

MSU Weed Science Research Program

EARLY PREPLANT BURNDOWN IN NO TILL CORN, 2002

Trial ID: C1607
 Conducted: CAMPUS

Study Dir.:
 Investigator: James Kells

Date Planted: 5/14/07 **Row Spacing:** 30 IN
Variety: DKC 52-59 **No. of Reps:** 4
Population: 30,000 S/A **% OM:** 1.8
Soil Type: Sandy Loam **pH:** 5.7
Plot Size: 10 X 35 FT **Design:** RANDOMIZED COMPLETE BLOCK

Tillage: No Till
Fertilizer: 125 lbs/A 19-19-19 in Row and Planting. 500 lbs/A 21-0-0 Broadcast.

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.	STEME	CHICKWEED, COMMON	STELLARIA MEDIA (L.) VILL./CYR.
6.	LAMAM	HENBIT	LAMIUM AMPLEXICAULE L.
Crop	Code	Common Name	
1.	ZEAMX	CORN, FIELD	

Application Description

	A	B	C
Application Timing:	14 EPP	7 EPP	Post
Date Treated:	4/30/07	5/7/07	6/20/07
Time Treated:	9:00AM	1:45PM	11:22AM
% Cloud Cover:	5	20	0
Air Temp., Unit:	64 F	78 F	86 F
% Relative Humidity:	40	32	30
Wind Speed/Unit/Dir:	5 mph NE	5 mph SE	2 mph SW
Soil Temp., Unit:	53 F	61 F	68.2 F
Soil/Leaf Surface M:	5 5	5 5	5 5
Soil Moist (1=w 5=d):	3	4	3

Crop Stage at Each Application

	A	B	C
Crop Name:	ZEAMX	ZEAMX	ZEAMX
Height (In.):			21-28(24)
Stage (L):			V7 10L

Weed Stage at Each Application

	A	B	C
Weed 1 Name:	ANGR	ANGR	ANGR
Height (In.):	.25	.5	14-20(18)
Stage (L):	1	2	
Weed 2 Name:	CHEAL	CHEAL	CHEAL
Height (In.):			20-29(22)
Weed 3 Name:	AMARE	AMARE	AMARE
Height (In.):			16-22(20)
Weed 4 Name:	AMBEL	AMBEL	AMBEL
Height (In.):	.25-5(.25)	.25-1(.5)	16-26(19)
Stage (L):	Cot-2(Cot	Cot-2(2)	
Weed 5 Name:	STEME	STEME	STEME
Height (In.):	2-4(4)	2-8(6)	
Stage (L):	Flowering	Flower	
Weed 6 Name:	LAMAM	LAMAM	LAMAM
Height (In.):	.5-9(6)	1-10(8)	
Stage (L):	Flowering	Flower	

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Weed Density (plants/sq. ft.)

	1	2	3
Date:	4/30/07	5/5/07	6/20/07
Weed Name:	ANGR	ANGR	ANGR
Density:	5	11	
Date:	4/30/07	5/5/07	6/20/07
Weed Name:	CHEAL	CHEAL	CHEAL
Density:	0	0	
Date:	4/30/07	5/5/07	6/20/07
Weed Name:	AMARE	AMARE	AMARE
Density:	0	0	
Date:	4/30/07	5/5/07	6/20/07
Weed Name:	AMBEL	AMBEL	AMBEL
Density:	4	1	
Date:	4/30/07	5/5/07	6/20/07
Weed Name:	STEME	STEME	STEME
Density:	3	4	
Date:	4/30/07	5/5/07	6/20/07
Weed Name:	LAMAM	LAMAM	LAMAM
Density:	<1	<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	22"	20"	100"	20	H2O	30
B	BPK	3.5	FF	8003	28"	20"	100"	20	H2O	30
C	CUB	3.5	FF	8003	38"	20"	100"	20	H2O	30

