

## Preemergence Residual Herbicides in Reduced-Till Soybean - DuPont.

Trial ID: 08-50E-MS30 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 the efficacy of DuPont residual herbicides applied preemergence to 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: IPOHE Ipomoea hederacea (L.) jacq. morningglory, annual  
 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:	06-17-08	07-07-08
Time of Day:	15:00	10:30
Application Method:	Spray	Spray
Application Timing:	PRE	2-4"W
Application Placement:	BROSIO	BROFOL
Applied By:	DKT	NRJ
Air Temperature, Unit:	78 F	80 F
% Relative Humidity:	40	92
Wind Velocity, Unit:	8 MPH	2 MPH
Dew Presence (Y/N):	N	
Soil Temperature, Unit:	81 F	80 F
Soil Moisture:	NORMAL	NORMAL
% Cloud Cover:	0	50

	A	B
Crop stage at application:	NA	V2
Height Min, Max (inch):		4.5 5

## Pest Stage At Each Application

	A	B
Application Date:	06-17-08	07-07-08
Weed Code:	AMBTR	AMBTR
Stage Majority (leaves):	NA	4
Stage Min, Max:		COTY 4
Height Majority:		2 IN
Height Min, Max:		1 3
Density, Unit:		3 FT2
Weed Code:	AMATA	AMATA
Stage Majority (leaves):	NA	4
Stage Min, Max:		COTY 6
Height Majority:		1 IN
Height Min, Max:		0.5 1
Density, Unit:		1 FT2
Weed Code:	IPOHE	IPOHE
Stage Majority (leaves):	NA	3
Stage Min, Max:		COTY 4
Height Majority:		2 IN
Height Min, Max:		1 3
Density, Unit:		1 FT2
Weed Code:	CYPES	CYPES
Stage Majority (leaves):	NA	5
Stage Min, Max:		3 6
Height Majority:		4 IN
Height Min, Max:		3 5
Density, Unit:		1 FT2

## Application Equipment

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

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Trial ID: 08-50E-MS30 Location: Belleville Res. Center

Pest Code	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA
Crop Code	10-28-08	10-28-08	07-07-08	07-14-08	07-21-08	08-04-08
Rating Date	Moisture	Yield	Injury	Injury	Injury	Injury
Rating Data Type	Percent	Percent	Percent	Percent	Percent	Percent
Rating Unit						
Rating Timing						
Trt-Eval Interval	0 DA-B		7 DA-B	14 DA-B	28 DA-B	

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code	10-28-08	10-28-08	07-07-08	07-14-08	07-21-08	08-04-08
1	ENLITE	47.86	WG			2.8	oz/a	PRE	A	12.4 a	44 a	8 a	4 a	0 a	0 a
1	CLASSIC	25	WG	0.005	lb ai/a			PRE	A						
1	HARMONY SG	50	SG	0.0156	lb ai/a			PRE	A						
1	VALOR	51	WG	0.0625	lb ai/a			PRE	A						
1	SYNCHRONY XP	28.4	WG			0.375	oz/a	2-4"W	B						
1	CLASSIC	25	WG	0.00504	lb ai/a			2-4"W	B						
1	HARMONY SG	50	SG	0.00162	lb ai/a			2-4"W	B						
1	ROUNDUP P-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2-4"W	B						
1	N-PAK AMS	100	SL	2.35	qt/a	2.35	qt/a	2-4"W	B						
2	ENVIVE	41.3	WG			3.5	oz/a	PRE	A	12.4 a	45 a	8 a	4 a	0 a	0 a
2	CLASSIC	25	WG	0.02	lb ai/a			PRE	A						
2	HARMONY SG	50	SG	0.00625	lb ai/a			PRE	A						
2	VALOR	51	WG	0.0625	lb ai/a			PRE	A						
2	SYNCHRONY XP	28.4	WG			0.375	oz/a	2-4"W	B						
2	CLASSIC	25	WG	0.00504	lb ai/a			2-4"W	B						
2	HARMONY SG	50	SG	0.00162	lb ai/a			2-4"W	B						
2	ROUNDUP P-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2-4"W	B						
2	N-PAK AMS	100	SL	2.35	qt/a	2.35	qt/a	2-4"W	B						
3	CANOPY EX	29.5	WG			2	oz/a	PRE	A	12.7 a	38 ab	0 b	0 b	0 a	0 a
3	CLASSIC	25	WG	0.0284	lb ai/a			PRE	A						
3	EXPRESS	50	SG	0.0085	lb ai/a			PRE	A						
3	SYNCHRONY XP	28.4	WG			0.375	oz/a	2-4"W	B						
3	CLASSIC	25	WG	0.00504	lb ai/a			2-4"W	B						
3	HARMONY SG	50	SG	0.00162	lb ai/a			2-4"W	B						
3	ROUNDUP P-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2-4"W	B						
3	N-PAK AMS	100	SL	2.35	qt/a	2.35	qt/a	2-4"W	B						
4	CANOPY	75	WG	0.188	lb ai/a	4	oz/a	PRE	A	12.4 a	40 ab	0 b	0 b	0 a	0 a
4	SYNCHRONY XP	28.4	WG			0.375	oz/a	2-4"W	B						
4	CLASSIC	25	WG	0.00504	lb ai/a			2-4"W	B						
4	HARMONY SG	50	SG	0.00162	lb ai/a			2-4"W	B						
4	ROUNDUP P-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2-4"W	B						
4	N-PAK AMS	100	SL	2.35	qt/a	2.35	qt/a	2-4"W	B						
5	ROUNDUP P-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2-4"W	B	12.6 a	32 b		0 b	0 a	0 a
5	N-PAK AMS	100	SL	2.35	qt/a	2.35	qt/a	2-4"W	B						
6	NONTREATED									12.7 a	19 c	0 b	0 b	0 a	0 a
LSD (P=.05)										0.60	10.9	2.7	1.3	0.0	0.0
Replicate F										0.807	4.390	1.620	0.000	0.000	0.000
Replicate Prob(F)										0.4734	0.0428	0.2567	1.0000	1.0000	1.0000
Treatment F										0.542	8.042	29.785	24.250	0.000	0.000
Treatment Prob(F)										0.7415	0.0028	0.0001	0.0001	1.0000	1.0000

