

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

Project Code: 05-9B-SOYBEANS Location: Belleville Research Center
 Investigator: Bryan Young

Investigator: Bryan Young, Assistant Professor, Southern Illinois University

City State Zip Country: Belleville IL 62221 USA
 Trial Status: Final Updated: 12-02-05

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

Weed Code	Common Name	Scientific Name
1. HORFU	barley, little	Hordeum pusillum Nutt.
2. SETFA	foxtail, giant	Setaria faberi Herrm.
3. AMBTR	ragweed, giant	Ambrosia trifida L.
4. AMBEL	ragweed, common	Ambrosia artemisiifolia L.
5. XANST	cocklebur, common	Xanthium strumarium L.
6. IPOHE	morningglory, ivyleaf	Ipomoea hederacea (L.) Jacq.
7. ABUTH	velvetleaf	Abutilon theophrasti Medicus

Crop 1: GLXMA soybean Variety: Asgrow 4403 RR
 Planting Method: Seeded Planting Date: 5-17-05
 Rate: 75 lb/A Depth: 1.0 IN
 Row Spacing: 30 IN

Plot Width, Unit: 10 FT Plot Length, Unit: 27 FT Reps: 4
 Tillage Type: See note Study Design: Randomized complete block
 Previous Crop, Year: ZEAMX, 2004

Field Prep./Maintenance: N 0 LB/A, P205 50 LB/A, K20 100 LB/A

Soil Name: Ebbert % OM: 1.5 pH: 6.7 CEC: 14
 Texture: Silt loam Fert. Level: P1: 90 LB/A, K: 301 LB/A

APPLICATION DESCRIPTION

	A	B	C	D	E	F	G	H
Application Date:	05-18-05	06-10-05	06-16-05	06-20-05	06-24-05	06-16-05	06-10-05	06-27-05
Time of Day:	14:00	13:15	14:30	16:40	15:00	14:30	13:15	10:15
Application Method:	Spray	Spray	Spray	Spray	Spray	Spray	Spray	Spray
Application Timing:	PRE	2-4"W-1	4-6"W	10DA2-4"1	2WA2-4"1	2-4"W-2	2-4"W-3-1	10DA2-4"2
Applic. Placement:	BROSOI	BROFOL	BROFOL	BROFOL	BROFOL	BROFOL	BROFOL	BROFOL
Air Temp., Unit:	80 F	86 F	79 F	84 F	96 F	79 F	86 F	85 F
% Relative Humidity:	31	60	37	34	32	37	60	58
Wind Velocity, Unit:	11 MPH	3 MPH	3 MPH	0-2 MPH	3 MPH	3 MPH	3 MPH	4 MPH
Soil Moisture:	NORMAL	NORMAL	ABONOR	NORMAL	BELNOR	ABONOR	NORMAL	BELNOR
	I	J						
Application Date:	06-30-05	06-16-05						
Time of Day:	10:15	14:00						
Application Method:	Spray	Spray						
Application Timing:	2WA2-4"2	2-4"W-3-2						
Applic. Placement:	BROFOL	BROFOL						
Air Temp., Unit:	76 F	79 F						
% Relative Humidity:	52	37						
Wind Velocity, Unit:	4 MPH	2 MPH						
Soil Moisture:	BELNOR	ABONOR						

CROP STAGE AT EACH APPLICATION

	A	B	C	D	E	F	G	H
Crop 1 Code, Stage:	GLXMA NA	GLXMA V1-V2	GLXMA V2	GLXMA V3-V4	GLXMA V5	GLXMA V2	GLXMA V1	GLXMA V4
Height, Unit:	NA NA	3 IN	6-7 IN	6-8 IN	8 IN	6-7 IN	3 IN	8-9 IN
	I	J						
Crop 1 Code, Stage:	GLXMA V4	GLXMA V2						
Height, Unit:	8-9 IN	6-7 IN						

