

MSU Weed Science Research Program

REGIONAL COMPARISON OF WEED CONTROL SYSTEMS IN CORN, 2011

Trial ID: C0611 Study Dir.: Andy Chomas
Conducted: CAMPUS Investigator: Christy Sprague

Date Planted: 5/10/2011 Row Spacing: 30 IN
Variety: DKC 46-61 No. of Reps: 4
Population: 31,500 % OM: 3.4
Soil Type: LOAM pH: 6.6
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 Planting.

Application Description

Table with 4 columns (A, B, C, D) and 11 rows of application details including timing, date, time, cloud cover, air temp, humidity, wind speed, soil temp, and moisture.

Crop Stage at Each Application

Table with 4 columns (A, B, C, D) showing crop height and stage for each application.

Weed Stage at Each Application

Table with 4 columns (A, B, C, D) showing weed height and stage for each application.

Weed Density (plants/sq. ft.)

Table with 2 columns (1, 2) and 6 rows of weed density data for different weed species and dates.

Application Equipment

Table with 12 columns (Appl, Sprayer, Speed, Nozzle, Nozzle, Nozzle, Nozzle, Boom, GPA, Carrier, PSI) and 4 rows (A, B, C, D) of equipment specifications.

Comments: * Weed Stage at Each Application: The order is as follows, ANGR(ANNUAL GRASS), CHEAL(COMMON LAMBSQUARTERS), AMARE(REDROOT PIGWEED), AMBEL(COMMON RAGWEED), ABUTH(VELVETLEAF).

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Weed Code								ZEAMX				ANGR	CHEAL	
Crop Code								injury	count LR	count RR	injury	control	control	
Rating Data Type								percent	p/35 ft	p/35 ft	percent	percent	percent	
Rating Unit								5/31/2011	5/31/2011	5/31/2011	6/13/2011	6/13/2011	6/13/2011	
Rating Date								21DAPRE	21DAPRE	21DAPRE	AT LP	AT LP	AT LP	
Trt-Eval Interval								0	0	0	0	0	0	
# Subsamples, Dec.														
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code							
1	Harness Xtra 5.6	5.6	L	1.5	qt/a	PRE	A	9	62	61	0	90	93	
2	Harness Xtra 5.6	5.6	L	1.5	qt/a	PRE	A	5	63	62	0	95	97	
2	Roundup PowerMAX	4.5	L	22	fl oz/a	LP	C							
2	Ammonium Sulfate	100	DF	2	% w/w	LP	C							
3	Harness Xtra 5.6	5.6	L	2.6	qt/a	PRE	A	5	62	62	0	96	100	
4	Harness Xtra 5.6	5.6	L	2.6	qt/a	PRE	A	8	62	60	0	94	100	
4	Roundup PowerMAX	4.5	L	22	fl oz/a	LP	C							
4	Ammonium Sulfate	100	DF	2	% w/w	LP	C							
5	Atrazine	4	L	2	qt/a	PRE	A	4	63	62	0	25	99	
6	Atrazine	4	L	2	qt/a	PRE	A	4	62	65	0	31	89	
6	Roundup PowerMAX	4.5	L	22	fl oz/a	LP	C							
6	Ammonium Sulfate	100	DF	2	% w/w	LP	C							
7	Integrity	5.6	L	16	fl oz/a	PRE	A	10	62	62	0	86	74	
8	Integrity	5.6	L	16	fl oz/a	PRE	A	10	64	64	0	83	71	
8	Roundup PowerMAX	4.5	L	22	fl oz/a	LP	C							
8	Ammonium Sulfate	100	DF	2	% w/w	LP	C							
9	Corvus	2.6	SC	5.6	fl oz/a	PRE	A	14	64	63	1	78	98	
10	Corvus	2.6	SC	5.6	fl oz/a	PRE	A	13	64	65	0	76	95	
10	Roundup PowerMAX	4.5	L	22	fl oz/a	LP	C							
10	Ammonium Sulfate	100	DF	2	% w/w	LP	C							
11	Balance FLEXX	2	SC	5	fl oz/a	PRE	A	5	64	63	0	45	88	
12	Balance FLEXX	2	SC	5	fl oz/a	PRE	A	4	64	61	0	60	81	
12	Roundup PowerMAX	4.5	L	22	fl oz/a	LP	C							
12	Ammonium Sulfate	100	DF	2	% w/w	LP	C							
13	Guardsman Max	5	L	2	qt/a	PRE	A	9	65	61	0	94	93	
14	Guardsman Max	5	L	2	qt/a	PRE	A	11	62	62	0	97	100	
14	Roundup PowerMAX	4.5	L	22	fl oz/a	LP	C							
14	Ammonium Sulfate	100	DF	2	% w/w	LP	C							
15	Lumax	3.94	SE	3	qt/a	PRE	A	4	64	62	0	98	100	
16	Lumax	3.94	SE	3	qt/a	PRE	A	9	63	64	0	96	100	
16	Roundup PowerMAX	4.5	L	22	fl oz/a	LP	C							
16	Ammonium Sulfate	100	DF	2	% w/w	LP	C							
17	Harness Xtra 5.6	5.6	L	1.5	qt/a	PRE	A	16	64	64	0	94	95	
17	Hornet WDG	68.5	DG	3	oz/a	PRE	A							
18	Harness Xtra 5.6	5.6	L	1.5	qt/a	PRE	A	16	64	63	0	96	100	
18	Hornet WDG	68.5	DG	3	oz/a	PRE	A							
18	Roundup PowerMAX	4.5	L	22	fl oz/a	LP	C							
18	Ammonium Sulfate	100	DF	2	% w/w	LP	C							
19	SureStart	4.18	SE	1	qt/a	PRE	A	11	63	64	0	88	80	

