

Ohio State University Horticulture and Crop Science

Preemergence fb Postemergence Weed Control in Corn 3

Title No. 2:
 Trial ID: 10PRPOC3 Protocol ID: 10PRPOC3
 Location: WESTERN BRANCH F-7 Study Director: Anthony F. Dobbels
 Project ID: Investigator: Dr. Mark M. Loux
 Sponsor Contact:

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 °:** 39.86018 N
State/Prov.: Ohio **Longitude of LL Corner °:** 83.67088 W
Postal Code: 45368 **Altitude of LL Corner, Unit:** 1104.00 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: SEED CONSULTANTS 11HQ38
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:** AMBEL **Ambrosia artemisiifolia**
Common Name: Common ragweed

Pest 3 Type: W **Code:** AMBTR **Ambrosia trifida**
Common Name: Giant ragweed

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

Pest 5 Type: W **Code:** CHEAL **Chenopodium album**
Common Name: Common lambsquarters

Pest 6 Type: W **Code:** AMARE **Amaranthus retroflexus**
Common Name: Redroot pigweed

Pest 7 Type: W **Code:** POLPY **Polygonum pensylvanicum**
Common Name: Pennsylvania smartweed

Site and Design

Plot Width, Unit: 6.67 FT **Site Type:** FIELD field
Plot Length, Unit: 30 FT **Experimental Unit:** 1 PLOT plot
Plot Area, Unit: 200.1 FT2 **Tillage Type:** CONTIL conventional-till
Replications: 3 **Study Design:** RACOB Randomized Complete Block (RCB)
Untreated Arrangement: INCLUDED single control randomized in each block

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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

Application Description

	A	B
Application Date:	4/20/10	5/25/10
Time of Day:	3:00 P.M.	9:30 A.M.
Application Method:	SPRAY	SPRAY
Application Timing:	PRE	POST
Application Placement:	BROSOI	BROFOL
Applied By:	Loux	McCormick
Air Temperature, Unit:	64 F	69 f
% Relative Humidity:	32	79
Wind Velocity, Unit:	3 MPH	7 mph
Wind Direction:	N	E
Dew Presence (Y/N):	N no	N no
Soil Temperature, Unit:	58 F	64 F
Soil Moisture:	DRY	NORMAL
% Cloud Cover:	15	40
Next Rain Occurred On:	6/24/10	5/31/10

Crop Stage At Each Application

	A	B
Crop 1 Code, BBCH Scale:	ZEAMX BCOR	ZEAMX BCOR
Stage Scale Used:		BBCH
Stage Majority, Percent:		14 100
Height, Unit:		9 IN

Pest Stage At Each Application

	A	B
Pest 1 Code, Type, Scale:	SETFA W	SETFA W
Stage Majority, Percent:		13 100
Height, Unit:		5 IN
Height Minimum, Maximum:		4 6
Density, Unit:		40 M2
Pest 2 Code, Type, Scale:	AMBEL W	AMBEL W
Stage Majority, Percent:		14 100
Height, Unit:		2 IN
Height Minimum, Maximum:		1 2
Pest 3 Code, Type, Scale:	AMBTR W	AMBTR W
Stage Majority, Percent:		16 100
Height, Unit:		4 IN
Height Minimum, Maximum:		3 4
Density, Unit:		4 M2
Pest 4 Code, Type, Scale:	ABUTH W	ABUTH W
Stage Majority, Percent:		15 90
Stage Minimum, Percent:		14 10
Stage Maximum, Percent:		15 90
Height, Unit:		2 IN
Density, Unit:		4 M2
Pest 5 Code, Type, Scale:	CHEAL W	CHEAL W
Stage Majority, Percent:		16 100
Height, Unit:		2 IN
Height Minimum, Maximum:		2 3
Density, Unit:		34.4 M2
Pest 6 Code, Type, Scale:	AMARE W	AMARE W
Stage Majority, Percent:		15 100
Height, Unit:		1 IN
Height Minimum, Maximum:		0.5 1
Pest 7 Code, Type, Scale:	POLPY W	POLPY W
Stage Majority, Percent:		13 80
Stage Minimum, Percent:		13 80
Stage Maximum, Percent:		14 20
Height, Unit:		2 IN
Height Minimum, Maximum:		2 3
Density, Unit:		5.2 M2

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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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Crop Code	ZEAMX	ZEAMX	ZEAMX
Rating Date	9/14/10	9/14/10	9/14/10
Rating Type	YIELD	MOICON	YIELD
Rating Unit	LBS	%	BU
Trt-Eval Interval			
Plant-Eval Interval	147 DP-1	147 DP-1	147 DP-1
Days After Emergence	134 DE	134 DE	134 DE
BBCH Scale	BCOR	BCOR	BCOR
Crop Scientific Name	Zea mays	Zea mays	Zea mays

