

Ohio State University
Horticulture and Crop Science

HALEX GT WEED CONTROL AND YIELD IN GLYPHOSATE TOLERANT CORN

Trial ID: 08HALEXGT Study Dir.: Anthony F. Dobbels
Location: CLARKSBURG, OH Investigator: Dr. Mark M. Loux

GENERAL TRIAL INFORMATION

Study Director: Anthony F. Dobbels
Investigator: Dr. Mark M. Loux

TRIAL LOCATION

City: CLARKSBURG
State/Prov.: OH

N-Latitude of LL Corner °: 39.000000

Conducted Under GLP (Y/N): N Conducted Under GEP (Y/N): N

CROP AND WEED DESCRIPTION

Weed Code	Common Name	Scientific Name
1. AMBTR	Giant ragweed	Ambrosia trifida
2. CHEAL	Common lambsquarters	Chenopodium album
3. HIBTR	Venice mallow	Hibiscus trionum

Crop 1: ZEAMX CORN, FIELD Variety: MYCOGEN 2G779
Planting Date: Apr/25/2008 Planting Method: ALMACO CORN PLANTER
Rate: 32000 SEED/A Depth: 1.5 IN
Row Spacing: 30 IN Seed Bed: CONVENTIONAL

SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 40 FT Reps: 4
Tillage Type: CONVENTIONAL Study Design: RANDOMIZED COMPLETE BLOCK

SOIL DESCRIPTION

% Sand: 24.5 % OM: 2.9 Texture: SILTY CLAY LOAM
% Silt: 48.9 pH: 6.8 Soil Name: KOKOMO
% Clay: 26.6 CEC: 11.7 Fert. Level: GOOD

APPLICATION DESCRIPTION

	A	B	C
Application Date:	Apr/25/2008	Jun/09/2008	Jun/24/2008
Time of Day:	6:00 P.M.	8:00 A.M.	9:00 A.M.
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	POST	POST
Applic. Placement:	BROADCAST	BROADCAST	BROADCAST
Air Temp., Unit:	82 F	87 F	77 F
% Relative Humidity:	35	65	78
Wind Velocity, Unit:	8 E	8 SW	1 W
Soil Temp., Unit:	57 F	79 F	67 F
Soil Moisture:	DRY/MOIST	DRY/MOIST	DRY/MOIST
% Cloud Cover:	30	1	1

CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	ZEAMX	ZEAMX V6	ZEAMX V12
Stage Scale:	DESC	DESC	
Height, Unit:	19 IN	46 IN	

WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code, Stage:	AMBTR	AMBTR 2-10"	AMBTR 4-29"
Stage Scale:	18 LVS	4->12 LVS	
Density, Unit:	32 M2	32 M2	
Weed 2 Code, Stage:	CHEAL	CHEAL 2-4"	CHEAL 2"
Stage Scale:	4-8 LVS	6 LVS	
Density, Unit:	8 M2	8 M2	
Weed 3 Code, Stage:	HIBTR	HIBTR 1-2"	HIBTR
Stage Scale:	2-4 LVS		
Density, Unit:	4 M2		

APPLICATION EQUIPMENT

	A	B	C
Appl. Equipment:	BACKPACK	BACKPACK	BACKPACK
Operating Pressure:	53	53	53
Nozzle Type:	DG	DG	DG
Nozzle Size:	11002	11002	11002
Nozzle Spacing, Unit:	18 IN	18 IN	18 IN
Ground Speed, Unit:	3 MPH	3 MPH	3 MPH
Carrier:	WATER	WATER	WATER
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA
Propellant:	CO2	CO2	CO2

