

**Weed Control Systems in Narrow-Row Roundup Ready Sugarbeet**

Trial ID: SB02-08BB  
 Conducted: Bean & Beet

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

Date Planted: 4/24/08  
 Variety: Hillshog 9028 RR  
 Population: See comments  
 Soil Type: Clay  
 Plot Size: 15 X 30 FT

Row Spacing: 18 IN  
 No. of Reps: 4  
 % OM: 3.0  
 pH: 7.8  
 Design: RANDOMIZED COMPLETE BLOCK

Tillage: Fall chisel dry beans  
 Early spring cultivate  
 Shallow field cultivate 4/23/08  
 Fertilizer: 125#/acre Nitrogen (urea) applied and incorporated in early spring.

**Crop and Weed Description**

Weed	Code	Common Name	Scientific Name
1.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	THLAR	FANWEED	THLASPI ARVENSE L.
4.	POLPE	LADYSTHUMB	POLYGONUM PERSICARIA L.
5.	AMASS	REDROOT PIGWEED, POWELL AMARANTH	AMARANTHUS SP.
Crop	Code	Common Name	
1.	BETVU	BEET, SUGAR	

**Application Description**

	A	B	C	D	E	F	G	H
Application Timing:	"A"stdspl	"B"std2"	"C" 4"+WF	"D" 6"	"E" 4"			
Date Treated:	5/15/08	5/28/08	6/11/08	6/13/08	6/16/08			
Time Treated:	4:13 PM	3:45 PM	4:00 PM	11:30 AM	12:45 PM			
% Cloud Cover:	100	5	25	30	90			
Air Temp., Unit:	60 F	76 F	84 F	89 F	74 F			
% Relative Humidity:	26	22	50	49	48			
Wind Speed/Unit/Dir:	3 mph	1 mph N	3 mph E	9 mph S	5 mph NW			
Soil Temp., Unit:	60 F	66 F	78 F	72 F	71 F			
Soil/Leaf Surface M:	5 5	5 5	5 5	5 5	5 5			
Soil Moist (1=w 5=d):	4	5	4	5	5			

**Crop Stage at Each Application**

	A	B	C	D	E	F	G	H
Crop Name:	BETVU	BETVU	BETVU	BETVU	BETVU	BETVU	BETVU	BETVU
Height (In.):	.5-1	.75-2.5	6-8	8-9	8-10			
Stage (L):	2-4	2-4	8	8-10	8-10			

**Weed Stage at Each Application**

	A	B	C	D	E	F	G	H
Weed 1 Name:	CHEAL	CHEAL	CHEAL	CHEAL	CHEAL	CHEAL	CHEAL	CHEAL
Height (In.):	.125-.5	.5-2	2-7	3-10	2-5			
Stage (L):	coty	4-8	10-many	6-many	many			
Weed 2 Name:	ABUTH	ABUTH	ABUTH	ABUTH	ABUTH	ABUTH	ABUTH	ABUTH
Height (In.):	.25	--	--	--	--			
Stage (L):	coty	--	--	--	--			
Weed 3 Name:	THLAR	THLAR	THLAR	THLAR	THLAR	THLAR	THLAR	THLAR
Height (In.):	4-5.5	--	--	--	--			
Stage (L):	many	--	--	--	--			
Weed 4 Name:	POLPE	POLPE	POLPE	POLPE	POLPE	POLPE	POLPE	POLPE
Height (In.):	--	2	2-4	6-10	--			
Stage (L):	--	2-4	many	many	--			
Weed 5 Name:	AMASS	AMASS	AMASS	AMASS	AMASS	AMASS	AMASS	AMASS
Height (In.):	--	--	2-6	2-8	3-6			
Stage (L):	--	--	4-10	6-many	many			

**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	21.5	20	180	19	water	28
B	Cub	3.8	AirMix	11003	21.5	20	180	19	water	28
C	Cub	3.8	AirMix	11003	26	20	180	19	water	28
D	Cub	3.8	AirMix	11003	26	20	180	19	water	28
E	Cub	3.8	AirMix	11003	26	20	180	19	water	28
F										
G										
H										

Comments: Populations:

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15" row = 6" seed spacing  
20" row = 4.5" seed spacing  
30" row = 3" seed spacing

