

Evaluation of cover crops and reduced tillage with Roundup Ready Sugar Beets

Trial ID: SB07-08BB Study Dir.: Sprague, Powell
 Conducted: Bean & Beet S Investigator: Christy Sprague

Date Planted: 4/22/08 Row Spacing: 30 IN
 Variety: Hillshog 9027 RR No. of Repts: 4
 Population: 4.5" seed spacing % OM: 3.0
 Soil Type: Clay pH: 8.0
 Plot Size: 15 X 33 FT Design: RANDOMIZED COMPLETE BLOCK

Tillage: Strip-till and no-till into fall seeded cover crops
 Fertilizer: 3/08: broadcast Urea at 75# N/Acre

Crop and Weed Description

Weed	Code	Common Name	Scientific Name
1.	TRZAX	WHEAT, VOLUNTEER	TRITICUM AESTIVUM L.
2.	THLAR	PENNYCRESS, FIELD	THLASPI ARVENSE L.
3.	TAROF	DANDELION, COMMON	TARAXACUM OFFICINALE
Crop	Code	Common Name	
1.	BETVU	BEET, SUGAR	

Application Description

	A	B	C	D
Application Timing:	A 14EPP	B atPlant	C EPOS	
Date Treated:	4/6/08	4/22/08	5/6/08	
Time Treated:	5:45 PM	5:30 pm	10:30 pm	
% Cloud Cover:	80	99	95	
Air Temp., Unit:	62 F	72 F	51 F	
% Relative Humidity:	36	40	45	
Wind Speed/Unit/Dir:	3 mph SE	5 mph SW	5 mph NE	
Soil Temp., Unit:	52 F	64 F	53 F	
Soil/Leaf Surface M:	5 5	5 5	5 5	
Soil Moist (1=w 5=d):	3	4	5	

Crop Stage at Each Application

	A	B	C	D
Crop Name:	BETVU	BETVU	BETVU	BETVU
Height (In.):	--	--	.25-.5	
Stage (L):	--	--	coty	

Weed Stage at Each Application

	A	B	C	D
Weed 1 Name:	TRZAX	TRZAX	TRZAX	TRZAX
Height (In.):	4-5	10	10-12	
Stage (L):	tillering	feekes 5	feekes 7	
Weed 2 Name:	THLAR	THLAR	THLAR	THLAR
Height (In.):	--	1-3	1-12	
Stage (L):	--	rosette	rose-flwr	
Weed 3 Name:	TAROF	TAROF	TAROF	TAROF
Height (In.):	--	--	4-6 dia	
Stage (L):	--	--	flowering	

Weed Density (plants/sq. ft.)

	1	2
Date:	7/25/08	7/25/08
Weed Name:	ABUTH	POLCO
Density:	0.125	0.125

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	20	20	180	19	water	27
B	Cub	3.8	AirMix	11003	20	20	180	19	water	27
C	Cub	3.8	AirMix	11003	27	20	180	19	water	27
D										

Comments: 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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EVALUATION OF COVER CROPS AND REDUCED TILLAGE WITH ROUNDUP READY SUGARBEETS (SB07-08)

