

MSU Weed Science Research Program

Evaluation of adjuvants for use with glyphosate tank-mixtures

Trial ID: SB02-10  
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 cultivation (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.
Crop	Code	Common Name	
1.	BETVU	BEEET, SUGAR	

Application Description

A  
Application Timing: 4" weeds  
Date Treated: 5/24/2010  
Time Treated: 11:20am  
% Cloud Cover: 60  
Air Temp., Unit: 88 F  
% Relative Humidity: 45  
Wind Speed/Unit/Dir: 6 mph SE  
Soil Temp., Unit: 72 F  
Soil/Leaf Surface M: 5 5  
Soil Moist (1=w 5=d): 3

Crop Stage at Each Application

A  
Crop Name: BETVU  
Height (In.): 6-8"  
Stage (L): 6-8

Weed Stage at Each Application

A  
Weed 1 Name: POLPY  
Height (In.): 3-6"  
Stage (L): 10  
Weed 2 Name: CHEAL  
Height (In.): 3-5"  
Stage (L): 16

Weed Density (plants/sq. ft.)

	1	2
Weed Name:	CHEAL	POLPY
Density:	3	1

Application Equipment

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

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

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Weed Code								CHEAL		POLPY		CHEAL		POLPY		CHEAL	
Crop Code								BETVU		BETVU							
Rating Data Type								injury		injury		control		control		control	
Rating Unit								percent		percent		percent		percent		percent	
Rating Date								6/1/2010		6/1/2010		6/8/2010		6/8/2010		6/23/2010	
Trt-Eval Interval								8 DA-A		8 DA-A		15 DA-A		15 DA-A		30 DA-A	
# Subsamples, Dec.								0		0		0		0		0	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code										
1	Roundup PowerMax	4.5	L	11	fl oz/a	4" weeds	A	0	30	40	0	61	56	61			
1	N Pak AMS		L	2.5	% v/v	4" weeds	A										
2	Roundup PowerMax	4.5	L	11	fl oz/a	4" weeds	A	6	28	53	0	63	58	58			
2	Stinger	3	L	4	fl oz/a	4" weeds	A										
3	Roundup PowerMax	4.5	L	11	fl oz/a	4" weeds	A	10	40	58	0	73	61	83			
3	Stinger	3	L	4	fl oz/a	4" weeds	A										
3	N Pak AMS		L	2.5	% v/v	4" weeds	A										
4	Untreated							0	0	0	0	0	0	0			
5	Roundup PowerMax	4.5	L	11	fl oz/a	4" weeds	A	6	76	65	0	79	69	90			
5	Stinger	3	L	4	fl oz/a	4" weeds	A										
5	Class ACT NG		L	2.5	% v/v	4" weeds	A										
6	Roundup PowerMax	4.5	L	11	fl oz/a	4" weeds	A	6	71	65	0	75	68	85			
6	Stinger	3	L	4	fl oz/a	4" weeds	A										
6	AG 02013		L	4	fl oz/a	4" weeds	A										
6	Class ACT NG		L	2.5	% v/v	4" weeds	A										
7	Roundup PowerMax	4.5	L	11	fl oz/a	4" weeds	A	8	83	68	0	90	71	95			
7	Stinger	3	L	4	fl oz/a	4" weeds	A										
7	AG 10003		L	2	% v/v	4" weeds	A										
8	Roundup PowerMax	4.5	L	11	fl oz/a	4" weeds	A	8	89	71	0	97	78	98			
8	Stinger	3	L	4	fl oz/a	4" weeds	A										
8	AG 10004		L	2	% v/v	4" weeds	A										
9	Roundup PowerMax	4.5	L	11	fl oz/a	4" weeds	A	7	92	70	0	92	75	93			
9	Stinger	3	L	4	fl oz/a	4" weeds	A										
9	AG 10009		L	2	% v/v	4" weeds	A										
10	Roundup PowerMax	4.5	L	11	fl oz/a	4" weeds	A	0	89	65	0	91	76	97			
10	UpBeet	50	DF	0.5	oz/a	4" weeds	A										
10	Class ACT NG		L	2.5	% v/v	4" weeds	A										
11	Roundup PowerMax	4.5	L	11	fl oz/a	4" weeds	A	0	86	74	0	95	89	86			
11	UpBeet	50	DF	0.5	oz/a	4" weeds	A										
11	Destiny HC		L	1	pt/a	4" weeds	A										
11	Class ACT NG		L	2.5	% v/v	4" weeds	A										
12	Roundup PowerMax	4.5	L	11	fl oz/a	4" weeds	A	0	86	79	0	92	91	91			
12	UpBeet	50	DF	0.5	oz/a	4" weeds	A										
12	Destiny HC		L	1	pt/a	4" weeds	A										
12	AG 02013		L	4	fl oz/a	4" weeds	A										
12	Class ACT NG		L	2.5	% v/v	4" weeds	A										
LSD (P=.05)								4.6	11.7	10.8	0.0	9.8	10.3	8.4			
Standard Deviation								3.2	8.1	7.5	0.0	6.8	7.1	5.8			
CV								77.07	12.62	12.72	0.0	9.01	10.84	7.45			