Previous Crop- Dry Bean

Fungicides were broadcast applied the following dates-

May 11- 40 oz/acre Quadris  
July 6- 13 oz/acre Emmiment  
July 24- 9.2 oz/acre Headline  
August 12- 2.0 lb/acre Pencozeb + 0.5 lb/acre Topsin  
September 2- 9.2 oz/acre Headline

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Weed Code							CHEAL	AMAPO	
Crop Code							BETVU	BETVU	BETVU
Rating Data Type							Injury	Injury	% Sugar
Rating Unit							Percent	Percent	
Rating Date							6/11/08	6/20/08	9/25/08
Trt-Eval Interval							27 DA-A	36 DA-A	133 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code					
1	15" rows							0	0	74	74	15.6
1	Roundup WeatherMax	4.5	SL	22	fl oz/a	2" weeds	B					
1	Ammonium sulfate		WG	17	lb/100 gal	2" weeds	B					
1	Roundup WeatherMax	4.5	SL	22	fl oz/a	+ 4" wds	E					
1	Ammonium sulfate		WG	17	lb/100 gal	+ 4" wds	E					
2	15" rows							0	0	74	74	16.2
2	Roundup WeatherMax	4.5	SL	22	fl oz/a	2" weeds	B					
2	Ammonium sulfate		WG	17	lb/100 gal	2" weeds	B					
2	Roundup WeatherMax	4.5	SL	22	fl oz/a	+ 4" wds	D					
2	Ammonium sulfate		WG	17	lb/100 gal	+ 4" wds	D					
2	Roundup WeatherMax	4.5	SL	22	fl oz/a	Scout						
2	Ammonium sulfate		WG	17	lb/100 gal	Scout						
3	15" rows							0	0	99	99	15.8
3	Roundup WeatherMax	4.5	SL	22	fl oz/a	4" weeds	C					
3	Ammonium sulfate		WG	17	lb/100 gal	4" weeds	C					
3	Roundup WeatherMax	4.5	SL	22	fl oz/a	+ 4" wds						
3	Ammonium sulfate		WG	17	lb/100 gal	+ 4" wds						
4	15" rows							0	0	99	99	16.2
4	Roundup WeatherMax	4.5	SL	22	fl oz/a	4" weeds	C					
4	Ammonium sulfate		WG	17	lb/100 gal	4" weeds	C					
5	20" rows							0	0	58	60	15.9
5	Roundup WeatherMax	4.5	SL	22	fl oz/a	2" weeds	B					
5	Ammonium sulfate		WG	17	lb/100 gal	2" weeds	B					
5	Roundup WeatherMax	4.5	SL	22	fl oz/a	+ 4" wds	E					
5	Ammonium sulfate		WG	17	lb/100 gal	+ 4" wds	E					
6	20" rows							0	0	58	60	16.2
6	Roundup WeatherMax	4.5	SL	22	fl oz/a	2" weeds	B					
6	Ammonium sulfate		WG	17	lb/100 gal	2" weeds	B					
6	Roundup WeatherMax	4.5	SL	22	fl oz/a	+ 4" wds	D					
6	Ammonium sulfate		WG	17	lb/100 gal	+ 4" wds	D					
6	Roundup WeatherMax	4.5	SL	22	fl oz/a	Scout						
6	Ammonium sulfate		WG	17	lb/100 gal	Scout						
7	20" rows							0	0	99	99	16.2
7	Roundup WeatherMax	4.5	SL	22	fl oz/a	4" weeds	C					
7	Ammonium sulfate		WG	17	lb/100 gal	4" weeds	C					
7	Roundup WeatherMax	4.5	SL	22	fl oz/a	+ 4" wds						
7	Ammonium sulfate		WG	17	lb/100 gal	+ 4" wds						
8	20" rows							0	0	99	99	16.6
8	Roundup WeatherMax	4.5	SL	22	fl oz/a	4" weeds	C					
8	Ammonium sulfate		WG	17	lb/100 gal	4" weeds	C					

