

MSU Weed Science Research Program

NON-CROP: Roundup WeatherMax + Clarity efficacy on non-resistant broadleaf weeds

Trial ID: NC01-11 Study Dir.: Sprague, Powell
Conducted: MSU Campus Investigator: Christy Sprague

Date Planted: Row Spacing: IN
Variety: No. of Reps: 4
Population: % OM: 7
Soil Type: Loam pH: 3.8
Plot Size: 10 X 30 FT Design: RANDOMIZED COMPLETE BLOCK

Tillage: Spring soil finish
Fertilizer: None

Crop and Weed Description

Table with 4 columns: Weed, Code, Common Name, Scientific Name. Lists weeds 1-5 and their corresponding codes and names.

Application Description

Table with 4 columns: Application Timing, Date Treated, Time Treated, % Cloud Cover, Air Temp., Unit, % Relative Humidity, Wind Speed/Unit/Dir, Soil Temp., Unit, Soil/Leaf Surface M, Soil Moist (1=w 5=d). Lists application details for treatments A, B, and C.

Crop Stage at Each Application

Table with 4 columns: Crop Name, A, B, C. Shows crop stage for each application.

Weed Stage at Each Application

Table with 4 columns: Weed Name, Height (In.), Stage (L), A, B, C. Lists weed names and their stages at each application.

Application Equipment

Table with 11 columns: Appl, Sprayer, Speed, Nozzle, Nozzle Size, Nozzle Height, Nozzle Spacing, Boom Width, GPA, Carrier, PSI. Lists application equipment details for treatments A, B, and C.

Comments: Select Max (12 fl oz/A) + COC (1% v/v) was applied to the entire study to control grass weeds.

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Weed Code	CHEAL	AMAPO	AMBEL	ABUTH	SINAR
Crop Code					
Rating Data Type	control	control	control	control	control
Rating Unit	percent	percent	percent	percent	percent
Rating Date	7/14/2011	7/14/2011	7/14/2011	7/14/2011	7/14/2011
Trt-Eval Interval	7 DA-A	7 DA-A	7 DA-A	7 DA-A	7 DA-A
# Subsamples, Dec.					

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	CHEAL	AMAPO	AMBEL	ABUTH	SINAR
1	Clarity	4	L	0.25	lb ai/a	3" WDS	A	73.8	65.0	63.8	57.5	40.0
1	Class Act Next Generation		L	2.5	% v/v	3" WDS	A					
2	Clarity	4	L	0.375	lb ai/a	3" WDS	A	70.8	62.5	73.8	68.8	53.8
2	Class Act Next Generation		L	2.5	% v/v	3" WDS	A					
3	Clarity	4	L	0.5	lb ai/a	3" WDS	A	75.0	63.8	75.0	71.3	53.8
3	Class Act Next Generation		L	2.5	% v/v	3" WDS	A					
4	Roundup WeatherMax	4.5	SL	0.75	lb ae/a	3" WDS	A	89.5	99.0	86.3	95.8	99.0
4	Clarity	4	L	0.25	lb ai/a	3" WDS	A					
4	AMS		WG	1	% w/v	3" WDS	A					
5	Roundup WeatherMax	4.5	SL	0.75	lb ae/a	3" WDS	A	88.0	99.0	85.0	86.0	97.0
5	Clarity	4	L	0.375	lb ai/a	3" WDS	A					
5	AMS		WG	1	% w/v	3" WDS	A					
6	Roundup WeatherMax	4.5	SL	0.75	lb ae/a	3" WDS	A	88.3	96.5	83.0	89.8	97.5
6	Clarity	4	L	0.5	lb ai/a	3" WDS	A					
6	AMS		WG	1	% w/v	3" WDS	A					
7	Blank											
8	Clarity	4	L	0.25	lb ai/a	6" WDS	B					
8	Class Act Next Generation		L	2.5	% v/v	6" WDS	B					
9	Clarity	4	L	0.375	lb ai/a	6" WDS	B					
9	Class Act Next Generation		L	2.5	% v/v	6" WDS	B					
10	Clarity	4	L	0.5	lb ai/a	6" WDS	B					
10	Class Act Next Generation		L	2.5	% v/v	6" WDS	B					
11	Roundup WeatherMax	4.5	SL	0.75	lb ae/a	6" WDS	B					
11	Clarity	4	L	0.25	lb ai/a	6" WDS	B					
11	AMS		WG	1	% w/v	6" WDS	B					
12	Roundup WeatherMax	4.5	SL	0.75	lb ae/a	6" WDS	B					
12	Clarity	4	L	0.375	lb ai/a	6" WDS	B					
12	AMS		WG	1	% w/v	6" WDS	B					
13	Roundup WeatherMax	4.5	SL	0.75	lb ae/a	6" WDS	B					
13	Clarity	4	L	0.5	lb ai/a	6" WDS	B					
13	AMS		WG	1	% w/v	6" WDS	B					
14	Roundup WeatherMax	4.5	SL	0.75	lb ae/a	6" WDS	B					
14	2,4-D Amine	4	L	0.5	qt/a	6" WDS	B					
14	AMS		WG	1	% w/v	6" WDS	B					
15	Clarity	4	L	0.25	lb ai/a	12" WDS	C					
15	Class Act Next Generation		L	2.5	% v/v	12" WDS	C					
16	Clarity	4	L	0.375	lb ai/a	12" WDS	C					
16	Class Act Next Generation		L	2.5	% v/v	12" WDS	C					
17	Clarity	4	L	0.5	lb ai/a	12" WDS	C					
17	Class Act Next Generation		L	2.5	% v/v	12" WDS	C					

