

Ohio State University Horticulture and Crop Science

KIH-485 ONE PASS WEED CONTROL PROGRAMS

Trial ID: 07KIHMX
Location: WESTERN BRANCH F-8

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

GENERAL TRIAL INFORMATION

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

TRIAL LOCATION

State/Prov.: Ohio **Trial Status:** Complete
Country: USA **Initiation Date:** Apr/01/2007
Conducted Under GLP (Y/N): N **Conducted Under GEP (Y/N):** N

CROP AND WEED DESCRIPTION

Weed Code	Common Name	Scientific Name
1. SETFA	Giant foxtail	Setaria faberi
2. CHEAL	Common lambsquarters	Chenopodium album
3. ABUTH	Velvetleaf	Abutilon theophrasti
4. AMBTR	Giant ragweed	Ambrosia trifida
5. AMARE	Redroot pigweed	Amaranthus retroflexus
6. POLPY	Pennsylvania smartweed	Polygonum pennsylvanicum

Crop 1: ZEAMX CORN, FIELD **Variety:** SEED CONSULTANTS SC 1116
Planting Date: Apr/22/2007 **Planting Method:** JOHN DEERE 7200
Rate: 32097 SEED/A **Depth:** 1.5 IN
Row Spacing: 30 IN **Seed Bed:** CONVENTIONAL

SITE AND DESIGN

Plot Width, Unit: 6.67 FT **Plot Length, Unit:** 30 FT **Reps:** 3
Tillage Type: CONVENTIONAL **Study Design:** RANDOMIZED COMPLETE BLOCK

SOIL DESCRIPTION

% OM: 2.4 **Texture:** SILT LOAM
pH: 6.2 **Soil Name:** KOKOMO
CEC: 16.4

Overall Moisture Conditions: POOR

APPLICATION DESCRIPTION

Application Date: Apr/22/2007
Time of Day: 7:00 P.M.
Application Method: SPRAY
Application Timing: PRE
Applic. Placement: BROADCAST
Air Temp., Unit: 76 F
% Relative Humidity: 30
Wind Velocity, Unit: 7 S
Soil Temp., Unit: 56 F
Soil Moisture: DRY MOIST
% Cloud Cover: 10

CROP STAGE AT EACH APPLICATION

Crop 1 Code, Stage: ZEAMX .
Stage Scale: .

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WEED STAGE AT EACH APPLICATION

A

Weed 1 Code, Stage: SETFA .
Stage Scale: .
Density, Unit: 76.5 M2
Weed 2 Code, Stage: CHEAL .
Stage Scale: .
Density, Unit: 70.5 M2
Weed 3 Code, Stage: ABUTH .
Stage Scale: .
Density, Unit: 3.75 M2
Weed 4 Code, Stage: AMBTR .
Stage Scale: .
Density, Unit: 7.5 M2
Weed 5 Code, Stage: AMARE .
Stage Scale: .
Density, Unit: 4.5 M2
Weed 6 Code, Stage: POLPY .
Stage Scale: .
Density, Unit: .75 M2

APPLICATION EQUIPMENT

A

Appl. Equipment: BACKPACK
Operating Pressure: 50
Nozzle Type: DG
Nozzle Size: 11002
Nozzle Spacing, Unit: 18 IN
Ground Speed, Unit: 3 MPH
Carrier: WATER
Spray Volume, Unit: 20 GPA
Propellant: CO2

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Weed Code				SETFA	CHEAL	AMARE
Crop Code		ZEAMX	ZEAMX	ZEAMX		
Rating Data Type		MALFORMED	MALFORMED	PHTYO	CONTROL	CONTROL
Rating Unit		PLANTS	PLANTS	PERCENT	PERCENT	PERCENT
Rating Date		May/14/2007	May/14/2007	May/24/2007	May/24/2007	May/24/2007
Crop Stage		2 LVS	2 LVS			
Assessed By		ROW 1	ROW 2			
Trt-Eval Interval		22 DA-A	22 DA-A	32 DA-A	32 DA-A	32 DA-A
# Subsamples, Dec.		0	0	0	0	0

