

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

Project Code: 06-9B-Corn 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:** 12-1-06

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.	HORPU barley, little	Hordeum pusillum Nutt.
2.	AMBTR ragweed, giant	Ambrosia trifida L.
3.	SETFA foxtail, giant	Setaria faberi Herrm.
4.	CYPES nutsedge, yellow	Cyperus esculentus L.
5.	XANST cocklebur, common	Xanthium strumarium L.
6.	ABUTH velvetleaf	Abutilon theophrasti Medicus
7.	AMAPA amaranth, Palmer	Amaranthus palmeri S.Wats.
8.	AMBEL ragweed, common	Ambrosia artemisiifolia L.
9.	IPOHE morningglory, ivyleaf	Ipomoea hederacea (L.) Jacq.

Crop 1: ZEAMX corn, field **Variety:** 33K44
Planting Method: Seeded **Planting Date:** 5-26-06
Rate: 28000 S/A **Depth:** 1.5 IN
Row Spacing: 30 IN

Plot Width, Unit: 10 FT **Plot Length, Unit:** 27 FT **Reps:** 4
Tillage Type: See treatment list **Study Design:** Randomized complete block
Previous Crop, Year: GLXMA, 2005
Field Prep./Maintenance: N 150 LB/A, P205 0 LB/A, K20 100 LB/A

Soil Name: Ebbert **% OM:** 2 **pH:** 6.3 **CEC:** 12
Texture: Silt loam **Fert. Level:** P1: 80 LB/A, K: 430 LB/A

APPLICATION DESCRIPTION

	A	B	C	D
Application Date:	5-26-06	6-13-06	6-23-06	6-15-06
Time of Day:	18:00	11:30	10:30	10:30
Application Method:	Spray	Spray	Spray	Spray
Application Timing:	PRE	2-4"W-1	10DA2-4"	2-4"W-2
Applic. Placement:	BROSIO	BROFOL	BROFOL	BROFOL
Air Temp., Unit:	89 F	76 F	79 F	80 F
% Relative Humidity:	45	54	82	94
Wind Velocity, Unit:	1-3 MPH	6-7 MPH	2-4 MPH	2-4 MPH
Soil Moisture:	NORMAL	NORMAL	ABONOR	NORMAL

CROP STAGE AT EACH APPLICATION

	A	B	C	D
Crop 1 Code, Stage:	ZEAMX NA	ZEAMX V4	ZEAMX V6-V7	ZEAMX V4
Height, Unit:	NA NA	9 IN	25 IN	10 IN

WEED STAGE AT EACH APPLICATION

	A	B	C	D
Weed 1 Code:	HORPU			
Stage (leaves):	10+			
Height (inches):	10-16			
Density:	High			
Weed 2 Code:	AMBTR	AMBTR		
Stage (leaves):	5-8	4-6		
Height (inches):	6-10	2-4		
Density:	Medium	Medium		
Weed 3 Code:	SETFA	SETFA	SETFA	SETFA
Stage (leaves):	3-4	3-4	2-3	2-3
Height (inches):	3-6	2-4	2-3	1-2
Density:	Low	Low	Low	Low
Weed 5 Code:	XANST	XANST	XANST	
Stage (leaves):	4-6	4-6	4-6	
Height (inches):	2-4	2-4	3-4	
Density:	High	Low	High	
Weed 6 Code:	ABUTH	ABUTH		
Stage (leaves):	4-5	3-4		
Height (inches):	2-4	2-4		
Density:	High	Low		
Weed 7 Code:	AMAPA			
Stage (leaves):	6-8			
Height (inches):	2-4			
Density:	Low			
Weed 9 Code:	IPOHE	IPOHE	IPOHE	
Stage (leaves):	3-5	2-4	1-2	
Height (inches):	2-4	1-3	1-2	
Density:	Medium	Low	Low	

