

MSU Weed Science Research Program

WEED CONTROL IN CORN WITH PERMIT AND YUKON, 2007

Trial ID: C0707
 Conducted: CAMPUS

Study Dir.:
 Investigator: James Kells

Date Planted: 5/7/07 **Row Spacing:** 30 IN
Variety: DKC 48-53 **No. of Reps:** 4
Population: 30,000 S/A **% OM:** 3.2
Soil Type: Sandy Loam **pH:** 6.5
Plot Size: 10 X 35 FT **Design:** RANDOMIZED COMPLETE BLOCK

Tillage: Fall Chisel, Spring Field Cultivated 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.	CHEAL	Common lambsquarters	Chenopodium album L.
2.	AMARE	PIGWEEED, REDROOT	AMARANTHUS RETROFLEXUS L.
3.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
Crop	Code	Common Name	
1.	ZEAMX	CORN, FIELD	

Application Description

	A	B
Application Timing:	PRE	MP
Date Treated:	5/7/07	5/30/07
Time Treated:	8:00PM	10:03AM
% Cloud Cover:	30	90
Air Temp., Unit:	72 F	83 F
% Relative Humidity:	33	55
Wind Speed/Unit/Dir:	5 mph SE	2 mph SW
Soil Temp., Unit:	61 F	67.5 F
Soil/Leaf Surface M:	5 5	5 5
Soil Moist (1=w 5=d):	5	3

Crop Stage at Each Application

	A	B
Crop Name:	ZEAMX	ZEAMX
Height (In.):		5-9(8)
Stage (L):		V3-4(4)6L

Weed Stage at Each Application

	A	B
Weed 1 Name:	CHEAL	CHEAL
Height (In.):		.25-2(1)
Stage (L):		Cot-6(4)
Weed 2 Name:	AMARE	AMARE
Height (In.):		.25-.75
Stage (L):		Cot-5(3)
Weed 3 Name:	ABUTH	ABUTH
Height (In.):		.5-2(1.5)
Stage (L):		Cot-4(2)

Weed Density (plants/sq. ft.)

	1	2
Date:	5/7/07	5/30/07
Weed Name:	CHEAL	CHEAL
Density:		18
Date:	5/7/07	5/30/07
Weed Name:	AMARE	AMARE
Density:		<1
Date:	5/7/07	5/30/07
Weed Name:	ABUTH	ABUTH
Density:		4

Application Equipment

Appl	Sprayer Type	Speed MPH	Nozzle Type	Nozzle Size	Nozzle Height	Nozzle Spacing	Nozzle Width	Boom	GPA	Carrier	PSI
A	CUB	3.5	FF	8003	18"	20"	100"	20	H2O		30
B	CUB	3.5	FF	8003	22"	20"	100"	20	H2O		30

