

MSU Weed Science Research Program

WEED CONTROL SYSTEMS WITH CAPRENO AND IMPACT, 2011

Trial ID: C0311 Study Dir.: Andy Chomas
Conducted: CAMPUS Investigator: Christy Sprague

Date Planted: 5/10/2011 Row Spacing: 30 IN
Variety: GARST 88M51 No. of Reps: 4
Population: 30,500 S/A % 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: Application Timing, Date Treated, Time Treated, % Cloud Cover, Air Temp., % Relative Humidity, Wind Speed/Unit/Dir, Soil Temp., Soil/Leaf Surface M, Soil Moist. Rows A, B, C.

Crop Stage at Each Application

Table with 4 columns: Height (In.), Stage (L). Rows A, B, C.

Weed Stage at Each Application

Table with 4 columns: Height (In.), Stage (L). Rows A, B, C.

Weed Density (plants/sq. ft.)

Table with 2 columns: Date, Weed Name, Density. Rows 1, 2, 3, 4.

Application Equipment

Table with 12 columns: Appl, Sprayer, Speed, Nozzle, Nozzle, Nozzle, Nozzle, Boom, GPA, Carrier, PSI. Rows A, B, C.

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									ANGR	CHEAL	AMARE	AMBEL	ABUTH
Crop Code									ZEAMX				
Rating Data Type									injury	control	control	control	control
Rating Unit									percent	percent	percent	percent	percent
Rating Date									6/8/2011	6/8/2011	6/8/2011	6/8/2011	6/8/2011
Trt-Eval Interval									AT POST	AT POST	AT POST	AT POST	AT POST
# Subsamples, Dec.									0	0	0	0	0
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code						
1	Capreno	3.45	SC	3	fl oz/a	PRE	A	0	70	83	100	83	89
2	Capreno	3.45	SC	6	fl oz/a	PRE	A	11	83	100	100	98	99
3	Capreno	3.45	SC	3	fl oz/a	PRE	A	0	69	95	100	90	94
3	Roundup PowerMAX	4.5	SL	22	fl oz/a	POST	C						
3	Ammonium Sulfate	100	DF	17	lb/100 gal	POST	C						
4	Untreated						A	0	0	0	0	0	0
5	Harness	7	L	1.75	pt/a	PRE	A	0	97	63	100	78	74
6	Harness	7	L	1.75	pt/a	PRE	A	0	93	64	100	84	74
6	Impact	2.8	SC	0.75	fl oz/a	POST	C						
6	Atrazine	4	L	1	pt/a	POST	C						
6	MSO		L	1	% v/v	POST	C						
6	28% Nitrogen		L	2.5	% v/v	POST	C						
7	Harness	7	L	1.75	pt/a	PRE	A	0	97	64	100	81	75
7	Roundup PowerMAX	4.5	SL	22	fl oz/a	POST	C						
7	N-Pak AMS		L	3	pt/a	POST	C						
8	Harness	7	L	1.75	pt/a	PRE	A	0	96	63	100	83	74
8	Impact	2.8	SC	0.5	fl oz/a	POST	C						
8	Roundup PowerMAX	4.5	SL	22	fl oz/a	POST	C						
8	Atrazine	4	L	1	pt/a	POST	C						
8	Destiny HC		L	0.5	% v/v	POST	C						
8	N-Pak AMS		L	3	pt/a	POST	C						
9	Harness Xtra 5.6	5.6	L	3	pt/a	EP	B	15	99	100	100	100	100
9	Impact	2.8	SC	0.5	fl oz/a	EP	B						
9	Roundup PowerMAX	4.5	SL	22	fl oz/a	EP	B						
9	Destiny HC		L	0.5	% v/v	EP	B						
9	N-Pak AMS		L	3	pt/a	EP	B						
10	Capreno	3.45	SC	3	fl oz/a	EP	B	1	75	98	100	100	99
10	Herbimax		L	1	% v/v	EP	B						
10	Ammonium Sulfate	100	DF	17	lb/100 gal	EP	B						
11	Capreno	3.45	SC	3	fl oz/a	EP	B	0	98	100	100	100	100
11	Roundup PowerMAX	4.5	SL	22	fl oz/a	EP	B						
11	Ammonium Sulfate	100	DF	17	lb/100 gal	EP	B						
12	Capreno	3.45	SC	3	fl oz/a	EP	B	1	79	100	100	100	100
12	Atrazine	4	L	1	qt/a	EP	B						
12	Herbimax		L	1	% v/v	EP	B						
12	Ammonium Sulfate	100	DF	17	lb/100 gal	EP	B						
13	Capreno	3.45	SC	3	fl oz/a	EP	B	0	100	100	100	100	100
13	Atrazine	4	L	1	qt/a	EP	B						
13	Roundup PowerMAX	4.5	SL	22	fl oz/a	EP	B						
13	Ammonium Sulfate	100	DF	17	lb/100 gal	EP	B						
14	Halex GT	4.39	L	3.6	pt/a	EP	B	1	100	100	100	99	100
14	Activator 90		L	0.25	% v/v	EP	B						
14	N-Pak AMS		L	3	pt/a	EP	B						