Trt No.	Treatment Name	Rate	Product	Product	Appl	1	2	3	4	5	6
		Rate	Unit	Rate	Unit						
1	KIH-485	0.186	lb ai/a	3.5	oz/a	A	3 a	3 a	0 a	98 a	100 a
	1 ATRAZINE	0.623	lb ai/a	1.25	pt/a						
	1 CALLISTO	0.167	lb ai/a	5.34	oz/a						
2	KIH-485	0.186	lb ai/a	3.5	oz/a	A	2 a	2 a	1 a	100 a	99 a
	2 ATRAZINE	0.623	lb ai/a	1.25	pt/a						
	2 BALANCE PRO	0.078	lb ai/a	2.5	oz/a						
3	KIH-485	0.186	lb ai/a	3.5	oz/a	A	3 a	3 a	0 a	99 a	77 b
	3 ATRAZINE	0.623	lb ai/a	20	oz/a						
4	KIH-485	0.147	lb ai/a	2.77	oz/a	A	1 a	2 a	0 a	93 a	65 c
	4 ATRAZINE	0.623	lb ai/a	20	oz/a						
5	KIH-485	0.111	lb ai/a	2.09	oz/a	A	1 a	2 a	0 a	99 a	53 d
	5 ATRAZINE	0.623	lb ai/a	20	oz/a						
6	LUMAX	2.46	lb ai/a	2.5	qt/a	A	2 a	3 a	0 a	99 a	100 a
7	LEXAR	2.78	lb ai/a	3	qt/a	A	2 a	2 a	1 a	99 a	100 a
8	UTC						1 a	3 a	0 a	0 b	0 e
LSD (P=.05)							1.7	1.9	1.6	4.9	7.9
Standard Deviation							1.0	1.1	0.9	2.8	4.5
CV							50.28	44.49	277.75	3.27	6.09
Bartlett's X2							2.97	5.721	3.79	16.996	5.144
P(Bartlett's X2)							0.888	0.334	0.285	0.005*	0.162
Replicate F							3.410	4.423	0.778	0.323	1.198
Replicate Prob(F)							0.0622	0.0325	0.4783	0.7294	0.3311
Treatment F							1.308	0.313	0.667	460.191	181.105
Treatment Prob(F)							0.3160	0.9358	0.6969	0.0001	0.0001

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	ABUTH	AMBEL	AMBTR	POLPY	SETFA
Crop Code					
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	ZEAMX
Rating Unit	PERCENT	PERCENT	PERCENT	PERCENT	PHYTO
Rating Date	May/24/2007	May/24/2007	May/24/2007	May/24/2007	Jun/07/2007
Crop Stage					CONTROL
Assessed By					
Trt-Eval Interval	32 DA-A	32 DA-A	32 DA-A	32 DA-A	46 DA-A
# Subsamples, Dec.	0	0	0	0	0

