

MSU Weed Science Research Program

Tank-mixes with glyphosate for Roundup Ready sugarbeet

Trial ID: SB06-09BB Study Dir.: Sprague, Powell
Conducted: Bean & Beet Investigator: Christy Sprague

Date Planted: 4/16/2009 Row Spacing: 30 IN
Variety: Hilleshog 9042RR No. of Reps: 4
Population: 4 1/8" spacing % OM: 2.4
Soil Type: Silty Clay Loam pH: 7.9
Plot Size: 10 X 30 FT Design: RANDOMIZED COMPLETE BLOCK

Tillage: Fall moldboard plow, spring field cultivated (2X).
Fertilizer: Broadcast 125 lb N

Crop and Weed Description

Table with 4 columns: Weed, Code, Common Name, Scientific Name. Row 1: CHEAL, LAMBSQUARTERS, COMMON, CHENOPODIUM ALBUM L. Row 2: BETVU, BEET, SUGAR

Application Description

Table with 3 columns: Application Timing, A, B. Rows include Date Treated, Time Treated, % Cloud Cover, Air Temp., % Relative Humidity, Wind Speed, Soil Temp., Soil/Leaf Surface M, Soil Moist.

Crop Stage at Each Application

Table with 3 columns: Crop Name, A, B. Rows include Height (In.), Stage (L).

Weed Stage at Each Application

Table with 3 columns: Weed 1 Name, A, B. Rows include Height (In.), Stage (L).

Weed Density (plants/sq. ft.)

Table with 2 columns: Date, Weed Name, Density. Row: 7/9/2009, CHEAL, 5

Application Equipment

Table with 11 columns: Appl, Sprayer, Speed, Nozzle, Nozzle, Nozzle, Nozzle, Boom, GPA, Carrier, PSI. Rows A and B.

Comments: Originally there were several followup applications planned that were not made (application "C"), due to early canopy closure and no new weed emergence.