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Weed Code									ANGR	CHEAL	AMARE	AMBEL	ABUTH	
Crop Code									ZEAMX					
Rating Data Type									injury	control	control	control	control	
Rating Unit									percent	percent	percent	percent	percent	
Rating Date									6/8/2011	6/8/2011	6/8/2011	6/8/2011	6/8/2011	
Trt-Eval Interval									AT POST	AT POST	AT POST	AT POST	AT POST	
# Subsamples, Dec.									0	0	0	0	0	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code							
15	Halex GT	4.39	L	3.6	pt/a	EP	B	0	98	100	100	100	100	
15	Atrazine	4	L	1	pt/a	EP	B							
15	Activator 90		L	0.25	% v/v	EP	B							
15	N-Pak AMS		L	3	pt/a	EP	B							
LSD (P=.05)									1.9	5.5	5.9	0.0	11.5	7.6
Standard Deviation									1.3	3.9	4.1	0.0	8.0	5.3
CV									65.31	4.62	5.04	0.0	9.32	6.25

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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Weed Code	Crop Code	Rating Data Type	Rating Unit	Rating Date	Trt-Eval Interval	# Subsamples, Dec.	ZEAMX injury percent 6/16/2011 15 DAEP	ANGR control percent 6/15/2011 15 DAEP	CHEAL control percent 6/15/2011 15 DAEP	AMARE control percent 6/15/2011 15 DAEP	AMBEL control percent 6/15/2011 15 DAEP	ABUTH control percent 6/15/2011 15 DAEP
1	Capreno	3.45	SC	3	fl oz/a	PRE A	4	66	76	98	70	87
2	Capreno	3.45	SC	6	fl oz/a	PRE A	18	81	91	100	99	92
3	Capreno	3.45	SC	3	fl oz/a	PRE A	8	95	96	100	95	90
3	Roundup PowerMAX	4.5	SL	22	fl oz/a	POST C						
3	Ammonium Sulfate	100	DF	17	lb/100 gal	POST C						
4	Untreated					A	0	0	0	0	0	0
5	Harness	7	L	1.75	pt/a	PRE A	0	98	61	100	64	75
6	Harness	7	L	1.75	pt/a	PRE A	0	95	100	100	100	95
6	Impact	2.8	SC	0.75	fl oz/a	POST C						
6	Atrazine	4	L	1	pt/a	POST C						
6	MSO		L	1	% v/v	POST C						
6	28% Nitrogen		L	2.5	% v/v	POST C						
7	Harness	7	L	1.75	pt/a	PRE A	0	94	100	99	94	66
7	Roundup PowerMAX	4.5	SL	22	fl oz/a	POST C						
7	N-Pak AMS		L	3	pt/a	POST C						
8	Harness	7	L	1.75	pt/a	PRE A	5	99	100	100	99	93
8	Impact	2.8	SC	0.5	fl oz/a	POST C						
8	Roundup PowerMAX	4.5	SL	22	fl oz/a	POST C						
8	Atrazine	4	L	1	pt/a	POST C						
8	Destiny HC		L	0.5	% v/v	POST C						
8	N-Pak AMS		L	3	pt/a	POST C						
9	Harness Xtra 5.6	5.6	L	3	pt/a	EP B	11	98	100	100	100	98
9	Impact	2.8	SC	0.5	fl oz/a	EP B						
9	Roundup PowerMAX	4.5	SL	22	fl oz/a	EP B						
9	Destiny HC		L	0.5	% v/v	EP B						
9	N-Pak AMS		L	3	pt/a	EP B						
10	Capreno	3.45	SC	3	fl oz/a	EP B	0	88	99	99	100	91
10	Herbimax		L	1	% v/v	EP B						
10	Ammonium Sulfate	100	DF	17	lb/100 gal	EP B						
11	Capreno	3.45	SC	3	fl oz/a	EP B	0	98	88	100	100	93
11	Roundup PowerMAX	4.5	SL	22	fl oz/a	EP B						
11	Ammonium Sulfate	100	DF	17	lb/100 gal	EP B						
12	Capreno	3.45	SC	3	fl oz/a	EP B	0	83	100	100	100	95
12	Atrazine	4	L	1	qt/a	EP B						
12	Herbimax		L	1	% v/v	EP B						
12	Ammonium Sulfate	100	DF	17	lb/100 gal	EP B						
13	Capreno	3.45	SC	3	fl oz/a	EP B	0	99	99	100	100	95
13	Atrazine	4	L	1	qt/a	EP B						
13	Roundup PowerMAX	4.5	SL	22	fl oz/a	EP B						
13	Ammonium Sulfate	100	DF	17	lb/100 gal	EP B						
14	Halex GT	4.39	L	3.6	pt/a	EP B	0	98	97	98	97	99
14	Activator 90		L	0.25	% v/v	EP B						
14	N-Pak AMS		L	3	pt/a	EP B						

