

MSU Weed Science Research Program

Chloroacetamide comparison in Roundup Ready sugarbeet

Trial ID: SB08-15                      Study Dir.: Sprague and Powell  
 Conducted: SVREC                      Investigator: Christy Sprague

**Date Planted:** Apr/15/2015                      **Row Spacing:** 30 IN  
**Variety:** Crystal 351NT                      **No. of Reps:** 4  
**Population:** 49,000 seeds/A                      **% OM:** 3.0  
**Soil Type:** Clay loam                      **pH:** 7.5  
**Plot Size:** 10 X 30 FT                      **Design:** RANDOMIZED COMPLETE BLOCK

**Tillage:** Fall moldboard plow; spring soil finish twice  
**Fertilizer:** 125 lbs actual N per acre applied as urea broadcast and incorporated on April 1, 2015

**Crop and Weed Description**

Weed	Code	Common Name	Scientific Name
1.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
2.	AMARE	PIGWEEED, REDROOT	AMARANTHUS RETROFLEXUS L.
3.	AMBEL	RAGWEEED, COMMON	AMBROSIA ARTEMISIIFOLIA L.
4.	POLPY	SMARTWEEED, PENNSYLVANIA	POLYGONUM PENSYLVANICUM L.
5.	HIBTR	MALLOW, VENICE	HIBISCUS TRIONUM L.
Crop	Code	Common Name	
1.	BETVU	BEET, SUGAR	

**Application Description**

	A	B	C
<b>Application Timing:</b>	2-Leaf	4-Leaf	6-Leaf
<b>Date Treated:</b>	May/20/2015	Jun/11/2015	Jun/11/2015
<b>Time Treated:</b>	1:15 PM	2:30 PM	2:45 PM
<b>% Cloud Cover:</b>	0	90	90
<b>Air Temp., Unit:</b>	50 F	85 F	85 F
<b>% Relative Humidity:</b>	45	34	34
<b>Wind Speed/Unit/Dir:</b>	3 mph N	1 mph W	1 mph W
<b>Soil Temp., Unit:</b>	56 F	74 F	74 F
<b>Soil/Leaf Surface M:</b>	5 5	5 5	5 5
<b>Soil Moist (1=w 5=d):</b>	4	4	4

**Crop Stage at Each Application**

	A	B	C
<b>Crop Name:</b>	BETVU	BETVU	BETVU
<b>Height (In.):</b>	1.5"	6-8"	6-8"
<b>Stage (L):</b>	2	6	6

**Weed Stage at Each Application**

	A	B	C
<b>Weed 1 Name:</b>	CHEAL	CHEAL	CHEAL
<b>Height (In.):</b>	0.5-1.5"	4-6"	1-4"
<b>Stage (L):</b>	4-6	10-22	4-22
<b>Weed 2 Name:</b>	AMARE	AMARE	AMARE
<b>Height (In.):</b>	0.5-1.5"	4"	-
<b>Stage (L):</b>	4	6	-
<b>Weed 3 Name:</b>	AMBEL	AMBEL	AMBEL
<b>Height (In.):</b>	.5-1.5"	6"	2"
<b>Stage (L):</b>	2-4	6-8	4
<b>Weed 4 Name:</b>	POLPY	POLPY	POLPY
<b>Height (In.):</b>	0.5-1.5"	4"	2.5"
<b>Stage (L):</b>	4-6	10-12	6
<b>Weed 5 Name:</b>	HIBTR	HIBTR	HIBTR
<b>Height (In.):</b>	0.5-3"	3-5"	-
<b>Stage (L):</b>	cot.-4	6	-

**Weed Density (plants/sq. ft.)**

	1	2	3	4	5
<b>Weed Name:</b>	CHEAL	AMARE	AMBEL	POLPY	HIBTR
<b>Density:</b>	8	3	<1	<1	2

**Application Equipment**

Appl	Sprayer Type	Speed MPH	Nozzle Type	Nozzle Size	Nozzle Height	Nozzle Spacing	Boom Width	GPA	Carrier	PSI
A	Cub	3.8	AIXR	11003	23"	20"	100"	19	Water	28
B	Cub	3.8	AIXR	11003	25"	20"	100"	19	Water	28
C	Cub	3.8	AIXR	11003	25"	20"	100"	19	Water	28

**Comments:** There was some variability in sugarbeet yield due to variable weed pressure and areas of Rhizoctonia crown and root rot.

