

Ohio State University Horticulture and Crop Science

Full Season Weed Control Programs in Corn

Title No. 2:
 Trial ID: 10PREC1 Protocol ID: 10PREC1
 Location: WESTERN BRANCH F-7 Study Director: Anthony F. Dobbels
 Project ID: Investigator: Dr. Mark M. Loux
 Sponsor Contact: Dane Bowers, Syngenta

General Trial Information

Study Director: Anthony F. Dobbels **Title:** Research Specialist
Investigator: Dr. Mark M. Loux **Title:** Professor

Trial Location

City: South Charleston **Latitude of LL Corner °:** 39.86026 N
State/Prov.: Ohio **Longitude of LL Corner °:** 83.6717 W
Postal Code: 45368 **Altitude of LL Corner, Unit:** 1111.00 FT
Country: USA

Personnel

Study Director: Anthony F. Dobbels **Title:** Research Specialist
Affiliation: The Ohio State University
Address: 7721 South Charleston Pike
Location: South Charleston OH
Postal Code: 45368 **E-mail:** dobbels.1@osu.edu
Investigator: Dr. Mark M. Loux **Title:** Professor
Affiliation: The Ohio State University
Address: 222 Kottman Hall, 2021 Coffey Road
Location: Columbus OH
Postal Code: 43210 **E-mail:** loux.1@osu.edu

Crop Description

Crop 1: ZEAMX Zea mays Corn
Variety: PIONEER 33W84
BBCH Scale: BCOR
Planting Method: SEEDED seeded
Depth, Unit: 1.5 IN
Row Spacing, Unit: 30 IN
Seed Bed: SMOOTH smooth
Soil Moisture: DRY dry
Harvest Date: 9/14/10
Harvested Width, Unit: 5 FT
% Standard Moisture: 15.5
Weighing Equipment: HARVEST MASTER 401

Description: RR/LL
Planting Date: 4/20/10
Rate, Unit: 32097 S/A

Soil Temperature, Unit: 55 F
Emergence Date: 5/3/10
Harvest Equipment: MASSEY 8 XP
Harvested Length, Unit: 30 FT
Moisture Meter: HARVEST MASTER

Pest Description

Pest 1 Type: W **Code:** SETFA Setaria faberi
Common Name: Giant foxtail

Pest 2 Type: W **Code:** AMBTR Ambrosia trifida
Common Name: Giant ragweed

Pest 3 Type: W **Code:** CHEAL Chenopodium album
Common Name: Common lambsquarters

Pest 4 Type: W **Code:** ABUTH Abutilon theophrasti
Common Name: Velvetleaf

Site and Design

Plot Width, Unit: 6.67 FT
Plot Length, Unit: 30 FT
Plot Area, Unit: 200.1 FT²
Replications: 3

Site Type: FIELD field
Experimental Unit: 1 PLOT plot
Tillage Type: CONTIL conventional-till
Study Design: RACOB Randomized Complete Block (RCB)
Untreated Arrangement: INCLUDED single control randomized in each block

Soil Description

Description Name: F-7 East
% OM: 1.8 **Texture:** SIL silt loam
pH: 6.1 **Soil Name:** Crosby
CEC: 16 **Fert. Level:** G good
Soil Drainage: G good

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Application Description

	A	B
Application Date:	4/20/10	5/31/10
Time of Day:	3:00 P.M.	10:00 A.M
Application Method:	SPRAY	SPRAY
Application Timing:	PRE	POST
Application Placement:	BROS0I	BROFO
Applied By:	Loux	Ackley
Air Temperature, Unit:	64 F	78 F
% Relative Humidity:	32	72
Wind Velocity, Unit:	3 MPH	6 MPH
Wind Direction:	N	ESE
Dew Presence (Y/N):	N no	N no
Soil Temperature, Unit:	58 F	74 F
Soil Moisture:	DRY	DRY
% Cloud Cover:	15	15
Next Rain Occurred On:	4/24/10	6/2/10

Crop Stage At Each Application

	A	B
Crop 1 Code, BBCH Scale:	ZEAMX BCOR	ZEAMX BCOR
Stage Scale Used:		BBCH
Stage Majority, Percent:		16 75
Stage Minimum, Percent:		15 25
Stage Maximum, Percent:		16 75
Height, Unit:		15 IN
Height Minimum, Maximum:		13 17

