

## WEED CONTROL IN CORN WITH VARIOUS TILLAGE SYSTEMS, 2009

Trial ID: C1709  
 Conducted: CAMPUS, Isleib

Study Dir.: Andy Chomas  
 Investigator: Wesley Everman

Date Planted: 5/13/09  
 Variety: DEKALB 46-60  
 Population: 31,000 S/A  
 Soil Type: Clay Loam  
 Plot Size: 10 X 35 FT

Row Spacing: 30 IN  
 No. of Reps: 4  
 % OM: 2.8  
 pH: 6.7  
 Design: SPLIT-PLOT

Tillage: Site Contains Conventional, Strip, and No Till.  
 Fertilizer: 500 lbs/A 21-0-0 Broadcast. 125 lbs/A 19-19-19 In Row at Planting.

## Application Description

	A	B	C	D
Application Timing:	PRE	EP	MP	LP
Date Treated:	5/13/08	6/3/08	6/10/09	6/22/09
Time Treated:	11:30 AM	11:15 AM	4:00 PM	10:30 AM
% Cloud Cover:	100	80	25	25
Air Temp., Unit:	58 F	62 F	78 F	80 F
% Relative Humidity:	58	60	45	70
Wind Speed/Unit/Dir:	7 mph E	6 mph N	3 mph E	5 mph E
Soil Temp., Unit:	52 F	52 F	77 F	73 F
Soil/Leaf Surface M	NA	5	5	3
Soil Moist (1=w 5=d):	3	5	3	4

## Crop Stage at Each Application

	A	B	C	D
Crop Name:	ZEAMX-D	ZEAMX-D	ZEAMX-D	ZEAMX-D
Height (In.):		1-2(1)	4-7(5)	
Stage (L):		1-2(1)	V2: 3-5(4)	
Crop Name:	ZEAMX-E	ZEAMX-E	ZEAMX-E	ZEAMX-E
Height (In.):		1-2(1.5)	5-9(6)	
Stage (L):		1-2(1)	V4: 4-6(5)	
Crop Name:	ZEAMX-F	ZEAMX-F	ZEAMX-F	ZEAMX-F
Height (In.):		1-2(1.5)	4-8(5)	13-19(16)
Stage (L):		1-2(1)	V4: 4-6(5)	V5: 6-7(6)

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## Weed Stage at Each Application

	A	B	C	D
<b>Weed 1 Name:</b>	ANGR-D	ANGR-D	ANGR-D	ANGR-D
Height (In.):		. 25- 3(1)	. 25- 4(3)	
Stage (L):		1- 3(2)	1- 4(3)	
<b>Weed 2 Name:</b>	CHEAL-D	CHEAL-D	CHEAL-D	CHEAL-D
Height (In.):		. 25- 5(2)	. 25- 13(6)	
Stage (L):		cot- 3(2)	cot- 5(4)	
<b>Weed 3 Name:</b>	AMBEL-D	AMBEL-D	AMBEL-D	AMBEL-D
Height (In.):		. 25- 6(3)	. 25- 16(9)	
Stage (L):		cot- 5(3)	cot- 7(6)	
<b>Weed 4 Name:</b>	ERICA-D	ERICA-D	ERICA-D	ERICA-D
Height (In.):		1- 7(4)	4- 16(10)	
Stage (L):		rosette	rosette	
<b>Weed 5 Name:</b>	ANGR-E	ANGR-E	ANGR-E	ANGR-E
Height (In.):		. 25- 3(1)	. 25- 4(3)	
Stage (L):		1- 3(2)	1- 4(3)	
<b>Weed 6 Name:</b>	CHEAL-E	CHEAL-E	CHEAL-E	CHEAL-E
Height (In.):		. 25- 5(2)	. 25- 13(6)	
Stage (L):		cot- 3(2)	cot- 5(4)	
<b>Weed 7 Name:</b>	AMBEL-E	AMBEL-E	AMBEL-E	AMBEL-E
Height (In.):		. 25- 6(3)	. 25- 16(9)	
Stage (L):		cot- 5(3)	cot- 7(6)	
<b>Weed 8 Name:</b>	ABUTH-E	ABUTH-E	ABUTH-E	ABUTH-E
<b>Weed 9 Name:</b>	ERICA-E	ERICA-E	ERICA-E	ERICA-E
Height (In.):		1- 7(4)	4- 16(10)	
Stage (L):		rosette	rosette	
<b>Weed10 Name:</b>	ANGR-F	ANGR-F	ANGR-F	ANGR-F
Height (In.):		. 25- 1(. 5)	. 25- 6(4)	. 5- 10(4) *
Stage (L):		spike- 3	1- 5(4)	1- 5(3)
<b>Weed11 Name:</b>	CHEAL-F	CHEAL-F	CHEAL-F	CHEAL-F
Height (In.):		. 25	. 25- 4(2)	. 5- 2(1)
Stage (L):		cot	cot- 3(2)	cot- 4(3)
<b>Weed12 Name:</b>	AMARE-F	AMARE-F	AMARE-F	AMARE-F
Height (In.):			1	. 5- 3(2)
Stage (L):			2	4- 6(6)
<b>Weed13 Name:</b>	AMBEL-F	AMBEL-F	AMBEL-F	AMBEL-F
Height (In.):		. 25- 2(. 5)	. 25- 2(2)	. 5- 12(5)
Stage (L):		cot- 3(1)	cot- 3(2)	cot- 7(5)
<b>Weed14 Name:</b>	ABUTH-F	ABUTH-F	ABUTH-F	ABUTH-F
Height (In.):			. 25- 3(2)	
Stage (L):			cot- 2(2)	
<b>Weed15 Name:</b>	ERICA-F	ERICA-F	ERICA-F	ERICA-F
Height (In.):		1- 3(2)		
Stage (L):		rosette		

