

MSU Weed Science Research Program

Time of volunteer corn control in sugarbeet

Trial ID: SB04-13 Study Dir.: Harden, Sprague, Powell  
 Conducted: SVREC Investigator: Christy Sprague

**Date Planted:** May/02/2013 **Row Spacing:** 30 IN  
**Variety:** HM-173 RR **No. of Reps:** 4  
**Population:** 4 3/8" spacing **% OM:** 3.2  
**Soil Type:** Clay loam **pH:** 8.0  
**Plot Size:** 10 X 30 FT **Design:** RANDOMIZED COMPLETE BLOCK

**Tillage:** Fall moldboard plow. Spring field cultivate and soil finish.  
 Previous crop wheat.

**Crop and Weed Description**

Weed	Code	Common Name	Scientific Name
1.	ZEAMX	CORN, VOLUNTEER	ZEA MAYS L.
1.	BETVU	BEET, SUGAR	

**Application Description**

	A	B	C	D	E
<b>Application Timing:</b>	V2 Corn	V4 Corn	V6 Corn	V8 Corn	V10 Corn
<b>Date Treated:</b>	Jun/03/2013	Jun/13/2013	Jun/18/2013	Jun/26/2013	Jul/17/2013
<b>Time Treated:</b>	12:00 PM	3:00 PM	12:40 PM	12:00 PM	10:00 AM
<b>% Cloud Cover:</b>	10	15	0	50	10
<b>Air Temp., Unit:</b>	55 F	75 F	65 F	78 F	88 F
<b>% Relative Humidity:</b>	20	42	67	41	65
<b>Wind Speed/Unit/Dir:</b>	4 mph NW	7 mph N	6 mph NE	2 mph SW	2 mph NW
<b>Soil Temp., Unit:</b>	61 F	74 F	68 F	80 F	86 F
<b>Soil/Leaf Surface M:</b>	4 4	5 5	5 5	3 4	5 5
<b>Soil Moist (1=w 5=d):</b>	4	3	3	3	4

**Crop Stage at Each Application**

	A	B	C	D	E
<b>Crop Name:</b>	BETVU	BETVU	BETVU	BETVU	BETVU
<b>Height (In.):</b>	1.5"	4"	5"	6-8"	12-15"
<b>Stage (L):</b>	2	4-6	8	8-12	14-16

**Weed Stage at Each Application**

	A	B	C	D	E
<b>Weed 1 Name:</b>	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX
<b>Height (In.):</b>	5"	7"	12"	15-24"	52"
<b>Stage (L):</b>	V2	V4	V6	V8	V11

**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	24"	20"	100"	19	water	28
B	Cub	3.8	AirMix	11003	24"	20"	100"	19	water	28
C	Backpack	3.8	AIXR	11003	24"	20"	100"	19	water	28
D	Cub	3.8	AirMix	11003	28"	20"	100"	19	water	28
E	Backpack	3.8	AIXR	11003	60"	20"	100"	19	water	28