APPLICATION EQUIPMENT

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

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Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code	ZEAMX Height Inches	ZEAMX Moisture Percent	ZEAMX Yield bu/A	HORPU	AMBTR	ZEAMX Injury Percent	ZEAMX Injury Percent	ZEAMX Injury Percent		
													Control Percent	Control Percent					
													9-8-06	10-13-06	6-5-06	6-5-06	14 DAT	28 DAT	56 DAT
													10 DA-A	10 DA-A	14 DAT	28 DAT	56 DAT		
1	CORN IN 2006									38	15.8	3	0	0	0	0	0		
1	NO-TILL																		
1	NONTREATED																		
2	CORN IN 2006									114	15.3	137			0	0	0		
2	NO-TILL																		
2	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	PRE	A										
2	HANDWEED																		
3	CORN IN 2006									110	15.3	129	100	90	0	0	0		
3	NO-TILL																		
3	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	PRE	A										
3	BICEP II MAGNUM	5.5	L	2.88	lb ai/a	2.1	qt/a	PRE	A										
3	AATREX	90	WG	0.40	lb ai/a	0.444	lb/a	PRE	A										
4	CORN IN 2006									115	15.0	139	100	90	0	0	0		
4	NO-TILL																		
4	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	PRE	A										
4	BICEP II MAGNUM	5.5	L	2.88	lb ai/a	2.1	qt/a	PRE	A										
4	AATREX	90	WG	0.40	lb ai/a	0.444	lb/a	PRE	A										
4	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2-4"W-2	D										
4	AMS	100	DRY	3.0	lb ai/a	3	lb/a	2-4"W-2	D										
5	CORN IN 2006									113	15.2	143	100	90	0	0	0		
5	NO-TILL																		
5	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	PRE	A										
5	BICEP II MAGNUM	5.5	L	2.88	lb ai/a	2.1	qt/a	PRE	A										
5	AATREX	90	WG	0.40	lb ai/a	0.444	lb/a	PRE	A										
5	ACCENT	75	WG	0.031	lb ai/a	0.66	oz/a	2-4"W-2	D										
5	PRIME OIL COC	100	LIQ	1.0	% v/v	1	%v/v	2-4"W-2	D										
6	CORN IN 2006									113	15.0	141	100	90	0	0	0		
6	NO-TILL																		
6	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	PRE	A										
6	DUAL II MAGNUM	7.64	EC	1.27	lb ai/a	1.33	pt/a	PRE	A										
6	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2-4"W-1	B										
6	AMS	100	DRY	3.0	lb ai/a	3	lb/a	2-4"W-1	B										
7	CORN IN 2006									117	15.4	139	100	90	0	0	0		
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	0.77	lb ae/a	22	fl oz/a	2-4"W-1	B										
7	AMS	100	DRY	3.0	lb ai/a	3	lb/a	2-4"W-1	B										
7	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	10DA2-4"	C										
7	AMS	100	DRY	3.0	lb ai/a	3	lb/a	10DA2-4"	C										
8	CORN IN 2006									116	15.1	144	100	90	0	0	0		
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	2-4"W-1	B										
8	AMS	100	DRY	3.0	lb ai/a	3	lb/a	2-4"W-1	B										
9	CORN IN 2006									115	14.9	135	100	90	0	0	0		
9	NO-TILL																		
9	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	PRE	A										
9	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2-4"W-1	B										
9	AATREX	90	WG	0.75	lb ai/a	0.83	lb/a	2-4"W-1	B										
9	AMS	100	DRY	3.0	lb ai/a	3	lb/a	2-4"W-1	B										
10	CORN IN 2006									114	15.6	142	100	90	0	0	0		
10	NO-TILL																		
10	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	PRE	A										
10	BASIS GOLD	90	WG	0.79	lb ai/a	14	oz/a	2-4"W-1	B										
10	PRIME OIL COC	100	LIQ	1.0	% v/v	1	%v/v	2-4"W-1	B										
11	CORN IN 2006									81	15.4	30			0	0	0		
11	REDUCED-TILL																		
11	NONTREATED																		
12	CORN IN 2006									115	16.1	185			0	0	0		
12	REDUCED-TILL																		
12	CULTIVATE																		
12	HANDWEED																		