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Weed Code								ZEAMX				ANGR	CHEAL	
Crop Code								injury	count LR	count RR	injury	control	control	
Rating Data Type								percent	pl/35 ft	pl/35 ft	percent	percent	percent	
Rating Unit								5/31/2011	5/31/2011	5/31/2011	6/13/2011	6/13/2011	6/13/2011	
Rating Date								21DAPRE	21DAPRE	21DAPRE	AT LP	AT LP	AT LP	
Trt-Eval Interval								0	0	0	0	0	0	
# Subsamples, Dec.														
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Grow Stg	Appl Code							
20	SureStart	4.18	SE	1	qt/a	PRE	A	18	66	63	1	93	88	
20	Roundup PowerMAX	4.5	L	22	fl oz/a	LP	C							
20	Ammonium Sulfate	100	DF	2	% w/w	LP	C							
21	Halex GT	4.39	L	1.8	qt/a	MP	B	3	64	62	0	91	81	
21	Activator 90		L	0.25	% v/v	MP	B							
21	Ammonium Sulfate	100	DF	2	% w/w	MP	B							
22	Roundup PowerMAX	4.5	L	22	fl oz/a	MP	B	1	62	64	0	88	85	
22	Ammonium Sulfate	100	DF	2	% w/w	MP	B							
22	Roundup PowerMAX	4.5	L	22	fl oz/a	LP	C							
22	Ammonium Sulfate	100	DF	2	% w/w	LP	C							
23	Roundup PowerMAX	4.5	L	22	fl oz/a	8-12"WDS	D	1	66	63				
23	Ammonium Sulfate	100	DF	2	% w/w	8-12"WDS	D							
24	Untreated						D	0	63	62	0	0	0	
LSD (P=.05)								7.4	2.8	2.8	1.1	12.7	11.1	
Standard Deviation								5.3	2.0	1.9	0.7	9.0	7.8	
CV								67.23	3.13	3.11	683.35	11.57	9.01	

Means followed by same letter do not significantly differ (P=.05, LSD)

