Southern Illinois University

Residual Herbicides in Roundup Ready Soybean - 3.

Project Code: 07-2A-MMW80 Location: Belleville Research Center
Investigator: Bryan Young

Investigator: Bryan Young, Associate Professor, Southern Illinois University

City State Zip Country: Belleville IL 62221 USA
Trial Status: Final **Updated:** 1-23-08

Objective:
Evaluate the benefits of various residual herbicides in Roundup Ready soybean.

Weed	Code	Common Name	Scientific Name
1.	SETFA	foxtail, giant	Setaria faberi Herrm.
2.	AMATA	waterhemp, common	Amaranthus rudis Sauer
3.	AMBEL	ragweed, common	Ambrosia artemisiifolia L.
4.	ABUTH	velvetleaf	Abutilon theophrasti Medicus
5.	IPOHE	morningglory, ivyleaf	Ipomoea hederacea (L.) Jacq.
6.	IPOLA	morningglory, pitted	Ipomoea lacunosa L.

Crop 1: GLXMA soybean **Variety:** Asgrow 4404 RR/STS
Planting Method: Seeded **Planting Date:** 6-3-07
Rate: 75 lb/A **Depth:** 1.0 IN
Row Spacing: 30 IN

Plot Width, Unit: 10 FT **Plot Length, Unit:** 28 FT **Reps:** 3
Tillage Type: Reduced-Till **Study Design:** Randomized complete block
Previous Crop, Year: ZEAMX, 2006
Field Prep./Maintenance: N 0 LB/A, P2O5 0 LB/A, K2O 0 LB/A

Soil Name: Weir **% OM:** 1.8 **pH:** 6 **CEC:** 7
Texture: Silt loam **Fert. Level:** P1: 90 LB/A, K: 419 LB/A

APPLICATION DESCRIPTION

	A	B	C
Application Date:	6-4-07	6-21-07	7-9-07
Time of Day:	6:00	7:00	9:00
Application Method:	Spray	Spray	Spray
Application Timing:	PRE	2-4"W	35DAP
Applic. Placement:	BROSOI	BROFOL	BROFOL
Air Temp., Unit:	70 F	74 F	70 F
% Relative Humidity:	92	92	66
Wind Velocity, Unit:	0 MPH	0 MPH	1-3 MPH
Dew Presence (Y/N):		Y	N
Soil Moisture:	NORMAL	NORMAL	NORMAL
% Cloud Cover:	0	20	0

CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	GLXMA NA	GLXMA V1-V2	GLXMA V5
Height, Unit:	NA NA	6 IN	16 IN

WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code:		SETFA	SETFA
Stage(leaves):		2-4	6-16
Height(inches):		2-4	6-22
Density:		High	High
Weed 2 Code:		AMATA	AMATA
Stage(leaves):		Coty-4	10-30
Height(inches):		0-2	10-24
Density:		Low	Medium
Weed 3 Code:		AMBEL	AMBEL
Stage(leaves):		4-6	8-14
Height(inches):		2-4	12-24
Density:		Medium	Medium
Weed 4 Code:		ABUTH	ABUTH
Stage(leaves):		Coty-2	6-10
Height(inches):		0-2	10-24
Density:		Medium	Medium
Weed 5 Code:		IPOSS	IPOSS
Stage(leaves):		Coty-1	Coty-5
Height(inches):		1-2	2-6
Density:		Low	Low

APPLICATION EQUIPMENT

	A	B	C
Appl. Equipment:	CO2 sprayer	CO2 sprayer	CO2 sprayer
Operating Pressure:	40 PSI	40 PSI	40 PSI
Nozzle Type:	Flat fan	Flat fan	Flat fan
Nozzle Size:	XR 8002	XR 8002	XR 8002
Boom Length, Unit:	7.5 FT	7.5 FT	7.5 FT
Spray Volume, Unit:	15 GPA	15 GPA	15 GPA

NOTES:

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Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code	GLXMA Moisture Percent 10-20-07	GLXMA Yield bu/A 10-20-07	GLXMA Injury Percent 6-17-07 14 DAP	GLXMA Injury Percent 7-1-07 28 DAP	GLXMA Injury Percent 7-29-07 56 DAP	SETFA Control Percent 7-1-07 28 DAP	SETFA Control Percent 8-6-07 28 DA-C	AMATA Control Percent 7-1-07 28 DAP	AMATA Control Percent 8-6-07 28 DA-C
1	NONTREATED									14.7 a	3 c	0 a	0 b	0 a	0 f	0 b	0 g	0 c
2	DPX-QER54	41.3	WG			2.5	oz/a	PRE	A	11.9 c	56 ab	0 a	0 b	0 a	0 f	90 a	73 d	98 a
2	->CLASSIC	25	WG	0.0146	lb ai/a			PRE	A									
2	->HARMONY GT XP	50	SG	0.00461	lb ai/a			PRE	A									
2	->VALOR SX	51	WG	0.0456	lb ai/a			PRE	A									
2	ROUNDUP W-MAX	4.5	SL	0.387	lb ae/a	11	fl oz/a	35 DAP	C									
2	AMS	100	DRY	2	lb ai/a	2	lb/a	35 DAP	C									
3	DPX-QER54	41.3	WG			3.5	oz/a	PRE	A	12.0 c	53 b	0 a	0 b	0 a	20 e	90 a	88 bc	99 a
3	->CLASSIC	25	WG	0.02	lb ai/a			PRE	A									
3	->HARMONY GT XP	50	SG	0.00643	lb ai/a			PRE	A									
3	->VALOR SX	51	WG	0.0635	lb ai/a			PRE	A									
3	ROUNDUP W-MAX	4.5	SL	0.387	lb ae/a	11	fl oz/a	35 DAP	C									
3	AMS	100	DRY	2	lb ai/a	2	lb/a	35 DAP	C									
4	DPX-QER54	41.3	WG			4.5	oz/a	PRE	A	11.8 c	55 ab	0 a	0 b	0 a	10 ef	90 a	93 abc	98 a
4	->CLASSIC	25	WG	0.0258	lb ai/a			PRE	A									
4	->HARMONY GT XP	50	SG	0.0083	lb ai/a			PRE	A									
4	->VALOR SX	51	WG	0.082	lb ai/a			PRE	A									
4	ROUNDUP W-MAX	4.5	SL	0.387	lb ae/a	11	fl oz/a	35 DAP	C									
4	AMS	100	DRY	2	lb ai/a	2	lb/a	35 DAP	C									
5	CANOPY	75	WG	0.106	lb ai/a	2.26	oz/a	PRE	A	12.2 bc	54 b	0 a	0 b	0 a	0 f	90 a	27 f	94 b
5	ROUNDUP W-MAX	4.5	SL	0.387	lb ae/a	11	fl oz/a	35 DAP	C									
5	AMS	100	DRY	2	lb ai/a	2	lb/a	35 DAP	C									
6	CANOPY	75	WG	0.14	lb ai/a	3	oz/a	PRE	A	11.9 c	55 ab	0 a	0 b	0 a	3 f	90 a	48 e	98 a
6	ROUNDUP W-MAX	4.5	SL	0.387	lb ae/a	11	fl oz/a	35 DAP	C									
6	AMS	100	DRY	2	lb ai/a	2	lb/a	35 DAP	C									
7	CANOPY	75	WG	0.187	lb ai/a	4	oz/a	PRE	A	12.5 b	53 b	0 a	0 b	0 a	20 e	90 a	42 e	97 a
7	ROUNDUP W-MAX	4.5	SL	0.387	lb ae/a	11	fl oz/a	35 DAP	C									
7	AMS	100	DRY	2	lb ai/a	2	lb/a	35 DAP	C									
8	AUTHORITY FIRST	70	DF	0.141	lb ai/a	3.22	oz/a	PRE	A	11.9 c	57 ab	0 a	0 b	0 a	0 f	90 a	32 f	98 a
8	ROUNDUP W-MAX	4.5	SL	0.387	lb ae/a	11	fl oz/a	35 DAP	C									
8	AMS	100	DRY	2	lb ai/a	2	lb/a	35 DAP	C									