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Weed Code								BETVU	CHEAL	AMBEL	POLPY	BETVU
Crop Code								injury	control	control	control	injury
Rating Data Type								percent	percent	percent	percent	percent
Rating Unit								Jun/04/2015	Jun/04/2015	Jun/04/2015	Jun/04/2015	Jun/24/2015
Rating Date								15 DA-A	15 DA-A	15 DA-A	15 DA-A	13 DA-C
Trt-Eval Interval								0	0	0	0	0
# Subsamples, Dec.												
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code					
1	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	0	98	99	99	0
1	AMS		WG	17	lb/100 gal	2-leaf	A					
1	Roundup PowerMax	4.5	SL	32	fl oz/a	6-leaf	C					
1	AMS		WG	17	lb/100 gal	6-leaf	C					
2	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	7	99	99	99	0
2	Nortron	4	L	4	fl oz/a	2-leaf	A					
2	AMS		WG	17	lb/100 gal	2-leaf	A					
2	Roundup PowerMax	4.5	SL	32	fl oz/a	6-leaf	C					
2	Nortron	4	L	4	fl oz/a	6-leaf	C					
2	AMS		WG	17	lb/100 gal	6-leaf	C					
3	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	8	98	99	99	0
3	Nortron	4	L	4	fl oz/a	2-leaf	A					
3	Warrant	3	L	3	pt/a	2-leaf	A					
3	AMS		WG	17	lb/100 gal	2-leaf	A					
4	Roundup PowerMax	4.5	SL	32	fl oz/a	4-leaf	C	0	0	0	0	8
4	Nortron	4	L	4	fl oz/a	4-leaf	C					
4	Warrant	3	L	3	pt/a	4-leaf	C					
4	AMS		WG	17	lb/100 gal	4-leaf	C					
5	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	10	99	99	99	0
5	Nortron	4	L	4	fl oz/a	2-leaf	A					
5	Dual II Magnum	7.64	L	1.33	pt/a	2-leaf	A					
5	AMS		WG	17	lb/100 gal	2-leaf	A					
6	Roundup PowerMax	4.5	SL	32	fl oz/a	4-leaf	B	0	0	0	0	9
6	Nortron	4	L	4	fl oz/a	4-leaf	B					
6	Dual II Magnum	7.64	L	1.33	pt/a	4-leaf	B					
6	AMS		WG	17	lb/100 gal	4-leaf	B					
7	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	9	99	99	99	1
7	Nortron	4	L	4	fl oz/a	2-leaf	A					
7	Outlook	6	L	16	fl oz/a	2-leaf	A					
7	AMS		WG	17	lb/100 gal	2-leaf	A					
8	Roundup PowerMax	4.5	SL	32	fl oz/a	4-leaf	B	0	0	0	0	8
8	Nortron	4	L	4	fl oz/a	4-leaf	B					
8	Outlook	6	L	16	fl oz/a	4-leaf	B					
8	AMS		WG	17	lb/100 gal	4-leaf	B					
9	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	7	95	99	99	0
9	Nortron	4	L	4	fl oz/a	2-leaf	A					
9	Warrant	3	L	3	pt/a	2-leaf	A					
9	AMS		WG	17	lb/100 gal	2-leaf	A					
9	Roundup PowerMax	4.5	SL	32	fl oz/a	6-leaf	C					
9	Nortron	4	L	4	fl oz/a	6-leaf	C					
9	Warrant	3	L	3	pt/a	6-leaf	C					
9	AMS		WG	17	lb/100 gal	6-leaf	C					
10	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	7	99	99	99	0
10	Nortron	4	L	4	fl oz/a	2-leaf	A					
10	Dual II Magnum	7.64	L	1.3	pt/a	2-leaf	A					
10	AMS		WG	17	lb/100 gal	2-leaf	A					
10	Roundup PowerMax	4.5	SL	32	fl oz/a	6-leaf	C					
10	Nortron	4	L	4	fl oz/a	6-leaf	C					
10	Dual II Magnum	7.64	L	1.3	pt/a	6-leaf	C					
10	AMS		WG	17	lb/100 gal	6-leaf	C					

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								BETVU	CHEAL	AMBEL	POLPY	BETVU
								injury	control	control	control	injury
								percent	percent	percent	percent	percent
								Jun/04/2015	Jun/04/2015	Jun/04/2015	Jun/04/2015	Jun/24/2015
								15 DA-A	15 DA-A	15 DA-A	15 DA-A	13 DA-C
								0	0	0	0	0
Trt	Treatment	Form	Form	Rate	Grow	Appl						
No.	Name	Conc	Type	Unit	Stg	Code						
11	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	8	98	99	99	1
11	Nortron	4	L	4	fl oz/a	2-leaf	A					
11	Outlook	6	L	12	fl oz/a	2-leaf	A					
11	AMS		WG	17	lb/100 gal	2-leaf	A					
11	Roundup PowerMax	4.5	SL	32	fl oz/a	6-leaf	C					
11	Nortron	4	L	4	fl oz/a	6-leaf	C					
11	Outlook	6	L	12	fl oz/a	6-leaf	C					
11	AMS		WG	17	lb/100 gal	6-leaf	C					
12	Untreated							0	0	0	0	0
LSD (P=.05)								2.6	2.2	0.4	0.4	4.5
CV								39.73	2.29	0.44	0.44	145.95

