

MSU Weed Science Research Program

GLYPHOSATE APPLICATION TIMING IN ROUNDUP READY CORN, 2006

Trial ID: C0506
 Conducted: CAMPUS

Study Dir.:
 Investigator: Christy Sprague

Date Planted: 5/5/2006 **Row Spacing:** 30 IN
Variety: NK33Z7 **No. of Reps:** 3
Population: 29,000 S/A **% OM:** 3.0
Soil Type: silty clay loam **pH:** 6.0
Plot Size: 10 X 35 FT **Design:** RANDOMIZED COMPLETE BLOCK

Tillage: Fall Chisel, Spring Soil Finish x2
Fertilizer: 285 lbs/A 46-0-0 broadcast. 125 lbs/A 19-19-19 in row at planting.

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.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
Crop	Code	Common Name	
1.	ZEAMX	CORN, FIELD	

Application Description

	A	B	C	D
Application Timing:	PRE	4 IN WDS	6 IN WDS	9 IN WDS
Date Treated:	5/5/2006	6/2/2006	6/8/2006	6/13/2006
Time Treated:	12:10 pm	12:45 pm	10:20 am	10:50 am
% Cloud Cover:	75	96	5	15
Air Temp., Unit:	70 F	76 F	74 F	73 F
% Relative Humidity:	47	43	70	55
Wind Speed/Unit/Dir:	3 mph	3 mph NE	2 mph N	2 mph E
Soil Temp., Unit:	57.2 F	71.2 F	68.7 F	66.2 F
Soil/Leaf Surface M:	3 3	5 5	5 5	5 5
Soil Moist (1=w 5=d):	3	4	3	5

Crop Stage at Each Application

	A	B	C	D
Crop Name:	ZEAMX	ZEAMX	ZEAMX	ZEAMX
Height (In.):		6-9 (8)	13-17 (14)	12-20 (18)
Stage (L):		V3-4 (4) 5L	V4-5 (5) 8L	V5-6 (6) 9L

Weed Stage at Each Application

	A	B	C	D
Weed 1 Name:	ANGR	ANGR	ANGR	ANGR
Height (In.):		.5-5 (3)	1-9 (6)	1-14 (12)
Stage (L):		1-4 (3)	2-7 (5)	2-7 (5)
Weed 2 Name:	CHEAL	CHEAL	CHEAL	CHEAL
Height (In.):		.5-5 (1)	1-9 (5)	2-14 (8)
Stage (L):		2-10 (4)	2-10 (5)	4-12 (8)
Weed 3 Name:	AMARE	AMARE	AMARE	AMARE
Height (In.):		.25-2 (.5)	1-5 (3)	4-11 (8)
Stage (L):		2-6 (4)	2-9 (6)	6-12 (6)
Weed 4 Name:	AMBEL	AMBEL	AMBEL	AMBEL
Height (In.):		1-3 (2)	1-9 (6)	4-13 (10)
Stage (L):		2-6 (4)	4-9 (6)	8-10 (8)
Weed 5 Name:	ABUTH	ABUTH	ABUTH	ABUTH
Height (In.):		.5-3 (1.5)	1-6 (4)	5-8 (6)
Stage (L):		cot-3 (2)	2-4 (4)	4-5 (5)

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Weed Density (plants/sq. ft.)

	1	2	3	4
Date:	5/5/2006	6/1/2006	6/8/2006	6/13/2006
Weed Name:	ANGR	ANGR	ANGR	ANGR
Density:	40	44	61	
Date:	5/5/2006	6/1/2006	6/8/2006	6/13/2006
Weed Name:	CHEAL	CHEAL	CHEAL	CHEAL
Density:	41	39	35	
Date:	5/5/2006	6/1/2006	6/8/2006	6/13/2006
Weed Name:	AMARE	AMARE	AMARE	AMARE
Density:	2	2	1	
Date:	5/5/2006	6/1/2006	6/8/2006	6/13/2006
Weed Name:	AMBEL	AMBEL	AMBEL	AMBEL
Density:	22	16	16	
Date:	5/5/2006	6/1/2006	6/8/2006	6/13/2006
Weed Name:	ABUTH	ABUTH	ABUTH	ABUTH
Density:	<1	<1	<1	

