/a			7EPP	A	
15	CLASSIC	25	WG	0.0194	lb ai/a			7EPP	A	
16	ROUNDUP P-MAX	4.5	SL	0.75	lb ae/a	21.3	fl oz/a	7EPP	A	57 abc
16	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7EPP	A	
16	2,4-D LV 4	3.8	EC	0.475	lb ae/a	1	pt/a	7EPP	A	
16	CLARITY	4	SL	0.5	lb ae/a	16	fl oz/a	7EPP	A	
17	GRAMOXONE INTEON	2	SL	0.75	lb ai/a	3	pt/a	7EPP	A	60 abc
17	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7EPP	A	
17	2,4-D LV 4	3.8	EC	0.475	lb ae/a	1	pt/a	7EPP	A	
17	SENCOR	75	WG	0.25	lb ai/a	5.33	oz/a	7EPP	A	
18	ROUNDUP P-MAX	4.5	SL	0.75	lb ae/a	21.3	fl oz/a	7EPP	A	93 a
18	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7EPP	A	
18	2,4-D LV 4	3.8	EC	0.475	lb ae/a	1	pt/a	7EPP	A	
18	GANGSTER FR	84	WG	0.02125	lb ai/a	0.4	oz/a	7EPP	A	
18	GANGSTER V	51	WG	0.06375	lb ai/a	2	oz/a	7EPP	A	
19	ROUNDUP P-MAX	4.5	SL	0.75	lb ae/a	21.3	fl oz/a	7EPP	A	94 a
19	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7EPP	A	
19	2,4-D LV 4	3.8	EC	0.475	lb ae/a	1	pt/a	7EPP	A	
19	VALOR SX	51	WG	0.064	lb ai/a	2	oz/a	7EPP	A	
19	CLASSIC	25	WG	0.02	lb ai/a	1.28	oz/a	7EPP	A	
19	HARMONY SG	50	SG	0.0065	lb ai/a	0.208	oz/a	7EPP	A	
20	ROUNDUP P-MAX	4.5	SL	0.75	lb ae/a	21.3	fl oz/a	7EPP	A	98 a
20	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7EPP	A	
20	2,4-D LV 4	3.8	EC	0.475	lb ae/a	1	pt/a	7EPP	A	
20	VALOR SX	51	WG	0.064	lb ai/a	2	oz/a	7EPP	A	
20	CLASSIC	25	WG	0.005	lb ai/a	0.32	oz/a	7EPP	A	
20	HARMONY SG	50	SG	.015375	lb ai/a	0.49	oz/a	7EPP	A	

LSD (P=.05)

57.7

Replicate F

0.031

Replicate Prob(F)

0.9696

Treatment F

1.639

Treatment Prob(F)

0.0960

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

## Trial Comments

1. Protocol: Monsanto (30-04).
2. Ratings: CI/chlorosis/necrosis/growth reduction at 7 + 14 DAP; WC at 14 + 28 DAT (residual control estimates only).
3. DAP = Days after planting. DA-A = Days after the 7EPP application. GRORED = Growth reduction.
4. At the Belleville Research Center the above normal rainfall in spring 2008 (no more than four consecutive rain-free days between March 22 and June 15) delayed corn and soybean planting until mid-June.  
Following the 7EPP application on May 20, rainfall was 0.17 inch 2 days later, 0.20 inch 4 days later, and 1.92 inch 6 days later.
5. Due to excessive rainfall, soybeans were not planted until 26 days after the the 7EPP application (planned for 7 days after application).
6. Not harvested.