

Overlapping residuals for herbicide-resistant waterhemp control in sugarbeet

Trial ID: SB06-20 Study Dir.: Sprague, Powell, Stiles
 Conducted: Isabella County Investigator: Christy Sprague

Planting Date: May-9-2020 **Row Spacing:** 30 IN
Variety: Crystal G675 **No. of Reps:** 4
Population: 4.375 " spacing **% OM:** 2.5
Soil Type: SL sandy loam **pH:** 6.8
Plot Size: 10 X 25 FT **Study Design:** Randomized Complete Block (RCB)

Tillage/Previous Crops: Spring disked, spring cultimulched

Fertilizer:

Crop and Weed Description

Weed	Code	Common Name	Scientific Name
1	AMATU	Tall waterhemp	Amaranthus tuberculatus
Crop	Code	Common Name	
1	BETVU	Sugarbeet	

Application Description

	A	B	C
Application Timing:	PRE	2LF	6-8LF
Date Treated:	May-13-2020	Jun-2-2020	Jun-25-2020
Time Treated:	8:20 AM	9:35 AM	8:30 AM
% Cloud Cover:	0	10	0
Air Temp., Unit:	39 F	73 F	66 F
% Relative Humidity:	62	65	69
Wind Speed/Unit/Dir:	2 mph N	8 mph SW	4 mph W
Soil Temp, Unit:	41 F	65 F	73 F
Leaf Moist/Dew Presence (Y/N):		5	5
Soil Moist:	5	5	5

Crop Stage at Each Application

	A	B	C
Crop 1 Name:	BETVU	BETVU	BETVU
Height:		1.5 "	3 "
Stage:		2L	6L

Weed Stage at Each Application

	A	B	C
Weed 1 Name:	AMATU	AMATU	AMATU
Height:		2 "	4 "
Stage:		6L	8-10L

Weed Density

Date:	1 Jun-25-2020
Weed Name:	AMATU
Density:	12 FT

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	21 "	20 "	120 "	19 GAL/AC	WATER	30 psi
B	CUB	3.8 mph	AIXR	11003	21 "	20 "	100 "	19 GAL/AC	WATER	30 psi
C	CUB	3.8 mph	AIXR	11003	26 "	20 "	100 "	19 GAL/AC	WATER	30 psi

Comments:

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Pest Code	AMATU		AMATU		AMATU		AMATU	AMATU
Crop Type, Code	C BETVU	C BETVU	C BETVU	C BETVU	C BETVU	C BETVU	C BETVU	C BETVU
Rating Date	Jun-10-2020	Jul-8-2020	Jul-22-2020	Jul-22-2020	Aug-11-2020	Aug-11-2020	Oct-6-2020	
Rating Type	injury	control	injury	control	injury	control	control	
Rating Unit	percent	percent	percent	percent	percent	percent	percent	percent
Trt-Eval Interval	28 DA-A	13 DA-C	27 DA-C	27 DA-C	47 DA-C	47 DA-C	103 DA-C	
Number of Decimals	0	0	0	0	0	0	0	0

