

**Effect of Row-width and Plant Population on Roundup Ready Sugar Beet II**

Trial ID: SB08-08  
 Conducted: Farmer 1

Study Dir.: Armstrong, Sprague, Powell  
 Investigator: Christy Sprague

**Date Planted:** 4/19/08  
**Variety:** Hilleshog 9028  
**Population:** See comments  
**Soil Type:** Loam  
**Plot Size:** 15 X 29 FT

**Row Spacing:** 1 N  
**No. of Reps:** 4  
**% OM:** 2.7  
**pH:** 7.9  
**Design:** RANDOMIZED COMPLETE BLOCK

**Crop and Weed Description**

Weed	Code	Common Name	Scientific Name
1.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
2.	AMASS	REDROOT PIGWEED, POWELL AMARANTH	AMARANTHUS SP.
3.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
4.	SOLPT	NIGHTSHADE, EASTERN BLACK	SOLANUM PTYCANTHUM DUNAL
Crop	Code	Common Name	
1.	BETVU	BEET, SUGAR	

**Application Description**

	A	B
<b>Application Timing:</b>	WF 1	4" weeds
<b>Date Treated:</b>	5/19/08	6/2/08
<b>Time Treated:</b>	1:30 PM	12:45 PM
<b>% Cloud Cover:</b>	50	20
<b>Air Temp., Unit:</b>	66 F	87 F
<b>% Relative Humidity:</b>	27	26
<b>Wind Speed/Unit/Dir:</b>	4 mph SW	7 mph SW
<b>Soil Temp., Unit:</b>	59 F	72 F
<b>Soil/Leaf Surface M:</b>	5 5	5 5
<b>Soil Moist (1=w 5=d):</b>	5	5

**Crop Stage at Each Application**

	A	B
<b>Crop Name:</b>	BETVU	BETVU
<b>Height (In.):</b>	2-2.5	2-6
<b>Stage (L):</b>	coty-4	2-8

**Weed Stage at Each Application**

	A	B
<b>Weed 1 Name:</b>	CHEAL	CHEAL
<b>Height (In.):</b>	.5-1.25	1-6
<b>Stage (L):</b>	2-8	2-10
<b>Weed 2 Name:</b>	AMASS	AMASS
<b>Height (In.):</b>	.125-.75	1.5-3
<b>Stage (L):</b>	2-4	8-10
<b>Weed 3 Name:</b>	ABUTH	ABUTH
<b>Height (In.):</b>	.5-2	2-4
<b>Stage (L):</b>	1-3	6-8
<b>Weed 4 Name:</b>	SOLPT	SOLPT
<b>Height (In.):</b>	.125-.25	1.5-2.5
<b>Stage (L):</b>	2-4	--

**Application Equipment**

Appl	Sprayer Type	Speed MPH	Nozzle Type	Nozzle Size	Nozzle Height	Nozzle Spacing	Boom Width	GPA	Carrier	PSI
A	Cub	3.8	AirMix	11003	18	20	180	19	water	28
B	Cub	3.8	AirMix	11003	18	20	180	19	water	28

**Comments:** Planting populations:  
 15" row - 5.7" seed spacing  
 20" row - 4" seed spacing  
 30" row - 2.9" seed spacing

Previous Crop- Soybean

Fungicides were broadcast applied the following dates-

May 12- 40 oz/acre Quadris  
 July 7- 5.7 oz Proline + 0.25% Induce  
 July 24- 9.2 oz/acre Headline  
 August 12- 2.0 lb/acre Pencozeb + 0.5 lb/acre Topsin  
 September 3- 9.2 oz/acre Headline

