

What we learned about Ultra Blazer in 2021

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Waterhemp Control Program in Sugarbeet

Planting Date	Recommendation
Sugarbeet plant in April or May	PRE. Dual Magnum at 0.5 to 0.75 pt/A, ethofumesate at 2 to 5 pt/A or Dual Magnum at 0.5 pt/A plus ethofumesate at 2 pt/A
	Split lay-by application (early postemergence / postemergence). Chloroacetamide herbicides applied at 2-lf sugarbeet fb 6 to 8-lf sugarbeet
June	Continue to scout fields for waterhemp. Control escapes with Ultra Blazer (Section 18), Liberty with the Redball™ 915 hooded sprayer (24c), or inter-row cultivation
July	Electric Discharge Systems (WeedZapper™)
August / September	Hand remove waterhemp

Sometimes THERE are waterhemp escapes!



Current Escaped Waterhemp Control Methods in sugarbeet

- Strategies to control waterhemp escapes
 - Glyphosate mixtures with ethofumesate and Stinger **very early** POST
 - Inter-row cultivation
 - The WeedZapper™
 - Liberty with the Redball™ 915 hooded sprayer (24c local needs label)
 - **Ultra Blazer POST** (Section 18)



WeedZapper



Hooded Sprayer

Screen of existing herbicides, 2016

- Dexter, Cattanach, and Nalewaja routinely screened herbicides approved in other crops for sugarbeet safety in the 1980s and 1990s
- We need to resume this practice
- Crop safety and weeds efficacy component

Herbicide	Count #/100 ft	% Injury	Ton/A	% Sucrose	Ext Sucr/A	Ib Extr Sucr / Ton	% Purity	TJP Score
Collide, PRE	146	80	21.7	13.8	4752	220	86.4	0
Collide, POST	209	71	19.1	14.4	4517	238	88.4	2
Prowl H2O	198	5	24.8	14.4	5812	235	87.6	3
Ultra Blazer	229	37	23.3	14.5	5455	234	87.3	3
Devrinol	218	0	25.1	14.6	5977	238	87.8	4
Command	219	6	25.7	14.8	6239	244	88.4	6
Control	227	0	23.6	15.0	5883	249	88.7	6
TJP*	25	30	1.5	0.6	300	10	1.2	

*based on biologically important differences



Ultra Blazer at 2 to 4 lf / Ultra Blazer at 6 lf



Ultra Blazer at 10 lf



Ultra Blazer at 6 lf



Ultra Blazer at 12 lf

Waterhemp control ¹⁴ DAT in response to treatment across locations, 2019 and 2020

Treatment	Rate	Waterhemp	
		2019	2020
	fl oz/A	----% visible control----	
PowerMax + NIS / PowerMax + NIS ^a	28/28	37 d	44 c
Ultra Blazer + NIS ^b	16	60 c	55 bc
Ultra Blazer + PowerMax + NIS ^b	16 + 28	87 a	76 ab
Ultra Blazer + Stinger + NIS ^b	16 + 4	74 b	75 ab
Ultra Blazer + PowerMax + Stinger + NIS ^b	16 + 28 + 4	91 a	85 a
P-Value		<0.0001	0.0093

