

Trial ID: 09-9B-Soybeans 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: 07-01-09

Objectives: To evaluate weed control and weed population shifts over a long period of time in transgenic crops.

Crop 1: GLXMA Soybean	Variety: AG 4404	Description: RR/STS
Planting Method: SEEDED	Planting Date: 07-01-09	
Rate, Unit: 75 LB/A	Depth, Unit: 1.0 IN	
Row Spacing, Unit: 30 IN		

Pest 1	Type: W	Code: SETFA	Setaria faberi Herrm.	foxtail, giant
Pest 2	Type: W	Code: XANST	Xanthium strumarium L.	cocklebur, common
Pest 3	Type: W	Code: IPOHE	Ipomoea hederacea (L.) Jacq.	morningglory, ivyleaf
Pest 4	Type: W	Code: AMAPA	Amaranthus palmeri S.Wats.	amaranth, Palmer
Pest 5	Type: W	Code: AMBTR	Ambrosia trifida L.	ragweed, giant
Pest 6	Type: W	Code: ABUTH	Abutilon theophrasti Medicus	velvetleaf

Plot Width, Unit:	10	FT	Site Type:	FIELD
Plot Length, Unit:	27	FT	Tillage Type:	See comments
Replications:	4		Study Design:	Randomized Complete Block

	Prior Crops, Year
1. ZEAMD	2008

Field Prep./Maintenance: N 0 LB/A, P205 0 LB/A, K2O 100 LB/A

% OM:	2	Texture:	SILT LOAM
pH:	6.3	Soil Name:	BETHALTO
CEC:	12	Fert. Level:	P1 80 LB/A, K 430 LB/A

	Application Description																		
	A	B		C	D	E		F	G		H	I		J	K				
Application Date:	07-02-09	07-27-09	07-21-09	08-06-09	08-12-09	07-21-09	08-12-09	07-29-09	08-06-09	07-27-09	08-03-09								
Time of Day:	10:00	11:00	10:00	9:00	10:00	10:00	10:00	10:00	9:00	11:00	8:30								
Application Method:	Spray	Spray	Spray	Spray	Spray	Spray	Spray	Spray	Spray	Spray	Spray								
Application Timing:	PRE	2-4"W-1	4-6"W-1	10DA2-4"1	2WA2-4"1	2-4"W-2	2-4"W-3-1	10DA2-4"2	2WA2-4"2	2-4"W-3-2	4-6"W-2								
Application Placement:	BROSOI	BROFOL	BROFOL	BROFOL	BROFOL	BROFOL	BROFOL	BROFOL	BROFOL	BROFOL	BROFOL								
Air Temperature, Unit:	72 F	82 F	74 F	72 F	80 F	74 F	80 F	76 F	72 F	82 F	70 F								
% Relative Humidity:	80	64	90	86	70	90	70	82	86	64	92								
Wind Velocity, Unit:	5 MPH	5 MPH	3 MPH	3 MPH	5 MPH	3 MPH	5 MPH	5 MPH	3 MPH	5 MPH	5 MPH								
Soil Moisture:	F	F	F																
	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL								
	07-02-09	07-27-09	07-21-09	08-06-09	08-12-09	07-21-09	08-12-09	07-29-09	08-06-09	07-27-09	08-03-09								
Crop stage at application:	NA	V3	V2	V4	R1	V2	R1	V3	V4	V3-V4	V4								
Height Min, Max (inch):		6	6	4	4	11	11	13	13	4	13	13	9	9	11	11	10	11	11

Long-Term Tillage by Herbicide Study in a Transgenic Corn and Soybean Rotation.

Trial ID: 09-9B-Soybeans

Location: Belleville Res. Center

Pest Stage At Each Application											
Application Date:	07-02-09	07-27-09	07-21-09	08-06-09	08-12-09	07-21-09	08-12-09	07-29-09	08-06-09	07-27-09	08-03-09
Weed Code:	SETFA	SETFA	SETFA	SETFA	SETFA	SETFA	SETFA	SETFA	SETFA	SETFA	SETFA
Stage Majority (leaves):	NA	8	11	13	16	13	16	15	14	10	8
Stage Min, Max:		6 8	7 11	9 13	8 16	9 13	8 16	5 15	8 14	6 10	4 8
Height Majority:		10	IN 10	IN 9	IN 15	IN 9	IN 15	IN 18	IN 8	IN 16	IN 8
Height Min, Max:		7 10	7 10	5 9	10 15	5 9	10 15	10 18	4 8	8 16	4 8
Density, Unit:		3 FT2	3 FT2	3 FT2	3 FT2	3 FT2	3 FT2	3 FT2	3 FT2	3 FT2	3 FT2
Weed Code:	XANST	XANST	XANST	XANST	XANST	XANST	XANST	XANST	XANST	XANST	XANST
Stage Majority (leaves):	NA	8	NA	NA	NA	NA	NA	NA	NA	NA	6
Stage Min, Max:		4 8									4 6
Height Majority:		9	IN								6 IN
Height Min, Max:		4 9									4 6
Density, Unit:		1 FT2									1 FT2
Weed Code:	IPOHE	IPOHE	IPOHE	IPOHE	IPOHE	IPOHE	IPOHE	IPOHE	IPOHE	IPOHE	IPOHE
Stage Majority (leaves):	NA	7	NA	NA	NA	NA	NA	NA	NA	NA	8
Stage Min, Max:		5 7									5 8
Height Majority:		6	IN								6 IN
Height Min, Max:		4 6									4 6
Density, Unit:		1.5 FT2									1.5 FT2
Weed Code:	AMAPA	AMAPA	AMAPA	AMAPA	AMAPA	AMAPA	AMAPA	AMAPA	AMAPA	AMAPA	AMAPA
Stage Majority (leaves):	NA	12	26	16	16	16	16	NA	14	13	13
Stage Min, Max:		5 12	6 26	8 16	10 16	10 16	10 16		8 14	9 13	8 13
Height Majority:		6	IN 9	IN 7	IN 8	IN 7	IN 8	IN	8	IN 6	IN 6
Height Min, Max:		2 6	2 9	4 7	5 8	5 7	5 8		3 8	4 6	4 6
Density, Unit:		3 FT2	3 FT2	3 FT2	3 FT2	3 FT2	3 FT2		3 FT2	3 FT2	3 FT2
Weed Code:	AMBTR	AMBTR	AMBTR	AMBTR	AMBTR	AMBTR	AMBTR	AMBTR	AMBTR	AMBTR	AMBTR
Stage Majority (leaves):	24	NA	42	NA	20	20	20	26	NA	35	8
Stage Min, Max:	10 24		16 42		10 20	10 20	10 20	14 26		20 35	6 8
Height Majority:	20 IN		22 IN		16 IN	14 IN	14 IN	20 IN		20 IN	6 IN
Height Min, Max:	8 20		8 22		8 16	9 14	8 14	9 20		8 20	4 6
Density, Unit:	1 FT2		1 FT2		1 FT2	1 FT2	1 FT2	1 FT2		1 FT2	1 FT2
Weed Code:	ABUTH	ABUTH	ABUTH	ABUTH	ABUTH	ABUTH	ABUTH	ABUTH	ABUTH	ABUTH	ABUTH
Stage Majority (leaves):	NA	7	NA	NA	NA	NA	NA	NA	NA	NA	7
Stage Min, Max:		4 7									5 7
Height Majority:		6	IN								6 IN
Height Min, Max:		3 6									4 6
Density, Unit:		1.5 FT2									1.5 FT2

