

MSU Weed Science Research Program

WEED CONTROL IN CORN WITH IMPACT, 2007

Trial ID: C1007
 Conducted: CAMPUS

Study Dir.:
 Investigator: James Kells

Date Planted: 5/7/07 **Row Spacing:** 30 IN
Variety: DKC 48-53 **No. of Reps:** 3
Population: 30,000 S/A **% OM:** 3.3
Soil Type: Sandy Loam **pH:** 6.5
Plot Size: 10 X 35 FT **Design:** RANDOMIZED COMPLETE BLOCK

Tillage: Fall Chisel, Spring Field Cultivation X2
Fertilizer: 300lbs/A 46-0-0 Broadcast. 125lbs/A 19-19-19 in Row at Planting.

Crop and Weed Description

Weed	Code	Common Name	Scientific Name
1.	ANGR	Annual Grasses	
2.	CHEAL	Common lambsquarters	Chenopodium album L.
3.	AMARE	PIGWEEED, REDROOT	AMARANTHUS RETROFLEXUS L.
4.	AMBEL	RAGWEEED, COMMON	AMBROSIA ELATIOR L.
5.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
Crop	Code	Common Name	
1.	ZEAMX	CORN, FIELD	

Application Description

	A	B	C	D
Application Timing:	PRE	EP	MP	LP
Date Treated:	5/7/07	5/29/07	6/6/07	6/11/07
Time Treated:	7:25PM	10:52AM	3:20PM	10:40AM
% Cloud Cover:	30	50	20	0
Air Temp., Unit:	78 F	80 F	77 F	89 F
% Relative Humidity:	28	45	40	40
Wind Speed/Unit/Dir:	5 mph SE	3 mph SE	5 mph SW	5 mph N
Soil Temp., Unit:	62 F	65 F	74 F	73.5 F
Soil/Leaf Surface M:	5 5	5 5	5 5	5 5
Soil Moist (1=w 5=d):	5	2-3	2	4

Crop Stage at Each Application

	A	B	C	D
Crop Name:	ZEAMX	ZEAMX	ZEAMX	ZEAMX
Height (In.):		3.5-5(5)	9-11(10)	12-16(14)
Stage (L):		V2-3(3)5L	V4-5(5)7L	V5-6(6)9L

Weed Stage at Each Application

	A	B	C	D
Weed 1 Name:	ANGR	ANGR	ANGR	ANGR
Height (In.):		.5-3(1)	1-2(2)	2
Stage (L):		3-6(4)	1-4(4)	3
Weed 2 Name:	CHEAL	CHEAL	CHEAL	CHEAL
Height (In.):		.5-1(.5)	.5-2(1)	.5-4(3)
Stage (L):		Cot-4(4)	2-6(6)	6-9(6)
Weed 3 Name:	AMARE	AMARE	AMARE	AMARE
Height (In.):		.25-1(.5)		
Stage (L):		Cot-5(Cot)		
Weed 4 Name:	AMBEL	AMBEL	AMBEL	AMBEL
Height (In.):			1	2-3(3)
Stage (L):			4	6-8(6)
Weed 5 Name:	ABUTH	ABUTH	ABUTH	ABUTH
Height (In.):		1-1.5(1)	.5-2(1)	.5-3(2)
Stage (L):		2-4(4)	Cot-3(2)	4-6(5)

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Weed Density (plants/sq. ft.)

	1	2	3	4
Date:	5/7/07	5/29/07	6/6/07	6/11/07
Weed Name:	ANGR	ANGR	ANGR	ANGR
Density:		39	<1	<1
Date:	5/7/07	5/29/07	6/6/07	6/11/07
Weed Name:	CHEAL	CHEAL	CHEAL	CHEAL
Density:		38	8	45
Date:	5/7/07	5/29/07	6/6/07	6/11/07
Weed Name:	AMARE	AMARE	AMARE	AMARE
Density:		<1	<1	0
Date:	5/7/07	5/29/07	6/6/07	6/11/07
Weed Name:	AMBEL	AMBEL	AMBEL	AMBEL
Density:		<1	<1	<1
Date:	5/7/07	5/29/07	6/6/07	6/11/07
Weed Name:	ABUTH	ABUTH	ABUTH	ABUTH
Density:		2	8	1

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	18"	20"	100"	20	H2O	30
B	CUB	3.5	FF	8003	19"	20"	100"	20	H2O	30
C	CUB	3.5	FF	8003	21"	20"	100"	20	H2O	30
D	CUB	3.5	FF	8003	25"	20"	100"	20	H2O	30