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		Weed Density (plants/sq. ft.)			
		1	2	3	4
Date:		5/13/09	6/3/09	6/10/09	6/22/09
Weed Name:		ANGR-D	ANGR-D	ANGR-D	ANGR-D
Density:			1	4	
Date:		5/13/09	6/3/09	6/10/09	6/22/09
Weed Name:		CHEAL-D	CHEAL-D	CHEAL-D	CHEAL-D
Density:			3	2	
Date:		5/13/09	6/3/09	6/10/09	6/22/09
Weed Name:		AMBEL-D	AMBEL-D	AMBEL-D	AMBEL-D
Density:			34	37	
Date:		5/13/09	6/3/09	6/10/09	6/22/09
Weed Name:		ERICA-D	ERICA-D	ERICA-D	ERICA-D
Density:			1	1	
Date:		5/13/09	6/3/09	6/10/09	6/22/09
Weed Name:		ANGR-E	ANGR-E	ANGR-E	ANGR-E
Density:			1	3	
Date:		5/13/09	6/3/09	6/10/09	6/22/09
Weed Name:		CHEAL-E	CHEAL-E	CHEAL-E	CHEAL-E
Density:			1	<1	
Date:		5/13/09	6/3/09	6/10/09	6/22/09
Weed Name:		AMBEL-E	AMBEL-E	AMBEL-E	AMBEL-E
Density:			16	25	
Date:		5/13/09	6/3/09	6/10/09	6/22/09
Weed Name:		ABUTH-E	ABUTH-E	ABUTH-E	ABUTH-E
Date:		5/13/09	6/3/09	6/10/09	6/22/09
Weed Name:		ERICA-E	ERICA-E	ERICA-E	ERICA-E
Density:			1	1	
Date:		5/13/09	6/3/09	6/10/09	6/22/09
Weed Name:		ANGR-F	ANGR-F	ANGR-F	ANGR-F
Density:			7	7	
Date:		5/13/09	6/3/09	6/10/09	6/22/09
Weed Name:		CHEAL-F	CHEAL-F	CHEAL-F	CHEAL-F
Density:			1	3	
Date:		5/13/09	6/3/09	6/10/09	6/22/09
Weed Name:		AMARE-F	AMARE-F	AMARE-F	AMARE-F
Density:				<1	
Date:		5/13/09	6/3/09	6/10/09	6/22/09
Weed Name:		AMBEL-F	AMBEL-F	AMBEL-F	AMBEL-F
Density:			4	7	
Date:		5/13/09	6/3/09	6/10/09	6/22/09
Weed Name:		ABUTH-F	ABUTH-F	ABUTH-F	ABUTH-F
Density:				0	
Date:		5/13/09	6/3/09	6/10/09	6/22/09
Weed Name:		ERICA-F	ERICA-F	ERICA-F	ERICA-F

