

MSU Weed Science Research Program

Evaluation of Sequence and Touchdown in Roundup Ready sugarbeet

Trial ID: SB0.05-10
Conducted: SVREC

Study Dir.: Sprague, Powell
Investigator: Christy Sprague

Date Planted: 3/31/2010 Row Spacing: 30 IN
Variety: Hilleshog 9042 No. of Reps: 4
Population: 4 1/4" spacing % OM: 3.0
Soil Type: Clay pH: 6.9
Plot Size: 10 X 30 FT Design: RANDOMIZED COMPLETE BLOCK

Tillage: Fall moldboard plow and spring field cultivator (twice)
Fertilizer: 125 lb/A of nitrogen was applied as urea prior to planting

Crop and Weed Description

Weed	Code	Common Name	Scientific Name
1.	POLPY	SMARTWEED, PENNSYLVANIA	POLYGONUM PENNSYLVANICUM L.
2.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
3.	AMASS	REDROOT PIGWEED, POWELL AMARANTH	AMARANTHUS SP.
Crop	Code	Common Name	
1.	BETVU	BEEET, SUGAR	

Application Description

	A	B	C
Application Timing:	2-leaf	6-leaf	8-leaf
Date Treated:	5/6/2010	5/24/2010	6/1/2010
Time Treated:	9:45am	10:20am	11:50am
% Cloud Cover:	45	15	0
Air Temp., Unit:	59 F	82 F	78 F
% Relative Humidity:	45	55	50
Wind Speed/Unit/Dir:	10 mph NW	3 mph E	3 mph w
Soil Temp., Unit:	56 F	69 F	74 F
Soil/Leaf Surface M:	5 5	5 5	2 3
Soil Moist (1=w 5=d):	3	3	4

Crop Stage at Each Application

	A	B	C
Crop Name:	BETVU	BETVU	BETVU
Height (In.):	1"	4-6"	6-8"
Stage (L):	2-4	6-8	9-10

Weed Stage at Each Application

	A	B	C
Weed 1 Name:	POLPY	POLPY	POLPY
Height (In.):	1-2"	2-4"	-
Stage (L):	4-5	12	-
Weed 2 Name:	CHEAL	CHEAL	CHEAL
Height (In.):	1/4-1"	3-5"	2"
Stage (L):	4-6	16	4-6
Weed 3 Name:	AMASS	AMASS	AMASS
Height (In.):	-	-	-
Stage (L):	-	-	-

Weed Density (plants/sq. ft.)

	1	2	3
Weed Name:	CHEAL	AMASS	POLPY
Density:	4	<1	1

Application Equipment

Appl	Sprayer Type	Speed MPH	Nozzle Type	Nozzle Size	Nozzle Height	Nozzle Spacing	Nozzle Width	Boom GPA	Carrier	PSI
A	Cub	3.8	AirMix	11003	21"	20"	100"	19	water	28
B	Cub	3.8	AirMix	11003	22"	20"	100"	19	water	28
C	Cub	3.8	AirMix	11003	26"	20"	100"	19	water	28

Comments: Sugarbeet seed treatment was Tach 45 and Beta Poncho 4M.