Pest Stage At Each Application

	A	B
Pest 1 Code, Type, Scale:	SETFA W	SETFA W
Stage Majority, Percent:		11 100
Height, Unit:		0.25 IN
Height Minimum, Maximum:		0.25 0.5
Density, Unit:		181.2 M2
Pest 2 Code, Type, Scale:	AMBTR W	AMBTR W
Stage Majority, Percent:		12 100
Height, Unit:		2 IN
Height Minimum, Maximum:		2 4
Density, Unit:		5.2 M2
Pest 3 Code, Type, Scale:	CHEAL W	CHEAL W
Stage Majority, Percent:		14 100
Height, Unit:		2 IN
Height Minimum, Maximum:		1 2
Density, Unit:		22.4 M2
Pest 4 Code, Type, Scale:	ABUTH W	ABUTH W
Stage Majority, Percent:		14 100
Height, Unit:		2 IN
Height Minimum, Maximum:		2 3
Density, Unit:		2.4 M2

Application Equipment

	A	B
Appl. Equipment:	6 foot boom	6 foot boom
Equipment Type:	SPRBAC	SPRBAC
Operating Pressure, Unit:	53 PSI	53 PSI
Nozzle Type:	TEEJET DG	TEEJET DG
Nozzle Size:	8002	8002
Nozzle Spacing, Unit:	18 IN	18 IN
Boom Length, Unit:	6 FT	6 FT
Boom Height, Unit:	20 IN	20 IN
Ground Speed, Unit:	3 MPH	3 MPH
Carrier:	WATER	WATER
Spray Volume, Unit:	20 GPA	20 GPA
Mix Size, Unit:	0.33 Gallons	0.33 Gallons
Propellant:	CO2	CO2

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Rating Date	5/31/10	5/31/10	5/31/10	5/31/10	5/31/10	5/31/10	5/31/10	6/22/10	6/22/10					
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO					
Rating Unit	%	%	%	%	%	%	%	%	%					
Trt-Eval Interval	0 DA-B	0 DA-B	0 DA-B	0 DA-B	0 DA-B	0 DA-B	0 DA-B	22 DA-B	22 DA-B					
Plant-Eval Interval	41 DP-1	41 DP-1	41 DP-1	41 DP-1	41 DP-1	41 DP-1	41 DP-1	63 DP-1	63 DP-1					
Pest Code	SETFA	AMBTR	CHEAL	AMARE	ABUTH	POLPY	AMBEL	SETFA	AMBTR					
Days After Emergence	28 DE-	28 DE-	28 DE-	28 DE-	28 DE-	28 DE-	28 DE-	50 DE-	50 DE-					
Trt No.	Treatment Name	Form Conc	Other Rate	Other Rate	Appl Unit Code	1	2	3	4	5	6	7	8	9
1	UNTREATED CHECK					0	0	0	0	0	0	0	0	0
2	Lumax	3.94	3 qt/a		A	100	84	100	100	100	100	97	93	81
3	Lexar	3.7	3.5 qt/a		A	93	92	100	100	100	100	100	88	72
4	Corvus	2.63	5.6 oz/a		A	98	88	100	100	100	100	100	85	81
4	Atrazine	4	1 qt/a											
5	Balance Flexx	2	6 oz/a		A	89	91	100	100	100	100	99	80	77
5	Atrazine	4	1.5 qt/a											
6	Integrity	5.57	20 oz/a		A	94	93	100	100	100	100	100	73	83
7	Lumax	3.94	3 qt/a		A	99	70	100	100	99	100	100	81	68
7	Atrazine	4	1 qt/a											
8	Harness Extra 5.6	5.6	3 qt/a		A	99	91	100	100	100	100	100	81	85
8	Sharpen	2.85	3 oz/a											
9	Integrity	5.57	20 oz/a		A	96	91	100	100	98	100	100	73	81
9	Atrazine	4	1.5 qt/a											
10	Harness Extra 5.6	5.6	3 qt/a		A	99	83	100	100	100	100	100	83	83
10	Balance Flexx	2	4 oz/a											
11	Keystone	5.5	2.6 qt/a		A	98	90	100	100	93	100	100	78	85
11	Hornet	68.5	3 oz/a											
12	Surestart	4.25	2.5 pt/a		A	92	92	100	100	95	100	98	78	81
12	Keystone	5.5	2.5 pt/a											
12	Atrazine	4	2 pt/a											
13	Bicep II Magnum	5.5	1.3 qt/a		A	95	71	63	100	78	93	100	99	93
13	Touchdown Total	4.17	24 oz/a		B									
13	N-PAK AMS	100	4 qt/a											
14	Lexar	3.7	2.25 qt/a		A	94	87	100	100	100	100	100	99	97
14	Touchdown Total	4.17	24 oz/a		B									
14	N-PAK AMS	100	4 qt/a											
LSD (P=.05)						7.5	17.2	2.6	0.0	10.5	5.2	3.0	8.6	18.7
Standard Deviation						4.5	10.2	1.5	0.0	6.2	3.1	1.8	5.1	11.1
CV						5.0	12.78	1.71	0.0	6.91	3.34	1.92	6.54	14.61
Bartlett's X2						25.24	9.945	0.0	0.0	12.335	0.0	4.019	19.097	10.216
P(Bartlett's X2)						0.014*	0.621	.	.	0.015*	.	0.134	0.059	0.597
Replicate F						3.927	2.940	1.000	0.000	2.929	1.000	0.595	3.931	4.870
Replicate Prob(F)						0.0323	0.0706	0.3816	1.0000	0.0713	0.3816	0.5591	0.0323	0.0160
Treatment F						101.042	16.761	970.231	0.000	54.697	223.692	672.448	66.172	12.966
Treatment Prob(F)						0.0001	0.0001	0.0001	1.0000	0.0001	0.0001	0.0001	0.0001	0.0001