		Application Equipment								
Appl	Sprayer	Speed	Nozzle	Nozzle	Nozzle	Nozzle	Boom	GPA	Carrier	PSI
	Type	MPH	Type	Size	Height	Spacing	Width			
A	CUB	3.5	FF	8003	22"	20"	100"	20	H20	30
B	CUB	3.5	FF	8003	27"	20"	100"	20	H20	30
C	CUB	3.5	FF	8003	27"	20"	100"	20	H20	30
D	CUB	3.5	FF	8003	27"	20"	100"	20	H20	30

**Comments:** No counts were taken for the LP application. Heights and stages taken are a representation of the corn and weeds for the whole study, not just the conventional till.

Supplemental nitrogen at 75 lbs N was applied to treatments 15-21.



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Weed Code						ANGR	CHEAL	AMBEL	ERICA	ANGR	CHEAL	AMBEL	ABUTH	ERICA	ANGR	
Crop Code																
Rating Data Type						control	control	control	control	control	control	control	control	control	control	
Rating Unit						percent	percent	percent	percent	percent	percent	percent	percent	percent	percent	
Rating Date						6/11/09	6/11/09	6/11/09	6/11/09	6/24/09	6/24/09	6/24/09	6/24/09	6/24/09	7/7/09	
Trt-Eval Interval						AT MP	AT MP	AT MP	AT MP	AT LP	AT LP	AT LP	AT LP	AT LP	15 DALP	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	1	2	3	4	5	6	7	8	9	10
14	Strip-Till						97	93	54	71	95	99	81	100	99	88
14	Halex GT	4.39	L	3.6	pt/a	EP										
15	Conventional-Till						0	0	0	0	0	0	0	0	0	0
15	Non-Treated															
16	Conventional-Till						98	100	91	100	92	100	73	92	100	90
16	Harness Xtra 5.6	5.6	L	2	qt/a	PRE										
17	Conventional-Till						95	100	96	98	88	100	98	99	100	83
17	Lexar	3.7	L	3	qt/a	EP										
18	Conventional-Till						98	100	78	96	95	100	67	81	97	97
18	Harness Xtra 5.6	5.6	L	1.5	qt/a	PRE										
18	Roundup WeatherMax	4.5	L	0.75	lb ae/a	LP										
18	Ammonium Sulfate	100	DF	17	lb/100 gal	LP										
19	Conventional-Till							100	100	100	95	100	100	99	100	93
19	Roundup WeatherMax	4.5	L	0.75	lb ae/a	MP										
19	Atrazine	4	L	1	qt/a	MP										
19	Ammonium Sulfate	100	DF	17	lb/100 gal	MP										
20	Conventional-Till						98	100	87	100	77	92	71	90	100	97
20	Roundup WeatherMax	4.5	L	0.75	lb ae/a	EP										
20	Ammonium Sulfate	100	DF	17	lb/100 gal	EP										
20	Roundup WeatherMax	4.5	L	0.75	lb ae/a	LP										
20	Ammonium Sulfate	100	DF	17	lb/100 gal	LP										
21	Conventional-Till						99	100	88	100	98	100	89	99	100	92
21	Halex GT	4.39	L	3.6	pt/a	EP										
LSD (P=.05)							5.7	6.6	10.8	12.3	8.4	7.3	9.6	5.2	4.8	8.9
Standard Deviation							4.1	4.7	7.6	8.7	5.9	5.1	6.8	3.7	3.4	6.3
CV							5.07	5.57	10.86	11.32	7.8	6.17	9.66	4.36	4.04	8.16