Christy Sprague, Molly Buckham and Gary Powell

MSU Crop and Soil Sciences

The recent commercialization of Roundup Ready sugarbeets may allow for changes in current sugarbeet production practices. A field study was conducted to investigate the effects of cover crops and strip tillage on weed management, stand establishment, and crop yield in Roundup Ready (glyphosate-resistant) sugarbeet. Cover crops included in this study were oilseed radish, oriental mustard, oats, winter wheat and no cover as a control. These crops were planted the previous fall and all winter killed except for wheat. Two weeks before planting, half of the plots were strip-tilled. Roundup WeatherMax at 22 oz/A plus ammonium sulfate at 2% v/v was applied two weeks prior to planting in the winter wheat plots and applied at planting and two weeks after planting in all other plots. Weed populations were counted 15, 30, and 50 days after planting. Sugarbeet stand was evaluated mid-season and at harvest and were harvested for yield. There was a significant interaction between cover crop and glyphosate application timing for sugarbeet stand and yield. The highest yielding treatments were plots that were planted in the no cover crop control (29.6 tons/A to 31.5 tons/A). The lowest yielding treatment was where wheat was controlled two weeks after planting (11.9 tons/A). Tillage also had a significant effect on sugarbeet yield. Average yields were significantly higher in the no-till system (25 tons/A) compared with the strip-till system (23 tons/A). Recoverable white sucrose per ton was highest in the treatments with radish as a cover crop 309 lb. Treatments with oriental mustard, oat, and no cover crop were similar with recoverable white sucrose per ton ranging from 244-246 lb. Winter wheat had the lowest recoverable white sucrose per ton (232 lb). Tillage did not have a significant effect on sugar quality. Overall results showed that treatments with no cover crop and no tillage had significantly higher yields than strip-till or cover crop treatments from the first year of this trial. This trial is being repeated in 2009.

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Crop Code	TRZAW				
Rating Data Type	count	count	count	count	count
Rating Unit	(2) .25M	(2) .25M	(2) .25M	(2) .25M	100' row
Rating Date	5/6/08	5/6/08	5/6/08	5/6/08	9/18/08
Trt-Eval Interval	30 DA-A	30 DA-A	30 DA-A	30 DA-A	165 DA-A
# Subsamples, Dec.	1	1	1	1	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code						
1	Oat Cover											170	
1	Strip-till												
1	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D						
1	AMS		WG	17	lb/100 gal	POST	D						
2	Oat Cover											180	
2	Strip-till												
2	Roundup WeatherMax	4.5	SL	22	fl oz/a	PRE	B						
2	AMS		WG	17	lb/100 gal	PRE	B						
2	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D						
2	AMS		WG	17	lb/100 gal	POST	D						
3	Oat Cover											191	
3	Strip-till												
3	Roundup WeatherMax	4.5	SL	22	fl oz/a	EPOS	C						
3	AMS		WG	17	lb/100 gal	EPOS	C						
3	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D						
3	AMS		WG	17	lb/100 gal	POST	D						
4	Oat Cover											182	
4	No-till												
4	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D						
4	AMS		WG	17	lb/100 gal	POST	D						
5	Oat Cover											193	
5	No-till												
5	Roundup WeatherMax	4.5	SL	22	fl oz/a	PRE	B						
5	AMS		WG	17	lb/100 gal	PRE	B						
5	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D						
5	AMS		WG	17	lb/100 gal	POST	D						
6	Oat Cover							5.3	0.0	1.0	0.0	0.3	185
6	No-till												
6	Roundup WeatherMax	4.5	SL	22	fl oz/a	EPOS	C						
6	AMS		WG	17	lb/100 gal	EPOS	C						
6	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D						
6	AMS		WG	17	lb/100 gal	POST	D						
7	Wheat Cover											202	
7	No-till												
7	Roundup WeatherMax	4.5	SL	22	fl oz/a	14 EPP	A						
7	AMS		WG	17	lb/100 gal	14 EPP	A						
7	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D						
7	AMS		WG	17	lb/100 gal	POST	D						