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Weed Code								ANGR	CHEAL	AMARE	ABUTH	ZEAMX	
Crop Code								control	control	control	control	injury	
Rating Data Type								percent	percent	percent	percent	percent	
Rating Unit								6/7/07	6/13/07	6/13/07	6/13/07	6/26/07	
Rating Date								8 DAMP	14 DAMP	14 DAMP	14 DAMP	27 DAMP	
Trt-Eval Interval													
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	1	2	3	4	5	6	7
1	Dual II Magnum	7.64	L	0.75	pt/a	PRE	0	0	93	96	100	98	0
1	Permit	75	DF	0.66	oz/a	MP							
1	Atrazine	4	L	0.5	qt/a	MP							
1	Herbimax		L	1	% v/v	MP							
1	Ammonium Sulfate	100	DF	1	% w/w	MP							
2	Dual II Magnum	7.64	L	0.75	pt/a	PRE	0	0	79	100	100	100	0
2	Permit	75	DF	0.66	oz/a	MP							
2	Callisto	4	SC	1	fl oz/a	MP							
2	Herbimax		L	1	% v/v	MP							
2	Ammonium Sulfate	100	DF	1	% w/w	MP							
3	Dual II Magnum	7.64	L	0.75	pt/a	PRE	0	0	84	100	100	100	0
3	Permit	75	DF	0.66	oz/a	MP							
3	Laudis	3.5	SC	1	fl oz/a	MP							
3	Herbimax		L	1	% v/v	MP							
3	Ammonium Sulfate	100	DF	1	% w/w	MP							
4	Dual II Magnum	7.64	L	0.75	pt/a	PRE	12	3	92	100	100	99	0
4	Permit	75	DF	0.66	oz/a	MP							
4	Buctril/ATR	3	L	3	pt/a	MP							
4	Activator 90		L	0.25	% v/v	MP							
4	Ammonium Sulfate	100	DF	1	% w/w	MP							
5	Dual II Magnum	7.64	L	0.75	pt/a	PRE	13	5	84	100	100	99	0
5	Permit	75	DF	0.66	oz/a	MP							
5	Buctril	2	EC	1.5	pt/a	MP							
5	Activator 90		L	0.25	% v/v	MP							
5	Ammonium Sulfate	100	DF	1	% w/w	MP							
6	Dual II Magnum	7.64	L	0.75	pt/a	PRE	0	0	88	83	100	100	0
6	Yukon	67.5	WG	6	oz/a	MP							
6	Herbimax		L	1	% v/v	MP							
7	Dual II Magnum	7.64	L	0.75	pt/a	PRE	0	0	88	83	100	100	0
7	Yukon	67.5	WG	5	oz/a	MP							
7	Herbimax		L	1	% v/v	MP							
8	Dual II Magnum	7.64	L	0.75	pt/a	PRE	0	0	85	80	100	100	0
8	Yukon	67.5	WG	4	oz/a	MP							
8	Herbimax		L	1	% v/v	MP							
9	Dual II Magnum	7.64	L	0.75	pt/a	PRE	10	3	81	100	100	100	0
9	Callisto	4	SC	3	fl oz/a	MP							
9	Herbimax		L	1	% v/v	MP							
9	28% Nitrogen		L	2.5	% v/v	MP							
10	Dual II Magnum	7.64	L	0.75	pt/a	PRE	0	0	92	33	83	28	0
10	Untreated												
11	Dual II Magnum	7.64	L	0.75	pt/a	PRE	0	0	100	100	100	99	0
11	Yukon	67.5	WG	3	oz/a	MP							
11	Roundup WeatherMax	4.5	L	22	fl oz/a	MP							
11	Activator 90		L	0.125	% v/v	MP							
11	Ammonium Sulfate	100	DF	17	lb/100 gal	MP							
12	Dual II Magnum	7.64	L	0.75	pt/a	PRE	0	0	100	100	100	98	0
12	Yukon	67.5	WG	4	oz/a	MP							
12	Roundup WeatherMax	4.5	L	22	fl oz/a	MP							
12	Activator 90		L	0.125	% v/v	MP							
12	Ammonium Sulfate	100	DF	17	lb/100 gal	MP							

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Weed Code	Crop Code	Rating Data Type	Rating Unit	Rating Date	Trt-Eval Interval	ZEAMX injury percent	ZEAMX injury percent	ANGR control percent	CHEAL control percent	AMARE control percent	ABUTH control percent	ZEAMX injury percent	
						6/7/07	6/13/07	6/13/07	6/13/07	6/13/07	6/13/07	6/26/07	
						8 DAMP	14 DAMP	14 DAMP	14 DAMP	14 DAMP	14 DAMP	27 DAMP	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	1	2	3	4	5	6	7
13	Dual II Magnum	7.64	L	0.75	pt/a	PRE	0	0	99	100	100	99	0
13	Permit	75	DF	0.5	oz/a	MP							
13	Roundup WeatherMax	4.5	L	22	fl oz/a	MP							
13	Activator 90		L	0.125	% v/v	MP							
13	Ammonium Sulfate	100	DF	17	lb/100 gal	MP							
14	Dual II Magnum	7.64	L	0.75	pt/a	PRE	0	0	100	100	100	100	0
14	Permit	75	DF	0.66	oz/a	MP							
14	Roundup WeatherMax	4.5	L	22	fl oz/a	MP							
14	Activator 90		L	0.125	% v/v	MP							
14	Ammonium Sulfate	100	DF	17	lb/100 gal	MP							
15	Dual II Magnum	7.64	L	0.75	pt/a	PRE	0	0	99	94	100	88	0
15	Roundup WeatherMax	4.5	L	22	fl oz/a	MP							
15	Activator 90		L	0.125	% v/v	MP							
15	Ammonium Sulfate	100	DF	17	lb/100 gal	MP							
16	Untreated						0	0	0	0	0	0	0
LSD (P=.05)							2.4	2.0	6.4	3.3	12.5	8.8	0.0
Standard Deviation							1.7	1.4	4.5	2.3	8.8	6.1	0.0
CV							78.66	223.11	5.23	2.72	9.46	6.98	0.0