Trt No.	Treatment Name	Rate	Rate Unit	Appl	Appl						
				Timing	Code						
1	Roundup PowerMax AMS	32 fl oz/a	gal	2 leaf	B	0	0	0	0	0	0
	Roundup PowerMax AMS	17 lb/100 gal	gal	2 leaf	B						
	Roundup PowerMax AMS	22 fl oz/a	gal	6-8 leaf	C						
	Roundup PowerMax AMS	17 lb/100 gal	gal	6-8 leaf	C						
2	Dual II Magnum	1.3 pt/a		2 leaf	B	11	78	0	66	0	67
	Roundup PowerMax AMS	32 fl oz/a	gal	2 leaf	B						
	Roundup PowerMax AMS	17 lb/100 gal	gal	2 leaf	B						
	Dual II Magnum	1.3 pt/a		6-8 leaf	C						
	Roundup PowerMax AMS	22 fl oz/a	gal	6-8 leaf	C						
	Roundup PowerMax AMS	17 lb/100 gal	gal	6-8 leaf	C						
3	Warrant	3 pt/a		2 leaf	B	27	92	2	76	0	70
	Roundup PowerMax AMS	32 fl oz/a	gal	2 leaf	B						
	Roundup PowerMax AMS	17 lb/100 gal	gal	2 leaf	B						
	Warrant	3 pt/a		6-8 leaf	C						
	Roundup PowerMax AMS	22 fl oz/a	gal	6-8 leaf	C						
	Roundup PowerMax AMS	17 lb/100 gal	gal	6-8 leaf	C						
4	Outlook	12 fl oz/a		2 leaf	B	8	82	0	65	0	63
	Roundup PowerMax AMS	32 fl oz/a	gal	2 leaf	B						
	Roundup PowerMax AMS	17 lb/100 gal	gal	2 leaf	B						
	Outlook	12 fl oz/a		6-8 leaf	C						
	Roundup PowerMax AMS	22 fl oz/a	gal	6-8 leaf	C						
	Roundup PowerMax AMS	17 lb/100 gal	gal	6-8 leaf	C						
5	Ethofumesate	2 pt/a		PRE	A	14	100	0	100	0	100
	Dual II Magnum	1 pt/a		2 leaf	B						
	Roundup PowerMax AMS	32 fl oz/a	gal	2 leaf	B						
	Roundup PowerMax AMS	17 lb/100 gal	gal	2 leaf	B						
	Dual II Magnum	1 pt/a		6-8 leaf	C						
	Roundup PowerMax AMS	22 fl oz/a	gal	6-8 leaf	C						
	Roundup PowerMax AMS	17 lb/100 gal	gal	6-8 leaf	C						
6	Ethofumesate	2 pt/a		PRE	A	24	100	3	100	0	100
	Warrant	3 pt/a		2 leaf	B						
	Roundup PowerMax AMS	32 fl oz/a	gal	2 leaf	B						
	Roundup PowerMax AMS	17 lb/100 gal	gal	2 leaf	B						
	Warrant	3 pt/a		6-8 leaf	C						
	Roundup PowerMax AMS	22 fl oz/a	gal	6-8 leaf	C						
	Roundup PowerMax AMS	17 lb/100 gal	gal	6-8 leaf	C						
7	Ethofumesate	2 pt/a		PRE	A	16	100	0	100	0	100
	Outlook	12 fl oz/a		2 leaf	B						
	Roundup PowerMax AMS	32 fl oz/a	gal	2 leaf	B						
	Roundup PowerMax AMS	17 lb/100 gal	gal	2 leaf	B						
	Outlook	12 fl oz/a		6-8 leaf	C						
	Roundup PowerMax AMS	22 fl oz/a	gal	6-8 leaf	C						
	Roundup PowerMax AMS	17 lb/100 gal	gal	6-8 leaf	C						
8	Ethofumesate	2 pt/a		PRE	A	10	100	0	100	0	100
	Ethofumesate	2 pt/a		2 leaf	B						
	Roundup PowerMax AMS	32 fl oz/a	gal	2 leaf	B						
	Destiny HC	1.5 pt/a		2 leaf	B						
	Roundup PowerMax AMS	17 lb/100 gal	gal	2 leaf	B						
	Ethofumesate	2 pt/a		6-8 leaf	C						
	Roundup PowerMax AMS	22 fl oz/a	gal	6-8 leaf	C						
	Destiny HC	1.5 pt/a		6-8 leaf	C						
	Roundup PowerMax AMS	17 lb/100 gal	gal	6-8 leaf	C						

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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	25	92	11	92	12	91	81
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				8.7	6.9	2.2	9.4	1.8	8.8	12.1
Standard Deviation				6.1	4.8	1.6	6.6	1.3	6.2	8.5
CV				42.53	5.9	43.59	8.49	55.95	8.13	11.61