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Weed Code		Crop Code		Rating Data Type		Rating Unit		Rating Date		Trt-Eval Interval		ZEAMX	ZEAMX	ZEAMX	HORPU	AMBTR	ZEAMX	ZEAMX	ZEAMX	
Trt	Treatment	Form	Form	Rate	Prod	Prod	Grow	Appl				Height	Moisture	Yield	Control	Control	Injury	Injury	Injury	
No.	Name	Conc	Type	Unit	Rate	Unit	Stg	Code				Inches	Percent	bu/A	Percent	Percent	Percent	Percent	Percent	
												9-8-06	10-13-06	10-13-06	6-5-06	6-5-06	14 DAT	28 DAT	56 DAT	
												EOS			10 DA-A	10 DA-A				
13	CORN IN 2006											108	15.5	153			0	0	0	
13	REDUCED-TILL																			
13	BICEP II MAGNUM	5.5	L	2.88	lb ai/a	2.1	qt/a	PRE	A											
13	AATREX	90	WG	0.40	lb ai/a	0.444	lb/a	PRE	A											
14	CORN IN 2006											114	15.7	171			0	0	0	
14	REDUCED-TILL																			
14	BICEP II MAGNUM	5.5	L	2.88	lb ai/a	2.1	qt/a	PRE	A											
14	AATREX	90	WG	0.40	lb ai/a	0.444	lb/a	PRE	A											
14	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2-4"W-2	D											
14	AMS	100	DRY	3.0	lb ai/a	3	lb/a	2-4"W-2	D											
15	CORN IN 2006											110	15.6	182			0	0	0	
15	REDUCED-TILL																			
15	BICEP II MAGNUM	5.5	L	2.88	lb ai/a	2.1	qt/a	PRE	A											
15	AATREX	90	WG	0.40	lb ai/a	0.444	lb/a	PRE	A											
15	ACCENT	75	WG	0.031	lb ai/a	0.66	oz/v	2-4"W-2	D											
15	PRIME OIL COC	100	LIQ	1.0	% v/v	1	%v/v	2-4"W-2	D											
16	CORN IN 2006											113	16.0	174			0	0	0	
16	REDUCED-TILL																			
16	DUAL II MAGNUM	7.64	EC	1.27	lb ai/a	1.33	pt/a	PRE	A											
16	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2-4"W-1	B											
16	AMS	100	DRY	3.0	lb ai/a	3	lb/a	2-4"W-1	B											
17	CORN IN 2006											116	15.9	176			0	0	0	
17	REDUCED-TILL																			
17	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2-4"W-1	B											
17	AMS	100	DRY	3.0	lb ai/a	3	lb/a	2-4"W-1	B											
17	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	10DA2-4"	C											
17	AMS	100	DRY	3.0	lb ai/a	3	lb/a	10DA2-4"	C											
18	CORN IN 2006											115	15.6	169			0	0	0	
18	REDUCED-TILL																			
18	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2-4"W-1	B											
18	AMS	100	DRY	3.0	lb ai/a	3	lb/a	2-4"W-1	B											
19	CORN IN 2006											111	15.9	153			0	0	0	
19	REDUCED-TILL																			
19	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2-4"W-1	B											
19	AATREX	90	WG	0.75	lb ai/a	0.83	lb/a	2-4"W-1	B											
19	AMS	100	DRY	3.0	lb ai/a	3	lb/a	2-4"W-1	B											
20	CORN IN 2006											109	15.7	145			0	0	0	
20	REDUCED-TILL																			
20	BASIS GOLD	90	WG	0.79	lb ai/a	14	oz/a	2-4"W-1	B											
20	PRIME OIL COC	100	LIQ	1.0	% v/v	1	%v/v	2-4"W-1	B											
LSD (P=.05)												14.4	0.53	19.7	0.0	0.0	0.0	0.0	0.0	0.0
Replicate F												1.754	0.107	0.148	0.000	0.000	0.000	0.000	0.000	0.000
Replicate Prob(F)												0.1663	0.9558	0.9307	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Treatment F												12.608	3.463	42.594	0.000	0.000	0.000	0.000	0.000	0.000
Treatment Prob(F)												0.0001	0.0002	0.0001	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