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Rating Date	5/6/08	5/6/08	5/6/08	5/6/08	9/18/08
Trt-Eval Interval	30 DA-A	30 DA-A	30 DA-A	30 DA-A	165 DA-A
# Subsamples, Dec.	1	1	1	1	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code						
8	Wheat Cover											165	
8	No-till												
8	Roundup WeatherMax	4.5	SL	22	fl oz/a	PRE	B						
8	AMS		WG	17	lb/100 gal	PRE	B						
8	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D						
8	AMS		WG	17	lb/100 gal	POST	D						
9	Wheat Cover							2.5	6.0	0.0	0.0	0.0	150
9	No-till												
9	Roundup WeatherMax	4.5	SL	22	fl oz/a	EPOS	C						
9	AMS		WG	17	lb/100 gal	EPOS	C						
9	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D						
9	AMS		WG	17	lb/100 gal	POST	D						
10	Wheat Cover												158
10	Strip-till												
10	Roundup WeatherMax	4.5	SL	22	fl oz/a	14 EPP	A						
10	AMS		WG	17	lb/100 gal	14 EPP	A						
10	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D						
10	AMS		WG	17	lb/100 gal	POST	D						
11	Wheat Cover												95
11	Strip-till												
11	Roundup WeatherMax	4.5	SL	22	fl oz/a	PRE	B						
11	AMS		WG	17	lb/100 gal	PRE	B						
11	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D						
11	AMS		WG	17	lb/100 gal	POST	D						
12	Wheat Cover												107
12	Strip-till												
12	Roundup WeatherMax	4.5	SL	22	fl oz/a	EPOS	C						
12	AMS		WG	17	lb/100 gal	EPOS	C						
12	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D						
12	AMS		WG	17	lb/100 gal	POST	D						
13	Oil Seed Radish Cover												181
13	Strip-till												
13	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D						
13	AMS		WG	17	lb/100 gal	POST	D						
14	Oil Seed Radish Cover												189
14	Strip-till												
14	Roundup WeatherMax	4.5	SL	22	fl oz/a	PRE	B						
14	AMS		WG	17	lb/100 gal	PRE	B						
14	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D						
14	AMS		WG	17	lb/100 gal	POST	D						

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Trt-Eval Interval	30 DA-A	30 DA-A	30 DA-A	30 DA-A	165 DA-A
# Subsamples, Dec.	1	1	1	1	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code						
15	Oil Seed Radish Cover											198	
15	Strip-till												
15	Roundup WeatherMax	4.5	SL	22	fl oz/a	EPOS	C						
15	AMS		WG	17	lb/100 gal	EPOS	C						
15	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D						
15	AMS		WG	17	lb/100 gal	POST	D						
16	Oil Seed Radish Cover											194	
16	No-till												
16	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D						
16	AMS		WG	17	lb/100 gal	POST	D						
17	Oil Seed Radish Cover											191	
17	No-till												
17	Roundup WeatherMax	4.5	SL	22	fl oz/a	PRE	B						
17	AMS		WG	17	lb/100 gal	PRE	B						
17	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D						
17	AMS		WG	17	lb/100 gal	POST	D						
18	Oil Seed Radish Cover							3.5	0.0	0.0	0.3	0.3	203
18	No-till												
18	Roundup WeatherMax	4.5	SL	22	fl oz/a	EPOS	C						
18	AMS		WG	17	lb/100 gal	EPOS	C						
18	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D						
18	AMS		WG	17	lb/100 gal	POST	D						
19	Oriental Mustard Cover												204
19	No-till												
19	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D						
19	AMS		WG	17	lb/100 gal	POST	D						
20	Oriental Mustard Cover												181
20	No-till												
20	Roundup WeatherMax	4.5	SL	22	fl oz/a	PRE	B						
20	AMS		WG	17	lb/100 gal	PRE	B						
20	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D						
20	AMS		WG	17	lb/100 gal	POST	D						
21	Oriental Mustard Cover							6.8	0.0	0.3	0.0	0.0	191
21	No-till												
21	Roundup WeatherMax	4.5	SL	22	fl oz/a	EPOS	C						
21	AMS		WG	17	lb/100 gal	EPOS	C						
21	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D						
21	AMS		WG	17	lb/100 gal	POST	D						
22	Oriental Mustard Cover												176
22	Strip-till												
22	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D						
22	AMS		WG	17	lb/100 gal	POST	D						