**Comments:** A blanket application of Roundup PowerMax (22 fl oz/A) + AMS (17 lb/100 gal) was applied 6/3/13.

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Weed Code	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX
Crop Code					
Rating Data Type	control	control	control	control	control
Rating Unit	percent	percent	percent	percent	percent
Rating Date	Jun/18/2013	Jun/26/2013	Jul/03/2013	Jul/17/2013	Jul/24/2013
Trt-Eval Interval	15 DA-A	13 DA-B	15 DA-C	21 DA-D	7 DA-E
# Subsamples, Dec.	0	0	0	0	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX
1	No volunteer corn							0	0	0	0	0
2	Volunteer corn (24)							97	99	99	99	99
3	Volunteer corn (24)											
	Roundup PowerMax	4	SL	22	fl oz/a	V2 v.c.	A					
	Select Max	0.97	L	6	fl oz/a	V2 v.c.	A					
	AMS		WG	17	lb/100 gal	V2 v.c.	A					
4	Volunteer corn (24)							95	99	99	99	99
	Roundup PowerMax	4	SL	22	fl oz/a	V2 v.c.	A					
	Assure II	0.88	L	4	fl oz/a	V2 v.c.	A					
	Surfactant		L	0.125	% v/v	V2 v.c.	A					
	AMS		WG	17	lb/100 gal	V2 v.c.	A					
5	Volunteer corn (24)									99	99	99
	Roundup PowerMax	4	SL	22	fl oz/a	V4 v.c.	B					
	Select Max	0.97	L	6	fl oz/a	V4 v.c.	B					
	AMS		WG	17	lb/100 gal	V4 v.c.	B					
6	Volunteer corn (24)									99	99	99
	Roundup PowerMax	4	SL	22	fl oz/a	V4 v.c.	B					
	Assure II	0.88	L	4	fl oz/a	V4 v.c.	B					
	Surfactant		L	0.125	% v/v	V4 v.c.	B					
	AMS		WG	17	lb/100 gal	V4 v.c.	B					
7	Volunteer corn (24)										99	99
	Roundup PowerMax	4	SL	22	fl oz/a	V6 v.c.	C					
	Select Max	0.97	L	9	fl oz/a	V6 v.c.	C					
	AMS		WG	17	lb/100 gal	V6 v.c.	C					
8	Volunteer corn (24)										99	99
	Roundup PowerMax	4	SL	22	fl oz/a	V6 v.c.	C					
	Assure II	0.88	L	5	fl oz/a	V6 v.c.	C					
	Surfactant		L	0.125	% v/v	V6 v.c.	C					
	AMS		WG	17	lb/100 gal	V6 v.c.	C					
9	Volunteer corn (24)										88	97
	Roundup PowerMax	4	SL	22	fl oz/a	V8 v.c.	D					
	Select Max	0.97	L	9	fl oz/a	V8 v.c.	D					
	AMS		WG	17	lb/100 gal	V8 v.c.	D					
10	Volunteer corn (24)										95	99
	Roundup PowerMax	4	SL	22	fl oz/a	V8 v.c.	D					
	Assure II	0.88	L	5	fl oz/a	V8 v.c.	D					
	Surfactant		L	0.125	% v/v	V8 v.c.	D					
	AMS		WG	17	lb/100 gal	V8 v.c.	D					
11	Volunteer corn (24)											8
	Roundup PowerMax	4	SL	22	fl oz/a	V10 v.c.	E					
	Select Max	0.97	L	12	fl oz/a	V10 v.c.	E					
	AMS		WG	17	lb/100 gal	V10 v.c.	E					
12	Volunteer corn (24)											5
	Roundup PowerMax	4	SL	22	fl oz/a	V10 v.c.	E					
	Assure II	0.88	L	8	fl oz/a	V10 v.c.	E					
	Surfactant		L	0.125	% v/v	V10 v.c.	E					
	AMS		WG	17	lb/100 gal	V10 v.c.	E					
LSD (P=.05)								4.8	0.0	0.0	3.2	2.8
CV								4.37	0.0	0.0	2.57	2.68

Means followed by same letter do not significantly differ (P=.05, LSD)

## MSU Weed Science Research Program

Weed Code					ZEAMX	ZEAMX	ZEAMX	ZEAMX
Crop Code								
Rating Data Type					control	control	control	control
Rating Unit					percent	percent	percent	percent
Rating Date					Jul/31/2013	Aug/15/2013	Aug/21/2013	Sep/06/2013
Trt-Eval Interval					14 DA-E	29 DA-E	35 DA-E	51 DA-E
# Subsamples, Dec.					0	0	0	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code				
1	No volunteer corn										
2	Volunteer corn (24)							0	0	0	0
3	Volunteer corn (24)							99	99	99	99
	Roundup PowerMax	4	SL	22	fl oz/a	V2 v.c.	A				
	Select Max	0.97	L	6	fl oz/a	V2 v.c.	A				
	AMS		WG	17	lb/100 gal	V2 v.c.	A				
4	Volunteer corn (24)							99	99	99	99
	Roundup PowerMax	4	SL	22	fl oz/a	V2 v.c.	A				
	Assure II	0.88	L	4	fl oz/a	V2 v.c.	A				
	Surfactant		L	0.125	% v/v	V2 v.c.	A				
	AMS		WG	17	lb/100 gal	V2 v.c.	A				
5	Volunteer corn (24)							99	99	99	99
	Roundup PowerMax	4	SL	22	fl oz/a	V4 v.c.	B				
	Select Max	0.97	L	6	fl oz/a	V4 v.c.	B				
	AMS		WG	17	lb/100 gal	V4 v.c.	B				
6	Volunteer corn (24)							99	99	99	99
	Roundup PowerMax	4	SL	22	fl oz/a	V4 v.c.	B				
	Assure II	0.88	L	4	fl oz/a	V4 v.c.	B				
	Surfactant		L	0.125	% v/v	V4 v.c.	B				
	AMS		WG	17	lb/100 gal	V4 v.c.	B				
7	Volunteer corn (24)							99	99	99	99
	Roundup PowerMax	4	SL	22	fl oz/a	V6 v.c.	C				
	Select Max	0.97	L	9	fl oz/a	V6 v.c.	C				
	AMS		WG	17	lb/100 gal	V6 v.c.	C				
8	Volunteer corn (24)							99	99	99	99
	Roundup PowerMax	4	SL	22	fl oz/a	V6 v.c.	C				
	Assure II	0.88	L	5	fl oz/a	V6 v.c.	C				
	Surfactant		L	0.125	% v/v	V6 v.c.	C				
	AMS		WG	17	lb/100 gal	V6 v.c.	C				
9	Volunteer corn (24)							97	98	99	99
	Roundup PowerMax	4	SL	22	fl oz/a	V8 v.c.	D				
	Select Max	0.97	L	9	fl oz/a	V8 v.c.	D				
	AMS		WG	17	lb/100 gal	V8 v.c.	D				
10	Volunteer corn (24)							99	99	99	99
	Roundup PowerMax	4	SL	22	fl oz/a	V8 v.c.	D				
	Assure II	0.88	L	5	fl oz/a	V8 v.c.	D				
	Surfactant		L	0.125	% v/v	V8 v.c.	D				
	AMS		WG	17	lb/100 gal	V8 v.c.	D				
11	Volunteer corn (24)							34	43	56	83
	Roundup PowerMax	4	SL	22	fl oz/a	V10 v.c.	E				
	Select Max	0.97	L	12	fl oz/a	V10 v.c.	E				
	AMS		WG	17	lb/100 gal	V10 v.c.	E				
12	Volunteer corn (24)							45	60	64	91
	Roundup PowerMax	4	SL	22	fl oz/a	V10 v.c.	E				
	Assure II	0.88	L	8	fl oz/a	V10 v.c.	E				
	Surfactant		L	0.125	% v/v	V10 v.c.	E				
	AMS		WG	17	lb/100 gal	V10 v.c.	E				
	LSD (P=.05)							5.7	5.4	6.2	4.1
	CV							5.02	4.57	5.15	3.21