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								SETFA	SETFA	SETFA	CYPES	CYPES	CYPES	XANST	XANST	XANST					
								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	Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code												
1	CORN IN 2006									90	55	55	90	90	90	100	100	100			
1	NO-TILL																				
1	NONTREATED																				
2	CORN IN 2006									100	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	CORN IN 2006									100	89	89	99	90	90	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	BICEP II MAGNUM	5.5	L	2.88	lb ai/a	2.1	qt/a	PRE	A												
3	AATREX	90	WG	0.40	lb ai/a	0.444	lb/a	PRE	A												
4	CORN IN 2006									100	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	BICEP II MAGNUM	5.5	L	2.88	lb ai/a	2.1	qt/a	PRE	A												
4	AATREX	90	WG	0.40	lb ai/a	0.444	lb/a	PRE	A												
4	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2-4"W-2	D												
4	AMS	100	DRY	3.0	lb ai/a	3	lb/a	2-4"W-2	D												
5	CORN IN 2006									100	100	100	100	100	100	100	100	100			
5	NO-TILL																				
5	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	PRE	A												
5	BICEP II MAGNUM	5.5	L	2.88	lb ai/a	2.1	qt/a	PRE	A												
5	AATREX	90	WG	0.40	lb ai/a	0.444	lb/a	PRE	A												
5	ACCENT	75	WG	0.031	lb ai/a	0.66	oz/a	2-4"W-2	D												
5	PRIME OIL COC	100	LIQ	1.0	% v/v	1	%v/v	2-4"W-2	D												
6	CORN IN 2006									100	100	100	100	100	100	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	DUAL II MAGNUM	7.64	EC	1.27	lb ai/a	1.33	pt/a	PRE	A												
6	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2-4"W-1	B												
6	AMS	100	DRY	3.0	lb ai/a	3	lb/a	2-4"W-1	B												
7	CORN IN 2006									100	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	0.77	lb ae/a	22	fl oz/a	2-4"W-1	B												
7	AMS	100	DRY	3.0	lb ai/a	3	lb/a	2-4"W-1	B												
7	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	10DA2-4"	C												
7	AMS	100	DRY	3.0	lb ai/a	3	lb/a	10DA2-4"	C												
8	CORN IN 2006									100	100	100	100	100	100	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	2-4"W-1	B												
8	AMS	100	DRY	3.0	lb ai/a	3	lb/a	2-4"W-1	B												
9	CORN IN 2006									100	100	100	100	100	100	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	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2-4"W-1	B												
9	AATREX	90	WG	0.75	lb ai/a	0.83	lb/a	2-4"W-1	B												
9	AMS	100	DRY	3.0	lb ai/a	3	lb/a	2-4"W-1	B												
10	CORN IN 2006									100	100	100	100	100	100	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	BASIS GOLD	90	WG	0.79	lb ai/a	14	oz/a	2-4"W-1	B												
10	PRIME OIL COC	100	LIQ	1.0	% v/v	1	%v/v	2-4"W-1	B												
11	CORN IN 2006									0	0	0	0	0	0	0	0	0			
11	REDUCED-TILL																				
11	NONTREATED																				
12	CORN IN 2006									100	100	100	100	100	100	100	100	100			
12	REDUCED-TILL																				
12	CULTIVATE																				
12	HANDWEED																				