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# Subsamples, Dec.	1	1	1	1	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	
23	Oriental Mustard Cover							180
23	Strip-till							
23	Roundup WeatherMax	4.5	SL	22	fl oz/a	PRE	B	
23	AMS		WG	17	lb/100 gal	PRE	B	
23	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D	
23	AMS		WG	17	lb/100 gal	POST	D	
24	Oriental Mustard Cover							160
24	Strip-till							
24	Roundup WeatherMax	4.5	SL	22	fl oz/a	EPOS	C	
24	AMS		WG	17	lb/100 gal	EPOS	C	
24	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D	
24	AMS		WG	17	lb/100 gal	POST	D	
25	No Cover							199
25	Strip-till							
25	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D	
25	AMS		WG	17	lb/100 gal	POST	D	
26	No Cover							200
26	Strip-till							
26	Roundup WeatherMax	4.5	SL	22	fl oz/a	PRE	B	
26	AMS		WG	17	lb/100 gal	PRE	B	
26	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D	
26	AMS		WG	17	lb/100 gal	POST	D	
27	No Cover							209
27	Strip-till							
27	Roundup WeatherMax	4.5	SL	22	fl oz/a	EPOS	C	
27	AMS		WG	17	lb/100 gal	EPOS	C	
27	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D	
27	AMS		WG	17	lb/100 gal	POST	D	
28	No Cover							222
28	No-till							
28	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D	
28	AMS		WG	17	lb/100 gal	POST	D	
29	No Cover							226
29	No-till							
29	Roundup WeatherMax	4.5	SL	22	fl oz/a	PRE	B	
29	AMS		WG	17	lb/100 gal	PRE	B	
29	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D	
29	AMS		WG	17	lb/100 gal	POST	D	

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Trt-Eval Interval	30 DA-A	30 DA-A	30 DA-A	30 DA-A	165 DA-A
# Subsamples, Dec.	1	1	1	1	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	THLAR	CIRAR	CHEAL	TAROF	BETVU	
30	No Cover							2.8	0.0	0.8	0.8	0.0	232
30	No-till												
30	Roundup WeatherMax	4.5	SL	22	fl oz/a	EPOS	C						
30	AMS		WG	17	lb/100 gal	EPOS	C						
30	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D						
30	AMS		WG	17	lb/100 gal	POST	D						
31	Conventional Till												235
31	Untreated												
32	Conventional Till							0.0	0.0	0.0	0.0	0.0	234
32	Roundup WeatherMax	4.5	SL	22	fl oz/a	EPOS	C						
32	AMS		WG	17	lb/100 gal	EPOS	C						
32	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D						
32	AMS		WG	17	lb/100 gal	POST	D						
33	Conventional Till												229
33	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D						
33	AMS		WG	17	lb/100 gal	POST	D						
34	Conventional Till												245
34	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D						
34	AMS		WG	17	lb/100 gal	POST	D						
35	Conventional Till												213
35	Roundup WeatherMax	4.5	SL	22	fl oz/a	EPOS	C						
35	AMS		WG	17	lb/100 gal	EPOS	C						
35	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D						
36	Conventional Till												225
36	Untreated												
LSD (P=.10)								4.96	4.46	1.24	0.78	0.33	35.2
Standard Deviation								4.00	3.59	0.99	0.63	0.27	30.0
CV								115.69	358.57	298.21	376.07	320.71	15.68

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Crop Code

Rating Data Type

Rating Unit

Rating Date

Trt-Eval Interval

Subsamples, Dec.

BETVU yield Ton/acre 9/18/08 165 DA-A 1	BETVU % sugar 9/18/08 165 DA-A 1	BETVU RWST # / Ton 9/18/08 165 DA-A 1	BETVU RWSA # / Acre 9/18/08 165 DA-A 0
--	--	--	---