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

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Crop Code								control	control	control	control	injury
Rating Data Type								percent	percent	percent	percent	percent
Rating Unit								Jun/24/2015	Jun/24/2015	Jun/24/2015	Jun/24/2015	Jul/09/2015
Rating Date								13 DA-C	13 DA-C	13 DA-C	13 DA-C	28 DA-C
Trt-Eval Interval								0	0	0	0	0
# Subsamples, Dec.												
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code					
1	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	99	99	99	99	0
1	AMS		WG	17	lb/100 gal	2-leaf	A					
1	Roundup PowerMax	4.5	SL	32	fl oz/a	6-leaf	C					
1	AMS		WG	17	lb/100 gal	6-leaf	C					
2	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	99	99	99	99	1
2	Nortron	4	L	4	fl oz/a	2-leaf	A					
2	AMS		WG	17	lb/100 gal	2-leaf	A					
2	Roundup PowerMax	4.5	SL	32	fl oz/a	6-leaf	C					
2	Nortron	4	L	4	fl oz/a	6-leaf	C					
2	AMS		WG	17	lb/100 gal	6-leaf	C					
3	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	90	99	95	91	5
3	Nortron	4	L	4	fl oz/a	2-leaf	A					
3	Warrant	3	L	3	pt/a	2-leaf	A					
3	AMS		WG	17	lb/100 gal	2-leaf	A					
4	Roundup PowerMax	4.5	SL	32	fl oz/a	4-leaf	C	84	97	75	98	9
4	Nortron	4	L	4	fl oz/a	4-leaf	C					
4	Warrant	3	L	3	pt/a	4-leaf	C					
4	AMS		WG	17	lb/100 gal	4-leaf	C					
5	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	94	96	97	92	1
5	Nortron	4	L	4	fl oz/a	2-leaf	A					
5	Dual II Magnum	7.64	L	1.33	pt/a	2-leaf	A					
5	AMS		WG	17	lb/100 gal	2-leaf	A					
6	Roundup PowerMax	4.5	SL	32	fl oz/a	4-leaf	B	98	99	78	99	6
6	Nortron	4	L	4	fl oz/a	4-leaf	B					
6	Dual II Magnum	7.64	L	1.33	pt/a	4-leaf	B					
6	AMS		WG	17	lb/100 gal	4-leaf	B					
7	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	96	95	96	90	4
7	Nortron	4	L	4	fl oz/a	2-leaf	A					
7	Outlook	6	L	16	fl oz/a	2-leaf	A					
7	AMS		WG	17	lb/100 gal	2-leaf	A					
8	Roundup PowerMax	4.5	SL	32	fl oz/a	4-leaf	B	99	99	80	99	8
8	Nortron	4	L	4	fl oz/a	4-leaf	B					
8	Outlook	6	L	16	fl oz/a	4-leaf	B					
8	AMS		WG	17	lb/100 gal	4-leaf	B					
9	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	97	99	99	99	3
9	Nortron	4	L	4	fl oz/a	2-leaf	A					
9	Warrant	3	L	3	pt/a	2-leaf	A					
9	AMS		WG	17	lb/100 gal	2-leaf	A					
9	Roundup PowerMax	4.5	SL	32	fl oz/a	6-leaf	C					
9	Nortron	4	L	4	fl oz/a	6-leaf	C					
9	Warrant	3	L	3	pt/a	6-leaf	C					
9	AMS		WG	17	lb/100 gal	6-leaf	C					
10	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	99	99	99	98	3
10	Nortron	4	L	4	fl oz/a	2-leaf	A					
10	Dual II Magnum	7.64	L	1.3	pt/a	2-leaf	A					
10	AMS		WG	17	lb/100 gal	2-leaf	A					
10	Roundup PowerMax	4.5	SL	32	fl oz/a	6-leaf	C					
10	Nortron	4	L	4	fl oz/a	6-leaf	C					
10	Dual II Magnum	7.64	L	1.3	pt/a	6-leaf	C					
10	AMS		WG	17	lb/100 gal	6-leaf	C					

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								CHEAL	AMBEL	POLPY	HIBTR	BETVU
								control	control	control	control	injury
								percent	percent	percent	percent	percent
								Jun/24/2015	Jun/24/2015	Jun/24/2015	Jun/24/2015	Jul/09/2015
								13 DA-C	13 DA-C	13 DA-C	13 DA-C	28 DA-C
								0	0	0	0	0
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Grow Stg	Appl Code					
11	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	99	99	99	99	6
11	Nortron	4	L	4	fl oz/a	2-leaf	A					
11	Outlook	6	L	12	fl oz/a	2-leaf	A					
11	AMS		WG	17	lb/100 gal	2-leaf	A					
11	Roundup PowerMax	4.5	SL	32	fl oz/a	6-leaf	C					
11	Nortron	4	L	4	fl oz/a	6-leaf	C					
11	Outlook	6	L	12	fl oz/a	6-leaf	C					
11	AMS		WG	17	lb/100 gal	6-leaf	C					
12	Untreated							0	0	0	0	0
LSD (P=.05)								7.9	4.2	10.0	8.3	6.5
CV								6.2	3.21	8.21	6.48	114.97