Application Equipment

Appl. Equipment:	CO2 sprayer	CO2 sprayer	CO2 sprayer	CO2 sprayer	CO2 sprayer	CO2 sprayer	CO2 sprayer	CO2 sprayer	CO2 sprayer
Operating Pressure:	40 PSI	40 PSI	40 PSI	40 PSI	40 PSI	40 PSI	40 PSI	40 PSI	40 PSI
Nozzle Type:	Flat fan	Flat fan	Flat fan	Flat fan	Flat fan	Flat fan	Flat fan	Flat fan	Flat fan
Nozzle Size:	XR 8003	XR 8003	XR 8003	XR 8003	XR 8003	XR 8003	XR 8003	XR 8003	XR 8003
Boom Length, Unit:	7.5 FT	7.5 FT	7.5 FT	7.5 FT	7.5 FT	7.5 FT	7.5 FT	7.5 FT	7.5 FT
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA	20 GPA	20 GPA	20 GPA	20 GPA	20 GPA	20 GPA

Appl. Equipment:	CO2 sprayer	CO2 sprayer
Operating Pressure:	40 PSI	40 PSI
Nozzle Type:	Flat fan	Flat fan
Nozzle Size:	XR 8002	XR 8003
Boom Length, Unit:	7.5 FT	7.5 FT
Spray Volume, Unit:	15 GPA	20 GPA

Long-Term Tillage by Herbicide Study in a Transgenic Corn and Soybean Rotation.

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Pest Code Crop Code Rating Date Rating Data Type Rating Unit Rating Timing Trt-Eval Interval									GLXMA 11-03-09 Height Inch EOS	GLXMA 11-12-09 Moisture Percent	GLXMA 11-12-09 Yield bu/A	GLXMA Injury Percent 14 DAT	GLXMA Injury Percent 28 DAT	GLXMA Injury Percent 56 DAT
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code					
1	SOYBEAN IN 2009									0 e		0 i	0 d	0 b
1	NO-TILL													
1	NONTREATED													
2	SOYBEAN IN 2009									35 a	12.8 a-e	37 a-d	0 d	0 b
2	NO-TILL													
2	ROUNDUP WEATHERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	PRE	A					
2	HANDWEED													
3	SOYBEAN IN 2009									33 ab	12.7 cde	25 gh	0 d	0 b
3	NO-TILL													
3	ROUNDUP WEATHERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	PRE	A					
3	PROWL	3.3	EC	1.0	lb ai/a	2.4	pt/a	PRE	A					
3	AUTHORITY	75	WG	0.25	lb ai/a	5.3	oz/a	PRE	A					
3	FIRSTRATE	84	WG	0.031	lb ai/a	0.59	oz/a	PRE	A					
4	SOYBEAN IN 2009									30 abc	12.8 a-d	28 e-h	0 d	0 b
4	NO-TILL													
4	ROUNDUP WEATHERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	PRE	A					
4	AUTHORITY	75	WG	0.25	lb ai/a	5.3	oz/a	PRE	A					
4	FIRSTRATE	84	WG	0.031	lb ai/a	0.59	oz/a	PRE	A					
4	ROUNDUP WEATHERMAX	4.5	SL	0.58	lb ae/a	16.5	fl oz/a	2-4"W-3-2	J					
5	SOYBEAN IN 2009									33 ab	12.6 e	22 h	7 c	0 b
5	NO-TILL													
5	ROUNDUP WEATHERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	PRE	A					
5	AUTHORITY	75	WG	0.25	lb ai/a	5.3	oz/a	PRE	A					
5	FIRSTRATE	84	WG	0.031	lb ai/a	0.59	oz/a	PRE	A					
5	SELECT	2	EC	0.094	lb ai/a	6.0	oz/a	2-4"W-3-2	J					
5	PRIME OIL COC	100	SL	1.0	% v/v	1.0	% v/v	2-4"W-3-2	J					
6	SOYBEAN IN 2009									31 abc	12.7 b-e	29 d-h	5 cd	0 b
6	NO-TILL													
6	ROUNDUP WEATHERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	PRE	A					
6	PROWL	3.3	EC	1.0	lb ai/a	2.4	pt/a	PRE	A					
6	ROUNDUP WEATHERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	4-6"W	C					
7	SOYBEAN IN 2009									32 abc	12.7 de	33 b-g	0 d	0 b
7	NO-TILL													
7	ROUNDUP WEATHERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	PRE	A					
7	ROUNDUP WEATHERMAX	4.5	SL	0.58	lb ae/a	16.5	fl oz/a	2-4"W-2	F					
7	ROUNDUP WEATHERMAX	4.5	SL	0.58	lb ae/a	16.5	fl oz/a	2WA2-4"2	I					
8	SOYBEAN IN 2009									30 abc	12.8 a-d	31 c-h	3 cd	0 b
8	NO-TILL													
8	TOUCHDOWN TOTAL	4.17	SL	0.77	lb ae/a	23.6	fl oz/a	PRE	A					
8	ROUNDUP WEATHERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	4-6"W	C					
9	SOYBEAN IN 2009									29 abc	12.9 ab	22 h	20 a	16 a
9	NO-TILL													
9	ROUNDUP WEATHERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	PRE	A					
9	STORM	4	EC	0.75	lb ai/a	1.5	pt/a	2-4"W-2	F					
9	SELECT	2	EC	0.125	lb ai/a	8.0	oz/a	2-4"W-2	F					
9	PRIME OIL COC	100	SL	1.0	% v/v	1	% v/v	2-4"W-2	F					
9	28% UAN	100	SL	2.0	qt/a	2	qt/a	2-4"W-2	F					
10	SOYBEAN IN 2009									29 abc	12.7 cde	28 e-h	17 ab	17 a
10	NO-TILL													
10	ROUNDUP WEATHERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	PRE	A					
10	STORM	4	EC	0.75	lb ai/a	1.5	pt/a	2-4"W-2	F					
10	PRIME OIL COC	100	SL	1.0	% v/v	1	% v/v	2-4"W-2	F					
10	28% UAN	100	SL	2.0	qt/a	2	qt/a	2-4"W-2	F					
10	SELECT	2	EC	0.094	lb ai/a	6	oz/a	10DA2-4"2	H					
10	PRIME OIL COC	100	SL	1.0	% v/v	1	% v/v	10DA2-4"2	H					
11	SOYBEAN IN 2009									20 d	12.8 a-d	9 i	0 d	0 b
11	REDUCED-TILL													
11	NONTREATED													