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							ANGR	AMBEL	STEME	ANGR	AMBEL	STEME		ANGR
													ZEAMX	
							control	control	control	control	control	control	injury	control
							percent	percent	percent	percent	percent	percent	percent	percent
							5/15/07	5/15/07	5/15/07	5/21/07	5/21/07	5/21/07	5/29/07	5/29/07
							8 DA-B	8 DA-B	8 DA-B	14 DA-B	14 DA-B	14 DA-B	22 DA-B	22 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	1	2	3	4	5	6	7	8
1	Untreated						0	0	0	0	0	0	0	0
2	Roundup WeatherMax	4.5	L	22	fl oz/a	14 EPP	91	95	79	69	70	98	0	84
2	Ammonium Sulfate	100	DF	2.5	lb/a	14 EPP								
2	Roundup WeatherMax	4.5	L	22	fl oz/a	POST								
2	Ammonium Sulfate	100	DF	2.5	lb/a	POST								
3	Roundup WeatherMax	4.5	L	22	fl oz/a	14 EPP	99	100	89	100	100	100	0	100
3	Valor SX	51	WG	2	oz/a	14 EPP								
3	Ammonium Sulfate	100	DF	2.5	lb/a	14 EPP								
3	Roundup WeatherMax	4.5	L	22	fl oz/a	POST								
3	Ammonium Sulfate	100	DF	2.5	lb/a	POST								
4	Roundup WeatherMax	4.5	L	22	fl oz/a	14 EPP	100	100	97	98	99	100	0	91
4	Valor SX	51	WG	2	oz/a	14 EPP								
4	Atrazine	4	L	1	qt/a	14 EPP								
4	Ammonium Sulfate	100	DF	2.5	lb/a	14 EPP								
4	Roundup WeatherMax	4.5	L	22	fl oz/a	POST								
4	Ammonium Sulfate	100	DF	2.5	lb/a	POST								
5	Bicep II Magnum	5.5	L	1.4	qt/a	14 EPP	100	100	92	98	100	100	0	96
5	Roundup WeatherMax	4.5	L	22	fl oz/a	14 EPP								
5	Ammonium Sulfate	100	DF	2.5	lb/a	14 EPP								
5	Roundup WeatherMax	4.5	L	22	fl oz/a	POST								
5	Ammonium Sulfate	100	DF	2.5	lb/a	POST								
6	Roundup WeatherMax	4.5	L	22	fl oz/a	14 EPP	100	99	95	99	96	100	0	98
6	Valor SX	51	WG	2	oz/a	14 EPP								
6	Ammonium Sulfate	100	DF	2.5	lb/a	14 EPP								
6	Roundup WeatherMax	4.5	L	22	fl oz/a	POST								
6	Ammonium Sulfate	100	DF	2.5	lb/a	POST								
7	Roundup WeatherMax	4.5	L	22	fl oz/a	14 EPP	100	100	93	100	99	100	0	100
7	Valor SX	51	WG	2	oz/a	14 EPP								
7	Ammonium Sulfate	100	DF	2.5	lb/a	14 EPP								
7	Roundup WeatherMax	4.5	L	22	fl oz/a	POST								
7	Ammonium Sulfate	100	DF	2.5	lb/a	POST								
8	Roundup WeatherMax	4.5	L	22	fl oz/a	7 EPP	98	96	40	95	95	97	0	97
8	Ammonium Sulfate	100	DF	2.5	lb/a	7 EPP								
8	Roundup WeatherMax	4.5	L	22	fl oz/a	POST								
8	Ammonium Sulfate	100	DF	2.5	lb/a	POST								
9	Roundup WeatherMax	4.5	L	22	fl oz/a	7 EPP	99	99	69	92	74	100	0	97
9	ET-751		L	1	fl oz/a	7 EPP								
9	Ammonium Sulfate	100	DF	2.5	lb/a	7 EPP								
9	Roundup WeatherMax	4.5	L	22	fl oz/a	POST								
9	Ammonium Sulfate	100	DF	2.5	lb/a	POST								
10	Roundup WeatherMax	4.5	L	22	fl oz/a	7 EPP	99	100	54	100	99	100	0	99
10	ET-751		L	1	fl oz/a	7 EPP								
10	Bicep II Magnum	5.5	L	2.1	qt/a	7 EPP								
10	Ammonium Sulfate	100	DF	2.5	lb/a	7 EPP								
10	Roundup WeatherMax	4.5	L	22	fl oz/a	POST								
10	Ammonium Sulfate	100	DF	2.5	lb/a	POST								
LSD (P=.05)							6.3	4.7	20.2	22.8	32.6	2.5	0.0	9.6
Standard Deviation							4.3	3.2	13.9	15.7	22.5	1.7	0.0	6.6
CV							4.87	3.62	19.67	18.5	27.07	1.94	0.0	7.67

