

MSU Weed Science Research Program

WEED CONTROL IN NO-TILL CORN WITH VALOR, 2009

Trial ID: C1909  
 Conducted: CAMPUS, C27

Study Dir.: Andy Chomas  
 Investigator: Wesley Everman

**Date Planted:** 5/17/09                      **Row Spacing:** 30 IN  
**Variety:** PIONEER 37Y14                      **No. of Reps:** 4  
**Population:** 31,000 S/A                      **% OM:** 2  
**Soil Type:** Sandy Loam                      **pH:** 7.3  
**Plot Size:** 10 X 35 FT                      **Design:** RANDOMIZED COMPLETE BLOCK

**Tillage:** No-Till  
**Fertilizer:** 500 lbs/A 21-0-0 Broadcast. 200 lbs/A 19-19-19 In Row at Planting.

**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.	AMBEL	RAGWEEED, COMMON	AMBROSIA ARTEMISIIFOLIA
5.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
Crop	Code	Common Name	
1.	ZEAMX	CORN, FIELD	

**Application Description**

	A	B	C
<b>Application Timing:</b>	EPP	MP	LP
<b>Date Treated:</b>	5/4/09	6/5/09	6/16/09
<b>Time Treated:</b>	9:30 AM	2:17 PM	11:20 AM
<b>% Cloud Cover:</b>	35	0	45
<b>Air Temp., Unit:</b>	60 F	81 F	71 F
<b>% Relative Humidity:</b>	45	31	51
<b>Wind Speed/Unit/Dir:</b>	5 mph NE	5 mph W	4 mph E
<b>Soil Temp., Unit:</b>	47 F	65 F	72 F
<b>Soil/Leaf Surface M:</b>		5	5
<b>Soil Moist (1=w 5=d):</b>	3	4	4

**Crop Stage at Each Application**

	A	B	C
<b>Crop Name:</b>	ZEAMX	ZEAMX	ZEAMX
<b>Height (In.):</b>		2.5-4(3)	7-11(10)
<b>Stage (L):</b>		3:V1-2(1)	7:V3-4(4)

**Weed Stage at Each Application**

	A	B	C
<b>Weed 1 Name:</b>	ANGR	ANGR	ANGR
<b>Height (In.):</b>	.25	.25-6(3)	1-6(2)
<b>Stage (L):</b>	1	1-5(4)	2-7(2)
<b>Weed 2 Name:</b>	CHEAL	CHEAL	CHEAL
<b>Height (In.):</b>	.3-.5(.3)	.3-3(1.5)	1-3(2)
<b>Stage (L):</b>	cot-4	cot-2(1)	2-6(4)
<b>Weed 3 Name:</b>	AMARE	AMARE	AMARE
<b>Weed 4 Name:</b>	AMBEL	AMBEL	AMBEL
<b>Height (In.):</b>	.25	.3-3(2)	1-3(2)
<b>Stage (L):</b>	cot	cot-4(3)	4
<b>Weed 5 Name:</b>	ABUTH	ABUTH	ABUTH
<b>Height (In.):</b>		.3-2(.5)	1-2(2)
<b>Stage (L):</b>		cot-2(1)	2

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Weed Density (plants/sq. ft.)

1  
Date: 5/4/09  
Weed Name: ANGR  
Density: 3  
Date: 5/4/09  
Weed Name: CHEAL  
Density: 1  
Date: 5/4/09  
Weed Name: AMARE  
Date: 5/4/09  
Weed Name: AMBEL  
Density: <1  
Date: 5/4/09  
Weed Name: ABUTH

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	22"	20"	100"	20	H2O	30
C	CUB	3.5	FF	8003	24"	20"	100"	20	H2O	30

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Weed Code	ANGR	CHEAL	AMBEL	ANGR	CHEAL	AMBEL		ANGR
Crop Code							ZEAMX	
Rating Data Type	control	control	control	control	control	control	injury	control
Rating Unit	percent	percent	percent	percent	percent	percent	percent	percent
Rating Date	5/18/09	5/18/09	5/18/09	5/26/09	5/26/09	5/26/09	6/1/09	6/1/09
Trt-Eval Interval	AT PLANT	AT PLANT	AT PLANT	7 DAP	7 DAP	7 DAP	14 DAP	14 DAP

