

MSU Weed Science Research Program

Impact of glyphosate-resistant horseweed treatments on sugarbeet yield II

Trial ID: SB06-15
 Conducted: SVREC

Study Dir.: Sprague and Powell
 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
Application Timing:	2-leaf	6-leaf	canopy
Date Treated:	May/20/2015	Jun/11/2015	Jun/24/2015
Time Treated:	11:45 AM	11:30 AM	11:40 AM
% Cloud Cover:	0	30	0
Air Temp., Unit:	50 F	75 F	73 F
% Relative Humidity:	45	52	45
Wind Speed/Unit/Dir:	3 mph NW	1 mph W	6 mph SW
Soil Temp., Unit:	56 F	71 F	69 F
Soil/Leaf Surface M:	5 5	5 5	5 5
Soil Moist (1=w 5=d):	4	4	4

Crop Stage at Each Application

	A	B	C
Crop Name:	BETVU	BETVU	BETVU
Height (In.):	1.5"	7"	15"
Stage (L):	2	6	8

Weed Stage at Each Application

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

Weed Density (plants/sq. ft.)

	1	2	3	4
Weed Name:	CHEAL	AMARE	POLPY	HIBTR
Density:	8	3	<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	28"	20"	100"	19	Water	28

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Weed Code									BETVU	CHEAL	AMBEL	POLPY
Crop Code									injury	control	control	control
Rating Data Type									percent	percent	percent	percent
Rating Unit									Jun/04/2015	Jun/04/2015	Jun/04/2015	Jun/04/2015
Rating Date									15 DA-A	15 DA-A	15 DA-A	15 DA-A
Trt-Eval Interval									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	22	fl oz/a	2-leaf	A	0	95	99	99	
1	AMS		WG	17	lb/100 gal	2-leaf	A					
1	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B					
1	AMS		WG	17	lb/100 gal	6-leaf	B					
2	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	0	98	99	99	
2	Stinger	3	L	2	fl oz/a	2-leaf	A					
2	AMS		WG	17	lb/100 gal	2-leaf	A					
2	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B					
2	AMS		WG	17	lb/100 gal	6-leaf	B					
3	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	0	98	99	98	
3	Stinger	3	L	3	fl oz/a	2-leaf	A					
3	AMS		WG	17	lb/100 gal	2-leaf	A					
3	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B					
3	AMS		WG	17	lb/100 gal	6-leaf	B					
4	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	0	95	99	98	
4	Stinger	3	L	4	fl oz/a	2-leaf	A					
4	AMS		WG	17	lb/100 gal	2-leaf	A					
4	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B					
4	AMS		WG	17	lb/100 gal	6-leaf	B					
5	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	0	98	99	99	
5	Stinger	3	L	6	fl oz/a	2-leaf	A					
5	AMS		WG	17	lb/100 gal	2-leaf	A					
5	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B					
5	AMS		WG	17	lb/100 gal	6-leaf	B					
6	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	0	99	99	98	
6	Stinger	3	L	2	fl oz/a	2-leaf	A					
6	AMS		WG	17	lb/100 gal	2-leaf	A					
6	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B					
6	Stinger	3	L	2	fl oz/a	6-leaf	B					
6	AMS		WG	17	lb/100 gal	6-leaf	B					
7	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	0	97	99	99	
7	Stinger	3	L	3	fl oz/a	2-leaf	A					
7	AMS		WG	17	lb/100 gal	2-leaf	A					
7	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B					
7	Stinger	3	L	3	fl oz/a	6-leaf	B					
7	AMS		WG	17	lb/100 gal	6-leaf	B					
8	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	0	96	99	99	
8	Stinger	3	L	2	fl oz/a	2-leaf	A					
8	AMS		WG	17	lb/100 gal	2-leaf	A					
8	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B					
8	Stinger	3	L	4	fl oz/a	6-leaf	B					
8	AMS		WG	17	lb/100 gal	6-leaf	B					
9	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	0	95	99	99	
9	AMS		WG	17	lb/100 gal	2-leaf	A					
9	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B					
9	Stinger	3	L	4	fl oz/a	6-leaf	B					
9	AMS		WG	17	lb/100 gal	6-leaf	B					