WEED STAGE AT EACH APPLICATION

	A	B	C	D	E	F	G	H
Weed 1 Code:	HORFU							
Stage (leaves):	20-30							
Height (inches):	10-12							
Density:	High							
Weed 2 Code:	SETFA	SETFA	SETFA	SETFA	SETFA	SETFA	SETFA	SETFA
Stage (leaves):	2-4	4-7	4-5	5-6	4-6	4-5	4-7	4-7
Height (inches):	1-3	2-4	3-5	5-7	1-3	5-6	2-4	6-7
Density:	Medium	Medium	High	Medium	Low	High	Medium	Medium
Weed 3 Code:	AMBTR					AMBTR		
Stage (leaves):	4-8					4-8		
Height (inches):	2-7					4-5		
Density:	Low					Low		
Weed 4 Code:	AMBEL							
Stage (leaves):	4-6							
Height (inches):	3-5							
Density:	Low							

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Weed 5 Code:	XANST	XANST	XANST	XANST
Stage (leaves):	4-5	3-4	1-2	4-5
Height (inches):	2-5	1-2	1-2	2-5
Density:	Medium	Low	Low	Medium
Weed 6 Code:	IPOHE	IPOHE	IPOHE	IPOHE
Stage (leaves):	3-5	2-3	1-2	4-5
Height (inches):	1-2	1-2	1-2	2-3
Density:	Low	Low	Medium	Low
Weed 7 Code:	ABUTH		ABUTH	ABUTH
Stage (leaves):	3-5		1-2	3-5
Height (inches):	2-4		1-2	2-4
Density:	Low		Low	Low

I J

Weed 1 Code:
Stage (leaves):
Height (inches):
Density:

Weed 2 Code: SETFA
Stage (leaves): 4-5
Height (inches): 3-4
Density: Medium

Weed 3 Code:
Stage (leaves):
Height (inches):
Density:

Weed 4 Code:
Stage (leaves):
Height (inches):
Density:

Weed 5 Code:
Stage (leaves):
Height (inches):
Density:

Weed 6 Code:
Stage (leaves):
Height (inches):
Density:

Weed 7 Code:
Stage (leaves):
Height (inches):
Density:

APPLICATION EQUIPMENT

	A	B	C	D	E	F	G	H
Appl. Equipment:	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
Nozzle Type:	Flat fan	Flat fan	Flat fan	Flat fan	Flat fan	Flat fan	Flat fan	Flat fan
Nozzle Size:	8003	8002	8002	8002	8002	8002	8002	8002
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
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA	20 GPA	20 GPA	20 GPA	20 GPA	20 GPA

I J

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

NOTES:

Tillages are no-till and reduced-till, see treatment list.

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Weed Code		Crop Code		Rating Data Type		Rating Unit		Rating Date		Trt-Eval Interval		HORPU	SETFA	AMBTR	AMBEL	GLXMA	GLXMA
												Control	Control	Control	Control	Yield	Height
												Percent	Percent	Percent	Percent	bu/A	Inches
												05-28-05	05-28-05	05-28-05	05-28-05	10-27-05	10-27-05
												10 DA-A	10 DA-A	10 DA-A	10 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code								
1	SOYBEAN IN 2005											0	0	0	0	1	27
1	NO-TILL																
1	NONTREATED																
2	SOYBEAN IN 2005											100	100	98	100	54	44
2	NO-TILL																
2	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	PRE	A								
2	HANDWEED																
3	SOYBEAN IN 2005											100	100	98	100	33	42
3	NO-TILL																
3	ROUNDUP W-MAX	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 2005											100	100	98	100	54	44
4	NO-TILL																
4	ROUNDUP W-MAX	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 W-MAX	4.5	SL	0.58	lb ae/a	16.5	fl oz/a	2-4"W-3-2	J								
5	SOYBEAN IN 2005											100	100	98	100	44	44
5	NO-TILL																
5	ROUNDUP W-MAX	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	LIQ	1.0	% v/v	1.0	% v/v	2-4"W-3-2	J								
6	SOYBEAN IN 2005											100	100	98	100	58	43
6	NO-TILL																
6	ROUNDUP W-MAX	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 W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	4-6"W	C								
7	SOYBEAN IN 2005											100	100	98	100	56	43
7	NO-TILL																
7	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	PRE	A								
7	ROUNDUP W-MAX	4.5	SL	0.58	lb ae/a	16.5	fl oz/a	2-4"W-2	F								
7	ROUNDUP W-MAX	4.5	SL	0.58	lb ae/a	16.5	fl oz/a	2WA2-4"2	I								
8	SOYBEAN IN 2005											100	100	98	100	53	46
8	NO-TILL																
8	TOUCHDOWN TOTAL	4.17	SC	0.77	lb ae/a	23.6	fl oz/a	PRE	A								
8	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	4-6"W	C								
9	SOYBEAN IN 2005											100	100	98	100	39	42
9	NO-TILL																
9	ROUNDUP W-MAX	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	LIQ	1.0	% v/v	1	% v/v	2-4"W-2	F								
9	28% UAN	100	LIQ	2.0	qt/a	2	qt/a	2-4"W-2	F								
10	SOYBEAN IN 2005											100	100	98	100	50	44
10	NO-TILL																
10	ROUNDUP W-MAX	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	LIQ	1.0	% v/v	1	% v/v	2-4"W-2	F								
10	28% UAN	100	LIQ	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	LIQ	1.0	% v/v	1	% v/v	10DA2-4"2	H								
11	SOYBEAN IN 2005															14	41
11	REDUCED-TILL																
11	NONTREATED																
12	SOYBEAN IN 2005															52	49
12	REDUCED-TILL																
12	HANDWEED																