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Weed Code	Crop Code	Rating Data Type	Rating Unit	Rating Date	Trt-Eval Interval	# Subsamples, Dec.	BETVU injury percent 5/29/2009 8 DA-A	BETVU injury percent 6/3/2009 13 DA-A	CHEAL control percent 6/3/2009 13 DA-A	BETVU injury percent 6/11/2009 21 DA-A	CHEAL control percent 6/11/2009 21 DA-A	CHEAL control percent 6/22/2009 32 DA-A
1	Roundup PowerMax	4.5	L	22	fl oz/a	2" weeds	A	0	95	0	96	99
1	AMS		WG	17	lb/100 gal	2" weeds	A	0				
1	Roundup PowerMax	4.5	L	22	fl oz/a	+4" wds	B					
1	AMS		WG	17	lb/100 gal	+4" wds	B					
2	Roundup PowerMax	4.5	L	22	fl oz/a	2" weeds	A	0	98	0	96	99
2	AMS		WG	17	lb/100 gal	2" weeds	A	0				
2	Roundup PowerMax	4.5	L	22	fl oz/a	+4" wds	B					
2	Dual Magnum	7.62	EC	1.33	pt/a	+4" wds	B					
2	AMS		WG	17	lb/100 gal	+4" wds	B					
3	Roundup PowerMax	4.5	L	22	fl oz/a	2" weeds	A	0	98	0	98	99
3	AMS		WG	17	lb/100 gal	2" weeds	A	0				
3	Roundup PowerMax	4.5	L	22	fl oz/a	+4" wds	B					
3	Outlook	6	L	16	fl oz/a	+4" wds	B					
3	AMS		WG	17	lb/100 gal	+4" wds	B					
4	Roundup PowerMax	4.5	L	22	fl oz/a	2" weeds	A	0	98	0	99	99
4	AMS		WG	17	lb/100 gal	2" weeds	A	0				
4	Roundup PowerMax	4.5	L	22	fl oz/a	+4" wds	B					
4	Stinger	3	L	8	fl oz/a	+4" wds	B					
4	AMS		WG	17	lb/100 gal	+4" wds	B					
5	Roundup PowerMax	4.5	L	22	fl oz/a	2" weeds	A	0	98	0	96	99
5	AMS		WG	17	lb/100 gal	2" weeds	A	0				
5	Roundup PowerMax	4.5	L	22	fl oz/a	+4" wds	B					
5	AMS		WG	17	lb/100 gal	+4" wds	B					
6	Roundup PowerMax	4.5	L	22	fl oz/a	2" weeds	A	0	99	0	99	99
6	AMS		WG	17	lb/100 gal	2" weeds	A	0				
6	Roundup PowerMax	4.5	L	22	fl oz/a	+4" wds	B					
6	AMS		WG	17	lb/100 gal	+4" wds	B					
7	Roundup PowerMax	4.5	L	22	fl oz/a	2" weeds	A	0	99	0	99	99
7	AMS		WG	17	lb/100 gal	2" weeds	A	0				
7	Roundup PowerMax	4.5	L	22	fl oz/a	+4" wds	B					
7	AMS		WG	17	lb/100 gal	+4" wds	B					
8	Roundup PowerMax	4.5	L	22	fl oz/a	2" weeds	A	0	99	0	98	99
8	AMS		WG	17	lb/100 gal	2" weeds	A	0				
8	Roundup PowerMax	4.5	L	22	fl oz/a	+4" wds	B					
8	AMS		WG	17	lb/100 gal	+4" wds	B					
9	Roundup PowerMax	4.5	L	22	fl oz/a	2" weeds	A	0	99	0	99	99
9	AMS		WG	17	lb/100 gal	2" weeds	A	0				
9	Roundup PowerMax	4.5	L	22	fl oz/a	+4" wds	B					
9	Nortron	4	SC	12	fl oz/a	+4" wds	B					
9	AMS		WG	17	lb/100 gal	+4" wds	B					
10	Roundup PowerMax	4.5	L	22	fl oz/a	2" weeds	A	0	97	0	96	99
10	AMS		WG	17	lb/100 gal	2" weeds	A	0				
10	Roundup PowerMax	4.5	L	22	fl oz/a	+4" wds	B					
10	UpBeet	50	DF	0.5	oz/a	+4" wds	B					
10	AMS		WG	17	lb/100 gal	+4" wds	B					
11	Untreated							0	0	0	0	0

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Trial ID: SB06-09BB
Conducted: Bean & BeetStudy Dir.: Sprague, Powell
Investigator: Christy Sprague

Weed Code													
Crop Code													
Rating Data Type													
Rating Unit													
Rating Date													
Trt-Eval Interval													
# Subsamples, Dec.													
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code						
12	Roundup PowerMax	4.5	L	22	fl oz/a	2" weeds	A	0	0	99	0	98	99
12	AMS		WG	17	lb/100 gal	2" weeds	A						
12	Roundup PowerMax	4.5	L	22	fl oz/a	+4" wds	B						
12	SelectMax	0.97	EC	9	fl oz/a	+4" wds	B						
12	AMS		WG	17	lb/100 gal	+4" wds	B						
13	Roundup PowerMax	4.5	L	22	fl oz/a	2" weeds	A	0	0	99	0	99	99
13	Nortron	4	SC	12	fl oz/a	2" weeds	A						
13	AMS		WG	17	lb/100 gal	2" weeds	A						
13	Roundup PowerMax	4.5	L	22	fl oz/a	+4" wds	B						
13	AMS		WG	17	lb/100 gal	+4" wds	B						
14	Roundup PowerMax	4.5	L	22	fl oz/a	2" weeds	A	0	0	96	0	99	99
14	UpBeet	50	DF	0.5	oz/a	2" weeds	A						
14	AMS		WG	17	lb/100 gal	2" weeds	A						
14	Roundup PowerMax	4.5	L	22	fl oz/a	+4" wds	B						
14	AMS		WG	17	lb/100 gal	+4" wds	B						
15	Roundup PowerMax	4.5	L	22	fl oz/a	2" weeds	A	0	0	84	0	90	99
15	UpBeet	50	DF	0.5	oz/a	2" weeds	A						
15	Herbimax (COC)		L	1	% v/v	2" weeds	A						
15	AMS		WG	17	lb/100 gal	2" weeds	A						
15	Roundup PowerMax	4.5	L	22	fl oz/a	+4" wds	B						
15	AMS		WG	17	lb/100 gal	+4" wds	B						
16	Roundup PowerMax	4.5	L	22	fl oz/a	2" weeds	A	18	11	99	0	99	99
16	Betamix	1.3	L	3	pt/a	2" weeds	A						
16	AMS		WG	17	lb/100 gal	2" weeds	A						
16	Roundup PowerMax	4.5	L	22	fl oz/a	+4" wds	B						
16	AMS		WG	17	lb/100 gal	+4" wds	B						
LSD (P=.05)								1.0	0.9	3.4	0.0	4.3	0.0
Standard Deviation								0.7	0.6	2.3	0.0	3.0	0.0
CV								65.98	88.89	2.58	0.0	3.3	0.0