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						AMBTR	CHEAL	HIBTR			SETFA
Weed Code	Crop Code					CONTROL	CONTROL	CONTROL	ZEAMX	ZEAMX	CONTROL
Rating Data Type	Rating Unit					PERCENT	PERCENT	PERCENT	PHYTO	PHYTO	PERCENT
Rating Date	Trt-Eval Interval					Jun/09/2008	Jun/09/2008	Jun/09/2008	Jun/17/2008	Jun/24/2008	Jun/24/2008
# Subsamples, Dec.						AT POST	AT POST	AT POST	8 DA-B	15 DA-B	15 DA-B
						0	0	0	0	0	0
Trt No.	Treatment Name	Product Rate	Product Rate Unit	Grow Stg	Appl Code	1	2	3	4	5	6
15	LEXAR	56	oz/a	PRE	A	82 ab	100 a	95 a	0 a	0 a	100 a
15	HALEX GT	3.6	pt/a	POST	B						
15	NIS	6.4	oz/a	POST							
15	AMS	2	qt/a	POST							
16	SURESTART	1.75	pt/a	PRE	A	69 b	100 a	83 a	0 a	0 a	100 a
16	DURANGO	24	oz/a	EPO	B						
16	AMS	2	qt/a	EPO							
17	HALEX GT	3.6	pt/a	EPO	B	0 d	0 b	0 b	0 a	0 a	100 a
17	AATREX	1	qt/a	EPO							
17	NIS	6.4	oz/a	EPO							
17	AMS	2	qt/a	EPO							
18	LEXAR	2.25	qt/a	EPO	B	0 d	0 b	0 b	0 a	0 a	100 a
18	LIBERTY	22	oz/a	EPO							
18	AMS	4	qt/a	EPO							
LSD (P=.05)						13.0	2.5	15.8	0.0	0.0	4.1
Standard Deviation						9.2	1.8	11.2	0.0	0.0	2.9
CV						26.59	4.0	26.93	0.0	0.0	2.9
Bartlett's X2						12.496	0.0	18.348	0.0	0.0	0.243
P(Bartlett's X2)						0.085	.	0.003*	.	.	0.622
Replicate F						2.283	1.000	2.631	0.000	0.000	2.298
Replicate Prob(F)						0.0901	0.4005	0.0599	1.0000	1.0000	0.0889
Treatment F						77.954	3316.033	73.487	0.000	0.000	0.980
Treatment Prob(F)						0.0001	0.0001	0.0001	1.0000	1.0000	0.4940

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

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Weed Code						AMBTR	CHEAL	HIBTR	SETFA	AMBTR	CHEAL
Crop Code						CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Data Type						PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Unit						Jun/24/2008	Jun/24/2008	Jun/24/2008	Jul/05/2008	Jul/05/2008	Jul/05/2008
Rating Date						15 DA-B	15 DA-B	15 DA-B	26 DA-B	26 DA-B	26 DA-B
Trt-Eval Interval						0	0	0	0	0	0
# Subsamples, Dec.						0	0	0	0	0	0
Trt No.	Treatment Name	Product Rate	Product Unit	Grow Stg	Appl Code	7	8	9	10	11	12
1	HALEX GT	3.6	pt/a	EPO	B	86 abc	100 a	100 a	100 a	79 ab	100 a
1	NIS	6.4	oz/a	EPO							
1	AMS	2	qt/a	EPO							
2	HALEX GT	3.6	pt/a	EPO	B	100 a	100 a	100 a	100 a	100 a	100 a
2	AATREX	1	pt/a	EPO							
2	NIS	6.4	oz/a	EPO							
2	AMS	2	qt/a	EPO							
3	LUMAX	2	qt/a	PRE	A	80 abc	100 a	100 a	100 a	70 bc	100 a
3	TOUCHDOWN TOTAL	24	oz/a	POST	B						
3	AMS	2	qt/a	POST							
4	LUMAX	2	qt/a	PRE	A	100 a	100 a	100 a	100 a	99 a	100 a
4	HALEX GT	3.6	pt/a	POST	B						
4	NIS	6.4	oz/a	POST							
4	AMS	2	qt/a	POST							
5	BICEP II MAGNUM	1.3	qt/a	PRE	A	96 a	100 a	100 a	100 a	90 ab	100 a
5	HALEX GT	3.6	pt/a	POST	B						
5	NIS	6.4	oz/a	POST							
5	AMS	2	qt/a	POST							
6	AATREX	1	qt/a	PRE	A	99 a	100 a	100 a	100 a	96 a	100 a
6	HALEX GT	3.6	pt/a	POST	B						
6	NIS	6.4	oz/a	POST							
6	AMS	2	qt/a	POST							
7	HARNESS XTRA 5.6	1.5	qt/a	PRE	A	73 bc	100 a	100 a	100 a	69 bc	100 a
7	ROUNDUP POWERMAX	22	oz/a	POST	B						
7	AMS	2	qt/a	POST							
8	ROUNDUP POWERMAX	22	oz/a	EPO	B	44 d	98 a	95 a	100 a	20 e	99 a
8	AMS	2	qt/a	EPO							
9	ROUNDUP POWERMAX	22	oz/a	EPO	B	48 d	100 a	100 a	100 a	40 d	100 a
9	AMS	2	qt/a	EPO							
9	ROUNDUP POWERMAX	22	oz/a	LPO	C						
9	AMS	2	qt/a	LPO							
10	LAUDIS	3	oz/a	EPO	B	85 abc	97 a	94 a	99 a	81 ab	77 a
10	ROUNDUP POWERMAX	22	oz/a	EPO							
10	AMS	2	qt/a	EPO							
11	SURESTART	1.75	pt/a	EPO	B	80 abc	100 a	100 a	96 a	76 ab	100 a
11	DURANGO	24	oz/a	EPO							
11	AMS	2	qt/a	EPO							
12	STATUS	2.5	oz/a	EPO	B	85 abc	95 a	99 a	100 a	87 ab	94 a
12	ROUNDUP POWERMAX	22	oz/a	EPO							
12	AMS	2	qt/a	EPO							
13	IMPACT	0.75	oz/a	EPO	B	81 abc	98 a	100 a	100 a	71 bc	99 a
13	ROUNDUP POWERMAX	22	oz/a	EPO							
13	AMS	2	qt/a	EPO							
14	LEXAR	2.25	qt/a	PRE	A	81 abc	100 a	100 a	100 a	72 bc	100 a
14	TOUCHDOWN TOTAL	24	oz/a	POST	B						
14	AMS	2	qt/a	POST							
15	LEXAR	56	oz/a	PRE	A	95 ab	100 a	100 a	100 a	95 a	100 a
15	HALEX GT	3.6	pt/a	POST	B						
15	NIS	6.4	oz/a	POST							
15	AMS	2	qt/a	POST							

