

Sugarbeet tolerance to residual herbicide strategies for weed control

Trial ID: SB02-24 Study Dir.: Sprague, Stiles
 Conducted: SVREC Investigator: Christy Sprague

Planting Date: Apr-16-2024 **Row Spacing:** 30 IN
Variety: Crystal G049 **No. of Reps:** 4
Population: 4.375 " spacing **% OM:** 2.3
Soil Type: CL clay loam **pH:** 7.5
Plot Size: 10 X 30 FT **Study Design:** Randomized Complete Block (RCB)

Tillage/Previous Crops: Fall high speed disk (Joker); spring soil finish.125 lb/A of actual N was applied as urea prior to planting.
Fertilizer:

Crop and Weed Description

Weed	Code	Common Name	Scientific Name
1	CHEAL	common lambsquarters	Chenopodium album
Crop	Code	Common Name	
1	BEAVU	sugarbeet	

Application Description

	A	B	C
Application Timing:	PRE	2-LEAF	6-8 LEAF
Date Treated:	Apr-22-2024	May-16-2024	May-30-2024
Time Treated:	11:05 AM	1:15 PM	1:45 PM
% Cloud Cover:	15	15	0
Air Temp., Unit:	51 F	72 F	67 F
% Relative Humidity:	42	49	31
Wind Speed/Unit/Dir:	9 M S	4 MPH WSW	6 MPH NE
Soil Temp, Unit:	53 F	79 F	72 F
Leaf Moist/Dew Presence (Y/N):	N	N	N
Soil Moist:	5	5	5

Crop Stage at Each Application

	A	B	C
Crop 1 Name:	BEAVU	BEAVU	BEAVU
Height:	1-3 " (2)	5-8 " (7)	
Stage:	2L	6-8L	

Weed Stage at Each Application

	A	B	C
Weed 1 Name:	CHEAL	CHEAL	CHEAL
Height:	1-3 " (2)	2-4 " (3)	
Stage:	4-6L	6-10L	

Weed Density

Date:	1 May-16-2024
Weed Name:	CHEAL
Density:	3 FT2

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	20.0 "	20.0 "	100.0 "	19 GAL/AC	WATER	30 PSI
B	CUB	3.8 MPH	AIXR	11003	20.0 "	20.0 "	100.0 "	19 GAL/AC	WATER	30 PSI
C	CUB	3.8 MPH	AIXR	11003	24.0 "	20.0 "	100.0 "	19 GAL/AC	WATER	30 PSI

Comments:

Michigan State University

Sugarbeet tolerance to residual herbicide strategies for weed control

Trial ID: SB02-24

Protocol ID: SB02-24 Location: SVREC Trial Year: 2024

Study Director: Sprague, Stiles Sponsor Contact:

Investigator: Christy Sprague

Rating Date	May-23-2024	May-23-2024	Jun-6-2024	Jun-6-2024	Jun-20-2024	Jun-20-2024
Rating Type	injury	control	injury	control	injury	control
Rating Unit	%	%	%	%	%	%
Crop Type, Code	C, BETVU		C, BETVU		C, BETVU	
Pest Code	CHEAL		CHEAL		CHEAL	
Trt-Eval Interval	7 DA-B	7 DA-B	7 DA-C	7 DA-C	21 DA-C	21 DA-C
Number of Decimals	0	0	0	0	0	0