Application Equipment

Appl	Sprayer	Speed	Nozzle	Nozzle	Nozzle	Nozzle	Boom			
A	Type	MPH	Type	Size	Height	Spacing	Width	GPA	Carrier	PSI
A	cub	3.5	FF	8003	18"	20"	100"	20	H2O	30
B	cub	3.5	FF	8003	23"	20"	100"	20	H2O	30
C	cub	3.5	FF	8003	26"	20"	100"	20	H2O	30
D	cub	3.5	FF	8003	28"	20"	100"	20	H2O	30

Comments: *hght redct: Visual height reduction of corn due to weed competition.

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Weed Code							ANGR	CHEAL	AMARE	AMBEL	ABUTH	ZEAMX	ANGR
Crop Code							control	control	control	control	control	hght redct*	control
Rating Data Type							percent	percent	percent	percent	percent	percent	percent
Rating Unit							6/23/2006	6/23/2006	6/23/2006	6/23/2006	6/23/2006	7/13/2006	7/13/2006
Rating Date							10 DA-D	10 DA-D	10 DA-D	10 DA-D	10 DA-D	30 DA-D	30 DA-D
Trt-Eval Interval							10 DA-D	10 DA-D	10 DA-D	10 DA-D	10 DA-D	30 DA-D	30 DA-D
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	1	2	3	4	5	6	7
1	Weed Free						100	100	100	100	100	0	100
2	Roundup WeatherMax	4.5	L	0.75	lb ae/a	4 IN WDS	98	100	100	100	99	2	94
2	Bicep II Magnum	5.5	L	1.05	qt/a	4 IN WDS							
2	Ammonium Sulfate		DF	2	% w/w	4 IN WDS							
3	Roundup WeatherMax	4.5	L	0.75	lb ae/a	6 IN WDS	99	100	100	97	100	18	98
3	Bicep II Magnum	5.5	L	1.05	qt/a	6 IN WDS							
3	Ammonium Sulfate		DF	2	% w/w	6 IN WDS							
4	Roundup WeatherMax	4.5	L	0.75	lb ae/a	9 IN WDS	89	89	98	83	95	23	98
4	Bicep II Magnum	5.5	L	1.05	qt/a	9 IN WDS							
4	Ammonium Sulfate		DF	2	% w/w	9 IN WDS							
5	Roundup WeatherMax	4.5	L	0.75	lb ae/a	4 IN WDS	78	90	100	93	93	1	68
5	Ammonium Sulfate		DF	2	% w/w	4 IN WDS							
6	Roundup WeatherMax	4.5	L	0.75	lb ae/a	6 IN WDS	98	100	100	97	100	9	95
6	Ammonium Sulfate		DF	2	% w/w	6 IN WDS							
7	Weedy						0	0	0	0	0	0	0
8	Bicep II Magnum	5.5	L	1.05	qt/a	PRE	91	96	100	94	93	0	87
8	Roundup WeatherMax	4.5	L	0.75	lb ae/a	4 IN WDS							
8	Ammonium Sulfate		DF	2	% w/w	4 IN WDS							
9	Bicep II Magnum	5.5	L	1.05	qt/a	PRE	99	99	100	99	99	0	96
9	Roundup WeatherMax	4.5	L	0.75	lb ae/a	6 IN WDS							
9	Ammonium Sulfate		DF	2	% w/w	6 IN WDS							
10	Bicep II Magnum	5.5	L	1.05	qt/a	PRE	100	100	100	98	100	0	99
10	Roundup WeatherMax	4.5	L	0.75	lb ae/a	9 IN WDS							
10	Ammonium Sulfate		DF	2	% w/w	9 IN WDS							
11	Roundup WeatherMax	4.5	L	0.75	lb ae/a	9 IN WDS	90	63	100	79	93	22	98
11	Ammonium Sulfate		DF	2	% w/w	9 IN WDS							
12	Bicep II Magnum	5.5	L	1.05	qt/a	PRE	77	99	100	70	68	0	78
LSD (P=.05)							4.2	7.4	1.5	5.7	4.2	8.3	4.2
Standard Deviation							2.5	4.4	0.9	3.3	2.5	4.9	2.5
CV							2.93	5.05	0.94	3.97	2.88	77.88	2.94