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Weed Code									BETVU	CHEAL	AMBEL	POLPY
Crop Code									injury	control	control	control
Rating Data Type									percent	percent	percent	percent
Rating Unit									Jun/04/2015	Jun/04/2015	Jun/04/2015	Jun/04/2015
Rating Date									15 DA-A	15 DA-A	15 DA-A	15 DA-A
Trt-Eval Interval									0	0	0	0
# Subsamples, Dec.												
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code					
10	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	0	95	99	98	
10	AMS		WG	17	lb/100 gal	2-leaf	A					
10	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B					
10	Stinger	3	L	6	fl oz/a	6-leaf	B					
10	AMS		WG	17	lb/100 gal	6-leaf	B					
11	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	0	93	99	99	
11	AMS		WG	17	lb/100 gal	2-leaf	A					
11	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B					
11	Stinger	3	L	8	fl oz/a	6-leaf	B					
11	AMS		WG	17	lb/100 gal	6-leaf	B					
12	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	0	94	99	99	
12	Stinger	3	L	2	fl oz/a	2-leaf	A					
12	AMS		WG	17	lb/100 gal	2-leaf	A					
12	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B					
12	Stinger	3	L	4	fl oz/a	6-leaf	B					
12	AMS		WG	17	lb/100 gal	6-leaf	B					
12	Roundup PowerMax	4.5	SL	22	fl oz/a	canopy	C					
12	Stinger	3	L	4	fl oz/a	canopy	C					
12	AMS		WG	17	lb/100 gal	canopy	C					
13	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	0	96	99	99	
13	Stinger	3	L	2	fl oz/a	2-leaf	A					
13	AMS		WG	17	lb/100 gal	2-leaf	A					
13	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B					
13	Stinger	3	L	4	fl oz/a	6-leaf	B					
13	Warrant	3	L	3	pt/a	6-leaf	B					
13	AMS		WG	17	lb/100 gal	6-leaf	B					
14	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	0	98	99	99	
14	Stinger	3	L	2	fl oz/a	2-leaf	A					
14	AMS		WG	17	lb/100 gal	2-leaf	A					
14	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B					
14	Stinger	3	L	4	fl oz/a	6-leaf	B					
14	Dual II Magnum	7.64	L	1.33	pt/a	6-leaf	B					
14	AMS		WG	17	lb/100 gal	6-leaf	B					
15	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	0	98	99	99	
15	Nortron	4	L	4	fl oz/a	2-leaf	A					
15	AMS		WG	17	lb/100 gal	2-leaf	A					
15	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B					
15	Nortron	4	L	4	fl oz/a	6-leaf	B					
15	AMS		WG	17	lb/100 gal	6-leaf	B					
16	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	0	96	99	99	
16	Stinger	3	L	2	fl oz/a	2-leaf	A					
16	Nortron	4	L	4	fl oz/a	2-leaf	A					
16	AMS		WG	17	lb/100 gal	2-leaf	A					
16	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B					
16	Stinger	3	L	4	fl oz/a	6-leaf	B					
16	Nortron	4	L	4	fl oz/a	6-leaf	B					
16	AMS		WG	17	lb/100 gal	6-leaf	B					
LSD (P=.05)								0.0	5.0	0.4	1.5	
CV								0.0	3.64	0.26	1.03	

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

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Crop Code									injury	control	control	control
Rating Data Type									percent	percent	percent	percent
Rating Unit									Jun/24/2015	Jun/24/2015	Jun/24/2015	Jun/24/2015
Rating Date									13 DA-B	13 DA-B	13 DA-B	13 DA-B
Trt-Eval Interval									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	22	fl oz/a	2-leaf	A	0	99	99	99	
1	AMS		WG	17	lb/100 gal	2-leaf	A					
1	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B					
1	AMS		WG	17	lb/100 gal	6-leaf	B					
2	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	1	99	99	99	
2	Stinger	3	L	2	fl oz/a	2-leaf	A					
2	AMS		WG	17	lb/100 gal	2-leaf	A					
2	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B					
2	AMS		WG	17	lb/100 gal	6-leaf	B					
3	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	0	99	99	99	
3	Stinger	3	L	3	fl oz/a	2-leaf	A					
3	AMS		WG	17	lb/100 gal	2-leaf	A					
3	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B					
3	AMS		WG	17	lb/100 gal	6-leaf	B					
4	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	5	95	96	96	
4	Stinger	3	L	4	fl oz/a	2-leaf	A					
4	AMS		WG	17	lb/100 gal	2-leaf	A					
4	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B					
4	AMS		WG	17	lb/100 gal	6-leaf	B					
5	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	2	99	99	99	
5	Stinger	3	L	6	fl oz/a	2-leaf	A					
5	AMS		WG	17	lb/100 gal	2-leaf	A					
5	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B					
5	AMS		WG	17	lb/100 gal	6-leaf	B					
6	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	3	99	99	99	
6	Stinger	3	L	2	fl oz/a	2-leaf	A					
6	AMS		WG	17	lb/100 gal	2-leaf	A					
6	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B					
6	Stinger	3	L	2	fl oz/a	6-leaf	B					
6	AMS		WG	17	lb/100 gal	6-leaf	B					
7	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	1	99	99	99	
7	Stinger	3	L	3	fl oz/a	2-leaf	A					
7	AMS		WG	17	lb/100 gal	2-leaf	A					
7	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B					
7	Stinger	3	L	3	fl oz/a	6-leaf	B					
7	AMS		WG	17	lb/100 gal	6-leaf	B					
8	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	1	99	99	99	
8	Stinger	3	L	2	fl oz/a	2-leaf	A					
8	AMS		WG	17	lb/100 gal	2-leaf	A					
8	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B					
8	Stinger	3	L	4	fl oz/a	6-leaf	B					
8	AMS		WG	17	lb/100 gal	6-leaf	B					
9	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	1	99	99	98	
9	AMS		WG	17	lb/100 gal	2-leaf	A					
9	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B					
9	Stinger	3	L	4	fl oz/a	6-leaf	B					
9	AMS		WG	17	lb/100 gal	6-leaf	B					

