

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

Project Code: 03-9B-SOYBEANS Location: Belleville Research Center

Investigator: Bryan Young, Assistant Professor, Southern Illinois University

City State Zip Country: Belleville IL 62221 USA
 Trial Status: Final Updated: 10-28-03

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. SETFA	foxtail, giant	Setaria faberi Herrm.
2. AMBTR	ragweed, giant	Ambrosia trifida L.
3. IPOHE	morningglory, ivyleaf	Ipomoea hederacea (L.) Jacq.
4. XANST	cocklebur, common	Xanthium strumarium L.
5. AMBEL	ragweed, common	Ambrosia artemisiifolia L.
6. ABUTH	velvetleaf	Abutilon theophrasti Medicus
7. POLPY	smartweed, Pennsylvania	Polygonum pensylvanicum L.

Crop 1: GLXMA soybean Variety: Asgrow 4403 RR
 Planting Method: Seeded Planting Date: 6-21-03
 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: Split-block
 Previous Crop, Year: ZEAMX, 2002

Field Prep./Maintenance: N 0 LB/A, P205 50 LB/A, K2O 150 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
Application Date:	6-23-03	7-9-03	7-19-03	7-19-03	7-23-03	7-16-03
Time of Day:	11:30	6:00	11:00	11:00	10:00	9:00
Application Method:	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
Applic. Placement:	BROSOI	BROFOL	BROFOL	BROFOL	BROFOL	BROFOL
Air Temp., Unit:	82 F	84 F	74 F	74 F	78 F	64 F
% Relative Humidity:	32	62	96	96	46	98
Wind Velocity, Unit:	5 MPH	0 MPH	0 MPH	0 MPH	3 MPH	0 MPH
Soil Moisture:	NORMAL	NORMAL	ABONOR	ABONOR	NORMAL	NORMAL
	G	H	I			
Application Date:	7-16-03	7-25-03	7-30-03			
Time of Day:	9:00	10:00	12:00			
Application Method:	Spray	Spray	Spray			
Application Timing:	2-4"W-3	10DA2-4"2	2WA2-4"2			
Applic. Placement:	BROFOL	BROFOL	BROFOL			
Air Temp., Unit:	64 F	83 F	84 F			
% Relative Humidity:	98	40	44			
Wind Velocity, Unit:	0 MPH	3 MPH	3 MPH			
Soil Moisture:	NORMAL	NORMAL	NORMAL			

CROP STAGE AT EACH APPLICATION

	A	B	C	D	E	F
Crop 1 Code, Stage:	GLXMA NA	GLXMA V1	GLXMA V3	GLXMA V3	GLXMA V4	GLXMA V3
Height, Unit:	NA NA	3 IN	6-8 IN	6-8 IN	6-10 IN	6 IN
	G	H	I			
Crop 1 Code, Stage:	GLXMA V3	GLXMA V3	GLXMA V4			
Height, Unit:	6 IN	6-8 IN	8-10 IN			

WEED STAGE AT EACH APPLICATION

	A	B	C	D	E	F
Weed 1 Code:	SETFA	SETFA	SETFA	SETFA	SETFA	SETFA
Stage(leaves):	2-4	2-3	5-6	3-4	3-4	1-4
Height(inches):	4-8	2-4	4-6	2-4	1-2	2-4
Density:	Low	High	Medium	High	Low	Low
Weed 2 Code:	AMBTR		AMBTR			AMBTR
Stage(leaves):	8-16		5-8			8-12
Height(inches):	6-12		4-6			10-16
Density:	High		Low			Low
Weed 3 Code:		IPOHE	IPOHE		IPOHE	
Stage(leaves):		1-3	5-6		2-6	
Height(inches):		1-3	2-4		1-3	
Density:		Low	Medium		Medium	
Weed 4 Code:		XANST	XANST			
Stage(leaves):		1-3	5-6			
Height(inches):		2-4	4-6			
Density:		Medium	Medium			
Weed 5 Code:	AMBEL		AMBEL			
Stage(leaves):	6-12		5-6			
Height(inches):	4-10		3-4			
Density:	Medium		Low			
Weed 6 Code:		ABUTH	ABUTH		ABUTH	
Stage(leaves):		1-3	3-5		5-6	
Height(inches):		1-3	4-6		2-4	
Density:		Low	Low		Medium	
Weed 7 Code:	POLPY					POLPY
Stage(leaves):	6-16					6-10
Height(inches):	6-12					6-10
Density:	Low					Low
		G	H	I		
Weed 1 Code:	SETFA					
Stage(leaves):	1-4					
Height(inches):	2-4					
Density:	Low					
Weed 2 Code:	AMBTR					
Stage(leaves):	8-12					
Height(inches):	10-16					
Density:	Low					
Weed 3 Code:		IPOHE				
Stage(leaves):		3-4				
Height(inches):		2-4				
Density:		Low				
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:	POLPY					
Stage(leaves):	6-10					
Height(inches):	6-10					
Density:	Low					