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Weed Code							ANGR	CHEAL	AMARE	AMBEL	ABUTH		ANGR	CHEAL
Crop Code							ZEAMX					ZEAMX		
Rating Data Type							injury	control	control	control	control	injury	control	control
Rating Unit							percent	percent	percent	percent	percent	percent	percent	percent
Rating Date							6/7/07	6/7/07	6/7/07	6/7/07	6/7/07	6/13/07	6/13/07	6/13/07
Trt-Eval Interval							AT MP	AT MP	AT MP	AT MP	AT MP	7 DAMP	7 DAMP	7 DAMP

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	1	2	3	4	5	6	7	8	9
1	Untreated						0	0	0	0	0	0	0	0	0
2	Dual II Magnum	7.64	L	0.75	pt/a	PRE	0	98	67	100	47	53	0	97	50
3	Dual II Magnum	7.64	L	0.75	pt/a	PRE	0	100	55	100	49	45	0	100	100
3	Impact	2.8	SC	0.5	fl oz/a	MP									
3	Atrazine	4	L	0.5	qt/a	MP									
3	MSO		L	1	% v/v	MP									
3	28% Nitrogen		L	2.5	% v/v	MP									
4	Dual II Magnum	7.64	L	0.75	pt/a	PRE	0	95	45	100	54	45	0	100	100
4	Impact	2.8	SC	0.75	fl oz/a	MP									
4	Atrazine	4	L	0.5	qt/a	MP									
4	MSO		L	1	% v/v	MP									
4	28% Nitrogen		L	2.5	% v/v	MP									
5	Dual II Magnum	7.64	L	0.75	pt/a	PRE	0	96	77	98	63	47	2	98	100
5	Callisto	4	SC	3	fl oz/a	MP									
5	Atrazine	4	L	0.5	qt/a	MP									
5	Herbimax		L	1	% v/v	MP									
5	28% Nitrogen		L	2.5	% v/v	MP									
6	Dual II Magnum	7.64	L	0.75	pt/a	PRE	0	97	68	100	68	48	0	97	99
6	Laudis	3.5	SC	3	fl oz/a	MP									
6	Atrazine	4	L	0.5	qt/a	MP									
6	MSO		L	1	% v/v	MP									
6	28% Nitrogen		L	2.5	% v/v	MP									
7	Dual II Magnum	7.64	L	0.75	pt/a	PRE	0	99	73	100	57	47	0	98	63
7	Impact	2.8	SC	0.5	fl oz/a	LP									
7	Roundup WeatherMax	4.5	L	0.75	lb ae/a	LP									
7	Ammonium Sulfate	100	DF	8.5	lb/100 gal	LP									
8	Dual II Magnum	7.64	L	0.75	pt/a	PRE	0	100	62	100	45	47	0	98	53
8	Impact	2.8	SC	0.5	fl oz/a	LP									
8	Roundup WeatherMax	4.5	L	0.75	lb ae/a	LP									
8	Atrazine	4	L	0.5	qt/a	LP									
8	Ammonium Sulfate	100	DF	8.5	lb/100 gal	LP									
9	Dual II Magnum	7.64	L	0.75	pt/a	PRE	0	100	65	97	43	47	0	99	55
9	Roundup WeatherMax	4.5	L	0.75	lb ae/a	LP									
9	Ammonium Sulfate	100	DF	8.5	lb/100 gal	LP									
10	Outlook	6	L	14	fl oz/a	EP	0	85	93	100	100	100	0	84	71
10	Atrazine	4	L	1	qt/a	EP									
10	MSO		L	1	% v/v	EP									
10	28% Nitrogen		L	2.5	% v/v	EP									
11	Impact	2.8	SC	0.5	fl oz/a	EP	0	100	100	100	100	100	0	99	100
11	Outlook	6	L	14	fl oz/a	EP									
11	Atrazine	4	L	1	qt/a	EP									
11	MSO		L	1	% v/v	EP									
11	28% Nitrogen		L	2.5	% v/v	EP									
12	Callisto	4	SC	3	fl oz/a	EP	0	90	100	100	100	100	0	89	100
12	Dual II Magnum	7.64	L	1.33	pt/a	EP									
12	Atrazine	4	L	1	qt/a	EP									
12	28% Nitrogen		L	2.5	% v/v	EP									