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Weed Code		Crop Code		Rating Data Type		Rating Unit		Rating Date		Trt-Eval Interval		HORPU	SETFA	AMBTR	AMBEL	GLXMA	GLXMA
												Control	Control	Control	Control	Yield	Height
												Percent	Percent	Percent	Percent	bu/A	Inches
												05-28-05	05-28-05	05-28-05	05-28-05	10-27-05	10-27-05
												10 DA-A	10 DA-A	10 DA-A	10 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code								
13	SOYBEAN IN 2005															19	42
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 2005															53	47
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 W-MAX	4.5	SL	0.58	lb ae/a	16.5	fl oz/a	2-4"W-3-1	G								
15	SOYBEAN IN 2005															18	42
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	LIQ	1.0	% v/v	1	% v/v	2-4"W-3-1	G								
16	SOYBEAN IN 2005															47	45
16	REDUCED-TILL																
16	PROWL	3.3	EC	1.0	lb ai/a	2.4	pt/a	PRE	A								
16	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	4-6"W	C								
17	SOYBEAN IN 2005															55	46
17	REDUCED-TILL																
17	ROUNDUP W-MAX	4.5	SL	0.58	lb ae/a	16.5	fl oz/a	2-4"W-1	B								
17	ROUNDUP W-MAX	4.5	SL	0.58	lb ae/a	16.5	fl oz/a	2WA2-4"1	E								
18	SOYBEAN IN 2005															46	45
18	REDUCED-TILL																
18	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	4-6"W	C								
19	SOYBEAN IN 2005															36	45
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	LIQ	1.0	% v/v	1	% v/v	2-4"W-1	B								
19	28% UAN	100	LIQ	2.0	qt/a	2	qt/a	2-4"W-1	B								
20	SOYBEAN IN 2005															32	45
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	LIQ	1.0	% v/v	1	% v/v	2-4"W-1	B								
20	28% UAN	100	LIQ	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	LIQ	1.0	% v/v	1	% v/v	10DA2-4"1	D								
LSD (P=.05)												0.0	0.0	0.0	0.0	7.9	3.4
Replicate F												0.000	0.000	0.000	0.000	0.757	3.709
Replicate Prob(F)												1.0000	1.0000	1.0000	1.0000	0.5231	0.0165
Treatment F												0.000	0.000	0.000	0.000	34.595	12.525
Treatment Prob(F)												1.0000	1.0000	1.0000	1.0000	0.0001	0.0001