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

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Weed Code								CHEAL	AMBEL	POLPY	HIBTR	BETVU
Crop Code								control	control	control	control	injury
Rating Data Type								percent	percent	percent	percent	percent
Rating Unit								Jul/09/2015	Jul/09/2015	Jul/09/2015	Jul/09/2015	Aug/13/2015
Rating Date								28 DA-C	28 DA-C	28 DA-C	28 DA-C	63 DA-C
Trt-Eval Interval								0	0	0	0	0
# Subsamples, Dec.												
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code					
1	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	99	99	99	99	0
1	AMS		WG	17	lb/100 gal	2-leaf	A					
1	Roundup PowerMax	4.5	SL	32	fl oz/a	6-leaf	C					
1	AMS		WG	17	lb/100 gal	6-leaf	C					
2	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	99	99	99	98	0
2	Nortron	4	L	4	fl oz/a	2-leaf	A					
2	AMS		WG	17	lb/100 gal	2-leaf	A					
2	Roundup PowerMax	4.5	SL	32	fl oz/a	6-leaf	C					
2	Nortron	4	L	4	fl oz/a	6-leaf	C					
2	AMS		WG	17	lb/100 gal	6-leaf	C					
3	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	91	98	99	91	0
3	Nortron	4	L	4	fl oz/a	2-leaf	A					
3	Warrant	3	L	3	pt/a	2-leaf	A					
3	AMS		WG	17	lb/100 gal	2-leaf	A					
4	Roundup PowerMax	4.5	SL	32	fl oz/a	4-leaf	C	87	94	86	93	0
4	Nortron	4	L	4	fl oz/a	4-leaf	C					
4	Warrant	3	L	3	pt/a	4-leaf	C					
4	AMS		WG	17	lb/100 gal	4-leaf	C					
5	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	96	98	99	91	0
5	Nortron	4	L	4	fl oz/a	2-leaf	A					
5	Dual II Magnum	7.64	L	1.33	pt/a	2-leaf	A					
5	AMS		WG	17	lb/100 gal	2-leaf	A					
6	Roundup PowerMax	4.5	SL	32	fl oz/a	4-leaf	B	99	99	80	97	3
6	Nortron	4	L	4	fl oz/a	4-leaf	B					
6	Dual II Magnum	7.64	L	1.33	pt/a	4-leaf	B					
6	AMS		WG	17	lb/100 gal	4-leaf	B					
7	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	92	96	92	92	0
7	Nortron	4	L	4	fl oz/a	2-leaf	A					
7	Outlook	6	L	16	fl oz/a	2-leaf	A					
7	AMS		WG	17	lb/100 gal	2-leaf	A					
8	Roundup PowerMax	4.5	SL	32	fl oz/a	4-leaf	B	99	96	86	97	2
8	Nortron	4	L	4	fl oz/a	4-leaf	B					
8	Outlook	6	L	16	fl oz/a	4-leaf	B					
8	AMS		WG	17	lb/100 gal	4-leaf	B					
9	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	99	98	99	98	0
9	Nortron	4	L	4	fl oz/a	2-leaf	A					
9	Warrant	3	L	3	pt/a	2-leaf	A					
9	AMS		WG	17	lb/100 gal	2-leaf	A					
9	Roundup PowerMax	4.5	SL	32	fl oz/a	6-leaf	C					
9	Nortron	4	L	4	fl oz/a	6-leaf	C					
9	Warrant	3	L	3	pt/a	6-leaf	C					
9	AMS		WG	17	lb/100 gal	6-leaf	C					
10	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	99	97	99	96	0
10	Nortron	4	L	4	fl oz/a	2-leaf	A					
10	Dual II Magnum	7.64	L	1.3	pt/a	2-leaf	A					
10	AMS		WG	17	lb/100 gal	2-leaf	A					
10	Roundup PowerMax	4.5	SL	32	fl oz/a	6-leaf	C					
10	Nortron	4	L	4	fl oz/a	6-leaf	C					
10	Dual II Magnum	7.64	L	1.3	pt/a	6-leaf	C					
10	AMS		WG	17	lb/100 gal	6-leaf	C					

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Crop Code					
Rating Data Type	control	control	control	control	injury
Rating Unit	percent	percent	percent	percent	percent
Rating Date	Jul/09/2015	Jul/09/2015	Jul/09/2015	Jul/09/2015	Aug/13/2015
Trt-Eval Interval	28 DA-C	28 DA-C	28 DA-C	28 DA-C	63 DA-C
# Subsamples, Dec.	0	0	0	0	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Grow Stg	Appl Code	CHEAL	AMBEL	POLPY	HIBTR	BETVU
11	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	99	99	99	99	0
11	Nortron	4	L	4	fl oz/a	2-leaf	A					
11	Outlook	6	L	12	fl oz/a	2-leaf	A					
11	AMS		WG	17	lb/100 gal	2-leaf	A					
11	Roundup PowerMax	4.5	SL	32	fl oz/a	6-leaf	C					
11	Nortron	4	L	4	fl oz/a	6-leaf	C					
11	Outlook	6	L	12	fl oz/a	6-leaf	C					
11	AMS		WG	17	lb/100 gal	6-leaf	C					
12	Untreated							0	0	0	0	0
LSD (P=.05)								6.3	4.0	11.7	7.3	2.6
CV								4.96	3.1	9.38	5.77	504.5