Long-Term Tillage by Herbicide Study in a Transgenic Corn and Soybean Rotation.

Trial ID: 09-9B-Soybeans

Location: Belleville Res. Center

Pest Code
Crop Code
Rating Date
Rating Data Type
Rating Unit
Rating Timing
Trt-Eval Interval

GLXMA GLXMA GLXMA GLXMA GLXMA GLXMA
11-03-09 11-12-09 11-12-09
Height Moisture Yield Injury Injury Injury
Inch Percent bu/A Percent Percent Percent
EOS 14 DAT 28 DAT 56 DAT

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code							
12	SOYBEAN IN 2009									27 bc	12.8	a-d	42 a	0 d	0 b	0 b
12	REDUCED-TILL															
12	HANDWEED															
13	SOYBEAN IN 2009									29 bc	12.9	abc	41 ab	0 d	0 b	0 b
13	REDUCED-TILL															
13	PROWL	3.3	EC	1.0	lb ai/a	2.4	pt/a	PRE	A							
13	AUTHORITY	75	WG	0.25	lb ai/a	5.3	oz/a	PRE	A							
13	FIRSTRATE	84	WG	0.031	lb ai/a	0.59	oz/a	PRE	A							
14	SOYBEAN IN 2009									28 bc	12.9	a	40 ab	0 d	0 b	0 b
14	REDUCED-TILL															
14	AUTHORITY	75	WG	0.25	lb ai/a	5.3	oz/a	PRE	A							
14	FIRSTRATE	84	WG	0.031	lb ai/a	0.59	oz/a	PRE	A							
14	ROUNDUP WEATHERMAX	4.5	SL	0.58	lb ae/a	16.5	fl oz/a	2-4"W-3-1	G							
15	SOYBEAN IN 2009									29 bc	12.9	a-d	36 a-e	0 d	0 b	0 b
15	REDUCED-TILL															
15	AUTHORITY	75	WG	0.25	lb ai/a	5.3	oz/a	PRE	A							
15	FIRSTRATE	84	WG	0.031	lb ai/a	0.59	oz/a	PRE	A							
15	SELECT	2	EC	0.094	lb ai/a	6	oz/a	2-4"W-3-1	G							
15	PRIME OIL COC	100	SL	1.0	% v/v	1	% v/v	2-4"W-3-1	G							
16	SOYBEAN IN 2009									29 bc	12.8	a-d	39 abc	0 d	0 b	0 b
16	REDUCED-TILL															
16	PROWL	3.3	EC	1.0	lb ai/a	2.4	pt/a	PRE	A							
16	ROUNDUP WEATHERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	4-6"W-2	K							
17	SOYBEAN IN 2009									26 cd	12.8	a-d	41 ab	0 d	0 b	0 b
17	REDUCED-TILL															
17	ROUNDUP WEATHERMAX	4.5	SL	0.58	lb ae/a	16.5	fl oz/a	2-4"W-1	B							
17	ROUNDUP WEATHERMAX	4.5	SL	0.58	lb ae/a	16.5	fl oz/a	2WA2-4"1	E							
18	SOYBEAN IN 2009									27 bc	12.9	abc	35 a-f	13 b	0 b	0 b
18	REDUCED-TILL															
18	ROUNDUP WEATHERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	4-6"W-2	K							
19	SOYBEAN IN 2009									26 cd	12.9	ab	28 e-h	16 ab	15 a	10 a
19	REDUCED-TILL															
19	STORM	4	EC	0.75	lb ai/a	1.5	pt/a	2-4"W-1	B							
19	SELECT	2	EC	0.125	lb ai/a	8.0	oz/a	2-4"W-1	B							
19	PRIME OIL COC	100	SL	1.0	% v/v	1	% v/v	2-4"W-1	B							
19	28% UAN	100	SL	2.0	qt/a	2	qt/a	2-4"W-1	B							
20	SOYBEAN IN 2009									26 cd	12.9	ab	26 fgh	16 ab	15 a	10 a
20	REDUCED-TILL															
20	STORM	4	EC	0.75	lb ai/a	1.5	pt/a	2-4"W-1	B							
20	PRIME OIL COC	100	SL	1.0	% v/v	1	% v/v	2-4"W-1	B							
20	28% UAN	100	SL	2.0	qt/a	2	qt/a	2-4"W-1	B							
20	SELECT	2	EC	0.094	lb ai/a	6	oz/a	10DA2-4"1	D							
20	PRIME OIL COC	100	SL	1.0	% v/v	1	% v/v	10DA2-4"1	D							
LSD (P=.05)										6.1	0.19		9.0	5.7	4.3	0.0
Replicate F										0.932	1.839		0.834	0.803	0.589	0.000
Replicate Prob(F)										0.4335	0.1575		0.4827	0.4979	0.6248	1.0000
Treatment F										11.486	1.810		11.641	12.621	17.848	0.000
Treatment Prob(F)										0.0001	0.0638		0.0001	0.0001	0.0001	1.0000