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					AMBTR	CHEAL	HIBTR	SETFA	AMBTR	CHEAL		
Weed Code	Crop Code	Rating Data Type	Rating Unit	Rating Date	Trt-Eval Interval	# Subsamples, Dec.						
							CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	
							PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
							Jun/24/2008	Jun/24/2008	Jun/24/2008	Jul/05/2008	Jul/05/2008	
							15 DA-B	15 DA-B	15 DA-B	26 DA-B	26 DA-B	
							0	0	0	0	0	
Trt No.	Treatment Name	Product Rate	Product Rate Unit	Grow Stg	Appl Code		7	8	9	10	11	12
16	SURESTART	1.75	pt/a	PRE	A		68 c	100 a	94 a	100 a	54 cd	100 a
16	DURANGO	24	oz/a	EPO	B							
16	AMS	2	qt/a	EPO								
17	HALEX GT	3.6	pt/a	EPO	B		99 a	100 a	100 a	100 a	100 a	100 a
17	AATREX	1	qt/a	EPO								
17	NIS	6.4	oz/a	EPO								
17	AMS	2	qt/a	EPO								
18	LEXAR	2.25	qt/a	EPO	B		100 a	100 a	100 a	100 a	100 a	100 a
18	LIBERTY	22	oz/a	EPO								
18	AMS	4	qt/a	EPO								
LSD (P=.05)							13.9	3.2	5.9	2.6	15.0	15.3
Standard Deviation							9.7	2.2	4.1	1.8	10.5	10.7
CV							11.7	2.23	4.17	1.85	13.5	10.91
Bartlett's X2							67.709	6.159	10.844	3.037	29.558	28.482
P(Bartlett's X2)							0.001*	0.188	0.013*	0.081	0.009*	0.001*
Replicate F							1.879	1.658	3.923	1.828	1.427	1.026
Replicate Prob(F)							0.1451	0.1879	0.0136	0.1540	0.2459	0.3889
Treatment F							12.033	1.743	1.166	0.979	17.814	1.056
Treatment Prob(F)							0.0001	0.0654	0.3254	0.4945	0.0001	0.4199