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Weed Code									ANGR	CHEAL	AMARE	AMBEL	ABUTH	
Crop Code									ZEAMX					
Rating Data Type									injury	control	control	control	control	
Rating Unit									percent	percent	percent	percent	percent	
Rating Date									6/16/2011	6/15/2011	6/15/2011	6/15/2011	6/15/2011	
Trt-Eval Interval									15 DAEP	15 DAEP	15 DAEP	15 DAEP	15 DAEP	
# Subsamples, Dec.									0	0	0	0	0	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code							
15	Halex GT	4.39	L	3.6	pt/a	EP	B	0	99	100	100	100	100	
15	Atrazine	4	L	1	pt/a	EP	B							
15	Activator 90		L	0.25	% v/v	EP	B							
15	N-Pak AMS		L	3	pt/a	EP	B							
LSD (P=.05)									3.8	7.3	5.3	2.5	5.0	18.1
Standard Deviation									2.7	5.1	3.7	1.8	3.5	12.7
CV									89.21	5.94	4.26	1.89	3.95	14.99

Means followed by same letter do not significantly differ (P=.05, LSD)
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Weed Code	Crop Code	Rating Data Type	Rating Unit	Rating Date	Trt-Eval Interval	# Subsamples, Dec.	ZEAMX injury percent 6/29/2011 28 DAEP	ANGR control percent 6/29/2011 28 DAEP	CHEAL control percent 6/29/2011 28 DAEP	AMARE control percent 6/29/2011 28 DAEP	AMBEL control percent 6/29/2011 28 DAEP	ABUTH control percent 6/29/2011 28 DAEP
1	Capreno	3.45	SC	3	fl oz/a	PRE A	1	50	65	99	75	89
2	Capreno	3.45	SC	6	fl oz/a	PRE A	11	65	84	100	95	86
3	Capreno	3.45	SC	3	fl oz/a	PRE A	3	82	90	100	100	85
3	Roundup PowerMAX	4.5	SL	22	fl oz/a	POST C						
3	Ammonium Sulfate	100	DF	17	lb/100 gal	POST C						
4	Untreated					A	0	0	0	0	0	0
5	Harness	7	L	1.75	pt/a	PRE A	0	93	58	100	76	77
6	Harness	7	L	1.75	pt/a	PRE A	0	90	99	100	100	95
6	Impact	2.8	SC	0.75	fl oz/a	POST C						
6	Atrazine	4	L	1	pt/a	POST C						
6	MSO		L	1	% v/v	POST C						
6	28% Nitrogen		L	2.5	% v/v	POST C						
7	Harness	7	L	1.75	pt/a	PRE A	0	88	90	99	100	90
7	Roundup PowerMAX	4.5	SL	22	fl oz/a	POST C						
7	N-Pak AMS		L	3	pt/a	POST C						
8	Harness	7	L	1.75	pt/a	PRE A	0	94	100	100	100	93
