

Postemergence Weed Management Strategies in Roundup Ready Soybean.

Trial ID: 08-50E-S60 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: 06-17-08

Objectives: Evaluate postemergence weed management strategies in Roundup Ready Soybean.

Crop 1: GLXMA Soybean Variety: AG 4404 RR/STS  
 Planting Method: SEEDED Planting Date: 06-17-08  
 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  
 Pest 3 Type: W Code: IPOSS Ipomoea sp. morningglory, species  
 Pest 4 Type: W Code: CYPES Cyperus esculentus L. nutsedge, yellow

Plot Width, Unit: 10 FT Site Type: FIELD  
 Plot Length, Unit: 27 FT Tillage Type: REDUCED-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: 6.7 Soil Name: PIERRON  
 CEC: 12 Fert. Level: P1: 101 LB/A, K: 388 LB/A

Application Description

	A	B
Application Date:	07-07-08	07-11-08
Time of Day:	16:00	13:00
Application Method:	Spray	Spray
Application Timing:	3-4"W	6"W
Application Placement:	BROFOL	BROFOL
Applied By:	DKT	TGM
Air Temperature, Unit:	84 F	82 F
% Relative Humidity:	92	82
Wind Velocity, Unit:	6 MPH	4 MPH
Dew Presence (Y/N):	N	N
Soil Temperature, Unit:	85 F	80 F
Soil Moisture:	NORMAL	ABONOR
% Cloud Cover:		20

	07-07-08	07-11-08
Crop stage at application:	V1	V2
Height Min, Max (inch):	4.5 5	6 8

Pest Stage At Each Application

	07-07-08	07-11-08
Application Date:	07-07-08	07-11-08
Weed Code:	AMBTR	AMBTR
Stage Majority (leaves):	4	6
Stage Min, Max:	2 6	2 8
Height Majority:	4 IN	6 IN
Height Min, Max:	0.5 6	1 8
Density, Unit:	2 FT2	2 FT2
Weed Code:	AMATA	AMATA
Stage Majority (leaves):	6	8
Stage Min, Max:	4 7	4 10
Height Majority:	2 IN	6 IN
Height Min, Max:	1 3	2 8
Density, Unit:	1 FT2	2 FT2
Weed Code:	IPOSS	IPOSS
Stage Majority (leaves):	3	4
Stage Min, Max:	2 5	2 6
Height Majority:	1 IN	3 IN
Height Min, Max:	1 2	2 4
Density, Unit:	1 FT2	1 FT2
Weed Code:	CYPES	CYPES
Stage Majority (leaves):	6	7
Stage Min, Max:	6 9	4 10
Height Majority:	4 IN	7 IN
Height Min, Max:	2 5	3 12
Density, Unit:	1 FT2	2 FT2

Application Equipment

	CO2 sprayer	CO2 sprayer
Appl. Equipment:	CO2 sprayer	CO2 sprayer
Operating Pressure:	30 PSI	30 PSI
Nozzle Type:	Flat fan	Flat fan
Nozzle Size:	XR 8002	TT 110002
Boom Length, Unit:	7.5 FT	7.5 FT
Spray Volume, Unit:	15 GPA	15 GPA