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Weed Code	ANGR	CHEAL	AMARE	ABUTH	ANGR	CHEAL	AMARE
Crop Code							
Rating Data Type	control	control	control	control	control	control	control
Rating Unit	percent	percent	percent	percent	percent	percent	percent
Rating Date	6/26/07	6/26/07	6/26/07	6/26/07	7/10/07	7/10/07	7/10/07
Trt-Eval Interval	27 DAMP	27 DAMP	27 DAMP	27 DAMP	41 DAMP	41 DAMP	41 DAMP

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	8	9	10	11	12	13	14
1	Dual II Magnum	7.64	L	0.75	pt/a	PRE	80	83	100	87	69	83	100
1	Permit	75	DF	0.66	oz/a	MP							
1	Atrazine	4	L	0.5	qt/a	MP							
1	Herbimax		L	1	% v/v	MP							
1	Ammonium Sulfate	100	DF	1	% w/w	MP							
2	Dual II Magnum	7.64	L	0.75	pt/a	PRE	65	100	100	100	66	100	100
2	Permit	75	DF	0.66	oz/a	MP							
2	Callisto	4	SC	1	fl oz/a	MP							
2	Herbimax		L	1	% v/v	MP							
2	Ammonium Sulfate	100	DF	1	% w/w	MP							
3	Dual II Magnum	7.64	L	0.75	pt/a	PRE	76	97	100	100	68	93	100
3	Permit	75	DF	0.66	oz/a	MP							
3	Laudis	3.5	SC	1	fl oz/a	MP							
3	Herbimax		L	1	% v/v	MP							
3	Ammonium Sulfate	100	DF	1	% w/w	MP							
4	Dual II Magnum	7.64	L	0.75	pt/a	PRE	86	100	100	97	75	100	100
4	Permit	75	DF	0.66	oz/a	MP							
4	Buctril/ATR	3	L	3	pt/a	MP							
4	Activator 90		L	0.25	% v/v	MP							
4	Ammonium Sulfate	100	DF	1	% w/w	MP							
5	Dual II Magnum	7.64	L	0.75	pt/a	PRE	64	100	100	99	64	96	100
5	Permit	75	DF	0.66	oz/a	MP							
5	Buctril	2	EC	1.5	pt/a	MP							
5	Activator 90		L	0.25	% v/v	MP							
5	Ammonium Sulfate	100	DF	1	% w/w	MP							
6	Dual II Magnum	7.64	L	0.75	pt/a	PRE	73	99	100	98	68	100	100
6	Yukon	67.5	WG	6	oz/a	MP							
6	Herbimax		L	1	% v/v	MP							
7	Dual II Magnum	7.64	L	0.75	pt/a	PRE	78	99	100	98	73	98	100
7	Yukon	67.5	WG	5	oz/a	MP							
7	Herbimax		L	1	% v/v	MP							
8	Dual II Magnum	7.64	L	0.75	pt/a	PRE	72	94	100	97	70	98	100
8	Yukon	67.5	WG	4	oz/a	MP							
8	Herbimax		L	1	% v/v	MP							
9	Dual II Magnum	7.64	L	0.75	pt/a	PRE	67	100	100	100	66	100	100
9	Callisto	4	SC	3	fl oz/a	MP							
9	Herbimax		L	1	% v/v	MP							
9	28% Nitrogen		L	2.5	% v/v	MP							
10	Dual II Magnum	7.64	L	0.75	pt/a	PRE	91	0	89	0	78	0	83
10	Untreated												
11	Dual II Magnum	7.64	L	0.75	pt/a	PRE	97	97	100	96	86	91	100
11	Yukon	67.5	WG	3	oz/a	MP							
11	Roundup WeatherMax	4.5	L	22	fl oz/a	MP							
11	Activator 90		L	0.125	% v/v	MP							
11	Ammonium Sulfate	100	DF	17	lb/100 gal	MP							
12	Dual II Magnum	7.64	L	0.75	pt/a	PRE	96	98	100	99	88	96	100
12	Yukon	67.5	WG	4	oz/a	MP							
12	Roundup WeatherMax	4.5	L	22	fl oz/a	MP							
12	Activator 90		L	0.125	% v/v	MP							
12	Ammonium Sulfate	100	DF	17	lb/100 gal	MP							