8	Impact	2.8	SC	0.5	fl oz/a	POST C						
8	Roundup PowerMAX	4.5	SL	22	fl oz/a	POST C						
8	Atrazine	4	L	1	pt/a	POST C						
8	Destiny HC		L	0.5	% v/v	POST C						
8	N-Pak AMS		L	3	pt/a	POST C						
9	Harness Xtra 5.6	5.6	L	3	pt/a	EP B	3	96	100	100	100	97
9	Impact	2.8	SC	0.5	fl oz/a	EP B						
9	Roundup PowerMAX	4.5	SL	22	fl oz/a	EP B						
9	Destiny HC		L	0.5	% v/v	EP B						
9	N-Pak AMS		L	3	pt/a	EP B						
10	Capreno	3.45	SC	3	fl oz/a	EP B	0	86	89	98	100	100
10	Herbimax		L	1	% v/v	EP B						
10	Ammonium Sulfate	100	DF	17	lb/100 gal	EP B						
11	Capreno	3.45	SC	3	fl oz/a	EP B	0	95	89	100	100	98
11	Roundup PowerMAX	4.5	SL	22	fl oz/a	EP B						
11	Ammonium Sulfate	100	DF	17	lb/100 gal	EP B						
12	Capreno	3.45	SC	3	fl oz/a	EP B	0	79	100	100	100	95
12	Atrazine	4	L	1	qt/a	EP B						
12	Herbimax		L	1	% v/v	EP B						
12	Ammonium Sulfate	100	DF	17	lb/100 gal	EP B						
13	Capreno	3.45	SC	3	fl oz/a	EP B	0	93	100	100	100	100
13	Atrazine	4	L	1	qt/a	EP B						
13	Roundup PowerMAX	4.5	SL	22	fl oz/a	EP B						
13	Ammonium Sulfate	100	DF	17	lb/100 gal	EP B						
14	Halex GT	4.39	L	3.6	pt/a	EP B	0	98	93	98	100	98
14	Activator 90		L	0.25	% v/v	EP B						
14	N-Pak AMS		L	3	pt/a	EP B						

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Weed Code									ANGR	CHEAL	AMARE	AMBEL	ABUTH	
Crop Code									ZEAMX					
Rating Data Type									injury	control	control	control	control	
Rating Unit									percent	percent	percent	percent	percent	
Rating Date									6/29/2011	6/29/2011	6/29/2011	6/29/2011	6/29/2011	
Trt-Eval Interval									28 DAEP	28 DAEP	28 DAEP	28 DAEP	28 DAEP	
# Subsamples, Dec.									0	0	0	0	0	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code							
15	Halex GT	4.39	L	3.6	pt/a	EP	B	0	93	100	100	100	100	
15	Atrazine	4	L	1	pt/a	EP	B							
15	Activator 90		L	0.25	% v/v	EP	B							
15	N-Pak AMS		L	3	pt/a	EP	B							
LSD (P=.05)									2.0	12.1	7.4	2.4	9.9	7.1
Standard Deviation									1.4	8.5	5.2	1.7	6.9	4.9
CV									122.53	10.58	6.21	1.84	7.7	5.71