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Weed Code						HIBTR	SETFA	AMBTR	CHEAL	HIBTR
Crop Code						CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Data Type						PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Unit						Jul/05/2008	Aug/06/2008	Aug/06/2008	Aug/06/2008	Aug/06/2008
Rating Date						26 DA-B	58 DA-B	58 DA-B	58 DA-B	58 DA-B
Trt-Eval Interval						0	0	0	0	0
# Subsamples, Dec.										
Trt No.	Treatment Name	Product Rate	Product Unit	Grow Stg	Appl Code	13	14	15	16	17
1	HALEX GT	3.6	pt/a	EPO	B	99 a	100 a	98 a	100 a	100 a
1	NIS	6.4	oz/a	EPO						
1	AMS	2	qt/a	EPO						
2	HALEX GT	3.6	pt/a	EPO	B	100 a	100 a	100 a	100 a	100 a
2	AATREX	1	pt/a	EPO						
2	NIS	6.4	oz/a	EPO						
2	AMS	2	qt/a	EPO						
3	LUMAX	2	qt/a	PRE	A	100 a	100 a	80 ab	100 a	100 a
3	TOUCHDOWN TOTAL	24	oz/a	POST	B					
3	AMS	2	qt/a	POST						
4	LUMAX	2	qt/a	PRE	A	100 a	100 a	99 a	100 a	100 a
4	HALEX GT	3.6	pt/a	POST	B					
4	NIS	6.4	oz/a	POST						
4	AMS	2	qt/a	POST						
5	BICEP II MAGNUM	1.3	qt/a	PRE	A	100 a	100 a	98 a	100 a	100 a
5	HALEX GT	3.6	pt/a	POST	B					
5	NIS	6.4	oz/a	POST						
5	AMS	2	qt/a	POST						
6	AATREX	1	qt/a	PRE	A	100 a	100 a	99 a	100 a	100 a
6	HALEX GT	3.6	pt/a	POST	B					
6	NIS	6.4	oz/a	POST						
6	AMS	2	qt/a	POST						
7	HARNESS XTRA 5.6	1.5	qt/a	PRE	A	100 a	100 a	67 bc	100 a	100 a
7	ROUNDUP POWERMAX	22	oz/a	POST	B					
7	AMS	2	qt/a	POST						
8	ROUNDUP POWERMAX	22	oz/a	EPO	B	85 a	88 a	23 d	100 a	93 a
8	AMS	2	qt/a	EPO						
9	ROUNDUP POWERMAX	22	oz/a	EPO	B	100 a	100 a	50 c	100 a	100 a
9	AMS	2	qt/a	EPO						
9	ROUNDUP POWERMAX	22	oz/a	LPO	C					
9	AMS	2	qt/a	LPO						
10	LAUDIS	3	oz/a	EPO	B	92 a	100 a	92 a	100 a	95 a
10	ROUNDUP POWERMAX	22	oz/a	EPO						
10	AMS	2	qt/a	EPO						
11	SURESTART	1.75	pt/a	EPO	B	93 a	93 a	90 a	100 a	93 a
11	DURANGO	24	oz/a	EPO						
11	AMS	2	qt/a	EPO						
12	STATUS	2.5	oz/a	EPO	B	98 a	99 a	94 a	100 a	99 a
12	ROUNDUP POWERMAX	22	oz/a	EPO						
12	AMS	2	qt/a	EPO						
13	IMPACT	0.75	oz/a	EPO	B	99 a	100 a	88 a	100 a	100 a
13	ROUNDUP POWERMAX	22	oz/a	EPO						
13	AMS	2	qt/a	EPO						
14	LEXAR	2.25	qt/a	PRE	A	100 a	100 a	78 ab	100 a	100 a
14	TOUCHDOWN TOTAL	24	oz/a	POST	B					
14	AMS	2	qt/a	POST						
15	LEXAR	56	oz/a	PRE	A	100 a	100 a	99 a	100 a	100 a
15	HALEX GT	3.6	pt/a	POST	B					
15	NIS	6.4	oz/a	POST						
15	AMS	2	qt/a	POST						

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					HIBTR	SETFA	AMBTR	CHEAL	HIBTR	
Weed Code	Crop Code	Rating Data Type	Rating Unit	Rating Date	CONTROL PERCENT	CONTROL PERCENT	CONTROL PERCENT	CONTROL PERCENT	CONTROL PERCENT	
Trt-Eval Interval					Jul/05/2008	Aug/06/2008	Aug/06/2008	Aug/06/2008	Aug/06/2008	
# Subsamples, Dec.					26 DA-B	58 DA-B	58 DA-B	58 DA-B	58 DA-B	
					0	0	0	0	0	
Trt No.	Treatment Name	Product Rate	Product Unit	Grow Stg	Appl Code	13	14	15	16	17
16	SURESTART	1.75	pt/a	PRE	A	100 a	100 a	58 c	100 a	100 a
16	DURANGO	24	oz/a	EPO	B					
16	AMS	2	qt/a	EPO						
17	HALEX GT	3.6	pt/a	EPO	B	100 a	100 a	100 a	100 a	100 a
17	AATREX	1	qt/a	EPO						
17	NIS	6.4	oz/a	EPO						
17	AMS	2	qt/a	EPO						
18	LEXAR	2.25	qt/a	EPO	B	100 a	99 a	100 a	100 a	100 a
18	LIBERTY	22	oz/a	EPO						
18	AMS	4	qt/a	EPO						
LSD (P=.05)					11.9	9.7	15.2	0.0	7.5	
Standard Deviation					8.3	6.8	10.6	0.0	5.2	
CV					8.47	6.86	12.67	0.0	5.29	
Bartlett's X2					30.57	9.667	51.201	0.0	0.58	
P(Bartlett's X2)					0.001*	0.008*	0.001*	.	0.748	
Replicate F					3.084	2.087	1.759	0.000	3.644	
Replicate Prob(F)					0.0356	0.1138	0.1670	1.0000	0.0187	
Treatment F					0.974	0.960	16.726	0.000	0.980	
Treatment Prob(F)					0.5002	0.5140	0.0001	1.0000	0.4935	

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