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Weed Code							ANGR	CHEAL	AMARE	ABUTH	ANGR	CHEAL	AMARE
Crop Code													
Rating Data Type							control	control	control	control	control	control	control
Rating Unit							percent	percent	percent	percent	percent	percent	percent
Rating Date							6/26/07	6/26/07	6/26/07	6/26/07	7/10/07	7/10/07	7/10/07
Trt-Eval Interval							27 DAMP	27 DAMP	27 DAMP	27 DAMP	41 DAMP	41 DAMP	41 DAMP
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	8	9	10	11	12	13	14
13	Dual II Magnum	7.64	L	0.75	pt/a	PRE	97	92	100	96	88	86	100
13	Permit	75	DF	0.5	oz/a	MP							
13	Roundup WeatherMax	4.5	L	22	fl oz/a	MP							
13	Activator 90		L	0.125	% v/v	MP							
13	Ammonium Sulfate	100	DF	17	lb/100 gal	MP							
14	Dual II Magnum	7.64	L	0.75	pt/a	PRE	98	92	100	97	85	90	100
14	Permit	75	DF	0.66	oz/a	MP							
14	Roundup WeatherMax	4.5	L	22	fl oz/a	MP							
14	Activator 90		L	0.125	% v/v	MP							
14	Ammonium Sulfate	100	DF	17	lb/100 gal	MP							
15	Dual II Magnum	7.64	L	0.75	pt/a	PRE	96	72	99	81	80	72	95
15	Roundup WeatherMax	4.5	L	22	fl oz/a	MP							
15	Activator 90		L	0.125	% v/v	MP							
15	Ammonium Sulfate	100	DF	17	lb/100 gal	MP							
16	Untreated						0	0	0	0	0	0	0
LSD (P=.05)							12.6	5.2	3.2	7.0	8.8	6.9	5.2
Standard Deviation							8.8	3.6	2.2	4.9	6.1	4.8	3.6
CV							11.42	4.41	2.38	5.87	8.76	5.94	3.93

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 Conducted: CAMPUS

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 Investigator: James Kells

Weed Code	ABUTH
Crop Code	
Rating Data Type	control Zeamx
Rating Unit	percent yield
Rating Date	7/10/07 10/3/07
Trt-Eval Interval	41 DAMP HARVEST