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

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REGIONAL COMPARISON OF WEED CONTROL SYSTEMS IN CORN, 2011

Trial ID: C0611
Conducted: CAMPUSStudy Dir.: Andy Chomas
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Weed Code								AMARE	AMBEL	ABUTH		ANGR	CHEAL
Crop Code											ZEAMX		
Rating Data Type								control	control	control	injury	control	control
Rating Unit								percent	percent	percent	percent	percent	percent
Rating Date								6/13/2011	6/13/2011	6/13/2011	7/6/2011	7/6/2011	7/6/2011
Trt-Eval Interval								AT LP	AT LP	AT LP	23 DALP	23 DALP	23 DALP
# Subsamples, Dec.								0	0	0	0	0	0
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code						
1	Harness Xtra 5.6	5.6	L	1.5	qt/a	PRE	A	100	72	59	0	75	83
2	Harness Xtra 5.6	5.6	L	1.5	qt/a	PRE	A	100	83	63	0	88	91
2	Roundup PowerMAX	4.5	L	22	fl oz/a	LP	C						
2	Ammonium Sulfate	100	DF	2	% w/w	LP	C						
3	Harness Xtra 5.6	5.6	L	2.6	qt/a	PRE	A	98	89	70	0	81	85
4	Harness Xtra 5.6	5.6	L	2.6	qt/a	PRE	A	100	91	70	0	91	93
4	Roundup PowerMAX	4.5	L	22	fl oz/a	LP	C						
4	Ammonium Sulfate	100	DF	2	% w/w	LP	C						
5	Atrazine	4	L	2	qt/a	PRE	A	100	96	75	0	43	94
6	Atrazine	4	L	2	qt/a	PRE	A	86	96	70	0	94	90
6	Roundup PowerMAX	4.5	L	22	fl oz/a	LP	C						
6	Ammonium Sulfate	100	DF	2	% w/w	LP	C						
7	Integrity	5.6	L	16	fl oz/a	PRE	A	94	78	71	0	72	60
8	Integrity	5.6	L	16	fl oz/a	PRE	A	96	67	68	0	89	90
8	Roundup PowerMAX	4.5	L	22	fl oz/a	LP	C						
8	Ammonium Sulfate	100	DF	2	% w/w	LP	C						
9	Corvus	2.6	SC	5.6	fl oz/a	PRE	A	95	96	90	0	71	90
10	Corvus	2.6	SC	5.6	fl oz/a	PRE	A	100	95	100	0	90	95
10	Roundup PowerMAX	4.5	L	22	fl oz/a	LP	C						
10	Ammonium Sulfate	100	DF	2	% w/w	LP	C						
11	Balance FLEXX	2	SC	5	fl oz/a	PRE	A	70	89	95	0	33	80
12	Balance FLEXX	2	SC	5	fl oz/a	PRE	A	70	88	91	0	92	93
12	Roundup PowerMAX	4.5	L	22	fl oz/a	LP	C						
12	Ammonium Sulfate	100	DF	2	% w/w	LP	C						
13	Guardsman Max	5	L	2	qt/a	PRE	A	100	79	80	0	80	83
14	Guardsman Max	5	L	2	qt/a	PRE	A	99	93	74	0	97	91
14	Roundup PowerMAX	4.5	L	22	fl oz/a	LP	C						
14	Ammonium Sulfate	100	DF	2	% w/w	LP	C						
15	Lumax	3.94	SE	3	qt/a	PRE	A	100	93	98	0	87	95
16	Lumax	3.94	SE	3	qt/a	PRE	A	100	100	100	0	99	99
16	Roundup PowerMAX	4.5	L	22	fl oz/a	LP	C						
16	Ammonium Sulfate	100	DF	2	% w/w	LP	C						
17	Harness Xtra 5.6	5.6	L	1.5	qt/a	PRE	A	99	81	88	0	78	93
17	Hornet WDG	68.5	DG	3	oz/a	PRE	A						
18	Harness Xtra 5.6	5.6	L	1.5	qt/a	PRE	A	100	93	95	0	92	97
18	Hornet WDG	68.5	DG	3	oz/a	PRE	A						
18	Roundup PowerMAX	4.5	L	22	fl oz/a	LP	C						
18	Ammonium Sulfate	100	DF	2	% w/w	LP	C						
19	SureStart	4.18	SE	1	qt/a	PRE	A	94	74	85	0	70	75