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Weed Code		Crop Code		GLXMA			SETFA			AMBTR					
Rating Data Type		Injury		Injury			Control			Control					
Rating Unit		Percent		Percent			Percent			Percent					
Rating Date		14 DAT		28 DAT			56 DAT			14 DAT					
Trt-Eval Interval		28 DAT		56 DAT			14 DAT			28 DAT					
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code	14 DAT	28 DAT	56 DAT	14 DAT	28 DAT	56 DAT
1	SOYBEAN IN 2005									0	0	0	61	24	24
1	NO-TILL														
1	NONTREATED														
2	SOYBEAN IN 2005									0	0	0	100	100	100
2	NO-TILL														
2	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	PRE	A						
2	HANDWEED														
3	SOYBEAN IN 2005									0	0	0	81	0	0
3	NO-TILL														
3	ROUNDUP W-MAX	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 2005									0	0	0	100	97	97
4	NO-TILL														
4	ROUNDUP W-MAX	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 W-MAX	4.5	SL	0.58	lb ae/a	16.5	fl oz/a	2-4"W-3-2	J						
5	SOYBEAN IN 2005									0	0	0	100	96	96
5	NO-TILL														
5	ROUNDUP W-MAX	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	LIQ	1.0	% v/v	1.0	% v/v	2-4"W-3-2	J						
6	SOYBEAN IN 2005									0	0	0	100	100	100
6	NO-TILL														
6	ROUNDUP W-MAX	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 W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	4-6"W	C						
7	SOYBEAN IN 2005									0	0	0	100	100	100
7	NO-TILL														
7	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	PRE	A						
7	ROUNDUP W-MAX	4.5	SL	0.58	lb ae/a	16.5	fl oz/a	2-4"W-2	F						
7	ROUNDUP W-MAX	4.5	SL	0.58	lb ae/a	16.5	fl oz/a	2WA2-4"2	I						
8	SOYBEAN IN 2005									0	0	0	100	93	93
8	NO-TILL														
8	TOUCHDOWN TOTAL	4.17	SC	0.77	lb ae/a	23.6	fl oz/a	PRE	A						
8	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	4-6"W	C						
9	SOYBEAN IN 2005									19	0	0	100	56	58
9	NO-TILL														
9	ROUNDUP W-MAX	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	LIQ	1.0	% v/v	1	% v/v	2-4"W-2	F						
9	28% UAN	100	LIQ	2.0	qt/a	2	qt/a	2-4"W-2	F						
10	SOYBEAN IN 2005									19	0	0	71	100	100
10	NO-TILL														
10	ROUNDUP W-MAX	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	LIQ	1.0	% v/v	1	% v/v	2-4"W-2	F						
10	28% UAN	100	LIQ	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	LIQ	1.0	% v/v	1	% v/v	10DA2-4"2	H						
11	SOYBEAN IN 2005									0	0	0	0	0	0
11	REDUCED-TILL														
11	NONTREATED														
12	SOYBEAN IN 2005									0	0	0	100	100	100
12	REDUCED-TILL														
12	HANDWEED														

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Weed Code	Crop Code	Rating Data Type	Rating Unit	Rating Date	Trt-Eval Interval	Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code	GLXMA	GLXMA	GLXMA	SETFA	SETFA	SETFA	AMBTR	AMBTR	AMBTR						
																Injury Percent	Injury Percent	Injury Percent	Control Percent	Control Percent	Control Percent	Control Percent	Control Percent	Control Percent						
																14 DAT	28 DAT	56 DAT	14 DAT	28 DAT	56 DAT	14 DAT	28 DAT	56 DAT						
13 SOYBEAN IN 2005																0	0	0	92	80	80	100	100	100						
13 REDUCED-TILL																														
13 PROWL																														
13 AUTHORITY																														
13 FIRSTRATE																														
14 SOYBEAN IN 2005																0	0	0	100	100	100	100	100	100						
14 REDUCED-TILL																														
14 AUTHORITY																														
14 FIRSTRATE																														
14 ROUNDUP W-MAX																														
15 SOYBEAN IN 2005																0	0	0	100	100	100	100	100	100						
15 REDUCED-TILL																														
15 AUTHORITY																														
15 FIRSTRATE																														
15 SELECT																														
15 PRIME OIL COC																														
16 SOYBEAN IN 2005																0	0	0	100	100	100	100	100	100						
16 REDUCED-TILL																														
16 PROWL																														
16 ROUNDUP W-MAX																														
17 SOYBEAN IN 2005																0	0	0	100	100	100	100	100	100						
17 REDUCED-TILL																														
17 ROUNDUP W-MAX																														
17 ROUNDUP W-MAX																														
18 SOYBEAN IN 2005																0	0	0	100	100	100	100	100	100						
18 REDUCED-TILL																														
18 ROUNDUP W-MAX																														
19 SOYBEAN IN 2005																5	0	0	100	100	100	100	100	100						
19 REDUCED-TILL																														
19 STORM																														
19 SELECT																														
19 PRIME OIL COC																														
19 28% UAN																														
20 SOYBEAN IN 2005																10	0	0	93	100	100	100	100	100						
20 REDUCED-TILL																														
20 STORM																														
20 PRIME OIL COC																														
20 28% UAN																														
20 SELECT																														
20 PRIME OIL COC																														
LSD (P=.05)																2.2	0.0	0.0	9.1	15.7	15.8	0.0	1.3	2.0						
Replicate F																0.533	0.000	0.000	1.007	1.117	1.197	0.000	1.000	1.000						
Replicate Prob(F)																0.6617	1.0000	1.0000	0.3962	0.3497	0.3191	1.0000	0.3995	0.3995						
Treatment F																61.935	0.000	0.000	54.866	37.617	36.636	0.000	2393.369	957.821						
Treatment Prob(F)																0.0001	1.0000	1.0000	0.0001	0.0001	0.0001	1.0000	0.0001	0.0001						

