

MSU Weed Science Research Program

Effect of Row-width and Plant Population on Roundup Ready Sugarbeets

Trial ID: SB01-07BB  
 Conducted: Bean and Beet

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

**Date Planted:** 4/20/07                      **Row Spacing:**                      IN  
**Variety:**                      Hilleshog 9028                      **No. of Reps:**                      4  
**Population:**                      See Comments                      **% OM:**                      3.9  
**Soil Type:**                      Silty Clay                      **pH:**                      7.4  
**Plot Size:**                      10 X 30 FT                      **Design:**                      RANDOMIZED COMPLETE BLOCK

**Crop and Weed Description**

Weed	Code	Common Name	Scientific Name
1.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
2.	AMARE	PIGWEEED, REDROOT	AMARANTHUS RETROFLEXUS L.
Crop	Code	Common Name	
1.	BETVU	BEET, SUGAR	

**Application Description**

	A	B
<b>Application Timing:</b>	WF A	WF B
<b>Date Treated:</b>	5/18/07	6/6/07
<b>Time Treated:</b>	2:00 pm	10:00 am
<b>% Cloud Cover:</b>	10	0
<b>Air Temp., Unit:</b>	66 F	60 F
<b>% Relative Humidity:</b>	20	59
<b>Wind Speed/Unit/Dir:</b>	5 mph SW	5 mph SW
<b>Soil Temp., Unit:</b>	58 F	58 F
<b>Soil/Leaf Surface M:</b>	5 5	5 5
<b>Soil Moist (1=w 5=d):</b>	5	4

**Crop Stage at Each Application**

	A	B
<b>Crop Name:</b>	BETVU	BETVU
<b>Height (In.):</b>	3/4-2"	4-9"
<b>Stage (L):</b>	2-4	8-10

**Weed Stage at Each Application**

	A	B
<b>Weed 1 Name:</b>	CHEAL	CHEAL
<b>Height (In.):</b>	.5-2.5"	1.5-2.5"
<b>Stage (L):</b>	4-8	4-8
<b>Weed 2 Name:</b>	AMARE	AMARE
<b>Height (In.):</b>	.25-.5"	.5-2"
<b>Stage (L):</b>	coty-4	2-6

**Application Equipment**

Appl	Sprayer	Speed	Nozzle	Nozzle	Nozzle	Nozzle	Boom			
	Type	MPH	Type	Size	Height	Spacing	Width	GPA	Carrier	PSI
A	Cub	3.8	AirMix	11003	22"	20	100	19	water	27
B	Cub	3.8	AirMix	11003	22"	20	100	19	water	27

**Comments:** Planting Populations- 15" = 6" seed spacing, 20" = 4" spacing, 30" = 6" spacing  
 Thinned to stand  
 West pass of 20" rows is off towards the North (plots 403,404)

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Weed Code	BETVU	BETVU	BETVU	BETVU	BETVU
Crop Code	count	% sugar	yield	RWST	RWSA
Rating Data Type	#/100'		ton/acre	#/ton	ton/acre
Rating Unit					
Rating Date	9/18/07	9/18/07	9/18/07	9/18/07	9/18/07
Trt-Eval Interval	123 DA-A	123 DA-A	123 DA-A	123 DA-A	123 DA-A

Trt No.	Treatment Name	Rate Unit	Appl Code	BETVU count	BETVU % sugar	BETVU yield ton/acre	BETVU RWST #/ton	BETVU RWSA ton/acre
1	20" rows, 84 beets/100' Weed free	AB	AB	113	16	39.8	234.9	4.68
2	20" rows, 84 beets/100' Untreated					5.6		
3	20" rows, 120 beets/ 100' Weed free	AB	AB	125	17	35.7	250.5	4.47
4	20" rows, 120 beets/100' Untreated					9.1		
5	30" rows, 126 beets/100' Weed free	AB	AB	168	16	32.2	235.9	3.79
6	30" rows, 126 beets/100' Untreated					6.0		
7	30" rows, 180 beets/100' Weed free	AB	AB	207	17	31.8	243.8	3.88
8	30" rows, 180 beets/100' Untreated					4.5		
9	15" rows, 63 beets/100' Weed free	AB	AB	79	17	32.0	236.7	3.77
10	15" rows, 63 beets/100' Untreated					5.9		
11	15" rows, 90 beets/100' Weed free	AB	AB	102	16	32.2	224.0	3.64
12	15" rows, 90 beets/100' Untreated					5.8		
13	15" rows, 117 beets/100' Weed free	AB	AB	128	17	36.2	248.2	4.50
14	15" beets, 117 beets/100' Untreated					8.4		
15	15" rows, 144 beets/100' Weed free	AB	AB	148	17	34.8	255.3	4.43
16	15" rows, 144 beets/100' Untreated					7.2		
17	30" rows, 234 beets/100' Weed free	AB	AB	228	17	32.9	248.3	4.08
18	30" rows, 234 beets/100' Untreated					3.0		
19	30" rows, 288 beets/100' Weed free	AB	AB	253	17	33.7	244.3	4.11
20	30" rows, 288 beets/100' Untreated					3.7		
21	20" rows, 156 beets/100' Weed free	AB	AB	144	17	35.0	248.2	4.36
22	20" rows, 156 beets/100' Untreated					5.0		
23	20" rows, 192 beets/100' Weed free	AB	AB	150	17	36.0	244.1	4.39
24	20" rows, 192 beets/100' Untreated					8.6		
LSD (P=.05)				38.2	0.7	5.18	20.70	0.692
Standard Deviation				26.4	0.5	3.66	14.34	0.479
CV				17.22	2.86	18.1	5.9	11.47