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Weed Code	CHEAL	AMARE	AMBEL	ABUTH	ERICA	ANGR	CHEAL	AMARE	AMBEL	ABUTH						
Crop Code																
Rating Data Type	control	control	control	control	control	count	count	count	count	count						
Rating Unit	percent	percent	percent	percent	percent	pl/m sq	pl/m sq	pl/m sq	pl/m sq	pl/m sq						
Rating Date	7/7/09	7/7/09	7/7/09	7/7/09	7/7/09	7/21/09	7/21/09	7/21/09	7/21/09	7/21/09						
Trt-Eval Interval	15 DALP	15 DALP	15 DALP	15 DALP	15 DALP	29 DALP	29 DALP	29 DALP	29 DALP	29 DALP						
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg										
11							11	12	13	14	15	16	17	18	19	20
14	Strip-Till						98	100	77		100	9	0	0	17	0
14	Halex GT	4.39	L	3.6	pt/a	EP										
15	Conventional-Till						0	0	0	0		37	7	0	46	1
15	Non-Treated															
16	Conventional-Till						95	100	67	88		3	1	0	20	1
16	Harness Xtra 5.6	5.6	L	2	qt/a	PRE										
17	Conventional-Till						100	100	99	100		18	0	0	0	0
17	Lexar	3.7	L	3	qt/a	EP										
18	Conventional-Till						100	100	93	100		2	0	0	2	0
18	Harness Xtra 5.6	5.6	L	1.5	qt/a	PRE										
18	Roundup WeatherMax	4.5	L	0.75	lb ae/a	LP										
18	Ammonium Sulfate	100	DF	17	lb/100 gal	LP										
19	Conventional-Till						100	100	94	100		14	0	0	4	0
19	Roundup WeatherMax	4.5	L	0.75	lb ae/a	MP										
19	Atrazine	4	L	1	qt/a	MP										
19	Ammonium Sulfate	100	DF	17	lb/100 gal	MP										
20	Conventional-Till						99	100	97	100		3	1	0	2	0
20	Roundup WeatherMax	4.5	L	0.75	lb ae/a	EP										
20	Ammonium Sulfate	100	DF	17	lb/100 gal	EP										
20	Roundup WeatherMax	4.5	L	0.75	lb ae/a	LP										
20	Ammonium Sulfate	100	DF	17	lb/100 gal	LP										
21	Conventional-Till						100	100	86	98		8	1	0	15	0
21	Halex GT	4.39	L	3.6	pt/a	EP										
LSD (P=.05)							3.6	0.5	7.3	6.4	0.0	10.5	9.5	0.2	13.7	0.5
Standard Deviation							2.6	0.3	5.2	4.3	0.0	7.5	6.7	0.2	9.7	0.3
CV							3.03	0.38	6.91	5.17	0.0	85.81	394.52	653.45	62.26	459.95

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Weed Code							ERICA	OTHER			
Crop Code									ZEAMX	ZEAMX	ZEAMX
Rating Data Type							count	count	yield	yield	yield
Rating Unit							pl/m sq	pl/m sq	bu/ac	moisture	pounds
Rating Date							7/21/09	7/21/09	11/5/09	11/5/09	11/5/09
Trt-Eval Interval							29 DALP	29 DALP	HARVEST	HARVEST	HARVEST
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	21	22	23	24	25
1	No-Till						2	3	2	23.00	0.40
1	Non-Treated										
2	No-Till						0	1	145	23.25	36.03
2	Roundup WeatherMax	4.5	L	0.75	lb ae/a	BRDW					
2	Ammonium Sulfate	100	DF	17	lb/100 gal	BRDW					
2	Harness Xtra 5.6	5.6	L	2	qt/a	PRE					
3	No-Till						0	0	187	23.70	46.88
3	Roundup WeatherMax	4.5	L	0.75	lb ae/a	BRDW					
3	Ammonium Sulfate	100	DF	17	lb/100 gal	BRDW					
3	Lexar	3.7	L	3	qt/a	EP					
4	No-Till						0	1	188	23.63	47.00
4	Roundup WeatherMax	4.5	L	0.75	lb ae/a	BRDW					
4	Ammonium Sulfate	100	DF	17	lb/100 gal	BRDW					
4	Harness Xtra 5.6	5.6	L	1.5	qt/a	PRE					
4	Roundup WeatherMax	4.5	L	0.75	lb ae/a	LP					
4	Ammonium Sulfate	100	DF	17	lb/100 gal	LP					
5	No-Till						0	0	152	24.53	38.43
5	Roundup WeatherMax	4.5	L	0.75	lb ae/a	MP					
5	Atrazine	4	L	1	qt/a	MP					
5	Ammonium Sulfate	100	DF	17	lb/100 gal	MP					
6	No-Till						0	1	138	24.20	34.70
6	Roundup WeatherMax	4.5	L	0.75	lb ae/a	EP					
6	Ammonium Sulfate	100	DF	17	lb/100 gal	EP					
6	Roundup WeatherMax	4.5	L	0.75	lb ae/a	LP					
6	Ammonium Sulfate	100	DF	17	lb/100 gal	LP					
7	No-Till						0	2	163	23.40	40.58
7	Halex GT	4.39	L	3.6	pt/a	EP					
8	Strip-Till						2	2	11	22.38	2.60
8	Non-Treated										
9	Strip-Till						0	0	115	24.25	28.83
9	Roundup WeatherMax	4.5	L	0.75	lb ae/a	BRDW					
9	Ammonium Sulfate	100	DF	17	lb/100 gal	BRDW					
9	Harness Xtra 5.6	5.6	L	2	qt/a	PRE					
10	Strip-Till						0	0	186	22.83	46.13
10	Roundup WeatherMax	4.5	L	0.75	lb ae/a	BRDW					
10	Ammonium Sulfate	100	DF	17	lb/100 gal	BRDW					
10	Lexar	3.7	L	3	qt/a	EP					
11	Strip-Till						0	1	188	22.53	46.40
11	Roundup WeatherMax	4.5	L	0.75	lb ae/a	BRDW					
11	Ammonium Sulfate	100	DF	17	lb/100 gal	BRDW					
11	Harness Xtra 5.6	5.6	L	1.5	qt/a	PRE					
11	Roundup WeatherMax	4.5	L	0.75	lb ae/a	LP					
11	Ammonium Sulfate	100	DF	17	lb/100 gal	LP					
12	Strip-Till						0	0	180	23.13	44.65
12	Roundup WeatherMax	4.5	L	0.75	lb ae/a	MP					
12	Atrazine	4	L	1	qt/a	MP					
12	Ammonium Sulfate	100	DF	17	lb/100 gal	MP					
13	Strip-Till						0	0	190	22.48	46.93
13	Roundup WeatherMax	4.5	L	0.75	lb ae/a	EP					
13	Ammonium Sulfate	100	DF	17	lb/100 gal	EP					
13	Roundup WeatherMax	4.5	L	0.75	lb ae/a	LP					
13	Ammonium Sulfate	100	DF	17	lb/100 gal	LP					