^aRoundup PowerMax with NIS at 0.25% v/v

^bUltra Blazer at 0.125% v/v

PowerMax check, applied June 12 2020, 14 DAT



Ultra Blazer at 16 fl oz/acre + NIS, applied June 12 2020, 14 DAT



Ultra Blazer at 16 fl oz/acre + PowerMax + NIS, applied June 12 2020, 14 DAT

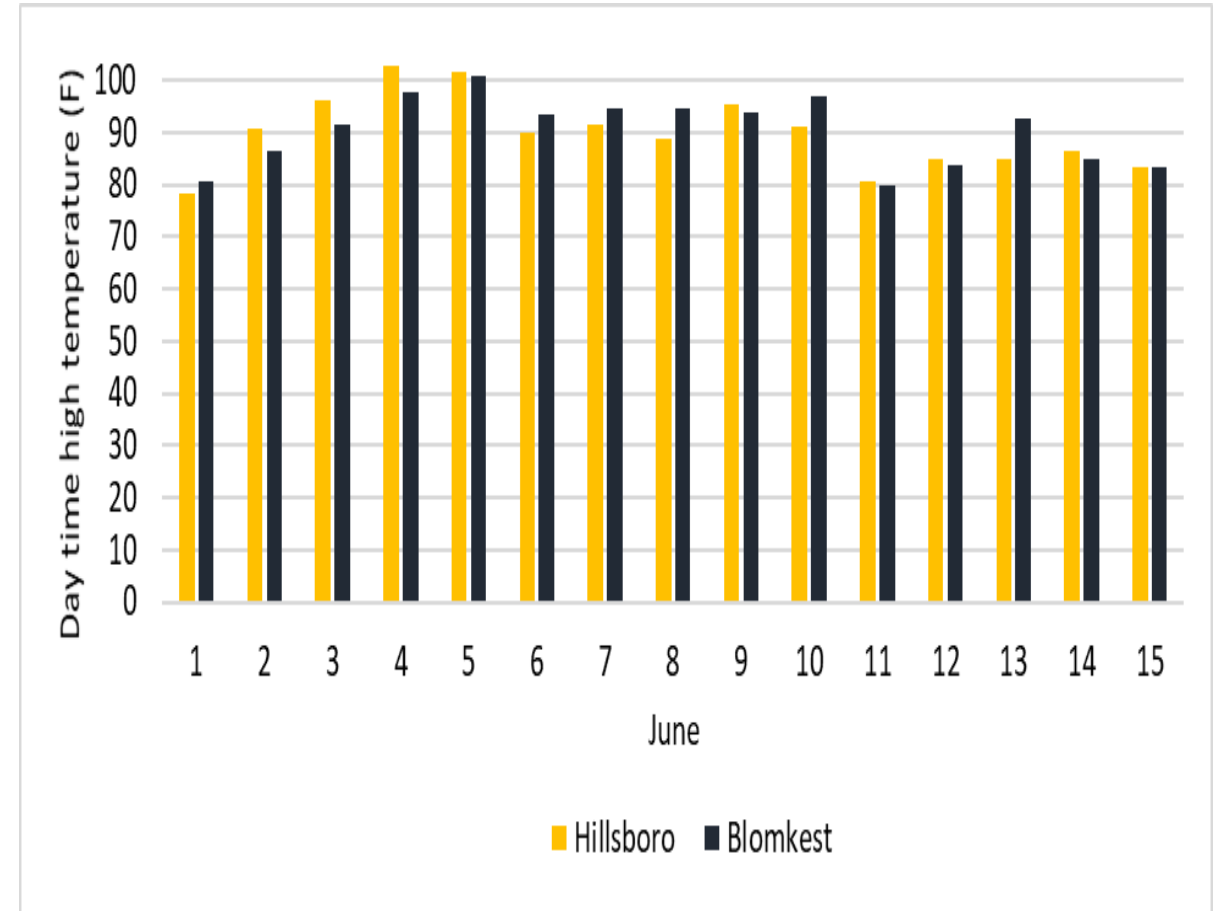


Ultra Blazer Section 18 Emergency Use label, 2021

- Use UPL Ultra Blazer only
- Apply at 16 fl oz/A alone or with glyphosate
- One Ultra Blazer application can be made per season
- Can only be applied by ground equipment. Aerial application is prohibited.
- Target waterhemp less than 4" tall, control is reduced as waterhemp becomes larger
- Pre-Harvest Interval (PHI) = 45 days
- Do not apply Ultra Blazer after August 1st

