

**MSU Weed Science Research Program**

BROADLEAF WEED CONTROL IN CORN WITH HPPD INHIBITORS, 2008

Trial ID: C0908  
 Conducted: CAMPUS

Study Dir.:  
 Investigator: Wesley Everman

**Date Planted:** 5/5/08                      **Row Spacing:** 30 IN  
**Variety:** DKC 46-60                      **No. of Reps:** 3  
**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, 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
<b>Application Timing:</b>	PRE	POST	LP
<b>Date Treated:</b>	5/5/08	6/5/08	6/12/08
<b>Time Treated:</b>	6:00 PM	7:30 PM	10:00 AM
<b>% Cloud Cover:</b>	60	40	90
<b>Air Temp., Unit:</b>	72 F	82 F	72 F
<b>% Relative Humidity:</b>	24	65	65
<b>Wind Speed/Unit/Dir:</b>	9 mph SW	6 mph SW	4 mph E
<b>Soil Temp., Unit:</b>	68 F	72 F	63 F
<b>Soil/Leaf Surface M:</b>	5 5	5 5	5 5
<b>Soil Moist (1=w 5=d):</b>	4	2	3

**Crop Stage at Each Application**

	A	B	C
<b>Crop Name:</b>	ZEAMX	ZEAMX	ZEAMX
<b>Height (In.):</b>		5-8(6)	10-12(11)
<b>Stage (L):</b>		V3-4(4)6L	V4-5(5)8L

**Weed Stage at Each Application**

	A	B	C
<b>Weed 1 Name:</b>	ANGR	ANGR	ANGR
<b>Height (In.):</b>		.5-7(4)	.5-8(6)
<b>Stage (L):</b>		2-6(5)	2-8(6)
<b>Weed 2 Name:</b>	CHEAL	CHEAL	CHEAL
<b>Height (In.):</b>		.5-6(3)	.5-8(6)
<b>Stage (L):</b>		4-10(8)	2-18(10)
<b>Weed 3 Name:</b>	AMARE	AMARE	AMARE
<b>Height (In.):</b>		1-3(2)	.5-6(4)
<b>Stage (L):</b>		4-8(6)	2-9(7)
<b>Weed 4 Name:</b>	AMBEL	AMBEL	AMBEL
<b>Height (In.):</b>		.5-4(3)	.5-6(5)
<b>Stage (L):</b>		4-8(8)	2-10(8)
<b>Weed 5 Name:</b>	ABUTH	ABUTH	ABUTH
<b>Height (In.):</b>		2-3(2)	.5-8(6)
<b>Stage (L):</b>		3-4(3)	2-5(5)

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**Weed Density (plants/sq. ft.)**

	<b>1</b>	<b>2</b>	<b>3</b>
<b>Date:</b>	5/5/08	6/5/08	6/12/08
<b>Weed Name:</b>	ANGR	ANGR	ANGR
<b>Density:</b>	30	6	
<b>Date:</b>	5/5/08	6/5/08	6/12/08
<b>Weed Name:</b>	CHEAL	CHEAL	CHEAL
<b>Density:</b>	15	14	
<b>Date:</b>	5/5/08	6/5/08	6/12/08
<b>Weed Name:</b>	AMARE	AMARE	AMARE
<b>Density:</b>	<1	<1	
<b>Date:</b>	5/5/08	6/5/08	6/12/08
<b>Weed Name:</b>	AMBEL	AMBEL	AMBEL
<b>Density:</b>	13	10	
<b>Date:</b>	5/5/08	6/5/08	6/12/08
<b>Weed Name:</b>	ABUTH	ABUTH	ABUTH
<b>Density:</b>	1	1	

**Application Equipment**

<b>Appl</b>	<b>Sprayer</b>	<b>Speed</b>	<b>Nozzle</b>	<b>Nozzle</b>	<b>Nozzle</b>	<b>Nozzle</b>	<b>Boom</b>			
	<b>Type</b>	<b>MPH</b>	<b>Type</b>	<b>Size</b>	<b>Height</b>	<b>Spacing</b>	<b>Width</b>	<b>GPA</b>	<b>Carrier</b>	<b>PSI</b>
<b>A</b>	CUB	3.5	FF	8003	18"	20"	100"	20	H20	30
<b>B</b>	CUB	3.5	FF	8003	23"	20"	100"	20	H20	30
<b>C</b>	CUB	3.5	FF	8003	29"	20"	100"	20	H20	30