MSU Weed Science Research Program

Evaluation of Sequence and Touchdown in Roundup Ready sugarbeet

Trial ID: SB0.05-10
 Conducted: SVREC

Study Dir.: Sprague, Powell
 Investigator: Christy Sprague

Weed Code								CHEAL		POLPY		CHEAL		POLPY	
Crop Code		BETVU						BETVU				BETVU			
Rating Data Type		injury						injury				injury			
Rating Unit		percent						percent				percent			
Rating Date		5/20/2010						5/20/2010				5/20/2010			
Trt-Eval Interval		14 DA-A						14 DA-A				14 DA-A			
# Subsamples, Dec.		0						0				0			
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code								
1	Touchdown Total	4.17	L	24	fl oz/a	2-leaf	A	0	97	91	0	98	95	0	
1	AMS		WG	17	lb/100 gal	2-leaf	A								
1	Touchdown Total	4.17	L	24	fl oz/a	6-leaf	B								
1	AMS		WG	17	lb/100 gal	6-leaf	B								
1	Sequence	5.25	L	2.5	pt/a	8-leaf	C								
1	AMS		WG	17	lb/100 gal	8-leaf	C								
2	Touchdown Total	4.17	L	24	fl oz/a	2-leaf	A	0	96	93	3	94	93	3	
2	AMS		WG	17	lb/100 gal	2-leaf	A								
2	Sequence	5.25	L	2.5	pt/a	6-leaf	B								
2	AMS		WG	17	lb/100 gal	6-leaf	B								
2	Touchdown Total	4.17	L	24	fl oz/a	8-leaf	C								
2	AMS		WG	17	lb/100 gal	8-leaf	C								
3	Sequence	5.25	L	2.5	pt/a	2-leaf	A	0	84	89	0	99	93	1	
3	AMS		WG	17	lb/100 gal	2-leaf	A								
3	Touchdown Total	4.17	L	24	fl oz/a	6-leaf	B								
3	AMS		WG	17	lb/100 gal	6-leaf	B								
3	Touchdown Total	4.17	L	24	fl oz/a	8-leaf	C								
3	AMS		WG	17	lb/100 gal	8-leaf	C								
4	Untreated							0	0	0	0	0	0	0	
5	Sequence	5.25	L	2.5	pt/a	2-leaf	A	0	86	85	0	84	85	5	
5	AMS		WG	17	lb/100 gal	2-leaf	A								
5	Sequence	5.25	L	2.5	pt/a	6-leaf	B								
5	AMS		WG	17	lb/100 gal	6-leaf	B								
5	Touchdown Total	4.17	L	24	fl oz/a	8-leaf	C								
5	AMS		WG	17	lb/100 gal	8-leaf	C								
6	Touchdown Total	4.17	L	24	fl oz/a	2-leaf	A	0	96	95	0	99	95	0	
6	AMS		WG	17	lb/100 gal	2-leaf	A								
6	Touchdown Total	4.17	L	24	fl oz/a	6-leaf	B								
6	AMS		WG	17	lb/100 gal	6-leaf	B								
6	Touchdown Total	4.17	L	24	fl oz/a	8-leaf	C								
6	AMS		WG	17	lb/100 gal	8-leaf	C								
7	Sequence	5.25	L	2.5	pt/a	2-leaf	A	0	86	89	0	66	75	0	
7	AMS		WG	17	lb/100 gal	2-leaf	A								
8	Touchdown Total	4.17	L	24	fl oz/a	2-leaf	A	0	97	95	0	95	94	0	
8	AMS		WG	17	lb/100 gal	2-leaf	A								
8	Sequence	5.25	L	2.5	pt/a	6-leaf	B								
8	AMS		WG	17	lb/100 gal	6-leaf	B								
LSD (P=.05)								0.0	5.8	6.5	1.2	4.8	7.1	4.3	
Standard Deviation								0.0	3.9	4.4	0.8	3.3	4.8	2.9	
CV								0.0	4.92	5.57	205.64	4.14	6.09	266.86	

MSU Weed Science Research Program

Evaluation of Sequence and Touchdown in Roundup Ready sugarbeet

Trial ID: SB0.05-10
Conducted: SVREC

Study Dir.: Sprague, Powell
Investigator: Christy Sprague

								CHEAL	POLPY	AMASS	BETVU	CHEAL	POLPY
								control	control	control	injury	control	control
								percent	percent	percent	percent	percent	percent
								6/8/2010	6/8/2010	6/8/2010	6/28/2010	6/28/2010	6/28/2010
								33 DA-A	33 DA-A	33 DA-A	53 DA-A	53 DA-A	53 DA-A
								0	0	0	0	0	0
Trt	Treatment	Form	Form	Rate	Rate	Grow	Appl						
No.	Name	Conc	Type	Unit	Unit	Stg	Code						
1	Touchdown Total	4.17	L	24	fl oz/a	2-leaf	A	99	97	99	0	99	99
1	AMS		WG	17	lb/100 gal	2-leaf	A						
1	Touchdown Total	4.17	L	24	fl oz/a	6-leaf	B						
1	AMS		WG	17	lb/100 gal	6-leaf	B						
1	Sequence	5.25	L	2.5	pt/a	8-leaf	C						
1	AMS		WG	17	lb/100 gal	8-leaf	C						
2	Touchdown Total	4.17	L	24	fl oz/a	2-leaf	A	98	96	99	0	99	99
2	AMS		WG	17	lb/100 gal	2-leaf	A						
2	Sequence	5.25	L	2.5	pt/a	6-leaf	B						
2	AMS		WG	17	lb/100 gal	6-leaf	B						
2	Touchdown Total	4.17	L	24	fl oz/a	8-leaf	C						
2	AMS		WG	17	lb/100 gal	8-leaf	C						
3	Sequence	5.25	L	2.5	pt/a	2-leaf	A	99	94	99	0	99	99
3	AMS		WG	17	lb/100 gal	2-leaf	A						
3	Touchdown Total	4.17	L	24	fl oz/a	6-leaf	B						
3	AMS		WG	17	lb/100 gal	6-leaf	B						
3	Touchdown Total	4.17	L	24	fl oz/a	8-leaf	C						
3	AMS		WG	17	lb/100 gal	8-leaf	C						
4	Untreated							0	0	0	0	0	0
5	Sequence	5.25	L	2.5	pt/a	2-leaf	A	94	93	99	0	99	99
5	AMS		WG	17	lb/100 gal	2-leaf	A						
5	Sequence	5.25	L	2.5	pt/a	6-leaf	B						
5	AMS		WG	17	lb/100 gal	6-leaf	B						
5	Touchdown Total	4.17	L	24	fl oz/a	8-leaf	C						
5	AMS		WG	17	lb/100 gal	8-leaf	C						
6	Touchdown Total	4.17	L	24	fl oz/a	2-leaf	A	99	98	99	0	99	99
6	AMS		WG	17	lb/100 gal	2-leaf	A						
6	Touchdown Total	4.17	L	24	fl oz/a	6-leaf	B						
6	AMS		WG	17	lb/100 gal	6-leaf	B						
6	Touchdown Total	4.17	L	24	fl oz/a	8-leaf	C						
6	AMS		WG	17	lb/100 gal	8-leaf	C						
7	Sequence	5.25	L	2.5	pt/a	2-leaf	A	61	69	99	0	63	66
7	AMS		WG	17	lb/100 gal	2-leaf	A						
8	Touchdown Total	4.17	L	24	fl oz/a	2-leaf	A	97	97	99	0	96	96
8	AMS		WG	17	lb/100 gal	2-leaf	A						
8	Sequence	5.25	L	2.5	pt/a	6-leaf	B						
8	AMS		WG	17	lb/100 gal	6-leaf	B						
LSD (P=.05)								2.7	6.5	0.0	0.0	2.8	4.6
Standard Deviation								1.9	4.4	0.0	0.0	1.9	3.2
CV								2.3	5.52	0.0	0.0	2.37	3.84