Means followed by same letter do not significantly differ (P=.05, LSD)

MSU Weed Science Research Program

Weed Code	ZEAMX			
Crop Code		BETVU	BETVU	BETVU
Rating Data Type	control	stand count	% sugar	yield
Rating Unit	percent	100' row		ton/acre
Rating Date	Sep/12/2013	Sep/24/2013	Sep/25/2013	Sep/25/2013
Trt-Eval Interval	57 DA-E	69 DA-E	70 DA-E	70 DA-E
# Subsamples, Dec.	0	0	1	1

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code				
1	No volunteer corn								220	20.3	21.9
2	Volunteer corn (24)						0		196	20.0	13.7
3	Volunteer corn (24)						99		197	20.2	22.7
	Roundup PowerMax	4	SL	22	fl oz/a	V2 v.c.	A				
	Select Max	0.97	L	6	fl oz/a	V2 v.c.	A				
	AMS		WG	17	lb/100 gal	V2 v.c.	A				
4	Volunteer corn (24)						99	210	20.2	18.5	
	Roundup PowerMax	4	SL	22	fl oz/a	V2 v.c.	A				
	Assure II	0.88	L	4	fl oz/a	V2 v.c.	A				
	Surfactant		L	0.125	% v/v	V2 v.c.	A				
	AMS		WG	17	lb/100 gal	V2 v.c.	A				
5	Volunteer corn (24)						99	218	20.2	19.5	
	Roundup PowerMax	4	SL	22	fl oz/a	V4 v.c.	B				
	Select Max	0.97	L	6	fl oz/a	V4 v.c.	B				
	AMS		WG	17	lb/100 gal	V4 v.c.	B				
6	Volunteer corn (24)						99	192	20.2	20.1	
	Roundup PowerMax	4	SL	22	fl oz/a	V4 v.c.	B				
	Assure II	0.88	L	4	fl oz/a	V4 v.c.	B				
	Surfactant		L	0.125	% v/v	V4 v.c.	B				
	AMS		WG	17	lb/100 gal	V4 v.c.	B				
7	Volunteer corn (24)						99	198	20.4	19.5	
	Roundup PowerMax	4	SL	22	fl oz/a	V6 v.c.	C				
	Select Max	0.97	L	9	fl oz/a	V6 v.c.	C				
	AMS		WG	17	lb/100 gal	V6 v.c.	C				
8	Volunteer corn (24)						99	195	20.4	19.4	
	Roundup PowerMax	4	SL	22	fl oz/a	V6 v.c.	C				
	Assure II	0.88	L	5	fl oz/a	V6 v.c.	C				
	Surfactant		L	0.125	% v/v	V6 v.c.	C				
	AMS		WG	17	lb/100 gal	V6 v.c.	C				
9	Volunteer corn (24)						99	223	20.3	20.3	
	Roundup PowerMax	4	SL	22	fl oz/a	V8 v.c.	D				
	Select Max	0.97	L	9	fl oz/a	V8 v.c.	D				
	AMS		WG	17	lb/100 gal	V8 v.c.	D				
10	Volunteer corn (24)						99	196	20.1	18.3	
	Roundup PowerMax	4	SL	22	fl oz/a	V8 v.c.	D				
	Assure II	0.88	L	5	fl oz/a	V8 v.c.	D				
	Surfactant		L	0.125	% v/v	V8 v.c.	D				
	AMS		WG	17	lb/100 gal	V8 v.c.	D				
11	Volunteer corn (24)						92	205	20.4	15.1	
	Roundup PowerMax	4	SL	22	fl oz/a	V10 v.c.	E				
	Select Max	0.97	L	12	fl oz/a	V10 v.c.	E				
	AMS		WG	17	lb/100 gal	V10 v.c.	E				
12	Volunteer corn (24)						94	213	20.2	13.6	
	Roundup PowerMax	4	SL	22	fl oz/a	V10 v.c.	E				
	Assure II	0.88	L	8	fl oz/a	V10 v.c.	E				
	Surfactant		L	0.125	% v/v	V10 v.c.	E				
	AMS		WG	17	lb/100 gal	V10 v.c.	E				
LSD (P=.05)								1.0	30.2	0.73	2.94
CV								0.8	10.2	2.51	11.0