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Weed Code								BETVU	CHEAL	AMBEL	POLPY
Crop Code								injury	control	control	control
Rating Data Type								percent	percent	percent	percent
Rating Unit								Jun/24/2015	Jun/24/2015	Jun/24/2015	Jun/24/2015
Rating Date								13 DA-B	13 DA-B	13 DA-B	13 DA-B
Trt-Eval Interval								0	0	0	0
# Subsamples, Dec.											
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code				
10	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	9	99	99	99
10	AMS		WG	17	lb/100 gal	2-leaf	A				
10	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
10	Stinger	3	L	6	fl oz/a	6-leaf	B				
10	AMS		WG	17	lb/100 gal	6-leaf	B				
11	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	7	99	99	99
11	AMS		WG	17	lb/100 gal	2-leaf	A				
11	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
11	Stinger	3	L	8	fl oz/a	6-leaf	B				
11	AMS		WG	17	lb/100 gal	6-leaf	B				
12	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	1	98	99	99
12	Stinger	3	L	2	fl oz/a	2-leaf	A				
12	AMS		WG	17	lb/100 gal	2-leaf	A				
12	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
12	Stinger	3	L	4	fl oz/a	6-leaf	B				
12	AMS		WG	17	lb/100 gal	6-leaf	B				
12	Roundup PowerMax	4.5	SL	22	fl oz/a	canopy	C				
12	Stinger	3	L	4	fl oz/a	canopy	C				
12	AMS		WG	17	lb/100 gal	canopy	C				
13	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	5	99	99	99
13	Stinger	3	L	2	fl oz/a	2-leaf	A				
13	AMS		WG	17	lb/100 gal	2-leaf	A				
13	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
13	Stinger	3	L	4	fl oz/a	6-leaf	B				
13	Warrant	3	L	3	pt/a	6-leaf	B				
13	AMS		WG	17	lb/100 gal	6-leaf	B				
14	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	6	99	99	99
14	Stinger	3	L	2	fl oz/a	2-leaf	A				
14	AMS		WG	17	lb/100 gal	2-leaf	A				
14	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
14	Stinger	3	L	4	fl oz/a	6-leaf	B				
14	Dual II Magnum	7.64	L	1.33	pt/a	6-leaf	B				
14	AMS		WG	17	lb/100 gal	6-leaf	B				
15	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	4	99	99	99
15	Nortron	4	L	4	fl oz/a	2-leaf	A				
15	AMS		WG	17	lb/100 gal	2-leaf	A				
15	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
15	Nortron	4	L	4	fl oz/a	6-leaf	B				
15	AMS		WG	17	lb/100 gal	6-leaf	B				
16	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	1	99	99	99
16	Stinger	3	L	2	fl oz/a	2-leaf	A				
16	Nortron	4	L	4	fl oz/a	2-leaf	A				
16	AMS		WG	17	lb/100 gal	2-leaf	A				
16	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
16	Stinger	3	L	4	fl oz/a	6-leaf	B				
16	Nortron	4	L	4	fl oz/a	6-leaf	B				
16	AMS		WG	17	lb/100 gal	6-leaf	B				
LSD (P=.05)								5.6	2.7	2.0	2.6
CV								138.92	1.91	1.44	1.85

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

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Crop Code								injury	control	control	injury	control
Rating Data Type								percent	percent	percent	percent	percent
Rating Unit								Jul/09/2015	Jul/09/2015	Jul/09/2015	Aug/13/2015	Aug/13/2015
Rating Date								15 DA-C	15 DA-C	15 DA-C	50 DA-C	50 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	22	fl oz/a	2-leaf	A	1	99	99	0	96
1	AMS		WG	17	lb/100 gal	2-leaf	A					
1	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B					
1	AMS		WG	17	lb/100 gal	6-leaf	B					
2	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	3	99	99	0	94
2	Stinger	3	L	2	fl oz/a	2-leaf	A					
2	AMS		WG	17	lb/100 gal	2-leaf	A					
2	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B					
2	AMS		WG	17	lb/100 gal	6-leaf	B					
3	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	3	99	99	0	96
3	Stinger	3	L	3	fl oz/a	2-leaf	A					
3	AMS		WG	17	lb/100 gal	2-leaf	A					
3	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B					
3	AMS		WG	17	lb/100 gal	6-leaf	B					
4	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	0	97	99	0	96
4	Stinger	3	L	4	fl oz/a	2-leaf	A					
4	AMS		WG	17	lb/100 gal	2-leaf	A					
4	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B					
4	AMS		WG	17	lb/100 gal	6-leaf	B					
5	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	3	99	99	0	98
5	Stinger	3	L	6	fl oz/a	2-leaf	A					
5	AMS		WG	17	lb/100 gal	2-leaf	A					
5	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B					
5	AMS		WG	17	lb/100 gal	6-leaf	B					
6	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	4	99	99	0	99
6	Stinger	3	L	2	fl oz/a	2-leaf	A					
6	AMS		WG	17	lb/100 gal	2-leaf	A					
6	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B					
6	Stinger	3	L	2	fl oz/a	6-leaf	B					
6	AMS		WG	17	lb/100 gal	6-leaf	B					
7	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	4	99	99	0	97
7	Stinger	3	L	3	fl oz/a	2-leaf	A					
7	AMS		WG	17	lb/100 gal	2-leaf	A					
7	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B					
7	Stinger	3	L	3	fl oz/a	6-leaf	B					
7	AMS		WG	17	lb/100 gal	6-leaf	B					
8	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	0	99	99	0	99
8	Stinger	3	L	2	fl oz/a	2-leaf	A					
8	AMS		WG	17	lb/100 gal	2-leaf	A					
8	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B					
8	Stinger	3	L	4	fl oz/a	6-leaf	B					
8	AMS		WG	17	lb/100 gal	6-leaf	B					
9	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	3	99	99	0	98
9	AMS		WG	17	lb/100 gal	2-leaf	A					
9	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B					
9	Stinger	3	L	4	fl oz/a	6-leaf	B					
9	AMS		WG	17	lb/100 gal	6-leaf	B					

