

MSU Weed Science Research Program

WEED CONTROL WITH CAPRENO, CORVUS AND BALANCE FLEXX, 2009

Trial ID: C0609
 Conducted: CAMPUS

Study Dir.: Andy Chomas
 Investigator: Wesley Everman

Date Planted: 5/7/09 **Row Spacing:** 30 IN
Variety: PIONEER 37Y14 **No. of Reps:** 3
Population: 29,000 S/A **% OM:** 3.4
Soil Type: Loam **pH:** 6.4
Plot Size: 10 X 35 FT **Design:** RANDOMIZED COMPLETE BLOCK

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

Crop and Weed Description

Weed	Code	Common Name	Scientific Name
1.	ANGR	Annual Grass species	
2.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
3.	AMARE	PIGWEEED, REDROOT	AMARANTHUS RETROFLEXUS L.
4.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
Crop	Code	Common Name	
1.	ZEAMX	CORN, FIELD	

Application Description

	A	B	C	D	E
Application Timing:	PRE	SPIKE	EP	MP	LP
Date Treated:	5/7/09	5/20/09	5/30/09	6/4/09	6/15/09
Time Treated:	8:15 PM	10:00 AM	9:00 AM	4:10 PM	3:00 PM
% Cloud Cover:	60	0	80	25	25
Air Temp., Unit:	70 F	70 F	53 F	77 F	89 F
% Relative Humidity:	54	45	75	25	20
Wind Speed/Unit/Dir:	3 mph W	8 mph SW	3 mph W	3 mph S	5 mph N
Soil Temp., Unit:	60 F	58 F	51 F	78 F	80 F
Soil/Leaf Surface M:		5	1	5	5
Soil Moist (1=w 5=d):	3	5	4	4	4

Crop Stage at Each Application

	A	B	C	D	E
Crop Name:	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX
Height (In.):		.25	4-6(4)	6-11(8)	10-18(17)
Stage (L):		SPIKE	4:V2-3(3)	6:V3-4(3)	7:V4-6(5)

Weed Stage at Each Application

	A	B	C	D	E
Weed 1 Name:	ANGR	ANGR	ANGR	ANGR	ANGR
Height (In.):		.25	1-3(2)	1-5(3)	1-12(10)
Stage (L):		spike	1-3(2)	1-4(3)	3-7(5)
Weed 2 Name:	CHEAL	CHEAL	CHEAL	CHEAL	CHEAL
Height (In.):		.25	1-2(1)	1-3(2)	1-9(6)
Stage (L):		cot	2-4(2)	2-4(4)	2-5(6)
Weed 3 Name:	AMARE	AMARE	AMARE	AMARE	AMARE
Height (In.):			.5	.3-2.5(2)	1-4(8)
Stage (L):			2	1-6(4)	4-10(7)
Weed 4 Name:	ABUTH	ABUTH	ABUTH	ABUTH	ABUTH
Height (In.):		.25	.5-1.5(1)	1-2.5(2)	2
Stage (L):		cot	cot-1	cot-3(2)	2

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Weed Density (plants/sq. ft.)

	1	2	3	4	5
Date:	5/7/09	5/20/09	5/30/09	6/4/09	6/15/09
Weed Name:	ANGR	ANGR	ANGR	ANGR	ANGR
Density:			16	19	29
Date:	5/7/09	5/20/09	5/30/09	6/4/09	6/15/09
Weed Name:	CHEAL	CHEAL	CHEAL	CHEAL	CHEAL
Density:			29	30	50
Date:	5/7/09	5/20/09	5/30/09	6/4/09	6/15/09
Weed Name:	AMARE	AMARE	AMARE	AMARE	AMARE
Density:			4	4	7
Date:	5/7/09	5/20/09	5/30/09	6/4/09	6/15/09
Weed Name:	AMBEL	AMBEL	AMBEL	AMBEL	AMBEL
Date:	5/7/09	5/20/09	5/30/09	6/4/09	6/15/09
Weed Name:	ABUTH	ABUTH	ABUTH	ABUTH	ABUTH
Density:			<1	2	<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	19"	20"	100"	20	H2O	30
B	CUB	3.5	FF	8003	19"	20"	100"	20	H2O	30
C	BP	3.5	FF	8003	21"	20"	100"	20	H2O	30
D	CUB	3.5	FF	8003	22"	20"	100"	20	H2O	30
E	CUB	3.5	FF	8003	28"	20"	100"	20	H2O	30

