

(04LLC1)

Ohio State University
Horticulture and Crop Science

WEED CONTROL SYSTEMS IN LIBERTY LINK CORN

Trial ID: 04LLC1

Study Dir.: Anthony F. Dobbels

Location: WESTERN BRANCH F-7

Investigator: Dr. Mark M. Loux

GENERAL TRIAL INFORMATION

Study Director: Anthony F. Dobbels

Investigator: Dr. Mark M. Loux

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	Lambsquarters, common	Chenopodium album
3. POLPY	Pennsylvania smartweed	Polygonum pensylvanicum
4. AMBEL	Ragweed, common	Ambrosia artemisiifolia
5. ABUTH	Velvetleaf	Abutilon theophrasti
6. AMARE	Redroot pigweed	Amaranthus retroflexus

Crop 1: ZEAMX CORN, FIELD

Variety: PIONEER 34M92 LL

Planting Date: 4-28-04

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: 10 FT

Plot Length, Unit: 40 FT Reps: 4

Tillage Type: CONVENTIONAL

Study Design: RANDOMIZED COMPLETE BLOCK

SOIL DESCRIPTION

% OM:	5.2	Texture:	silty clay loam
pH:	5.6	Soil Name:	Kokomo
CEC:	25		

APPLICATION DESCRIPTION

	A	B	C	D
Application Date:	4-29-04	5-24-04	5-28-04	6-3-04
Time of Day:	7:00 A.M.	7:00 P.M.	9:00 A.M.	9:00 A.M.
Application Method:	SPRAY	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	EPO	MPO	POST
Applic. Placement:	BROADCAST	BROADCAST	BROADCAST	BROADCAST
Air Temp., Unit:	54 F	76 F	65 F	59 F
% Relative Humidity:	52	42	96	77
Wind Velocity, Unit:	2 S	6 W	6 S	2 W
Soil Temp., Unit:	51 F	74 F	63 F	59 F
Soil Moisture:	DRY/MOIST	DRY/MOIST	WET/WET	DRY/MOIST
% Cloud Cover:	0	10	100	25

CROP STAGE AT EACH APPLICATION

	A	B	C	D
Crop 1 Code, Stage:	ZEAMX	ZEAMX	ZEAMX	ZEAMX
Stage Scale:	4 COLLAR	5 COLLAR	6 COLLAR	
Height, Unit:	10 IN	12 IN	17 IN	

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WEED STAGE AT EACH APPLICATION

	A	B	C	D
Weed 1 Code, Stage:	SETFA	SETFA 4-6"	SETFA 4-8"	SETFA 6-8"
Stage Scale:	5 LVS	5 LVS	6 LVS	6 LVS
Density, Unit:	55 M2	55 M2	55 M2	55 M2
Weed 2 Code, Stage:	CHEAL	CHEAL 1-2"	CHEAL 1-3"	CHEAL 2-4"
Stage Scale:	4 LVS	4 LVS	4 LVS	8 LVS
Density, Unit:	18.3 M2	18.3 M2	18.3 M2	18.3 M2
Weed 3 Code, Stage:	POLPY	POLPY 3-4"	POLPY 3-4"	POLPY 6-8"
Stage Scale:	8 LVS	8 LVS	8 LVS	12 LVS
Density, Unit:	2.3 M2	2.3 M2	2.3 M2	2.3 M2
Weed 4 Code, Stage:	AMBEL	AMBEL 3-4"	AMBEL 4-6"	AMBEL 3-5"
Stage Scale:	8 LVS	8 LVS	8 LVS	6 LVS
Density, Unit:	2.3 M2	2.3 M2	2.3 M2	2.3 M2
Weed 5 Code, Stage:	ABUTH	ABUTH 2-3"	ABUTH 3-4"	ABUTH 3-5"
Stage Scale:	4 LVS	4 LVS	5 LVS	4 LVS
Density, Unit:	.3 M2	.3 M2	.3 M2	.3 M2
Weed 6 Code, Stage:	AMARE	AMARE 2-3"	AMARE 2-4"	AMARE 2"
Stage Scale:	4 LVS	4 LVS	4 LVS	4 LVS
Density, Unit:	3.3 M2	3.3 M2	3.3 M2	3.3 M2

APPLICATION EQUIPMENT

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

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Weed Code

Crop Code

Rating Data Type

Rating Unit

Rating Date

Crop Stage

Trt-Eval Interval

ARM Action Codes

Subsamples, Dec.