Trt No.	Treatment Name	Form Conc	Other Rate	Other Rate Unit	Appl Code	32	33	34
1	REALM Q	100	4 oz/a			53.1 ab	24.8 bc	244.7 abc
1	Rimsulfuron	25	1.2 oz/a		B			
1	Isoxadifen-Ethyl	50	0.3 oz/a					
1	Mesotrione	50	2.5 oz/a					
1	COC	100	0.8 qt/a					
1	N-PAK AMS	100	2 qt/a					
2	Cinch ATZ	5.5	1 qt/a		A	51.7 bc	25.8 bc	235.4 bc
2	REALM Q	100	4 oz/a					
2	Rimsulfuron	25	1.2 oz/a		B			
2	Isoxadifen-Ethyl	50	0.3 oz/a					
2	Mesotrione	50	2.5 oz/a					
2	COC	100	0.8 qt/a					
2	N-PAK AMS	100	2 qt/a					
3	REALM Q	100	4 oz/a			51.7 bc	22.9 c	244.6 abc
3	Rimsulfuron	25	1.2 oz/a		B			
3	Isoxadifen-Ethyl	50	0.3 oz/a					
3	Mesotrione	50	2.5 oz/a					
3	Abundit	3	32 oz/a					
3	N-PAK AMS	100	2 qt/a					
4	REALM Q	100	4 oz/a			54.0 ab	23.9 bc	251.8 ab
4	Rimsulfuron	25	1.2 oz/a		B			
4	Isoxadifen-Ethyl	50	0.3 oz/a					
4	Mesotrione	50	2.5 oz/a					
4	Ignite	2.34	22 oz/a					
4	N-PAK AMS	100	2 qt/a					
5	REALM Q	100	4 oz/a			54.3 ab	23.4 bc	255.4 ab
5	Rimsulfuron	25	1.2 oz/a		B			
5	Isoxadifen-Ethyl	50	0.3 oz/a					
5	Mesotrione	50	2.5 oz/a					
5	Atrazine	4	2 pt/a					
5	COC	100	0.8 qt/a					
5	N-PAK AMS	100	2 qt/a					
6	Prequel	100	1.66 oz/a		A	55.2 ab	23.5 bc	259.0 ab
6	Rimsulfuron	25	1 oz/a		A			
6	Isoxaflutole	75	0.67 oz/a					
6	REALM Q	100	4 oz/a					
6	Rimsulfuron	25	1.2 oz/a		B			
6	Isoxadifen-Ethyl	50	0.3 oz/a					
6	Mesotrione	50	2.5 oz/a					
6	COC	100	0.8 qt/a					
6	N-PAK AMS	100	2 qt/a					
7	Steadfast Q	100	1.5 oz/a		B	56.3 ab	23.8 bc	263.3 a
7	Steadfast	75	0.75 oz/a					
7	Isoxadifen-Ethyl	50	0.25 oz/a					
7	Mesotrione	50	2.5 oz/a					
7	COC	100	0.8 qt/a					
7	N-PAK AMS	100	2 qt/a					

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Crop Code	ZEAMX	ZEAMX	ZEAMX
Rating Date	9/14/10	9/14/10	9/14/10
Rating Type	YIELD	MOICON	YIELD
Rating Unit	LBS	%	BU
Trt-Eval Interval			
Plant-Eval Interval	147 DP-1	147 DP-1	147 DP-1
Days After Emergence	134 DE	134 DE	134 DE
BBCH Scale	BCOR	BCOR	BCOR
Crop Scientific Name	Zea mays	Zea mays	Zea mays

Trt No.	Treatment Name	Form Conc	Other Rate	Other Rate	Appl Unit	Code	32	33	34
8	Bicep II Magnum	5.5	1.3 qt/a		A		55.7 ab	26.2 b	252.4 ab
8	Callisto Xtra	3.7	20 oz/a		B				
8	Touchdown Total	4.17	24 oz/a						
8	N-PAK AMS	100	2 qt/a						
9	Bicep II Magnum	5.5	1.3 qt/a		A		53.5 ab	24.0 bc	249.6 ab
9	Callisto Xtra	2.7	24 oz/a		B				
9	Touchdown Total	4.17	24 oz/a						
9	N-PAK AMS	100	2 qt/a						
10	Bicep II Magnum	5.5	1 qt/a		A		47.7 c	24.5 bc	221.4 c
11	Bicep II Magnum	5.5	1 qt/a		A		55.4 ab	24.4 bc	257.1 ab
11	Impact	2.8	0.75 oz/a		B				
11	Atrazine	4	16 oz/a						
11	MSO	100	0.8 qt/a						
11	N-PAK AMS	100	2 qt/a						
12	Bicep II Magnum	5.5	1 qt/a		A		56.7 a	24.9 bc	261.7 a
12	Impact	2.8	1 oz/a		B				
12	Atrazine	4	16 oz/a						
12	MSO	100	0.8 qt/a						
12	N-PAK AMS	100	2 qt/a						
13	Bicep II Magnum	5.5	1 qt/a		A		53.8 ab	23.7 bc	251.6 ab
13	Laudis	3.5	3 oz/a		B				
13	Atrazine	4	16 oz/a						
13	MSO	100	0.8 qt/a						
13	N-PAK AMS	100	2 qt/a						
14	Bicep II Magnum	5.5	1 qt/a		A		54.5 ab	24.7 bc	252.0 ab
14	Capreno	3.46	3 oz/a		B				
14	Atrazine	4	16 oz/a						
14	COC	100	0.8 qt/a						
14	N-PAK AMS	100	2 qt/a						
15	Bicep II Magnum	5.5	2.1 qt/a		A		53.6 ab	25.2 bc	246.1 abc
15	Callisto xtra	100	24 oz/a		B				
15	MSO	100	0.8 qt/a						
15	N-PAK AMS	100	2 qt/a						
16	Untreated						36.6 d	30.6 a	155.8 d
LSD (P=.05)							4.84	3.12	26.09
Standard Deviation							2.90	1.87	15.65
CV							5.5	7.55	6.42
Bartlett's X2							12.837	15.797	13.411
P(Bartlett's X2)							0.615	0.396	0.571
Replicate F							10.925	4.656	5.675
Replicate Prob(F)							0.0003	0.0173	0.0081
Treatment F							8.224	2.764	8.062
Treatment Prob(F)							0.0001	0.0086	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.

Crop Code
ZEAMX, BCOR, Zea mays, = US
Rating Type
YIELD = yield
MOICON = moisture content

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Rating Unit

% = percent

BU = bushel

Plant-Eval Interval

147 DP-1 = 1 4/20/10

ARM Action Codes

TY1 = $5.185714 \times 32 \times (100 - 33) / 84.5$