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Weed Code							CHEAL	AMBEL	STEME		ANGR	CHEAL	AMARE	AMBEL	
Crop Code										ZEAMX					
Rating Data Type							control	control	control	injury	control	control	control	control	
Rating Unit							percent	percent	percent	percent	percent	percent	percent	percent	
Rating Date							5/29/07	5/29/07	5/29/07	6/4/07	6/4/07	6/4/07	6/4/07	6/4/07	
Trt-Eval Interval							22 DA-B	22 DA-B	22 DA-B	28 DA-B	28 DA-B	28 DA-B	28 DA-B	28 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	9	10	11	12	13	14	15	16	
1	Untreated						0	0	0	0	0	0	0	0	
2	Roundup WeatherMax	4.5	L	22	fl oz/a	14 EPP	93	87	100	0	53	64	85	73	
2	Ammonium Sulfate	100	DF	2.5	lb/a	14 EPP									
2	Roundup WeatherMax	4.5	L	22	fl oz/a	POST									
2	Ammonium Sulfate	100	DF	2.5	lb/a	POST									
3	Roundup WeatherMax	4.5	L	22	fl oz/a	14 EPP	100	97	100	0	95	100	100	91	
3	Valor SX	51	WG	2	oz/a	14 EPP									
3	Ammonium Sulfate	100	DF	2.5	lb/a	14 EPP									
3	Roundup WeatherMax	4.5	L	22	fl oz/a	POST									
3	Ammonium Sulfate	100	DF	2.5	lb/a	POST									
4	Roundup WeatherMax	4.5	L	22	fl oz/a	14 EPP	100	98	100	0	82	100	100	92	
4	Valor SX	51	WG	2	oz/a	14 EPP									
4	Atrazine	4	L	1	qt/a	14 EPP									
4	Ammonium Sulfate	100	DF	2.5	lb/a	14 EPP									
4	Roundup WeatherMax	4.5	L	22	fl oz/a	POST									
4	Ammonium Sulfate	100	DF	2.5	lb/a	POST									
5	Bicep II Magnum	5.5	L	1.4	qt/a	14 EPP	100	96	100	0	85	100	100	83	
5	Roundup WeatherMax	4.5	L	22	fl oz/a	14 EPP									
5	Ammonium Sulfate	100	DF	2.5	lb/a	14 EPP									
5	Roundup WeatherMax	4.5	L	22	fl oz/a	POST									
5	Ammonium Sulfate	100	DF	2.5	lb/a	POST									
6	Roundup WeatherMax	4.5	L	22	fl oz/a	14 EPP	100	92	100	0	91	100	100	84	
6	Valor SX	51	WG	2	oz/a	14 EPP									
6	Ammonium Sulfate	100	DF	2.5	lb/a	14 EPP									
6	Roundup WeatherMax	4.5	L	22	fl oz/a	POST									
6	Ammonium Sulfate	100	DF	2.5	lb/a	POST									
7	Roundup WeatherMax	4.5	L	22	fl oz/a	14 EPP	100	97	100	0	93	100	100	89	
7	Valor SX	51	WG	2	oz/a	14 EPP									
7	Ammonium Sulfate	100	DF	2.5	lb/a	14 EPP									
7	Roundup WeatherMax	4.5	L	22	fl oz/a	POST									
7	Ammonium Sulfate	100	DF	2.5	lb/a	POST									
8	Roundup WeatherMax	4.5	L	22	fl oz/a	7 EPP	99	88	100	0	81	78	87	66	
8	Ammonium Sulfate	100	DF	2.5	lb/a	7 EPP									
8	Roundup WeatherMax	4.5	L	22	fl oz/a	POST									
8	Ammonium Sulfate	100	DF	2.5	lb/a	POST									
9	Roundup WeatherMax	4.5	L	22	fl oz/a	7 EPP	98	90	100	0	78	80	75	68	
9	ET-751		L	1	fl oz/a	7 EPP									
9	Ammonium Sulfate	100	DF	2.5	lb/a	7 EPP									
9	Roundup WeatherMax	4.5	L	22	fl oz/a	POST									
9	Ammonium Sulfate	100	DF	2.5	lb/a	POST									
10	Roundup WeatherMax	4.5	L	22	fl oz/a	7 EPP	100	89	100	0	93	100	100	78	
10	ET-751		L	1	fl oz/a	7 EPP									
10	Bicep II Magnum	5.5	L	2.1	qt/a	7 EPP									
10	Ammonium Sulfate	100	DF	2.5	lb/a	7 EPP									
10	Roundup WeatherMax	4.5	L	22	fl oz/a	POST									
10	Ammonium Sulfate	100	DF	2.5	lb/a	POST									
LSD (P=.05)							4.1	13.3	0.0	0.0	16.7	9.9	27.4	18.6	
Standard Deviation							2.8	9.2	0.0	0.0	11.5	6.8	18.9	12.8	
CV							3.15	11.02	0.0	0.0	15.34	8.32	22.27	17.74	