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

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									SETFA	SETFA	SETFA	XANST	XANST	XANST
Pest Code									Control	Control	Control	Control	Control	Control
Crop Code									Percent	Percent	Percent	Percent	Percent	Percent
Rating Date									14 DAT	28 DAT	56 DAT	14 DAT	28 DAT	56 DAT
Rating Data Type														
Rating Unit														
Rating Timing														
Trt-Eval Interval														
Trt	Treatment	Form	Form	Rate	Other	Other	Growth	Appl						
No.	Name	Conc	Type	Unit	Rate	Rate	Stage	Code						
1	SOYBEAN IN 2009								92 e	92 e	92 e	92 c	92 c	92 c
1	NO-TILL													
1	NONTREATED													
2	SOYBEAN IN 2009								100 a	100 a	100 a	100 a	100 a	100 a
2	NO-TILL													
2	ROUNDUP WEATHERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	PRE	A					
2	HANDWEED													
3	SOYBEAN IN 2009								98 abc	98 abc	96 cd	99 ab	99 ab	99 ab
3	NO-TILL													
3	ROUNDUP WEATHERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	PRE	A					
3	PROWL	3.3	EC	1.0	lb ai/a	2.4	pt/a	PRE	A					
3	AUTHORITY	75	WG	0.25	lb ai/a	5.3	oz/a	PRE	A					
3	FIRSTRATE	84	WG	0.031	lb ai/a	0.59	oz/a	PRE	A					
4	SOYBEAN IN 2009								99 ab	99 ab	99 ab	99 ab	99 ab	99 ab
4	NO-TILL													
4	ROUNDUP WEATHERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	PRE	A					
4	AUTHORITY	75	WG	0.25	lb ai/a	5.3	oz/a	PRE	A					
4	FIRSTRATE	84	WG	0.031	lb ai/a	0.59	oz/a	PRE	A					
4	ROUNDUP WEATHERMAX	4.5	SL	0.58	lb ae/a	16.5	fl oz/a	2-4"W-3-2	J					
5	SOYBEAN IN 2009								99 ab	99 ab	99 ab	99 ab	99 ab	99 ab
5	NO-TILL													
5	ROUNDUP WEATHERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	PRE	A					
5	AUTHORITY	75	WG	0.25	lb ai/a	5.3	oz/a	PRE	A					
5	FIRSTRATE	84	WG	0.031	lb ai/a	0.59	oz/a	PRE	A					
5	SELECT	2	EC	0.094	lb ai/a	6.0	oz/a	2-4"W-3-2	J					
5	PRIME OIL COC	100	SL	1.0	% v/v	1.0	% v/v	2-4"W-3-2	J					
6	SOYBEAN IN 2009								99 ab	99 ab	99 ab	99 ab	99 ab	99 ab
6	NO-TILL													
6	ROUNDUP WEATHERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	PRE	A					
6	PROWL	3.3	EC	1.0	lb ai/a	2.4	pt/a	PRE	A					
6	ROUNDUP WEATHERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	4-6"W	C					
7	SOYBEAN IN 2009								99 ab	99 ab	99 ab	99 ab	99 ab	99 ab
7	NO-TILL													
7	ROUNDUP WEATHERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	PRE	A					
7	ROUNDUP WEATHERMAX	4.5	SL	0.58	lb ae/a	16.5	fl oz/a	2-4"W-2	F					
7	ROUNDUP WEATHERMAX	4.5	SL	0.58	lb ae/a	16.5	fl oz/a	2WA2-4"2	I					
8	SOYBEAN IN 2009								98 bc	98 bc	98 abc	99 ab	99 ab	99 ab
8	NO-TILL													
8	TOUCHDOWN TOTAL	4.17	SL	0.77	lb ae/a	23.6	fl oz/a	PRE	A					
8	ROUNDUP WEATHERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	4-6"W	C					
9	SOYBEAN IN 2009								95 d	95 d	95 d	99 ab	99 ab	99 ab
9	NO-TILL													
9	ROUNDUP WEATHERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	PRE	A					
9	STORM	4	EC	0.75	lb ai/a	1.5	pt/a	2-4"W-2	F					
9	SELECT	2	EC	0.125	lb ai/a	8.0	oz/a	2-4"W-2	F					
9	PRIME OIL COC	100	SL	1.0	% v/v	1	% v/v	2-4"W-2	F					
9	28% UAN	100	SL	2.0	qt/a	2	qt/a	2-4"W-2	F					
10	SOYBEAN IN 2009								99 abc	99 abc	99 ab	99 ab	99 ab	99 ab
10	NO-TILL													
10	ROUNDUP WEATHERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	PRE	A					
10	STORM	4	EC	0.75	lb ai/a	1.5	pt/a	2-4"W-2	F					
10	PRIME OIL COC	100	SL	1.0	% v/v	1	% v/v	2-4"W-2	F					
10	28% UAN	100	SL	2.0	qt/a	2	qt/a	2-4"W-2	F					
10	SELECT	2	EC	0.094	lb ai/a	6	oz/a	10DA2-4"2	H					
10	PRIME OIL COC	100	SL	1.0	% v/v	1	% v/v	10DA2-4"2	H					
11	SOYBEAN IN 2009								0 f	0 f	0 f	0 d	0 d	0 d
11	REDUCED-TILL													
11	NONTREATED													

Long-Term Tillage by Herbicide Study in a Transgenic Corn and Soybean Rotation.