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Weed Code	AMARE	AMBEL	ABUTH	ZEAMX	ANGR	CHEAL							
Crop Code													
Rating Data Type	control	control	control	injury	control	control							
Rating Unit	percent	percent	percent	percent	percent	percent							
Rating Date	6/13/2011	6/13/2011	6/13/2011	7/6/2011	7/6/2011	7/6/2011							
Trt-Eval Interval	AT LP	AT LP	AT LP	23 DALP	23 DALP	23 DALP							
# Subsamples, Dec.	0	0	0	0	0	0							
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Grow Stg	Appl Code						
20	SureStart	4.18	SE	1	qt/a	PRE	A	100	74	94	0	91	95
20	Roundup PowerMAX	4.5	L	22	fl oz/a	LP	C						
20	Ammonium Sulfate	100	DF	2	% w/w	LP	C						
21	Halex GT	4.39	L	1.8	qt/a	MP	B	100	100	100	0	99	100
21	Activator 90		L	0.25	% v/v	MP	B						
21	Ammonium Sulfate	100	DF	2	% w/w	MP	B						
22	Roundup PowerMAX	4.5	L	22	fl oz/a	MP	B	100	99	100	0	97	95
22	Ammonium Sulfate	100	DF	2	% w/w	MP	B						
22	Roundup PowerMAX	4.5	L	22	fl oz/a	LP	C						
22	Ammonium Sulfate	100	DF	2	% w/w	LP	C						
23	Roundup PowerMAX	4.5	L	22	fl oz/a	8-12"WDS	D				0	99	92
23	Ammonium Sulfate	100	DF	2	% w/w	8-12"WDS	D						
24	Untreated						D	0	0	0	0	0	0
LSD (P=.05)								10.2	10.9	14.4	0.0	9.7	7.7
Standard Deviation								7.2	7.7	10.2	0.0	6.8	5.4
CV								7.86	9.25	12.8	0.0	8.6	6.34

Means followed by same letter do not significantly differ (P=.05, LSD)