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Weed Code							ANGR	CHEAL	AMARE	AMBEL	ANGR	CHEAL	AMARE	AMBEL	
Crop Code															
Rating Data Type							control	control	control	control	control	control	control	control	control
Rating Unit							percent	percent	percent	percent	percent	percent	percent	percent	percent
Rating Date							6/12/07	6/12/07	6/12/07	6/12/07	6/18/07	6/18/07	6/18/07	6/18/07	6/18/07
Trt-Eval Interval							36 DA-B	36 DA-B	36 DA-B	36 DA-B	42 DA-B	42 DA-B	42 DA-B	42 DA-B	42 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	17	18	19	20	21	22	23	24	
1	Untreated						0	0	0	0	0	0	0	0	
2	Roundup WeatherMax	4.5	L	22	fl oz/a	14 EPP	35	58	66	58	28	43	81	38	
2	Ammonium Sulfate	100	DF	2.5	lb/a	14 EPP									
2	Roundup WeatherMax	4.5	L	22	fl oz/a	POST									
2	Ammonium Sulfate	100	DF	2.5	lb/a	POST									
3	Roundup WeatherMax	4.5	L	22	fl oz/a	14 EPP	86	98	98	80	82	100	100	70	
3	Valor SX	51	WG	2	oz/a	14 EPP									
3	Ammonium Sulfate	100	DF	2.5	lb/a	14 EPP									
3	Roundup WeatherMax	4.5	L	22	fl oz/a	POST									
3	Ammonium Sulfate	100	DF	2.5	lb/a	POST									
4	Roundup WeatherMax	4.5	L	22	fl oz/a	14 EPP	75	100	100	78	71	100	100	69	
4	Valor SX	51	WG	2	oz/a	14 EPP									
4	Atrazine	4	L	1	qt/a	14 EPP									
4	Ammonium Sulfate	100	DF	2.5	lb/a	14 EPP									
4	Roundup WeatherMax	4.5	L	22	fl oz/a	POST									
4	Ammonium Sulfate	100	DF	2.5	lb/a	POST									
5	Bicep II Magnum	5.5	L	1.4	qt/a	14 EPP	75	98	98	70	74	98	98	64	
5	Roundup WeatherMax	4.5	L	22	fl oz/a	14 EPP									
5	Ammonium Sulfate	100	DF	2.5	lb/a	14 EPP									
5	Roundup WeatherMax	4.5	L	22	fl oz/a	POST									
5	Ammonium Sulfate	100	DF	2.5	lb/a	POST									
6	Roundup WeatherMax	4.5	L	22	fl oz/a	14 EPP	78	98	100	71	77	96	100	60	
6	Valor SX	51	WG	2	oz/a	14 EPP									
6	Ammonium Sulfate	100	DF	2.5	lb/a	14 EPP									
6	Roundup WeatherMax	4.5	L	22	fl oz/a	POST									
6	Ammonium Sulfate	100	DF	2.5	lb/a	POST									
7	Roundup WeatherMax	4.5	L	22	fl oz/a	14 EPP	85	95	100	74	81	91	100	70	
7	Valor SX	51	WG	2	oz/a	14 EPP									
7	Ammonium Sulfate	100	DF	2.5	lb/a	14 EPP									
7	Roundup WeatherMax	4.5	L	22	fl oz/a	POST									
7	Ammonium Sulfate	100	DF	2.5	lb/a	POST									
8	Roundup WeatherMax	4.5	L	22	fl oz/a	7 EPP	74	71	93	59	69	50	60	49	
8	Ammonium Sulfate	100	DF	2.5	lb/a	7 EPP									
8	Roundup WeatherMax	4.5	L	22	fl oz/a	POST									
8	Ammonium Sulfate	100	DF	2.5	lb/a	POST									
9	Roundup WeatherMax	4.5	L	22	fl oz/a	7 EPP	70	70	81	55	69	61	60	51	
9	ET-751		L	1	fl oz/a	7 EPP									
9	Ammonium Sulfate	100	DF	2.5	lb/a	7 EPP									
9	Roundup WeatherMax	4.5	L	22	fl oz/a	POST									
9	Ammonium Sulfate	100	DF	2.5	lb/a	POST									
10	Roundup WeatherMax	4.5	L	22	fl oz/a	7 EPP	86	100	100	68	80	98	98	56	
10	ET-751		L	1	fl oz/a	7 EPP									
10	Bicep II Magnum	5.5	L	2.1	qt/a	7 EPP									
10	Ammonium Sulfate	100	DF	2.5	lb/a	7 EPP									
10	Roundup WeatherMax	4.5	L	22	fl oz/a	POST									
10	Ammonium Sulfate	100	DF	2.5	lb/a	POST									
LSD (P=.05)							18.6	8.0	15.1	12.3	17.9	15.0	19.4	14.9	
Standard Deviation							12.8	5.5	10.4	8.4	12.4	10.3	13.4	10.3	
CV							19.35	7.0	12.47	13.82	19.6	14.05	16.8	19.52	