Trial ID: 09-9B-Soybeans

Location: Belleville Res. Center

									SETFA	SETFA	SETFA	XANST	XANST	XANST
Pest Code									Control	Control	Control	Control	Control	Control
Crop Code									Percent	Percent	Percent	Percent	Percent	Percent
Rating Date									14 DAT	28 DAT	56 DAT	14 DAT	28 DAT	56 DAT
Rating Data Type														
Rating Unit														
Rating Timing														
Trt-Eval Interval														
Trt	Treatment	Form	Form	Rate	Other	Other	Growth	Appl						
No.	Name	Conc	Type	Unit	Rate	Rate	Stage	Code						
12	SOYBEAN IN 2009								100 a	100 a	100 a	100 a	100 a	100 a
12	REDUCED-TILL													
12	HANDWEED													
13	SOYBEAN IN 2009								99 ab	99 ab	98 abc	99 ab	99 ab	99 ab
13	REDUCED-TILL													
13	PROWL	3.3	EC	1.0 lb ai/a	2.4 pt/a		PRE	A						
13	AUTHORITY	75	WG	0.25 lb ai/a	5.3 oz/a		PRE	A						
13	FIRSTRATE	84	WG	0.031 lb ai/a	0.59 oz/a		PRE	A						
14	SOYBEAN IN 2009								99 ab	99 ab	99 ab	99 ab	99 ab	99 ab
14	REDUCED-TILL													
14	AUTHORITY	75	WG	0.25 lb ai/a	5.3 oz/a		PRE	A						
14	FIRSTRATE	84	WG	0.031 lb ai/a	0.59 oz/a		PRE	A						
14	ROUNDUP WEATHERMAX	4.5	SL	0.58 lb ae/a	16.5 fl oz/a		2-4"W-3-1	G						
15	SOYBEAN IN 2009								97 cd	97 cd	97 bcd	98 b	98 b	98 b
15	REDUCED-TILL													
15	AUTHORITY	75	WG	0.25 lb ai/a	5.3 oz/a		PRE	A						
15	FIRSTRATE	84	WG	0.031 lb ai/a	0.59 oz/a		PRE	A						
15	SELECT	2	EC	0.094 lb ai/a	6 oz/a		2-4"W-3-1	G						
15	PRIME OIL COC	100	SL	1.0 % v/v	1 % v/v		2-4"W-3-1	G						
16	SOYBEAN IN 2009								99 ab	99 ab	99 ab	99 ab	99 ab	99 ab
16	REDUCED-TILL													
16	PROWL	3.3	EC	1.0 lb ai/a	2.4 pt/a		PRE	A						
16	ROUNDUP WEATHERMAX	4.5	SL	0.77 lb ae/a	22 fl oz/a		4-6"W-2	K						
17	SOYBEAN IN 2009								99 ab	99 ab	99 ab	99 ab	99 ab	99 ab
17	REDUCED-TILL													
17	ROUNDUP WEATHERMAX	4.5	SL	0.58 lb ae/a	16.5 fl oz/a		2-4"W-1	B						
17	ROUNDUP WEATHERMAX	4.5	SL	0.58 lb ae/a	16.5 fl oz/a		2WA2-4"1	E						
18	SOYBEAN IN 2009								99 ab	99 ab	99 ab	99 ab	99 ab	99 ab
18	REDUCED-TILL													
18	ROUNDUP WEATHERMAX	4.5	SL	0.77 lb ae/a	22 fl oz/a		4-6"W-2	K						
19	SOYBEAN IN 2009								99 ab	99 ab	99 ab	99 ab	99 ab	99 ab
19	REDUCED-TILL													
19	STORM	4	EC	0.75 lb ai/a	1.5 pt/a		2-4"W-1	B						
19	SELECT	2	EC	0.125 lb ai/a	8.0 oz/a		2-4"W-1	B						
19	PRIME OIL COC	100	SL	1.0 % v/v	1 % v/v		2-4"W-1	B						
19	28% UAN	100	SL	2.0 qt/a	2 qt/a		2-4"W-1	B						
20	SOYBEAN IN 2009								99 abc	99 abc	99 ab	99 ab	99 ab	99 ab
20	REDUCED-TILL													
20	STORM	4	EC	0.75 lb ai/a	1.5 pt/a		2-4"W-1	B						
20	PRIME OIL COC	100	SL	1.0 % v/v	1 % v/v		2-4"W-1	B						
20	28% UAN	100	SL	2.0 qt/a	2 qt/a		2-4"W-1	B						
20	SELECT	2	EC	0.094 lb ai/a	6 oz/a		10DA2-4"1	D						
20	PRIME OIL COC	100	SL	1.0 % v/v	1 % v/v		10DA2-4"1	D						
LSD (P=.05)									2.2	2.2	2.6	1.6	1.6	1.6
Replicate F									1.655	1.655	0.374	1.298	1.298	1.298
Replicate Prob(F)									0.1869	0.1869	0.7721	0.2840	0.2840	0.2840
Treatment F									825.083	825.083	564.580	1621.810	1621.810	1621.810
Treatment Prob(F)									0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

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

Long-Term Tillage by Herbicide Study in a Transgenic Corn and Soybean Rotation.

