

**Waterhemp control with various weed control strategies in sugarbeet**

Trial ID: SB07-21 Study Dir.: Sprague, Powell, Stiles  
 Conducted: Shiawassee County Investigator: Christy Sprague

**Planting Date:** 5-20-21 **Row Spacing:** 30 IN  
**Variety:** Crystal G675 **No. of Reps:** 4  
**Population:** 4.38 " spacing **% OM:** 4.2  
**Soil Type:** CL clay loam **pH:** 6.6  
**Plot Size:** 10 X 25 FT **Study Design:** Randomized Complete Block (RCB)

**Tillage/Previous Crops:** Spring disked corn stubble  
**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
<b>Application Timing:</b>	PRE	2 leaf	6-8 leaf
<b>Date Treated:</b>	5-20-21	6-9-21	6-23-21
<b>Time Treated:</b>	11:50 AM	12:50 PM	10:25 AM
<b>% Cloud Cover:</b>	70	70	60
<b>Air Temp., Unit:</b>	79 F	82 F	62 F
<b>% Relative Humidity:</b>	63	51	61
<b>Wind Speed/Unit/Dir:</b>	7 MPH SE	0.8 MPH SE	4 MPH SE
<b>Soil Temp, Unit:</b>	66 F	86 F	62 F
<b>Leaf Moist/Dew Presence (Y/N):</b>	N	N	N
<b>Soil Moist:</b>	5		3

**Crop Stage at Each Application**

	A	B	C
<b>Crop 1 Name:</b>	BETVU	BETVU	BETVU
<b>Height:</b>	1-4 " (2.5)	4-8 " (6)	
<b>Stage:</b>	2L	6L	

**Weed Stage at Each Application**

	A	B	C
<b>Weed 1 Name:</b>	AMATU	AMATU	AMATU
<b>Height:</b>	0.5-2 " (1)	1-6 " (3)	
<b>Stage:</b>	4L-6L (5L)	4L-24L (16L)	

**Weed Density**

<b>Date:</b>	1 6-23-21
<b>Weed Name:</b>	AMATU
<b>Density:</b>	15 FT <sup>2</sup>

**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	22.0 "	20.0 "	100.0 "	19 GAL/AC	WATER	30 PSI
B	CUB	3.8 MPH	AIXR	11003	28.0 "	20.0 "	100.0 "	19 GAL/AC	WATER	30 PSI
C	CUB	3.8 MPH	AIXR	11003	26.0 "	20.0 "	100.0 "	19 GAL/AC	WATER	30 PSI

**Comments:** Waterhemp at this location is Group 2 & 9 (ALS & glyphosate) resistant.

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Study Director: Sprague, Powell, Stiles

Pest Code	AMATU	AMATU	AMATU	C, BETVU	AMATU
Crop Type, Code					
Rating Date	6-16-21	7-7-21	7-21-21	8-11-21	8-11-21
Rating Type	control	control	control	injury	control
Rating Unit	%	%	%	%	%
Trt-Eval Interval	7 DA-B	14 DA-C	28 DA-C	49 DA-C	49 DA-C