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Weed Code	CHEAL	AMAPO	AMBEL	ABUTH	SINAR
Crop Code					
Rating Data Type	control	control	control	control	control
Rating Unit	percent	percent	percent	percent	percent
Rating Date	7/14/2011	7/14/2011	7/14/2011	7/14/2011	7/14/2011
Trt-Eval Interval	7 DA-A	7 DA-A	7 DA-A	7 DA-A	7 DA-A
# Subsamples, Dec.					

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code
18	Roundup WeatherMax	4.5	SL	0.75	lb ae/a	12" WDS	C
18	Clarity	4	L	0.25	lb ai/a	12" WDS	C
18	AMS		WG	1	% w/v	12" WDS	C
19	Roundup WeatherMax	4.5	SL	0.75	lb ae/a	12" WDS	C
19	Clarity	4	L	0.375	lb ai/a	12" WDS	C
19	AMS		WG	1	% w/v	12" WDS	C
20	Roundup WeatherMax	4.5	SL	0.75	lb ae/a	12" WDS	C
20	Clarity	4	L	0.5	lb ai/a	12" WDS	C
20	AMS		WG	1	% w/v	12" WDS	C
21	Roundup WeatherMax	4.5	SL	0.75	lb ae/a	12" WDS	C
21	2,4-D Amine	4	L	0.5	qt/a	12" WDS	C
21	AMS		WG	1	% w/v	12" WDS	C

LSD (P=.05)	7.28	6.59	4.08	10.09	7.90
Standard Deviation	4.83	4.38	2.71	6.70	5.24
CV	5.97	5.41	3.48	8.57	7.13

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	CHEAL	AMAPO	AMBEL	ABUTH	SINAR
Crop Code					
Rating Data Type	control	control	control	control	control
Rating Unit	percent	percent	percent	percent	percent
Rating Date	7/21/2011	7/21/2011	7/21/2011	7/21/2011	7/21/2011
Trt-Eval Interval	14 DA-A	14 DA-A	14 DA-A	14 DA-A	14 DA-A
# Subsamples, Dec.					

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	CHEAL	AMAPO	AMBEL	ABUTH	SINAR
1	Clarity	4	L	0.25	lb ai/a	3" WDS	A	71.3	63.8	75.0	67.5	70.0
1	Class Act Next Generation		L	2.5	% v/v	3" WDS	A					
2	Clarity	4	L	0.375	lb ai/a	3" WDS	A	75.0	67.5	73.8	71.7	75.0
2	Class Act Next Generation		L	2.5	% v/v	3" WDS	A					
3	Clarity	4	L	0.5	lb ai/a	3" WDS	A	75.0	71.3	77.5	66.3	73.8
3	Class Act Next Generation		L	2.5	% v/v	3" WDS	A					
4	Roundup WeatherMax	4.5	SL	0.75	lb ae/a	3" WDS	A	96.8	99.0	98.5	97.5	99.0
4	Clarity	4	L	0.25	lb ai/a	3" WDS	A					
4	AMS		WG	1	% w/v	3" WDS	A					
5	Roundup WeatherMax	4.5	SL	0.75	lb ae/a	3" WDS	A	95.0	95.8	97.3	99.0	99.0
5	Clarity	4	L	0.375	lb ai/a	3" WDS	A					
5	AMS		WG	1	% w/v	3" WDS	A					
6	Roundup WeatherMax	4.5	SL	0.75	lb ae/a	3" WDS	A	97.5	98.8	99.0	99.0	99.0
6	Clarity	4	L	0.5	lb ai/a	3" WDS	A					
6	AMS		WG	1	% w/v	3" WDS	A					
7	Blank											
8	Clarity	4	L	0.25	lb ai/a	6" WDS	B	61.3	42.5	56.3	50.0	53.8
8	Class Act Next Generation		L	2.5	% v/v	6" WDS	B					
9	Clarity	4	L	0.375	lb ai/a	6" WDS	B	66.3	56.3	61.3	55.0	60.0
9	Class Act Next Generation		L	2.5	% v/v	6" WDS	B					
10	Clarity	4	L	0.5	lb ai/a	6" WDS	B	63.8	47.5	52.5	48.8	55.0
10	Class Act Next Generation		L	2.5	% v/v	6" WDS	B					
11	Roundup WeatherMax	4.5	SL	0.75	lb ae/a	6" WDS	B	83.3	89.3	76.3	70.0	96.0
11	Clarity	4	L	0.25	lb ai/a	6" WDS	B					
11	AMS		WG	1	% w/v	6" WDS	B					
12	Roundup WeatherMax	4.5	SL	0.75	lb ae/a	6" WDS	B	77.5	86.3	75.0	68.8	91.7
12	Clarity	4	L	0.375	lb ai/a	6" WDS	B					
12	AMS		WG	1	% w/v	6" WDS	B					
13	Roundup WeatherMax	4.5	SL	0.75	lb ae/a	6" WDS	B	78.8	88.3	76.3	71.3	94.8
13	Clarity	4	L	0.5	lb ai/a	6" WDS	B					
13	AMS		WG	1	% w/v	6" WDS	B					
14	Roundup WeatherMax	4.5	SL	0.75	lb ae/a	6" WDS	B	76.3	85.0	76.3	68.8	93.3
14	2,4-D Amine	4	L	0.5	qt/a	6" WDS	B					
14	AMS		WG	1	% w/v	6" WDS	B					
15	Clarity	4	L	0.25	lb ai/a	12" WDS	C					
15	Class Act Next Generation		L	2.5	% v/v	12" WDS	C					
16	Clarity	4	L	0.375	lb ai/a	12" WDS	C					
16	Class Act Next Generation		L	2.5	% v/v	12" WDS	C					
17	Clarity	4	L	0.5	lb ai/a	12" WDS	C					
17	Class Act Next Generation		L	2.5	% v/v	12" WDS	C					