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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Weed Code	ANGR	CHEAL	AMARE	AMBEL	ABUTH	ZEAMX							
Crop Code													
Rating Data Type	control	control	control	control	control	yield							
Rating Unit	percent	percent	percent	percent	percent	bu/ac							
Rating Date	7/27/2011	7/27/2011	7/27/2011	7/27/2011	7/27/2011	10/18/2011							
Trt-Eval Interval	56 DAEP	56 DAEP	56 DAEP	56 DAEP	56 DAEP	HARVEST							
# Subsamples, Dec.	0	0	0	0	0	0							
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code						
1	Capreno	3.45	SC	3	fl oz/a	PRE	A	58	55	90	71	83	212
2	Capreno	3.45	SC	6	fl oz/a	PRE	A	64	78	98	90	80	218
3	Capreno	3.45	SC	3	fl oz/a	PRE	A	72	85	100	98	93	221
3	Roundup PowerMAX	4.5	SL	22	fl oz/a	POST	C						
3	Ammonium Sulfate	100	DF	17	lb/100 gal	POST	C						
4	Untreated						A	0	0	0	0	0	124
5	Harness	7	L	1.75	pt/a	PRE	A	88	33	98	65	86	206
6	Harness	7	L	1.75	pt/a	PRE	A	84	96	100	100	100	213
6	Impact	2.8	SC	0.75	fl oz/a	POST	C						
6	Atrazine	4	L	1	pt/a	POST	C						
6	MSO		L	1	% v/v	POST	C						
6	28% Nitrogen		L	2.5	% v/v	POST	C						
7	Harness	7	L	1.75	pt/a	PRE	A	78	82	100	100	100	224
7	Roundup PowerMAX	4.5	SL	22	fl oz/a	POST	C						
7	N-Pak AMS		L	3	pt/a	POST	C						
8	Harness	7	L	1.75	pt/a	PRE	A	86	99	100	100	96	221
8	Impact	2.8	SC	0.5	fl oz/a	POST	C						
8	Roundup PowerMAX	4.5	SL	22	fl oz/a	POST	C						
8	Atrazine	4	L	1	pt/a	POST	C						
8	Destiny HC		L	0.5	% v/v	POST	C						
8	N-Pak AMS		L	3	pt/a	POST	C						
9	Harness Xtra 5.6	5.6	L	3	pt/a	EP	B	98	100	100	100	99	216
9	Impact	2.8	SC	0.5	fl oz/a	EP	B						
9	Roundup PowerMAX	4.5	SL	22	fl oz/a	EP	B						
9	Destiny HC		L	0.5	% v/v	EP	B						
9	N-Pak AMS		L	3	pt/a	EP	B						
10	Capreno	3.45	SC	3	fl oz/a	EP	B	80	85	96	100	98	224
10	Herbimax		L	1	% v/v	EP	B						
10	Ammonium Sulfate	100	DF	17	lb/100 gal	EP	B						
11	Capreno	3.45	SC	3	fl oz/a	EP	B	85	82	100	100	100	226
11	Roundup PowerMAX	4.5	SL	22	fl oz/a	EP	B						
11	Ammonium Sulfate	100	DF	17	lb/100 gal	EP	B						
12	Capreno	3.45	SC	3	fl oz/a	EP	B	71	100	100	100	98	221
12	Atrazine	4	L	1	qt/a	EP	B						
12	Herbimax		L	1	% v/v	EP	B						
12	Ammonium Sulfate	100	DF	17	lb/100 gal	EP	B						
13	Capreno	3.45	SC	3	fl oz/a	EP	B	91	100	100	100	100	228
13	Atrazine	4	L	1	qt/a	EP	B						
13	Roundup PowerMAX	4.5	SL	22	fl oz/a	EP	B						
13	Ammonium Sulfate	100	DF	17	lb/100 gal	EP	B						
14	Halex GT	4.39	L	3.6	pt/a	EP	B	94	90	98	100	98	223
14	Activator 90		L	0.25	% v/v	EP	B						
14	N-Pak AMS		L	3	pt/a	EP	B						

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Weed Code	ANGR	CHEAL	AMARE	AMBEL	ABUTH	
Crop Code						ZEAMX
Rating Data Type	control	control	control	control	control	yield
Rating Unit	percent	percent	percent	percent	percent	bu/ac
Rating Date	7/27/2011	7/27/2011	7/27/2011	7/27/2011	7/27/2011	10/18/2011
Trt-Eval Interval	56 DAEP	56 DAEP	56 DAEP	56 DAEP	56 DAEP	HARVEST
# Subsamples, Dec.	0	0	0	0	0	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code						
15	Halex GT	4.39	L	3.6	pt/a	EP	B	95	100	100	100	100	222
15	Atrazine	4	L	1	pt/a	EP	B						
15	Activator 90		L	0.25	% v/v	EP	B						
15	N-Pak AMS		L	3	pt/a	EP	B						

LSD (P=.05)	8.2	12.1	4.7	13.8	6.8	15.1
Standard Deviation	5.8	8.5	3.3	9.6	4.8	10.6
CV	7.58	10.76	3.6	10.9	5.37	4.96

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.