

The Ohio State University

Pre fb Post Weed Control in Corn IV

Trial ID: 13PRPOC4
Protocol ID: 13PRPOC4
Project ID: USHECCOR029-2013

Location: WESTERN BRANCH F-8 W Trial Year: 2013
Investigator: Dr. Mark M. Loux
Study Director: Anthony F. Dobbels
Sponsor Contact: Dain Bruns, Syngenta

General Trial Information

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

Trial Location

City: South Charleston **Country:** USA United States
State/Prov.: Ohio
Postal Code: 45368 **Climate Zone:** US Warm Continental

Latitude of LL Corner °: 3951.613 N
Longitude of LL Corner °: 8340.332 W

Crop Description

Crop 1: ZEAMX Zea mays
Variety: Dekalb DKC 61-21RIB
Description: RR/LL

Corn
Planting Date: May-6-2013
Planting Method: PLANTD planted
Planting Equipment: FPP Finger Pickup Planter
Emergence Date: May-17-2013
Harvest Date: Oct-21-2013
Harvested Width, Unit: 5 FT
Harvested Length, Unit: 40 FT
Harvest Equipment: Massey Ferguson 8 XP
% Standard Moisture: 15.5
Moisture Meter: Harvest Master
Weighing Equipment: Harvest Master

Planting Rate, Unit: 32097 S/A
Depth, Unit: 2 in
Row Spacing, Unit: 30 IN

Soil Temperature, Unit: 56 F
Soil Moisture: NORMAL normal, adequate
Seed Bed: MEDIUM medium

Pest Description

- Pest 1 Type:** W **Code:** AMARE *Amaranthus retroflexus*
Common Name: Redroot pigweed
- Pest 2 Type:** W **Code:** IPOHE *Ipomoea hederacea*
Common Name: Ivyleaf morningglory
- Pest 3 Type:** W **Code:** CHEAL *Chenopodium album*
Common Name: Common lambsquarters
- Pest 4 Type:** W **Code:** AMBTR *Ambrosia trifida*
Common Name: Giant ragweed
- Pest 5 Type:** W **Code:** ABUTH *Abutilon theophrasti*
Common Name: velvetleaf
- Pest 6 Type:** W **Code:** SETFA *Setaria faberi*
Common Name: Giant foxtail
- Pest 7 Type:** W **Code:** HIBTR *Hibiscus trionum*
Common Name: Venice mallow
- Pest 8 Type:** W **Code:** POLPY *Persicaria pensylvanica*
Common Name: Pennsylvania smartweed

Site and Design

Treated Plot Width: 6.67 FT
Treated Plot Length: 30 FT
Treated Plot Area: 200.1 FT2 **Treatments:** 18
Replications: 4
Site Type: FIELD field
Experimental Unit: 1 PLOT plot
Tillage Type: CONTIL conventional-till
Study Design: RACOB� Randomized Complete Block (RCB)

Soil Description

Description Name: G-6
% OM: 2.2 **Texture:** SICL silty clay loam
pH: 6.3 **Soil Name:** Crosby
CEC: 13.6 **Fert. Level:** G good
Soil Drainage: G good

The Ohio State University

Pre fb Post Weed Control in Corn IV

Trial ID: 13PRPOC4
Protocol ID: 13PRPOC4
Project ID: USHECCOR029-2013

Location: WESTERN BRANCH F-8 W Trial Year: 2013
Investigator: Dr. Mark M. Loux
Study Director: Anthony F. Dobbels
Sponsor Contact: Dain Bruns, Syngenta

	Application Description		
	A	B	C
Application Date:	May-6-2013	May-21-2013	Jun-7-2013
Appl. Start Time:	11:30 AM	9:15 AM	1:30 PM
Appl. Stop Time:	12:00 PM	9:45 AM	2:00 PM
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	V3	POST
Application Placement:	BROSOI	BROFOL	BROFOL
Air Temperature, Unit:	60 F	75 F	67 F
% Relative Humidity:	100	67	77
Wind Velocity, Unit:	7 MPH	5 MPH	1.5 MPH
Wind Direction:	SE	SW	NNW
Dew Presence (Y/N):	N no	N no	N no
Soil Temperature, Unit:	56 F	70 F	64 F
Soil Moisture:	NORMAL	NORMAL	MOIST
% Cloud Cover:	100	40	50
Next Moisture Occurred On:	May-6-2013	May-22-2013	Jun-10-2013
Time to Next Moisture, Unit:	1 HR	1 DAY	3 DAY

