

MSU Weed Science Research Program

Sugarbeet tolerance of overlapping residuals for control of herbicide-resistant waterhemp

Trial ID: SB04-20 Study Dir.: Sprague, Powell, Stiles
 Conducted: SVREC Investigator: Christy Sprague

Planting Date: Apr-20-2020 **Row Spacing:** 30 IN
Variety: Crystal G675 **No. of Reps:** 4
Population: 4.375 " spacing **% OM:** 2.8
Soil Type: CL clay loam **pH:** 7.4
Plot Size: 10 X 30 FT **Study Design:** Randomized Complete Block (RCB)

Tillage/Previous Crops: Spring soil finish (2X); planted into a stale seedbed with 130 lb actual N as urea:ESN preplant.
Fertilizer:

Crop and Weed Description

Weed	Code	Common Name	Scientific Name
1	CHEAL	common lambsquarters	Chenopodium album
Crop	Code	Common Name	
1	BETVU	Sugarbeet	

Application Description

	A	B	C
Application Timing:	PRE	2-LF	6-8 LF
Date Treated:	Apr-22-2020	May-21-2020	Jun-4-2020
Time Treated:	11:00 AM	12:50 PM	9:10 AM
% Cloud Cover:	90	0	10
Air Temp., Unit:	36 F	71 F	75 F
% Relative Humidity:	38	43	50
Wind Speed/Unit/Dir:	4 mph W	3 mph S	2 mph W
Soil Temp, Unit:	40 F	69 F	68 F
Leaf Moist/Dew Presence (Y/N):	5	5	5
Soil Moist:	5	5	5

Crop Stage at Each Application

	A	B	C
Crop 1 Name:	BETVU	BETVU	BETVU
Height:		0.5 "	4 "
Stage:		2L	6L

Weed Stage at Each Application

	A	B	C
Weed 1 Name:	CHEAL	CHEAL	CHEAL
Height:		0.5-1 " (0.75)	1 "
Stage:		2-6L	6L

Application Equipment

Appl	Sprayer Type	Ground Speed	Nozzle Type	Nozzle Size	Nozzle Height	Nozzle Spacing	Boom Width	Spray Volume	Carrier	Operation Pressure
A	CUB	3.8 mph	AIXR	11003	22 "	20 "	100 "	19 GAL/AC	WATER	30 psi
B	CUB	3.8 mph	AIXR	11003	22 "	20 "	100 "	19 GAL/AC	WATER	30 psi
C	CUB	3.8 mph	AIXR	11003	22 "	20 "	100 "	19 GAL/AC	WATER	30 psi

Comments:

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Trial ID: SB04-20 Location: SVREC Trial Year: 2020

Protocol ID: SB04-20 Investigator (Creator): Christy Sprague
 Project ID: Study Director: Sprague, Powell, Stiles
 Sponsor Contact:

Pest Code	CHEAL		CHEAL		CHEAL	
Crop Type, Code	C BETVU	C BETVU	C BETVU	C BETVU	C BETVU	C BETVU
Rating Date	Jun-4-2020	Jun-4-2020	Jun-11-2020	Jun-11-2020	Jun-18-2020	Jun-18-2020
Rating Type	injury	control	injury	control	injury	control
Rating Unit	percent	percent	percent	percent	percent	percent
Trt-Eval Interval	14 DA-B	14 DA-B	21 DA-B	21 DA-B	14 DA-C	14 DA-C
Number of Decimals	0	0	0	0	0	0