Ultra Blazer Section 18 was approved on June 1, 2021

- 32,005 acres or 4,001 gallon Ultra Blazer
- Sugarbeet injury averaged 2.62, 1 to 4, 1 is no injury and 4 severe injury
- One response categorizing sugarbeet injury as severe
- Waterhemp control averaged 2.31, 1 to 4, 1 is excellent and 4 poor control
- Three called Ultra Blazer control excellent
- Hot weather and erratic stand complicated application



Recommendation was based on Producer and Agriculturalist tolerance to sugarbeet injury

Trt Num	Treatment	Rate (fl oz or pt /A)
1	Ultra Blazer	16
2	Ultra Blazer + Prefer 90 NIS	16 + 0.125%
3	Ultra Blazer + Prefer 90 NIS	16 + 0.25%
4	Roundup PowerMax + Ultra Blazer + + Amsol Liquid AMS	28 + 16 + 2.5% v/v
5	Roundup PowerMax + Ultra Blazer + Prefer 90 NIS + Amsol Liquid AMS	28 + 16 + 0.25% + 2.5% v/v

- We conducted demonstration plots at Crookston, MN, Hendrum, MN, Casselton, ND and Foxhome, MN.
- We collected yield parameters from the Hendrum, MN experiment.

Percent visual sugarbeet injury, 3 to 16 days following Ultra Blazer application, 2021

Treatment	Rate	Casselton	Crookston	Foxhome	Hendrum	Benson ^a
	pt/100 G	%	%	%	%	%
Ultra Blazer (UB)	-	9 d	9 c	10 c	8 d	-
UB + Prefer 90	1	14 c	10 bc	11 bc	10 cd	-
UB + Prefer 90	2	15 bc	15 ab	18 b	15 c	-
UB + Prefer 90 + Amsol liquid AMS	2 + 20 (2.5 G)	-	-	-	-	35 a
PM + UB + Amsol liquid AMS	20	19 b	20 a	25 a	21 b	-
PM + UB + Prefer 90 + Amsol liquid AMS	2 + 20	28 a	-	26 a	30 a	40 a

^aAir temperature was 95F at application

Sugarbeet injury from Ultra Blazer, Benson, MN, 2021



Ultra Blazer, 8 DAT



Ultra Blazer + PowerMax, 8 DAT

Bronzing often runs deeper into the leaves toward the growing point, Ultra Blazer + PowerMax