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

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Trial ID: 08-50E-MS30

Location: Belleville Res. Center

Pest Code	AMBTR	AMBTR	AMBTR	AMBTR
Crop Code				
Rating Date	07-07-08	07-14-08	07-21-08	08-04-08
Rating Data Type	Control	Control	Control	Control
Rating Unit	Percent	Percent	Percent	Percent
Rating Timing				
Trt-Eval Interval	0 DA-B	7 DA-B	14 DA-B	28 DA-B

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code				
1	ENLITE	47.86	WG			2.8	oz/a	PRE	A	43 b	98 a	97 a	86 b
1	CLASSIC	25	WG	0.005	lb ai/a			PRE	A				
1	HARMONY SG	50	SG	0.0156	lb ai/a			PRE	A				
1	VALOR	51	WG	0.0625	lb ai/a			PRE	A				
1	SYNCHRONY XP	28.4	WG			0.375	oz/a	2-4"W	B				
1	CLASSIC	25	WG	0.00504	lb ai/a			2-4"W	B				
1	HARMONY SG	50	SG	0.00162	lb ai/a			2-4"W	B				
1	ROUNDUP P-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2-4"W	B				
1	N-PAK AMS	100	SL	2.35	qt/a	2.35	qt/a	2-4"W	B				
2	ENVIVE	41.3	WG			3.5	oz/a	PRE	A	60 a	98 a	97 a	93 a
2	CLASSIC	25	WG	0.02	lb ai/a			PRE	A				
2	HARMONY SG	50	SG	0.00625	lb ai/a			PRE	A				
2	VALOR	51	WG	0.0625	lb ai/a			PRE	A				
2	SYNCHRONY XP	28.4	WG			0.375	oz/a	2-4"W	B				
2	CLASSIC	25	WG	0.00504	lb ai/a			2-4"W	B				
2	HARMONY SG	50	SG	0.00162	lb ai/a			2-4"W	B				
2	ROUNDUP P-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2-4"W	B				
2	N-PAK AMS	100	SL	2.35	qt/a	2.35	qt/a	2-4"W	B				
3	CANOPY EX	29.5	WG			2	oz/a	PRE	A	38 b	98 a	97 a	87 b
3	CLASSIC	25	WG	0.0284	lb ai/a			PRE	A				
3	EXPRESS	50	SG	0.0085	lb ai/a			PRE	A				
3	SYNCHRONY XP	28.4	WG			0.375	oz/a	2-4"W	B				
3	CLASSIC	25	WG	0.00504	lb ai/a			2-4"W	B				
3	HARMONY SG	50	SG	0.00162	lb ai/a			2-4"W	B				
3	ROUNDUP P-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2-4"W	B				
3	N-PAK AMS	100	SL	2.35	qt/a	2.35	qt/a	2-4"W	B				
4	CANOPY	75	WG	0.188	lb ai/a	4	oz/a	PRE	A	62 a	98 a	97 a	90 a
4	SYNCHRONY XP	28.4	WG			0.375	oz/a	2-4"W	B				
4	CLASSIC	25	WG	0.00504	lb ai/a			2-4"W	B				
4	HARMONY SG	50	SG	0.00162	lb ai/a			2-4"W	B				
4	ROUNDUP P-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2-4"W	B				
4	N-PAK AMS	100	SL	2.35	qt/a	2.35	qt/a	2-4"W	B				
5	ROUNDUP P-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2-4"W	B		97 b	93 b	63 c
5	N-PAK AMS	100	SL	2.35	qt/a	2.35	qt/a	2-4"W	B				
6	NONTREATED									0 c	0 c	0 c	0 d
LSD (P=.05)										6.2	0.7	0.6	3.0
Replicate F										0.615	1.429	3.182	7.048
Replicate Prob(F)										0.5642	0.2846	0.0852	0.0123
Treatment F										171.769	30708.575	37991.641	1388.518
Treatment Prob(F)										0.0001	0.0001	0.0001	0.0001