Trt No.	Treatment Name	Rate	Unit	Appl Timing	Appl Code						
1	Roundup PowerMax AMS	32 fl oz/a		2 leaf	B	2	100	0	100	0	100
	Roundup PowerMax AMS	17 lb/100 gal		2 leaf	B						
	Roundup PowerMax AMS	22 fl oz/a		6-8 leaf	C						
	Roundup PowerMax AMS	17 lb/100 gal		6-8 leaf	C						
2	Dual II Magnum	1.3 pt/a		2 leaf	B	6	100	4	100	7	100
	Roundup PowerMax AMS	32 fl oz/a		2 leaf	B						
	Roundup PowerMax AMS	17 lb/100 gal		2 leaf	B						
	Dual II Magnum	1.3 pt/a		6-8 leaf	C						
	Roundup PowerMax AMS	22 fl oz/a		6-8 leaf	C						
	Roundup PowerMax AMS	17 lb/100 gal		6-8 leaf	C						
3	Warrant	3 pt/a		2 leaf	B	5	100	6	100	7	100
	Roundup PowerMax AMS	32 fl oz/a		2 leaf	B						
	Roundup PowerMax AMS	17 lb/100 gal		2 leaf	B						
	Warrant	3 pt/a		6-8 leaf	C						
	Roundup PowerMax AMS	22 fl oz/a		6-8 leaf	C						
	Roundup PowerMax AMS	17 lb/100 gal		6-8 leaf	C						
4	Outlook	12 fl oz/a		2 leaf	B	3	100	8	100	6	100
	Roundup PowerMax AMS	32 fl oz/a		2 leaf	B						
	Roundup PowerMax AMS	17 lb/100 gal		2 leaf	B						
	Outlook	12 fl oz/a		6-8 leaf	C						
	Roundup PowerMax AMS	22 fl oz/a		6-8 leaf	C						
	Roundup PowerMax AMS	17 lb/100 gal		6-8 leaf	C						
5	Ethofumesate	2 pt/a		PRE	A	5	100	6	100	8	100
	Dual II Magnum	1 pt/a		2 leaf	B						
	Roundup PowerMax AMS	32 fl oz/a		2 leaf	B						
	Roundup PowerMax AMS	17 lb/100 gal		2 leaf	B						
	Dual II Magnum	1 pt/a		6-8 leaf	C						
	Roundup PowerMax AMS	22 fl oz/a		6-8 leaf	C						
	Roundup PowerMax AMS	17 lb/100 gal		6-8 leaf	C						
6	Ethofumesate	2 pt/a		PRE	A	5	100	9	100	9	100
	Warrant	3 pt/a		2 leaf	B						
	Roundup PowerMax AMS	32 fl oz/a		2 leaf	B						
	Roundup PowerMax AMS	17 lb/100 gal		2 leaf	B						
	Warrant	3 pt/a		6-8 leaf	C						
	Roundup PowerMax AMS	22 fl oz/a		6-8 leaf	C						
	Roundup PowerMax AMS	17 lb/100 gal		6-8 leaf	C						
7	Ethofumesate	2 pt/a		PRE	A	1	100	1	100	0	100
	Outlook	12 fl oz/a		2 leaf	B						
	Roundup PowerMax AMS	32 fl oz/a		2 leaf	B						
	Roundup PowerMax AMS	17 lb/100 gal		2 leaf	B						
	Outlook	12 fl oz/a		6-8 leaf	C						
	Roundup PowerMax AMS	22 fl oz/a		6-8 leaf	C						
	Roundup PowerMax AMS	17 lb/100 gal		6-8 leaf	C						
8	Ethofumesate	2 pt/a		PRE	A	1	100	2	100	1	100
	Ethofumesate	2 pt/a		2 leaf	B						
	Roundup PowerMax AMS	32 fl oz/a		2 leaf	B						
	Destiny HC	1.5 pt/a		2 leaf	B						
	Roundup PowerMax AMS	17 lb/100 gal		2 leaf	B						
	Ethofumesate	2 pt/a		6-8 leaf	C						
	Roundup PowerMax AMS	22 fl oz/a		6-8 leaf	C						
	Destiny HC	1.5 pt/a		6-8 leaf	C						
	Roundup PowerMax AMS	17 lb/100 gal		6-8 leaf	C						

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Sugarbeet tolerance of overlapping residuals for control of herbicide-resistant waterhemp

Trial ID: SB04-20 Location: SVREC Trial Year: 2020

Protocol ID: SB04-20 Investigator (Creator): Christy Sprague

Project ID: Study Director: Sprague, Powell, Stiles

Sponsor Contact:

Pest Code			CHEAL		CHEAL		CHEAL				
Crop Type, Code	C	BETVU	C	BETVU	C	BETVU	C	BETVU			
Rating Date	Jun-4-2020	Jun-4-2020	Jun-11-2020	Jun-11-2020	Jun-18-2020	Jun-18-2020	Jun-18-2020	Jun-18-2020			
Rating Type	injury	control	injury	control	injury	control	injury	control			
Rating Unit	percent	percent	percent	percent	percent	percent	percent	percent			
Trt-Eval Interval	14 DA-B	14 DA-B	21 DA-B	21 DA-B	14 DA-C	14 DA-C	14 DA-C	14 DA-C			
Number of Decimals	0	0	0	0	0	0	0	0			
Trt No.	Treatment Name	Rate	Appl Unit	Appl Timing	Code						
9	Dual II Magnum	0.5 pt/a	PRE	A		7	100	9	100	6	100
	Dual II Magnum	1 pt/a	2 leaf	B							
	Roundup PowerMax	32 fl oz/a	2 leaf	B							
	AMS	17 lb/100 gal	2 leaf	B							
	Dual II Magnum	1 pt/a	6-8 leaf	C							
	Roundup PowerMax	22 fl oz/a	6-8 leaf	C							
	AMS	17 lb/100 gal	6-8 leaf	C							
10	Dual II Magnum	0.5 pt/a	PRE	A		10	100	13	100	13	100
	Warrant	3 pt/a	2 leaf	B							
	Roundup PowerMax	32 fl oz/a	2 leaf	B							
	AMS	17 lb/100 gal	2 leaf	B							
	Warrant	3 pt/a	6-8 leaf	C							
	Roundup PowerMax	22 fl oz/a	6-8 leaf	C							
	AMS	17 lb/100 gal	6-8 leaf	C							
11	Dual II Magnum	0.5 pt/a	PRE	A		1	100	0	100	2	100
	Outlook	12 fl oz/a	2 leaf	B							
	Roundup PowerMax	32 fl oz/a	2 leaf	B							
	AMS	17 lb/100 gal	2 leaf	B							
	Outlook	12 fl oz/a	6-8 leaf	C							
	Roundup PowerMax	22 fl oz/a	6-8 leaf	C							
	AMS	17 lb/100 gal	6-8 leaf	C							
12	Dual II Magnum	0.5 pt/a	PRE	A		3	100	4	100	4	100
	Ethofumesate	2 pt/a	2 leaf	B							
	Roundup PowerMax	32 fl oz/a	2 leaf	B							
	Destiny HC	1.5 pt/a	2 leaf	B							
	AMS	17 lb/100 gal	2 leaf	B							
	Ethofumesate	2 pt/a	6-8 leaf	C							
	Roundup PowerMax	22 fl oz/a	6-8 leaf	C							
	Destiny HC	1.5 pt/a	6-8 leaf	C							
	AMS	17 lb/100 gal	6-8 leaf	C							
13	Ethofumesate	2 pt/a	2 leaf	B		0	100	2	100	1	100
	Roundup PowerMax	32 fl oz/a	2 leaf	B							
	Destiny HC	1.5 pt/a	2 leaf	B							
	AMS	17 lb/100 gal	2 leaf	B							
	Ethofumesate	2 pt/a	6-8 leaf	C							
	Roundup PowerMax	22 fl oz/a	6-8 leaf	C							
	Destiny HC	1.5 pt/a	6-8 leaf	C							
	AMS	17 lb/100 gal	6-8 leaf	C							
14	Stinger	2 fl oz/a	2 leaf	B		2	100	3	100	3	100
	Roundup PowerMax	32 fl oz/a	2 leaf	B							
	AMS	17 lb/100 gal	2 leaf	B							
	Stinger	4 fl oz/a	6-8 leaf	C							
	Roundup PowerMax	22 fl oz/a	6-8 leaf	C							
	AMS	17 lb/100 gal	6-8 leaf	C							
15	Stinger	2 fl oz/a	2 leaf	B		0	100	1	100	5	100
	Dual II Magnum	1.3 pt/a	2 leaf	B							
	Roundup PowerMax	32 fl oz/a	2 leaf	B							
	AMS	17 lb/100 gal	2 leaf	B							
	Stinger	4 fl oz/a	6-8 leaf	C							
	Dual II Magnum	1.3 pt/a	6-8 leaf	C							
	Roundup PowerMax	22 fl oz/a	6-8 leaf	C							
	AMS	17 lb/100 gal	6-8 leaf	C							

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Sponsor Contact:

Pest Code	CHEAL		CHEAL		CHEAL				
Crop Type, Code	C BETVU	C BETVU	C BETVU	C BETVU	C BETVU	C BETVU			
Rating Date	Jun-4-2020	Jun-4-2020	Jun-11-2020	Jun-11-2020	Jun-18-2020	Jun-18-2020			
Rating Type	injury	control	injury	control	injury	control			
Rating Unit	percent	percent	percent	percent	percent	percent			
Trt-Eval Interval	14 DA-B	14 DA-B	21 DA-B	21 DA-B	14 DA-C	14 DA-C			
Number of Decimals	0	0	0	0	0	0			
Trt Treatment	Rate	Appl	Appl						
No. Name	Rate Unit	Timing	Code						
16 Stinger	2 fl oz/a	2 leaf	B	7	100	6	100	5	100
Warrant	3 pt/a	2 leaf	B						
Roundup PowerMax	32 fl oz/a	2 leaf	B						
AMS	17 lb/100 gal	2 leaf	B						
Stinger	4 fl oz/a	6-8 leaf	C						
Warrant	3 pt/a	6-8 leaf	C						
Roundup PowerMax	22 fl oz/a	6-8 leaf	C						
AMS	17 lb/100 gal	6-8 leaf	C						
LSD P=.05				5.3	.	7.7	.	7.1	.
Standard Deviation				3.7	0.0	5.4	0.0	5.0	0.0
CV				102.23	0.0	116.24	0.0	104.34	0.0