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Weed Code									SETFA	SETFA	SETFA	CYPES	CYPES	CYPES	XANST	XANST	XANST	
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									
13	CORN IN 2006									100	100	100	97	97	97	81	63	63
13	REDUCED-TILL																	
13	BICEP II MAGNUM	5.5 L		2.88	lb ai/a	2.1	qt/a	PRE	A									
13	AATREX	90 WG		0.40	lb ai/a	0.444	lb/a	PRE	A									
14	CORN IN 2006									100	100	100	100	100	100	100	96	96
14	REDUCED-TILL																	
14	BICEP II MAGNUM	5.5 L		2.88	lb ai/a	2.1	qt/a	PRE	A									
14	AATREX	90 WG		0.40	lb ai/a	0.444	lb/a	PRE	A									
14	ROUNDUP W-MAX	4.5 SL		0.77	lb ae/a	22	fl oz/a	2-4"W-2	D									
14	AMS	100 DRY		3.0	lb ai/a	3	lb/a	2-4"W-2	D									
15	CORN IN 2006									100	100	100	100	100	100	70	70	70
15	REDUCED-TILL																	
15	BICEP II MAGNUM	5.5 L		2.88	lb ai/a	2.1	qt/a	PRE	A									
15	AATREX	90 WG		0.40	lb ai/a	0.444	lb/a	PRE	A									
15	ACCENT	75 WG		0.031	lb ai/a	0.66	oz/a	2-4"W-2	D									
15	PRIME OIL COC	100 LIQ		1.0	% v/v	1	%v/v	2-4"W-2	D									
16	CORN IN 2006									100	100	100	100	100	100	86	86	86
16	REDUCED-TILL																	
16	DUAL II MAGNUM	7.64 EC		1.27	lb ai/a	1.33	pt/a	PRE	A									
16	ROUNDUP W-MAX	4.5 SL		0.77	lb ae/a	22	fl oz/a	2-4"W-1	B									
16	AMS	100 DRY		3.0	lb ai/a	3	lb/a	2-4"W-1	B									
17	CORN IN 2006									100	100	100	100	100	100	100	96	96
17	REDUCED-TILL																	
17	ROUNDUP W-MAX	4.5 SL		0.77	lb ae/a	22	fl oz/a	2-4"W-1	B									
17	AMS	100 DRY		3.0	lb ai/a	3	lb/a	2-4"W-1	B									
17	ROUNDUP W-MAX	4.5 SL		0.77	lb ae/a	22	fl oz/a	10DA2-4"	C									
17	AMS	100 DRY		3.0	lb ai/a	3	lb/a	10DA2-4"	C									
18	CORN IN 2006									95	95	95	93	93	93	90	85	85
18	REDUCED-TILL																	
18	ROUNDUP W-MAX	4.5 SL		0.77	lb ae/a	22	fl oz/a	2-4"W-1	B									
18	AMS	100 DRY		3.0	lb ai/a	3	lb/a	2-4"W-1	B									
19	CORN IN 2006									100	100	100	100	100	100	100	94	94
19	REDUCED-TILL																	
19	ROUNDUP W-MAX	4.5 SL		0.77	lb ae/a	22	fl oz/a	2-4"W-1	B									
19	AATREX	90 WG		0.75	lb ai/a	0.83	lb/a	2-4"W-1	B									
19	AMS	100 DRY		3.0	lb ai/a	3	lb/a	2-4"W-1	B									
20	CORN IN 2006									100	100	100	70	70	70	95	95	95
20	REDUCED-TILL																	
20	BASIS GOLD	90 WG		0.79	lb ai/a	14	oz/a	2-4"W-1	B									
20	PRIME OIL COC	100 LIQ		1.0	% v/v	1	%v/v	2-4"W-1	B									
LSD (P=.05)										1.8	12.9	12.9	7.5	7.5	7.5	4.9	7.4	7.4
Replicate F										1.000	1.084	1.084	1.279	1.277	1.277	0.220	0.721	0.721
Replicate Prob(F)										0.3995	0.3631	0.3631	0.2902	0.2908	0.2908	0.8822	0.5437	0.5437
Treatment F										1195.421	27.490	27.490	74.860	74.717	74.717	175.476	81.279	81.279
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: 06-9B-Corn Location: Belleville Research Center
 Investigator: Bryan Young

								ABUTH	ABUTH	ABUTH	AMAPA	AMAPA	AMAPA		
								Control	Control	Control	Control	Control	Control		
								Percent	Percent	Percent	Percent	Percent	Percent		
								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	CORN IN 2006									100	100	100	100	100	100
1	NO-TILL														
1	NONTREATED														
2	CORN IN 2006									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	CORN IN 2006									100	100	100	100	99	99
3	NO-TILL														
3	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	PRE	A						
3	BICEP II MAGNUM	5.5	L	2.88	lb ai/a	2.1	qt/a	PRE	A						
3	AATREX	90	WG	0.40	lb ai/a	0.444	lb/a	PRE	A						
4	CORN IN 2006									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	BICEP II MAGNUM	5.5	L	2.88	lb ai/a	2.1	qt/a	PRE	A						
4	AATREX	90	WG	0.40	lb ai/a	0.444	lb/a	PRE	A						
4	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2-4"W-2	D						
4	AMS	100	DRY	3.0	lb ai/a	3	lb/a	2-4"W-2	D						
5	CORN IN 2006									100	100	100	100	100	100
5	NO-TILL														
5	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	PRE	A						
5	BICEP II MAGNUM	5.5	L	2.88	lb ai/a	2.1	qt/a	PRE	A						
5	AATREX	90	WG	0.40	lb ai/a	0.444	lb/a	PRE	A						
5	ACCENT	75	WG	0.031	lb ai/a	0.66	oz/a	2-4"W-2	D						
5	PRIME OIL COC	100	LIQ	1.0	% v/v	1	%v/v	2-4"W-2	D						
6	CORN IN 2006									100	100	100	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	DUAL II MAGNUM	7.64	EC	1.27	lb ai/a	1.33	pt/a	PRE	A						
6	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2-4"W-1	B						
6	AMS	100	DRY	3.0	lb ai/a	3	lb/a	2-4"W-1	B						
7	CORN IN 2006									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	0.77	lb ae/a	22	fl oz/a	2-4"W-1	B						
7	AMS	100	DRY	3.0	lb ai/a	3	lb/a	2-4"W-1	B						
7	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	10DA2-4"	C						
7	AMS	100	DRY	3.0	lb ai/a	3	lb/a	10DA2-4"	C						
8	CORN IN 2006									100	100	100	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	2-4"W-1	B						
8	AMS	100	DRY	3.0	lb ai/a	3	lb/a	2-4"W-1	B						
9	CORN IN 2006									100	100	100	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	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2-4"W-1	B						
9	AATREX	90	WG	0.75	lb ai/a	0.83	lb/a	2-4"W-1	B						
9	AMS	100	DRY	3.0	lb ai/a	3	lb/a	2-4"W-1	B						
10	CORN IN 2006									100	100	100	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	BASIS GOLD	90	WG	0.79	lb ai/a	14	oz/a	2-4"W-1	B						
10	PRIME OIL COC	100	LIQ	1.0	% v/v	1	%v/v	2-4"W-1	B						
11	CORN IN 2006									0	0	0	0	0	0
11	REDUCED-TILL														
11	NONTREATED														
12	CORN IN 2006									100	100	100	100	100	100
12	REDUCED-TILL														
12	CULTIVATE														
12	HANDWEED														