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code					
1	Roundup PowerMax	32 fl oz/a		B	0	0	0	0	0
1	AMS	17 lb/100 gal		B					
1	Roundup PowerMax	22 fl oz/a		C					
1	AMS	17 lb/100 gal		C					
2	Dual II Magnum	1.3 pt/a		B	82	72	66	0	53
2	Roundup PowerMax	32 fl oz/a		B					
2	AMS	17 lb/100 gal		B					
2	Dual II Magnum	1.3 pt/a		C					
2	Roundup PowerMax	22 fl oz/a		C					
2	AMS	17 lb/100 gal		C					
3	Warrant	3 pt/a		B	79	83	80	0	75
3	Roundup PowerMax	32 fl oz/a		B					
3	AMS	17 lb/100 gal		B					
3	Warrant	3 pt/a		C					
3	Roundup PowerMax	22 fl oz/a		C					
3	AMS	17 lb/100 gal		C					
4	Outlook	12 fl oz/a		B	85	83	76	0	67
4	Roundup PowerMax	32 fl oz/a		B					
4	AMS	17 lb/100 gal		B					
4	Outlook	12 fl oz/a		C					
4	Roundup PowerMax	22 fl oz/a		C					
4	AMS	17 lb/100 gal		C					
5	Dual II Magnum	0.5 pt/a		A	99	94	87	0	79
5	Dual II Magnum	1.3 pt/a		B					
5	Roundup PowerMax	32 fl oz/a		B					
5	AMS	17 lb/100 gal		B					
5	Roundup PowerMax	22 fl oz/a		C					
5	AMS	17 lb/100 gal		C					
6	Dual II Magnum	0.5 pt/a		A	98	99	96	0	89
6	Warrant	3 pt/a		B					
6	Roundup PowerMax	32 fl oz/a		B					
6	AMS	17 lb/100 gal		B					
6	Roundup PowerMax	22 fl oz/a		C					
6	AMS	17 lb/100 gal		C					
7	Dual II Magnum	0.5 pt/a		A	93	95	92	0	89
7	Outlook	16 fl oz/a		B					
7	Roundup PowerMax	32 fl oz/a		B					
7	AMS	17 lb/100 gal		B					
7	Roundup PowerMax	22 fl oz/a		C					
7	AMS	17 lb/100 gal		C					
8	Ethofumesate	3 pt/a		A	100	100	98	0	89
8	Warrant	3 pt/a		B					
8	Roundup PowerMax	32 fl oz/a		B					
8	AMS	17 lb/100 gal		B					
8	Roundup PowerMax	22 fl oz/a		C					
8	AMS	17 lb/100 gal		C					
9	Dual II Magnum	0.5 pt/a		A	95	93	87	0	83
9	Dual II Magnum	1.3 pt/a		B					
9	Roundup PowerMax	32 fl oz/a		B					
9	AMS	17 lb/100 gal		B					
9	Dual II Magnum	1.3 pt/a		C					
9	Roundup PowerMax	22 fl oz/a		C					
9	AMS	17 lb/100 gal		C					

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Rating Unit	%	%	%	%	%
Trt-Eval Interval	7 DA-B	14 DA-C	28 DA-C	49 DA-C	49 DA-C

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code					
10	Dual II Magnum	0.5 pt/a		A	100	99	95	0	92
	10 Warrant	3 pt/a		B					
	10 Roundup PowerMax	32 fl oz/a		B					
	10 AMS	17 lb/100 gal		B					
	10 Warrant	3 pt/a		C					
	10 Roundup PowerMax	22 fl oz/a		C					
	10 AMS	17 lb/100 gal		C					
11	Dual II Magnum	0.5 pt/a		A	99	95	91	0	86
	11 Outlook	12 fl oz/a		B					
	11 Roundup PowerMax	32 fl oz/a		B					
	11 AMS	17 lb/100 gal		B					
	11 Outlook	12 fl oz/a		C					
	11 Roundup PowerMax	22 fl oz/a		C					
	11 AMS	17 lb/100 gal		C					
12	Dual II Magnum	0.5 pt/a		A	100	100	98	0	95
	12 Warrant	3 pt/a		B					
	12 Roundup PowerMax	32 fl oz/a		B					
	12 AMS	17 lb/100 gal		B					
	12 Dual II Magnum	1.3 pt/a		C					
	12 Roundup PowerMax	22 fl oz/a		C					
	12 AMS	17 lb/100 gal		C					
13	Ethofumesate	2 pt/a		B	89	91	77	0	68
	13 Roundup PowerMax	32 fl oz/a		B					
	13 Destiny HC	1.5 pt/a		B					
	13 AMS	17 lb/100 gal		B					
	13 Ethofumesate	2 pt/a		C					
	13 Roundup PowerMax	22 fl oz/a		C					
	13 Destiny HC	1.5 pt/a		C					
	13 AMS	17 lb/100 gal		C					
14	Roundup PowerMax	32 fl oz/a		B	0	78	66	0	56
	14 AMS	17 lb/100 gal		B					
	14 Ultra Blazer	16 fl oz/a		C					
	14 Roundup PowerMax	22 fl oz/a		C					
	14 AMS	17 lb/100 gal		C					
15	Roundup PowerMax	32 fl oz/a		B	0	81	78	0	65
	15 AMS	17 lb/100 gal		B					
	15 Ultra Blazer	16 fl oz/a		C					
	15 Dual II Magnum	1.33 pt/a		C					
	15 Roundup PowerMax	22 fl oz/a		C					
	15 AMS	17 lb/100 gal		C					
16	Roundup PowerMax	32 fl oz/a		B	0	83	77	0	65
	16 AMS	17 lb/100 gal		B					
	16 Ultra Blazer	16 fl oz/a		C					
	16 Warrant	3 pt/a		C					
	16 Roundup PowerMax	22 fl oz/a		C					
	16 AMS	17 lb/100 gal		C					
LSD P=.05					9.5	10.2	11.6	.	11.9
Standard Deviation					6.7	7.1	8.2	0.0	8.3
CV					9.57	8.48	10.37	0.0	11.59