APPLICATION EQUIPMENT

	A	B	C	D	E	F
Appl. Equipment:	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
Nozzle Type:	Flat fan	Flat fan	Flat fan	Flat fan	Flat fan	Flat fan
Nozzle Size:	8003	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
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA	20 GPA	20 GPA	20 GPA
	G	H	I			
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:	8002	8002	8002			
Boom Length, Unit:	7.5 FT	7.5 FT	7.5 FT			
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA			

NOTES:

Tillages are no-till and reduced-till, see treatment list.
 Harvested Oct-22-03, (2) 30 inch rows by 24 ft.

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

Project Code: 03-9B-SOYBEANS Location: Belleville Research Center

Weed Code	AMBTR	POLPY	AMBEL	SETFA	SETFA	SETFA	SETFA
Crop Code	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA
Rating Data Type	Yield	Control	Control	Control	Control	Injury	Injury
Rating Unit	bu/A	Percent	Percent	Percent	Percent	Percent	Percent
Rating Date	10-22-03	7-3-03	7-3-03	7-3-03	7-3-03	10-13-03	10-13-03
Trt-Eval Interval	10 DA-A	10 DA-A	10 DA-A	10 DA-A	14 DAT	28 DAT	56 DAT
					Height	Maturity	
					Inches	DAP	
							Control
							Percent
							Control
							Percent
							Control
							Percent

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code	Yield	Control	Control	Control	Control	Injury	Injury	Injury	Height	Maturity	Control	Control	Control
										bu/A	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Inches	DAP	Percent	Percent	Percent
										10-22-03	7-3-03	7-3-03	7-3-03	7-3-03	10-13-03	10-13-03	10-13-03	EOS		14 DAT	28 DAT	56 DAT
1	SOYBEAN IN 2003									0	0	0	0	0	0	0	0			0	0	0
1	NO-TILL																					
1	NONTREATED																					
2	SOYBEAN IN 2003									39	50	50	50	100	0	0	0	35	114	100	100	100
2	NO-TILL																					
2	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	1.6	PT/A	PRE	A													
2	HANDWEED																					
3	SOYBEAN IN 2003									32	80	80	80	100	0	0	0	33	114	100	80	78
3	NO-TILL																					
3	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	1.6	PT/A	PRE	A													
3	PROWL	3.3	EC	1.0	LB A/A	2.4	PT/A	PRE	A													
3	AUTHORITY	75	WG	0.25	LB A/A	5.3	OZ/A	PRE	A													
3	FIRSTRATE	84	WG	0.031	LB A/A	0.59	OZ/A	PRE	A													
4	SOYBEAN IN 2003									42	80	80	80	100	0	0	0	34	114	100	100	100
4	NO-TILL																					
4	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	1.6	PT/A	PRE	A													
4	AUTHORITY	75	WG	0.25	LB A/A	5.3	OZ/A	PRE	A													
4	FIRSTRATE	84	WG	0.031	LB A/A	0.59	OZ/A	PRE	A													
4	ROUNDUP ULTRA MAX	3.7	SL	0.56	LB AE/A	1.2	PT/A	2-4"W-3	G													
5	SOYBEAN IN 2003									35	80	80	80	100	0	0	0	34	114	100	100	100
5	NO-TILL																					
5	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	1.6	PT/A	PRE	A													
5	AUTHORITY	75	WG	0.25	LB A/A	5.3	OZ/A	PRE	A													
5	FIRSTRATE	84	WG	0.031	LB A/A	0.59	OZ/A	PRE	A													
5	SELECT	2	EC	0.094	LB A/A	6.0	OZ/A	2-4"W-3	G													
5	PRIME OIL COC	100	LIQ	1.0	% V/V	1.0	% V/V	2-4"W-3	G													
6	SOYBEAN IN 2003									40	50	50	50	100	0	0	0	32	114	100	100	100
6	NO-TILL																					
6	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	1.6	PT/A	PRE	A													
6	PROWL	3.3	EC	1.0	LB A/A	2.4	PT/A	PRE	A													
6	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	1.6	PT/A	4-6"W	C													
7	SOYBEAN IN 2003									43	50	50	50	100	0	0	0	34	114	100	100	100
7	NO-TILL																					
7	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	1.6	PT/A	PRE	A													
7	ROUNDUP ULTRA MAX	3.7	SL	0.56	LB AE/A	1.2	PT/A	2-4"W-2	F													
7	ROUNDUP ULTRA MAX	3.7	SL	0.56	LB AE/A	1.2	PT/A	2WA2-4"2	I													