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

Project Code: 05-9B-SOYBEANS Location: Belleville Research Center
Investigator: Bryan Young

Weed Code									XANST	XANST	XANST	IPOHE	IPOHE	IPOHE	ABUTH	ABUTH	ABUTH
Crop Code									Control	Control	Control	Control	Control	Control	Control	Control	Control
Rating Data Type									Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Rating Unit																	
Rating Date																	
Trt-Eval Interval									14 DAT	28 DAT	56 DAT	14 DAT	28 DAT	56 DAT	14 DAT	28 DAT	56 DAT
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code								
1	SOYBEAN IN 2005									100	100	100	100	100	100	100	100
1	NO-TILL																
1	NONTREATED																
2	SOYBEAN IN 2005									100	100	100	100	100	100	100	100
2	NO-TILL																
2	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	PRE	A								
2	HANDWEED																
3	SOYBEAN IN 2005									100	100	100	100	100	100	100	100
3	NO-TILL																
3	ROUNDUP W-MAX	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 2005									100	100	100	100	100	100	100	100
4	NO-TILL																
4	ROUNDUP W-MAX	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 W-MAX	4.5	SL	0.58	lb ae/a	16.5	fl oz/a	2-4"W-3-2	J								
5	SOYBEAN IN 2005									100	100	100	100	99	99	100	100
5	NO-TILL																
5	ROUNDUP W-MAX	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	LIQ	1.0	% v/v	1.0	% v/v	2-4"W-3-2	J								
6	SOYBEAN IN 2005									100	100	100	100	96	96	100	100
6	NO-TILL																
6	ROUNDUP W-MAX	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 W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	4-6"W	C								
7	SOYBEAN IN 2005									100	100	100	100	100	100	100	100
7	NO-TILL																
7	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	PRE	A								
7	ROUNDUP W-MAX	4.5	SL	0.58	lb ae/a	16.5	fl oz/a	2-4"W-2	F								
7	ROUNDUP W-MAX	4.5	SL	0.58	lb ae/a	16.5	fl oz/a	2WA2-4"2	I								
8	SOYBEAN IN 2005									100	100	100	100	96	96	100	100
8	NO-TILL																
8	TOUCHDOWN TOTAL	4.17	SC	0.77	lb ae/a	23.6	fl oz/a	PRE	A								
8	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	4-6"W	C								
9	SOYBEAN IN 2005									100	100	100	100	99	99	100	100
9	NO-TILL																
9	ROUNDUP W-MAX	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	LIQ	1.0	% v/v	1	% v/v	2-4"W-2	F								
9	28% UAN	100	LIQ	2.0	qt/a	2	qt/a	2-4"W-2	F								
10	SOYBEAN IN 2005									100	100	100	100	98	98	100	100
10	NO-TILL																
10	ROUNDUP W-MAX	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	LIQ	1.0	% v/v	1	% v/v	2-4"W-2	F								
10	28% UAN	100	LIQ	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	LIQ	1.0	% v/v	1	% v/v	10DA2-4"2	H								
11	SOYBEAN IN 2005									0	0	0	0	0	0	0	0
11	REDUCED-TILL																
11	NONTREATED																
12	SOYBEAN IN 2005									100	100	100	100	100	100	100	100
12	REDUCED-TILL																
12	HANDWEED																

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

Project Code: 05-9B-SOYBEANS Location: Belleville Research Center
 Investigator: Bryan Young