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

Project Code: 06-9B-Corn Location: Belleville Research Center
 Investigator: Bryan Young

Weed Code								ABUTH	ABUTH	ABUTH	AMAPA	AMAPA	AMAPA		
Crop Code								Control	Control	Control	Control	Control	Control		
Rating Data Type								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		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code						
13	CORN IN 2006									100	100	100	100	100	
13	REDUCED-TILL														
13	BICEP II MAGNUM	5.5 L		2.88 lb ai/a	2.1 qt/a	PRE	A								
13	AATREX	90 WG		0.40 lb ai/a	0.444 lb/a	PRE	A								
14	CORN IN 2006									100	100	100	100	100	
14	REDUCED-TILL														
14	BICEP II MAGNUM	5.5 L		2.88 lb ai/a	2.1 qt/a	PRE	A								
14	AATREX	90 WG		0.40 lb ai/a	0.444 lb/a	PRE	A								
14	ROUNDUP W-MAX	4.5 SL		0.77 lb ae/a	22 fl oz/a	2-4"W-2	D								
14	AMS	100 DRY		3.0 lb ai/a	3 lb/a	2-4"W-2	D								
15	CORN IN 2006									100	100	100	100	100	
15	REDUCED-TILL														
15	BICEP II MAGNUM	5.5 L		2.88 lb ai/a	2.1 qt/a	PRE	A								
15	AATREX	90 WG		0.40 lb ai/a	0.444 lb/a	PRE	A								
15	ACCENT	75 WG		0.031 lb ai/a	0.66 oz/a	2-4"W-2	D								
15	PRIME OIL COC	100 LIQ		1.0 % v/v	1 %v/v	2-4"W-2	D								
16	CORN IN 2006									100	100	100	100	100	
16	REDUCED-TILL														
16	DUAL II MAGNUM	7.64 EC		1.27 lb ai/a	1.33 pt/a	PRE	A								
16	ROUNDUP W-MAX	4.5 SL		0.77 lb ae/a	22 fl oz/a	2-4"W-1	B								
16	AMS	100 DRY		3.0 lb ai/a	3 lb/a	2-4"W-1	B								
17	CORN IN 2006									100	100	100	100	100	
17	REDUCED-TILL														
17	ROUNDUP W-MAX	4.5 SL		0.77 lb ae/a	22 fl oz/a	2-4"W-1	B								
17	AMS	100 DRY		3.0 lb ai/a	3 lb/a	2-4"W-1	B								
17	ROUNDUP W-MAX	4.5 SL		0.77 lb ae/a	22 fl oz/a	10DA2-4"	C								
17	AMS	100 DRY		3.0 lb ai/a	3 lb/a	10DA2-4"	C								
18	CORN IN 2006									99	99	99	98	98	
18	REDUCED-TILL														
18	ROUNDUP W-MAX	4.5 SL		0.77 lb ae/a	22 fl oz/a	2-4"W-1	B								
18	AMS	100 DRY		3.0 lb ai/a	3 lb/a	2-4"W-1	B								
19	CORN IN 2006									100	100	100	100	100	
19	REDUCED-TILL														
19	ROUNDUP W-MAX	4.5 SL		0.77 lb ae/a	22 fl oz/a	2-4"W-1	B								
19	AATREX	90 WG		0.75 lb ai/a	0.83 lb/a	2-4"W-1	B								
19	AMS	100 DRY		3.0 lb ai/a	3 lb/a	2-4"W-1	B								
20	CORN IN 2006									89	89	89	76	76	
20	REDUCED-TILL														
20	BASIS GOLD	90 WG		0.79 lb ai/a	14 oz/a	2-4"W-1	B								
20	PRIME OIL COC	100 LIQ		1.0 % v/v	1 %v/v	2-4"W-1	B								
LSD (P=.05)										2.2	2.2	2.2	1.3	1.4	1.4
Replicate F										0.471	0.679	0.679	0.405	0.411	0.411
Replicate Prob(F)										0.7036	0.5686	0.5686	0.7502	0.7459	0.7459
Treatment F										830.628	821.466	821.466	2404.603	2223.672	2223.672
Treatment Prob(F)										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: 06-9B-Corn Location: Belleville Research Center
 Investigator: Bryan Young