MSU Weed Science Research Program

Impact of glyphosate-resistant horseweed treatments on sugarbeet yield II

Trial ID: SB06-15
 Conducted: SVREC

Study Dir.: Sprague and Powell
 Investigator: Christy Sprague

Weed Code								CHEAL		POLPY		CHEAL	
Crop Code								BETVU		BETVU		CHEAL	
Rating Data Type								injury percent		control percent		control percent	
Rating Unit								Jul/09/2015		Jul/09/2015		Aug/13/2015	
Rating Date								15 DA-C		15 DA-C		50 DA-C	
Trt-Eval Interval								0		0		0	
# Subsamples, Dec.								0		0		0	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code						
10	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	4	99	99	0	97	
10	AMS		WG	17	lb/100 gal	2-leaf	A						
10	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B						
10	Stinger	3	L	6	fl oz/a	6-leaf	B						
10	AMS		WG	17	lb/100 gal	6-leaf	B						
11	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	5	99	99	0	98	
11	AMS		WG	17	lb/100 gal	2-leaf	A						
11	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B						
11	Stinger	3	L	8	fl oz/a	6-leaf	B						
11	AMS		WG	17	lb/100 gal	6-leaf	B						
12	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	5	99	99	0	99	
12	Stinger	3	L	2	fl oz/a	2-leaf	A						
12	AMS		WG	17	lb/100 gal	2-leaf	A						
12	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B						
12	Stinger	3	L	4	fl oz/a	6-leaf	B						
12	AMS		WG	17	lb/100 gal	6-leaf	B						
12	Roundup PowerMax	4.5	SL	22	fl oz/a	canopy	C						
12	Stinger	3	L	4	fl oz/a	canopy	C						
12	AMS		WG	17	lb/100 gal	canopy	C						
13	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	0	98	99	0	91	
13	Stinger	3	L	2	fl oz/a	2-leaf	A						
13	AMS		WG	17	lb/100 gal	2-leaf	A						
13	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B						
13	Stinger	3	L	4	fl oz/a	6-leaf	B						
13	Warrant	3	L	3	pt/a	6-leaf	B						
13	AMS		WG	17	lb/100 gal	6-leaf	B						
14	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	0	99	99	0	99	
14	Stinger	3	L	2	fl oz/a	2-leaf	A						
14	AMS		WG	17	lb/100 gal	2-leaf	A						
14	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B						
14	Stinger	3	L	4	fl oz/a	6-leaf	B						
14	Dual II Magnum	7.64	L	1.33	pt/a	6-leaf	B						
14	AMS		WG	17	lb/100 gal	6-leaf	B						
15	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	1	99	99	0	97	
15	Nortron	4	L	4	fl oz/a	2-leaf	A						
15	AMS		WG	17	lb/100 gal	2-leaf	A						
15	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B						
15	Nortron	4	L	4	fl oz/a	6-leaf	B						
15	AMS		WG	17	lb/100 gal	6-leaf	B						
16	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	3	99	99	0	97	
16	Stinger	3	L	2	fl oz/a	2-leaf	A						
16	Nortron	4	L	4	fl oz/a	2-leaf	A						
16	AMS		WG	17	lb/100 gal	2-leaf	A						
16	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B						
16	Stinger	3	L	4	fl oz/a	6-leaf	B						
16	Nortron	4	L	4	fl oz/a	6-leaf	B						
16	AMS		WG	17	lb/100 gal	6-leaf	B						
LSD (P=.05)								5.4	1.7	0.0	0.0	4.5	
CV								162.19	1.22	0.0	0.0	3.21	

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

MSU Weed Science Research Program

Impact of glyphosate-resistant horseweed treatments on sugarbeet yield II

Trial ID: SB06-15
 Conducted: SVREC

Study Dir.: Sprague and Powell
 Investigator: Christy Sprague

Weed Code								AMARE	POLPY	HIBTR	BETVU
Crop Code											
Rating Data Type								control	control	control	injury
Rating Unit								percent	percent	percent	percent
Rating Date								Aug/13/2015	Aug/13/2015	Aug/13/2015	Sep/14/2015
Trt-Eval Interval								50 DA-C	50 DA-C	50 DA-C	82 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	22	fl oz/a	2-leaf	A	98	99	96	0
1	AMS		WG	17	lb/100 gal	2-leaf	A				
1	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
1	AMS		WG	17	lb/100 gal	6-leaf	B				
2	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	99	99	99	0
2	Stinger	3	L	2	fl oz/a	2-leaf	A				
2	AMS		WG	17	lb/100 gal	2-leaf	A				
2	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
2	AMS		WG	17	lb/100 gal	6-leaf	B				
3	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	99	98	95	0
3	Stinger	3	L	3	fl oz/a	2-leaf	A				
3	AMS		WG	17	lb/100 gal	2-leaf	A				
3	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
3	AMS		WG	17	lb/100 gal	6-leaf	B				
4	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	96	98	96	0
4	Stinger	3	L	4	fl oz/a	2-leaf	A				
4	AMS		WG	17	lb/100 gal	2-leaf	A				
4	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
4	AMS		WG	17	lb/100 gal	6-leaf	B				
5	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	99	99	99	0
5	Stinger	3	L	6	fl oz/a	2-leaf	A				
5	AMS		WG	17	lb/100 gal	2-leaf	A				
5	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
5	AMS		WG	17	lb/100 gal	6-leaf	B				
6	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	96	99	99	0
6	Stinger	3	L	2	fl oz/a	2-leaf	A				
6	AMS		WG	17	lb/100 gal	2-leaf	A				
6	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
6	Stinger	3	L	2	fl oz/a	6-leaf	B				
6	AMS		WG	17	lb/100 gal	6-leaf	B				
7	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	99	99	99	0
7	Stinger	3	L	3	fl oz/a	2-leaf	A				
7	AMS		WG	17	lb/100 gal	2-leaf	A				
7	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
7	Stinger	3	L	3	fl oz/a	6-leaf	B				
7	AMS		WG	17	lb/100 gal	6-leaf	B				
8	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	99	99	98	0
8	Stinger	3	L	2	fl oz/a	2-leaf	A				
8	AMS		WG	17	lb/100 gal	2-leaf	A				
8	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
8	Stinger	3	L	4	fl oz/a	6-leaf	B				
8	AMS		WG	17	lb/100 gal	6-leaf	B				
9	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	99	99	98	0
9	AMS		WG	17	lb/100 gal	2-leaf	A				
9	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
9	Stinger	3	L	4	fl oz/a	6-leaf	B				
9	AMS		WG	17	lb/100 gal	6-leaf	B				