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Weed Code							anгр	cheal	amare			
Crop Code							ZEAMX	ZEAMX	ZEAMX			
Rating Data Type							injury	injury	injury			
Rating Unit							percent	percent	percent			
Rating Date							6/12/08	6/19/08	6/26/08			
Trt-Eval Interval							7 DAPO	14 DAPO	14 DALP			
Trt	Treatment	Form	Form	Rate	Rate	Grow						
No.	Name	Conc	Type		Unit	Stg	1	2	3	4	5	6
1	Non-Treated						0	0	0	0	0	0
2	Dual II Magnum	7.64	L	0.66	pt/a	PRE	0	0	0	80	0	73
3	Dual II Magnum	7.64	L	0.66	pt/a	PRE	0	0	0	100	100	100
3	Impact	2.8	SC	0.73	fl oz/a	POST						
3	Atrazine	4	L	0.5	qt/a	POST						
3	MSO		L	1	% v/v	POST						
3	28% Nitrogen		L	2.5	% v/v	POST						
4	Dual II Magnum	7.64	L	0.66	pt/a	PRE	4	0	0	95	100	100
4	Callisto	4	SC	3	fl oz/a	POST						
4	Atrazine	4	L	0.25	qt/a	POST						
4	Herbimax		L	1	% v/v	POST						
4	28% Nitrogen		L	2.5	% v/v	POST						
5	Dual II Magnum	7.64	L	0.66	pt/a	PRE	2	0	0	99	100	100
5	Laudis	3.5	SC	3	fl oz/a	POST						
5	Atrazine	4	L	0.5	qt/a	POST						
5	Herbimax		L	1	% v/v	POST						
5	28% Nitrogen		L	1.5	% v/v	POST						
6	Dual II Magnum	7.64	L	0.66	pt/a	PRE	0	0	0	97	100	100
6	Impact	2.8	SC	0.503	fl oz/a	POST						
6	Atrazine	4	L	0.5	qt/a	POST						
6	MSO		L	1	% v/v	POST						
6	28% Nitrogen		L	1.5	% v/v	POST						
7	Dual II Magnum	7.64	L	0.66	pt/a	PRE	0	0	0	100	100	100
7	Impact	2.8	SC	0.5	fl oz/a	POST						
7	Roundup WeatherMax	4.5	L	22	fl oz/a	LP						
7	Ammonium Sulfate	100	DF	8.5	lb/100 gal	LP						
8	Dual II Magnum	7.64	L	0.66	pt/a	PRE	0	0	0	98	100	100
8	Impact	2.8	SC	0.503	fl oz/a	LP						
8	Roundup WeatherMax	4.5	L	22	fl oz/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	0.66	pt/a	PRE	0	0	0	99	100	100
9	Roundup WeatherMax	4.5	L	22	fl oz/a	LP						
9	Ammonium Sulfate	100	DF	8.5	lb/100 gal	LP						
10	Impact	2.8	SC	0.73	fl oz/a	POST	0	0	0	98	100	100
10	Atrazine	4	L	0.5	qt/a	POST						
10	MSO		L	1	% v/v	POST						
10	28% Nitrogen		L	2.5	% v/v	POST						
LSD (P=.05)							1.2	0.0	0.0	8.0	0.0	3.1
Standard Deviation							0.7	0.0	0.0	4.7	0.0	1.8
CV							106.57	0.0	0.0	5.37	0.0	2.09

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Weed Code	ambel	abuth		anгр	cheal	amare
Crop Code			ZEAMX			
Rating Data Type	control	control	injury	control	control	control
Rating Unit	percent	percent	percent	percent	percent	percent
Rating Date	6/26/08	6/26/08	7/2/08	7/2/08	7/2/08	7/2/08
Trt-Eval Interval	14 DALP	14 DALP	20 DALP	20 DALP	20 DALP	20 DALP