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Weed Code
 Crop Code Zeamx
 Rating Data Type yield
 Rating Unit bu/ac
 Rating Date 10/3/07
 Trt-Eval Interval HARVEST

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	
1	Untreated						4
2	Roundup WeatherMax	4.5	L	22	fl oz/a	14 EPP	148
2	Ammonium Sulfate	100	DF	2.5	lb/a	14 EPP	
2	Roundup WeatherMax	4.5	L	22	fl oz/a	POST	
2	Ammonium Sulfate	100	DF	2.5	lb/a	POST	
3	Roundup WeatherMax	4.5	L	22	fl oz/a	14 EPP	188
3	Valor SX	51	WG	2	oz/a	14 EPP	
3	Ammonium Sulfate	100	DF	2.5	lb/a	14 EPP	
3	Roundup WeatherMax	4.5	L	22	fl oz/a	POST	
3	Ammonium Sulfate	100	DF	2.5	lb/a	POST	
4	Roundup WeatherMax	4.5	L	22	fl oz/a	14 EPP	189
4	Valor SX	51	WG	2	oz/a	14 EPP	
4	Atrazine	4	L	1	qt/a	14 EPP	
4	Ammonium Sulfate	100	DF	2.5	lb/a	14 EPP	
4	Roundup WeatherMax	4.5	L	22	fl oz/a	POST	
4	Ammonium Sulfate	100	DF	2.5	lb/a	POST	
5	Bicep II Magnum	5.5	L	1.4	qt/a	14 EPP	196
5	Roundup WeatherMax	4.5	L	22	fl oz/a	14 EPP	
5	Ammonium Sulfate	100	DF	2.5	lb/a	14 EPP	
5	Roundup WeatherMax	4.5	L	22	fl oz/a	POST	
5	Ammonium Sulfate	100	DF	2.5	lb/a	POST	
6	Roundup WeatherMax	4.5	L	22	fl oz/a	14 EPP	181
6	Valor SX	51	WG	2	oz/a	14 EPP	
6	Ammonium Sulfate	100	DF	2.5	lb/a	14 EPP	
6	Roundup WeatherMax	4.5	L	22	fl oz/a	POST	
6	Ammonium Sulfate	100	DF	2.5	lb/a	POST	
7	Roundup WeatherMax	4.5	L	22	fl oz/a	14 EPP	170
7	Valor SX	51	WG	2	oz/a	14 EPP	
7	Ammonium Sulfate	100	DF	2.5	lb/a	14 EPP	
7	Roundup WeatherMax	4.5	L	22	fl oz/a	POST	
7	Ammonium Sulfate	100	DF	2.5	lb/a	POST	
8	Roundup WeatherMax	4.5	L	22	fl oz/a	7 EPP	168
8	Ammonium Sulfate	100	DF	2.5	lb/a	7 EPP	
8	Roundup WeatherMax	4.5	L	22	fl oz/a	POST	
8	Ammonium Sulfate	100	DF	2.5	lb/a	POST	
9	Roundup WeatherMax	4.5	L	22	fl oz/a	7 EPP	170
9	ET-751		L	1	fl oz/a	7 EPP	
9	Ammonium Sulfate	100	DF	2.5	lb/a	7 EPP	
9	Roundup WeatherMax	4.5	L	22	fl oz/a	POST	
9	Ammonium Sulfate	100	DF	2.5	lb/a	POST	
10	Roundup WeatherMax	4.5	L	22	fl oz/a	7 EPP	183
10	ET-751		L	1	fl oz/a	7 EPP	
10	Bicep II Magnum	5.5	L	2.1	qt/a	7 EPP	
10	Ammonium Sulfate	100	DF	2.5	lb/a	7 EPP	
10	Roundup WeatherMax	4.5	L	22	fl oz/a	POST	
10	Ammonium Sulfate	100	DF	2.5	lb/a	POST	

LSD (P=.05) 17.3
 Standard Deviation 11.9
 CV 7.44