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Pest Code															
Crop Code		GLXMA GLXMA GLXMA GLXMA GLXMA GLXMA GLXMA													
Rating Date															
Rating Data Type		Injury Injury Injury Chlorosis Chlorosis Necrosis Necrosis													
Rating Unit		Percent Percent Percent Percent Percent Percent Percent													
Rating Timing		7 DAT 14 DAT 21 DAT 7 DAT 14 DAT 7 DAT 14 DAT													
Trt-Eval Interval															
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Other Rate	Other Rate	Growth Stage	Appl Code							
1	ROUNDUP O-MAX	4.5	SL	0.75 lb ae/a	21.3 fl oz/a		6"W	B	0 g	0 e	0 b	0 b	0 b	0 e	0 c
1	N-PAK AMS	100	SL	5 % v/v	5 % v/v		6"W	B							
2	ROUNDUP O-MAX	4.5	SL	0.75 lb ae/a	21.3 fl oz/a		3-4"W	A	0 g	0 e	0 b	0 b	0 b	0 e	0 c
2	N-PAK AMS	100	SL	5 % v/v	5 % v/v		3-4"W	A							
3	COBRA	2	EC	0.152 lb ai/a	9.7 fl oz/a		3-4"W	A	36 b	22 b	0 b	0 b	0 b	22 a	5 a
3	ACTIVATOR 90	100	SL	0.5 % v/v	0.5 % v/v		3-4"W	A							
3	N-PAK AMS	100	SL	5 % v/v	5 % v/v		3-4"W	A							
4	FIRSTRATE	84	WG	0.016 lb ai/a	0.305 oz/a		3-4"W	A	0 g	0 e	0 b	0 b	0 b	0 e	0 c
4	ACTIVATOR 90	100	SL	0.5 % v/v	0.5 % v/v		3-4"W	A							
4	N-PAK AMS	100	SL	5 % v/v	5 % v/v		3-4"W	A							
5	RAPTOR	1	SL	0.031 lb ai/a	4 fl oz/a		3-4"W	A	8 e	2 e	0 b	4 a	0 b	0 e	0 c
5	ACTIVATOR 90	100	SL	0.5 % v/v	0.5 % v/v		3-4"W	A							
5	N-PAK AMS	100	SL	5 % v/v	5 % v/v		3-4"W	A							
6	FLEXSTAR	1.88	EC	0.294 lb ai/a	20 fl oz/a		3-4"W	A	17 d	8 cd	0 b	0 b	0 b	12 c	3 b
6	ACTIVATOR 90	100	SL	0.5 % v/v	0.5 % v/v		3-4"W	A							
6	N-PAK AMS	100	SL	5 % v/v	5 % v/v		3-4"W	A							
7	ULTRA BLAZER	2	EC	0.156 lb ai/a	10 fl oz/a		3-4"W	A	21 c	12 c	0 b	0 b	0 b	15 b	5 a
7	ACTIVATOR 90	100	SL	0.5 % v/v	0.5 % v/v		3-4"W	A							
7	N-PAK AMS	100	SL	5 % v/v	5 % v/v		3-4"W	A							
8	RESOURCE	0.86	EC	0.054 lb ai/a	8 fl oz/a		3-4"W	A	16 d	8 d	0 b	0 b	0 b	12 c	3 b
8	ACTIVATOR 90	100	SL	0.5 % v/v	0.5 % v/v		3-4"W	A							
8	N-PAK AMS	100	SL	5 % v/v	5 % v/v		3-4"W	A							
9	CLASSIC	25	WG	0.0117 lb ai/a	0.75 oz/a		3-4"W	A	6 f	0 e	0 b	4 a	0 b	0 e	0 c
9	ACTIVATOR 90	100	SL	0.5 % v/v	0.5 % v/v		3-4"W	A							
9	N-PAK AMS	100	SL	5 % v/v	5 % v/v		3-4"W	A							
10	HARMONY SG	50	SG	0.0026 lb ai/a	0.083 oz/a		3-4"W	A	0 g	0 e	0 b	0 b	0 b	0 e	0 c
10	ACTIVATOR 90	100	SL	0.5 % v/v	0.5 % v/v		3-4"W	A							
10	N-PAK AMS	100	SL	5 % v/v	5 % v/v		3-4"W	A							
11	BASAGRAN	4	SL	1 lb ai/a	2 pt/a		3-4"W	A	6 ef	2 e	0 b	0 b	0 b	4 d	0 c
11	ACTIVATOR 90	100	SL	0.5 % v/v	0.5 % v/v		3-4"W	A							
11	N-PAK AMS	100	SL	5 % v/v	5 % v/v		3-4"W	A							
12	2,4-DB	1.75	SL	0.22 lb ai/a	16.1 fl oz/a		3-4"W	A	62 a	75 a	23 a	0 b	10 a	5 d	0 c
12	ACTIVATOR 90	100	SL	0.5 % v/v	0.5 % v/v		3-4"W	A							
12	N-PAK AMS	100	SL	5 % v/v	5 % v/v		3-4"W	A							
LSD (P=.05)									2.3	3.8	2.8	0.8	0.0	1.6	0.8
Replicate F									0.463	3.739	1.000	0.478	0.000	0.292	1.571
Replicate Prob(F)									0.6356	0.0400	0.3840	0.6262	1.0000	0.7496	0.2302
Treatment F									551.750	266.496	49.000	26.304	0.000	196.850	60.286
Treatment Prob(F)									0.0001	0.0001	0.0001	0.0001	1.0000	0.0001	0.0001

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

Postemergence Weed Management Strategies in Roundup Ready Soybean.