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	7	8	9	10	11	12
1	Non-Treated						0	0	0	0	0	0
2	Dual II Magnum	7.64	L	0.66	pt/a	PRE	0	0	0	85	7	0
3	Dual II Magnum	7.64	L	0.66	pt/a	PRE	91	100	0	97	99	100
3	Impact	2.8	SC	0.73	fl oz/a	POST						
3	Atrazine	4	L	0.5	qt/a	POST						
3	MSO		L	1	% v/v	POST						
3	28% Nitrogen		L	2.5	% v/v	POST						
4	Dual II Magnum	7.64	L	0.66	pt/a	PRE	99	100	0	89	100	100
4	Callisto	4	SC	3	fl oz/a	POST						
4	Atrazine	4	L	0.25	qt/a	POST						
4	Herbimax		L	1	% v/v	POST						
4	28% Nitrogen		L	2.5	% v/v	POST						
5	Dual II Magnum	7.64	L	0.66	pt/a	PRE	99	100	0	99	100	100
5	Laudis	3.5	SC	3	fl oz/a	POST						
5	Atrazine	4	L	0.5	qt/a	POST						
5	Herbimax		L	1	% v/v	POST						
5	28% Nitrogen		L	1.5	% v/v	POST						
6	Dual II Magnum	7.64	L	0.66	pt/a	PRE	90	98	0	98	100	100
6	Impact	2.8	SC	0.503	fl oz/a	POST						
6	Atrazine	4	L	0.5	qt/a	POST						
6	MSO		L	1	% v/v	POST						
6	28% Nitrogen		L	1.5	% v/v	POST						
7	Dual II Magnum	7.64	L	0.66	pt/a	PRE	98	100	0	95	98	100
7	Impact	2.8	SC	0.5	fl oz/a	POST						
7	Roundup WeatherMax	4.5	L	22	fl oz/a	LP						
7	Ammonium Sulfate	100	DF	8.5	lb/100 gal	LP						
8	Dual II Magnum	7.64	L	0.66	pt/a	PRE	100	100	0	99	100	100
8	Impact	2.8	SC	0.503	fl oz/a	LP						
8	Roundup WeatherMax	4.5	L	22	fl oz/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	0.66	pt/a	PRE	99	100	0	97	98	100
9	Roundup WeatherMax	4.5	L	22	fl oz/a	LP						
9	Ammonium Sulfate	100	DF	8.5	lb/100 gal	LP						
10	Impact	2.8	SC	0.73	fl oz/a	POST	98	100	0	94	98	100
10	Atrazine	4	L	0.5	qt/a	POST						
10	MSO		L	1	% v/v	POST						
10	28% Nitrogen		L	2.5	% v/v	POST						
LSD (P=.05)							3.8	1.6	0.0	5.4	6.9	0.0
Standard Deviation							2.2	0.9	0.0	3.1	4.0	0.0
CV							2.9	1.14	0.0	3.68	5.02	0.0

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Weed Code		ambel	abuth	angr	cheal	amare	ambel
Crop Code							
Rating Data Type		control	control	control	control	control	control
Rating Unit		percent	percent	percent	percent	percent	percent
Rating Date		7/2/08	7/2/08	7/30/08	7/30/08	7/30/08	7/30/08
Trt-Eval Interval		20 DALP	20 DALP	48 DALP	48 DALP	48 DALP	48 DALP