Means followed by same letter do not significantly differ (P=.05, LSD)

## MSU Weed Science Research Program

Weed Code		
Crop Code	BETVU	BETVU
Rating Data Type	RWST	RWSA
Rating Unit	# / ton	# / acre
Rating Date	Sep/25/2013	Sep/25/2013
Trt-Eval Interval	70 DA-E	70 DA-E
# Subsamples, Dec.	0	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code		
1	No volunteer corn							307	6729
2	Volunteer corn (24)							301	4103
3	Volunteer corn (24)							303	6865
	Roundup PowerMax	4	SL	22	fl oz/a	V2 v.c.	A		
	Select Max	0.97	L	6	fl oz/a	V2 v.c.	A		
	AMS		WG	17	lb/100 gal	V2 v.c.	A		
4	Volunteer corn (24)							303	5594
	Roundup PowerMax	4	SL	22	fl oz/a	V2 v.c.	A		
	Assure II	0.88	L	4	fl oz/a	V2 v.c.	A		
	Surfactant		L	0.125	% v/v	V2 v.c.	A		
	AMS		WG	17	lb/100 gal	V2 v.c.	A		
5	Volunteer corn (24)							304	5931
	Roundup PowerMax	4	SL	22	fl oz/a	V4 v.c.	B		
	Select Max	0.97	L	6	fl oz/a	V4 v.c.	B		
	AMS		WG	17	lb/100 gal	V4 v.c.	B		
6	Volunteer corn (24)							303	6093
	Roundup PowerMax	4	SL	22	fl oz/a	V4 v.c.	B		
	Assure II	0.88	L	4	fl oz/a	V4 v.c.	B		
	Surfactant		L	0.125	% v/v	V4 v.c.	B		
	AMS		WG	17	lb/100 gal	V4 v.c.	B		
7	Volunteer corn (24)							307	6007
	Roundup PowerMax	4	SL	22	fl oz/a	V6 v.c.	C		
	Select Max	0.97	L	9	fl oz/a	V6 v.c.	C		
	AMS		WG	17	lb/100 gal	V6 v.c.	C		
8	Volunteer corn (24)							307	5798
	Roundup PowerMax	4	SL	22	fl oz/a	V6 v.c.	C		
	Assure II	0.88	L	5	fl oz/a	V6 v.c.	C		
	Surfactant		L	0.125	% v/v	V6 v.c.	C		
	AMS		WG	17	lb/100 gal	V6 v.c.	C		
9	Volunteer corn (24)							306	6206
	Roundup PowerMax	4	SL	22	fl oz/a	V8 v.c.	D		
	Select Max	0.97	L	9	fl oz/a	V8 v.c.	D		
	AMS		WG	17	lb/100 gal	V8 v.c.	D		
10	Volunteer corn (24)							303	5544
	Roundup PowerMax	4	SL	22	fl oz/a	V8 v.c.	D		
	Assure II	0.88	L	5	fl oz/a	V8 v.c.	D		
	Surfactant		L	0.125	% v/v	V8 v.c.	D		
	AMS		WG	17	lb/100 gal	V8 v.c.	D		
11	Volunteer corn (24)							307	4631
	Roundup PowerMax	4	SL	22	fl oz/a	V10 v.c.	E		
	Select Max	0.97	L	12	fl oz/a	V10 v.c.	E		
	AMS		WG	17	lb/100 gal	V10 v.c.	E		
12	Volunteer corn (24)							304	4160
	Roundup PowerMax	4	SL	22	fl oz/a	V10 v.c.	E		
	Assure II	0.88	L	8	fl oz/a	V10 v.c.	E		
	Surfactant		L	0.125	% v/v	V10 v.c.	E		
	AMS		WG	17	lb/100 gal	V10 v.c.	E		
LSD (P=.05)								12.6	969.4
CV								2.86	11.91

Means followed by same letter do not significantly differ (P=.05, LSD)