Weed Code		AMBTR	POLPY	AMBEL	SETFA											SETFA	SETFA	SETFA
Crop Code		GLXMA								GLXMA	GLXMA	GLXMA	GLXMA	GLXMA				
Rating Data Type		Yield	Control	Control	Control	Control				Injury	Injury	Injury	Height	Maturity		Control	Control	Control
Rating Unit		bu/A	Percent	Percent	Percent	Percent				Percent	Percent	Percent	Inches	DAP		Percent	Percent	Percent
Rating Date		10-22-03	7-3-03	7-3-03	7-3-03	7-3-03							10-13-03					
Trt-Eval Interval			10 DA-A	10 DA-A	10 DA-A	10 DA-A				14 DAT	28 DAT	56 DAT	EOS			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	Yield	Control Percent	Control Percent	Control Percent	Control Percent	Injury Percent	Injury Percent	Injury Percent	Height Inches	Maturity DAP	Control Percent	Control Percent	Control Percent
8	SOYBEAN IN 2003									42	50	50	50	100	0	0	0	33	114	100	100	100
8	NO-TILL																					
8	TOUCHDOWN	3	SL	0.75	LB AE/A	2	PT/A	PRE	A													
8	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	1.6	PT/A	4-6"W	C													
9	SOYBEAN IN 2003									32	50	50	50	100	13	0	0	32	114	100	100	100
9	NO-TILL																					
9	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	1.6	PT/A	PRE	A													
9	STORM	4	EC	0.75	LB A/A	1.5	PT/A	2-4"W-2	F													
9	SELECT	2	EC	0.125	LB A/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 2003									30	50	50	63	100	16	0	0	30	114	100	100	100
10	NO-TILL																					
10	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	1.6	PT/A	PRE	A													
10	STORM	4	EC	0.75	LB A/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 A/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 2003									15					0	0	0	30	121	0	0	0
11	REDUCED-TILL																					
11	NONTREATED																					
12	SOYBEAN IN 2003									43					0	0	0	31	114	100	100	100
12	REDUCED-TILL																					
12	HANDWEED																					
13	SOYBEAN IN 2003									40					0	0	0	31	114	98	85	85
13	REDUCED-TILL																					
13	PROWL	3.3	EC	1.0	LB A/A	2.4	PT/A	PRE	A													
13	AUTHORITY	75	WG	0.25	LB A/A	5.3	OZ/A	PRE	A													
13	FIRSTRATE	84	WG	0.031	LB A/A	0.59	OZ/A	PRE	A													
14	SOYBEAN IN 2003									46					0	0	0	31	114	100	100	100
14	REDUCED-TILL																					
14	AUTHORITY	75	WG	0.25	LB A/A	5.3	OZ/A	PRE	A													
14	FIRSTRATE	84	WG	0.031	LB A/A	0.59	OZ/A	PRE	A													
14	ROUNDUP ULTRA MAX	3.7	SL	0.56	LB AE/A	1.2	PT/A	2-4"W-3	G													
15	SOYBEAN IN 2003									44					0	0	0	32	114	100	100	100
15	REDUCED-TILL																					
15	AUTHORITY	75	WG	0.25	LB A/A	5.3	OZ/A	PRE	A													
15	FIRSTRATE	84	WG	0.031	LB A/A	0.59	OZ/A	PRE	A													
15	SELECT	2	EC	0.094	LB A/A	6	OZ/A	2-4"W-3	G													
15	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	2-4"W-3	G													