MSU Weed Science Research Program

Impact of glyphosate-resistant horseweed treatments on sugarbeet yield II

Trial ID: SB06-15
 Conducted: SVREC

Study Dir.: Sprague and Powell
 Investigator: Christy Sprague

Weed Code								AMARE	POLPY	HIBTR	BETVU
Crop Code											
Rating Data Type								control	control	control	injury
Rating Unit								percent	percent	percent	percent
Rating Date								Aug/13/2015	Aug/13/2015	Aug/13/2015	Sep/14/2015
Trt-Eval Interval								50 DA-C	50 DA-C	50 DA-C	82 DA-C
# Subsamples, Dec.								0	0	0	0
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code				
10	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	99	98	99	0
10	AMS		WG	17	lb/100 gal	2-leaf	A				
10	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
10	Stinger	3	L	6	fl oz/a	6-leaf	B				
10	AMS		WG	17	lb/100 gal	6-leaf	B				
11	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	99	99	99	0
11	AMS		WG	17	lb/100 gal	2-leaf	A				
11	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
11	Stinger	3	L	8	fl oz/a	6-leaf	B				
11	AMS		WG	17	lb/100 gal	6-leaf	B				
12	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	99	99	99	0
12	Stinger	3	L	2	fl oz/a	2-leaf	A				
12	AMS		WG	17	lb/100 gal	2-leaf	A				
12	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
12	Stinger	3	L	4	fl oz/a	6-leaf	B				
12	AMS		WG	17	lb/100 gal	6-leaf	B				
12	Roundup PowerMax	4.5	SL	22	fl oz/a	canopy	C				
12	Stinger	3	L	4	fl oz/a	canopy	C				
12	AMS		WG	17	lb/100 gal	canopy	C				
13	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	99	99	99	0
13	Stinger	3	L	2	fl oz/a	2-leaf	A				
13	AMS		WG	17	lb/100 gal	2-leaf	A				
13	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
13	Stinger	3	L	4	fl oz/a	6-leaf	B				
13	Warrant	3	L	3	pt/a	6-leaf	B				
13	AMS		WG	17	lb/100 gal	6-leaf	B				
14	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	99	99	99	0
14	Stinger	3	L	2	fl oz/a	2-leaf	A				
14	AMS		WG	17	lb/100 gal	2-leaf	A				
14	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
14	Stinger	3	L	4	fl oz/a	6-leaf	B				
14	Dual II Magnum	7.64	L	1.33	pt/a	6-leaf	B				
14	AMS		WG	17	lb/100 gal	6-leaf	B				
15	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	99	99	99	0
15	Nortron	4	L	4	fl oz/a	2-leaf	A				
15	AMS		WG	17	lb/100 gal	2-leaf	A				
15	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
15	Nortron	4	L	4	fl oz/a	6-leaf	B				
15	AMS		WG	17	lb/100 gal	6-leaf	B				
16	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	99	98	99	0
16	Stinger	3	L	2	fl oz/a	2-leaf	A				
16	Nortron	4	L	4	fl oz/a	2-leaf	A				
16	AMS		WG	17	lb/100 gal	2-leaf	A				
16	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
16	Stinger	3	L	4	fl oz/a	6-leaf	B				
16	Nortron	4	L	4	fl oz/a	6-leaf	B				
16	AMS		WG	17	lb/100 gal	6-leaf	B				
LSD (P=.05)								2.9	1.3	4.5	0.0
CV								2.05	0.94	3.18	0.0