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Rating Date	6/22/10									
Rating Type	CONTRO									
Rating Unit	%									
Trt-Eval Interval	22 DA-B									
Plant-Eval Interval	63 DP-1									
Pest Code	CHEAL									
Days After Emergence	50 DE-									
Trt No.	Treatment Name	Form Conc	Other Rate	Other Rate	Appl Unit Code	10	11	12	13	14
1	UNTREATED CHECK					0	0	0	0	0
2	Lumax	3.94	3 qt/a		A	100	100	99	100	100
3	Lexar	3.7	3.5 qt/a		A	100	100	100	100	100
4	Corvus	2.63	5.6 oz/a		A	100	100	100	100	100
4	Atrazine	4	1 qt/a							
5	Balance Flexx	2	6 oz/a		A	100	100	95	100	100
5	Atrazine	4	1.5 qt/a							
6	Integrity	5.57	20 oz/a		A	100	100	100	100	100
7	Lumax	3.94	3 qt/a		A	100	100	93	100	100
7	Atrazine	4	1 qt/a							
8	Harness Extra 5.6	5.6	3 qt/a		A	100	100	95	100	100
8	Sharpen	2.85	3 oz/a							
9	Integrity	5.57	20 oz/a		A	95	100	87	100	98
9	Atrazine	4	1.5 qt/a							
10	Harness Extra 5.6	5.6	3 qt/a		A	100	100	100	100	100
10	Balance Flexx	2	4 oz/a							
11	Keystone	5.5	2.6 qt/a		A	100	100	86	100	100
11	Hornet	68.5	3 oz/a							
12	Surestart	4.25	2.5 pt/a		A	100	100	92	100	100
12	Keystone	5.5	2.5 pt/a							
12	Atrazine	4	2 pt/a							
13	Bicep II Magnum	5.5	1.3 qt/a		A	94	100	100	100	100
13	Touchdown Total	4.17	24 oz/a		B					
13	N-PAK AMS	100	4 qt/a							
14	Lexar	3.7	2.25 qt/a		A	100	100	100	100	100
14	Touchdown Total	4.17	24 oz/a		B					
14	N-PAK AMS	100	4 qt/a							
LSD (P=.05)						6.2	0.3	17.3	0.0	1.3
Standard Deviation						3.7	0.2	10.3	0.0	0.8
CV						4.0	0.17	11.6	0.0	0.83
Bartlett's X2						0.065	0.0	11.215	0.0	0.0
P(Bartlett's X2)						0.799	.	0.082	.	.
Replicate F						0.490	1.000	1.374	0.000	1.000
Replicate Prob(F)						0.6184	0.3816	0.2709	1.0000	0.3816
Treatment F						156.176	89954.853	19.167	0.000	3591.770
Treatment Prob(F)						0.0001	0.0001	0.0001	1.0000	0.0001

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Trial ID: 10PREC1

Location: WESTERN BRANCH F-7

Project ID:

Protocol ID: 10PREC1

Study Director: Anthony F. Dobbels

Investigator: Dr. Mark M. Loux

Sponsor Contact: Dane Bowers, Syngenta

Rating Type

CONTRO = control / burndown or knockdown

Rating Unit

% = percent

Plant-Eval Interval

41 DP-1 = 1 4/20/10

63 DP-1 = 1 4/20/10

Pest Code

SETFA, *Setaria faberi*, = US

AMBTR, *Ambrosia trifida*, = US

CHEAL, *Chenopodium album*, = US

AMARE, *Amaranthus retroflexus*, = US

ABUTH, *Abutilon theophrasti*, = US

POLPY, *Polygonum pensylvanicum*, = US

AMBEL, *Ambrosia artemisiifolia*, = US