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Weed Code	Crop Code	Rating Data Type	Rating Unit	Rating Date	Trt-Eval Interval	ARM Action Codes	ZEAMX injury percent 6/18/09 14 DAMP	ANGR control percent 6/18/09 14 DAMP	CHEAL control percent 6/18/09 14 DAMP	AMARE control percent 6/18/09 14 DAMP	ABUTH control percent 6/18/09 14 DAMP	ZEAMX injury percent 7/2/09 28 DAMP	ANGR control percent 7/2/09 28 DAMP
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	1	2	3	4	5	6	7
1	Non-Treated						0	0	0	0	0	0	0
2	Corvus	2.6	SC	3	fl oz/a	PRE	0	92	100	100	90	0	82
2	Atrazine	4	L	1	qt/a	PRE							
3	Corvus	2.6	SC	3	fl oz/a	PRE	0	77	82	97	83	0	73
4	Capreno	3.45	SC	2	fl oz/a	LP	0	30	30	30	30	5	98
4	Roundup PowerMAX	4.5	L	22	fl oz/a	LP							
4	Ammonium Sulfate	100	DF	8.5	lb/100 gal	LP							
5	Capreno	3.45	SC	3	fl oz/a	LP	0	30	30	30	30	6	93
5	Roundup PowerMAX	4.5	L	7	fl oz/a	LP							
5	Herbimax		L	1	% v/v	LP							
5	Ammonium Sulfate	100	DF	8.5	lb/100 gal	LP							
6	Laudis	3.5	SC	3	fl oz/a	MP	0	91	100	100	92	0	85
6	Prowl H2O	3.8	L	2	pt/a	MP							
6	MSO		L	1	% v/v	MP							
6	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP							
7	Balance FLEXX	2	SC	5	fl oz/a	SPIKE	0	78	97	93	97	0	76
7	Atrazine	4	L	1	pt/a	SPIKE							
8	Balance FLEXX	2	SC	5	fl oz/a	PRE	0	92	100	96	100	0	85
8	Atrazine	4	L	1	pt/a	PRE							
9	Impact	2.8	SC	0.75	fl oz/a	MP	0	97	100	100	95	0	80
9	Atrazine	4	L	1	pt/a	MP							
9	Herbimax		L	1	% v/v	MP							
9	UAN 28%		L	1.5	qt/a	MP							
10	Capreno	3.45	SC	3	fl oz/a	MP	0	90	100	100	100	0	84
10	Atrazine	4	L	1	pt/a	MP							
10	Herbimax		L	1	% v/v	MP							
10	UAN 28%		L	1.5	qt/a	MP							
11	Laudis	3.5	SC	3	fl oz/a	MP	0	99	100	100	100	0	87
11	Atrazine	4	L	2	pt/a	MP							
11	MSO		L	1	% v/v	MP							
11	UAN 28%		L	1.5	qt/a	MP							
12	Capreno	3.45	SC	3	fl oz/a	LP	0	17	17	17	17	7	67
12	Atrazine	4	L	1	pt/a	LP							
12	Herbimax		L	1	% v/v	LP							
12	UAN 28%		L	1.5	qt/a	LP							
13	Bicep Lite II Magnum	6	L	1.5	pt/a	PRE	0	99	97	98	98	0	87
13	Ignite 280	2.34	L	22	fl oz/a	MP							
13	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP							
14	Balance FLEXX	2	SC	2	fl oz/a	PRE	0	94	98	99	100	0	87
14	Ignite 280	2.34	L	22	fl oz/a	MP							
14	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP							
15	Ignite 280	2.34	L	22	fl oz/a	EP	0	79	90	100	70	0	86
15	Ammonium Sulfate	100	DF	8.5	lb/100 gal	EP							
15	Ignite 280	2.34	L	22	fl oz/a	LP							
15	Ammonium Sulfate	100	DF	8.5	lb/100 gal	LP							

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Weed Code		ANGR	CHEAL	AMARE	ABUTH		ANGR
Crop Code		ZEAMX				ZEAMX	
Rating Data Type		injury	control	control	control	injury	control
Rating Unit		percent	percent	percent	percent	percent	percent
Rating Date		6/18/09	6/18/09	6/18/09	6/18/09	7/2/09	7/2/09
Trt-Eval Interval		14 DAMP	14 DAMP	14 DAMP	14 DAMP	28 DAMP	28 DAMP