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

MSU Weed Science Research Program

Impact of glyphosate-resistant horseweed treatments on sugarbeet yield II

Trial ID: SB06-15
 Conducted: SVREC

Study Dir.: Sprague and Powell
 Investigator: Christy Sprague

Weed Code								CHEAL	AMARE	POLPY	HIBTR
Crop Code											
Rating Data Type								control	control	control	control
Rating Unit								percent	percent	percent	percent
Rating Date								Sep/14/2015	Sep/14/2015	Sep/14/2015	Sep/14/2015
Trt-Eval Interval								82 DA-C	82 DA-C	82 DA-C	82 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	22	fl oz/a	2-leaf	A	92	98	99	91
1	AMS		WG	17	lb/100 gal	2-leaf	A				
1	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
1	AMS		WG	17	lb/100 gal	6-leaf	B				
2	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	93	97	97	99
2	Stinger	3	L	2	fl oz/a	2-leaf	A				
2	AMS		WG	17	lb/100 gal	2-leaf	A				
2	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
2	AMS		WG	17	lb/100 gal	6-leaf	B				
3	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	95	98	98	94
3	Stinger	3	L	3	fl oz/a	2-leaf	A				
3	AMS		WG	17	lb/100 gal	2-leaf	A				
3	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
3	AMS		WG	17	lb/100 gal	6-leaf	B				
4	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	97	94	95	91
4	Stinger	3	L	4	fl oz/a	2-leaf	A				
4	AMS		WG	17	lb/100 gal	2-leaf	A				
4	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
4	AMS		WG	17	lb/100 gal	6-leaf	B				
5	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	96	99	98	99
5	Stinger	3	L	6	fl oz/a	2-leaf	A				
5	AMS		WG	17	lb/100 gal	2-leaf	A				
5	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
5	AMS		WG	17	lb/100 gal	6-leaf	B				
6	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	98	96	96	99
6	Stinger	3	L	2	fl oz/a	2-leaf	A				
6	AMS		WG	17	lb/100 gal	2-leaf	A				
6	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
6	Stinger	3	L	2	fl oz/a	6-leaf	B				
6	AMS		WG	17	lb/100 gal	6-leaf	B				
7	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	98	99	99	98
7	Stinger	3	L	3	fl oz/a	2-leaf	A				
7	AMS		WG	17	lb/100 gal	2-leaf	A				
7	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
7	Stinger	3	L	3	fl oz/a	6-leaf	B				
7	AMS		WG	17	lb/100 gal	6-leaf	B				
8	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	98	98	99	93
8	Stinger	3	L	2	fl oz/a	2-leaf	A				
8	AMS		WG	17	lb/100 gal	2-leaf	A				
8	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
8	Stinger	3	L	4	fl oz/a	6-leaf	B				
8	AMS		WG	17	lb/100 gal	6-leaf	B				
9	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	99	99	99	99
9	AMS		WG	17	lb/100 gal	2-leaf	A				
9	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
9	Stinger	3	L	4	fl oz/a	6-leaf	B				
9	AMS		WG	17	lb/100 gal	6-leaf	B				

MSU Weed Science Research Program

Impact of glyphosate-resistant horseweed treatments on sugarbeet yield II

Trial ID: SB06-15
 Conducted: SVREC

Study Dir.: Sprague and Powell
 Investigator: Christy Sprague

								CHEAL	AMARE	POLPY	HIBTR
								control	control	control	control
								percent	percent	percent	percent
								Sep/14/2015	Sep/14/2015	Sep/14/2015	Sep/14/2015
								82 DA-C	82 DA-C	82 DA-C	82 DA-C
								0	0	0	0
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code				
10	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	95	98	98	99
10	AMS		WG	17	lb/100 gal	2-leaf	A				
10	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
10	Stinger	3	L	6	fl oz/a	6-leaf	B				
10	AMS		WG	17	lb/100 gal	6-leaf	B				
11	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	98	98	99	99
11	AMS		WG	17	lb/100 gal	2-leaf	A				
11	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
11	Stinger	3	L	8	fl oz/a	6-leaf	B				
11	AMS		WG	17	lb/100 gal	6-leaf	B				
12	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	98	99	99	99
12	Stinger	3	L	2	fl oz/a	2-leaf	A				
12	AMS		WG	17	lb/100 gal	2-leaf	A				
12	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
12	Stinger	3	L	4	fl oz/a	6-leaf	B				
12	AMS		WG	17	lb/100 gal	6-leaf	B				
12	Roundup PowerMax	4.5	SL	22	fl oz/a	canopy	C				
12	Stinger	3	L	4	fl oz/a	canopy	C				
12	AMS		WG	17	lb/100 gal	canopy	C				
13	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	95	98	97	94
13	Stinger	3	L	2	fl oz/a	2-leaf	A				
13	AMS		WG	17	lb/100 gal	2-leaf	A				
13	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
13	Stinger	3	L	4	fl oz/a	6-leaf	B				
13	Warrant	3	L	3	pt/a	6-leaf	B				
13	AMS		WG	17	lb/100 gal	6-leaf	B				
14	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	99	99	98	99
14	Stinger	3	L	2	fl oz/a	2-leaf	A				
14	AMS		WG	17	lb/100 gal	2-leaf	A				
14	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
14	Stinger	3	L	4	fl oz/a	6-leaf	B				
14	Dual II Magnum	7.64	L	1.33	pt/a	6-leaf	B				
14	AMS		WG	17	lb/100 gal	6-leaf	B				
15	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	96	99	99	98
15	Nortron	4	L	4	fl oz/a	2-leaf	A				
15	AMS		WG	17	lb/100 gal	2-leaf	A				
15	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
15	Nortron	4	L	4	fl oz/a	6-leaf	B				
15	AMS		WG	17	lb/100 gal	6-leaf	B				
16	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	93	97	98	95
16	Stinger	3	L	2	fl oz/a	2-leaf	A				
16	Nortron	4	L	4	fl oz/a	2-leaf	A				
16	AMS		WG	17	lb/100 gal	2-leaf	A				
16	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
16	Stinger	3	L	4	fl oz/a	6-leaf	B				
16	Nortron	4	L	4	fl oz/a	6-leaf	B				
16	AMS		WG	17	lb/100 gal	6-leaf	B				
LSD (P=.05)								4.9	4.4	3.6	6.9
CV								3.56	3.17	2.56	5.0