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	13	14	15	16	17	18
1	Non-Treated						0	0	0	0	0	0
2	Dual II Magnum	7.64	L	0.66	pt/a	PRE	0	0	88	48	100	0
3	Dual II Magnum	7.64	L	0.66	pt/a	PRE	93	100	93	94	100	90
3	Impact	2.8	SC	0.73	fl oz/a	POST						
3	Atrazine	4	L	0.5	qt/a	POST						
3	MSO		L	1	% v/v	POST						
3	28% Nitrogen		L	2.5	% v/v	POST						
4	Dual II Magnum	7.64	L	0.66	pt/a	PRE	98	100	78	100	100	97
4	Callisto	4	SC	3	fl oz/a	POST						
4	Atrazine	4	L	0.25	qt/a	POST						
4	Herbimax		L	1	% v/v	POST						
4	28% Nitrogen		L	2.5	% v/v	POST						
5	Dual II Magnum	7.64	L	0.66	pt/a	PRE	97	100	96	99	100	97
5	Laudis	3.5	SC	3	fl oz/a	POST						
5	Atrazine	4	L	0.5	qt/a	POST						
5	Herbimax		L	1	% v/v	POST						
5	28% Nitrogen		L	1.5	% v/v	POST						
6	Dual II Magnum	7.64	L	0.66	pt/a	PRE	88	100	95	97	100	88
6	Impact	2.8	SC	0.503	fl oz/a	POST						
6	Atrazine	4	L	0.5	qt/a	POST						
6	MSO		L	1	% v/v	POST						
6	28% Nitrogen		L	1.5	% v/v	POST						
7	Dual II Magnum	7.64	L	0.66	pt/a	PRE	95	100	95	96	100	92
7	Impact	2.8	SC	0.5	fl oz/a	POST						
7	Roundup WeatherMax	4.5	L	22	fl oz/a	LP						
7	Ammonium Sulfate	100	DF	8.5	lb/100 gal	LP						
8	Dual II Magnum	7.64	L	0.66	pt/a	PRE	100	100	97	100	100	97
8	Impact	2.8	SC	0.503	fl oz/a	LP						
8	Roundup WeatherMax	4.5	L	22	fl oz/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	0.66	pt/a	PRE	98	99	95	98	100	99
9	Roundup WeatherMax	4.5	L	22	fl oz/a	LP						
9	Ammonium Sulfate	100	DF	8.5	lb/100 gal	LP						
10	Impact	2.8	SC	0.73	fl oz/a	POST	94	100	87	98	100	95
10	Atrazine	4	L	0.5	qt/a	POST						
10	MSO		L	1	% v/v	POST						
10	28% Nitrogen		L	2.5	% v/v	POST						
LSD (P=.05)							7.5	0.6	9.1	15.9	0.0	8.1
Standard Deviation							4.4	0.4	5.3	9.3	0.0	4.7
CV							5.72	0.46	6.46	11.17	0.0	6.27

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Weed Code		abuth	
Crop Code			ZEAMX
Rating Data Type		control	yield
Rating Unit		percent	bu/ac
Rating Date		7/30/08	10/17/08
Trt-Eval Interval		48 DALP	HARVEST

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	19	20
1	Non-Treated						0	89
2	Dual II Magnum	7.64	L	0.66	pt/a	PRE	0	83
3	Dual II Magnum	7.64	L	0.66	pt/a	PRE	100	229
3	Impact	2.8	SC	0.73	fl oz/a	POST		
3	Atrazine	4	L	0.5	qt/a	POST		
3	MSO		L	1	% v/v	POST		
3	28% Nitrogen		L	2.5	% v/v	POST		
4	Dual II Magnum	7.64	L	0.66	pt/a	PRE	100	227
4	Callisto	4	SC	3	fl oz/a	POST		
4	Atrazine	4	L	0.25	qt/a	POST		
4	Herbimax		L	1	% v/v	POST		
4	28% Nitrogen		L	2.5	% v/v	POST		
5	Dual II Magnum	7.64	L	0.66	pt/a	PRE	100	232
5	Laudis	3.5	SC	3	fl oz/a	POST		
5	Atrazine	4	L	0.5	qt/a	POST		
5	Herbimax		L	1	% v/v	POST		
5	28% Nitrogen		L	1.5	% v/v	POST		
6	Dual II Magnum	7.64	L	0.66	pt/a	PRE	95	233
6	Impact	2.8	SC	0.503	fl oz/a	POST		
6	Atrazine	4	L	0.5	qt/a	POST		
6	MSO		L	1	% v/v	POST		
6	28% Nitrogen		L	1.5	% v/v	POST		
7	Dual II Magnum	7.64	L	0.66	pt/a	PRE	98	218
7	Impact	2.8	SC	0.5	fl oz/a	POST		
7	Roundup WeatherMax	4.5	L	22	fl oz/a	LP		
7	Ammonium Sulfate	100	DF	8.5	lb/100 gal	LP		
8	Dual II Magnum	7.64	L	0.66	pt/a	PRE	100	225
8	Impact	2.8	SC	0.503	fl oz/a	LP		
8	Roundup WeatherMax	4.5	L	22	fl oz/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	0.66	pt/a	PRE	100	228
9	Roundup WeatherMax	4.5	L	22	fl oz/a	LP		
9	Ammonium Sulfate	100	DF	8.5	lb/100 gal	LP		
10	Impact	2.8	SC	0.73	fl oz/a	POST	98	231
10	Atrazine	4	L	0.5	qt/a	POST		
10	MSO		L	1	% v/v	POST		
10	28% Nitrogen		L	2.5	% v/v	POST		

LSD (P=.05)		5.4	41.7
Standard Deviation		3.1	24.1
CV		3.96	12.08