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								CHEAL	AMARE	AMBEL	POLPY
								control	control	control	control
								percent	percent	percent	percent
								Aug/13/2015	Aug/13/2015	Aug/13/2015	Aug/13/2015
								63 DA-C	63 DA-C	63 DA-C	63 DA-C
								0	0	0	0
Trt	Treatment	Form	Form	Rate	Grow	Appl					
No.	Name	Conc	Type	Unit	Stg	Code					
1	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	97	99	99	99
1	AMS		WG	17	lb/100 gal	2-leaf	A				
1	Roundup PowerMax	4.5	SL	32	fl oz/a	6-leaf	C				
1	AMS		WG	17	lb/100 gal	6-leaf	C				
2	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	97	99	98	99
2	Nortron	4	L	4	fl oz/a	2-leaf	A				
2	AMS		WG	17	lb/100 gal	2-leaf	A				
2	Roundup PowerMax	4.5	SL	32	fl oz/a	6-leaf	C				
2	Nortron	4	L	4	fl oz/a	6-leaf	C				
2	AMS		WG	17	lb/100 gal	6-leaf	C				
3	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	82	94	95	97
3	Nortron	4	L	4	fl oz/a	2-leaf	A				
3	Warrant	3	L	3	pt/a	2-leaf	A				
3	AMS		WG	17	lb/100 gal	2-leaf	A				
4	Roundup PowerMax	4.5	SL	32	fl oz/a	4-leaf	C	79	96	92	94
4	Nortron	4	L	4	fl oz/a	4-leaf	C				
4	Warrant	3	L	3	pt/a	4-leaf	C				
4	AMS		WG	17	lb/100 gal	4-leaf	C				
5	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	87	96	89	97
5	Nortron	4	L	4	fl oz/a	2-leaf	A				
5	Dual II Magnum	7.64	L	1.33	pt/a	2-leaf	A				
5	AMS		WG	17	lb/100 gal	2-leaf	A				
6	Roundup PowerMax	4.5	SL	32	fl oz/a	4-leaf	B	96	99	91	94
6	Nortron	4	L	4	fl oz/a	4-leaf	B				
6	Dual II Magnum	7.64	L	1.33	pt/a	4-leaf	B				
6	AMS		WG	17	lb/100 gal	4-leaf	B				
7	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	93	98	92	96
7	Nortron	4	L	4	fl oz/a	2-leaf	A				
7	Outlook	6	L	16	fl oz/a	2-leaf	A				
7	AMS		WG	17	lb/100 gal	2-leaf	A				
8	Roundup PowerMax	4.5	SL	32	fl oz/a	4-leaf	B	96	96	99	97
8	Nortron	4	L	4	fl oz/a	4-leaf	B				
8	Outlook	6	L	16	fl oz/a	4-leaf	B				
8	AMS		WG	17	lb/100 gal	4-leaf	B				
9	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	97	99	98	99
9	Nortron	4	L	4	fl oz/a	2-leaf	A				
9	Warrant	3	L	3	pt/a	2-leaf	A				
9	AMS		WG	17	lb/100 gal	2-leaf	A				
9	Roundup PowerMax	4.5	SL	32	fl oz/a	6-leaf	C				
9	Nortron	4	L	4	fl oz/a	6-leaf	C				
9	Warrant	3	L	3	pt/a	6-leaf	C				
9	AMS		WG	17	lb/100 gal	6-leaf	C				
10	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	99	99	97	99
10	Nortron	4	L	4	fl oz/a	2-leaf	A				
10	Dual II Magnum	7.64	L	1.3	pt/a	2-leaf	A				
10	AMS		WG	17	lb/100 gal	2-leaf	A				
10	Roundup PowerMax	4.5	SL	32	fl oz/a	6-leaf	C				
10	Nortron	4	L	4	fl oz/a	6-leaf	C				
10	Dual II Magnum	7.64	L	1.3	pt/a	6-leaf	C				
10	AMS		WG	17	lb/100 gal	6-leaf	C				



MSU Weed Science Research Program

Chloroacetamide comparison in Roundup Ready sugarbeet

Trial ID: SB08-15 Study Dir.: Sprague and Powell  
 Conducted: SVREC Investigator: Christy Sprague

								CHEAL	AMARE	AMBEL	POLPY
Weed Code								control	control	control	control
Crop Code								percent	percent	percent	percent
Rating Data Type								Aug/13/2015	Aug/13/2015	Aug/13/2015	Aug/13/2015
Rating Unit								63 DA-C	63 DA-C	63 DA-C	63 DA-C
Rating Date								0	0	0	0
Trt-Eval Interval											
# Subsamples, Dec.											
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Grow Stg	Appl Code				
11	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	99	99	99	99
11	Nortron	4	L	4	fl oz/a	2-leaf	A				
11	Outlook	6	L	12	fl oz/a	2-leaf	A				
11	AMS		WG	17	lb/100 gal	2-leaf	A				
11	Roundup PowerMax	4.5	SL	32	fl oz/a	6-leaf	C				
11	Nortron	4	L	4	fl oz/a	6-leaf	C				
11	Outlook	6	L	12	fl oz/a	6-leaf	C				
11	AMS		WG	17	lb/100 gal	6-leaf	C				
12	Untreated							0	0	0	0
LSD (P=.05)								8.2	4.3	8.4	4.8
CV								6.71	3.32	6.67	3.74