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	15	16
1	Dual II Magnum	7.64	L	0.75	pt/a	PRE	81	199
1	Permit	75	DF	0.66	oz/a	MP		
1	Atrazine	4	L	0.5	qt/a	MP		
1	Herbimax		L	1	% v/v	MP		
1	Ammonium Sulfate	100	DF	1	% w/w	MP		
2	Dual II Magnum	7.64	L	0.75	pt/a	PRE	100	215
2	Permit	75	DF	0.66	oz/a	MP		
2	Callisto	4	SC	1	fl oz/a	MP		
2	Herbimax		L	1	% v/v	MP		
2	Ammonium Sulfate	100	DF	1	% w/w	MP		
3	Dual II Magnum	7.64	L	0.75	pt/a	PRE	100	196
3	Permit	75	DF	0.66	oz/a	MP		
3	Laudis	3.5	SC	1	fl oz/a	MP		
3	Herbimax		L	1	% v/v	MP		
3	Ammonium Sulfate	100	DF	1	% w/w	MP		
4	Dual II Magnum	7.64	L	0.75	pt/a	PRE	100	203
4	Permit	75	DF	0.66	oz/a	MP		
4	Buctril/ATR	3	L	3	pt/a	MP		
4	Activator 90		L	0.25	% v/v	MP		
4	Ammonium Sulfate	100	DF	1	% w/w	MP		
5	Dual II Magnum	7.64	L	0.75	pt/a	PRE	98	217
5	Permit	75	DF	0.66	oz/a	MP		
5	Buctril	2	EC	1.5	pt/a	MP		
5	Activator 90		L	0.25	% v/v	MP		
5	Ammonium Sulfate	100	DF	1	% w/w	MP		
6	Dual II Magnum	7.64	L	0.75	pt/a	PRE	96	197
6	Yukon	67.5	WG	6	oz/a	MP		
6	Herbimax		L	1	% v/v	MP		
7	Dual II Magnum	7.64	L	0.75	pt/a	PRE	96	205
7	Yukon	67.5	WG	5	oz/a	MP		
7	Herbimax		L	1	% v/v	MP		
8	Dual II Magnum	7.64	L	0.75	pt/a	PRE	100	198
8	Yukon	67.5	WG	4	oz/a	MP		
8	Herbimax		L	1	% v/v	MP		
9	Dual II Magnum	7.64	L	0.75	pt/a	PRE	100	218
9	Callisto	4	SC	3	fl oz/a	MP		
9	Herbimax		L	1	% v/v	MP		
9	28% Nitrogen		L	2.5	% v/v	MP		
10	Dual II Magnum	7.64	L	0.75	pt/a	PRE	0	132
10	Untreated							
11	Dual II Magnum	7.64	L	0.75	pt/a	PRE	95	200
11	Yukon	67.5	WG	3	oz/a	MP		
11	Roundup WeatherMax	4.5	L	22	fl oz/a	MP		
11	Activator 90		L	0.125	% v/v	MP		
11	Ammonium Sulfate	100	DF	17	lb/100 gal	MP		
12	Dual II Magnum	7.64	L	0.75	pt/a	PRE	95	205
12	Yukon	67.5	WG	4	oz/a	MP		
12	Roundup WeatherMax	4.5	L	22	fl oz/a	MP		
12	Activator 90		L	0.125	% v/v	MP		
12	Ammonium Sulfate	100	DF	17	lb/100 gal	MP		

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Weed Code	ABUTH
Crop Code	Zeamx
Rating Data Type	control yield
Rating Unit	percent bu/ac
Rating Date	7/10/07 10/3/07
Trt-Eval Interval	41 DAMP HARVEST

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	15	16
13	Dual II Magnum	7.64	L	0.75	pt/a	PRE	98	210
13	Permit	75	DF	0.5	oz/a	MP		
13	Roundup WeatherMax	4.5	L	22	fl oz/a	MP		
13	Activator 90		L	0.125	% v/v	MP		
13	Ammonium Sulfate	100	DF	17	lb/100 gal	MP		
14	Dual II Magnum	7.64	L	0.75	pt/a	PRE	96	206
14	Permit	75	DF	0.66	oz/a	MP		
14	Roundup WeatherMax	4.5	L	22	fl oz/a	MP		
14	Activator 90		L	0.125	% v/v	MP		
14	Ammonium Sulfate	100	DF	17	lb/100 gal	MP		
15	Dual II Magnum	7.64	L	0.75	pt/a	PRE	79	218
15	Roundup WeatherMax	4.5	L	22	fl oz/a	MP		
15	Activator 90		L	0.125	% v/v	MP		
15	Ammonium Sulfate	100	DF	17	lb/100 gal	MP		
16	Untreated						0	81
LSD (P=.05)							8.5	26.5
Standard Deviation							5.9	18.5
CV							7.14	9.57