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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Investigator: Christy Sprague

Weed Code	CHEAL	CHEAL	BETVU	BETVU	BETVU	BETVU							
Crop Code	control	control	count	% sugar	yield	RWST							
Rating Data Type	percent	perent	# / 100'		ton/acre	# / ton							
Rating Unit	7/14/2009	9/14/2009	9/14/2009	9/15/2009	9/15/2009	9/15/2009							
Rating Date	54 DA-A	116 DA-A	116 DA-A	117 DA-A	117 DA-A	117 DA-A							
Trt-Eval Interval	0	0	0	1	1	1							
# Subsamples, Dec.													
Trt	Treatment	Form	Form	Rate	Grow	Appl							
No.	Name	Conc	Type	Rate	Unit	Stg	Code						
1	Roundup PowerMax	4.5	L	22	fl oz/a	2" weeds	A	99	99	216	18.9	28.4	277.8
1	AMS		WG	17	lb/100 gal	2" weeds	A						
1	Roundup PowerMax	4.5	L	22	fl oz/a	+4" wds	B						
1	AMS		WG	17	lb/100 gal	+4" wds	B						
2	Roundup PowerMax	4.5	L	22	fl oz/a	2" weeds	A	99	99	204	18.8	30.9	270.5
2	AMS		WG	17	lb/100 gal	2" weeds	A						
2	Roundup PowerMax	4.5	L	22	fl oz/a	+4" wds	B						
2	Dual Magnum	7.62	EC	1.33	pt/a	+4" wds	B						
2	AMS		WG	17	lb/100 gal	+4" wds	B						
3	Roundup PowerMax	4.5	L	22	fl oz/a	2" weeds	A	99	99	221	19.0	28.9	279.7
3	AMS		WG	17	lb/100 gal	2" weeds	A						
3	Roundup PowerMax	4.5	L	22	fl oz/a	+4" wds	B						
3	Outlook	6	L	16	fl oz/a	+4" wds	B						
3	AMS		WG	17	lb/100 gal	+4" wds	B						
4	Roundup PowerMax	4.5	L	22	fl oz/a	2" weeds	A	99	99	222	18.6	28.6	270.2
4	AMS		WG	17	lb/100 gal	2" weeds	A						
4	Roundup PowerMax	4.5	L	22	fl oz/a	+4" wds	B						
4	Stinger	3	L	8	fl oz/a	+4" wds	B						
4	AMS		WG	17	lb/100 gal	+4" wds	B						
5	Roundup PowerMax	4.5	L	22	fl oz/a	2" weeds	A	99	99	230	18.9	30.4	275.6
5	AMS		WG	17	lb/100 gal	2" weeds	A						
5	Roundup PowerMax	4.5	L	22	fl oz/a	+4" wds	B						
5	AMS		WG	17	lb/100 gal	+4" wds	B						
6	Roundup PowerMax	4.5	L	22	fl oz/a	2" weeds	A	99	99	200	18.5	29.6	269.3
6	AMS		WG	17	lb/100 gal	2" weeds	A						
6	Roundup PowerMax	4.5	L	22	fl oz/a	+4" wds	B						
6	AMS		WG	17	lb/100 gal	+4" wds	B						
7	Roundup PowerMax	4.5	L	22	fl oz/a	2" weeds	A	99	99	222	19.3	28.6	281.1
7	AMS		WG	17	lb/100 gal	2" weeds	A						
7	Roundup PowerMax	4.5	L	22	fl oz/a	+4" wds	B						
7	AMS		WG	17	lb/100 gal	+4" wds	B						
8	Roundup PowerMax	4.5	L	22	fl oz/a	2" weeds	A	99	99	226	19.1	28.5	279.7
8	AMS		WG	17	lb/100 gal	2" weeds	A						
8	Roundup PowerMax	4.5	L	22	fl oz/a	+4" wds	B						
8	AMS		WG	17	lb/100 gal	+4" wds	B						
9	Roundup PowerMax	4.5	L	22	fl oz/a	2" weeds	A	99	99	201	18.5	30.9	270.1
9	AMS		WG	17	lb/100 gal	2" weeds	A						
9	Roundup PowerMax	4.5	L	22	fl oz/a	+4" wds	B						
9	Nortron	4	SC	12	fl oz/a	+4" wds	B						
9	AMS		WG	17	lb/100 gal	+4" wds	B						
10	Roundup PowerMax	4.5	L	22	fl oz/a	2" weeds	A	99	99	168	18.2	27.2	261.2
10	AMS		WG	17	lb/100 gal	2" weeds	A						
10	Roundup PowerMax	4.5	L	22	fl oz/a	+4" wds	B						
10	UpBeet	50	DF	0.5	oz/a	+4" wds	B						
10	AMS		WG	17	lb/100 gal	+4" wds	B						
11	Untreated							0	0	194	18.8	15.9	276.1