ARM Action Codes

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 PowerMAX	4.5	L	22	fl oz/a	EPP	88	100	100	63	60	80	0	65
2	Ammonium Sulfate	100	DF	2.5	lb/a	EPP								
2	Roundup PowerMAX	4.5	L	22	fl oz/a	MP								
2	Ammonium Sulfate	100	DF	2.5	lb/a	MP								
3	Roundup PowerMAX	4.5	L	22	fl oz/a	EPP	99	100	100	97	100	100	0	94
3	Valor SX	51	WG	2	oz/a	EPP								
3	Atrazine	4	L	1	qt/a	EPP								
3	Ammonium Sulfate	100	DF	2.5	lb/a	EPP								
3	Roundup PowerMAX	4.5	L	22	fl oz/a	LP								
3	Ammonium Sulfate	100	DF	2.5	lb/a	LP								
4	Roundup PowerMAX	4.5	L	22	fl oz/a	EPP	99	100	100	90	97	93	0	81
4	Valor SX	51	WG	2	oz/a	EPP								
4	Ammonium Sulfate	100	DF	2.5	lb/a	EPP								
4	Roundup PowerMAX	4.5	L	22	fl oz/a	LP								
4	Atrazine	4	L	1	qt/a	LP								
4	Ammonium Sulfate	100	DF	2.5	lb/a	LP								

LSD (P=.05)	4.6	0.0	0.0	5.4	13.0	13.4	0.0	5.3
Standard Deviation	2.8	0.0	0.0	3.4	8.1	8.4	0.0	3.3
CV	3.98	0.0	0.0	5.42	12.61	12.36	0.0	5.56

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Weed Code	CHEAL	AMBEL	ABUTH	ANGR	CHEAL	AMBEL	ABUTH	ANGR	CHEAL
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	6/1/09	6/1/09	6/1/09	6/24/09	6/24/09	6/24/09	6/24/09	7/13/09	7/13/09
Trt-Eval Interval	14 DAP	14 DAP	14 DAP	37 DAP	37 DAP	37 DAP	37 DAP	56 DAP	56 DAP
ARM Action Codes									

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	9	10	11	12	13	14	15	16	17
1	Untreated						0	0	0	0	0	0	0	0	0
2	Roundup PowerMAX	4.5	L	22	fl oz/a	EPP	60	71	60	83	69	86	98	65	66
2	Ammonium Sulfate	100	DF	2.5	lb/a	EPP									
2	Roundup PowerMAX	4.5	L	22	fl oz/a	MP									
2	Ammonium Sulfate	100	DF	2.5	lb/a	MP									
3	Roundup PowerMAX	4.5	L	22	fl oz/a	EPP	100	100	99	100	100	100	100	72	99
3	Valor SX	51	WG	2	oz/a	EPP									
3	Atrazine	4	L	1	qt/a	EPP									
3	Ammonium Sulfate	100	DF	2.5	lb/a	EPP									
3	Roundup PowerMAX	4.5	L	22	fl oz/a	LP									
3	Ammonium Sulfate	100	DF	2.5	lb/a	LP									
4	Roundup PowerMAX	4.5	L	22	fl oz/a	EPP	95	87	96	96	100	94	100	78	100
4	Valor SX	51	WG	2	oz/a	EPP									
4	Ammonium Sulfate	100	DF	2.5	lb/a	EPP									
4	Roundup PowerMAX	4.5	L	22	fl oz/a	LP									
4	Atrazine	4	L	1	qt/a	LP									
4	Ammonium Sulfate	100	DF	2.5	lb/a	LP									
LSD (P=.05)							4.6	8.6	3.7	6.1	5.0	11.5	3.8	10.3	3.8
Standard Deviation							2.9	5.3	2.3	3.8	3.1	7.2	2.4	6.4	2.4
CV							4.53	8.29	3.59	5.48	4.68	10.25	3.21	11.95	3.56

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Weed Code AMBEL ABUTH  
 Crop Code  
 Rating Data Type control control  
 Rating Unit percent percent  
 Rating Date 7/13/09 7/13/09  
 Trt-Eval Interval 56 DAP 56 DAP  
 ARM Action Codes

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	18	19
1	Untreated						0	0
2	Roundup PowerMAX	4.5	L	22	fl oz/a	EPP	78	75
2	Ammonium Sulfate	100	DF	2.5	lb/a	EPP		
2	Roundup PowerMAX	4.5	L	22	fl oz/a	MP		
2	Ammonium Sulfate	100	DF	2.5	lb/a	MP		
3	Roundup PowerMAX	4.5	L	22	fl oz/a	EPP	99	79
3	Valor SX	51	WG	2	oz/a	EPP		
3	Atrazine	4	L	1	qt/a	EPP		
3	Ammonium Sulfate	100	DF	2.5	lb/a	EPP		
3	Roundup PowerMAX	4.5	L	22	fl oz/a	LP		
3	Ammonium Sulfate	100	DF	2.5	lb/a	LP		
4	Roundup PowerMAX	4.5	L	22	fl oz/a	EPP	100	87
4	Valor SX	51	WG	2	oz/a	EPP		
4	Ammonium Sulfate	100	DF	2.5	lb/a	EPP		
4	Roundup PowerMAX	4.5	L	22	fl oz/a	LP		
4	Atrazine	4	L	1	qt/a	LP		
4	Ammonium Sulfate	100	DF	2.5	lb/a	LP		

LSD (P=.05) 7.1 23.2  
 Standard Deviation 4.4 14.5  
 CV 6.41 24.09