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

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Pest Code										AMATA	AMATA	AMATA	AMATA	IPOHE	IPOHE	IPOHE	IPOHE
Crop Code										07-07-08	07-14-08	07-21-08	08-04-08	07-07-08	07-14-08	07-21-08	08-04-08
Rating Date										Control	Control	Control	Control	Control	Control	Control	Control
Rating Data Type										Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Rating Unit																	
Rating Timing																	
Trt-Eval Interval										0 DA-B	7 DA-B	14 DA-B	28 DA-B	0 DA-B	7 DA-B	14 DA-B	28 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code								
1	ENLITE	47.86	WG			2.8	oz/a	PRE	A	99 a	99 a	99 a	94 ab	78 ab	85 b	95 a	89 a
1	CLASSIC	25	WG	0.005	lb ai/a			PRE	A								
1	HARMONY SG	50	SG	0.0156	lb ai/a			PRE	A								
1	VALOR	51	WG	0.0625	lb ai/a			PRE	A								
1	SYNCHRONY XP	28.4	WG			0.375	oz/a	2-4"W	B								
1	CLASSIC	25	WG	0.00504	lb ai/a			2-4"W	B								
1	HARMONY SG	50	SG	0.00162	lb ai/a			2-4"W	B								
1	ROUNDUP P-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2-4"W	B								
1	N-PAK AMS	100	SL	2.35	qt/a	2.35	qt/a	2-4"W	B								
2	ENVIVE	41.3	WG			3.5	oz/a	PRE	A	99 a	99 a	99 a	97 a	83 a	93 a	97 a	92 a
2	CLASSIC	25	WG	0.02	lb ai/a			PRE	A								
2	HARMONY SG	50	SG	0.00625	lb ai/a			PRE	A								
2	VALOR	51	WG	0.0625	lb ai/a			PRE	A								
2	SYNCHRONY XP	28.4	WG			0.375	oz/a	2-4"W	B								
2	CLASSIC	25	WG	0.00504	lb ai/a			2-4"W	B								
2	HARMONY SG	50	SG	0.00162	lb ai/a			2-4"W	B								
2	ROUNDUP P-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2-4"W	B								
2	N-PAK AMS	100	SL	2.35	qt/a	2.35	qt/a	2-4"W	B								
3	CANOPY EX	29.5	WG			2	oz/a	PRE	A	0 c	99 a	97 a	88 b	70 b	90 ab	98 a	95 a
3	CLASSIC	25	WG	0.0284	lb ai/a			PRE	A								
3	EXPRESS	50	SG	0.0085	lb ai/a			PRE	A								
3	SYNCHRONY XP	28.4	WG			0.375	oz/a	2-4"W	B								
3	CLASSIC	25	WG	0.00504	lb ai/a			2-4"W	B								
3	HARMONY SG	50	SG	0.00162	lb ai/a			2-4"W	B								
3	ROUNDUP P-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2-4"W	B								
3	N-PAK AMS	100	SL	2.35	qt/a	2.35	qt/a	2-4"W	B								
4	CANOPY	75	WG	0.188	lb ai/a	4	oz/a	PRE	A	98 b	99 a	97 a	90 ab	73 ab	95 a	98 a	95 a
4	SYNCHRONY XP	28.4	WG			0.375	oz/a	2-4"W	B								
4	CLASSIC	25	WG	0.00504	lb ai/a			2-4"W	B								
4	HARMONY SG	50	SG	0.00162	lb ai/a			2-4"W	B								
4	ROUNDUP P-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2-4"W	B								
4	N-PAK AMS	100	SL	2.35	qt/a	2.35	qt/a	2-4"W	B								
5	ROUNDUP P-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2-4"W	B		99 a	93 b	81 c		70 c	88 b	78 b
5	N-PAK AMS	100	SL	2.35	qt/a	2.35	qt/a	2-4"W	B								
6	NONTREATED									0 c	0 b	0 c	0 d	0 c	0 d	0 c	0 c
LSD (P=.05)										0.5	0.0	3.9	7.5	12.8	5.2	5.7	7.5
Replicate F										1.000	0.000	0.190	0.637	1.405	2.241	2.871	3.713
Replicate Prob(F)										0.4096	1.0000	0.8302	0.5490	0.2999	0.1569	0.1034	0.0622
Treatment F										131141.513	0.000	1003.860	243.399	77.081	496.414	474.178	243.579
Treatment Prob(F)										0.0001	1.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