9	AUTHORITY FIRST	70	DF	0.282	lb ai/a	6.45	oz/a	PRE	A	11.9 c	57 ab	0 a	0 b	0 a	22 e	90 a	87 c	99 a
9	ROUNDUP W-MAX	4.5	SL	0.387	lb ae/a	11	fl oz/a	35 DAP	C									
9	AMS	100	DRY	2	lb ai/a	2	lb/a	35 DAP	C									
10	PROWL H2O	3.8	CS	1.19	lb ai/a	2.5	pt/a	PRE	A	11.9 c	55 ab	0 a	0 b	0 a	58 c	90 a	92 abc	98 a
10	EXTREME	2.17	SL	0.81	lb ai/a	3	pt/a	35 DAP	C									
10	ACTIVATOR 90	100	LIQ	0.125	% v/v	0.125	% v/v	35 DAP	C									
10	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	35 DAP	C									
11	SCEPTER	70	WG	0.092	lb ai/a	2.1	oz/a	PRE	A	11.9 c	56 ab	0 a	0 b	0 a	0 f	90 a	0 g	99 a
11	PROWL H2O	3.8	CS	1.19	lb ai/a	2.5	pt/a	PRE	A									
11	SEE COMMENT #7																	
11	CORNERSTONE	3	SL	0.75	lb ae/a	32	fl oz/a	35 DAP	C									
11	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	35 DAP	C									
12	PROWL H2O	3.8	CS	1.19	lb ai/a	2.5	pt/a	PRE	A	12.1 c	58 ab	0 a	0 b	0 a	50 cd	90 a	96 ab	99 a
12	CORNERSTONE	3	SL	0.75	lb ae/a	32	fl oz/a	35 DAP	C									
12	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	35 DAP	C									
13	PROWL H2O	3.8	CS	1.19	lb ai/a	2.5	pt/a	PRE	A	12.0 c	61 a	0 a	2 a	0 a	98 a	90 a	99 a	99 a
13	RAPTOR	1	AS	0.0312	lb ai/a	4	fl oz/a	2-4"W	B									
13	FLEXSTAR	1.88	EC	0.176	lb ai/a	12	fl oz/a	2-4"W	B									
13	DESTINY MSO	100	LIQ	1.0	% v/v	1	% v/v	2-4"W	B									
13	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	2-4"W	B									
14	PREFIX	5.28	EW	1.32	lb ai/a	2	pt/a	PRE	A	12.0 c	55 b	0 a	0 b	0 a	40 d	90 a	77 d	99 a
14	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	35 DAP	C									
14	AMS	100	DRY	2.0	lb ai/a	2	lb/a	35 DAP	C									
15	INTRRO	4	L	2	lb ai/a	2	qt/a	PRE	A	11.9 c	56 ab	0 a	0 b	0 a	75 b	90 a	89 bc	99 a
15	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	35 DAP	C									
15	AMS	100	DRY	2.0	lb ai/a	2	lb/a	35 DAP	C									
16	VALOR SX	51	WG	0.064	lb ai/a	2	oz/a	PRE	A	12.0 c	56 ab	0 a	0 b	0 a	17 e	90 a	95 abc	98 a
16	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	35 DAP	C									
16	AMS	100	DRY	2.0	lb ai/a	2	lb/a	35 DAP	C									
LSD (P=.05)										0.38	5.7	0.0	1.7	0.0	13.0	0.0	8.9	2.6
Replicate F										0.133	0.173	0.000	1.000	0.000	2.035	0.000	2.212	5.196
Replicate Prob(F)										0.8760	0.8422	1.0000	0.3798	1.0000	0.1483	1.0000	0.1271	0.0115
Treatment F										27.555	44.522	0.000	1.000	0.000	45.267	0.000	126.652	749.274
Treatment Prob(F)										0.0001	0.0001	1.0000	0.4801	1.0000	0.0001	1.0000	0.0001	0.0001