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

MSU Weed Science Research Program

Chloroacetamide comparison in Roundup Ready sugarbeet

Trial ID: SB08-15  
 Conducted: SVREC

Study Dir.: Sprague and Powell  
 Investigator: Christy Sprague

								HIBTR	BETVU	CHEAL	AMARE
								control	injury	control	control
								percent	percent	percent	percent
								Aug/13/2015	Sep/14/2015	Sep/14/2015	Sep/14/2015
								63 DA-C	95 DA-C	95 DA-C	95 DA-C
								0	0	0	0
Trt	Treatment	Form	Form	Rate	Grow	Appl					
No.	Name	Conc	Type	Unit	Stg	Code					
1	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	97	0	95	99
1	AMS		WG	17	lb/100 gal	2-leaf	A				
1	Roundup PowerMax	4.5	SL	32	fl oz/a	6-leaf	C				
1	AMS		WG	17	lb/100 gal	6-leaf	C				
2	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	96	0	94	97
2	Nortron	4	L	4	fl oz/a	2-leaf	A				
2	AMS		WG	17	lb/100 gal	2-leaf	A				
2	Roundup PowerMax	4.5	SL	32	fl oz/a	6-leaf	C				
2	Nortron	4	L	4	fl oz/a	6-leaf	C				
2	AMS		WG	17	lb/100 gal	6-leaf	C				
3	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	91	0	80	94
3	Nortron	4	L	4	fl oz/a	2-leaf	A				
3	Warrant	3	L	3	pt/a	2-leaf	A				
3	AMS		WG	17	lb/100 gal	2-leaf	A				
4	Roundup PowerMax	4.5	SL	32	fl oz/a	4-leaf	C	90	0	74	89
4	Nortron	4	L	4	fl oz/a	4-leaf	C				
4	Warrant	3	L	3	pt/a	4-leaf	C				
4	AMS		WG	17	lb/100 gal	4-leaf	C				
5	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	86	0	84	97
5	Nortron	4	L	4	fl oz/a	2-leaf	A				
5	Dual II Magnum	7.64	L	1.33	pt/a	2-leaf	A				
5	AMS		WG	17	lb/100 gal	2-leaf	A				
6	Roundup PowerMax	4.5	SL	32	fl oz/a	4-leaf	B	91	0	89	98
6	Nortron	4	L	4	fl oz/a	4-leaf	B				
6	Dual II Magnum	7.64	L	1.33	pt/a	4-leaf	B				
6	AMS		WG	17	lb/100 gal	4-leaf	B				
7	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	90	0	86	98
7	Nortron	4	L	4	fl oz/a	2-leaf	A				
7	Outlook	6	L	16	fl oz/a	2-leaf	A				
7	AMS		WG	17	lb/100 gal	2-leaf	A				
8	Roundup PowerMax	4.5	SL	32	fl oz/a	4-leaf	B	95	0	93	96
8	Nortron	4	L	4	fl oz/a	4-leaf	B				
8	Outlook	6	L	16	fl oz/a	4-leaf	B				
8	AMS		WG	17	lb/100 gal	4-leaf	B				
9	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	99	0	95	99
9	Nortron	4	L	4	fl oz/a	2-leaf	A				
9	Warrant	3	L	3	pt/a	2-leaf	A				
9	AMS		WG	17	lb/100 gal	2-leaf	A				
9	Roundup PowerMax	4.5	SL	32	fl oz/a	6-leaf	C				
9	Nortron	4	L	4	fl oz/a	6-leaf	C				
9	Warrant	3	L	3	pt/a	6-leaf	C				
9	AMS		WG	17	lb/100 gal	6-leaf	C				
10	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	99	0	99	99
10	Nortron	4	L	4	fl oz/a	2-leaf	A				
10	Dual II Magnum	7.64	L	1.3	pt/a	2-leaf	A				
10	AMS		WG	17	lb/100 gal	2-leaf	A				
10	Roundup PowerMax	4.5	SL	32	fl oz/a	6-leaf	C				
10	Nortron	4	L	4	fl oz/a	6-leaf	C				
10	Dual II Magnum	7.64	L	1.3	pt/a	6-leaf	C				
10	AMS		WG	17	lb/100 gal	6-leaf	C				

MSU Weed Science Research Program

Chloroacetamide comparison in Roundup Ready sugarbeet

Trial ID: SB08-15  
 Conducted: SVREC

Study Dir.: Sprague and Powell  
 Investigator: Christy Sprague

								HIBTR	BETVU	CHEAL	AMARE
								control	injury	control	control
								percent	percent	percent	percent
								Aug/13/2015	Sep/14/2015	Sep/14/2015	Sep/14/2015
								63 DA-C	95 DA-C	95 DA-C	95 DA-C
								0	0	0	0
Trt	Treatment	Form	Form	Rate	Grow	Appl					
No.	Name	Conc	Type	Unit	Stg	Code					
11	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	99	0	99	99
11	Nortron	4	L	4	fl oz/a	2-leaf	A				
11	Outlook	6	L	12	fl oz/a	2-leaf	A				
11	AMS		WG	17	lb/100 gal	2-leaf	A				
11	Roundup PowerMax	4.5	SL	32	fl oz/a	6-leaf	C				
11	Nortron	4	L	4	fl oz/a	6-leaf	C				
11	Outlook	6	L	12	fl oz/a	6-leaf	C				
11	AMS		WG	17	lb/100 gal	6-leaf	C				
12	Untreated							0	0	0	0
LSD (P=.05)								8.6	0.0	15.3	6.3
CV								6.91	0.0	12.86	4.91