Trt No.	Treatment Name	Rate	Unit	Appl Code	Appl Timing	May-23-2024 injury %	May-23-2024 control %	Jun-6-2024 injury %	Jun-6-2024 control %	Jun-20-2024 injury %	Jun-20-2024 control %
1	Dual Magnum	0.5	pt/a	A	PRE	2	100	0	100	1	100
	Dual Magnum	1.33	pt/a	B	2 leaf						
	Roundup PowerMax 3	30	fl oz/a	B	2 leaf						
	AMS	17	lb/100 gal	B	2 leaf						
	Roundup PowerMax 3	20	fl oz/a	C	6-8 leaf						
	AMS	17	lb/100 gal	C	6-8 leaf						
2	Dual Magnum	0.5	pt/a	A	PRE	1	99	0	100	0	100
	Warrant	3	pt/a	B	2 leaf						
	Roundup PowerMax 3	30	fl oz/a	B	2 leaf						
	AMS	17	lb/100 gal	B	2 leaf						
	Roundup PowerMax 3	20	fl oz/a	C	6-8 leaf						
	AMS	17	lb/100 gal	C	6-8 leaf						
3	Dual Magnum	0.5	pt/a	A	PRE	1	100	0	100	0	100
	Outlook	16	fl oz/a	B	2 leaf						
	Roundup PowerMax 3	30	fl oz/a	B	2 leaf						
	AMS	17	lb/100 gal	B	2 leaf						
	Roundup PowerMax 3	20	fl oz/a	C	6-8 leaf						
	AMS	17	lb/100 gal	C	6-8 leaf						
4	Dual Magnum	0.5	pt/a	A	PRE	3	100	0	100	0	100
	Dual Magnum	1.3	pt/a	B	2 leaf						
	Roundup PowerMax 3	30	fl oz/a	B	2 leaf						
	AMS	17	lb/100 gal	B	2 leaf						
	Dual Magnum	1.3	pt/a	C	6-8 leaf						
	Roundup PowerMax 3	20	fl oz/a	C	6-8 leaf						
	AMS	17	lb/100 gal	C	6-8 leaf						
5	Dual Magnum	0.5	pt/a	A	PRE	1	96	0	100	3	100
	Warrant	3	pt/a	B	2 leaf						
	Roundup PowerMax 3	30	fl oz/a	B	2 leaf						
	AMS	17	lb/100 gal	B	2 leaf						
	Warrant	3	pt/a	C	6-8 leaf						
	Roundup PowerMax 3	20	fl oz/a	C	6-8 leaf						
	AMS	17	lb/100 gal	C	6-8 leaf						
6	Dual Magnum	0.5	pt/a	A	PRE	0	100	0	100	0	100
	Outlook	12	fl oz/a	B	2 leaf						
	Roundup PowerMax 3	30	fl oz/a	B	2 leaf						
	AMS	17	lb/100 gal	B	2 leaf						
	Outlook	12	fl oz/a	C	6-8 leaf						
	Roundup PowerMax 3	20	fl oz/a	C	6-8 leaf						
	AMS	17	lb/100 gal	C	6-8 leaf						
7	Dual Magnum	0.5	pt/a	A	PRE	3	100	0	100	0	100
	Ethofumesate	6	fl oz/a	B	2 leaf						
	Dual Magnum	1	pt/a	B	2 leaf						
	Roundup PowerMax 3	30	fl oz/a	B	2 leaf						
	Destiny HC	1.5	pt/a	B	2 leaf						
	AMS	17	lb/100 gal	B	2 leaf						
	Ethofumesate	6	fl oz/a	C	6-8 leaf						
	Dual Magnum	1	pt/a	C	6-8 leaf						
	Roundup PowerMax 3	20	fl oz/a	C	6-8 leaf						
	Destiny HC	1.5	pt/a	C	6-8 leaf						
	AMS	17	lb/100 gal	C	6-8 leaf						

Missing data estimates are included in columns: Average=11,12,13,14,15

Could not calculate LSD (% mean diff) or mean separation letters for columns 4,8,9,10 because error variance is 0.

Mean separation letters are 'na' (not applicable) when error variance is 0

Michigan State University

Sugarbeet tolerance to residual herbicide strategies for weed control

Trial ID: SB02-24

Protocol ID: SB02-24 Location: SVREC Trial Year: 2024

Study Director: Sprague, Stiles Sponsor Contact:

Investigator: Christy Sprague

Rating Date		May-23-2024	May-23-2024	Jun-6-2024	Jun-6-2024	Jun-20-2024	Jun-20-2024	
Rating Type		injury	control	injury	control	injury	control	
Rating Unit		%	%	%	%	%	%	
Crop Type, Code		C, BETVU		C, BETVU		C, BETVU		
Pest Code			CHEAL		CHEAL		CHEAL	
Trt-Eval Interval		7 DA-B	7 DA-B	7 DA-C	7 DA-C	21 DA-C	21 DA-C	
Number of Decimals		0	0	0	0	0	0	
Trt No.	Treatment Name	Rate	Appl Code	Appl Timing				
8	Dual Magnum	0.5 pt/a	A	PRE	0	100	0	100
	Maxtron	6 fl oz/a	B	2 leaf				
	Dual Magnum	1 pt/a	B	2 leaf				
	Roundup PowerMax 3	30 fl oz/a	B	2 leaf				
	Destiny HC	1.5 pt/a	B	2 leaf				
	AMS	17 lb/100 gal	B	2 leaf				
	Maxtron	6 fl oz/a	C	6-8 leaf				
	Dual Magnum	1 pt/a	C	6-8 leaf				
	Roundup PowerMax 3	20 fl oz/a	C	6-8 leaf				
	Destiny HC	1.5 pt/a	C	6-8 leaf				
	AMS	17 lb/100 gal	C	6-8 leaf				
9	Roundup PowerMax 3	30 fl oz/a	B	2 leaf	2	100	0	100
	AMS	17 lb/100 gal	B	2 leaf				
	Roundup PowerMax 3	20 fl oz/a	C	6-8 leaf				
	AMS	17 lb/100 gal	C	6-8 leaf				
10	Ethofumesate	6 fl oz/a	B	2 leaf	1	100	0	100
	Dual Magnum	1 pt/a	B	2 leaf				
	Roundup PowerMax 3	30 fl oz/a	B	2 leaf				
	Destiny HC	1.5 pt/a	B	2 leaf				
	AMS	17 lb/100 gal	B	2 leaf				
	Ethofumesate	6 fl oz/a	C	6-8 leaf				
	Dual Magnum	1 pt/a	C	6-8 leaf				
	Roundup PowerMax 3	20 fl oz/a	C	6-8 leaf				
	Destiny HC	1.5 pt/a	C	6-8 leaf				
	AMS	17 lb/100 gal	C	6-8 leaf				
11	Roundup PowerMax 3	30 fl oz/a	B	2 leaf	1	100	24	100
	AMS	17 lb/100 gal	B	2 leaf				
	Ultra Blazer	16 fl oz/a	C	6-8 leaf				
	Roundup PowerMax 3	20 fl oz/a	C	6-8 leaf				
	AMS	17 lb/100 gal	C	6-8 leaf				
12	Roundup PowerMax 3	30 fl oz/a	B	2 leaf	1	100	18	100
	AMS	17 lb/100 gal	B	2 leaf				
	Ultra Blazer	16 fl oz/a	C	6-8 leaf				
	Warrant	3 pt/a	C	6-8 leaf				
	Roundup PowerMax 3	20 fl oz/a	C	6-8 leaf				
	AMS	17 lb/100 gal	C	6-8 leaf				
13	Dual Magnum	0.5 pt/a	A	PRE	0	100	24	100
	Roundup PowerMax 3	30 fl oz/a	B	2 leaf				
	AMS	17 lb/100 gal	B	2 leaf				
	Ultra Blazer	16 fl oz/a	C	6-8 leaf				
	Roundup PowerMax 3	20 fl oz/a	C	6-8 leaf				
	AMS	17 lb/100 gal	C	6-8 leaf				
14	Dual Magnum	0.5 pt/a	A	PRE	0	100	18	100
	Roundup PowerMax 3	30 fl oz/a	B	2 leaf				
	AMS	17 lb/100 gal	B	2 leaf				
	Ultra Blazer	16 fl oz/a	C	6-8 leaf				
	Warrant	3 pt/a	C	6-8 leaf				
	Roundup PowerMax 3	20 fl oz/a	C	6-8 leaf				
	AMS	17 lb/100 gal	C	6-8 leaf				

Missing data estimates are included in columns: Average=11,12,13,14,15

Could not calculate LSD (% mean diff) or mean separation letters for columns 4,8,9,10 because error variance is 0.

Mean separation letters are 'na' (not applicable) when error variance is 0

Michigan State University

Sugarbeet tolerance to residual herbicide strategies for weed control

Trial ID: SB02-24

Protocol ID: SB02-24 Location: SVREC Trial Year: 2024

Study Director: Sprague, Stiles Sponsor Contact:

Investigator: Christy Sprague

Rating Date	May-23-2024	May-23-2024	Jun-6-2024	Jun-6-2024	Jun-20-2024	Jun-20-2024					
Rating Type	injury	control	injury	control	injury	control					
Rating Unit	%	%	%	%	%	%					
Crop Type, Code	C, BETVU		C, BETVU		C, BETVU						
Pest Code	CHEAL		CHEAL		CHEAL						
Trt-Eval Interval	7 DA-B	7 DA-B	7 DA-C	7 DA-C	21 DA-C	21 DA-C					
Number of Decimals	0	0	0	0	0	0					
Trt No.	Treatment Name	Rate	Unit	Appl Code	Appl Timing						
15	Ethofumesate	3 pt/a		A	PRE	2	100	0	100	3	100
	Dual Magnum	1.33 pt/a		B	2 leaf						
	Roundup PowerMax 3	30 fl oz/a		B	2 leaf						
	AMS	17 lb/100 gal		B	2 leaf						
	Dual Magnum	1.33 pt/a		C	6-8 leaf						
	Roundup PowerMax 3	20 fl oz/a		C	6-8 leaf						
	AMS	17 lb/100 gal		C	6-8 leaf						
16	Maxtron	3 pt/a		A	PRE	1	100	0	100	1	100
	Dual Magnum	1.33 pt/a		B	2 leaf						
	Roundup PowerMax 3	30 fl oz/a		B	2 leaf						
	AMS	17 lb/100 gal		B	2 leaf						
	Dual Magnum	1.33 pt/a		C	6-8 leaf						
	Roundup PowerMax 3	20 fl oz/a		C	6-8 leaf						
	AMS	17 lb/100 gal		C	6-8 leaf						
	LSD P=.05					3.4	2.7	1.5	.	3.6	0.4
	Standard Deviation					2.4	1.9	1.1	0.0	2.5	0.3
	CV					213.61	1.89	20.46	0.0	77.01	0.25