LSD (P=.05)	0.0	8.8	19.5	2.1	27.5	12.8	1.5	10.5	12.6
Standard Deviation	0.0	5.2	11.5	1.2	16.2	7.5	0.9	6.2	7.4
CV	0.0	5.87	17.09	1.32	26.69	13.26	629.29	7.03	9.96

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							AMARE	AMBEL	ABUTH		ANGR	CHEAL	AMARE	AMBEL	
							control	control	control	ZEAMX	control	control	control	control	control
							percent	percent	percent	injury	percent	percent	percent	percent	percent
							6/13/07	6/13/07	6/13/07	6/21/07	6/21/07	6/21/07	6/21/07	6/21/07	6/21/07
							7 DAMP	7 DAMP	7 DAMP	15 DAMP	15 DAMP	15 DAMP	15 DAMP	15 DAMP	15 DAMP
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	10	11	12	13	14	15	16	17	
1	Untreated						0	0	0	0	0	0	0	0	
2	Dual II Magnum	7.64	L	0.75	pt/a	PRE	97	62	65	0	90	42	93	42	
3	Dual II Magnum	7.64	L	0.75	pt/a	PRE	100	100	100	0	96	99	100	100	
3	Impact	2.8	SC	0.5	fl oz/a	MP									
3	Atrazine	4	L	0.5	qt/a	MP									
3	MSO		L	1	% v/v	MP									
3	28% Nitrogen		L	2.5	% v/v	MP									
4	Dual II Magnum	7.64	L	0.75	pt/a	PRE	100	100	100	0	96	100	100	100	
4	Impact	2.8	SC	0.75	fl oz/a	MP									
4	Atrazine	4	L	0.5	qt/a	MP									
4	MSO		L	1	% v/v	MP									
4	28% Nitrogen		L	2.5	% v/v	MP									
5	Dual II Magnum	7.64	L	0.75	pt/a	PRE	100	100	100	5	94	100	100	100	
5	Callisto	4	SC	3	fl oz/a	MP									
5	Atrazine	4	L	0.5	qt/a	MP									
5	Herbimax		L	1	% v/v	MP									
5	28% Nitrogen		L	2.5	% v/v	MP									
6	Dual II Magnum	7.64	L	0.75	pt/a	PRE	100	100	100	0	92	100	100	100	
6	Laudis	3.5	SC	3	fl oz/a	MP									
6	Atrazine	4	L	0.5	qt/a	MP									
6	MSO		L	1	% v/v	MP									
6	28% Nitrogen		L	2.5	% v/v	MP									
7	Dual II Magnum	7.64	L	0.75	pt/a	PRE	100	48	57	0	100	100	100	100	
7	Impact	2.8	SC	0.5	fl oz/a	LP									
7	Roundup WeatherMax	4.5	L	0.75	lb ae/a	LP									
7	Ammonium Sulfate	100	DF	8.5	lb/100 gal	LP									
8	Dual II Magnum	7.64	L	0.75	pt/a	PRE	100	53	55	0	100	100	100	100	
8	Impact	2.8	SC	0.5	fl oz/a	LP									
8	Roundup WeatherMax	4.5	L	0.75	lb ae/a	LP									
8	Atrazine	4	L	0.5	qt/a	LP									
8	Ammonium Sulfate	100	DF	8.5	lb/100 gal	LP									
9	Dual II Magnum	7.64	L	0.75	pt/a	PRE	98	47	62	0	99	91	100	83	
9	Roundup WeatherMax	4.5	L	0.75	lb ae/a	LP									
9	Ammonium Sulfate	100	DF	8.5	lb/100 gal	LP									
10	Outlook	6	L	14	fl oz/a	EP	100	100	100	0	77	68	100	100	
10	Atrazine	4	L	1	qt/a	EP									
10	MSO		L	1	% v/v	EP									
10	28% Nitrogen		L	2.5	% v/v	EP									
11	Impact	2.8	SC	0.5	fl oz/a	EP	100	100	100	0	97	100	100	100	
11	Outlook	6	L	14	fl oz/a	EP									
11	Atrazine	4	L	1	qt/a	EP									
11	MSO		L	1	% v/v	EP									
11	28% Nitrogen		L	2.5	% v/v	EP									
12	Callisto	4	SC	3	fl oz/a	EP	100	100	100	0	80	100	100	100	
12	Dual II Magnum	7.64	L	1.33	pt/a	EP									
12	Atrazine	4	L	1	qt/a	EP									
12	28% Nitrogen		L	2.5	% v/v	EP									
LSD (P=.05)							3.2	19.1	14.5	0.0	10.5	2.9	3.0	2.1	
Standard Deviation							1.9	11.2	8.5	0.0	6.2	1.7	1.7	1.2	
CV							2.06	14.78	10.85	0.0	7.26	2.06	1.92	1.41	