Ultra Blazer

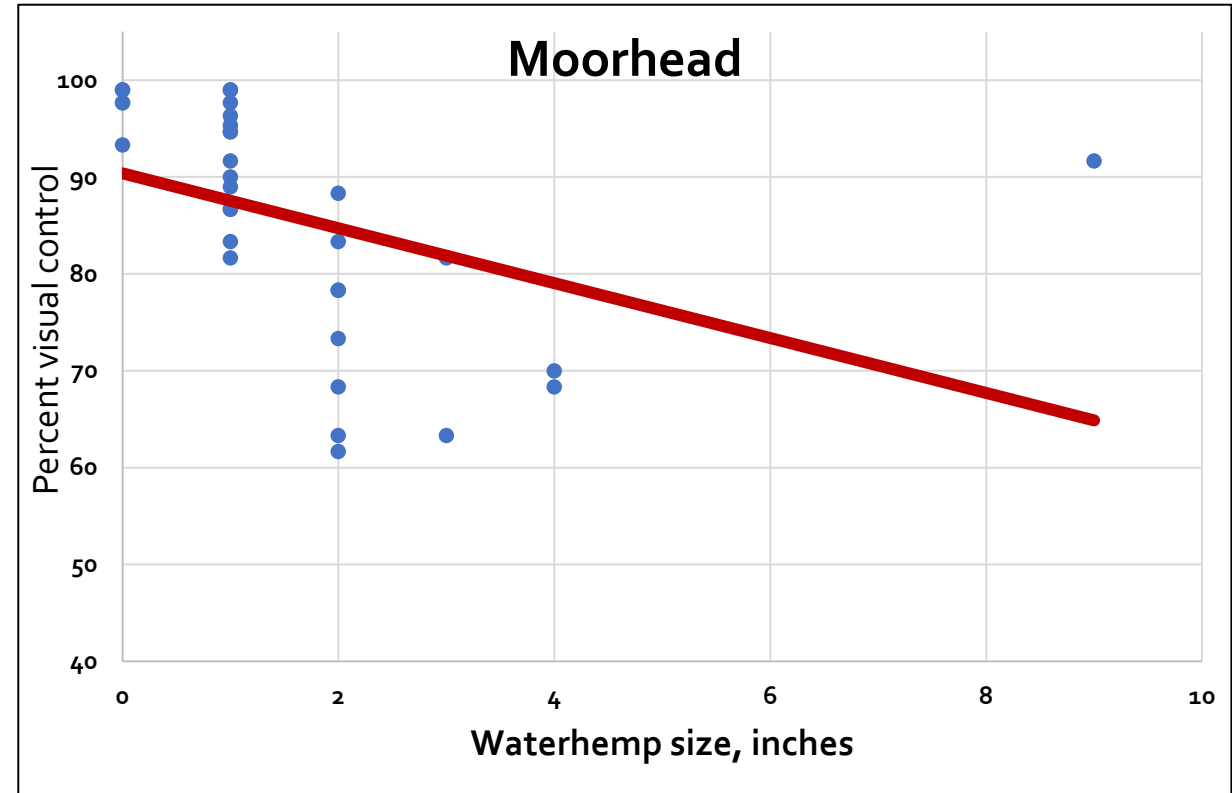
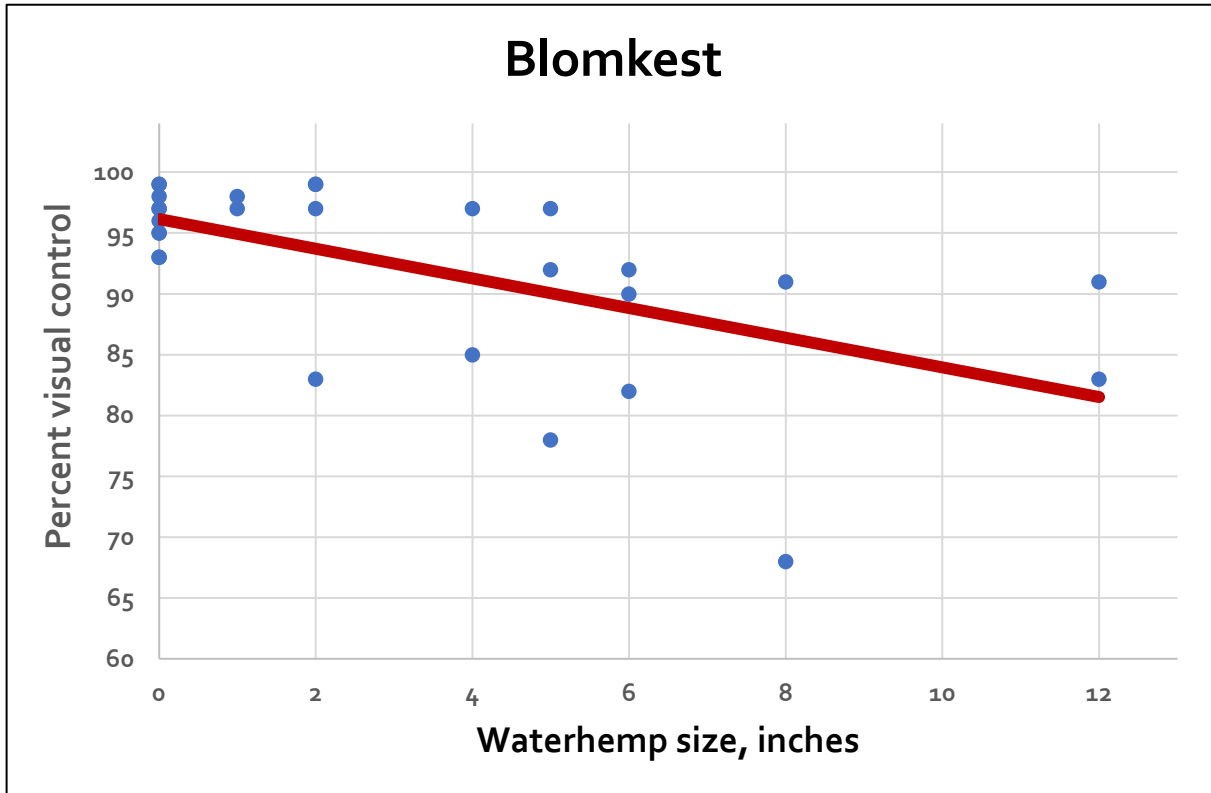