Trt No.	Treatment Name	Rate		Product		Appl Code	Replicate											
		Rate	Unit	Rate	Unit		7	8	9	10	11	12						
1	KIH-485	0.186	lb ai/a	3.5	oz/a	A	100	a	100	a	97	a	100	a	0	a	98	a
1	ATRAZINE	0.623	lb ai/a	1.25	pt/a													
1	CALLISTO	0.167	lb ai/a	5.34	oz/a													
2	KIH-485	0.186	lb ai/a	3.5	oz/a	A	100	a	100	a	98	a	100	a	0	a	99	a
2	ATRAZINE	0.623	lb ai/a	1.25	pt/a													
2	BALANCE PRO	0.078	lb ai/a	2.5	oz/a													
3	KIH-485	0.186	lb ai/a	3.5	oz/a	A	85	a	100	a	60	b	100	a	0	a	97	a
3	ATRAZINE	0.623	lb ai/a	20	oz/a													
4	KIH-485	0.147	lb ai/a	2.77	oz/a	A	78	a	100	a	53	b	100	a	0	a	87	ab
4	ATRAZINE	0.623	lb ai/a	20	oz/a													
5	KIH-485	0.111	lb ai/a	2.09	oz/a	A	78	a	100	a	57	b	100	a	0	a	83	b
5	ATRAZINE	0.623	lb ai/a	20	oz/a													
6	LUMAX	2.46	lb ai/a	2.5	qt/a	A	100	a	100	a	96	a	100	a	0	a	97	a
7	LEXAR	2.78	lb ai/a	3	qt/a	A	100	a	100	a	89	a	100	a	0	a	88	ab
8	UTC						0	b	0	b	0	c	0	b	0	a	0	c
LSD (P=.05)							18.0		0.0		10.4		0.0		0.0		9.5	
Standard Deviation							10.3		0.0		5.9		0.0		0.0		5.4	
CV							12.84		0.0		8.65		0.0		0.0		6.7	
Bartlett's X2							22.091		0.0		7.596		0.0		0.0		14.16	
P(Bartlett's X2)							0.001*		.		0.18		.		.		0.028*	
Replicate F							1.904		0.000		0.178		0.000		0.000		1.537	
Replicate Prob(F)							0.1856		1.0000		0.8390		1.0000		1.0000		0.2491	
Treatment F							32.412		0.000		96.969		0.000		0.000		112.949	
Treatment Prob(F)							0.0001		1.0000		0.0001		1.0000		1.0000		0.0001	

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Weed Code	CHEAL	AMARE	ABUTH	AMBEL	AMBTR	POLPY	SETFA
Crop Code							
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date	Jun/07/2007	Jun/07/2007	Jun/07/2007	Jun/07/2007	Jun/07/2007	Jun/07/2007	Jun/21/2007
Crop Stage							
Assessed By							
Trt-Eval Interval	46 DA-A	46 DA-A	46 DA-A	46 DA-A	46 DA-A	46 DA-A	60 DA-A
# Subsamples, Dec.	0	0	0	0	0	0	0

Trt No.	Treatment Name	Rate	Unit	Product Rate	Product Unit	Appl Code	13	14	15	16	17	18	19
1	KIH-485	0.186	lb ai/a	3.5	oz/a	A	100 a	100 a	100 a	100 a	77 a	100 a	93 ab
1	ATRAZINE	0.623	lb ai/a	1.25	pt/a								
1	CALLISTO	0.167	lb ai/a	5.34	oz/a								
2	KIH-485	0.186	lb ai/a	3.5	oz/a	A	99 a	100 a	100 a	100 a	77 a	98 a	98 a
2	ATRAZINE	0.623	lb ai/a	1.25	pt/a								
2	BALANCE PRO	0.078	lb ai/a	2.5	oz/a								
3	KIH-485	0.186	lb ai/a	3.5	oz/a	A	57 b	100 a	77 ab	100 a	47 bc	93 a	88 bc
3	ATRAZINE	0.623	lb ai/a	20	oz/a								
4	KIH-485	0.147	lb ai/a	2.77	oz/a	A	47 c	97 a	53 ab	100 a	40 c	90 a	88 bc
4	ATRAZINE	0.623	lb ai/a	20	oz/a								
5	KIH-485	0.111	lb ai/a	2.09	oz/a	A	30 d	93 a	43 b	100 a	37 c	100 a	87 bc
5	ATRAZINE	0.623	lb ai/a	20	oz/a								
6	LUMAX	2.46	lb ai/a	2.5	qt/a	A	100 a	100 a	100 a	100 a	63 ab	100 a	88 bc
7	LEXAR	2.78	lb ai/a	3	qt/a	A	98 a	100 a	100 a	100 a	63 ab	100 a	83 c
8	UTC						0 e	0 b	0 c	0 b	0 d	0 b	0 d
LSD (P=.05)							8.8	4.9	33.7	0.0	15.8	13.4	5.8
Standard Deviation							5.0	2.8	19.3	0.0	9.0	7.6	3.3
CV							7.61	3.23	26.87	0.0	17.91	8.97	4.21
Bartlett's X2							8.884	0.0	2.67	0.0	3.34	4.28	2.731
P(Bartlett's X2)							0.064	.	0.263	.	0.648	0.118	0.842
Replicate F							3.786	1.615	2.169	0.000	0.358	0.552	2.973
Replicate Prob(F)							0.0485	0.2338	0.1512	1.0000	0.7055	0.5877	0.0840
Treatment F							177.567	473.154	10.992	0.000	23.993	61.534	282.301
Treatment Prob(F)							0.0001	0.0001	0.0001	1.0000	0.0001	0.0001	0.0001