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Crop Code					
Rating Data Type	control	control	control	control	control
Rating Unit	percent	percent	percent	percent	percent
Rating Date	7/21/2011	7/21/2011	7/21/2011	7/21/2011	7/21/2011
Trt-Eval Interval	14 DA-A	14 DA-A	14 DA-A	14 DA-A	14 DA-A
# Subsamples, Dec.					

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code
18	Roundup WeatherMax	4.5	SL	0.75	lb ae/a	12" WDS	C
18	Clarity	4	L	0.25	lb ai/a	12" WDS	C
18	AMS		WG	1	% w/v	12" WDS	C
19	Roundup WeatherMax	4.5	SL	0.75	lb ae/a	12" WDS	C
19	Clarity	4	L	0.375	lb ai/a	12" WDS	C
19	AMS		WG	1	% w/v	12" WDS	C
20	Roundup WeatherMax	4.5	SL	0.75	lb ae/a	12" WDS	C
20	Clarity	4	L	0.5	lb ai/a	12" WDS	C
20	AMS		WG	1	% w/v	12" WDS	C
21	Roundup WeatherMax	4.5	SL	0.75	lb ae/a	12" WDS	C
21	2,4-D Amine	4	L	0.5	qt/a	12" WDS	C
21	AMS		WG	1	% w/v	12" WDS	C

LSD (P=.05)	7.55	7.57	6.59	9.09	7.68
Standard Deviation	5.23	5.24	4.61	6.30	5.32
CV	6.68	6.88	6.02	8.77	6.52

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

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Crop Code					
Rating Data Type	control	control	control	control	control
Rating Unit	percent	percent	percent	percent	percent
Rating Date	7/30/2011	7/30/2011	7/30/2011	7/30/2011	7/30/2011
Trt-Eval Interval	23 DA-A	23 DA-A	23 DA-A	23 DA-A	23 DA-A
# Subsamples, Dec.					