MSU Weed Science Research Program

Evaluation of Sequence and Touchdown in Roundup Ready sugarbeet

Trial ID: SB0.05-10
 Conducted: SVREC

Study Dir.: Sprague, Powell
 Investigator: Christy Sprague

Weed Code				AMASS	CHEAL	POLPY	AMASS	BETVU	BETVU				
Crop Code				control	control	control	control	count	% sugar				
Rating Data Type				percent	percent	percent	percent	100' row	percent				
Rating Unit				6/28/2010	9/14/2010	9/14/2010	9/14/2010	9/14/2010	9/14/2010				
Rating Date				53 DA-A	131 DA-A	131 DA-A	131 DA-A	131 DA-A	131 DA-A				
Trt-Eval Interval				0	0	0	0	0	1				
# Subsamples, Dec.				0	0	0	0	0	1				
Trt	Treatment	Form	Form	Rate	Grow	Appl							
No.	Name	Conc	Type	Unit	Stg	Code							
1	Touchdown Total	4.17	L	24	fl oz/a	2-leaf	A	99	99	99	99	185	18.4
1	AMS		WG	17	lb/100 gal	2-leaf	A						
1	Touchdown Total	4.17	L	24	fl oz/a	6-leaf	B						
1	AMS		WG	17	lb/100 gal	6-leaf	B						
1	Sequence	5.25	L	2.5	pt/a	8-leaf	C						
1	AMS		WG	17	lb/100 gal	8-leaf	C						
2	Touchdown Total	4.17	L	24	fl oz/a	2-leaf	A	99	98	99	99	171	18.2
2	AMS		WG	17	lb/100 gal	2-leaf	A						
2	Sequence	5.25	L	2.5	pt/a	6-leaf	B						
2	AMS		WG	17	lb/100 gal	6-leaf	B						
2	Touchdown Total	4.17	L	24	fl oz/a	8-leaf	C						
2	AMS		WG	17	lb/100 gal	8-leaf	C						
3	Sequence	5.25	L	2.5	pt/a	2-leaf	A	99	99	99	99	171	18.4
3	AMS		WG	17	lb/100 gal	2-leaf	A						
3	Touchdown Total	4.17	L	24	fl oz/a	6-leaf	B						
3	AMS		WG	17	lb/100 gal	6-leaf	B						
3	Touchdown Total	4.17	L	24	fl oz/a	8-leaf	C						
3	AMS		WG	17	lb/100 gal	8-leaf	C						
4	Untreated							0	0	0	0	126	18.0
5	Sequence	5.25	L	2.5	pt/a	2-leaf	A	99	99	99	99	190	18.2
5	AMS		WG	17	lb/100 gal	2-leaf	A						
5	Sequence	5.25	L	2.5	pt/a	6-leaf	B						
5	AMS		WG	17	lb/100 gal	6-leaf	B						
5	Touchdown Total	4.17	L	24	fl oz/a	8-leaf	C						
5	AMS		WG	17	lb/100 gal	8-leaf	C						
6	Touchdown Total	4.17	L	24	fl oz/a	2-leaf	A	97	99	99	95	179	17.7
6	AMS		WG	17	lb/100 gal	2-leaf	A						
6	Touchdown Total	4.17	L	24	fl oz/a	6-leaf	B						
6	AMS		WG	17	lb/100 gal	6-leaf	B						
6	Touchdown Total	4.17	L	24	fl oz/a	8-leaf	C						
6	AMS		WG	17	lb/100 gal	8-leaf	C						
7	Sequence	5.25	L	2.5	pt/a	2-leaf	A	97	40	73	95	168	18.5
7	AMS		WG	17	lb/100 gal	2-leaf	A						
8	Touchdown Total	4.17	L	24	fl oz/a	2-leaf	A	95	98	98	89	186	18.5
8	AMS		WG	17	lb/100 gal	2-leaf	A						
8	Sequence	5.25	L	2.5	pt/a	6-leaf	B						
8	AMS		WG	17	lb/100 gal	6-leaf	B						
LSD (P=.05)								4.0	4.5	4.5	5.4	31.2	0.75
Standard Deviation								2.7	3.1	3.1	3.7	21.2	0.51
CV								3.15	3.88	3.71	4.33	12.33	2.8