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

MSU Weed Science Research Program

Impact of glyphosate-resistant horseweed treatments on sugarbeet yield II

Trial ID: SB06-15
 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 stand count 100' row Sep/15/2015 83 DA-C 0	BETVU % sugar Sep/15/2015 83 DA-C 1	BETVU yield ton/acre Sep/15/2015 83 DA-C 1	BETVU RWST # / ton Sep/15/2015 83 DA-C 0
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Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code				
1	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	168	17.1	21.5	256
1	AMS		WG	17	lb/100 gal	2-leaf	A				
1	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
1	AMS		WG	17	lb/100 gal	6-leaf	B				
2	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	154	17.0	21.0	254
2	Stinger	3	L	2	fl oz/a	2-leaf	A				
2	AMS		WG	17	lb/100 gal	2-leaf	A				
2	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
2	AMS		WG	17	lb/100 gal	6-leaf	B				
3	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	168	17.7	23.7	266
3	Stinger	3	L	3	fl oz/a	2-leaf	A				
3	AMS		WG	17	lb/100 gal	2-leaf	A				
3	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
3	AMS		WG	17	lb/100 gal	6-leaf	B				
4	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	177	17.2	26.0	258
4	Stinger	3	L	4	fl oz/a	2-leaf	A				
4	AMS		WG	17	lb/100 gal	2-leaf	A				
4	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
4	AMS		WG	17	lb/100 gal	6-leaf	B				
5	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	184	17.0	24.4	254
5	Stinger	3	L	6	fl oz/a	2-leaf	A				
5	AMS		WG	17	lb/100 gal	2-leaf	A				
5	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
5	AMS		WG	17	lb/100 gal	6-leaf	B				
6	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	188	17.0	24.2	253
6	Stinger	3	L	2	fl oz/a	2-leaf	A				
6	AMS		WG	17	lb/100 gal	2-leaf	A				
6	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
6	Stinger	3	L	2	fl oz/a	6-leaf	B				
6	AMS		WG	17	lb/100 gal	6-leaf	B				
7	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	183	17.3	23.2	260
7	Stinger	3	L	3	fl oz/a	2-leaf	A				
7	AMS		WG	17	lb/100 gal	2-leaf	A				
7	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
7	Stinger	3	L	3	fl oz/a	6-leaf	B				
7	AMS		WG	17	lb/100 gal	6-leaf	B				
8	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	168	17.5	23.4	263
8	Stinger	3	L	2	fl oz/a	2-leaf	A				
8	AMS		WG	17	lb/100 gal	2-leaf	A				
8	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
8	Stinger	3	L	4	fl oz/a	6-leaf	B				
8	AMS		WG	17	lb/100 gal	6-leaf	B				
9	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	171	17.2	27.6	257
9	AMS		WG	17	lb/100 gal	2-leaf	A				
9	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
9	Stinger	3	L	4	fl oz/a	6-leaf	B				
9	AMS		WG	17	lb/100 gal	6-leaf	B				

MSU Weed Science Research Program

Impact of glyphosate-resistant horseweed treatments on sugarbeet yield II

Trial ID: SB06-15
 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 stand count 100' row
 BETVU % sugar
 BETVU yield ton/acre
 BETVU RWST # / ton
 Sep/15/2015 83 DA-C
 Sep/15/2015 83 DA-C
 Sep/15/2015 83 DA-C
 Sep/15/2015 83 DA-C
 0 1 1 0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	BETVU stand count 100' row	BETVU % sugar	BETVU yield ton/acre	BETVU RWST # / ton
10	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	172	17.0	22.4	253
10	AMS		WG	17	lb/100 gal	2-leaf	A				
10	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
10	Stinger	3	L	6	fl oz/a	6-leaf	B				
10	AMS		WG	17	lb/100 gal	6-leaf	B				
11	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	174	17.3	22.6	259
11	AMS		WG	17	lb/100 gal	2-leaf	A				
11	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
11	Stinger	3	L	8	fl oz/a	6-leaf	B				
11	AMS		WG	17	lb/100 gal	6-leaf	B				
12	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	190	17.4	21.0	260
12	Stinger	3	L	2	fl oz/a	2-leaf	A				
12	AMS		WG	17	lb/100 gal	2-leaf	A				
12	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
12	Stinger	3	L	4	fl oz/a	6-leaf	B				
12	AMS		WG	17	lb/100 gal	6-leaf	B				
12	Roundup PowerMax	4.5	SL	22	fl oz/a	canopy	C				
12	Stinger	3	L	4	fl oz/a	canopy	C				
12	AMS		WG	17	lb/100 gal	canopy	C				
13	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	165	17.3	25.0	259
13	Stinger	3	L	2	fl oz/a	2-leaf	A				
13	AMS		WG	17	lb/100 gal	2-leaf	A				
13	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
13	Stinger	3	L	4	fl oz/a	6-leaf	B				
13	Warrant	3	L	3	pt/a	6-leaf	B				
13	AMS		WG	17	lb/100 gal	6-leaf	B				
14	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	152	16.8	22.0	251
14	Stinger	3	L	2	fl oz/a	2-leaf	A				
14	AMS		WG	17	lb/100 gal	2-leaf	A				
14	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
14	Stinger	3	L	4	fl oz/a	6-leaf	B				
14	Dual II Magnum	7.64	L	1.33	pt/a	6-leaf	B				
14	AMS		WG	17	lb/100 gal	6-leaf	B				
15	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	180	17.3	20.5	261
15	Nortron	4	L	4	fl oz/a	2-leaf	A				
15	AMS		WG	17	lb/100 gal	2-leaf	A				
15	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
15	Nortron	4	L	4	fl oz/a	6-leaf	B				
15	AMS		WG	17	lb/100 gal	6-leaf	B				
16	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	181	17.4	21.9	262
16	Stinger	3	L	2	fl oz/a	2-leaf	A				
16	Nortron	4	L	4	fl oz/a	2-leaf	A				
16	AMS		WG	17	lb/100 gal	2-leaf	A				
16	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B				
16	Stinger	3	L	4	fl oz/a	6-leaf	B				
16	Nortron	4	L	4	fl oz/a	6-leaf	B				
16	AMS		WG	17	lb/100 gal	6-leaf	B				
LSD (P=.05)								25.4	0.96	6.64	17.3
CV								10.23	3.9	20.05	4.69

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

MSU Weed Science Research Program

Impact of glyphosate-resistant horseweed treatments on sugarbeet yield II

Trial ID: SB06-15
 Conducted: SVREC

Study Dir.: Sprague and Powell
 Investigator: Christy Sprague

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 Rating Date
 Trt-Eval Interval
 # Subsamples, Dec.