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Conducted: Bean & Beet

Study Dir.: Sprague, Powell
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Weed Code	CHEAL	CHEAL	BETVU	BETVU	BETVU	BETVU							
Crop Code	control	control	count	% sugar	yield	RWST							
Rating Data Type	percent	perent	# / 100'		ton/acre	# / ton							
Rating Unit	7/14/2009	9/14/2009	9/14/2009	9/15/2009	9/15/2009	9/15/2009							
Rating Date	54 DA-A	116 DA-A	116 DA-A	117 DA-A	117 DA-A	117 DA-A							
Trt-Eval Interval	0	0	0	1	1	1							
# Subsamples, Dec.													
Trt	Treatment	Form	Form	Rate	Grow	Appl							
No.	Name	Conc	Type	Rate	Unit	Stg	Code						
12	Roundup PowerMax	4.5	L	22	fl oz/a	2" weeds	A	99	99	226	18.5	30.3	267.5
12	AMS		WG	17	lb/100 gal	2" weeds	A						
12	Roundup PowerMax	4.5	L	22	fl oz/a	+4" wds	B						
12	SelectMax	0.97	EC	9	fl oz/a	+4" wds	B						
12	AMS		WG	17	lb/100 gal	+4" wds	B						
13	Roundup PowerMax	4.5	L	22	fl oz/a	2" weeds	A	99	99	225	19.0	32.1	276.3
13	Nortron	4	SC	12	fl oz/a	2" weeds	A						
13	AMS		WG	17	lb/100 gal	2" weeds	A						
13	Roundup PowerMax	4.5	L	22	fl oz/a	+4" wds	B						
13	AMS		WG	17	lb/100 gal	+4" wds	B						
14	Roundup PowerMax	4.5	L	22	fl oz/a	2" weeds	A	99	99	210	18.7	29.8	271.8
14	UpBeet	50	DF	0.5	oz/a	2" weeds	A						
14	AMS		WG	17	lb/100 gal	2" weeds	A						
14	Roundup PowerMax	4.5	L	22	fl oz/a	+4" wds	B						
14	AMS		WG	17	lb/100 gal	+4" wds	B						
15	Roundup PowerMax	4.5	L	22	fl oz/a	2" weeds	A	99	99	215	18.8	30.4	272.1
15	UpBeet	50	DF	0.5	oz/a	2" weeds	A						
15	Herbimax (COC)		L	1	% v/v	2" weeds	A						
15	AMS		WG	17	lb/100 gal	2" weeds	A						
15	Roundup PowerMax	4.5	L	22	fl oz/a	+4" wds	B						
15	AMS		WG	17	lb/100 gal	+4" wds	B						
16	Roundup PowerMax	4.5	L	22	fl oz/a	2" weeds	A	99	99	231	18.9	30.6	271.9
16	Betamix	1.3	L	3	pt/a	2" weeds	A						
16	AMS		WG	17	lb/100 gal	2" weeds	A						
16	Roundup PowerMax	4.5	L	22	fl oz/a	+4" wds	B						
16	AMS		WG	17	lb/100 gal	+4" wds	B						
LSD (P=.05)								0.0	0.0	39.4	0.95	5.35	15.38
Standard Deviation								0.0	0.0	27.5	0.66	3.74	10.76
CV								0.0	0.0	12.93	3.54	12.98	3.94