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

MSU Weed Science Research Program

Chloroacetamide comparison in Roundup Ready sugarbeet

Trial ID: SB08-15  
 Conducted: SVREC

Study Dir.: Sprague and Powell  
 Investigator: Christy Sprague

Weed Code								AMBEL	POLPY	HIBTR	BETVU
Crop Code											
Rating Data Type								control	control	control	stand count
Rating Unit								percent	percent	percent	100'/row
Rating Date								Sep/14/2015	Sep/14/2015	Sep/14/2015	Sep/15/2015
Trt-Eval Interval								95 DA-C	95 DA-C	95 DA-C	
# Subsamples, Dec.								0	0	0	0
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code				
1	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	99	99	95	184
1	AMS		WG	17	lb/100 gal	2-leaf	A				
1	Roundup PowerMax	4.5	SL	32	fl oz/a	6-leaf	C				
1	AMS		WG	17	lb/100 gal	6-leaf	C				
2	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	95	99	92	198
2	Nortron	4	L	4	fl oz/a	2-leaf	A				
2	AMS		WG	17	lb/100 gal	2-leaf	A				
2	Roundup PowerMax	4.5	SL	32	fl oz/a	6-leaf	C				
2	Nortron	4	L	4	fl oz/a	6-leaf	C				
2	AMS		WG	17	lb/100 gal	6-leaf	C				
3	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	95	90	77	192
3	Nortron	4	L	4	fl oz/a	2-leaf	A				
3	Warrant	3	L	3	pt/a	2-leaf	A				
3	AMS		WG	17	lb/100 gal	2-leaf	A				
4	Roundup PowerMax	4.5	SL	32	fl oz/a	4-leaf	C	87	90	72	176
4	Nortron	4	L	4	fl oz/a	4-leaf	C				
4	Warrant	3	L	3	pt/a	4-leaf	C				
4	AMS		WG	17	lb/100 gal	4-leaf	C				
5	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	83	93	77	176
5	Nortron	4	L	4	fl oz/a	2-leaf	A				
5	Dual II Magnum	7.64	L	1.33	pt/a	2-leaf	A				
5	AMS		WG	17	lb/100 gal	2-leaf	A				
6	Roundup PowerMax	4.5	SL	32	fl oz/a	4-leaf	B	84	86	80	159
6	Nortron	4	L	4	fl oz/a	4-leaf	B				
6	Dual II Magnum	7.64	L	1.33	pt/a	4-leaf	B				
6	AMS		WG	17	lb/100 gal	4-leaf	B				
7	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	86	86	75	185
7	Nortron	4	L	4	fl oz/a	2-leaf	A				
7	Outlook	6	L	16	fl oz/a	2-leaf	A				
7	AMS		WG	17	lb/100 gal	2-leaf	A				
8	Roundup PowerMax	4.5	SL	32	fl oz/a	4-leaf	B	93	95	87	183
8	Nortron	4	L	4	fl oz/a	4-leaf	B				
8	Outlook	6	L	16	fl oz/a	4-leaf	B				
8	AMS		WG	17	lb/100 gal	4-leaf	B				
9	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	95	99	94	171
9	Nortron	4	L	4	fl oz/a	2-leaf	A				
9	Warrant	3	L	3	pt/a	2-leaf	A				
9	AMS		WG	17	lb/100 gal	2-leaf	A				
9	Roundup PowerMax	4.5	SL	32	fl oz/a	6-leaf	C				
9	Nortron	4	L	4	fl oz/a	6-leaf	C				
9	Warrant	3	L	3	pt/a	6-leaf	C				
9	AMS		WG	17	lb/100 gal	6-leaf	C				
10	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	95	99	91	185
10	Nortron	4	L	4	fl oz/a	2-leaf	A				
10	Dual II Magnum	7.64	L	1.3	pt/a	2-leaf	A				
10	AMS		WG	17	lb/100 gal	2-leaf	A				
10	Roundup PowerMax	4.5	SL	32	fl oz/a	6-leaf	C				
10	Nortron	4	L	4	fl oz/a	6-leaf	C				
10	Dual II Magnum	7.64	L	1.3	pt/a	6-leaf	C				
10	AMS		WG	17	lb/100 gal	6-leaf	C				

MSU Weed Science Research Program

Chloroacetamide comparison in Roundup Ready sugarbeet

Trial ID: SB08-15 Study Dir.: Sprague and Powell  
 Conducted: SVREC Investigator: Christy Sprague

Weed Code								AMBEL	POLPY	HIBTR	BETVU
Crop Code								control	control	control	stand count
Rating Data Type								percent	percent	percent	100'/row
Rating Unit								Sep/14/2015	Sep/14/2015	Sep/14/2015	Sep/15/2015
Rating Date								95 DA-C	95 DA-C	95 DA-C	
Trt-Eval Interval								0	0	0	0
# Subsamples, Dec.											
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Grow Stg	Appl Code				
11	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	98	99	96	185
11	Nortron	4	L	4	fl oz/a	2-leaf	A				
11	Outlook	6	L	12	fl oz/a	2-leaf	A				
11	AMS		WG	17	lb/100 gal	2-leaf	A				
11	Roundup PowerMax	4.5	SL	32	fl oz/a	6-leaf	C				
11	Nortron	4	L	4	fl oz/a	6-leaf	C				
11	Outlook	6	L	12	fl oz/a	6-leaf	C				
11	AMS		WG	17	lb/100 gal	6-leaf	C				
12	Untreated							0	0	0	153
LSD (P=.05)								12.5	12.2	15.0	33.1
CV								10.25	9.84	13.33	12.82

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

MSU Weed Science Research Program

Chloroacetamide comparison in Roundup Ready sugarbeet

Trial ID: SB08-15  
 Conducted: SVREC

Study Dir.: Sprague and Powell  
 Investigator: Christy Sprague

Weed Code  
 Crop Code  
 Rating Data Type  
 Rating Unit  
 Rating Date  
 Trt-Eval Interval  
 # Subsamples, Dec.