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Weed Code	CHEAL	AMAPO			
Crop Code	BETVU	BETVU	BETVU		
Rating Data Type	Injury	Injury	Control	Control	% Sugar
Rating Unit	Percent	Percent	Percent	Percent	
Rating Date	6/11/08	6/20/08	6/20/08	6/20/08	9/25/08
Trt-Eval Interval	27 DA-A	36 DA-A	36 DA-A	36 DA-A	133 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code					
9	30" rows							0	0	70	70	15.7
9	Roundup WeatherMax	4.5	SL	22	fl oz/a	2" weeds	B					
9	Ammonium sulfate		WG	17	lb/100 gal	2" weeds	B					
9	Roundup WeatherMax	4.5	SL	22	fl oz/a	+ 4" wds	E					
9	Ammonium sulfate		WG	17	lb/100 gal	+ 4" wds	E					
10	30" rows							0	0	70	70	16.1
10	Roundup WeatherMax	4.5	SL	22	fl oz/a	2" weeds	B					
10	Ammonium sulfate		WG	17	lb/100 gal	2" weeds	B					
10	Roundup WeatherMax	4.5	SL	22	fl oz/a	+ 4" wds	D					
10	Ammonium sulfate		WG	17	lb/100 gal	+ 4" wds	D					
10	Roundup WeatherMax	4.5	SL	22	fl oz/a	Scout						
10	Ammonium sulfate		WG	17	lb/100 gal	Scout						
11	30" rows							0	0	99	99	15.8
11	Roundup WeatherMax	4.5	SL	22	fl oz/a	4" weeds	C					
11	Ammonium sulfate		WG	17	lb/100 gal	4" weeds	C					
11	Roundup WeatherMax	4.5	SL	22	fl oz/a	+ 4" wds						
11	Ammonium sulfate		WG	17	lb/100 gal	+ 4" wds						
12	30" rows							0	0	99	99	15.9
12	Roundup WeatherMax	4.5	SL	22	fl oz/a	4" weeds	C					
12	Ammonium sulfate		WG	17	lb/100 gal	4" weeds	C					
13	30" rows							0	0	0	0	15.7
13	Roundup WeatherMax	4.5	SL	22	fl oz/a	6" weeds	D					
13	Ammonium sulfate		WG	17	lb/100 gal	6" weeds	D					
13	Roundup WeatherMax	4.5	SL	22	fl oz/a	+ 4" wds						
13	Ammonium sulfate		WG	17	lb/100 gal	+ 4" wds						
14	30" rows							0	0	0	0	15.6
14	Untreated											
15	30" rows							0	0	99	99	15.9
15	Weed-Free											
15	Roundup WeatherMax	4.5	SL	22	fl oz/a	STD1	A					
15	Ammonium sulfate		WG	17	lb/100 gal	STD1	A					
15	Roundup WeatherMax	4.5	SL	22	fl oz/a	4" weeds	C					
15	Ammonium sulfate		WG	17	lb/100 gal	4" weeds	C					
15	Roundup WeatherMax	4.5	SL	22	fl oz/a	Scout						
15	Ammonium sulfate		WG	17	lb/100 gal	Scout						



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Weed Code	Crop Code	Rating Data Type	Rating Unit	Rating Date	Trt-Eval Interval	BETVU Injury Percent	BETVU Injury Percent	CHEAL Control Percent	AMAPO Control Percent	BETVU % Sugar
						6/11/08	6/20/08	6/20/08	6/20/08	9/25/08
						27 DA-A	36 DA-A	36 DA-A	36 DA-A	133 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Grow Stg	Appl Code					
23	15" rows							0	0	99	99	15.8
23	Weed-Free											
23	Roundup WeatherMax	4.5	SL	22	fl oz/a	STD1	A					
23	Ammonium sulfate		WG	17	lb/100 gal	STD1	A					
23	Roundup WeatherMax	4.5	SL	22	fl oz/a	4" weeds	C					
23	Ammonium sulfate		WG	17	lb/100 gal	4" weeds	C					
23	Roundup WeatherMax	4.5	SL	22	fl oz/a	Scout						
23	Ammonium sulfate		WG	17	lb/100 gal	Scout						
24	15" rows							24	12	93	93	16.1
24	Betamix	1.3	EC	2	pt/a	STD1	A					
24	Upbeet	50	DF	0.5	oz/a	STD1	A					
24	Stinger	3	L	4	fl oz/a	STD1	A					
24	Activator 90		L	0.25	% v/v	STD1	A					
24	Betamix	1.3	EC	3	pt/a	STD2	B					
24	Upbeet	50	DF	0.5	oz/a	STD2	B					
24	Stinger	3	L	4	fl oz/a	STD2	B					
24	Activator 90		L	0.25	% v/v	STD2	B					
LSD (P=.10)								3.0	2.6	8.0	9.0	0.71
Standard Deviation								2.6	2.2	6.7	7.6	0.60
CV								83.36	160.08	10.38	11.61	3.77