Ultra Blazer + PowerMax



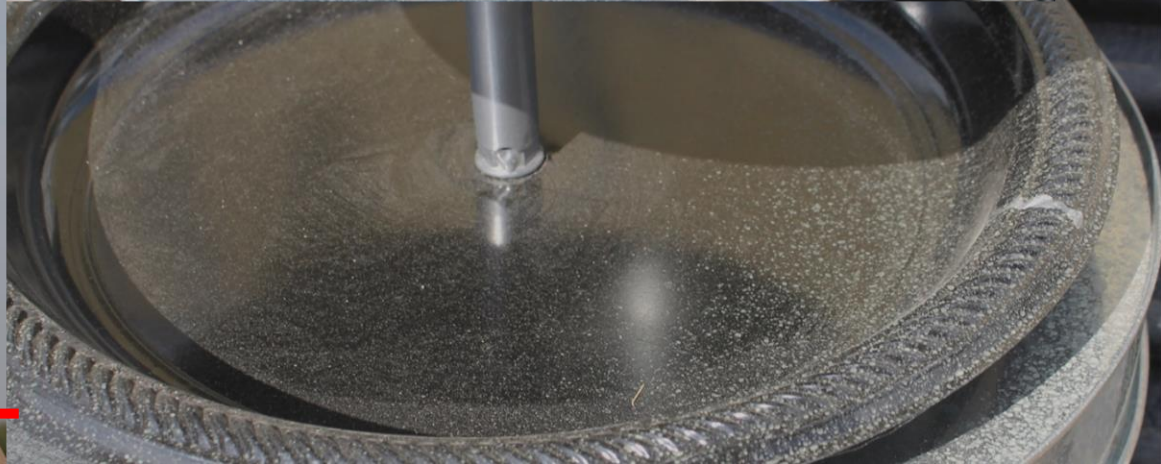


Visual percent control decreases as waterhemp size increases



Have you looked closely at UB regrowth?