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	BETVU yield	BETVU % sugar	BETVU RWST	BETVU RWSA
1	Oat Cover							20.8	16.6	243.5	5054
1	Strip-till										
1	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D				
1	AMS		WG	17	lb/100 gal	POST	D				
2	Oat Cover							23.6	15.9	231.0	5534
2	Strip-till										
2	Roundup WeatherMax	4.5	SL	22	fl oz/a	PRE	B				
2	AMS		WG	17	lb/100 gal	PRE	B				
2	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D				
2	AMS		WG	17	lb/100 gal	POST	D				
3	Oat Cover							24.3	16.8	247.3	6013
3	Strip-till										
3	Roundup WeatherMax	4.5	SL	22	fl oz/a	EPOS	C				
3	AMS		WG	17	lb/100 gal	EPOS	C				
3	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D				
3	AMS		WG	17	lb/100 gal	POST	D				
4	Oat Cover							19.2	16.5	241.2	4650
4	No-till										
4	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D				
4	AMS		WG	17	lb/100 gal	POST	D				
5	Oat Cover							25.4	17.0	250.7	6374
5	No-till										
5	Roundup WeatherMax	4.5	SL	22	fl oz/a	PRE	B				
5	AMS		WG	17	lb/100 gal	PRE	B				
5	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D				
5	AMS		WG	17	lb/100 gal	POST	D				
6	Oat Cover							23.7	16.8	249.1	5891
6	No-till										
6	Roundup WeatherMax	4.5	SL	22	fl oz/a	EPOS	C				
6	AMS		WG	17	lb/100 gal	EPOS	C				
6	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D				
6	AMS		WG	17	lb/100 gal	POST	D				
7	Wheat Cover							23.4	16.7	241.7	5658
7	No-till										
7	Roundup WeatherMax	4.5	SL	22	fl oz/a	14 EPP	A				
7	AMS		WG	17	lb/100 gal	14 EPP	A				
7	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D				
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Rating Unit

Rating Date

Trt-Eval Interval

Subsamples, Dec.

BETVU yield Ton/acre 9/18/08 165 DA-A 1	BETVU % sugar 9/18/08 165 DA-A 1	BETVU RWST # / Ton 9/18/08 165 DA-A 1	BETVU RWSA # / Acre 9/18/08 165 DA-A 0
--	--	--	---

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	BETVU yield	BETVU % sugar	BETVU RWST	BETVU RWSA
8	Wheat Cover							18.1	16.0	229.7	4187
8	No-till										
8	Roundup WeatherMax	4.5	SL	22	fl oz/a	PRE	B				
8	AMS		WG	17	lb/100 gal	PRE	B				
8	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D				
8	AMS		WG	17	lb/100 gal	POST	D				
9	Wheat Cover							11.9	15.4	221.3	2652
9	No-till										
9	Roundup WeatherMax	4.5	SL	22	fl oz/a	EPOS	C				
9	AMS		WG	17	lb/100 gal	EPOS	C				
9	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D				
9	AMS		WG	17	lb/100 gal	POST	D				
10	Wheat Cover							21.0	16.7	242.2	5090
10	Strip-till										
10	Roundup WeatherMax	4.5	SL	22	fl oz/a	14 EPP	A				
10	AMS		WG	17	lb/100 gal	14 EPP	A				
10	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D				
10	AMS		WG	17	lb/100 gal	POST	D				
11	Wheat Cover							16.7	16.1	231.0	3874
11	Strip-till										
11	Roundup WeatherMax	4.5	SL	22	fl oz/a	PRE	B				
11	AMS		WG	17	lb/100 gal	PRE	B				
11	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D				
11	AMS		WG	17	lb/100 gal	POST	D				
12	Wheat Cover							11.9	15.8	228.1	2719
12	Strip-till										
12	Roundup WeatherMax	4.5	SL	22	fl oz/a	EPOS	C				
12	AMS		WG	17	lb/100 gal	EPOS	C				
12	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D				
12	AMS		WG	17	lb/100 gal	POST	D				
13	Oil Seed Radish Cover							23.4	16.5	242.1	5656
13	Strip-till										
13	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D				
13	AMS		WG	17	lb/100 gal	POST	D				
14	Oil Seed Radish Cover							23.6	17.0	251.4	5932
14	Strip-till										
14	Roundup WeatherMax	4.5	SL	22	fl oz/a	PRE	B				
14	AMS		WG	17	lb/100 gal	PRE	B				
14	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D				
14	AMS		WG	17	lb/100 gal	POST	D				