Missing data estimates are included in columns: Average=11,12,13,14,15
 Could not calculate LSD (% mean diff) or mean separation letters for columns 4,8,9,10 because error variance is 0.
 Mean separation letters are 'na' (not applicable) when error variance is 0

Michigan State University

Sugarbeet tolerance to residual herbicide strategies for weed control

Trial ID: SB02-24

Protocol ID: SB02-24 Location: SVREC Trial Year: 2024

Study Director: Sprague, Stiles Sponsor Contact:

Investigator: Christy Sprague

Rating Date	Jul-2-2024	Jul-2-2024	Jul-25-2024	Jul-25-2024	Sep-19-2024	Sep-19-2024
Rating Type	injruy	control	injruy	control	stand count	sugar
Rating Unit	%	%	%	%	100' row	%
Crop Type, Code	C, BETVU	CHEAL	C, BETVU	CHEAL	C, BETVU	C, BETVU
Pest Code		CHEAL		CHEAL		
Trt-Eval Interval	33 DA-C	33 DA-C	56 DA-C	56 DA-C	112 DA-C	112 DA-C
Number of Decimals	0	0	0	0	0	1

Trt No.	Treatment Name	Rate	Unit	Appl Code	Appl Timing	Jul-2-2024 injruy %	Jul-2-2024 control %	Jul-25-2024 injruy %	Jul-25-2024 control %	Sep-19-2024 stand count	Sep-19-2024 sugar %
1	Dual Magnum	0.5	pt/a	A	PRE	0	100	0	100	232	14.9
	Dual Magnum	1.33	pt/a	B	2 leaf						
	Roundup PowerMax 3	30	fl oz/a	B	2 leaf						
	AMS	17	lb/100 gal	B	2 leaf						
	Roundup PowerMax 3	20	fl oz/a	C	6-8 leaf						
	AMS	17	lb/100 gal	C	6-8 leaf						
2	Dual Magnum	0.5	pt/a	A	PRE	0	100	0	100	238	15.1
	Warrant	3	pt/a	B	2 leaf						
	Roundup PowerMax 3	30	fl oz/a	B	2 leaf						
	AMS	17	lb/100 gal	B	2 leaf						
	Roundup PowerMax 3	20	fl oz/a	C	6-8 leaf						
	AMS	17	lb/100 gal	C	6-8 leaf						
3	Dual Magnum	0.5	pt/a	A	PRE	0	100	0	100	225	14.5
	Outlook	16	fl oz/a	B	2 leaf						
	Roundup PowerMax 3	30	fl oz/a	B	2 leaf						
	AMS	17	lb/100 gal	B	2 leaf						
	Roundup PowerMax 3	20	fl oz/a	C	6-8 leaf						
	AMS	17	lb/100 gal	C	6-8 leaf						
4	Dual Magnum	0.5	pt/a	A	PRE	0	100	0	100	214	14.3
	Dual Magnum	1.3	pt/a	B	2 leaf						
	Roundup PowerMax 3	30	fl oz/a	B	2 leaf						
	AMS	17	lb/100 gal	B	2 leaf						
	Dual Magnum	1.3	pt/a	C	6-8 leaf						
	Roundup PowerMax 3	20	fl oz/a	C	6-8 leaf						
	AMS	17	lb/100 gal	C	6-8 leaf						
5	Dual Magnum	0.5	pt/a	A	PRE	1	100	0	100	218	14.3
	Warrant	3	pt/a	B	2 leaf						
	Roundup PowerMax 3	30	fl oz/a	B	2 leaf						
	AMS	17	lb/100 gal	B	2 leaf						
	Warrant	3	pt/a	C	6-8 leaf						
	Roundup PowerMax 3	20	fl oz/a	C	6-8 leaf						
	AMS	17	lb/100 gal	C	6-8 leaf						
6	Dual Magnum	0.5	pt/a	A	PRE	1	100	0	100	223	14.7
	Outlook	12	fl oz/a	B	2 leaf						
	Roundup PowerMax 3	30	fl oz/a	B	2 leaf						
	AMS	17	lb/100 gal	B	2 leaf						
	Outlook	12	fl oz/a	C	6-8 leaf						
	Roundup PowerMax 3	20	fl oz/a	C	6-8 leaf						
	AMS	17	lb/100 gal	C	6-8 leaf						
7	Dual Magnum	0.5	pt/a	A	PRE	0	100	0	100	207	15.0
	Ethofumesate	6	fl oz/a	B	2 leaf						
	Dual Magnum	1	pt/a	B	2 leaf						
	Roundup PowerMax 3	30	fl oz/a	B	2 leaf						
	Destiny HC	1.5	pt/a	B	2 leaf						
	AMS	17	lb/100 gal	B	2 leaf						
	Ethofumesate	6	fl oz/a	C	6-8 leaf						
	Dual Magnum	1	pt/a	C	6-8 leaf						
	Roundup PowerMax 3	20	fl oz/a	C	6-8 leaf						
	Destiny HC	1.5	pt/a	C	6-8 leaf						
	AMS	17	lb/100 gal	C	6-8 leaf						

Missing data estimates are included in columns: Average=11,12,13,14,15

Could not calculate LSD (% mean diff) or mean separation letters for columns 4,8,9,10 because error variance is 0.