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Crop Code									ZEAMX	ZEAMX	ZEAMX
Rating Data Type							count	count	yield	yield	yield
Rating Unit							pl/m sq	pl/m sq	bu/ac	moisture	pounds
Rating Date							7/21/09	7/21/09	11/5/09	11/5/09	11/5/09
Trt-Eval Interval							29 DALP	29 DALP	HARVEST	HARVEST	HARVEST
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg					
							21	22	23	24	25
14	Strip-Till						0	2	180	22.50	44.45
14	Halex GT	4.39	L	3.6	pt/a	EP					
15	Conventional-Till						0	1	6	20.78	1.35
15	Non-Treated										
16	Conventional-Till						0	0	117	24.88	29.80
16	Harness Xtra 5.6	5.6	L	2	qt/a	PRE					
17	Conventional-Till						0	0	180	22.80	44.60
17	Lexar	3.7	L	3	qt/a	EP					
18	Conventional-Till						0	1	183	23.38	45.60
18	Harness Xtra 5.6	5.6	L	1.5	qt/a	PRE					
18	Roundup WeatherMax	4.5	L	0.75	lb ae/a	LP					
18	Ammonium Sulfate	100	DF	17	lb/100 gal	LP					
19	Conventional-Till						0	0	179	22.98	44.40
19	Roundup WeatherMax	4.5	L	0.75	lb ae/a	MP					
19	Atrazine	4	L	1	qt/a	MP					
19	Ammonium Sulfate	100	DF	17	lb/100 gal	MP					
20	Conventional-Till						0	1	183	22.88	45.43
20	Roundup WeatherMax	4.5	L	0.75	lb ae/a	EP					
20	Ammonium Sulfate	100	DF	17	lb/100 gal	EP					
20	Roundup WeatherMax	4.5	L	0.75	lb ae/a	LP					
20	Ammonium Sulfate	100	DF	17	lb/100 gal	LP					
21	Conventional-Till						0	0	171	23.08	42.40
21	Halex GT	4.39	L	3.6	pt/a	EP					
LSD (P=.05)							0.7	2.2	23.2	1.888	5.677
Standard Deviation							0.5	1.6	16.4	1.335	4.015
CV							294.72	241.92	11.33	5.76	11.13

ARM Action Codes

TY1 = 4.444898\*[25]\*(100-[24])/85