										XANST	XANST	XANST	IPOHE	IPOHE	IPOHE	ABUTH	ABUTH	ABUTH
										Control	Control	Control	Control	Control	Control	Control	Control	Control
										Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
										14 DAT	28 DAT	56 DAT	14 DAT	28 DAT	56 DAT	14 DAT	28 DAT	56 DAT
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code									
13	SOYBEAN IN 2005									71	71	0	94	94	94	97	97	97
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 2005									93	92	92	98	98	98	100	100	100
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 W-MAX	4.5	SL	0.58	lb ae/a	16.5	fl oz/a	2-4"W-3-1	G									
15	SOYBEAN IN 2005									13	13	13	100	100	100	100	100	100
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	LIQ	1.0	% v/v	1	% v/v	2-4"W-3-1	G									
16	SOYBEAN IN 2005									100	95	94	100	83	89	94	91	93
16	REDUCED-TILL																	
16	PROWL	3.3	EC	1.0	lb ai/a	2.4	pt/a	PRE	A									
16	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	4-6"W	C									
17	SOYBEAN IN 2005									100	100	100	100	100	100	100	100	100
17	REDUCED-TILL																	
17	ROUNDUP W-MAX	4.5	SL	0.58	lb ae/a	16.5	fl oz/a	2-4"W-1	B									
17	ROUNDUP W-MAX	4.5	SL	0.58	lb ae/a	16.5	fl oz/a	2WA2-4"1	E									
18	SOYBEAN IN 2005									91	68	70	100	89	93	94	95	98
18	REDUCED-TILL																	
18	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	4-6"W	C									
19	SOYBEAN IN 2005									86	84	84	91	91	91	94	94	94
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	LIQ	1.0	% v/v	1	% v/v	2-4"W-1	B									
19	28% UAN	100	LIQ	2.0	qt/a	2	qt/a	2-4"W-1	B									
20	SOYBEAN IN 2005									83	83	68	91	91	91	92	92	92
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	LIQ	1.0	% v/v	1	% v/v	2-4"W-1	B									
20	28% UAN	100	LIQ	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	LIQ	1.0	% v/v	1	% v/v	10DA2-4"1	D									
LSD (P=.05)										10.4	17.5	18.6	2.7	5.0	4.0	4.4	4.5	3.5
Replicate F										1.201	1.268	0.586	1.763	3.320	1.564	2.686	2.213	1.920
Replicate Prob(F)										0.3177	0.2939	0.6268	0.1646	0.0261	0.2080	0.0550	0.0965	0.1366
Treatment F										60.838	21.768	27.618	549.425	154.745	241.123	201.196	192.353	323.593
Treatment Prob(F)										0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

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

Project Code: 05-9B-SOYBEANS Location: Belleville Research Center
 Investigator: Bryan Young

Weed Code	AMBEL	AMBEL	AMBEL
Crop Code			
Rating Data Type	Control	Control	Control
Rating Unit	Percent	Percent	Percent
Rating Date			
Trt-Eval Interval	14 DAT	28 DAT	56 DAT

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code			
1	SOYBEAN IN 2005									0	0	0
1	NO-TILL											
1	NONTREATED											
2	SOYBEAN IN 2005									100	100	100
2	NO-TILL											
2	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	PRE	A			
2	HANDWEED											
3	SOYBEAN IN 2005									100	100	100
3	NO-TILL											
3	ROUNDUP W-MAX	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 2005									100	100	100
4	NO-TILL											
4	ROUNDUP W-MAX	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 W-MAX	4.5	SL	0.58	lb ae/a	16.5	fl oz/a	2-4"W-3-2	J			
5	SOYBEAN IN 2005									98	98	98
5	NO-TILL											
5	ROUNDUP W-MAX	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	LIQ	1.0	% v/v	1.0	% v/v	2-4"W-3-2	J			
6	SOYBEAN IN 2005									100	100	100
6	NO-TILL											
6	ROUNDUP W-MAX	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 W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	4-6"W	C			
7	SOYBEAN IN 2005									100	100	100
7	NO-TILL											
7	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	PRE	A			
7	ROUNDUP W-MAX	4.5	SL	0.58	lb ae/a	16.5	fl oz/a	2-4"W-2	F			
7	ROUNDUP W-MAX	4.5	SL	0.58	lb ae/a	16.5	fl oz/a	2WA2-4"2	I			
8	SOYBEAN IN 2005									100	100	100
8	NO-TILL											
8	TOUCHDOWN TOTAL	4.17	SC	0.77	lb ae/a	23.6	fl oz/a	PRE	A			
8	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	4-6"W	C			
9	SOYBEAN IN 2005									100	100	100
9	NO-TILL											
9	ROUNDUP W-MAX	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	LIQ	1.0	% v/v	1	% v/v	2-4"W-2	F			
9	28% UAN	100	LIQ	2.0	qt/a	2	qt/a	2-4"W-2	F			
10	SOYBEAN IN 2005									100	100	100
10	NO-TILL											
10	ROUNDUP W-MAX	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	LIQ	1.0	% v/v	1	% v/v	2-4"W-2	F			
10	28% UAN	100	LIQ	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	LIQ	1.0	% v/v	1	% v/v	10DA2-4"2	H			
11	SOYBEAN IN 2005									100	100	100
11	REDUCED-TILL											
11	NONTREATED											
12	SOYBEAN IN 2005									100	100	100
12	REDUCED-TILL											
12	HANDWEED											