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

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Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code	AMBEL	AMBEL	ABUTH	IPOSS
	Weed Code									AMBEL	AMBEL	ABUTH	IPOSS
	Crop Code												
	Rating Data Type									Control	Control	Control	Control
	Rating Unit									Percent	Percent	Percent	Percent
	Rating Date									7-1-07	8-6-07	8-6-07	8-6-07
	Trt-Eval Interval									28 DAP	28 DA-C	28 DA-C	28 DA-C
1	NONTREATED									0 f	0 c	0 c	0 b
2	DPX-QER54	41.3	WG			2.5	oz/a	PRE	A	60 c	99 a	93 b	98 a
2	->CLASSIC	25	WG	0.0146	lb ai/a			PRE	A				
2	->HARMONY GT XP	50	SG	0.00461	lb ai/a			PRE	A				
2	->VALOR SX	51	WG	0.0456	lb ai/a			PRE	A				
2	ROUNDUP W-MAX	4.5	SL	0.387	lb ae/a	11	fl oz/a	35 DAP	C				
2	AMS	100	DRY	2	lb ai/a	2	lb/a	35 DAP	C				
3	DPX-QER54	41.3	WG			3.5	oz/a	PRE	A	62 c	99 b	97 ab	98 a
3	->CLASSIC	25	WG	0.02	lb ai/a			PRE	A				
3	->HARMONY GT XP	50	SG	0.00643	lb ai/a			PRE	A				
3	->VALOR SX	51	WG	0.0635	lb ai/a			PRE	A				
3	ROUNDUP W-MAX	4.5	SL	0.387	lb ae/a	11	fl oz/a	35 DAP	C				
3	AMS	100	DRY	2	lb ai/a	2	lb/a	35 DAP	C				
4	DPX-QER54	41.3	WG			4.5	oz/a	PRE	A	73 b	99 a	97 ab	98 a
4	->CLASSIC	25	WG	0.0258	lb ai/a			PRE	A				
4	->HARMONY GT XP	50	SG	0.0083	lb ai/a			PRE	A				
4	->VALOR SX	51	WG	0.082	lb ai/a			PRE	A				
4	ROUNDUP W-MAX	4.5	SL	0.387	lb ae/a	11	fl oz/a	35 DAP	C				
4	AMS	100	DRY	2	lb ai/a	2	lb/a	35 DAP	C				
5	CANOPY	75	WG	0.106	lb ai/a	2.26	oz/a	PRE	A	15 e	99 a	92 b	98 a
5	ROUNDUP W-MAX	4.5	SL	0.387	lb ae/a	11	fl oz/a	35 DAP	C				
5	AMS	100	DRY	2	lb ai/a	2	lb/a	35 DAP	C				
6	CANOPY	75	WG	0.14	lb ai/a	3	oz/a	PRE	A	35 d	99 a	95 ab	96 a
6	ROUNDUP W-MAX	4.5	SL	0.387	lb ae/a	11	fl oz/a	35 DAP	C				
6	AMS	100	DRY	2	lb ai/a	2	lb/a	35 DAP	C				
7	CANOPY	75	WG	0.187	lb ai/a	4	oz/a	PRE	A	37 d	99 a	95 ab	97 a
7	ROUNDUP W-MAX	4.5	SL	0.387	lb ae/a	11	fl oz/a	35 DAP	C				
7	AMS	100	DRY	2	lb ai/a	2	lb/a	35 DAP	C				
8	AUTHORITY FIRST	70	DF	0.141	lb ai/a	3.22	oz/a	PRE	A	40 d	99 a	95 ab	98 a
8	ROUNDUP W-MAX	4.5	SL	0.387	lb ae/a	11	fl oz/a	35 DAP	C				
8	AMS	100	DRY	2	lb ai/a	2	lb/a	35 DAP	C				
9	AUTHORITY FIRST	70	DF	0.282	lb ai/a	6.45	oz/a	PRE	A	60 c	99 a	97 ab	98 a
9	ROUNDUP W-MAX	4.5	SL	0.387	lb ae/a	11	fl oz/a	35 DAP	C				
9	AMS	100	DRY	2	lb ai/a	2	lb/a	35 DAP	C				
10	PROWL H2O	3.8	CS	1.19	lb ai/a	2.5	pt/a	PRE	A	13 e	99 a	97 ab	99 a
10	EXTREME	2.17	SL	0.81	lb ai/a	3	pt/a	35 DAP	C				
10	ACTIVATOR 90	100	LIQ	0.125	% v/v	0.125	% v/v	35 DAP	C				
10	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	35 DAP	C				
11	SCEPTER	70	WG	0.092	lb ai/a	2.1	oz/a	PRE	A	0 f	99 a	98 ab	99 a
11	PROWL H2O	3.8	CS	1.19	lb ai/a	2.5	pt/a	PRE	A				
11	SEE COMMENT #7												
11	CORNERSTONE	3	SL	0.75	lb ae/a	32	fl oz/a	35 DAP	C				
11	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	35 DAP	C				
12	PROWL H2O	3.8	CS	1.19	lb ai/a	2.5	pt/a	PRE	A	10 ef	99 a	94 ab	99 a
12	CORNERSTONE	3	SL	0.75	lb ae/a	32	fl oz/a	35 DAP	C				
12	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	35 DAP	C				
13	PROWL H2O	3.8	CS	1.19	lb ai/a	2.5	pt/a	PRE	A	99 a	99 b	96 ab	98 a
13	RAPTOR	1	AS	0.0312	lb ai/a	4	fl oz/a	2-4"W	B				
13	FLEXSTAR	1.88	EC	0.176	lb ai/a	12	fl oz/a	2-4"W	B				
13	DESTINY MSO	100	LIQ	1.0	% v/v	1	% v/v	2-4"W	B				
13	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	2-4"W	B				
14	PREFIX	5.28	EW	1.32	lb ai/a	2	pt/a	PRE	A	20 e	99 a	97 ab	98 a
14	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	35 DAP	C				
14	AMS	100	DRY	2.0	lb ai/a	2	lb/a	35 DAP	C				
15	INTRRO	4	L	2	lb ai/a	2	qt/a	PRE	A	17 e	99 a	97 ab	99 a
15	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	35 DAP	C				
15	AMS	100	DRY	2.0	lb ai/a	2	lb/a	35 DAP	C				