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Weed Code							CHEAL	AMARE	AMBEL	ABUTH	ZEAMX
Crop Code							control	control	control	control	yield
Rating Data Type							percent	percent	percent	percent	bu/ac
Rating Unit							7/13/2006	7/13/2006	7/13/2006	7/13/2006	10/21/2006
Rating Date							30 DA-D	30 DA-D	30 DA-D	30 DA-D	HARVEST
Trt-Eval Interval											
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	8	9	10	11	12
1	Weed Free						100	100	100	100	207
2	Roundup WeatherMax	4.5	L	0.75	lb ae/a	4 IN WDS	100	100	99	100	205
2	Bicep II Magnum	5.5	L	1.05	qt/a	4 IN WDS					
2	Ammonium Sulfate		DF	2	% w/w	4 IN WDS					
3	Roundup WeatherMax	4.5	L	0.75	lb ae/a	6 IN WDS	100	100	98	100	191
3	Bicep II Magnum	5.5	L	1.05	qt/a	6 IN WDS					
3	Ammonium Sulfate		DF	2	% w/w	6 IN WDS					
4	Roundup WeatherMax	4.5	L	0.75	lb ae/a	9 IN WDS	100	100	99	100	174
4	Bicep II Magnum	5.5	L	1.05	qt/a	9 IN WDS					
4	Ammonium Sulfate		DF	2	% w/w	9 IN WDS					
5	Roundup WeatherMax	4.5	L	0.75	lb ae/a	4 IN WDS	93	100	99	98	202
5	Ammonium Sulfate		DF	2	% w/w	4 IN WDS					
6	Roundup WeatherMax	4.5	L	0.75	lb ae/a	6 IN WDS	94	100	98	100	192
6	Ammonium Sulfate		DF	2	% w/w	6 IN WDS					
7	Weedy						0	0	0	0	29
8	Bicep II Magnum	5.5	L	1.05	qt/a	PRE	95	100	98	91	216
8	Roundup WeatherMax	4.5	L	0.75	lb ae/a	4 IN WDS					
8	Ammonium Sulfate		DF	2	% w/w	4 IN WDS					
9	Bicep II Magnum	5.5	L	1.05	qt/a	PRE	97	99	97	98	206
9	Roundup WeatherMax	4.5	L	0.75	lb ae/a	6 IN WDS					
9	Ammonium Sulfate		DF	2	% w/w	6 IN WDS					
10	Bicep II Magnum	5.5	L	1.05	qt/a	PRE	98	100	99	100	211
10	Roundup WeatherMax	4.5	L	0.75	lb ae/a	9 IN WDS					
10	Ammonium Sulfate		DF	2	% w/w	9 IN WDS					
11	Roundup WeatherMax	4.5	L	0.75	lb ae/a	9 IN WDS	91	99	100	100	181
11	Ammonium Sulfate		DF	2	% w/w	9 IN WDS					
12	Bicep II Magnum	5.5	L	1.05	qt/a	PRE	99	100	40	33	204
LSD (P=.05)							3.8	0.8	5.5	6.0	13.4
Standard Deviation							2.2	0.4	3.2	3.6	7.9
CV							2.51	0.49	3.78	4.18	4.28