

MSU Weed Science Research Program

WEED CONTROL IN CORN WITH HPPD INHIBITORS WITH AND WITHOUT GLYPHOSATE, 2008

Trial ID: C1008
 Conducted: CAMPUS

Study Dir.:
 Investigator: Wesley Everman

Date Planted: 5/5/08 **Row Spacing:** 30 IN
Variety: DKC 46-60 **No. of Reps:** 4
Population: 29,000 S/A **% OM:** 3.4
Soil Type: Clay Loam **pH:** 6.6
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 Grass	
2.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
3.	AMARE	PIGWEEED, ROUGH	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
Application Timing:	PRE	MP1	MP2
Date Treated:	5/5/08	6/5/08	6/11/08
Time Treated:	6:30 PM	8:00 PM	12:25 PM
% Cloud Cover:	60	40	20
Air Temp., Unit:	72 F	80 F	82 F
% Relative Humidity:	24	65	55
Wind Speed/Unit/Dir:	9 mph SW	6 mph SW	5 mph SW
Soil Temp., Unit:	68 F	72 F	71 F
Soil/Leaf Surface M:	5 5	5 5	5 5
Soil Moist (1=w 5=d):	4	2	2

Crop Stage at Each Application

	A	B	C
Crop Name:	ZEAMX	ZEAMX	ZEAMX
Height (In.):		5-8(6)	11-13(12)
Stage (L):		V3-4(4)6L	V4-5(5)7L

Weed Stage at Each Application

	A	B	C
Weed 1 Name:	ANGR	ANGR	ANGR
Height (In.):		.5-7(4)	.5-12(9)
Stage (L):		2-6(5)	2-9(6)
Weed 2 Name:	CHEAL	CHEAL	CHEAL
Height (In.):		.5-6(3)	.5-10(8)
Stage (L):		4-10(8)	2-16(14)
Weed 3 Name:	AMARE	AMARE	AMARE
Height (In.):		1-3(2)	.5-10(8)
Stage (L):		4-8(6)	2-10(8)
Weed 4 Name:	AMBEL	AMBEL	AMBEL
Height (In.):		.5-4(3)	.5-8(6)
Stage (L):		4-8(8)	2-10(10)
Weed 5 Name:	ABUTH	ABUTH	ABUTH
Height (In.):		2-3(2)	.5-5(3)
Stage (L):		3-4(3)	3-4(4)

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Weed Density (plants/sq. ft.)

	1	2
Date:		6/5/08
Weed Name:	ANGR	ANGR
Density:		21
Date:		6/5/08
Weed Name:	CHEAL	CHEAL
Density:		9
Date:		6/5/08
Weed Name:	AMARE	AMARE
Density:		1
Date:		6/5/08
Weed Name:	AMBEL	AMBEL
Density:		9
Date:		6/5/08
Weed Name:	ABUTH	ABUTH
Density:		<1

Application Equipment

Appl	Sprayer	Speed	Nozzle	Nozzle	Nozzle	Nozzle	Boom			
	Type	MPH	Type	Size	Height	Spacing	Width	GPA	Carrier	PSI
A	CUB	3.5	FF	8003	18"	20"	100"	20	H20	30
B	CUB	3.5	FF	8003	23"	20"	100"	20	H20	30
C	CUB	3.5	FF	8003	26"	20"	100"	20	H20	30

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Weed Code							anгр	cheal	amare		
Crop Code							ZEAMX	ZEAMX			
Rating Data Type							injury	injury	control		
Rating Unit							percent	percent	percent		
Rating Date							6/12/08	6/20/08	6/20/08		
Trt-Eval Interval							7 DAMP1	15 DAMP1	15 DAMP1		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	1	2	3	4	5
1	Non-Treated						0	0	0	0	0
2	Dual II Magnum	7.64	L	0.83	pt/a	PRE		0	91	98	100
2	Callisto	4	SC	3	fl oz/a	MP2					
2	Atrazine	4	L	0.5	pt/a	MP2					
2	Herbimax		L	0.25	% v/v	MP2					
2	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP2					
3	Dual II Magnum	7.64	L	0.83	pt/a	PRE		0	96	94	100
3	Impact	2.8	SC	0.75	fl oz/a	MP2					
3	Atrazine	4	L	0.5	pt/a	MP2					
3	Herbimax		L	0.25	% v/v	MP2					
3	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP2					
4	Dual II Magnum	7.64	L	0.83	pt/a	PRE		0	96	95	100
4	Laudis	3.5	SC	3	fl oz/a	MP2					
4	Atrazine	4	L	0.5	pt/a	MP2					
4	Herbimax		L	0.25	% v/v	MP2					
4	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP2					
5	Dual II Magnum	7.64	L	0.83	pt/a	PRE		0	83	67	98
5	Status	56	DF	5	oz/a	MP2					
5	Herbimax		L	0.25	% v/v	MP2					
5	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP2					
6	Touchdown Total	4.17	L	24	fl oz/a	MP1	2	0	91	100	100
6	Callisto	4	SC	3	fl oz/a	MP1					
6	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP1					
7	Touchdown Total	4.17	L	24	fl oz/a	MP1	0	0	91	94	96
7	Impact	2.8	SC	0.75	fl oz/a	MP1					
7	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP1					
8	Touchdown Total	4.17	L	24	fl oz/a	MP1	0	0	94	100	100
8	Laudis	3.5	SC	3	fl oz/a	MP1					
8	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP1					
9	Touchdown Total	4.17	L	24	fl oz/a	MP1	0	0	94	99	98
9	Status	56	DF	2.5	oz/a	MP1					
9	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP1					
10	Touchdown Total	4.17	L	24	fl oz/a	MP1	0	0	96	99	100
10	Northstar	47.4	WG	2.5	oz/a	MP1					
10	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP1					
11	Touchdown Total	4.17	L	24	fl oz/a	MP1	0	0	88	90	94
11	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP1					
LSD (P=.05)							1.0	0.0	6.0	3.5	4.0
Standard Deviation							0.7	0.0	4.2	2.4	2.8
CV							305.51	0.0	5.01	2.85	3.1