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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Investigator: Christy Sprague

Weed Code	
Crop Code	BETVU
Rating Data Type	RWSA
Rating Unit	# / acre
Rating Date	9/15/2009
Trt-Eval Interval	117 DA-A
# Subsamples, Dec.	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	
12	Roundup PowerMax	4.5	L	22	fl oz/a	2" weeds	A	8113
12	AMS		WG	17	lb/100 gal	2" weeds	A	
12	Roundup PowerMax	4.5	L	22	fl oz/a	+4" wds	B	
12	SelectMax	0.97	EC	9	fl oz/a	+4" wds	B	
12	AMS		WG	17	lb/100 gal	+4" wds	B	
13	Roundup PowerMax	4.5	L	22	fl oz/a	2" weeds	A	8852
13	Nortron	4	SC	12	fl oz/a	2" weeds	A	
13	AMS		WG	17	lb/100 gal	2" weeds	A	
13	Roundup PowerMax	4.5	L	22	fl oz/a	+4" wds	B	
13	AMS		WG	17	lb/100 gal	+4" wds	B	
14	Roundup PowerMax	4.5	L	22	fl oz/a	2" weeds	A	8104
14	UpBeet	50	DF	0.5	oz/a	2" weeds	A	
14	AMS		WG	17	lb/100 gal	2" weeds	A	
14	Roundup PowerMax	4.5	L	22	fl oz/a	+4" wds	B	
14	AMS		WG	17	lb/100 gal	+4" wds	B	
15	Roundup PowerMax	4.5	L	22	fl oz/a	2" weeds	A	8265
15	UpBeet	50	DF	0.5	oz/a	2" weeds	A	
15	Herbimax (COC)		L	1	% v/v	2" weeds	A	
15	AMS		WG	17	lb/100 gal	2" weeds	A	
15	Roundup PowerMax	4.5	L	22	fl oz/a	+4" wds	B	
15	AMS		WG	17	lb/100 gal	+4" wds	B	
16	Roundup PowerMax	4.5	L	22	fl oz/a	2" weeds	A	8314
16	Betamix	1.3	L	3	pt/a	2" weeds	A	
16	AMS		WG	17	lb/100 gal	2" weeds	A	
16	Roundup PowerMax	4.5	L	22	fl oz/a	+4" wds	B	
16	AMS		WG	17	lb/100 gal	+4" wds	B	
LSD (P=.05)								1534.6
Standard Deviation								1073.8
CV								13.65

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.