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							ABUTH	ANGR	CHEAL	AMARE	AMBEL	ABUTH	ANGR	
							control	control	control	control	control	control	control	control
							percent	percent	percent	percent	percent	percent	percent	percent
							6/21/07	7/3/07	7/3/07	7/3/07	7/3/07	7/3/07	7/3/07	7/27/07
							15 DAMP	27 DAMP	27 DAMP	27 DAMP	27 DAMP	27 DAMP	27 DAMP	51 DAMP
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	18	19	20	21	22	23	24	
1	Untreated						0	0	0	0	0	0	0	
2	Dual II Magnum	7.64	L	0.75	pt/a	PRE	42	87	10	88	17	17	96	
3	Dual II Magnum	7.64	L	0.75	pt/a	PRE	95	95	97	100	100	95	97	
3	Impact	2.8	SC	0.5	fl oz/a	MP								
3	Atrazine	4	L	0.5	qt/a	MP								
3	MSO		L	1	% v/v	MP								
3	28% Nitrogen		L	2.5	% v/v	MP								
4	Dual II Magnum	7.64	L	0.75	pt/a	PRE	100	93	100	100	100	100	93	
4	Impact	2.8	SC	0.75	fl oz/a	MP								
4	Atrazine	4	L	0.5	qt/a	MP								
4	MSO		L	1	% v/v	MP								
4	28% Nitrogen		L	2.5	% v/v	MP								
5	Dual II Magnum	7.64	L	0.75	pt/a	PRE	100	92	100	100	100	100	88	
5	Callisto	4	SC	3	fl oz/a	MP								
5	Atrazine	4	L	0.5	qt/a	MP								
5	Herbimax		L	1	% v/v	MP								
5	28% Nitrogen		L	2.5	% v/v	MP								
6	Dual II Magnum	7.64	L	0.75	pt/a	PRE	100	87	100	100	100	100	84	
6	Laudis	3.5	SC	3	fl oz/a	MP								
6	Atrazine	4	L	0.5	qt/a	MP								
6	MSO		L	1	% v/v	MP								
6	28% Nitrogen		L	2.5	% v/v	MP								
7	Dual II Magnum	7.64	L	0.75	pt/a	PRE	93	99	100	100	98	100	98	
7	Impact	2.8	SC	0.5	fl oz/a	LP								
7	Roundup WeatherMax	4.5	L	0.75	lb ae/a	LP								
7	Ammonium Sulfate	100	DF	8.5	lb/100 gal	LP								
8	Dual II Magnum	7.64	L	0.75	pt/a	PRE	100	99	100	100	100	99	100	
8	Impact	2.8	SC	0.5	fl oz/a	LP								
8	Roundup WeatherMax	4.5	L	0.75	lb ae/a	LP								
8	Atrazine	4	L	0.5	qt/a	LP								
8	Ammonium Sulfate	100	DF	8.5	lb/100 gal	LP								
9	Dual II Magnum	7.64	L	0.75	pt/a	PRE	87	99	100	100	93	98	99	
9	Roundup WeatherMax	4.5	L	0.75	lb ae/a	LP								
9	Ammonium Sulfate	100	DF	8.5	lb/100 gal	LP								
10	Outlook	6	L	14	fl oz/a	EP	100	71	62	100	100	100	62	
10	Atrazine	4	L	1	qt/a	EP								
10	MSO		L	1	% v/v	EP								
10	28% Nitrogen		L	2.5	% v/v	EP								
11	Impact	2.8	SC	0.5	fl oz/a	EP	100	94	100	100	100	100	90	
11	Outlook	6	L	14	fl oz/a	EP								
11	Atrazine	4	L	1	qt/a	EP								
11	MSO		L	1	% v/v	EP								
11	28% Nitrogen		L	2.5	% v/v	EP								
12	Callisto	4	SC	3	fl oz/a	EP	100	74	100	100	100	100	71	
12	Dual II Magnum	7.64	L	1.33	pt/a	EP								
12	Atrazine	4	L	1	qt/a	EP								
12	28% Nitrogen		L	2.5	% v/v	EP								
LSD (P=.05)							3.3	10.8	9.1	1.5	10.0	8.4	14.7	
Standard Deviation							1.9	6.4	5.3	0.9	5.9	4.9	8.6	
CV							2.27	7.7	6.62	0.96	6.99	5.86	10.57	