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

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

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Trial ID: SB02-10  
Conducted: SVRECStudy Dir.: Sprague, Powell  
Investigator: Christy SpragueWeed Code POLPY  
Crop Code  
Rating Data Type control  
Rating Unit percent  
Rating Date 6/23/2010  
Trt-Eval Interval 30 DA-A  
# Subsamples, Dec. 0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	
1	Roundup PowerMax	4.5	L	11	fl oz/a	4" weeds	A	66
1	N Pak AMS		L	2.5	% v/v	4" weeds	A	
2	Roundup PowerMax	4.5	L	11	fl oz/a	4" weeds	A	63
2	Stinger	3	L	4	fl oz/a	4" weeds	A	
3	Roundup PowerMax	4.5	L	11	fl oz/a	4" weeds	A	84
3	Stinger	3	L	4	fl oz/a	4" weeds	A	
3	N Pak AMS		L	2.5	% v/v	4" weeds	A	
4	Untreated							0
5	Roundup PowerMax	4.5	L	11	fl oz/a	4" weeds	A	79
5	Stinger	3	L	4	fl oz/a	4" weeds	A	
5	Class ACT NG		L	2.5	% v/v	4" weeds	A	
6	Roundup PowerMax	4.5	L	11	fl oz/a	4" weeds	A	78
6	Stinger	3	L	4	fl oz/a	4" weeds	A	
6	AG 02013		L	4	fl oz/a	4" weeds	A	
6	Class ACT NG		L	2.5	% v/v	4" weeds	A	
7	Roundup PowerMax	4.5	L	11	fl oz/a	4" weeds	A	78
7	Stinger	3	L	4	fl oz/a	4" weeds	A	
7	AG 10003		L	2	% v/v	4" weeds	A	
8	Roundup PowerMax	4.5	L	11	fl oz/a	4" weeds	A	84
8	Stinger	3	L	4	fl oz/a	4" weeds	A	
8	AG 10004		L	2	% v/v	4" weeds	A	
9	Roundup PowerMax	4.5	L	11	fl oz/a	4" weeds	A	83
9	Stinger	3	L	4	fl oz/a	4" weeds	A	
9	AG 10009		L	2	% v/v	4" weeds	A	
10	Roundup PowerMax	4.5	L	11	fl oz/a	4" weeds	A	89
10	UpBeet	50	DF	0.5	oz/a	4" weeds	A	
10	Class ACT NG		L	2.5	% v/v	4" weeds	A	
11	Roundup PowerMax	4.5	L	11	fl oz/a	4" weeds	A	85
11	UpBeet	50	DF	0.5	oz/a	4" weeds	A	
11	Destiny HC		L	1	pt/a	4" weeds	A	
11	Class ACT NG		L	2.5	% v/v	4" weeds	A	
12	Roundup PowerMax	4.5	L	11	fl oz/a	4" weeds	A	88
12	UpBeet	50	DF	0.5	oz/a	4" weeds	A	
12	Destiny HC		L	1	pt/a	4" weeds	A	
12	AG 02013		L	4	fl oz/a	4" weeds	A	
12	Class ACT NG		L	2.5	% v/v	4" weeds	A	
LSD (P=.05)								10.4
Standard Deviation								7.2
CV								9.89

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

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.