ARM Action Codes

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	1	2	3	4	5	6	7
16	Ignite 280	2.34	L	22	fl oz/a	MP	0	98	100	100	96	0	84
16	Atrazine	4	L	1.5	qt/a	MP							
16	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP							

LSD (P=.05)	0.0	9.9	7.7	8.3	10.9	2.4	8.7
Standard Deviation	0.0	5.9	4.6	5.0	6.5	1.5	5.2
CV	0.0	8.14	5.93	6.32	8.74	135.0	6.63

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Weed Code	CHEAL	AMARE	ABUTH	ANGR	CHEAL	AMARE	ABUTH
Crop Code							
Rating Data Type	control	control	control	control	control	control	control
Rating Unit	percent	percent	percent	percent	percent	percent	percent
Rating Date	7/2/09	7/2/09	7/2/09	7/15/09	7/15/09	7/15/09	7/15/09
Trt-Eval Interval	28 DAMP	28 DAMP	28 DAMP	41 DAMP	41 DAMP	41 DAMP	41 DAMP
ARM Action Codes							

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	8	9	10	11	12	13	14
1	Non-Treated						0	0	0	0	0	0	0
2	Corvus	2.6	SC	3	fl oz/a	PRE	99	100	98	77	100	99	99
2	Atrazine	4	L	1	qt/a	PRE							
3	Corvus	2.6	SC	3	fl oz/a	PRE	84	92	79	69	87	95	90
4	Capreno	3.45	SC	2	fl oz/a	LP	94	100	98	97	92	100	99
4	Roundup PowerMAX	4.5	L	22	fl oz/a	LP							
4	Ammonium Sulfate	100	DF	8.5	lb/100 gal	LP							
5	Capreno	3.45	SC	3	fl oz/a	LP	92	100	99	97	89	96	98
5	Roundup PowerMAX	4.5	L	7	fl oz/a	LP							
5	Herbimax		L	1	% v/v	LP							
5	Ammonium Sulfate	100	DF	8.5	lb/100 gal	LP							
6	Laudis	3.5	SC	3	fl oz/a	MP	100	98	98	82	100	90	97
6	Prowl H2O	3.8	L	2	pt/a	MP							
6	MSO		L	1	% v/v	MP							
6	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP							
7	Balance FLEXX	2	SC	5	fl oz/a	SPIKE	100	100	99	76	97	91	100
7	Atrazine	4	L	1	pt/a	SPIKE							
8	Balance FLEXX	2	SC	5	fl oz/a	PRE	100	87	98	78	100	83	95
8	Atrazine	4	L	1	pt/a	PRE							
9	Impact	2.8	SC	0.75	fl oz/a	MP	99	100	85	76	100	100	88
9	Atrazine	4	L	1	pt/a	MP							
9	Herbimax		L	1	% v/v	MP							
9	UAN 28%		L	1.5	qt/a	MP							
10	Capreno	3.45	SC	3	fl oz/a	MP	100	100	100	78	100	100	97
10	Atrazine	4	L	1	pt/a	MP							
10	Herbimax		L	1	% v/v	MP							
10	UAN 28%		L	1.5	qt/a	MP							
11	Laudis	3.5	SC	3	fl oz/a	MP	100	100	100	83	100	100	100
11	Atrazine	4	L	2	pt/a	MP							
11	MSO		L	1	% v/v	MP							
11	UAN 28%		L	1.5	qt/a	MP							
12	Capreno	3.45	SC	3	fl oz/a	LP	95	84	98	66	100	100	100
12	Atrazine	4	L	1	pt/a	LP							
12	Herbimax		L	1	% v/v	LP							
12	UAN 28%		L	1.5	qt/a	LP							
13	Bicep Lite II Magnum	6	L	1.5	pt/a	PRE	89	79	84	78	84	73	76
13	Ignite 280	2.34	L	22	fl oz/a	MP							
13	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP							
14	Balance FLEXX	2	SC	2	fl oz/a	PRE	93	89	93	75	94	88	92
14	Ignite 280	2.34	L	22	fl oz/a	MP							
14	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP							
15	Ignite 280	2.34	L	22	fl oz/a	EP	85	96	88	80	85	91	84
15	Ammonium Sulfate	100	DF	8.5	lb/100 gal	EP							
15	Ignite 280	2.34	L	22	fl oz/a	LP							
15	Ammonium Sulfate	100	DF	8.5	lb/100 gal	LP							