Mean separation letters are 'na' (not applicable) when error variance is 0

Michigan State University

Sugarbeet tolerance to residual herbicide strategies for weed control

Trial ID: SB02-24

Protocol ID: SB02-24 Location: SVREC Trial Year: 2024

Study Director: Sprague, Stiles Sponsor Contact:

Investigator: Christy Sprague

Rating Date	Jul-2-2024	Jul-2-2024	Jul-25-2024	Jul-25-2024	Sep-19-2024	Sep-19-2024
Rating Type	injruy	control	injruy	control	stand count	sugar
Rating Unit	%	%	%	%	100' row	%
Crop Type, Code	C, BETVU	CHEAL	C, BETVU	CHEAL	C, BETVU	C, BETVU
Pest Code		CHEAL		CHEAL		
Trt-Eval Interval	33 DA-C	33 DA-C	56 DA-C	56 DA-C	112 DA-C	112 DA-C
Number of Decimals	0	0	0	0	0	1

Trt No.	Treatment Name	Rate	Unit	Appl Code	Appl Timing	Jul-2-2024 injruy %	Jul-2-2024 control %	Jul-25-2024 injruy %	Jul-25-2024 control %	Sep-19-2024 stand count	Sep-19-2024 sugar %
8	Dual Magnum	0.5	pt/a	A	PRE	1	100	0	100	209	14.2
	Maxtron	6	fl oz/a	B	2 leaf						
	Dual Magnum	1	pt/a	B	2 leaf						
	Roundup PowerMax 3	30	fl oz/a	B	2 leaf						
	Destiny HC	1.5	pt/a	B	2 leaf						
	AMS	17	lb/100 gal	B	2 leaf						
	Maxtron	6	fl oz/a	C	6-8 leaf						
	Dual Magnum	1	pt/a	C	6-8 leaf						
	Roundup PowerMax 3	20	fl oz/a	C	6-8 leaf						
	Destiny HC	1.5	pt/a	C	6-8 leaf						
	AMS	17	lb/100 gal	C	6-8 leaf						
9	Roundup PowerMax 3	30	fl oz/a	B	2 leaf	1	100	0	100	228	14.2
	AMS	17	lb/100 gal	B	2 leaf						
	Roundup PowerMax 3	20	fl oz/a	C	6-8 leaf						
	AMS	17	lb/100 gal	C	6-8 leaf						
10	Ethofumesate	6	fl oz/a	B	2 leaf	3	100	0	100	237	14.7
	Dual Magnum	1	pt/a	B	2 leaf						
	Roundup PowerMax 3	30	fl oz/a	B	2 leaf						
	Destiny HC	1.5	pt/a	B	2 leaf						
	AMS	17	lb/100 gal	B	2 leaf						
	Ethofumesate	6	fl oz/a	C	6-8 leaf						
	Dual Magnum	1	pt/a	C	6-8 leaf						
	Roundup PowerMax 3	20	fl oz/a	C	6-8 leaf						
	Destiny HC	1.5	pt/a	C	6-8 leaf						
	AMS	17	lb/100 gal	C	6-8 leaf						
11	Roundup PowerMax 3	30	fl oz/a	B	2 leaf	3	100	0	100	231	15.0
	AMS	17	lb/100 gal	B	2 leaf						
	Ultra Blazer	16	fl oz/a	C	6-8 leaf						
	Roundup PowerMax 3	20	fl oz/a	C	6-8 leaf						
	AMS	17	lb/100 gal	C	6-8 leaf						
12	Roundup PowerMax 3	30	fl oz/a	B	2 leaf	3	100	0	100	243	14.7
	AMS	17	lb/100 gal	B	2 leaf						
	Ultra Blazer	16	fl oz/a	C	6-8 leaf						
	Warrant	3	pt/a	C	6-8 leaf						
	Roundup PowerMax 3	20	fl oz/a	C	6-8 leaf						
	AMS	17	lb/100 gal	C	6-8 leaf						
13	Dual Magnum	0.5	pt/a	A	PRE	5	100	0	100	236	14.8
	Roundup PowerMax 3	30	fl oz/a	B	2 leaf						
	AMS	17	lb/100 gal	B	2 leaf						
	Ultra Blazer	16	fl oz/a	C	6-8 leaf						
	Roundup PowerMax 3	20	fl oz/a	C	6-8 leaf						
	AMS	17	lb/100 gal	C	6-8 leaf						
14	Dual Magnum	0.5	pt/a	A	PRE	4	100	0	100	225	14.6
	Roundup PowerMax 3	30	fl oz/a	B	2 leaf						
	AMS	17	lb/100 gal	B	2 leaf						
	Ultra Blazer	16	fl oz/a	C	6-8 leaf						
	Warrant	3	pt/a	C	6-8 leaf						
	Roundup PowerMax 3	20	fl oz/a	C	6-8 leaf						
	AMS	17	lb/100 gal	C	6-8 leaf						

Missing data estimates are included in columns: Average=11,12,13,14,15

Could not calculate LSD (% mean diff) or mean separation letters for columns 4,8,9,10 because error variance is 0.