MSU Weed Science Research Program

Evaluation of Sequence and Touchdown in Roundup Ready sugarbeet

Trial ID: SB0.05-10
Conducted: SVRECStudy 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	BETVU RWST #/ton	BETVU RWSA #/acre
9/14/2010 131 DA-A	9/14/2010 131 DA-A	9/14/2010 131 DA-A
1	1	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code			
1	Touchdown Total	4.17	L	24	fl oz/a	2-leaf	A	24.7	270.1	6673
1	AMS		WG	17	lb/100 gal	2-leaf	A			
1	Touchdown Total	4.17	L	24	fl oz/a	6-leaf	B			
1	AMS		WG	17	lb/100 gal	6-leaf	B			
1	Sequence	5.25	L	2.5	pt/a	8-leaf	C			
1	AMS		WG	17	lb/100 gal	8-leaf	C			
2	Touchdown Total	4.17	L	24	fl oz/a	2-leaf	A	23.9	269.6	6443
2	AMS		WG	17	lb/100 gal	2-leaf	A			
2	Sequence	5.25	L	2.5	pt/a	6-leaf	B			
2	AMS		WG	17	lb/100 gal	6-leaf	B			
2	Touchdown Total	4.17	L	24	fl oz/a	8-leaf	C			
2	AMS		WG	17	lb/100 gal	8-leaf	C			
3	Sequence	5.25	L	2.5	pt/a	2-leaf	A	23.5	273.6	6442
3	AMS		WG	17	lb/100 gal	2-leaf	A			
3	Touchdown Total	4.17	L	24	fl oz/a	6-leaf	B			
3	AMS		WG	17	lb/100 gal	6-leaf	B			
3	Touchdown Total	4.17	L	24	fl oz/a	8-leaf	C			
3	AMS		WG	17	lb/100 gal	8-leaf	C			
4	Untreated							5.7	263.4	1490
5	Sequence	5.25	L	2.5	pt/a	2-leaf	A	24.2	267.6	6475
5	AMS		WG	17	lb/100 gal	2-leaf	A			
5	Sequence	5.25	L	2.5	pt/a	6-leaf	B			
5	AMS		WG	17	lb/100 gal	6-leaf	B			
5	Touchdown Total	4.17	L	24	fl oz/a	8-leaf	C			
5	AMS		WG	17	lb/100 gal	8-leaf	C			
6	Touchdown Total	4.17	L	24	fl oz/a	2-leaf	A	23.9	262.9	6291
6	AMS		WG	17	lb/100 gal	2-leaf	A			
6	Touchdown Total	4.17	L	24	fl oz/a	6-leaf	B			
6	AMS		WG	17	lb/100 gal	6-leaf	B			
6	Touchdown Total	4.17	L	24	fl oz/a	8-leaf	C			
6	AMS		WG	17	lb/100 gal	8-leaf	C			
7	Sequence	5.25	L	2.5	pt/a	2-leaf	A	18.6	272.8	5094
7	AMS		WG	17	lb/100 gal	2-leaf	A			
8	Touchdown Total	4.17	L	24	fl oz/a	2-leaf	A	24.5	275.1	6742
8	AMS		WG	17	lb/100 gal	2-leaf	A			
8	Sequence	5.25	L	2.5	pt/a	6-leaf	B			
8	AMS		WG	17	lb/100 gal	6-leaf	B			
LSD (P=.05)								3.89	12.21	1077.1
Standard Deviation								2.65	8.30	732.3
CV								12.52	3.08	12.83