Project Code: 05-9B-SOYBEANS Location: Belleville Research Center
 Investigator: Bryan Young

Weed Code	AMBEL	AMBEL	AMBEL
Crop Code			
Rating Data Type	Control	Control	Control
Rating Unit	Percent	Percent	Percent
Rating Date			
Trt-Eval Interval	14 DAT	28 DAT	56 DAT

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code			
13	SOYBEAN IN 2005									100	100	100
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 2005									100	100	100
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 W-MAX	4.5	SL	0.58	lb ae/a	16.5	fl oz/a	2-4"W-3-1	G			
15	SOYBEAN IN 2005									100	100	100
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	LIQ	1.0	% v/v	1	% v/v	2-4"W-3-1	G			
16	SOYBEAN IN 2005									100	100	100
16	REDUCED-TILL											
16	PROWL	3.3	EC	1.0	lb ai/a	2.4	pt/a	PRE	A			
16	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	4-6"W	C			
17	SOYBEAN IN 2005									100	100	100
17	REDUCED-TILL											
17	ROUNDUP W-MAX	4.5	SL	0.58	lb ae/a	16.5	fl oz/a	2-4"W-1	B			
17	ROUNDUP W-MAX	4.5	SL	0.58	lb ae/a	16.5	fl oz/a	2WA2-4"1	E			
18	SOYBEAN IN 2005									100	100	100
18	REDUCED-TILL											
18	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	4-6"W	C			
19	SOYBEAN IN 2005									100	100	100
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	LIQ	1.0	% v/v	1	% v/v	2-4"W-1	B			
19	28% UAN	100	LIQ	2.0	qt/a	2	qt/a	2-4"W-1	B			
20	SOYBEAN IN 2005									100	100	100
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	LIQ	1.0	% v/v	1	% v/v	2-4"W-1	B			
20	28% UAN	100	LIQ	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	LIQ	1.0	% v/v	1	% v/v	10DA2-4"1	D			
	LSD (P=.05)									0.7	1.6	1.6
	Replicate F									1.000	1.000	1.000
	Replicate Prob(F)									0.3995	0.3995	0.3995
	Treatment F									7153.176	1596.790	1596.790
	Treatment Prob(F)									0.0001	0.0001	0.0001

Trial Comments

1. Protocol: SIU - RFK. Study conducted since 1998 on same area.
2. At 14 DAT, there was new emergence of XANST following the postemergence application.
3. DA-A = Days after PRE (burndown) application. DAT = days after various treatments.
 14 days after PRE, 2-4"W-1, 2-4"W-2, 2-4"W-3-1, 2-4"W-3-2, and 4-6"W-1 was on 6-1-05, 6-24-05, 6-30-05, 6-24-05, 6-30-05, and 6-30-05, respectively.
 28 days after PRE, 2-4"W-1, 2-4"W-2, 2-4"W-3-1, 2-4"W-3-2, and 4-6"W-1 was on 6-15-05, 7-8-05, 7-14-05, 7-8-05, 7-14-05, and 7-14-05, respectively.
 56 days after PRE, 2-4"W-1, 2-4"W-2, 2-4"W-3-1, 2-4"W-3-2, and 4-6"W-1 was on 7-13-05, 8-5-05, 8-11-05, 8-5-05, 8-11-05, and 8-11-05, respectively.
4. Harvested 10-27-05, (2) 30 inch rows by 24 ft.