Mean separation letters are 'na' (not applicable) when error variance is 0

Michigan State University

Sugarbeet tolerance to residual herbicide strategies for weed control

Trial ID: SB02-24

Protocol ID: SB02-24 Location: SVREC Trial Year: 2024

Study Director: Sprague, Stiles Sponsor Contact:

Investigator: Christy Sprague

Rating Date	Jul-2-2024	Jul-2-2024	Jul-25-2024	Jul-25-2024	Sep-19-2024	Sep-19-2024				
Rating Type	injruy	control	injruy	control	stand count	sugar				
Rating Unit	%	%	%	%	100' row	%				
Crop Type, Code	C, BETVU		C, BETVU		C, BETVU	C, BETVU				
Pest Code	CHEAL		CHEAL							
Trt-Eval Interval	33 DA-C	33 DA-C	56 DA-C	56 DA-C	112 DA-C	112 DA-C				
Number of Decimals	0	0	0	0	0	1				
Trt Treatment	Rate	Appl	Appl							
No. Name	Rate Unit	Code	Timing							
15	Ethofumesate	3 pt/a	A	PRE	3	100	0	100	196	14.1
	Dual Magnum	1.33 pt/a	B	2 leaf						
	Roundup PowerMax 3	30 fl oz/a	B	2 leaf						
	AMS	17 lb/100 gal	B	2 leaf						
	Dual Magnum	1.33 pt/a	C	6-8 leaf						
	Roundup PowerMax 3	20 fl oz/a	C	6-8 leaf						
	AMS	17 lb/100 gal	C	6-8 leaf						
16	Maxtron	3 pt/a	A	PRE	2	100	0	100	209	13.9
	Dual Magnum	1.33 pt/a	B	2 leaf						
	Roundup PowerMax 3	30 fl oz/a	B	2 leaf						
	AMS	17 lb/100 gal	B	2 leaf						
	Dual Magnum	1.33 pt/a	C	6-8 leaf						
	Roundup PowerMax 3	20 fl oz/a	C	6-8 leaf						
	AMS	17 lb/100 gal	C	6-8 leaf						
LSD P=.05					1.9	.	.	.	18.9	0.77
Standard Deviation					1.4	0.0	0.0	0.0	13.2	0.54
CV					87.31	0.0	0.0	0.0	5.91	3.69

Missing data estimates are included in columns: Average=11,12,13,14,15
 Could not calculate LSD (% mean diff) or mean separation letters for columns 4,8,9,10 because error variance is 0.
 Mean separation letters are 'na' (not applicable) when error variance is 0

Michigan State University

Sugarbeet tolerance to residual herbicide strategies for weed control

Trial ID: SB02-24

Protocol ID: SB02-24 Location: SVREC Trial Year: 2024

Study Director: Sprague, Stiles Sponsor Contact:

Investigator: Christy Sprague

Rating Date	Sep-19-2024	Sep-19-2024	Sep-19-2024
Rating Type	RWST	yield	RWSA
Rating Unit	lb/ton	ton/A	lb/A
Crop Type, Code	C, BETVU	C, BETVU	C, BETVU
Pest Code			
Trt-Eval Interval	112 DA-C	112 DA-C	112 DA-C
Number of Decimals	0	1	0