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	CHEAL	AMAPO	AMBEL	ABUTH	SINAR
1	Clarity	4	L	0.25	lb ai/a	3" WDS	A	77.3	69.3	75.0	72.0	77.5
1	Class Act Next Generation		L	2.5	% v/v	3" WDS	A					
2	Clarity	4	L	0.375	lb ai/a	3" WDS	A	86.8	80.0	85.0	79.3	84.5
2	Class Act Next Generation		L	2.5	% v/v	3" WDS	A					
3	Clarity	4	L	0.5	lb ai/a	3" WDS	A	98.0	90.8	90.0	90.8	87.5
3	Class Act Next Generation		L	2.5	% v/v	3" WDS	A					
4	Roundup WeatherMax	4.5	SL	0.75	lb ae/a	3" WDS	A	96.5	93.5	95.5	99.0	99.0
4	Clarity	4	L	0.25	lb ai/a	3" WDS	A					
4	AMS		WG	1	% w/v	3" WDS	A					
5	Roundup WeatherMax	4.5	SL	0.75	lb ae/a	3" WDS	A	98.0	92.8	97.5	98.5	99.0
5	Clarity	4	L	0.375	lb ai/a	3" WDS	A					
5	AMS		WG	1	% w/v	3" WDS	A					
6	Roundup WeatherMax	4.5	SL	0.75	lb ae/a	3" WDS	A	99.0	98.0	99.0	98.5	98.5
6	Clarity	4	L	0.5	lb ai/a	3" WDS	A					
6	AMS		WG	1	% w/v	3" WDS	A					
7	Blank											
8	Clarity	4	L	0.25	lb ai/a	6" WDS	B	83.8	62.5	65.0	65.8	68.8
8	Class Act Next Generation		L	2.5	% v/v	6" WDS	B					
9	Clarity	4	L	0.375	lb ai/a	6" WDS	B	91.3	75.0	77.5	79.5	80.0
9	Class Act Next Generation		L	2.5	% v/v	6" WDS	B					
10	Clarity	4	L	0.5	lb ai/a	6" WDS	B	95.5	81.3	79.5	83.0	81.0
10	Class Act Next Generation		L	2.5	% v/v	6" WDS	B					
11	Roundup WeatherMax	4.5	SL	0.75	lb ae/a	6" WDS	B	99.0	99.0	90.3	98.0	99.0
11	Clarity	4	L	0.25	lb ai/a	6" WDS	B					
11	AMS		WG	1	% w/v	6" WDS	B					
12	Roundup WeatherMax	4.5	SL	0.75	lb ae/a	6" WDS	B	98.5	98.5	89.3	90.0	99.0
12	Clarity	4	L	0.375	lb ai/a	6" WDS	B					
12	AMS		WG	1	% w/v	6" WDS	B					
13	Roundup WeatherMax	4.5	SL	0.75	lb ae/a	6" WDS	B	99.0	99.0	94.0	95.0	99.0
13	Clarity	4	L	0.5	lb ai/a	6" WDS	B					
13	AMS		WG	1	% w/v	6" WDS	B					
14	Roundup WeatherMax	4.5	SL	0.75	lb ae/a	6" WDS	B	99.0	99.0	97.5	97.5	99.0
14	2,4-D Amine	4	L	0.5	qt/a	6" WDS	B					
14	AMS		WG	1	% w/v	6" WDS	B					
15	Clarity	4	L	0.25	lb ai/a	12" WDS	C	76.3	61.3	57.5	65.0	55.0
15	Class Act Next Generation		L	2.5	% v/v	12" WDS	C					
16	Clarity	4	L	0.375	lb ai/a	12" WDS	C	78.8	63.8	62.5	63.8	55.0
16	Class Act Next Generation		L	2.5	% v/v	12" WDS	C					
17	Clarity	4	L	0.5	lb ai/a	12" WDS	C	81.0	66.3	63.8	67.5	52.5
17	Class Act Next Generation		L	2.5	% v/v	12" WDS	C					

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Crop Code					
Rating Data Type	control	control	control	control	control
Rating Unit	percent	percent	percent	percent	percent
Rating Date	7/30/2011	7/30/2011	7/30/2011	7/30/2011	7/30/2011
Trt-Eval Interval	23 DA-A	23 DA-A	23 DA-A	23 DA-A	23 DA-A
# Subsamples, Dec.					

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	CHEAL	AMAPO	AMBEL	ABUTH	SINAR
18	Roundup WeatherMax	4.5	SL	0.75	lb ae/a	12" WDS	C	98.0	96.8	78.3	89.3	89.8
18	Clarity	4	L	0.25	lb ai/a	12" WDS	C					
18	AMS		WG	1	% w/v	12" WDS	C					
19	Roundup WeatherMax	4.5	SL	0.75	lb ae/a	12" WDS	C	99.0	93.3	78.3	91.0	89.3
19	Clarity	4	L	0.375	lb ai/a	12" WDS	C					
19	AMS		WG	1	% w/v	12" WDS	C					
20	Roundup WeatherMax	4.5	SL	0.75	lb ae/a	12" WDS	C	99.0	97.5	80.0	89.5	94.0
20	Clarity	4	L	0.5	lb ai/a	12" WDS	C					
20	AMS		WG	1	% w/v	12" WDS	C					
21	Roundup WeatherMax	4.5	SL	0.75	lb ae/a	12" WDS	C	99.0	99.0	89.5	98.0	97.0
21	2,4-D Amine	4	L	0.5	qt/a	12" WDS	C					
21	AMS		WG	1	% w/v	12" WDS	C					
LSD (P=.05)								7.77	8.75	6.86	10.03	8.65
Standard Deviation								5.49	6.19	4.85	7.09	6.12
CV								5.93	7.21	5.9	8.29	7.18

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.