1-25-08 (07-2A-MMW80)

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Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code	AMBEL	AMBEL	ABUTH	IPOSS
	Weed Code									AMBEL	AMBEL	ABUTH	IPOSS
	Crop Code												
	Rating Data Type									Control	Control	Control	Control
	Rating Unit									Percent	Percent	Percent	Percent
	Rating Date									7-1-07	8-6-07	8-6-07	8-6-07
	Trt-Eval Interval									28 DAP	28 DA-C	28 DA-C	28 DA-C
16	VALOR SX	51	WG	0.064	lb ai/a	2	oz/a	PRE	A	43 d	99 a	99 a	99 a
16	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	35 DAP	C				
16	AMS	100	DRY	2.0	lb ai/a	2	lb/a	35 DAP	C				
	LSD (P=.05)									11.1	0.3	5.6	3.3
	Replicate F									2.343	2.143	6.617	2.011
	Replicate Prob(F)									0.1134	0.1349	0.0042	0.1515
	Treatment F									54.124	47213.399	155.610	474.408
	Treatment Prob(F)									0.0001	0.0001	0.0001	0.0001

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

Trial Comments

1. Protocol: DuPont (07-124), BASF.
2. Ratings: CI 14, 28 + 56 DAP; WC 28 DAP and 28 da "C".
3. Yield.
4. DAP = Days after planting. DA-C = Days after 35DAP application.
5. IPOSS was IPOHE (ivyleaf morningglory) and IPOLA (pitted morningglory).
6. Following the PRE application only 0.08 inches of rainfall was recorded during the next 20 days.
7. Treatment 11, the planned Prowl at PRE was not included due to an oversight.
8. Harvested 10-12-07, (2) 30 inch rows by 25 feet.