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							ambel	abuth		angr	cheal
							control	control	ZEAMX	control	control
							percent	percent	injury	percent	percent
							6/20/08	6/20/08	7/3/08	7/3/08	7/3/08
							15 DAMP1	15 DAMP1	28 DAMP1	28 DAMP1	28 DAMP1
Trt	Treatment	Form	Form	Rate	Rate	Grow	6	7	8	9	10
No.	Name	Conc	Type	Rate	Unit	Stg					
1	Non-Treated						0	0	0	0	0
2	Dual II Magnum	7.64	L	0.83	pt/a	PRE	100	100	0	72	100
2	Callisto	4	SC	3	fl oz/a	MP2					
2	Atrazine	4	L	0.5	pt/a	MP2					
2	Herbimax		L	0.25	% v/v	MP2					
2	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP2					
3	Dual II Magnum	7.64	L	0.83	pt/a	PRE	100	100	0	99	100
3	Impact	2.8	SC	0.75	fl oz/a	MP2					
3	Atrazine	4	L	0.5	pt/a	MP2					
3	Herbimax		L	0.25	% v/v	MP2					
3	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP2					
4	Dual II Magnum	7.64	L	0.83	pt/a	PRE	100	100	0	91	100
4	Laudis	3.5	SC	3	fl oz/a	MP2					
4	Atrazine	4	L	0.5	pt/a	MP2					
4	Herbimax		L	0.25	% v/v	MP2					
4	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP2					
5	Dual II Magnum	7.64	L	0.83	pt/a	PRE	60	65	5	85	80
5	Status	56	DF	5	oz/a	MP2					
5	Herbimax		L	0.25	% v/v	MP2					
5	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP2					
6	Touchdown Total	4.17	L	24	fl oz/a	MP1	98	100	0	78	100
6	Callisto	4	SC	3	fl oz/a	MP1					
6	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP1					
7	Touchdown Total	4.17	L	24	fl oz/a	MP1	91	98	0	75	78
7	Impact	2.8	SC	0.75	fl oz/a	MP1					
7	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP1					
8	Touchdown Total	4.17	L	24	fl oz/a	MP1	100	100	0	80	99
8	Laudis	3.5	SC	3	fl oz/a	MP1					
8	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP1					
9	Touchdown Total	4.17	L	24	fl oz/a	MP1	94	93	0	79	81
9	Status	56	DF	2.5	oz/a	MP1					
9	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP1					
10	Touchdown Total	4.17	L	24	fl oz/a	MP1	98	97	1	81	86
10	Northstar	47.4	WG	2.5	oz/a	MP1					
10	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP1					
11	Touchdown Total	4.17	L	24	fl oz/a	MP1	93	92	0	77	68
11	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP1					
LSD (P=.05)							3.4	4.0	1.9	4.3	4.7
Standard Deviation							2.3	2.8	1.3	2.9	3.2
CV							2.74	3.24	250.87	3.98	4.01