									AMBEL	AMBEL	AMBEL	IPOHE	IPOHE	
									Control	Control	Control	Control	Control	
									Percent	Percent	Percent	Percent	Percent	
									14 DAT	28 DAT	56 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	CORN IN 2006									0	0	0	100	100
1	NO-TILL													
1	NONTREATED													
2	CORN IN 2006									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	CORN IN 2006									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	BICEP II MAGNUM	5.5	L	2.88	lb ai/a	2.1	qt/a	PRE	A					
3	AATREX	90	WG	0.40	lb ai/a	0.444	lb/a	PRE	A					
4	CORN IN 2006									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	BICEP II MAGNUM	5.5	L	2.88	lb ai/a	2.1	qt/a	PRE	A					
4	AATREX	90	WG	0.40	lb ai/a	0.444	lb/a	PRE	A					
4	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2-4"W-2	D					
4	AMS	100	DRY	3.0	lb ai/a	3	lb/a	2-4"W-2	D					
5	CORN IN 2006									100	100	100	100	100
5	NO-TILL													
5	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	PRE	A					
5	BICEP II MAGNUM	5.5	L	2.88	lb ai/a	2.1	qt/a	PRE	A					
5	AATREX	90	WG	0.40	lb ai/a	0.444	lb/a	PRE	A					
5	ACCENT	75	WG	0.031	lb ai/a	0.66	oz/a	2-4"W-2	D					
5	PRIME OIL COC	100	LIQ	1.0	% v/v	1	%v/v	2-4"W-2	D					
6	CORN IN 2006									100	100	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	DUAL II MAGNUM	7.64	EC	1.27	lb ai/a	1.33	pt/a	PRE	A					
6	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2-4"W-1	B					
6	AMS	100	DRY	3.0	lb ai/a	3	lb/a	2-4"W-1	B					
7	CORN IN 2006									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	0.77	lb ae/a	22	fl oz/a	2-4"W-1	B					
7	AMS	100	DRY	3.0	lb ai/a	3	lb/a	2-4"W-1	B					
7	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	10DA2-4"	C					
7	AMS	100	DRY	3.0	lb ai/a	3	lb/a	10DA2-4"	C					
8	CORN IN 2006									100	100	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	2-4"W-1	B					
8	AMS	100	DRY	3.0	lb ai/a	3	lb/a	2-4"W-1	B					
9	CORN IN 2006									100	100	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	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2-4"W-1	B					
9	AATREX	90	WG	0.75	lb ai/a	0.83	lb/a	2-4"W-1	B					
9	AMS	100	DRY	3.0	lb ai/a	3	lb/a	2-4"W-1	B					
10	CORN IN 2006									100	100	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	BASIS GOLD	90	WG	0.79	lb ai/a	14	oz/a	2-4"W-1	B					
10	PRIME OIL COC	100	LIQ	1.0	% v/v	1	%v/v	2-4"W-1	B					
11	CORN IN 2006									100	98	98	0	0
11	REDUCED-TILL													
11	NONTREATED													
12	CORN IN 2006									100	100	100	100	100
12	REDUCED-TILL													
12	CULTIVATE													
12	HANDWEED													