Trial ID: 09-9B-Soybeans

Location: Belleville Res. Center

									IPOHE	IPOHE	IPOHE	AMAPA	AMAPA	AMAPA
Pest Code									Control	Control	Control	Control	Control	Control
Crop Code									Percent	Percent	Percent	Percent	Percent	Percent
Rating Date									14 DAT	28 DAT	56 DAT	14 DAT	28 DAT	56 DAT
Rating Data Type														
Rating Unit														
Rating Timing														
Trt-Eval Interval														
Trt	Treatment	Form	Form	Rate	Other	Other	Growth	Appl						
No.	Name	Conc	Type	Unit	Rate	Rate	Stage	Code						
1	SOYBEAN IN 2009								92 cd	92 def	92 cd	92 b	92 ab	92 abc
1	NO-TILL													
1	NONTREATED													
2	SOYBEAN IN 2009								100 a	100 a	100 a	100 a	100 a	100 a
2	NO-TILL													
2	ROUNDUP WEATHERMAX	4.5	SL	0.77 lb ae/a	22 fl oz/a		PRE	A						
2	HANDWEED													
3	SOYBEAN IN 2009								99 ab	99 a	99 a	99 a	99 a	99 ab
3	NO-TILL													
3	ROUNDUP WEATHERMAX	4.5	SL	0.77 lb ae/a	22 fl oz/a		PRE	A						
3	PROWL	3.3	EC	1.0 lb ai/a	2.4 pt/a		PRE	A						
3	AUTHORITY	75	WG	0.25 lb ai/a	5.3 oz/a		PRE	A						
3	FIRSTRATE	84	WG	0.031 lb ai/a	0.59 oz/a		PRE	A						
4	SOYBEAN IN 2009								99 ab	99 a	99 a	99 a	99 a	99 ab
4	NO-TILL													
4	ROUNDUP WEATHERMAX	4.5	SL	0.77 lb ae/a	22 fl oz/a		PRE	A						
4	AUTHORITY	75	WG	0.25 lb ai/a	5.3 oz/a		PRE	A						
4	FIRSTRATE	84	WG	0.031 lb ai/a	0.59 oz/a		PRE	A						
4	ROUNDUP WEATHERMAX	4.5	SL	0.58 lb ae/a	16.5 fl oz/a		2-4"W-3-2	J						
5	SOYBEAN IN 2009								98 ab	99 a	99 a	92 b	94 ab	94 abc
5	NO-TILL													
5	ROUNDUP WEATHERMAX	4.5	SL	0.77 lb ae/a	22 fl oz/a		PRE	A						
5	AUTHORITY	75	WG	0.25 lb ai/a	5.3 oz/a		PRE	A						
5	FIRSTRATE	84	WG	0.031 lb ai/a	0.59 oz/a		PRE	A						
5	SELECT	2	EC	0.094 lb ai/a	6.0 oz/a		2-4"W-3-2	J						
5	PRIME OIL COC	100	SL	1.0 % v/v	1.0 % v/v		2-4"W-3-2	J						
6	SOYBEAN IN 2009								97 ab	97 abc	97 ab	99 a	99 a	99 ab
6	NO-TILL													
6	ROUNDUP WEATHERMAX	4.5	SL	0.77 lb ae/a	22 fl oz/a		PRE	A						
6	PROWL	3.3	EC	1.0 lb ai/a	2.4 pt/a		PRE	A						
6	ROUNDUP WEATHERMAX	4.5	SL	0.77 lb ae/a	22 fl oz/a		4-6"W	C						
7	SOYBEAN IN 2009								99 ab	99 ab	99 ab	99 a	99 a	99 ab
7	NO-TILL													
7	ROUNDUP WEATHERMAX	4.5	SL	0.77 lb ae/a	22 fl oz/a		PRE	A						
7	ROUNDUP WEATHERMAX	4.5	SL	0.58 lb ae/a	16.5 fl oz/a		2-4"W-2	F						
7	ROUNDUP WEATHERMAX	4.5	SL	0.58 lb ae/a	16.5 fl oz/a		2WA2-4"2	I						
8	SOYBEAN IN 2009								95 bc	95 bcd	95 bc	99 a	99 a	99 ab
8	NO-TILL													
8	TOUCHDOWN TOTAL	4.17	SL	0.77 lb ae/a	23.6 fl oz/a		PRE	A						
8	ROUNDUP WEATHERMAX	4.5	SL	0.77 lb ae/a	22 fl oz/a		4-6"W	C						
9	SOYBEAN IN 2009								99 ab	99 a	99 a	99 a	99 a	99 ab
9	NO-TILL													
9	ROUNDUP WEATHERMAX	4.5	SL	0.77 lb ae/a	22 fl oz/a		PRE	A						
9	STORM	4	EC	0.75 lb ai/a	1.5 pt/a		2-4"W-2	F						
9	SELECT	2	EC	0.125 lb ai/a	8.0 oz/a		2-4"W-2	F						
9	PRIME OIL COC	100	SL	1.0 % v/v	1 % v/v		2-4"W-2	F						
9	28% UAN	100	SL	2.0 qt/a	2 qt/a		2-4"W-2	F						
10	SOYBEAN IN 2009								98 ab	98 ab	98 ab	99 a	99 a	99 ab
10	NO-TILL													
10	ROUNDUP WEATHERMAX	4.5	SL	0.77 lb ae/a	22 fl oz/a		PRE	A						
10	STORM	4	EC	0.75 lb ai/a	1.5 pt/a		2-4"W-2	F						
10	PRIME OIL COC	100	SL	1.0 % v/v	1 % v/v		2-4"W-2	F						
10	28% UAN	100	SL	2.0 qt/a	2 qt/a		2-4"W-2	F						
10	SELECT	2	EC	0.094 lb ai/a	6 oz/a		10DA2-4"2	H						
10	PRIME OIL COC	100	SL	1.0 % v/v	1 % v/v		10DA2-4"2	H						
11	SOYBEAN IN 2009								0 g	0 i	0 g	0 d	0 d	0 e
11	REDUCED-TILL													
11	NONTREATED													

Location: Belleville Res. Center

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

Long-Term Tillage by Herbicide Study in a Transgenic Corn and Soybean Rotation.