ZEAMX WEIGHT LBS	ZEAMX MOISTURE PERCENT	ZEAMX YIELD BU/ACRE
10-6-04	10-6-04	10-6-04
HARVEST	HARVEST	HARVEST
		TY1
1	1	1

Trt No.	Treatment Name	Product Rate	Product Unit	Grow Stg	Appl Code	30	31	32
1	BALANCE PRO	1.5 oz/a		PRE	A	46.6 ab	16.1 ab	180.1 a
1	LIBERTY	32 oz/a		POST	D			
1	ATRAZINE	1 qt/a		POST				
1	AMS	4 qt/a		POST				
2	BALANCE PRO	1.5 oz/a		PRE	A	46.7 ab	15.5 ab	181.6 a
2	OPTION	1.5 oz/a		POST	D			
2	DISTINCT	2 oz/a		POST				
2	MISO	1.5 pt/a		POST				
2	28 %	1.5 qt/a		POST				
3	ATRAZINE	2 qt/a		PRE	A	46.4 ab	15.5 ab	180.6 a
3	LIBERTY	28 oz/a		POST	D			
3	AMS	4 qt/a		POST				
4	BALANCE PRO	2 oz/a		PRE	A	46.3 ab	15.3 b	180.4 a
4	LIBERTY	28 oz/a		POST	D			
4	CALLISTO	1 oz/a		POST				
4	AMS	4 qt/a		POST				
5	DEFINE SC	21 oz/a		PRE	A	45.3 ab	15.4 ab	176.2 ab
5	ATRAZINE	1 qt/a		PRE				
5	BUCTRIL+ATRAZINE	2 pt/a		POST	D			
5	CALLISTO	1 oz/a		POST				
6	BALANCE PRO	1.5 oz/a		PRE	A	47.5 a	16.7 ab	182.0 a
6	LIBERTY	32 oz/a		POST	D			
6	AMS	4 qt/a		POST				
7	USA 2005	20 oz/a		PRE	A	47.0 a	16.4 ab	181.1 a
7	LIBERTY	32 oz/a		POST	D			
7	AMS	4 qt/a		POST				

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Weed Code			
Crop Code	ZEAMX	ZEAMX	ZEAMX
Rating Data Type	WEIGHT	MOISTURE	YIELD
Rating Unit	LBS	PERCENT	BU/ACRE
Rating Date	10-6-04	10-6-04	10-6-04
Crop Stage			
Trt-Eval Interval	HARVEST	HARVEST	HARVEST
ARM Action Codes			TY1
# Subsamples, Dec.	1	1	1

Trt No.	Treatment Name	Product Rate	Product Unit	Grow Stg	Appl Code	30	31	32
8	DEFINE SC	10 oz/a		PRE	A	47.3 a	17.3 a	180.0 a
8	ATRAZINE	1 qt/a		PRE				
8	LIBERTY	32 oz/a		POST	D			
8	AMS	4 qt/a		POST				
9	BALANCE PRO	1.5 oz/a		PRE	A	43.2 bc	16.6 ab	165.8 bc
9	EQUIP	1.5 oz/a		POST	D			
9	MSO	1.5 pt/a		POST				
9	28 %	1.5 qt/a		POST				
10	DEFINE SC	12 oz/a		EPO	B	46.8 a	16.1 ab	180.8 a
10	ATRAZINE	1 qt/a		EPO				
10	LIBERTY	32 oz/a		EPO				
10	CALLISTO	1 oz/a		EPO				
10	AMS	4 qt/a		EPO				
11	EQUIP	1.5 oz/a		MPO	C	44.4 ab	17.0 ab	169.5 abc
11	ATRAZINE	1 qt/a		MPO				
11	MSO	1.5 pt/a		MPO				
11	28 %	1.5 qt/a		MPO				
12	LIBERTY	32 oz/a		MPO	C	45.2 ab	16.6 ab	173.4 ab
12	ATRAZINE	1 qt/a		MPO				
12	AMS	4 qt/a		MPO				
13	STEADFAST ATZ	14 oz/a		MPO	C	40.5 c	15.6 ab	157.6 c
13	DISTINCT	4 oz/a		MPO				
13	COC	0.8 qt/a		MPO				
13	28 %	2 qt/a		MPO				
14	UTC					25.5 d	13.3 c	102.1 d
LSD (P=.05)						3.48	1.93	13.85
Standard Deviation						2.43	1.35	9.69
CV						5.51	8.47	5.67

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Weed Code			
Crop Code	ZEAMX	ZEAMX	ZEAMX
Rating Data Type	WEIGHT	MOISTURE	YIELD
Rating Unit	LBS	PERCENT	BU/ACRE
Rating Date	10-6-04	10-6-04	10-6-04
Crop Stage			
Trt-Eval Interval	HARVEST	HARVEST	HARVEST
ARM Action Codes			TY1
# Subsamples, Dec.	1	1	1

Trt	Treatment	Product	Product	Grow	Appl				
No.	Name	Rate	Rate	Unit	Stg	Code	30	31	32

Replicate F	8.335	5.070	11.346
Replicate Prob(F)	0.0002	0.0046	0.0001
Treatment F	21.899	2.227	18.894
Treatment Prob(F)	0.0001	0.0270	0.0001

Means followed by same letter do not significantly differ (P=.05, LSD)

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

Column 3: TY1 = $3.889286 * [30] * (100 - [31]) / 84.5$