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Pest Code	CHEAL		CHEAL		CHEAL		CHEAL				
Crop Type, Code	C BETVU	C BETVU	C BETVU	C BETVU	C BETVU	C BETVU	C BETVU	C BETVU			
Rating Date	Jun-25-2020	Jun-25-2020	Jul-2-2020	Jul-2-2020	Sep-17-2020	Sep-17-2020	Oct-8-2020				
Rating Type	injury	control	injury	control	injury	control	stand count				
Rating Unit	percent	percent	percent	percent	percent	percent	100' row				
Trt-Eval Interval	21 DA-C	21 DA-C	28 DA-C	28 DA-C	105 DA-C	105 DA-C	126 DA-C				
Number of Decimals	0	0	0	0	0	0	0				
Trt No.	Treatment Name	Rate	Appl	Appl							
		Rate Unit	Timing	Code							
1	Roundup PowerMax	32 fl oz/a	2 leaf	B	0	100	0	100	0	96	220
	AMS	17 lb/100 gal	2 leaf	B							
	Roundup PowerMax	22 fl oz/a	6-8 leaf	C							
	AMS	17 lb/100 gal	6-8 leaf	C							
2	Dual II Magnum	1.3 pt/a	2 leaf	B	6	100	9	100	0	100	193
	Roundup PowerMax	32 fl oz/a	2 leaf	B							
	AMS	17 lb/100 gal	2 leaf	B							
	Dual II Magnum	1.3 pt/a	6-8 leaf	C							
	Roundup PowerMax	22 fl oz/a	6-8 leaf	C							
	AMS	17 lb/100 gal	6-8 leaf	C							
3	Warrant	3 pt/a	2 leaf	B	5	100	3	100	0	100	197
	Roundup PowerMax	32 fl oz/a	2 leaf	B							
	AMS	17 lb/100 gal	2 leaf	B							
	Warrant	3 pt/a	6-8 leaf	C							
	Roundup PowerMax	22 fl oz/a	6-8 leaf	C							
	AMS	17 lb/100 gal	6-8 leaf	C							
4	Outlook	12 fl oz/a	2 leaf	B	5	100	6	100	0	100	199
	Roundup PowerMax	32 fl oz/a	2 leaf	B							
	AMS	17 lb/100 gal	2 leaf	B							
	Outlook	12 fl oz/a	6-8 leaf	C							
	Roundup PowerMax	22 fl oz/a	6-8 leaf	C							
	AMS	17 lb/100 gal	6-8 leaf	C							
5	Ethofumesate	2 pt/a	PRE	A	6	100	5	100	0	100	189
	Dual II Magnum	1 pt/a	2 leaf	B							
	Roundup PowerMax	32 fl oz/a	2 leaf	B							
	AMS	17 lb/100 gal	2 leaf	B							
	Dual II Magnum	1 pt/a	6-8 leaf	C							
	Roundup PowerMax	22 fl oz/a	6-8 leaf	C							
	AMS	17 lb/100 gal	6-8 leaf	C							
6	Ethofumesate	2 pt/a	PRE	A	4	100	6	100	0	100	185
	Warrant	3 pt/a	2 leaf	B							
	Roundup PowerMax	32 fl oz/a	2 leaf	B							
	AMS	17 lb/100 gal	2 leaf	B							
	Warrant	3 pt/a	6-8 leaf	C							
	Roundup PowerMax	22 fl oz/a	6-8 leaf	C							
	AMS	17 lb/100 gal	6-8 leaf	C							
7	Ethofumesate	2 pt/a	PRE	A	3	100	2	100	0	100	212
	Outlook	12 fl oz/a	2 leaf	B							
	Roundup PowerMax	32 fl oz/a	2 leaf	B							
	AMS	17 lb/100 gal	2 leaf	B							
	Outlook	12 fl oz/a	6-8 leaf	C							
	Roundup PowerMax	22 fl oz/a	6-8 leaf	C							
	AMS	17 lb/100 gal	6-8 leaf	C							
8	Ethofumesate	2 pt/a	PRE	A	1	100	1	100	0	100	215
	Ethofumesate	2 pt/a	2 leaf	B							
	Roundup PowerMax	32 fl oz/a	2 leaf	B							
	Destiny HC	1.5 pt/a	2 leaf	B							
	AMS	17 lb/100 gal	2 leaf	B							
	Ethofumesate	2 pt/a	6-8 leaf	C							
	Roundup PowerMax	22 fl oz/a	6-8 leaf	C							
	Destiny HC	1.5 pt/a	6-8 leaf	C							
	AMS	17 lb/100 gal	6-8 leaf	C							