MSU Weed Science Research Program

Evaluation of cover crops and reduced tillage with Roundup Ready Sugar Beets

Trial ID: SB07-08BB
 Conducted: Bean & Beet S

Study Dir.: Sprague, Powell
 Investigator: Christy Sprague

Weed Code

Crop Code

Rating Data Type

Rating Unit

Rating Date

Trt-Eval Interval

Subsamples, Dec.

BETVU yield Ton/acre 9/18/08	BETVU % sugar 9/18/08	BETVU RWST # / Ton 9/18/08	BETVU RWSA # / Acre 9/18/08
165 DA-A	165 DA-A	165 DA-A	165 DA-A
1	1	1	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	BETVU yield	BETVU % sugar	BETVU RWST	BETVU RWSA
15	Oil Seed Radish Cover							23.7	16.9	249.0	5914
15	Strip-till										
15	Roundup WeatherMax	4.5	SL	22	fl oz/a	EPOS	C				
15	AMS		WG	17	lb/100 gal	EPOS	C				
15	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D				
15	AMS		WG	17	lb/100 gal	POST	D				
16	Oil Seed Radish Cover							27.7	16.8	246.7	6854
16	No-till										
16	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D				
16	AMS		WG	17	lb/100 gal	POST	D				
17	Oil Seed Radish Cover							29.8	16.7	245.1	7318
17	No-till										
17	Roundup WeatherMax	4.5	SL	22	fl oz/a	PRE	B				
17	AMS		WG	17	lb/100 gal	PRE	B				
17	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D				
17	AMS		WG	17	lb/100 gal	POST	D				
18	Oil Seed Radish Cover							28.6	17.1	252.2	7199
18	No-till										
18	Roundup WeatherMax	4.5	SL	22	fl oz/a	EPOS	C				
18	AMS		WG	17	lb/100 gal	EPOS	C				
18	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D				
18	AMS		WG	17	lb/100 gal	POST	D				
19	Oriental Mustard Cover							23.5	16.8	243.9	5732
19	No-till										
19	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D				
19	AMS		WG	17	lb/100 gal	POST	D				
20	Oriental Mustard Cover							26.9	17.0	250.7	6737
20	No-till										
20	Roundup WeatherMax	4.5	SL	22	fl oz/a	PRE	B				
20	AMS		WG	17	lb/100 gal	PRE	B				
20	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D				
20	AMS		WG	17	lb/100 gal	POST	D				
21	Oriental Mustard Cover							26.1	16.8	249.2	6545
21	No-till										
21	Roundup WeatherMax	4.5	SL	22	fl oz/a	EPOS	C				
21	AMS		WG	17	lb/100 gal	EPOS	C				
21	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D				
21	AMS		WG	17	lb/100 gal	POST	D				
22	Oriental Mustard Cover							22.1	16.8	246.9	5460
22	Strip-till										
22	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D				
22	AMS		WG	17	lb/100 gal	POST	D				

MSU Weed Science Research Program

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 Conducted: Bean & Beet S

Study Dir.: Sprague, Powell
 Investigator: Christy Sprague

Weed Code

Crop Code

Rating Data Type

Rating Unit

Rating Date

Trt-Eval Interval

Subsamples, Dec.