Trial ID: 08-50E-S60 Location: Belleville Res. Center

										GLXMA	GLXMA	AMBTR	AMBTR	AMATA	AMATA	IPOSS	IPOSS
										GRORED	GRORED	Control	Control	Control	Control	Control	Control
										Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
										7 DAT	14 DAT	14 DAT	21 DAT	14 DAT	21 DAT	14 DAT	21 DAT
Trt	Treatment	Form	Form	Rate	Other	Other	Growth	Appl									
No.	Name	Conc	Type	Unit	Rate	Rate	Stage	Code									
1	ROUNDUP O-MAX	4.5	SL	0.75 lb ae/a	21.3 fl oz/a		6"W	B	0 e	0 e	96 a	95 a	99 a	90 a	72 d	85 b	
1	N-PAK AMS	100	SL	5 % v/v	5 % v/v		6"W	B									
2	ROUNDUP O-MAX	4.5	SL	0.75 lb ae/a	21.3 fl oz/a		3-4"W	A	0 e	0 e	97 a	80 cd	96 a	95 a	91 ab	90 ab	
2	N-PAK AMS	100	SL	5 % v/v	5 % v/v		3-4"W	A									
3	COBRA	2	EC	0.152 lb ai/a	9.7 fl oz/a		3-4"W	A	14 b	17 b	97 a	85 bc	99 a	96 a	80 bcd	88 ab	
3	ACTIVATOR 90	100	SL	0.5 % v/v	0.5 % v/v		3-4"W	A									
3	N-PAK AMS	100	SL	5 % v/v	5 % v/v		3-4"W	A									
4	FIRSTRATE	84	WG	0.016 lb ai/a	0.305 oz/a		3-4"W	A	0 e	0 e	92 a	67 e	0 d	0 c	96 a	90 ab	
4	ACTIVATOR 90	100	SL	0.5 % v/v	0.5 % v/v		3-4"W	A									
4	N-PAK AMS	100	SL	5 % v/v	5 % v/v		3-4"W	A									
5	RAPTOR	1	SL	0.031 lb ai/a	4 fl oz/a		3-4"W	A	4 cd	2 de	85 b	87 b	0 d	0 c	80 bcd	87 ab	
5	ACTIVATOR 90	100	SL	0.5 % v/v	0.5 % v/v		3-4"W	A									
5	N-PAK AMS	100	SL	5 % v/v	5 % v/v		3-4"W	A									
6	FLEXSTAR	1.88	EC	0.294 lb ai/a	20 fl oz/a		3-4"W	A	5 c	5 cd	98 a	98 a	99 a	98 a	89 abc	91 a	
6	ACTIVATOR 90	100	SL	0.5 % v/v	0.5 % v/v		3-4"W	A									
6	N-PAK AMS	100	SL	5 % v/v	5 % v/v		3-4"W	A									
7	ULTRA BLAZER	2	EC	0.156 lb ai/a	10 fl oz/a		3-4"W	A	6 c	7 c	95 a	70 e	98 a	93 a	92 a	90 ab	
7	ACTIVATOR 90	100	SL	0.5 % v/v	0.5 % v/v		3-4"W	A									
7	N-PAK AMS	100	SL	5 % v/v	5 % v/v		3-4"W	A									
8	RESOURCE	0.86	EC	0.054 lb ai/a	8 fl oz/a		3-4"W	A	4 cd	5 cd	40 c	13 f	88 a	90 a	80 bcd	90 ab	
8	ACTIVATOR 90	100	SL	0.5 % v/v	0.5 % v/v		3-4"W	A									
8	N-PAK AMS	100	SL	5 % v/v	5 % v/v		3-4"W	A									
9	CLASSIC	25	WG	0.0117 lb ai/a	0.75 oz/a		3-4"W	A	2 de	0 e	94 a	80 cd	0 d	28 b	95 a	88 ab	
9	ACTIVATOR 90	100	SL	0.5 % v/v	0.5 % v/v		3-4"W	A									
9	N-PAK AMS	100	SL	5 % v/v	5 % v/v		3-4"W	A									
10	HARMONY SG	50	SG	0.0026 lb ai/a	0.083 oz/a		3-4"W	A	0 e	0 e	22 d	7 g	37 c	88 a	78 cd	85 b	
10	ACTIVATOR 90	100	SL	0.5 % v/v	0.5 % v/v		3-4"W	A									
10	N-PAK AMS	100	SL	5 % v/v	5 % v/v		3-4"W	A									
11	BASAGRAN	4	SL	1 lb ai/a	2 pt/a		3-4"W	A	2 de	2 de	96 a	85 bc	0 d	0 c	60 e	88 ab	
11	ACTIVATOR 90	100	SL	0.5 % v/v	0.5 % v/v		3-4"W	A									
11	N-PAK AMS	100	SL	5 % v/v	5 % v/v		3-4"W	A									
12	2,4-DB	1.75	SL	0.22 lb ai/a	16.1 fl oz/a		3-4"W	A	57 a	68 a	95 a	77 d	53 b	23 bc	97 a	88 ab	
12	ACTIVATOR 90	100	SL	0.5 % v/v	0.5 % v/v		3-4"W	A									
12	N-PAK AMS	100	SL	5 % v/v	5 % v/v		3-4"W	A									
LSD (P=.05)									2.9	3.6	6.2	6.2	12.2	24.3	11.0	6.3	
Replicate F									0.947	1.600	0.448	0.065	1.991	0.974	0.032	0.957	
Replicate Prob(F)									0.4032	0.2245	0.6445	0.9374	0.1604	0.3934	0.9683	0.3996	
Treatment F									267.052	252.770	143.655	196.979	120.601	27.509	8.853	0.878	
Treatment Prob(F)									0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.5734	