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

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Trial ID: 08-50E-MS30

Location: Belleville Res. Center

Pest Code	CYPES	CYPES	CYPES
Crop Code			
Rating Date	07-14-08	07-21-08	08-04-08
Rating Data Type	Control	Control	Control
Rating Unit	Percent	Percent	Percent
Rating Timing			
Trt-Eval Interval	7 DA-B	14 DA-B	28 DA-B

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code						
1	ENLITE	47.86	WG			2.8	oz/a	PRE	A	77	bc	97	a	95	b
1	CLASSIC	25	WG	0.005	lb ai/a			PRE	A						
1	HARMONY SG	50	SG	0.0156	lb ai/a			PRE	A						
1	VALOR	51	WG	0.0625	lb ai/a			PRE	A						
1	SYNCHRONY XP	28.4	WG			0.375	oz/a	2-4"W	B						
1	CLASSIC	25	WG	0.00504	lb ai/a			2-4"W	B						
1	HARMONY SG	50	SG	0.00162	lb ai/a			2-4"W	B						
1	ROUNDUP P-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2-4"W	B						
1	N-PAK AMS	100	SL	2.35	qt/a	2.35	qt/a	2-4"W	B						
2	ENVIVE	41.3	WG			3.5	oz/a	PRE	A	90	a	97	a	96	ab
2	CLASSIC	25	WG	0.02	lb ai/a			PRE	A						
2	HARMONY SG	50	SG	0.00625	lb ai/a			PRE	A						
2	VALOR	51	WG	0.0625	lb ai/a			PRE	A						
2	SYNCHRONY XP	28.4	WG			0.375	oz/a	2-4"W	B						
2	CLASSIC	25	WG	0.00504	lb ai/a			2-4"W	B						
2	HARMONY SG	50	SG	0.00162	lb ai/a			2-4"W	B						
2	ROUNDUP P-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2-4"W	B						
2	N-PAK AMS	100	SL	2.35	qt/a	2.35	qt/a	2-4"W	B						
3	CANOPY EX	29.5	WG			2	oz/a	PRE	A	86	ab	98	a	98	a
3	CLASSIC	25	WG	0.0284	lb ai/a			PRE	A						
3	EXPRESS	50	SG	0.0085	lb ai/a			PRE	A						
3	SYNCHRONY XP	28.4	WG			0.375	oz/a	2-4"W	B						
3	CLASSIC	25	WG	0.00504	lb ai/a			2-4"W	B						
3	HARMONY SG	50	SG	0.00162	lb ai/a			2-4"W	B						
3	ROUNDUP P-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2-4"W	B						
3	N-PAK AMS	100	SL	2.35	qt/a	2.35	qt/a	2-4"W	B						
4	CANOPY	75	WG	0.188	lb ai/a	4	oz/a	PRE	A	98	a	98	a	98	a
4	SYNCHRONY XP	28.4	WG			0.375	oz/a	2-4"W	B						
4	CLASSIC	25	WG	0.00504	lb ai/a			2-4"W	B						
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4	ROUNDUP P-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2-4"W	B						
4	N-PAK AMS	100	SL	2.35	qt/a	2.35	qt/a	2-4"W	B						
5	ROUNDUP P-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2-4"W	B	72	c	92	b	90	c
5	N-PAK AMS	100	SL	2.35	qt/a	2.35	qt/a	2-4"W	B						
6	NONTREATED									0	d	0	c	0	d
LSD (P=.05)										12.9		2.7		2.3	
Replicate F										2.088		0.172		2.133	
Replicate Prob(F)										0.1747		0.8441		0.1693	
Treatment F										76.540		2061.557		2875.693	
Treatment Prob(F)										0.0001		0.0001		0.0001	

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

## Trial Comments

1. Protocol: DuPont (08-120).
2. Ratings: CI/WC at 0, 7, 14 + 28 DA"B".
3. Yield.
4. DA-B = Days after the 2-4"W application.
5. 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.
6. Following the PRE application on June 17, rainfall was 0.29 inch 3 days later and 0.35 inch 10 days later.
7. Harvested 10-28-08, (2) 30 inch rows by 24 ft.