BETVU
 RWSA
 # / acre
 Sep/15/2015
 83 DA-C
 0

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code	
1	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	5547
1	AMS		WG	17	lb/100 gal	2-leaf	A	
1	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B	
1	AMS		WG	17	lb/100 gal	6-leaf	B	
2	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	5274
2	Stinger	3	L	2	fl oz/a	2-leaf	A	
2	AMS		WG	17	lb/100 gal	2-leaf	A	
2	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B	
2	AMS		WG	17	lb/100 gal	6-leaf	B	
3	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	6296
3	Stinger	3	L	3	fl oz/a	2-leaf	A	
3	AMS		WG	17	lb/100 gal	2-leaf	A	
3	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B	
3	AMS		WG	17	lb/100 gal	6-leaf	B	
4	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	6700
4	Stinger	3	L	4	fl oz/a	2-leaf	A	
4	AMS		WG	17	lb/100 gal	2-leaf	A	
4	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B	
4	AMS		WG	17	lb/100 gal	6-leaf	B	
5	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	6236
5	Stinger	3	L	6	fl oz/a	2-leaf	A	
5	AMS		WG	17	lb/100 gal	2-leaf	A	
5	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B	
5	AMS		WG	17	lb/100 gal	6-leaf	B	
6	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	6086
6	Stinger	3	L	2	fl oz/a	2-leaf	A	
6	AMS		WG	17	lb/100 gal	2-leaf	A	
6	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B	
6	Stinger	3	L	2	fl oz/a	6-leaf	B	
6	AMS		WG	17	lb/100 gal	6-leaf	B	
7	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	6384
7	Stinger	3	L	3	fl oz/a	2-leaf	A	
7	AMS		WG	17	lb/100 gal	2-leaf	A	
7	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B	
7	Stinger	3	L	3	fl oz/a	6-leaf	B	
7	AMS		WG	17	lb/100 gal	6-leaf	B	
8	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	6130
8	Stinger	3	L	2	fl oz/a	2-leaf	A	
8	AMS		WG	17	lb/100 gal	2-leaf	A	
8	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B	
8	Stinger	3	L	4	fl oz/a	6-leaf	B	
8	AMS		WG	17	lb/100 gal	6-leaf	B	
9	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	7080
9	AMS		WG	17	lb/100 gal	2-leaf	A	
9	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B	
9	Stinger	3	L	4	fl oz/a	6-leaf	B	
9	AMS		WG	17	lb/100 gal	6-leaf	B	

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 # Subsamples, Dec.

BETVU
 RWSA
 # / acre
 Sep/15/2015
 83 DA-C
 0

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code	
10	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	5662
10	AMS		WG	17	lb/100 gal	2-leaf	A	
10	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B	
10	Stinger	3	L	6	fl oz/a	6-leaf	B	
10	AMS		WG	17	lb/100 gal	6-leaf	B	
11	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	5845
11	AMS		WG	17	lb/100 gal	2-leaf	A	
11	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B	
11	Stinger	3	L	8	fl oz/a	6-leaf	B	
11	AMS		WG	17	lb/100 gal	6-leaf	B	
12	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	5459
12	Stinger	3	L	2	fl oz/a	2-leaf	A	
12	AMS		WG	17	lb/100 gal	2-leaf	A	
12	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B	
12	Stinger	3	L	4	fl oz/a	6-leaf	B	
12	AMS		WG	17	lb/100 gal	6-leaf	B	
12	Roundup PowerMax	4.5	SL	22	fl oz/a	canopy	C	
12	Stinger	3	L	4	fl oz/a	canopy	C	
12	AMS		WG	17	lb/100 gal	canopy	C	
13	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	6485
13	Stinger	3	L	2	fl oz/a	2-leaf	A	
13	AMS		WG	17	lb/100 gal	2-leaf	A	
13	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B	
13	Stinger	3	L	4	fl oz/a	6-leaf	B	
13	Warrant	3	L	3	pt/a	6-leaf	B	
13	AMS		WG	17	lb/100 gal	6-leaf	B	
14	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	5499
14	Stinger	3	L	2	fl oz/a	2-leaf	A	
14	AMS		WG	17	lb/100 gal	2-leaf	A	
14	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B	
14	Stinger	3	L	4	fl oz/a	6-leaf	B	
14	Dual II Magnum	7.64	L	1.33	pt/a	6-leaf	B	
14	AMS		WG	17	lb/100 gal	6-leaf	B	
15	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	5329
15	Nortron	4	L	4	fl oz/a	2-leaf	A	
15	AMS		WG	17	lb/100 gal	2-leaf	A	
15	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B	
15	Nortron	4	L	4	fl oz/a	6-leaf	B	
15	AMS		WG	17	lb/100 gal	6-leaf	B	
16	Roundup PowerMax	4.5	SL	22	fl oz/a	2-leaf	A	5721
16	Stinger	3	L	2	fl oz/a	2-leaf	A	
16	Nortron	4	L	4	fl oz/a	2-leaf	A	
16	AMS		WG	17	lb/100 gal	2-leaf	A	
16	Roundup PowerMax	4.5	SL	22	fl oz/a	6-leaf	B	
16	Stinger	3	L	4	fl oz/a	6-leaf	B	
16	Nortron	4	L	4	fl oz/a	6-leaf	B	
16	AMS		WG	17	lb/100 gal	6-leaf	B	
LSD (P=.05)								1614.8
CV								18.89

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