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

Project Code: 06-9B-Corn Location: Belleville Research Center
 Investigator: Bryan Young

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

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code	AMBEL	AMBEL	AMBEL	IPOHE	IPOHE
13	CORN IN 2006									100	100	100	100	100
13	REDUCED-TILL													
13	BICEP II MAGNUM	5.5	L	2.88	lb ai/a	2.1	qt/a	PRE	A					
13	AATREX	90	WG	0.40	lb ai/a	0.444	lb/a	PRE	A					
14	CORN IN 2006									100	100	100	100	100
14	REDUCED-TILL													
14	BICEP II MAGNUM	5.5	L	2.88	lb ai/a	2.1	qt/a	PRE	A					
14	AATREX	90	WG	0.40	lb ai/a	0.444	lb/a	PRE	A					
14	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2-4"W-2	D					
14	AMS	100	DRY	3.0	lb ai/a	3	lb/a	2-4"W-2	D					
15	CORN IN 2006									100	100	100	100	100
15	REDUCED-TILL													
15	BICEP II MAGNUM	5.5	L	2.88	lb ai/a	2.1	qt/a	PRE	A					
15	AATREX	90	WG	0.40	lb ai/a	0.444	lb/a	PRE	A					
15	ACCENT	75	WG	0.031	lb ai/a	0.66	oz/a	2-4"W-2	D					
15	PRIME OIL COC	100	LIQ	1.0	% v/v	1	%v/v	2-4"W-2	D					
16	CORN IN 2006									100	100	100	98	98
16	REDUCED-TILL													
16	DUAL II MAGNUM	7.64	EC	1.27	lb ai/a	1.33	pt/a	PRE	A					
16	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2-4"W-1	B					
16	AMS	100	DRY	3.0	lb ai/a	3	lb/a	2-4"W-1	B					
17	CORN IN 2006									100	100	100	99	99
17	REDUCED-TILL													
17	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2-4"W-1	B					
17	AMS	100	DRY	3.0	lb ai/a	3	lb/a	2-4"W-1	B					
17	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	10DA2-4"	C					
17	AMS	100	DRY	3.0	lb ai/a	3	lb/a	10DA2-4"	C					
18	CORN IN 2006									100	100	100	95	95
18	REDUCED-TILL													
18	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2-4"W-1	B					
18	AMS	100	DRY	3.0	lb ai/a	3	lb/a	2-4"W-1	B					
19	CORN IN 2006									100	100	100	99	99
19	REDUCED-TILL													
19	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2-4"W-1	B					
19	AATREX	90	WG	0.75	lb ai/a	0.83	lb/a	2-4"W-1	B					
19	AMS	100	DRY	3.0	lb ai/a	3	lb/a	2-4"W-1	B					
20	CORN IN 2006									98	98	98	100	100
20	REDUCED-TILL													
20	BASIS GOLD	90	WG	0.79	lb ai/a	14	oz/a	2-4"W-1	B					
20	PRIME OIL COC	100	LIQ	1.0	% v/v	1	%v/v	2-4"W-1	B					
LSD (P=.05)										1.6	1.6	1.6	2.0	2.0
Replicate F										0.866	1.000	1.000	2.807	2.807
Replicate Prob(F)										0.4641	0.3995	0.3995	0.0476	0.0476
Treatment F										1524.298	1593.977	1593.977	993.317	993.317
Treatment Prob(F)										0.0001	0.0001	0.0001	0.0001	0.0001

Trial Comments

1. Protocol: SIU (RFK).
2. Study conducted since 1998 on same area.
3. Tillages are no-till and reduced-till, see treatment list.
4. DA-A = Days after PRE application. DAT = Days after PRE for PRE only treatments or days after POST application for PRE/POST treatments. EOS = End of season.
 Ratings at 14 DAT were on 6-9-06, 6-27-06 and 6-30-06 for PRE only, 2-4"W-1 and 2-4"W-2, applications respectively.
 Ratings at 28 DAT were on 6-23-06, 7-11-06 and 7-14-06 for PRE only, 2-4"W-1 and 2-4"W-2, applications respectively.
 Ratings at 56 DAT were on 7-21-06, 8-1-06 and 8-4-06 for PRE only, 2-4"W-1 and 2-4"W-2, applications respectively.
5. Harvested 10-13-06, (2) 30 inch rows by 24 ft.