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Trial Year: 2020

Protocol ID: SB04-20

Investigator (Creator): Christy Sprague

Study Director: Sprague, Powell, Stiles

Project ID:

Sponsor Contact:

Pest Code	CHEAL		CHEAL		CHEAL		CHEAL		CHEAL			
Crop Type, Code	C BETVU	CHEAL	C BETVU	CHEAL	C BETVU	CHEAL	C BETVU	CHEAL	C BETVU	CHEAL		
Rating Date	Jun-25-2020	Jun-25-2020	Jul-2-2020	Jul-2-2020	Sep-17-2020	Sep-17-2020	Sep-17-2020	Sep-17-2020	Oct-8-2020	Oct-8-2020		
Rating Type	injury	control	injury	control	injury	control	injury	control	stand count	stand count		
Rating Unit	percent	percent	percent	percent	percent	percent	percent	percent	100' row	100' row		
Trt-Eval Interval	21 DA-C	21 DA-C	28 DA-C	28 DA-C	105 DA-C	105 DA-C	105 DA-C	105 DA-C	126 DA-C	126 DA-C		
Number of Decimals	0	0	0	0	0	0	0	0	0	0		
Trt No.	Treatment Name	Rate	Appl Unit	Appl Timing	Appl Code							
9	Dual II Magnum	0.5 pt/a	PRE	A		4	100	5	100	0	100	193
	Dual II Magnum	1 pt/a	2 leaf	B								
	Roundup PowerMax	32 fl oz/a	2 leaf	B								
	AMS	17 lb/100 gal	2 leaf	B								
	Dual II Magnum	1 pt/a	6-8 leaf	C								
	Roundup PowerMax	22 fl oz/a	6-8 leaf	C								
	AMS	17 lb/100 gal	6-8 leaf	C								
10	Dual II Magnum	0.5 pt/a	PRE	A		6	100	10	100	0	95	190
	Warrant	3 pt/a	2 leaf	B								
	Roundup PowerMax	32 fl oz/a	2 leaf	B								
	AMS	17 lb/100 gal	2 leaf	B								
	Warrant	3 pt/a	6-8 leaf	C								
	Roundup PowerMax	22 fl oz/a	6-8 leaf	C								
	AMS	17 lb/100 gal	6-8 leaf	C								
11	Dual II Magnum	0.5 pt/a	PRE	A		2	100	0	100	0	100	218
	Outlook	12 fl oz/a	2 leaf	B								
	Roundup PowerMax	32 fl oz/a	2 leaf	B								
	AMS	17 lb/100 gal	2 leaf	B								
	Outlook	12 fl oz/a	6-8 leaf	C								
	Roundup PowerMax	22 fl oz/a	6-8 leaf	C								
	AMS	17 lb/100 gal	6-8 leaf	C								
12	Dual II Magnum	0.5 pt/a	PRE	A		0	100	4	100	0	100	193
	Ethofumesate	2 pt/a	2 leaf	B								
	Roundup PowerMax	32 fl oz/a	2 leaf	B								
	Destiny HC	1.5 pt/a	2 leaf	B								
	AMS	17 lb/100 gal	2 leaf	B								
	Ethofumesate	2 pt/a	6-8 leaf	C								
	Roundup PowerMax	22 fl oz/a	6-8 leaf	C								
	Destiny HC	1.5 pt/a	6-8 leaf	C								
	AMS	17 lb/100 gal	6-8 leaf	C								
13	Ethofumesate	2 pt/a	2 leaf	B		0	100	2	100	0	100	190
	Roundup PowerMax	32 fl oz/a	2 leaf	B								
	Destiny HC	1.5 pt/a	2 leaf	B								
	AMS	17 lb/100 gal	2 leaf	B								
	Ethofumesate	2 pt/a	6-8 leaf	C								
	Roundup PowerMax	22 fl oz/a	6-8 leaf	C								
	Destiny HC	1.5 pt/a	6-8 leaf	C								
	AMS	17 lb/100 gal	6-8 leaf	C								
14	Stinger	2 fl oz/a	2 leaf	B		4	100	5	100	0	100	149
	Roundup PowerMax	32 fl oz/a	2 leaf	B								
	AMS	17 lb/100 gal	2 leaf	B								
	Stinger	4 fl oz/a	6-8 leaf	C								
	Roundup PowerMax	22 fl oz/a	6-8 leaf	C								
	AMS	17 lb/100 gal	6-8 leaf	C								
15	Stinger	2 fl oz/a	2 leaf	B		2	100	1	100	1	100	199
	Dual II Magnum	1.3 pt/a	2 leaf	B								
	Roundup PowerMax	32 fl oz/a	2 leaf	B								
	AMS	17 lb/100 gal	2 leaf	B								
	Stinger	4 fl oz/a	6-8 leaf	C								
	Dual II Magnum	1.3 pt/a	6-8 leaf	C								
	Roundup PowerMax	22 fl oz/a	6-8 leaf	C								
	AMS	17 lb/100 gal	6-8 leaf	C								