Trt No.	Treatment Name	Rate	Unit	Appl Code	Appl Timing			
1	Dual Magnum	0.5	pt/a	A	PRE	252	33.0	8331
	Dual Magnum	1.33	pt/a	B	2 leaf			
	Roundup PowerMax 3	30	fl oz/a	B	2 leaf			
	AMS	17	lb/100 gal	B	2 leaf			
	Roundup PowerMax 3	20	fl oz/a	C	6-8 leaf			
	AMS	17	lb/100 gal	C	6-8 leaf			
2	Dual Magnum	0.5	pt/a	A	PRE	261	32.9	8556
	Warrant	3	pt/a	B	2 leaf			
	Roundup PowerMax 3	30	fl oz/a	B	2 leaf			
	AMS	17	lb/100 gal	B	2 leaf			
	Roundup PowerMax 3	20	fl oz/a	C	6-8 leaf			
	AMS	17	lb/100 gal	C	6-8 leaf			
3	Dual Magnum	0.5	pt/a	A	PRE	251	27.2	6841
	Outlook	16	fl oz/a	B	2 leaf			
	Roundup PowerMax 3	30	fl oz/a	B	2 leaf			
	AMS	17	lb/100 gal	B	2 leaf			
	Roundup PowerMax 3	20	fl oz/a	C	6-8 leaf			
	AMS	17	lb/100 gal	C	6-8 leaf			
4	Dual Magnum	0.5	pt/a	A	PRE	241	28.9	6999
	Dual Magnum	1.3	pt/a	B	2 leaf			
	Roundup PowerMax 3	30	fl oz/a	B	2 leaf			
	AMS	17	lb/100 gal	B	2 leaf			
	Dual Magnum	1.3	pt/a	C	6-8 leaf			
	Roundup PowerMax 3	20	fl oz/a	C	6-8 leaf			
	AMS	17	lb/100 gal	C	6-8 leaf			
5	Dual Magnum	0.5	pt/a	A	PRE	243	30.4	7691
	Warrant	3	pt/a	B	2 leaf			
	Roundup PowerMax 3	30	fl oz/a	B	2 leaf			
	AMS	17	lb/100 gal	B	2 leaf			
	Warrant	3	pt/a	C	6-8 leaf			
	Roundup PowerMax 3	20	fl oz/a	C	6-8 leaf			
	AMS	17	lb/100 gal	C	6-8 leaf			
6	Dual Magnum	0.5	pt/a	A	PRE	254	31.0	7851
	Outlook	12	fl oz/a	B	2 leaf			
	Roundup PowerMax 3	30	fl oz/a	B	2 leaf			
	AMS	17	lb/100 gal	B	2 leaf			
	Outlook	12	fl oz/a	C	6-8 leaf			
	Roundup PowerMax 3	20	fl oz/a	C	6-8 leaf			
	AMS	17	lb/100 gal	C	6-8 leaf			
7	Dual Magnum	0.5	pt/a	A	PRE	257	27.0	6946
	Ethofumesate	6	fl oz/a	B	2 leaf			
	Dual Magnum	1	pt/a	B	2 leaf			
	Roundup PowerMax 3	30	fl oz/a	B	2 leaf			
	Destiny HC	1.5	pt/a	B	2 leaf			
	AMS	17	lb/100 gal	B	2 leaf			
	Ethofumesate	6	fl oz/a	C	6-8 leaf			
	Dual Magnum	1	pt/a	C	6-8 leaf			
	Roundup PowerMax 3	20	fl oz/a	C	6-8 leaf			
	Destiny HC	1.5	pt/a	C	6-8 leaf			
	AMS	17	lb/100 gal	C	6-8 leaf			

Missing data estimates are included in columns: Average=11,12,13,14,15

Could not calculate LSD (% mean diff) or mean separation letters for columns 4,8,9,10 because error variance is 0.

Mean separation letters are 'na' (not applicable) when error variance is 0

Michigan State University

Sugarbeet tolerance to residual herbicide strategies for weed control

Trial ID: SB02-24

Protocol ID: SB02-24 Location: SVREC Trial Year: 2024

Study Director: Sprague, Stiles Sponsor Contact:

Investigator: Christy Sprague

Rating Date	Sep-19-2024	Sep-19-2024	Sep-19-2024
Rating Type	RWST	yield	RWSA
Rating Unit	lb/ton	ton/A	lb/A
Crop Type, Code	C, BETVU	C, BETVU	C, BETVU
Pest Code			
Trt-Eval Interval	112 DA-C	112 DA-C	112 DA-C
Number of Decimals	0	1	0