Trial ID: 09-9B-Soybeans

Location: Belleville Res. Center

									AMBTR	AMBTR	AMBTR	AMBTR	ABUTH	ABUTH	ABUTH
Pest Code									Control	Control	Control	Control	Control	Control	Control
Crop Code									Percent	Percent	Percent	Percent	Percent	Percent	Percent
Rating Date									10 DAT	14 DAT	28 DAT	56 DAT	14 DAT	28 DAT	56 DAT
Rating Data Type															
Rating Unit															
Rating Timing															
Trt-Eval Interval															
Trt	Treatment	Form	Form	Rate	Other	Other	Growth	Appl							
No.	Name	Conc	Type	Unit	Rate	Rate	Stage	Code							
1	SOYBEAN IN 2009								0 c	0 f	0 e	0 f	99 ab	99 a	99 a
1	NO-TILL														
1	NONTREATED														
2	SOYBEAN IN 2009								68 ab	100 a	100 a	100 a	100 a	100 a	100 a
2	NO-TILL														
2	ROUNDUP WEATHERMAX	4.5	SL	0.77 lb ae/a	22 fl oz/a		PRE	A							
2	HANDWEED														
3	SOYBEAN IN 2009								74 ab	90 a-d	90 ab	89 bc	99 ab	99 a	99 a
3	NO-TILL														
3	ROUNDUP WEATHERMAX	4.5	SL	0.77 lb ae/a	22 fl oz/a		PRE	A							
3	PROWL	3.3	EC	1.0 lb ai/a	2.4 pt/a		PRE	A							
3	AUTHORITY	75	WG	0.25 lb ai/a	5.3 oz/a		PRE	A							
3	FIRSTRATE	84	WG	0.031 lb ai/a	0.59 oz/a		PRE	A							
4	SOYBEAN IN 2009								75 ab	86 bcd	94 ab	94 abc	99 ab	99 a	99 a
4	NO-TILL														
4	ROUNDUP WEATHERMAX	4.5	SL	0.77 lb ae/a	22 fl oz/a		PRE	A							
4	AUTHORITY	75	WG	0.25 lb ai/a	5.3 oz/a		PRE	A							
4	FIRSTRATE	84	WG	0.031 lb ai/a	0.59 oz/a		PRE	A							
4	ROUNDUP WEATHERMAX	4.5	SL	0.58 lb ae/a	16.5 fl oz/a		2-4"W-3-2	J							
5	SOYBEAN IN 2009								83 a	78 de	74 cd	74 de	99 ab	99 a	99 a
5	NO-TILL														
5	ROUNDUP WEATHERMAX	4.5	SL	0.77 lb ae/a	22 fl oz/a		PRE	A							
5	AUTHORITY	75	WG	0.25 lb ai/a	5.3 oz/a		PRE	A							
5	FIRSTRATE	84	WG	0.031 lb ai/a	0.59 oz/a		PRE	A							
5	SELECT	2	EC	0.094 lb ai/a	6.0 oz/a		2-4"W-3-2	J							
5	PRIME OIL COC	100	SL	1.0 % v/v	1.0 % v/v		2-4"W-3-2	J							
6	SOYBEAN IN 2009								61 b	84 cd	84 bc	84 cd	99 ab	99 a	99 a
6	NO-TILL														
6	ROUNDUP WEATHERMAX	4.5	SL	0.77 lb ae/a	22 fl oz/a		PRE	A							
6	PROWL	3.3	EC	1.0 lb ai/a	2.4 pt/a		PRE	A							
6	ROUNDUP WEATHERMAX	4.5	SL	0.77 lb ae/a	22 fl oz/a		4-6"W	C							
7	SOYBEAN IN 2009								74 ab	96 abc	96 a	96 ab	99 ab	99 a	99 a
7	NO-TILL														
7	ROUNDUP WEATHERMAX	4.5	SL	0.77 lb ae/a	22 fl oz/a		PRE	A							
7	ROUNDUP WEATHERMAX	4.5	SL	0.58 lb ae/a	16.5 fl oz/a		2-4"W-2	F							
7	ROUNDUP WEATHERMAX	4.5	SL	0.58 lb ae/a	16.5 fl oz/a		2WA2-4"2	I							
8	SOYBEAN IN 2009								60 b	84 cd	84 bc	84 cd	99 ab	99 a	99 a
8	NO-TILL														
8	TOUCHDOWN TOTAL	4.17	SL	0.77 lb ae/a	23.6 fl oz/a		PRE	A							
8	ROUNDUP WEATHERMAX	4.5	SL	0.77 lb ae/a	22 fl oz/a		4-6"W	C							
9	SOYBEAN IN 2009								66 ab	78 de	78 c	78 d	99 ab	99 a	99 a
9	NO-TILL														
9	ROUNDUP WEATHERMAX	4.5	SL	0.77 lb ae/a	22 fl oz/a		PRE	A							
9	STORM	4	EC	0.75 lb ai/a	1.5 pt/a		2-4"W-2	F							
9	SELECT	2	EC	0.125 lb ai/a	8.0 oz/a		2-4"W-2	F							
9	PRIME OIL COC	100	SL	1.0 % v/v	1 % v/v		2-4"W-2	F							
9	28% UAN	100	SL	2.0 qt/a	2 qt/a		2-4"W-2	F							
10	SOYBEAN IN 2009								70 ab	66 e	66 d	66 e	99 ab	99 a	99 a
10	NO-TILL														
10	ROUNDUP WEATHERMAX	4.5	SL	0.77 lb ae/a	22 fl oz/a		PRE	A							
10	STORM	4	EC	0.75 lb ai/a	1.5 pt/a		2-4"W-2	F							
10	PRIME OIL COC	100	SL	1.0 % v/v	1 % v/v		2-4"W-2	F							
10	28% UAN	100	SL	2.0 qt/a	2 qt/a		2-4"W-2	F							
10	SELECT	2	EC	0.094 lb ai/a	6 oz/a		10DA2-4"2	H							
10	PRIME OIL COC	100	SL	1.0 % v/v	1 % v/v		10DA2-4"2	H							
11	SOYBEAN IN 2009								0 f	0 e	0 f	0 f	0 e	0 e	0 d
11	REDUCED-TILL														
11	NONTREATED														

Long-Term Tillage by Herbicide Study in a Transgenic Corn and Soybean Rotation.