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Weed Code	CHEAL	AMARE	AMBEL	ABUTH	Zeamx						
Crop Code					yield						
Rating Data Type	control	control	control	control	bu/ac						
Rating Unit	percent	percent	percent	percent							
Rating Date	7/27/07	7/27/07	7/27/07	7/27/07	10/3/07						
Trt-Eval Interval	51 DAMP	51 DAMP	51 DAMP	51 DAMP	HARVEST						
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	25	26	27	28	29
1	Untreated						0	0	0	0	67
2	Dual II Magnum	7.64	L	0.75	pt/a	PRE	10	95	13	7	119
3	Dual II Magnum	7.64	L	0.75	pt/a	PRE	98	100	100	100	154
3	Impact	2.8	SC	0.5	fl oz/a	MP					
3	Atrazine	4	L	0.5	qt/a	MP					
3	MSO		L	1	% v/v	MP					
3	28% Nitrogen		L	2.5	% v/v	MP					
4	Dual II Magnum	7.64	L	0.75	pt/a	PRE	100	100	100	100	180
4	Impact	2.8	SC	0.75	fl oz/a	MP					
4	Atrazine	4	L	0.5	qt/a	MP					
4	MSO		L	1	% v/v	MP					
4	28% Nitrogen		L	2.5	% v/v	MP					
5	Dual II Magnum	7.64	L	0.75	pt/a	PRE	100	100	100	100	166
5	Callisto	4	SC	3	fl oz/a	MP					
5	Atrazine	4	L	0.5	qt/a	MP					
5	Herbimax		L	1	% v/v	MP					
5	28% Nitrogen		L	2.5	% v/v	MP					
6	Dual II Magnum	7.64	L	0.75	pt/a	PRE	100	100	100	100	175
6	Laudis	3.5	SC	3	fl oz/a	MP					
6	Atrazine	4	L	0.5	qt/a	MP					
6	MSO		L	1	% v/v	MP					
6	28% Nitrogen		L	2.5	% v/v	MP					
7	Dual II Magnum	7.64	L	0.75	pt/a	PRE	100	100	100	100	174
7	Impact	2.8	SC	0.5	fl oz/a	LP					
7	Roundup WeatherMax	4.5	L	0.75	lb ae/a	LP					
7	Ammonium Sulfate	100	DF	8.5	lb/100 gal	LP					
8	Dual II Magnum	7.64	L	0.75	pt/a	PRE	100	100	100	99	149
8	Impact	2.8	SC	0.5	fl oz/a	LP					
8	Roundup WeatherMax	4.5	L	0.75	lb ae/a	LP					
8	Atrazine	4	L	0.5	qt/a	LP					
8	Ammonium Sulfate	100	DF	8.5	lb/100 gal	LP					
9	Dual II Magnum	7.64	L	0.75	pt/a	PRE	98	99	97	100	166
9	Roundup WeatherMax	4.5	L	0.75	lb ae/a	LP					
9	Ammonium Sulfate	100	DF	8.5	lb/100 gal	LP					
10	Outlook	6	L	14	fl oz/a	EP	43	100	100	100	160
10	Atrazine	4	L	1	qt/a	EP					
10	MSO		L	1	% v/v	EP					
10	28% Nitrogen		L	2.5	% v/v	EP					
11	Impact	2.8	SC	0.5	fl oz/a	EP	97	100	100	100	173
11	Outlook	6	L	14	fl oz/a	EP					
11	Atrazine	4	L	1	qt/a	EP					
11	MSO		L	1	% v/v	EP					
11	28% Nitrogen		L	2.5	% v/v	EP					
12	Callisto	4	SC	3	fl oz/a	EP	100	100	100	100	166
12	Dual II Magnum	7.64	L	1.33	pt/a	EP					
12	Atrazine	4	L	1	qt/a	EP					
12	28% Nitrogen		L	2.5	% v/v	EP					
LSD (P=.05)							21.2	0.9	6.8	6.1	27.3
Standard Deviation							12.5	0.5	4.0	3.6	16.0
CV							15.8	0.58	4.73	4.27	10.41