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Weed Code	CHEAL	AMARE	ABUTH	AMBEL	AMBTR	POLPY
Crop Code						
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date	Jun/21/2007	Jun/21/2007	Jun/21/2007	Jun/21/2007	Jun/21/2007	Jun/21/2007
Crop Stage						
Assessed By						
Trt-Eval Interval	60 DA-A	60 DA-A	60 DA-A	60 DA-A	60 DA-A	60 DA-A
# Subsamples, Dec.	0	0	0	0	0	0

Trt No.	Treatment Name	Rate	Unit	Product Rate	Product Unit	Appl Code	20	21	22	23	24	25
1	KIH-485	0.186	lb ai/a	3.5	oz/a	A	100 a	100 a	100 a	100 a	86 a	100 a
1	ATRAZINE	0.623	lb ai/a	1.25	pt/a							
1	CALLISTO	0.167	lb ai/a	5.34	oz/a							
2	KIH-485	0.186	lb ai/a	3.5	oz/a	A	93 a	100 a	100 a	100 a	88 a	93 a
2	ATRAZINE	0.623	lb ai/a	1.25	pt/a							
2	BALANCE PRO	0.078	lb ai/a	2.5	oz/a							
3	KIH-485	0.186	lb ai/a	3.5	oz/a	A	75 b	100 a	77 a	100 a	47 b	87 a
3	ATRAZINE	0.623	lb ai/a	20	oz/a							
4	KIH-485	0.147	lb ai/a	2.77	oz/a	A	57 c	100 a	43 ab	100 a	33 b	100 a
4	ATRAZINE	0.623	lb ai/a	20	oz/a							
5	KIH-485	0.111	lb ai/a	2.09	oz/a	A	53 c	100 a	13 b	87 a	33 b	100 a
5	ATRAZINE	0.623	lb ai/a	20	oz/a							
6	LUMAX	2.46	lb ai/a	2.5	qt/a	A	100 a	100 a	100 a	100 a	83 a	100 a
7	LEXAR	2.78	lb ai/a	3	qt/a	A	93 a	98 a	100 a	100 a	75 a	100 a
8	UTC						0 d	0 b	0 b	0 b	0 c	0 b
LSD (P=.05)							14.4	1.8	43.3	14.3	14.4	16.4
Standard Deviation							8.2	1.0	24.7	8.2	8.2	9.4
CV							11.54	1.17	37.05	9.51	14.75	11.04
Bartlett's X2							3.126	0.0	1.098	0.0	2.657	0.866
P(Bartlett's X2)							0.537	.	0.577	.	0.851	0.352
Replicate F							0.107	1.000	0.867	1.000	0.024	0.568
Replicate Prob(F)							0.8991	0.3927	0.4415	0.3927	0.9763	0.5794
Treatment F							52.007	3583.858	8.695	55.107	46.320	40.973
Treatment Prob(F)							0.0001	0.0001	0.0003	0.0001	0.0001	0.0001

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