MSU Weed Science Research Program

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Weed Code

Crop Code

Rating Data Type

Rating Unit

Rating Date

Trt-Eval Interval

BETVU	BETVU	BETVU	BETVU
% Sugar	yield	RWST	RWSA
	ton/A	#/ton	#/acre
9/23/08	9/23/08	9/23/08	9/23/08
127 DA-A	127 DA-A	127 DA-A	127 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	BETVU % Sugar	BETVU yield ton/A	BETVU RWST #/ton	BETVU RWSA #/acre
1	20" rows, 84 beets/100'						15.5	50.9	220.2	11117
1	Weed free									
2	20" rows, 84 beets/100'						15.6	48.0	220.3	10552
2	Roundup WeatherMax	4.5	SL	22	fl oz/a	4" weeds				
2	AMS		WG	17	lb/100 gal	4" weeds				
3	20" rows, 120 beets/ 100'						15.8	49.1	229.9	11296
3	Weed free									
4	20" rows, 120 beets/100'						15.5	48.4	223.2	10853
4	Roundup WeatherMax	4.5	SL	22	fl oz/a	4" weeds				
4	AMS		WG	17	lb/100 gal	4" weeds				
5	30" rows, 126 beets/100'						15.5	44.8	220.6	9876
5	Weed free									
6	30" rows, 126 beets/100'						15.3	43.2	214.8	9310
6	Roundup WeatherMax	4.5	SL	22	fl oz/a	4" weeds				
6	AMS		WG	17	lb/100 gal	4" weeds				
7	30" rows, 180 beets/100'						14.6	43.9	202.0	8848
7	Weed free									
8	30" rows, 180 beets/100'						15.2	44.6	215.7	9600
8	Roundup WeatherMax	4.5	SL	22	fl oz/a	4" weeds				
8	AMS		WG	17	lb/100 gal	4" weeds				
9	15" rows, 63 beets/100'						16.5	51.4	238.3	12064
9	Weed free									
10	15" rows, 63 beets/100'						16.0	43.7	229.3	10021
10	Roundup WeatherMax	4.5	SL	22	fl oz/a	4" weeds				
10	AMS		WG	17	lb/100 gal	4" weeds				
11	15" rows, 90 beets/100'						16.1	47.0	229.2	10793
11	Weed free									
12	15" rows, 90 beets/100'						15.9	47.1	230.0	10822
12	Roundup WeatherMax	4.5	SL	22	fl oz/a	4" weeds				
12	AMS		WG	17	lb/100 gal	4" weeds				
13	15" rows, 117 beets/100'						16.0	46.7	228.6	10694
13	Weed free									
14	15" beets, 117 beets/100'						16.7	52.2	237.4	12392
14	Roundup WeatherMax	4.5	SL	22	fl oz/a	4" weeds				
14	AMS		WG	17	lb/100 gal	4" weeds				

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Rating Unit

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Trt-Eval Interval

BETVU	BETVU	BETVU	BETVU
% Sugar	yield	RWST	RWSA
	ton/A	#/ton	#/acre
9/23/08	9/23/08	9/23/08	9/23/08
127 DA-A	127 DA-A	127 DA-A	127 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	BETVU % Sugar	BETVU yield ton/A	BETVU RWST #/ton	BETVU RWSA #/acre
15	15" rows, 144 beets/100'						15.9	50.6	222.7	11232
15	Weed free									
16	15" rows, 144 beets/100'						16.6	60.0	236.9	14126
16	Roundup WeatherMax	4.5	SL	22	fl oz/a	4" weeds				
16	AMS		WG	17	lb/100 gal	4" weeds				
17	30" rows, 234 beets/100'						15.9	54.5	225.8	12361
17	Weed free									
18	30" rows, 234 beets/100'						16.2	46.7	229.5	10724
18	Roundup WeatherMax	4.5	SL	22	fl oz/a	4" weeds				
18	AMS		WG	17	lb/100 gal	4" weeds				
19	30" rows, 288 beets/100'						16.4	48.3	236.5	11416
19	Weed free									
20	30" rows, 288 beets/100'						15.8	47.6	226.0	10714
20	Roundup WeatherMax	4.5	SL	22	fl oz/a	4" weeds				
20	AMS		WG	17	lb/100 gal	4" weeds				
21	20" rows, 156 beets/100'						15.7	52.9	223.6	11831
21	Weed free									
22	20" rows, 156 beets/100'						15.6	52.5	222.5	11669
22	Roundup WeatherMax	4.5	SL	22	fl oz/a	4" weeds				
22	AMS		WG	17	lb/100 gal	4" weeds				
23	20" rows, 192 beets/100'						15.8	55.2	223.3	12331
23	Weed free									
24	20" rows, 192 beets/100'						15.7	56.8	225.0	12774
24	Roundup WeatherMax	4.5	SL	22	fl oz/a	4" weeds				
24	AMS		WG	17	lb/100 gal	4" weeds				
LSD (P=.10)							0.75	7.09	14.32	1628.1
Standard Deviation							0.63	6.00	12.12	1377.9
CV							3.99	12.15	5.38	12.37