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

## Postemergence Weed Management Strategies in Roundup Ready Soybean.

Trial ID: 08-50E-S60

Location: Belleville Res. Center

Pest Code	CYPES	CYPES
Crop Code		
Rating Date		
Rating Data Type	Control	Control
Rating Unit	Percent	Percent
Rating Timing	14 DAT	21 DAT
Trt-Eval Interval		

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code	14 DAT	21 DAT
1	ROUNDUP O-MAX	4.5	SL	0.75	lb ae/a	21.3	fl oz/a	6"W	B	83 ab	72 ab
1	N-PAK AMS	100	SL	5	% v/v	5	% v/v	6"W	B		
2	ROUNDUP O-MAX	4.5	SL	0.75	lb ae/a	21.3	fl oz/a	3-4"W	A	90 a	85 a
2	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W	A		
3	COBRA	2	EC	0.152	lb ai/a	9.7	fl oz/a	3-4"W	A	68 bc	10 d
3	ACTIVATOR 90	100	SL	0.5	% v/v	0.5	% v/v	3-4"W	A		
3	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W	A		
4	FIRSTRATE	84	WG	0.016	lb ai/a	0.305	oz/a	3-4"W	A	92 a	90 a
4	ACTIVATOR 90	100	SL	0.5	% v/v	0.5	% v/v	3-4"W	A		
4	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W	A		
5	RAPTOR	1	SL	0.031	lb ai/a	4	fl oz/a	3-4"W	A	83 a	80 a
5	ACTIVATOR 90	100	SL	0.5	% v/v	0.5	% v/v	3-4"W	A		
5	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W	A		
6	FLEXSTAR	1.88	EC	0.294	lb ai/a	20	fl oz/a	3-4"W	A	67 c	70 ab
6	ACTIVATOR 90	100	SL	0.5	% v/v	0.5	% v/v	3-4"W	A		
6	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W	A		
7	ULTRA BLAZER	2	EC	0.156	lb ai/a	10	fl oz/a	3-4"W	A	68 bc	33 cd
7	ACTIVATOR 90	100	SL	0.5	% v/v	0.5	% v/v	3-4"W	A		
7	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W	A		
8	RESOURCE	0.86	EC	0.054	lb ai/a	8	fl oz/a	3-4"W	A	60 c	78 a
8	ACTIVATOR 90	100	SL	0.5	% v/v	0.5	% v/v	3-4"W	A		
8	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W	A		
9	CLASSIC	25	WG	0.0117	lb ai/a	0.75	oz/a	3-4"W	A	95 a	92 a
9	ACTIVATOR 90	100	SL	0.5	% v/v	0.5	% v/v	3-4"W	A		
9	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W	A		
10	HARMONY SG	50	SG	0.0026	lb ai/a	0.083	oz/a	3-4"W	A	45 d	87 a
10	ACTIVATOR 90	100	SL	0.5	% v/v	0.5	% v/v	3-4"W	A		
10	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W	A		
11	BASAGRAN	4	SL	1	lb ai/a	2	pt/a	3-4"W	A	96 a	90 a
11	ACTIVATOR 90	100	SL	0.5	% v/v	0.5	% v/v	3-4"W	A		
11	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W	A		
12	2,4-DB	1.75	SL	0.22	lb ai/a	16.1	fl oz/a	3-4"W	A	0 e	50 bc
12	ACTIVATOR 90	100	SL	0.5	% v/v	0.5	% v/v	3-4"W	A		
12	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W	A		
LSD (P=.05)										14.4	25.7
Replicate F										1.809	1.539
Replicate Prob(F)										0.1874	0.2369
Treatment F										30.779	8.619
Treatment Prob(F)										0.0001	0.0001

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

## Trial Comments

1. Protocol: Monsanto (01-30-17).
2. Ratings: CI/chlorosis/necrosis/growth reduction at 7 + 14 DAT; WC at 14 + 21 DAT.
3. DAT = Days after either the 3-4"W or 6"W application. GRORED = Growth reduction.  
Ratings at 7 days after the 3-4"W and 6"W applications were on 7-14-08 and 7-18-08, respectively.  
Ratings at 14 days after the 3-4"W and 6"W applications were on 7-21-08 and 7-25-08, respectively.  
Ratings at 21 days after the 3-4"W and 6"W applications were on 7-28-08 and 8-1-08, respectively.
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.
5. Not harvested.