Weed Code																						
Crop Code																						
Rating Data Type																						
Rating Unit																						
Rating Date																						
Trt-Eval Interval																						
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code	Yield bu/A	Control Percent	Control Percent	Control Percent	Control Percent	Injury Percent	Injury Percent	Injury Percent	Height Inches	Maturity DAP	Control Percent	Control Percent	Control Percent
16	SOYBEAN IN 2003									45					0	0	0	30	114	100	100	100
16	REDUCED-TILL																					
16	PROWL	3.3	EC	1.0	LB A/A	2.4	PT/A	PRE	A													
16	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	1.6	PT/A	4-6"W	C													
17	SOYBEAN IN 2003									47					0	0	0	29	114	100	100	100
17	REDUCED-TILL																					
17	ROUNDUP ULTRA MAX	3.7	SL	0.56	LB AE/A	1.2	PT/A	2-4"W-1	B													
17	ROUNDUP ULTRA MAX	3.7	SL	0.56	LB AE/A	1.2	PT/A	2WA2-4"1	E													
18	SOYBEAN IN 2003									47					0	0	0	29	114	100	100	100
18	REDUCED-TILL																					
18	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	1.6	PT/A	4-6"W	C													
19	SOYBEAN IN 2003									37					10	0	0	30	114	100	100	100
19	REDUCED-TILL																					
19	STORM	4	EC	0.75	LB A/A	1.5	PT/A	2-4"W-1	B													
19	SELECT	2	EC	0.125	LB A/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 2003									37					10	0	0	30	114	100	100	100
20	REDUCED-TILL																					
20	STORM	4	EC	0.75	LB A/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 A/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)										7.1	0.0	0.0	11.5	0.0	2.9	0.0	0.0	2.3	0.0	0.3	6.8	6.8
Replicate F										7.987	0.000	0.000	1.000	0.000	0.474	0.000	0.000	8.897	0.000	1.000	1.077	1.115
Replicate Prob(F)										0.0002	1.0000	1.0000	0.4079	1.0000	0.7014	1.0000	1.0000	0.0001	1.0000	0.3995	0.3662	0.3508
Treatment F										21.250	0.000	0.000	36.129	0.000	25.305	0.000	0.000	5.402	0.000	75595.523	165.057	163.940
Treatment Prob(F)										0.0001	1.0000	1.0000	0.0001	1.0000	0.0001	1.0000	1.0000	0.0001	1.0000	0.0001	0.0001	0.0001

Weed Code	AMBTR	AMBTR	AMBTR	IPOHE	IPOHE	IPOHE	XANST	XANST	XANST	AMBEL	AMBEL	AMBEL
Crop Code												
Rating Data Type	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control
Rating Unit	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Rating Date												
Trt-Eval Interval	14 DAT	28 DAT	56 DAT	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	14 DAT	28 DAT	56 DAT	14 DAT	28 DAT	56 DAT	14 DAT	28 DAT	56 DAT						
1	SOYBEAN IN 2003									0	0	0	98	98	98	98	98	98	0	0	0			
1	NO-TILL																							
1	NONTREATED																							
2	SOYBEAN IN 2003									100	100	100	100	100	100	100	100	100	100	100	100	100		
2	NO-TILL																							
2	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	1.6	PT/A	PRE	A															
2	HANDWEED																							
3	SOYBEAN IN 2003									95	98	95	100	100	100	100	100	100	100	100	100	100	100	
3	NO-TILL																							
3	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	1.6	PT/A	PRE	A															
3	PROWL	3.3	EC	1.0	LB A/A	2.4	PT/A	PRE	A															
3	AUTHORITY	75	WG	0.25	LB A/A	5.3	OZ/A	PRE	A															
3	FIRSTRATE	84	WG	0.031	LB A/A	0.59	OZ/A	PRE	A															
4	SOYBEAN IN 2003									100	100	100	100	100	100	100	100	100	100	100	100	100	100	
4	NO-TILL																							
4	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	1.6	PT/A	PRE	A															
4	AUTHORITY	75	WG	0.25	LB A/A	5.3	OZ/A	PRE	A															
4	FIRSTRATE	84	WG	0.031	LB A/A	0.59	OZ/A	PRE	A															
4	ROUNDUP ULTRA MAX	3.7	SL	0.56	LB AE/A	1.2	PT/A	2-4"W-3	G															
5	SOYBEAN IN 2003									99	98	98	100	100	100	98	98	98	100	100	100	100	100	
5	NO-TILL																							
5	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	1.6	PT/A	PRE	A															
5	AUTHORITY	75	WG	0.25	LB A/A	5.3	OZ/A	PRE	A															
5	FIRSTRATE	84	WG	0.031	LB A/A	0.59	OZ/A	PRE	A															
5	SELECT	2	EC	0.094	LB A/A	6.0	OZ/A	2-4"W-3	G															
5	PRIME OIL COC	100	LIQ	1.0	% V/V	1.0	% V/V	2-4"W-3	G															
6	SOYBEAN IN 2003									100	100	100	100	100	100	100	100	100	100	100	100	100	100	
6	NO-TILL																							
6	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	1.6	PT/A	PRE	A															
6	PROWL	3.3	EC	1.0	LB A/A	2.4	PT/A	PRE	A															
6	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	1.6	PT/A	4-6"W	C															
7	SOYBEAN IN 2003									98	100	100	100	100	100	100	100	100	100	100	100	100	100	
7	NO-TILL																							
7	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	1.6	PT/A	PRE	A															
7	ROUNDUP ULTRA MAX	3.7	SL	0.56	LB AE/A	1.2	PT/A	2-4"W-2	F															
7	ROUNDUP ULTRA MAX	3.7	SL	0.56	LB AE/A	1.2	PT/A	2WA2-4"2	I															
8	SOYBEAN IN 2003									98	100	100	100	100	100	100	100	100	100	100	100	100	100	
8	NO-TILL																							
8	TOUCHDOWN	3	SL	0.75	LB AE/A	2	PT/A	PRE	A															
8	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	1.6	PT/A	4-6"W	C															