Trt No.	Treatment Name	Rate	Unit	Appl Code	Appl Timing			
8	Dual Magnum	0.5	pt/a	A	PRE	243	27.5	6680
	Maxtron	6	fl oz/a	B	2 leaf			
	Dual Magnum	1	pt/a	B	2 leaf			
	Roundup PowerMax 3	30	fl oz/a	B	2 leaf			
	Destiny HC	1.5	pt/a	B	2 leaf			
	AMS	17	lb/100 gal	B	2 leaf			
	Maxtron	6	fl oz/a	C	6-8 leaf			
	Dual Magnum	1	pt/a	C	6-8 leaf			
	Roundup PowerMax 3	20	fl oz/a	C	6-8 leaf			
	Destiny HC	1.5	pt/a	C	6-8 leaf			
	AMS	17	lb/100 gal	C	6-8 leaf			
9	Roundup PowerMax 3	30	fl oz/a	B	2 leaf	236	29.5	7018
	AMS	17	lb/100 gal	B	2 leaf			
	Roundup PowerMax 3	20	fl oz/a	C	6-8 leaf			
	AMS	17	lb/100 gal	C	6-8 leaf			
10	Ethofumesate	6	fl oz/a	B	2 leaf	254	30.0	7620
	Dual Magnum	1	pt/a	B	2 leaf			
	Roundup PowerMax 3	30	fl oz/a	B	2 leaf			
	Destiny HC	1.5	pt/a	B	2 leaf			
	AMS	17	lb/100 gal	B	2 leaf			
	Ethofumesate	6	fl oz/a	C	6-8 leaf			
	Dual Magnum	1	pt/a	C	6-8 leaf			
	Roundup PowerMax 3	20	fl oz/a	C	6-8 leaf			
	Destiny HC	1.5	pt/a	C	6-8 leaf			
	AMS	17	lb/100 gal	C	6-8 leaf			
11	Roundup PowerMax 3	30	fl oz/a	B	2 leaf	259	27.2	7111
	AMS	17	lb/100 gal	B	2 leaf			
	Ultra Blazer	16	fl oz/a	C	6-8 leaf			
	Roundup PowerMax 3	20	fl oz/a	C	6-8 leaf			
	AMS	17	lb/100 gal	C	6-8 leaf			
12	Roundup PowerMax 3	30	fl oz/a	B	2 leaf	255	31.2	7933
	AMS	17	lb/100 gal	B	2 leaf			
	Ultra Blazer	16	fl oz/a	C	6-8 leaf			
	Warrant	3	pt/a	C	6-8 leaf			
	Roundup PowerMax 3	20	fl oz/a	C	6-8 leaf			
	AMS	17	lb/100 gal	C	6-8 leaf			
13	Dual Magnum	0.5	pt/a	A	PRE	254	31.0	7877
	Roundup PowerMax 3	30	fl oz/a	B	2 leaf			
	AMS	17	lb/100 gal	B	2 leaf			
	Ultra Blazer	16	fl oz/a	C	6-8 leaf			
	Roundup PowerMax 3	20	fl oz/a	C	6-8 leaf			
	AMS	17	lb/100 gal	C	6-8 leaf			
14	Dual Magnum	0.5	pt/a	A	PRE	255	29.4	7474
	Roundup PowerMax 3	30	fl oz/a	B	2 leaf			
	AMS	17	lb/100 gal	B	2 leaf			
	Ultra Blazer	16	fl oz/a	C	6-8 leaf			
	Warrant	3	pt/a	C	6-8 leaf			
	Roundup PowerMax 3	20	fl oz/a	C	6-8 leaf			
	AMS	17	lb/100 gal	C	6-8 leaf			

Missing data estimates are included in columns: Average=11,12,13,14,15

Could not calculate LSD (% mean diff) or mean separation letters for columns 4,8,9,10 because error variance is 0.

Mean separation letters are 'na' (not applicable) when error variance is 0

Michigan State University

Sugarbeet tolerance to residual herbicide strategies for weed control

Trial ID: SB02-24

Protocol ID: SB02-24 Location: SVREC Trial Year: 2024

Study Director: Sprague, Stiles Sponsor Contact:

Investigator: Christy Sprague

Rating Date	Sep-19-2024	Sep-19-2024	Sep-19-2024				
Rating Type	RWST	yield	RWSA				
Rating Unit	lb/ton	ton/A	lb/A				
Crop Type, Code	C, BETVU	C, BETVU	C, BETVU				
Pest Code							
Trt-Eval Interval	112 DA-C	112 DA-C	112 DA-C				
Number of Decimals	0	1	0				
Trt No.	Treatment Name	Rate Unit	Appl Code	Appl Timing			
15	Ethofumesate	3 pt/a	A	PRE	240	25.7	6183
	Dual Magnum	1.33 pt/a	B	2 leaf			
	Roundup PowerMax 3	30 fl oz/a	B	2 leaf			
	AMS	17 lb/100 gal	B	2 leaf			
	Dual Magnum	1.33 pt/a	C	6-8 leaf			
	Roundup PowerMax 3	20 fl oz/a	C	6-8 leaf			
	AMS	17 lb/100 gal	C	6-8 leaf			
16	Maxtron	3 pt/a	A	PRE	231	26.1	6045
	Dual Magnum	1.33 pt/a	B	2 leaf			
	Roundup PowerMax 3	30 fl oz/a	B	2 leaf			
	AMS	17 lb/100 gal	B	2 leaf			
	Dual Magnum	1.33 pt/a	C	6-8 leaf			
	Roundup PowerMax 3	20 fl oz/a	C	6-8 leaf			
	AMS	17 lb/100 gal	C	6-8 leaf			
	LSD P=.05				16.9	5.34	1436.8
	Standard Deviation				11.9	3.73	1002.8
	CV				4.76	12.75	13.7

Missing data estimates are included in columns: Average=11,12,13,14,15

Could not calculate LSD (% mean diff) or mean separation letters for columns 4,8,9,10 because error variance is 0.

Mean separation letters are 'na' (not applicable) when error variance is 0