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Pest Code	CHEAL		CHEAL		CHEAL		CHEAL			
Crop Type, Code	C BETVU	C BETVU	C BETVU	C BETVU	C BETVU	C BETVU	C BETVU	C BETVU		
Rating Date	Jun-25-2020	Jun-25-2020	Jul-2-2020	Jul-2-2020	Sep-17-2020	Sep-17-2020	Oct-8-2020			
Rating Type	injury	control	injury	control	injury	control	stand count			
Rating Unit	percent	percent	percent	percent	percent	percent	100' row			
Trt-Eval Interval	21 DA-C	21 DA-C	28 DA-C	28 DA-C	105 DA-C	105 DA-C	126 DA-C			
Number of Decimals	0	0	0	0	0	0	0	0		
Trt Treatment	Rate	Appl	Appl							
No. Name	Rate Unit	Timing	Code							
16 Stinger	2 fl oz/a	2 leaf	B	5	100	5	100	0	100	199
Warrant	3 pt/a	2 leaf	B							
Roundup PowerMax	32 fl oz/a	2 leaf	B							
AMS	17 lb/100 gal	2 leaf	B							
Stinger	4 fl oz/a	6-8 leaf	C							
Warrant	3 pt/a	6-8 leaf	C							
Roundup PowerMax	22 fl oz/a	6-8 leaf	C							
AMS	17 lb/100 gal	6-8 leaf	C							
LSD P=.05				5.8	.	6.9	.	0.9	2.6	42.4
Standard Deviation				4.0	0.0	4.8	0.0	0.6	1.8	29.8
CV				121.86	0.0	120.22	0.0	794.63	1.83	15.18

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Sponsor Contact:

Pest Code						
Crop Type, Code	C	BETVU	C	BETVU	C	BETVU
Rating Date	Oct-8-2020	Oct-8-2020	Oct-8-2020	Oct-8-2020	Oct-8-2020	Oct-8-2020
Rating Type	% sugar	yield	RWSA			
Rating Unit		ton/acre	#/acre			
Trt-Eval Interval	126 DA-C	126 DA-C	126 DA-C			
Number of Decimals		1	1			0