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

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code									
9	SOYBEAN IN 2003									96	90	90	100	100	100	100	100	100
9	NO-TILL																	
9	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	1.6	PT/A	PRE	A									
9	STORM	4	EC	0.75	LB A/A	1.5	PT/A	2-4"W-2	F									
9	SELECT	2	EC	0.125	LB A/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 2003									95	85	85	100	100	100	100	100	100
10	NO-TILL																	
10	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	1.6	PT/A	PRE	A									
10	STORM	4	EC	0.75	LB A/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 A/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 2003									98	98	98	0	0	0	0	0	0
11	REDUCED-TILL																	
11	NONTREATED																	
12	SOYBEAN IN 2003									100	100	100	100	100	100	100	100	100
12	REDUCED-TILL																	
12	HANDWEED																	
13	SOYBEAN IN 2003									100	100	100	100	100	100	95	86	86
13	REDUCED-TILL																	
13	PROWL	3.3	EC	1.0	LB A/A	2.4	PT/A	PRE	A									
13	AUTHORITY	75	WG	0.25	LB A/A	5.3	OZ/A	PRE	A									
13	FIRSTRATE	84	WG	0.031	LB A/A	0.59	OZ/A	PRE	A									
14	SOYBEAN IN 2003									100	100	100	100	100	100	100	98	98
14	REDUCED-TILL																	
14	AUTHORITY	75	WG	0.25	LB A/A	5.3	OZ/A	PRE	A									
14	FIRSTRATE	84	WG	0.031	LB A/A	0.59	OZ/A	PRE	A									
14	ROUNDUP ULTRA MAX	3.7	SL	0.56	LB AE/A	1.2	PT/A	2-4"W-3	G									
15	SOYBEAN IN 2003									100	100	100	100	99	99	99	94	94
15	REDUCED-TILL																	
15	AUTHORITY	75	WG	0.25	LB A/A	5.3	OZ/A	PRE	A									
15	FIRSTRATE	84	WG	0.031	LB A/A	0.59	OZ/A	PRE	A									
15	SELECT	2	EC	0.094	LB A/A	6	OZ/A	2-4"W-3	G									
15	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	2-4"W-3	G									
16	SOYBEAN IN 2003									100	100	100	90	91	99	99	99	100
16	REDUCED-TILL																	
16	PROWL	3.3	EC	1.0	LB A/A	2.4	PT/A	PRE	A									
16	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	1.6	PT/A	4-6"W	C									