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Weed Code								AMARE	AMBEL	ABUTH	
Crop Code											ZEAMX
Rating Data Type								control	control	control	yield
Rating Unit								percent	percent	percent	bu/ac
Rating Date								7/6/2011	7/6/2011	7/6/2011	10/18/2011
Trt-Eval Interval								23 DALP	23 DALP	23 DALP	HARVEST
# Subsamples, Dec.								0	0	0	0
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code				
1	Harness Xtra 5.6	5.6	L	1.5	qt/a	PRE	A	99	71	61	237
2	Harness Xtra 5.6	5.6	L	1.5	qt/a	PRE	A	99	100	95	244
2	Roundup PowerMAX	4.5	L	22	fl oz/a	LP	C				
2	Ammonium Sulfate	100	DF	2	% w/w	LP	C				
3	Harness Xtra 5.6	5.6	L	2.6	qt/a	PRE	A	98	91	71	235
4	Harness Xtra 5.6	5.6	L	2.6	qt/a	PRE	A	98	100	90	245
4	Roundup PowerMAX	4.5	L	22	fl oz/a	LP	C				
4	Ammonium Sulfate	100	DF	2	% w/w	LP	C				
5	Atrazine	4	L	2	qt/a	PRE	A	99	91	90	178
6	Atrazine	4	L	2	qt/a	PRE	A	96	100	90	244
6	Roundup PowerMAX	4.5	L	22	fl oz/a	LP	C				
6	Ammonium Sulfate	100	DF	2	% w/w	LP	C				
7	Integrity	5.6	L	16	fl oz/a	PRE	A	89	69	66	230
8	Integrity	5.6	L	16	fl oz/a	PRE	A	100	100	87	243
8	Roundup PowerMAX	4.5	L	22	fl oz/a	LP	C				
8	Ammonium Sulfate	100	DF	2	% w/w	LP	C				
9	Corvus	2.6	SC	5.6	fl oz/a	PRE	A	100	100	91	244
10	Corvus	2.6	SC	5.6	fl oz/a	PRE	A	99	100	95	255
10	Roundup PowerMAX	4.5	L	22	fl oz/a	LP	C				
10	Ammonium Sulfate	100	DF	2	% w/w	LP	C				
11	Balance FLEXX	2	SC	5	fl oz/a	PRE	A	72	86	97	161
12	Balance FLEXX	2	SC	5	fl oz/a	PRE	A	99	100	98	244
12	Roundup PowerMAX	4.5	L	22	fl oz/a	LP	C				
12	Ammonium Sulfate	100	DF	2	% w/w	LP	C				
13	Guardsman Max	5	L	2	qt/a	PRE	A	96	80	75	247
14	Guardsman Max	5	L	2	qt/a	PRE	A	99	100	98	237
14	Roundup PowerMAX	4.5	L	22	fl oz/a	LP	C				
14	Ammonium Sulfate	100	DF	2	% w/w	LP	C				
15	Lumax	3.94	SE	3	qt/a	PRE	A	100	90	95	238
16	Lumax	3.94	SE	3	qt/a	PRE	A	100	100	100	250
16	Roundup PowerMAX	4.5	L	22	fl oz/a	LP	C				
16	Ammonium Sulfate	100	DF	2	% w/w	LP	C				
17	Harness Xtra 5.6	5.6	L	1.5	qt/a	PRE	A	98	78	86	246
17	Hornet WDG	68.5	DG	3	oz/a	PRE	A				
18	Harness Xtra 5.6	5.6	L	1.5	qt/a	PRE	A	100	100	100	243
18	Hornet WDG	68.5	DG	3	oz/a	PRE	A				
18	Roundup PowerMAX	4.5	L	22	fl oz/a	LP	C				
18	Ammonium Sulfate	100	DF	2	% w/w	LP	C				
19	SureStart	4.18	SE	1	qt/a	PRE	A	100	69	90	241

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Weed Code	AMARE	AMBEL	ABUTH	
Crop Code				ZEAMX
Rating Data Type	control	control	control	yield
Rating Unit	percent	percent	percent	bu/ac
Rating Date	7/6/2011	7/6/2011	7/6/2011	10/18/2011
Trt-Eval Interval	23 DALP	23 DALP	23 DALP	HARVEST
# Subsamples, Dec.	0	0	0	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	AMARE	AMBEL	ABUTH	ZEAMX
20	SureStart	4.18	SE	1	qt/a	PRE	A	100	100	98	252
20	Roundup PowerMAX	4.5	L	22	fl oz/a	LP	C				
20	Ammonium Sulfate	100	DF	2	% w/w	LP	C				
21	Halex GT	4.39	L	1.8	qt/a	MP	B	100	100	100	219
21	Activator 90		L	0.25	% v/v	MP	B				
21	Ammonium Sulfate	100	DF	2	% w/w	MP	B				
22	Roundup PowerMAX	4.5	L	22	fl oz/a	MP	B	100	100	99	227
22	Ammonium Sulfate	100	DF	2	% w/w	MP	B				
22	Roundup PowerMAX	4.5	L	22	fl oz/a	LP	C				
22	Ammonium Sulfate	100	DF	2	% w/w	LP	C				
23	Roundup PowerMAX	4.5	L	22	fl oz/a	8-12"WDS	D	100	100	98	214
23	Ammonium Sulfate	100	DF	2	% w/w	8-12"WDS	D				
24	Untreated						D	0	0	0	50
LSD (P=.05)								5.0	9.1	11.0	29.0
Standard Deviation								3.5	6.4	7.8	20.5
CV								3.79	7.24	9.03	9.07

Means followed by same letter do not significantly differ (P=.05, LSD)

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.