Trt No.	Treatment Name	Rate	Unit	Appl Timing	Appl Code			
1	Roundup PowerMax	32 fl oz/a		2 leaf	B	18.8	27.1	7716
	AMS	17 lb/100 gal		2 leaf	B			
	Roundup PowerMax	22 fl oz/a		6-8 leaf	C			
	AMS	17 lb/100 gal		6-8 leaf	C			
2	Dual II Magnum	1.3 pt/a		2 leaf	B	18.9	21.1	6081
	Roundup PowerMax	32 fl oz/a		2 leaf	B			
	AMS	17 lb/100 gal		2 leaf	B			
	Dual II Magnum	1.3 pt/a		6-8 leaf	C			
	Roundup PowerMax	22 fl oz/a		6-8 leaf	C			
	AMS	17 lb/100 gal		6-8 leaf	C			
3	Warrant	3 pt/a		2 leaf	B	18.9	23.4	6672
	Roundup PowerMax	32 fl oz/a		2 leaf	B			
	AMS	17 lb/100 gal		2 leaf	B			
	Warrant	3 pt/a		6-8 leaf	C			
	Roundup PowerMax	22 fl oz/a		6-8 leaf	C			
	AMS	17 lb/100 gal		6-8 leaf	C			
4	Outlook	12 fl oz/a		2 leaf	B	18.7	22.7	6432
	Roundup PowerMax	32 fl oz/a		2 leaf	B			
	AMS	17 lb/100 gal		2 leaf	B			
	Outlook	12 fl oz/a		6-8 leaf	C			
	Roundup PowerMax	22 fl oz/a		6-8 leaf	C			
	AMS	17 lb/100 gal		6-8 leaf	C			
5	Ethofumesate	2 pt/a		PRE	A	18.7	26.4	7525
	Dual II Magnum	1 pt/a		2 leaf	B			
	Roundup PowerMax	32 fl oz/a		2 leaf	B			
	AMS	17 lb/100 gal		2 leaf	B			
	Dual II Magnum	1 pt/a		6-8 leaf	C			
	Roundup PowerMax	22 fl oz/a		6-8 leaf	C			
	AMS	17 lb/100 gal		6-8 leaf	C			
6	Ethofumesate	2 pt/a		PRE	A	18.9	26.4	7562
	Warrant	3 pt/a		2 leaf	B			
	Roundup PowerMax	32 fl oz/a		2 leaf	B			
	AMS	17 lb/100 gal		2 leaf	B			
	Warrant	3 pt/a		6-8 leaf	C			
	Roundup PowerMax	22 fl oz/a		6-8 leaf	C			
	AMS	17 lb/100 gal		6-8 leaf	C			
7	Ethofumesate	2 pt/a		PRE	A	18.6	29.6	8287
	Outlook	12 fl oz/a		2 leaf	B			
	Roundup PowerMax	32 fl oz/a		2 leaf	B			
	AMS	17 lb/100 gal		2 leaf	B			
	Outlook	12 fl oz/a		6-8 leaf	C			
	Roundup PowerMax	22 fl oz/a		6-8 leaf	C			
	AMS	17 lb/100 gal		6-8 leaf	C			
8	Ethofumesate	2 pt/a		PRE	A	19.0	28.7	8261
	Ethofumesate	2 pt/a		2 leaf	B			
	Roundup PowerMax	32 fl oz/a		2 leaf	B			
	Destiny HC	1.5 pt/a		2 leaf	B			
	AMS	17 lb/100 gal		2 leaf	B			
	Ethofumesate	2 pt/a		6-8 leaf	C			
	Roundup PowerMax	22 fl oz/a		6-8 leaf	C			
	Destiny HC	1.5 pt/a		6-8 leaf	C			
	AMS	17 lb/100 gal		6-8 leaf	C			

Could not calculate LSD (% mean diff) for columns 2,4,6,8,10 because error mean square = 0.

Sugarbeet tolerance of overlapping residuals for control of herbicide-resistant waterhemp

Trial ID: SB04-20

Location: SVREC

Trial Year: 2020

Protocol ID: SB04-20

Investigator (Creator): Christy Sprague

Study Director: Sprague, Powell, Stiles

Project ID:

Sponsor Contact:

Pest Code							
Crop Type, Code		C	BETVU	C	BETVU	C	BETVU
Rating Date		Oct-8-2020	Oct-8-2020	Oct-8-2020	Oct-8-2020	Oct-8-2020	Oct-8-2020
Rating Type		% sugar	yield	RWSA			
Rating Unit			ton/acre	#/acre			
Trt-Eval Interval		126 DA-C	126 DA-C	126 DA-C			
Number of Decimals		1	1	0			
Trt No.	Treatment Name	Rate	Rate Unit	Appl Timing	Appl Code		
9	Dual II Magnum	0.5	pt/a	PRE	A	18.5	22.0
	Dual II Magnum	1	pt/a	2 leaf	B		
	Roundup PowerMax	32	fl oz/a	2 leaf	B		
	AMS	17	lb/100 gal	2 leaf	B		
	Dual II Magnum	1	pt/a	6-8 leaf	C		
	Roundup PowerMax	22	fl oz/a	6-8 leaf	C		
	AMS	17	lb/100 gal	6-8 leaf	C		
10	Dual II Magnum	0.5	pt/a	PRE	A	18.6	23.3
	Warrant	3	pt/a	2 leaf	B		
	Roundup PowerMax	32	fl oz/a	2 leaf	B		
	AMS	17	lb/100 gal	2 leaf	B		
	Warrant	3	pt/a	6-8 leaf	C		
	Roundup PowerMax	22	fl oz/a	6-8 leaf	C		
	AMS	17	lb/100 gal	6-8 leaf	C		
11	Dual II Magnum	0.5	pt/a	PRE	A	18.8	25.3
	Outlook	12	fl oz/a	2 leaf	B		
	Roundup PowerMax	32	fl oz/a	2 leaf	B		
	AMS	17	lb/100 gal	2 leaf	B		
	Outlook	12	fl oz/a	6-8 leaf	C		
	Roundup PowerMax	22	fl oz/a	6-8 leaf	C		
	AMS	17	lb/100 gal	6-8 leaf	C		
12	Dual II Magnum	0.5	pt/a	PRE	A	19.0	26.3
	Ethofumesate	2	pt/a	2 leaf	B		
	Roundup PowerMax	32	fl oz/a	2 leaf	B		
	Destiny HC	1.5	pt/a	2 leaf	B		
	AMS	17	lb/100 gal	2 leaf	B		
	Ethofumesate	2	pt/a	6-8 leaf	C		
	Roundup PowerMax	22	fl oz/a	6-8 leaf	C		
	Destiny HC	1.5	pt/a	6-8 leaf	C		
	AMS	17	lb/100 gal	6-8 leaf	C		
13	Ethofumesate	2	pt/a	2 leaf	B	19.1	24.1
	Roundup PowerMax	32	fl oz/a	2 leaf	B		
	Destiny HC	1.5	pt/a	2 leaf	B		
	AMS	17	lb/100 gal	2 leaf	B		
	Ethofumesate	2	pt/a	6-8 leaf	C		
	Roundup PowerMax	22	fl oz/a	6-8 leaf	C		
	Destiny HC	1.5	pt/a	6-8 leaf	C		
	AMS	17	lb/100 gal	6-8 leaf	C		
14	Stinger	2	fl oz/a	2 leaf	B	18.4	20.9
	Roundup PowerMax	32	fl oz/a	2 leaf	B		
	AMS	17	lb/100 gal	2 leaf	B		
	Stinger	4	fl oz/a	6-8 leaf	C		
	Roundup PowerMax	22	fl oz/a	6-8 leaf	C		
	AMS	17	lb/100 gal	6-8 leaf	C		
15	Stinger	2	fl oz/a	2 leaf	B	18.7	28.6
	Dual II Magnum	1.3	pt/a	2 leaf	B		
	Roundup PowerMax	32	fl oz/a	2 leaf	B		
	AMS	17	lb/100 gal	2 leaf	B		
	Stinger	4	fl oz/a	6-8 leaf	C		
	Dual II Magnum	1.3	pt/a	6-8 leaf	C		
	Roundup PowerMax	22	fl oz/a	6-8 leaf	C		
	AMS	17	lb/100 gal	6-8 leaf	C		

Sugarbeet tolerance of overlapping residuals for control of herbicide-resistant waterhemp

Trial ID: SB04-20 Location: SVREC Trial Year: 2020

Protocol ID: SB04-20 Investigator (Creator): Christy Sprague
 Project ID: Study Director: Sprague, Powell, Stiles
 Sponsor Contact:

Pest Code			
Crop Type, Code	C BETVU	C BETVU	C BETVU
Rating Date	Oct-8-2020	Oct-8-2020	Oct-8-2020
Rating Type	% sugar	yield	RWSA
Rating Unit		ton/acre	#/acre
Trt-Eval Interval	126 DA-C	126 DA-C	126 DA-C
Number of Decimals	1	1	0

Trt No.	Treatment Name	Rate	Unit	Appl Timing	Appl Code			
16	Stinger	2 fl oz/a		2 leaf	B	19.0	26.8	7717
	Warrant	3 pt/a		2 leaf	B			
	Roundup PowerMax	32 fl oz/a		2 leaf	B			
	AMS	17 lb/100 gal		2 leaf	B			
	Stinger	4 fl oz/a		6-8 leaf	C			
	Warrant	3 pt/a		6-8 leaf	C			
	Roundup PowerMax	22 fl oz/a		6-8 leaf	C			
	AMS	17 lb/100 gal		6-8 leaf	C			
	LSD P=.05					0.82	6.52	1858.4
	Standard Deviation					0.57	4.56	1300.4
	CV					3.04	18.06	18.15