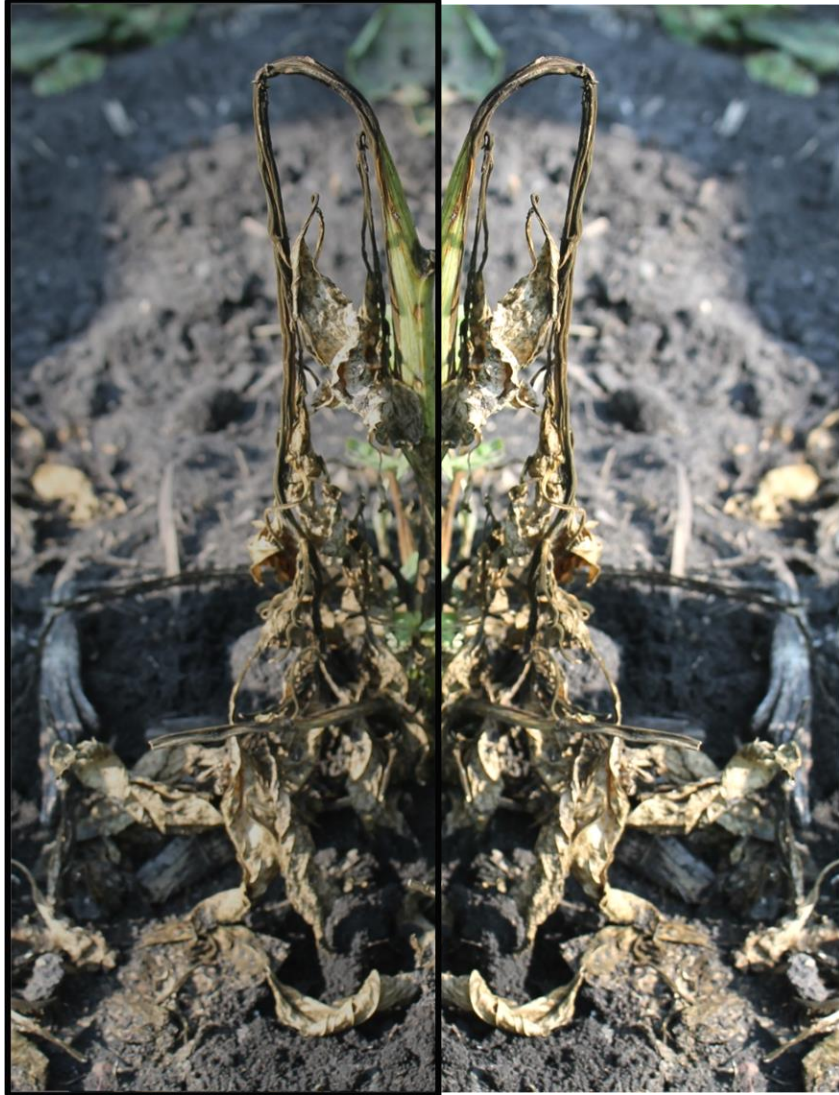


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Can we add this to Lay-By apps?

Efficacy summary

- Results support Ultra Blazer application to control waterhemp escapes
 - Ultra Blazer is most effective on waterhemp less than 2-inch tall
 - Ultra Blazer improved waterhemp control compared to glyphosate plus ethofumesate alone or glyphosate mixtures with ethofumesate and S-metolachlor
 - Similar waterhemp control was observed from Ultra Blazer mixtures with glyphosate or Ultra Blazer mixtures with glyphosate and S-metolachlor.
 - Waterhemp control was greatest when Ultra Blazer was mixed with glyphosate, S-metolachlor and Stinger. However, this treatment caused the most injury at Blomkest.

Glyphosate + S-metolachlor + Ultra Blazer at Blomkest, MN



Climate data, Ultra Blazer application, 2016 to 2018, Hickson, ND

Herbicide	Year	Calendar Date	Air Temp (F)	% Rel Humidity	AT + H
Ultra Blazer	2016	June 28	79	32	111
Ultra Blazer	2017	June 2	86	45	131
Ultra Blazer	2018	June 22	85	49	134

- Sugarbeet injury was less when air temperature and relative humidity was less
- Label indicating air temperature limits

Successful Application

- Success with UB is dependent on coverage.
- Cannot kill what you do not touch.
- Watch forecasted temps and humidity
- Farmers are innovative, use your knowledge of fungicide coverage and ground speed to increase coverage.

Coming into 2022

- Request a Section 18 emergency exemption for MN, ND (east and west) and eastern Montana
- Michigan will also file for a Section 18 emergency exemption
- Continue to work with UPL on Section 3 approval in sugarbeet
- No changes to sugarbeet growth stage recommendations
- No changes to sugarbeet mixtures with Ultra Blazer
- May consider a repeat Ultra Blazer application (UB fb UB)

Thank You!

- Cooperators in all growing areas
- Extension researchers
- Research staff members