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Weed Code									
Crop Code							BETVU	BETVU	BETVU
Rating Data Type							yield	RWST	RWSA
Rating Unit							ton/A	#/ton	#/acre
Rating Date							9/25/08	9/25/08	9/25/08
Trt-Eval Interval							133 DA-A	133 DA-A	133 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code			
1	15" rows							33.3	226.6	7483
1	Roundup WeatherMax	4.5	SL	22	fl oz/a	2" weeds	B			
1	Ammonium sulfate		WG	17	lb/100 gal	2" weeds	B			
1	Roundup WeatherMax	4.5	SL	22	fl oz/a	+ 4" wds	E			
1	Ammonium sulfate		WG	17	lb/100 gal	+ 4" wds	E			
2	15" rows							37.6	231.8	8712
2	Roundup WeatherMax	4.5	SL	22	fl oz/a	2" weeds	B			
2	Ammonium sulfate		WG	17	lb/100 gal	2" weeds	B			
2	Roundup WeatherMax	4.5	SL	22	fl oz/a	+ 4" wds	D			
2	Ammonium sulfate		WG	17	lb/100 gal	+ 4" wds	D			
2	Roundup WeatherMax	4.5	SL	22	fl oz/a	Scout				
2	Ammonium sulfate		WG	17	lb/100 gal	Scout				
3	15" rows							32.0	237.2	7564
3	Roundup WeatherMax	4.5	SL	22	fl oz/a	4" weeds	C			
3	Ammonium sulfate		WG	17	lb/100 gal	4" weeds	C			
3	Roundup WeatherMax	4.5	SL	22	fl oz/a	+ 4" wds				
3	Ammonium sulfate		WG	17	lb/100 gal	+ 4" wds				
4	15" rows							32.4	236.2	7653
4	Roundup WeatherMax	4.5	SL	22	fl oz/a	4" weeds	C			
4	Ammonium sulfate		WG	17	lb/100 gal	4" weeds	C			
5	20" rows							31.4	233.6	7385
5	Roundup WeatherMax	4.5	SL	22	fl oz/a	2" weeds	B			
5	Ammonium sulfate		WG	17	lb/100 gal	2" weeds	B			
5	Roundup WeatherMax	4.5	SL	22	fl oz/a	+ 4" wds	E			
5	Ammonium sulfate		WG	17	lb/100 gal	+ 4" wds	E			
6	20" rows							36.5	234.9	8585
6	Roundup WeatherMax	4.5	SL	22	fl oz/a	2" weeds	B			
6	Ammonium sulfate		WG	17	lb/100 gal	2" weeds	B			
6	Roundup WeatherMax	4.5	SL	22	fl oz/a	+ 4" wds	D			
6	Ammonium sulfate		WG	17	lb/100 gal	+ 4" wds	D			
6	Roundup WeatherMax	4.5	SL	22	fl oz/a	Scout				
6	Ammonium sulfate		WG	17	lb/100 gal	Scout				
7	20" rows							31.8	243.0	7682
7	Roundup WeatherMax	4.5	SL	22	fl oz/a	4" weeds	C			
7	Ammonium sulfate		WG	17	lb/100 gal	4" weeds	C			
7	Roundup WeatherMax	4.5	SL	22	fl oz/a	+ 4" wds				
7	Ammonium sulfate		WG	17	lb/100 gal	+ 4" wds				
8	20" rows							32.6	238.6	7787
8	Roundup WeatherMax	4.5	SL	22	fl oz/a	4" weeds	C			
8	Ammonium sulfate		WG	17	lb/100 gal	4" weeds	C			