Trial ID: 09-9B-Soybeans

Location: Belleville Res. Center

Pest Code		AMBTR	AMBTR	AMBTR	AMBTR	ABUTH	ABUTH	ABUTH
Crop Code								
Rating Date								
Rating Data Type		Control	Control	Control	Control	Control	Control	Control
Rating Unit		Percent	Percent	Percent	Percent	Percent	Percent	Percent
Rating Timing		10 DAT	14 DAT	28 DAT	56 DAT	14 DAT	28 DAT	56 DAT
Trt-Eval Interval								

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code							
12	SOYBEAN IN 2009										100 a	100 a	100 a	100 a	100 a	100 a
12	REDUCED-TILL															
12	HANDWEED															
13	SOYBEAN IN 2009										99 a	99 a	99 ab	99 ab	99 a	99 a
13	REDUCED-TILL															
13	PROWL	3.3	EC	1.0	lb ai/a	2.4	pt/a	PRE	A							
13	AUTHORITY	75	WG	0.25	lb ai/a	5.3	oz/a	PRE	A							
13	FIRSTRATE	84	WG	0.031	lb ai/a	0.59	oz/a	PRE	A							
14	SOYBEAN IN 2009										99 a	99 a	99 ab	99 ab	99 a	99 a
14	REDUCED-TILL															
14	AUTHORITY	75	WG	0.25	lb ai/a	5.3	oz/a	PRE	A							
14	FIRSTRATE	84	WG	0.031	lb ai/a	0.59	oz/a	PRE	A							
14	ROUNDUP WEATHERMAX	4.5	SL	0.58	lb ae/a	16.5	fl oz/a	2-4"W-3-1	G							
15	SOYBEAN IN 2009										94 abc	94 ab	94 abc	99 ab	99 a	99 a
15	REDUCED-TILL															
15	AUTHORITY	75	WG	0.25	lb ai/a	5.3	oz/a	PRE	A							
15	FIRSTRATE	84	WG	0.031	lb ai/a	0.59	oz/a	PRE	A							
15	SELECT	2	EC	0.094	lb ai/a	6	oz/a	2-4"W-3-1	G							
15	PRIME OIL COC	100	SL	1.0	% v/v	1	% v/v	2-4"W-3-1	G							
16	SOYBEAN IN 2009										94 abc	97 a	97 ab	78 d	85 c	85 b
16	REDUCED-TILL															
16	PROWL	3.3	EC	1.0	lb ai/a	2.4	pt/a	PRE	A							
16	ROUNDUP WEATHERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	4-6"W-2	K							
17	SOYBEAN IN 2009										99 a	99 a	99 ab	80 c	95 b	97 a
17	REDUCED-TILL															
17	ROUNDUP WEATHERMAX	4.5	SL	0.58	lb ae/a	16.5	fl oz/a	2-4"W-1	B							
17	ROUNDUP WEATHERMAX	4.5	SL	0.58	lb ae/a	16.5	fl oz/a	2WA2-4"1	E							
18	SOYBEAN IN 2009										99 a	99 a	99 ab	76 d	79 d	79 c
18	REDUCED-TILL															
18	ROUNDUP WEATHERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	4-6"W-2	K							
19	SOYBEAN IN 2009										98 ab	98 a	98 ab	99 ab	99 a	99 a
19	REDUCED-TILL															
19	STORM	4	EC	0.75	lb ai/a	1.5	pt/a	2-4"W-1	B							
19	SELECT	2	EC	0.125	lb ai/a	8.0	oz/a	2-4"W-1	B							
19	PRIME OIL COC	100	SL	1.0	% v/v	1	% v/v	2-4"W-1	B							
19	28% UAN	100	SL	2.0	qt/a	2	qt/a	2-4"W-1	B							
20	SOYBEAN IN 2009										98 ab	99 a	99 ab	98 b	98 a	98 a
20	REDUCED-TILL															
20	STORM	4	EC	0.75	lb ai/a	1.5	pt/a	2-4"W-1	B							
20	PRIME OIL COC	100	SL	1.0	% v/v	1	% v/v	2-4"W-1	B							
20	28% UAN	100	SL	2.0	qt/a	2	qt/a	2-4"W-1	B							
20	SELECT	2	EC	0.094	lb ai/a	6	oz/a	10DA2-4"1	D							
20	PRIME OIL COC	100	SL	1.0	% v/v	1	% v/v	10DA2-4"1	D							
LSD (P=.05)										20.3	13.3	10.3	10.3	1.9	3.5	3.3
Replicate F										0.901	0.114	0.208	0.246	2.060	1.096	2.122
Replicate Prob(F)										0.4536	0.9517	0.8905	0.8639	0.1157	0.3585	0.1074
Treatment F										10.915	39.669	67.235	66.886	1202.148	329.593	367.383
Treatment Prob(F)										0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

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

Trial Comments

1. Protocol: SIU - RFK. Study conducted since 1998 on same area.
2. Ratings:
3. Tillages are no-till and reduced-till, see treatment list.
4. At 10 DAT (days after burndown) little barley (dead) ground cover was 90-100% in all no-till plots resulting in weed suppression, except AMBTR, which was rated.
5. DAT = Days after various applications. EOS = End of season.
6. Harvested 11-12-09, (2) 30 inch rows by 24 ft.