BETVU yield Ton/acre 9/18/08 165 DA-A 1	BETVU % sugar 9/18/08 165 DA-A 1	BETVU RWST # / Ton 9/18/08 165 DA-A 1	BETVU RWSA # / Acre 9/18/08 165 DA-A 0
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Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code				
23	Oriental Mustard Cover							23.0	16.4	241.1	5558
23	Strip-till										
23	Roundup WeatherMax	4.5	SL	22	fl oz/a	PRE	B				
23	AMS		WG	17	lb/100 gal	PRE	B				
23	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D				
23	AMS		WG	17	lb/100 gal	POST	D				
24	Oriental Mustard Cover							22.5	16.7	244.8	5525
24	Strip-till										
24	Roundup WeatherMax	4.5	SL	22	fl oz/a	EPOS	C				
24	AMS		WG	17	lb/100 gal	EPOS	C				
24	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D				
24	AMS		WG	17	lb/100 gal	POST	D				
25	No Cover							26.5	16.8	246.4	6525
25	Strip-till										
25	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D				
25	AMS		WG	17	lb/100 gal	POST	D				
26	No Cover							30.6	16.8	247.7	7583
26	Strip-till										
26	Roundup WeatherMax	4.5	SL	22	fl oz/a	PRE	B				
26	AMS		WG	17	lb/100 gal	PRE	B				
26	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D				
26	AMS		WG	17	lb/100 gal	POST	D				
27	No Cover							31.5	16.8	245.4	7717
27	Strip-till										
27	Roundup WeatherMax	4.5	SL	22	fl oz/a	EPOS	C				
27	AMS		WG	17	lb/100 gal	EPOS	C				
27	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D				
27	AMS		WG	17	lb/100 gal	POST	D				
28	No Cover							26.6	16.7	242.4	6451
28	No-till										
28	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D				
28	AMS		WG	17	lb/100 gal	POST	D				
29	No Cover							33.4	16.6	241.9	8086
29	No-till										
29	Roundup WeatherMax	4.5	SL	22	fl oz/a	PRE	B				
29	AMS		WG	17	lb/100 gal	PRE	B				
29	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D				
29	AMS		WG	17	lb/100 gal	POST	D				

MSU Weed Science Research Program

Evaluation of cover crops and reduced tillage with Roundup Ready Sugar Beets

Trial ID: SB07-08BB
 Conducted: Bean & Beet S

Study Dir.: Sprague, Powell
 Investigator: Christy Sprague

Weed Code								BETVU	BETVU	BETVU	BETVU
Crop Code								yield	% sugar	RWST	RWSA
Rating Data Type								Ton/acre		# / Ton	# / Acre
Rating Unit								9/18/08	9/18/08	9/18/08	9/18/08
Rating Date								165 DA-A	165 DA-A	165 DA-A	165 DA-A
Trt-Eval Interval								1	1	1	0
# Subsamples, Dec.											
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code				
30	No Cover							34.8	16.5	243.4	8457
30	No-till										
30	Roundup WeatherMax	4.5	SL	22	fl oz/a	EPOS	C				
30	AMS		WG	17	lb/100 gal	EPOS	C				
30	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D				
30	AMS		WG	17	lb/100 gal	POST	D				
31	Conventional Till							31.4	16.6	244.5	7676
31	Untreated										
32	Conventional Till							29.2	16.5	241.8	7064
32	Roundup WeatherMax	4.5	SL	22	fl oz/a	EPOS	C				
32	AMS		WG	17	lb/100 gal	EPOS	C				
32	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D				
32	AMS		WG	17	lb/100 gal	POST	D				
33	Conventional Till							29.8	16.7	244.3	7271
33	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D				
33	AMS		WG	17	lb/100 gal	POST	D				
34	Conventional Till							34.2	16.6	243.4	8343
34	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D				
34	AMS		WG	17	lb/100 gal	POST	D				
35	Conventional Till							32.5	16.6	243.4	7914
35	Roundup WeatherMax	4.5	SL	22	fl oz/a	EPOS	C				
35	AMS		WG	17	lb/100 gal	EPOS	C				
35	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	D				
36	Conventional Till							30.2	16.9	245.5	7407
36	Untreated										
LSD (P=.10)								3.79	0.57	9.59	1016.3
Standard Deviation								3.23	0.49	8.18	866.8
CV								12.76	2.92	3.37	14.02