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Weed Code									
Crop Code							BETVU	BETVU	BETVU
Rating Data Type							yield	RWST	RWSA
Rating Unit							ton/A	#/ton	#/acre
Rating Date							9/25/08	9/25/08	9/25/08
Trt-Eval Interval							133 DA-A	133 DA-A	133 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code			
9	30" rows							38.0	228.0	8641
9	Roundup WeatherMax	4.5	SL	22	fl oz/a	2" weeds	B			
9	Ammonium sulfate		WG	17	lb/100 gal	2" weeds	B			
9	Roundup WeatherMax	4.5	SL	22	fl oz/a	+ 4" wds	E			
9	Ammonium sulfate		WG	17	lb/100 gal	+ 4" wds	E			
10	30" rows							36.0	235.1	8844
10	Roundup WeatherMax	4.5	SL	22	fl oz/a	2" weeds	B			
10	Ammonium sulfate		WG	17	lb/100 gal	2" weeds	B			
10	Roundup WeatherMax	4.5	SL	22	fl oz/a	+ 4" wds	D			
10	Ammonium sulfate		WG	17	lb/100 gal	+ 4" wds	D			
10	Roundup WeatherMax	4.5	SL	22	fl oz/a	Scout				
10	Ammonium sulfate		WG	17	lb/100 gal	Scout				
11	30" rows							34.4	230.8	7914
11	Roundup WeatherMax	4.5	SL	22	fl oz/a	4" weeds	C			
11	Ammonium sulfate		WG	17	lb/100 gal	4" weeds	C			
11	Roundup WeatherMax	4.5	SL	22	fl oz/a	+ 4" wds				
11	Ammonium sulfate		WG	17	lb/100 gal	+ 4" wds				
12	30" rows							30.9	230.0	7282
12	Roundup WeatherMax	4.5	SL	22	fl oz/a	4" weeds	C			
12	Ammonium sulfate		WG	17	lb/100 gal	4" weeds	C			
13	30" rows							27.3	228.0	6223
13	Roundup WeatherMax	4.5	SL	22	fl oz/a	6" weeds	D			
13	Ammonium sulfate		WG	17	lb/100 gal	6" weeds	D			
13	Roundup WeatherMax	4.5	SL	22	fl oz/a	+ 4" wds				
13	Ammonium sulfate		WG	17	lb/100 gal	+ 4" wds				
14	30" rows							9.3	224.7	1256
14	Untreated									
15	30" rows							35.4	237.3	8381
15	Weed-Free									
15	Roundup WeatherMax	4.5	SL	22	fl oz/a	STD1	A			
15	Ammonium sulfate		WG	17	lb/100 gal	STD1	A			
15	Roundup WeatherMax	4.5	SL	22	fl oz/a	4" weeds	C			
15	Ammonium sulfate		WG	17	lb/100 gal	4" weeds	C			
15	Roundup WeatherMax	4.5	SL	22	fl oz/a	Scout				
15	Ammonium sulfate		WG	17	lb/100 gal	Scout				





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Rating Data Type						yield	RWST	RWSA
Rating Unit						ton/A	#/ton	#/acre
Rating Date						9/25/08	9/25/08	9/25/08
Trt-Eval Interval						133 DA-A	133 DA-A	133 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Grow Stg	Appl Code			
23	15" rows							37.4	229.9	8572
23	Weed-Free									
23	Roundup WeatherMax	4.5	SL	22	fl oz/a	STD1	A			
23	Ammonium sulfate		WG	17	lb/100 gal	STD1	A			
23	Roundup WeatherMax	4.5	SL	22	fl oz/a	4" weeds	C			
23	Ammonium sulfate		WG	17	lb/100 gal	4" weeds	C			
23	Roundup WeatherMax	4.5	SL	22	fl oz/a	Scout				
23	Ammonium sulfate		WG	17	lb/100 gal	Scout				
24	15" rows							34.0	235.5	7980
24	Betamix	1.3	EC	2	pt/a	STD1	A			
24	Upbeet	50	DF	0.5	oz/a	STD1	A			
24	Stinger	3	L	4	fl oz/a	STD1	A			
24	Activator 90		L	0.25	% v/v	STD1	A			
24	Betamix	1.3	EC	3	pt/a	STD2	B			
24	Upbeet	50	DF	0.5	oz/a	STD2	B			
24	Stinger	3	L	4	fl oz/a	STD2	B			
24	Activator 90		L	0.25	% v/v	STD2	B			
LSD (P=.10)								5.54	13.68	1186.7
Standard Deviation								4.69	11.57	1004.4
CV								15.56	5.0	14.37