

MSU Weed Science Research Program

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

Trial ID: SB08-07
Conducted: Campus T-15

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

Date Planted: 4/19/07
Variety: Hilleshog 9028
Population: Comment
Soil Type: Loam
Plot Size: 10 X 35 FT
Row Spacing: -- IN
No. of Reps: 4
% OM: 3.1
pH: 6.3
Design: RANDOMIZED COMPLETE BLOCK

Tillage: Fall Chisel Plow, Fall Soil Finish 11/27/06, Spring Soil Finish 4/19/07
Fertilizer: 3/16/07-Applied 200# Urea/Acre

Crop and Weed Description

Weed	Code	Common Name	Scientific Name
1.	BRAKA	MUSTARD, WILD	BRASSICA KABER
2.	AMBEL	RAGWEED, COMMON	AMBROSIA ELATIOR L.
3.	CHEAL	COMMON LAMBSQUARTERS	CHENOPODIUM ALBUM L.
4.	DATST	JIMSONWEED	DATURA STRAMONIUM L.
5.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
6.	SOLPT	NIGHTSHADE, EASTERN BLACK	SOLANUM PTYCANTHUM DUNAL
7.	AMARE	PIGWEEED, REDROOT	AMARANTHUS RETROFLEXUS L.
8.	ANGR	ANNUAL GRASS	
Crop	Code	Common Name	
1.	BETVU	SUGARBEET	

Application Description

	A	B
Application Timing:	Weed Free	Weed Free
Date Treated:	5/14/07	6/9/07
Time Treated:	9:15 am	9:30 am
% Cloud Cover:	100	0
Air Temp., Unit:	54 F	72 F
% Relative Humidity:	54	20
Wind Speed/Unit/Dir:	4 mph SE	0 mph -
Soil Temp., Unit:	53 F	67 F
Soil/Leaf Surface M:	5 5	5 5
Soil Moist (1=w 5=d):	5	5

Crop Stage at Each Application

	A	B
Crop Name:	BETVU	BETVU
Height (In.):	1/2-1.25"	5-7"
Stage (L):	cot-2	6-10

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Weed Stage at Each Application

	A	B
Weed 1 Name:	BRAKA	BRAKA
Height (In.):	1/4-1/2"	-
Stage (L):	cot-4	-
Weed 2 Name:	AMBEL	AMBEL
Height (In.):	1/2-1"	-
Stage (L):	cot-2	-
Weed 3 Name:	CHEAL	CHEAL
Height (In.):	1/4-1.25"	1-2"
Stage (L):	cot-6	4-8
Weed 4 Name:	DATST	DATST
Height (In.):	1/2-1"	1-2"
Stage (L):	cot-2	2-4
Weed 5 Name:	ABUTH	ABUTH
Height (In.):	1/2-1.25"	1/2-1"
Stage (L):	cot-1	2-4
Weed 6 Name:	SOLPT	SOLPT
Height (In.):		1/2-3/4"
Stage (L):		2-4
Weed 7 Name:	AMARE	AMARE
Height (In.):		1/2-3"
Stage (L):		2-6
Weed 8 Name:	ANGR	ANGR
Height (In.):		3-6"
Stage (L):		3-6

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	24"	20"	100"	19	Water	27

Comments: Population- 15" rows = 6" row spacing, 30" rows = 3" spacing

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Weed Code						
Crop Code						
Rating Data Type	BETVU	BETVU	BETVU	BETVU	BETVU	
Rating Unit	count	% sugar	yield	RWST	RWSA	
Rating Date	#/100'		ton/acre	#/ton	ton/acre	
Trt-Eval Interval	10/11/07	10/11/07	10/11/07	10/11/07	10/11/07	
	150 DA-A	150 DA-A	150 DA-A	150 DA-A	150 DA-A	

Trt No.	Treatment Name	Rate Unit	Appl Code	BETVU count	BETVU % sugar	BETVU yield	BETVU RWST	BETVU RWSA
1	30" rows, 126 beets/100' Untreated					4.3		
2	30" rows, 180 beets/100' Weed free	A		180	14.1	23.9	188.8	2.3
3	30" rows, 234 beets/100' Untreated					6.5		
4	30" rows, 126 beets/100' Weed free	A		174	13.7	20.8	174.4	1.8
5	15" rows, 36 beets/100' Untreated					3.0		
6	15" rows, 63 beets/100' Untreated					3.1		
7	15" rows, 90 beets/ 100' Weed free	A		107	14.8	21.8	207.3	2.3
8	15" rows, 90 beets/100' Untreated					4.0		
9	15" rows, 63 beets/100' Weed free	A		96	13.7	18.8	178.6	1.7
10	15" rows, 117 beets/100' Weed free	A		107	13.9	26.4	175.7	2.3
11	15" rows, 36 beets/100' Weed free	A		82	15.1	20.0	204.7	2.1
12	15" rows, 117 beets/100' Untreated					2.7		
13	30" rows, 72 beets/100' Untreated					4.4		
14	30" rows, 234 beets/100' Weed free	A		187	14.7	22.3	201.0	2.3
15	30" rows, 180 beets/100' Untreated					6.4		
16	30" rows, 72 beets/100' Weed free	A		189	14.9	24.6	211.6	2.6
LSD (P=.05)				37.1	1.52	3.91	45.35	0.81
Standard Deviation				25.3	1.04	2.73	30.84	0.55
CV				18.03	7.21	20.56	16.0	25.58