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

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code	14 DAT	28 DAT	56 DAT	14 DAT	28 DAT	56 DAT	14 DAT	28 DAT	56 DAT	
17	SOYBEAN IN 2003									100	100	100	50	80	95	95	100	100	100
17	REDUCED-TILL																		
17	ROUNDUP ULTRA MAX	3.7	SL	0.56	LB AE/A	1.2	PT/A	2-4"W-1	B										
17	ROUNDUP ULTRA MAX	3.7	SL	0.56	LB AE/A	1.2	PT/A	2WA2-4"1	E										
18	SOYBEAN IN 2003									100	100	100	94	93	98	100	96	99	100
18	REDUCED-TILL																		
18	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	1.6	PT/A	4-6"W	C										
19	SOYBEAN IN 2003									100	100	100	79	75	75	95	88	88	100
19	REDUCED-TILL																		
19	STORM	4	EC	0.75	LB A/A	1.5	PT/A	2-4"W-1	B										
19	SELECT	2	EC	0.125	LB A/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 2003									100	100	100	84	81	81	95	88	85	100
20	REDUCED-TILL																		
20	STORM	4	EC	0.75	LB A/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 A/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)										4.8	8.1	8.2	3.7	2.6	2.9	4.5	4.8	4.7	0.0
Replicate F										2.617	1.403	1.263	1.439	1.265	1.584	0.817	2.177	2.122	0.000
Replicate Prob(F)										0.0597	0.2514	0.2956	0.2409	0.2949	0.2032	0.4899	0.1006	0.1075	1.0000
Treatment F										172.059	61.017	59.760	348.542	601.448	482.080	194.926	171.402	182.367	0.000
Treatment Prob(F)										0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	1.0000

Weed Code	ABUTH	ABUTH	ABUTH
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 2003									98	98	98
1	NO-TILL											
1	NONTREATED											
2	SOYBEAN IN 2003									100	100	100
2	NO-TILL											
2	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	1.6	PT/A	PRE	A			
2	HANDWEED											
3	SOYBEAN IN 2003									100	100	100
3	NO-TILL											
3	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	1.6	PT/A	PRE	A			
3	PROWL	3.3	EC	1.0	LB A/A	2.4	PT/A	PRE	A			
3	AUTHORITY	75	WG	0.25	LB A/A	5.3	OZ/A	PRE	A			
3	FIRSTRATE	84	WG	0.031	LB A/A	0.59	OZ/A	PRE	A			
4	SOYBEAN IN 2003									100	100	100
4	NO-TILL											
4	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	1.6	PT/A	PRE	A			
4	AUTHORITY	75	WG	0.25	LB A/A	5.3	OZ/A	PRE	A			
4	FIRSTRATE	84	WG	0.031	LB A/A	0.59	OZ/A	PRE	A			
4	ROUNDUP ULTRA MAX	3.7	SL	0.56	LB AE/A	1.2	PT/A	2-4"W-3	G			
5	SOYBEAN IN 2003									100	100	100
5	NO-TILL											
5	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	1.6	PT/A	PRE	A			
5	AUTHORITY	75	WG	0.25	LB A/A	5.3	OZ/A	PRE	A			
5	FIRSTRATE	84	WG	0.031	LB A/A	0.59	OZ/A	PRE	A			
5	SELECT	2	EC	0.094	LB A/A	6.0	OZ/A	2-4"W-3	G			
5	PRIME OIL COC	100	LIQ	1.0	% V/V	1.0	% V/V	2-4"W-3	G			
6	SOYBEAN IN 2003									100	100	100
6	NO-TILL											
6	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	1.6	PT/A	PRE	A			
6	PROWL	3.3	EC	1.0	LB A/A	2.4	PT/A	PRE	A			
6	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	1.6	PT/A	4-6"W	C			
7	SOYBEAN IN 2003									100	100	100
7	NO-TILL											
7	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	1.6	PT/A	PRE	A			
7	ROUNDUP ULTRA MAX	3.7	SL	0.56	LB AE/A	1.2	PT/A	2-4"W-2	F			
7	ROUNDUP ULTRA MAX	3.7	SL	0.56	LB AE/A	1.2	PT/A	2WA2-4"2	I			
8	SOYBEAN IN 2003									100	100	100
8	NO-TILL											
8	TOUCHDOWN	3	SL	0.75	LB AE/A	2	PT/A	PRE	A			
8	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	1.6	PT/A	4-6"W	C			