BETVU % sugar	BETVU yield ton/acre	BETVU RWST # / ton	BETVU RWSA # / acre
Sep/15/2015 118 DA-A 1	Sep/15/2015 118 DA-A 1	Sep/15/2015 118 DA-A 0	Sep/15/2015 118 DA-A 0

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code	BETVU % sugar	BETVU yield ton/acre	BETVU RWST # / ton	BETVU RWSA # / acre
1	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	17.7	20.0	268	5347
1	AMS		WG	17	lb/100 gal	2-leaf	A				
1	Roundup PowerMax	4.5	SL	32	fl oz/a	6-leaf	C				
1	AMS		WG	17	lb/100 gal	6-leaf	C				
2	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	17.6	24.1	265	6411
2	Nortron	4	L	4	fl oz/a	2-leaf	A				
2	AMS		WG	17	lb/100 gal	2-leaf	A				
2	Roundup PowerMax	4.5	SL	32	fl oz/a	6-leaf	C				
2	Nortron	4	L	4	fl oz/a	6-leaf	C				
2	AMS		WG	17	lb/100 gal	6-leaf	C				
3	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	17.6	21.5	264	5659
3	Nortron	4	L	4	fl oz/a	2-leaf	A				
3	Warrant	3	L	3	pt/a	2-leaf	A				
3	AMS		WG	17	lb/100 gal	2-leaf	A				
4	Roundup PowerMax	4.5	SL	32	fl oz/a	4-leaf	C	17.3	20.6	261	5381
4	Nortron	4	L	4	fl oz/a	4-leaf	C				
4	Warrant	3	L	3	pt/a	4-leaf	C				
4	AMS		WG	17	lb/100 gal	4-leaf	C				
5	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	17.4	18.9	262	4974
5	Nortron	4	L	4	fl oz/a	2-leaf	A				
5	Dual II Magnum	7.64	L	1.33	pt/a	2-leaf	A				
5	AMS		WG	17	lb/100 gal	2-leaf	A				
6	Roundup PowerMax	4.5	SL	32	fl oz/a	4-leaf	B	17.2	18.6	260	4876
6	Nortron	4	L	4	fl oz/a	4-leaf	B				
6	Dual II Magnum	7.64	L	1.33	pt/a	4-leaf	B				
6	AMS		WG	17	lb/100 gal	4-leaf	B				
7	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	17.6	24.7	267	6601
7	Nortron	4	L	4	fl oz/a	2-leaf	A				
7	Outlook	6	L	16	fl oz/a	2-leaf	A				
7	AMS		WG	17	lb/100 gal	2-leaf	A				
8	Roundup PowerMax	4.5	SL	32	fl oz/a	4-leaf	B	16.9	22.6	253	5765
8	Nortron	4	L	4	fl oz/a	4-leaf	B				
8	Outlook	6	L	16	fl oz/a	4-leaf	B				
8	AMS		WG	17	lb/100 gal	4-leaf	B				
9	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	17.8	20.5	267	5459
9	Nortron	4	L	4	fl oz/a	2-leaf	A				
9	Warrant	3	L	3	pt/a	2-leaf	A				
9	AMS		WG	17	lb/100 gal	2-leaf	A				
9	Roundup PowerMax	4.5	SL	32	fl oz/a	6-leaf	C				
9	Nortron	4	L	4	fl oz/a	6-leaf	C				
9	Warrant	3	L	3	pt/a	6-leaf	C				
9	AMS		WG	17	lb/100 gal	6-leaf	C				
10	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	17.2	23.1	259	5990
10	Nortron	4	L	4	fl oz/a	2-leaf	A				
10	Dual II Magnum	7.64	L	1.3	pt/a	2-leaf	A				
10	AMS		WG	17	lb/100 gal	2-leaf	A				
10	Roundup PowerMax	4.5	SL	32	fl oz/a	6-leaf	C				
10	Nortron	4	L	4	fl oz/a	6-leaf	C				
10	Dual II Magnum	7.64	L	1.3	pt/a	6-leaf	C				
10	AMS		WG	17	lb/100 gal	6-leaf	C				

MSU Weed Science Research Program

Chloroacetamide comparison in Roundup Ready sugarbeet

Trial ID: SB08-15 Study Dir.: Sprague and Powell  
 Conducted: SVREC Investigator: Christy Sprague

Weed Code								BETVU	BETVU	BETVU	BETVU
Crop Code								% sugar	yield	RWST	RWSA
Rating Data Type									ton/acre	# / ton	# / acre
Rating Unit											
Rating Date								Sep/15/2015	Sep/15/2015	Sep/15/2015	Sep/15/2015
Trt-Eval Interval								118 DA-A	118 DA-A	118 DA-A	118 DA-A
# Subsamples, Dec.								1	1	0	0
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Grow Stg	Appl Code				
11	Roundup PowerMax	4.5	SL	32	fl oz/a	2-leaf	A	17.4	22.5	262	5916
11	Nortron	4	L	4	fl oz/a	2-leaf	A				
11	Outlook	6	L	12	fl oz/a	2-leaf	A				
11	AMS		WG	17	lb/100 gal	2-leaf	A				
11	Roundup PowerMax	4.5	SL	32	fl oz/a	6-leaf	C				
11	Nortron	4	L	4	fl oz/a	6-leaf	C				
11	Outlook	6	L	12	fl oz/a	6-leaf	C				
11	AMS		WG	17	lb/100 gal	6-leaf	C				
12	Untreated							17.9	12.3	272	3295
LSD (P=.05)								0.67	7.52	11.0	2022.5
CV								2.65	25.06	2.89	25.59

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