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Weed Code	CHEAL	AMARE	ABUTH	ANGR	CHEAL	AMARE	ABUTH
Crop Code							
Rating Data Type	control	control	control	control	control	control	control
Rating Unit	percent	percent	percent	percent	percent	percent	percent
Rating Date	7/2/09	7/2/09	7/2/09	7/15/09	7/15/09	7/15/09	7/15/09
Trt-Eval Interval	28 DAMP	28 DAMP	28 DAMP	41 DAMP	41 DAMP	41 DAMP	41 DAMP

ARM Action Codes

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	8	9	10	11	12	13	14
16	Ignite 280	2.34	L	22	fl oz/a	MP	100	99	95	76	98	100	87
16	Atrazine	4	L	1.5	qt/a	MP							
16	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP							

LSD (P=.05)	7.8	8.2	7.8	11.1	8.5	10.0	7.5
Standard Deviation	4.7	4.9	4.7	6.7	5.1	6.0	4.5
CV	5.24	5.5	5.27	8.98	5.72	6.81	5.16

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Weed Code
 Crop Code
 Rating Data Type
 Rating Unit
 Rating Date
 Trt-Eval Interval
 ARM Action Codes

ZEAMX
 yield
 bu/a
 11/5/09
 HARVEST

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	15
1	Non-Treated						172
2	Corvus	2.6	SC	3	fl oz/a	PRE	231
2	Atrazine	4	L	1	qt/a	PRE	
3	Corvus	2.6	SC	3	fl oz/a	PRE	224
4	Capreno	3.45	SC	2	fl oz/a	LP	212
4	Roundup PowerMAX	4.5	L	22	fl oz/a	LP	
4	Ammonium Sulfate	100	DF	8.5	lb/100 gal	LP	
5	Capreno	3.45	SC	3	fl oz/a	LP	210
5	Roundup PowerMAX	4.5	L	7	fl oz/a	LP	
5	Herbimax		L	1	% v/v	LP	
5	Ammonium Sulfate	100	DF	8.5	lb/100 gal	LP	
6	Laudis	3.5	SC	3	fl oz/a	MP	237
6	Prowl H2O	3.8	L	2	pt/a	MP	
6	MSO		L	1	% v/v	MP	
6	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP	
7	Balance FLEXX	2	SC	5	fl oz/a	SPIKE	233
7	Atrazine	4	L	1	pt/a	SPIKE	
8	Balance FLEXX	2	SC	5	fl oz/a	PRE	235
8	Atrazine	4	L	1	pt/a	PRE	
9	Impact	2.8	SC	0.75	fl oz/a	MP	240
9	Atrazine	4	L	1	pt/a	MP	
9	Herbimax		L	1	% v/v	MP	
9	UAN 28%		L	1.5	qt/a	MP	
10	Capreno	3.45	SC	3	fl oz/a	MP	229
10	Atrazine	4	L	1	pt/a	MP	
10	Herbimax		L	1	% v/v	MP	
10	UAN 28%		L	1.5	qt/a	MP	
11	Laudis	3.5	SC	3	fl oz/a	MP	217
11	Atrazine	4	L	2	pt/a	MP	
11	MSO		L	1	% v/v	MP	
11	UAN 28%		L	1.5	qt/a	MP	
12	Capreno	3.45	SC	3	fl oz/a	LP	196
12	Atrazine	4	L	1	pt/a	LP	
12	Herbimax		L	1	% v/v	LP	
12	UAN 28%		L	1.5	qt/a	LP	
13	Bicep Lite II Magnum	6	L	1.5	pt/a	PRE	229
13	Ignite 280	2.34	L	22	fl oz/a	MP	
13	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP	
14	Balance FLEXX	2	SC	2	fl oz/a	PRE	245
14	Ignite 280	2.34	L	22	fl oz/a	MP	
14	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP	
15	Ignite 280	2.34	L	22	fl oz/a	EP	234
15	Ammonium Sulfate	100	DF	8.5	lb/100 gal	EP	
15	Ignite 280	2.34	L	22	fl oz/a	LP	
15	Ammonium Sulfate	100	DF	8.5	lb/100 gal	LP	

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 Rating Data Type yield
 Rating Unit bu/a
 Rating Date 11/5/09
 Trt-Eval Interval HARVEST
 ARM Action Codes

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	
16	Ignite 280	2.34	L	22	fl oz/a	MP	232
16	Atrazine	4	L	1.5	qt/a	MP	
16	Ammonium Sulfate	100	DF	8.5	lb/100 gal	MP	

LSD (P=.05)	19.6
Standard Deviation	11.8
CV	5.26