Weed Code	ABUTH	ABUTH	ABUTH
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			
9	SOYBEAN IN 2003									100	100	100
9	NO-TILL											
9	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	1.6	PT/A	PRE	A			
9	STORM	4	EC	0.75	LB A/A	1.5	PT/A	2-4"W-2	F			
9	SELECT	2	EC	0.125	LB A/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 2003									100	100	100
10	NO-TILL											
10	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	1.6	PT/A	PRE	A			
10	STORM	4	EC	0.75	LB A/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 A/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 2003									0	0	0
11	REDUCED-TILL											
11	NONTREATED											
12	SOYBEAN IN 2003									100	100	100
12	REDUCED-TILL											
12	HANDWEED											
13	SOYBEAN IN 2003									100	100	100
13	REDUCED-TILL											
13	PROWL	3.3	EC	1.0	LB A/A	2.4	PT/A	PRE	A			
13	AUTHORITY	75	WG	0.25	LB A/A	5.3	OZ/A	PRE	A			
13	FIRSTRATE	84	WG	0.031	LB A/A	0.59	OZ/A	PRE	A			
14	SOYBEAN IN 2003									100	100	100
14	REDUCED-TILL											
14	AUTHORITY	75	WG	0.25	LB A/A	5.3	OZ/A	PRE	A			
14	FIRSTRATE	84	WG	0.031	LB A/A	0.59	OZ/A	PRE	A			
14	ROUNDUP ULTRA MAX	3.7	SL	0.56	LB AE/A	1.2	PT/A	2-4"W-3	G			
15	SOYBEAN IN 2003									100	100	100
15	REDUCED-TILL											
15	AUTHORITY	75	WG	0.25	LB A/A	5.3	OZ/A	PRE	A			
15	FIRSTRATE	84	WG	0.031	LB A/A	0.59	OZ/A	PRE	A			
15	SELECT	2	EC	0.094	LB A/A	6	OZ/A	2-4"W-3	G			
15	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	2-4"W-3	G			
16	SOYBEAN IN 2003									90	93	99
16	REDUCED-TILL											
16	PROWL	3.3	EC	1.0	LB A/A	2.4	PT/A	PRE	A			
16	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	1.6	PT/A	4-6"W	C			

Weed Code		ABUTH	ABUTH	ABUTH
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	14 DAT	28 DAT	56 DAT
17	SOYBEAN IN 2003									65	80	95
17	REDUCED-TILL											
17	ROUNDUP ULTRA MAX	3.7	SL	0.56	LB AE/A	1.2	PT/A	2-4"W-1	B			
17	ROUNDUP ULTRA MAX	3.7	SL	0.56	LB AE/A	1.2	PT/A	2WA2-4"1	E			
18	SOYBEAN IN 2003									94	93	98
18	REDUCED-TILL											
18	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	1.6	PT/A	4-6"W	C			
19	SOYBEAN IN 2003									100	94	94
19	REDUCED-TILL											
19	STORM	4	EC	0.75	LB A/A	1.5	PT/A	2-4"W-1	B			
19	SELECT	2	EC	0.125	LB A/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 2003									100	95	95
20	REDUCED-TILL											
20	STORM	4	EC	0.75	LB A/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 A/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)										5.6	2.8	3.1
Replicate F										0.830	1.249	2.686
Replicate Prob(F)										0.4831	0.3005	0.0550
Treatment F										138.957	497.077	407.567
Treatment Prob(F)										0.0001	0.0001	0.0001

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

Project Code: 03-9B-SOYBEANS Location: Belleville Research Center

Trial Comments

1. Protocol: SIU - RFK. Study conducted since 1998 on same area.
2. At 28 days after 2-4"W-2 application, control of AMBTR and AMBEL is less than complete due to less than complete burndown at planting.
3. DAT = days after treatment. EOS = end of season.
 - 14 days after PRE, 2-4"W-1, 2-4"W-2, 2-4"W-3 and 4-6"W-1 was on 7-7-03, 7-23-03, 7-30-03, 7-30-03 and 8-2-03, respectively.
 - 28 days after PRE, 2-4"W-1, 2-4"W-2, 2-4"W-3 and 4-6"W-1 was on 7-21-03, 8-6-03, 8-13-03, 8-13-03 and 8-16-03, respectively.
 - 56 days after PRE, 2-4"W-1, 2-4"W-2, 2-4"W-3 and 4-6"W-1 was on 8-18-03, 9-3-03, 9-8-03, 9-8-03 and 9-13-03, respectively.