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							amare	ambel	abuth	angr	cheal
							control	control	control	control	control
							percent	percent	percent	percent	percent
							7/3/08	7/3/08	7/3/08	7/31/08	7/31/08
							28 DAMP1	28 DAMP1	28 DAMP1	56 DAMP1	56 DAMP1
Trt	Treatment	Form	Form	Rate	Rate	Grow					
No.	Name	Conc	Type	Rate	Unit	Stg	11	12	13	14	15
1	Non-Treated						0	0	0	0	0
2	Dual II Magnum	7.64	L	0.83	pt/a	PRE	100	100	100	61	100
2	Callisto	4	SC	3	fl oz/a	MP2					
2	Atrazine	4	L	0.5	pt/a	MP2					
2	Herbimax		L	0.25	% v/v	MP2					
2	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP2					
3	Dual II Magnum	7.64	L	0.83	pt/a	PRE	100	99	100	96	100
3	Impact	2.8	SC	0.75	fl oz/a	MP2					
3	Atrazine	4	L	0.5	pt/a	MP2					
3	Herbimax		L	0.25	% v/v	MP2					
3	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP2					
4	Dual II Magnum	7.64	L	0.83	pt/a	PRE	100	100	100	79	100
4	Laudis	3.5	SC	3	fl oz/a	MP2					
4	Atrazine	4	L	0.5	pt/a	MP2					
4	Herbimax		L	0.25	% v/v	MP2					
4	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP2					
5	Dual II Magnum	7.64	L	0.83	pt/a	PRE	91	93	93	67	100
5	Status	56	DF	5	oz/a	MP2					
5	Herbimax		L	0.25	% v/v	MP2					
5	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP2					
6	Touchdown Total	4.17	L	24	fl oz/a	MP1	100	92	100	69	100
6	Callisto	4	SC	3	fl oz/a	MP1					
6	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP1					
7	Touchdown Total	4.17	L	24	fl oz/a	MP1	93	74	81	60	71
7	Impact	2.8	SC	0.75	fl oz/a	MP1					
7	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP1					
8	Touchdown Total	4.17	L	24	fl oz/a	MP1	100	97	98	68	99
8	Laudis	3.5	SC	3	fl oz/a	MP1					
8	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP1					
9	Touchdown Total	4.17	L	24	fl oz/a	MP1	98	77	80	71	83
9	Status	56	DF	2.5	oz/a	MP1					
9	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP1					
10	Touchdown Total	4.17	L	24	fl oz/a	MP1	100	83	90	68	85
10	Northstar	47.4	WG	2.5	oz/a	MP1					
10	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP1					
11	Touchdown Total	4.17	L	24	fl oz/a	MP1	84	71	75	61	54
11	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP1					
LSD (P=.05)							6.0	5.9	8.1	11.7	9.5
Standard Deviation							4.1	4.1	5.6	8.1	6.6
CV							4.7	5.09	6.74	12.77	8.15

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Weed Code							amare	ambel	abuth	
Crop Code										ZEAMX
Rating Data Type							control	control	control	yield
Rating Unit							percent	percent	percent	bu/ac
Rating Date							7/31/08	7/31/08	7/31/08	10/17/08
Trt-Eval Interval							56 DAMP1	56 DAMP1	56 DAMP1	HARVEST
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit	Grow Stg	16	17	18	19
1	Non-Treated						0	0	0	21
2	Dual II Magnum	7.64	L	0.83	pt/a	PRE	100	100	100	213
2	Callisto	4	SC	3	fl oz/a	MP2				
2	Atrazine	4	L	0.5	pt/a	MP2				
2	Herbimax		L	0.25	% v/v	MP2				
2	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP2				
3	Dual II Magnum	7.64	L	0.83	pt/a	PRE	100	100	100	222
3	Impact	2.8	SC	0.75	fl oz/a	MP2				
3	Atrazine	4	L	0.5	pt/a	MP2				
3	Herbimax		L	0.25	% v/v	MP2				
3	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP2				
4	Dual II Magnum	7.64	L	0.83	pt/a	PRE	100	100	100	206
4	Laudis	3.5	SC	3	fl oz/a	MP2				
4	Atrazine	4	L	0.5	pt/a	MP2				
4	Herbimax		L	0.25	% v/v	MP2				
4	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP2				
5	Dual II Magnum	7.64	L	0.83	pt/a	PRE	100	100	100	208
5	Status	56	DF	5	oz/a	MP2				
5	Herbimax		L	0.25	% v/v	MP2				
5	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP2				
6	Touchdown Total	4.17	L	24	fl oz/a	MP1	100	98	100	212
6	Callisto	4	SC	3	fl oz/a	MP1				
6	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP1				
7	Touchdown Total	4.17	L	24	fl oz/a	MP1	80	63	93	215
7	Impact	2.8	SC	0.75	fl oz/a	MP1				
7	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP1				
8	Touchdown Total	4.17	L	24	fl oz/a	MP1	98	100	99	212
8	Laudis	3.5	SC	3	fl oz/a	MP1				
8	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP1				
9	Touchdown Total	4.17	L	24	fl oz/a	MP1	88	71	80	215
9	Status	56	DF	2.5	oz/a	MP1				
9	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP1				
10	Touchdown Total	4.17	L	24	fl oz/a	MP1	100	78	95	209
10	Northstar	47.4	WG	2.5	oz/a	MP1				
10	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP1				
11	Touchdown Total	4.17	L	24	fl oz/a	MP1	84	64	84	197
11	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP1				
LSD (P=.05)							10.1	5.1	7.9	20.1
Standard Deviation							7.0	3.6	5.5	13.9
CV							8.12	4.48	6.37	7.19