	Crop Stage At Each Application					
	A		B		C	
Crop 1 Code, BBCH Scale:	ZEAMX	BCOR	ZEAMX	BCOR	ZEAMX	BCOR
Stage Scale Used:			BBCH		BBCH	
Stage Majority, Percent:			13	100	16	100
Stage Minimum, Percent:					16	100
Height, Unit:			3	IN	13	IN
Height Minimum, Maximum:			2	3	13	14

The Ohio State University

Pre fb Post Weed Control in Corn IV

Trial ID: 13RPOC4
Protocol ID: 13RPOC4
Project ID: USHECCOR029-2013

Location: WESTERN BRANCH F-8 W Trial Year: 2013
Investigator: Dr. Mark M. Loux
Study Director: Anthony F. Dobbels
Sponsor Contact: Dain Bruns, Syngenta

Pest Stage At Each Application

	A		B		C	
Pest 1 Code, Type, Scale:	AMARE	W	AMARE	W	AMARE	W
Stage Majority, Percent:			12	100	16	100
Stage Minimum, Percent:					16	100
Stage Maximum, Percent:					16	100
Height, Unit:			0.5	IN	4	IN
Height Minimum, Maximum:			0.5	0.5	4	5
Density, Unit:					36	M2
Pest 2 Code, Type, Scale:	IPOHE	W	IPOHE	W	IPOHE	W
Stage Majority, Percent:			10	100	10	50
Stage Minimum, Percent:					10	50
Stage Maximum, Percent:					14	50
Height, Unit:			1	IN	1.5	IN
Height Minimum, Maximum:			1	1	1.5	3
Density, Unit:			1	M2	1	M2
Pest 3 Code, Type, Scale:	CHEAL	W	CHEAL	W	CHEAL	W
Stage Majority, Percent:			12	100	19	75
Stage Minimum, Percent:					18	25
Stage Maximum, Percent:					19	75
Height, Unit:			1	IN	4	IN
Height Minimum, Maximum:			1	1	4	8
Density, Unit:					20	M2
Pest 4 Code, Type, Scale:	AMBTR	W	AMBTR	W	AMBTR	W
Stage Majority, Percent:					19	100
Stage Minimum, Percent:					19	100
Stage Maximum, Percent:					19	100
Height, Unit:					8	IN
Height Minimum, Maximum:					8	14
Density, Unit:					16	M2
Pest 5 Code, Type, Scale:	ABUTH	W	ABUTH	W	ABUTH	W
Stage Majority, Percent:			11	100	16	75
Stage Minimum, Percent:					10	25
Stage Maximum, Percent:					16	75
Height, Unit:			0.5	IN	1	IN
Height Minimum, Maximum:			0.5	0.5	1	8
Pest 6 Code, Type, Scale:	SETFA	W	SETFA	W	SETFA	W
Stage Majority, Percent:			13	100	14	100
Stage Minimum, Percent:					14	100
Stage Maximum, Percent:					14	100
Height, Unit:			1	IN	6	IN
Height Minimum, Maximum:			1	1	6	8
Density, Unit:					76	M2
Pest 7 Code, Type, Scale:	HIBTR	W	HIBTR	W	HIBTR	W
Stage Majority, Percent:					14	100
Stage Minimum, Percent:					14	100
Stage Maximum, Percent:					14	100
Height, Unit:					1	IN
Height Minimum, Maximum:					1	3
Pest 8 Code, Type, Scale:	POLPY	W	POLPY	W	POLPY	W
Stage Majority, Percent:					18	100
Stage Minimum, Percent:					18	100
Stage Maximum, Percent:					18	100
Height, Unit:					3	IN
Height Minimum, Maximum:					3	4

Application Equipment

	A		B		C	
Appl. Equipment:	6 foot boom	10' AI XR	10' AI XR	10' AI XR	10' AI XR	10' AI XR
Equipment Type:	SPRBAC	SPRBAC	SPRBAC	SPRBAC	SPRBAC	SPRBAC
Operation Pressure, Unit:	46	PSI	46	PSI	46	PSI
Nozzle Type:	AI XR	AI XR	AI XR	AI XR	AI XR	AI XR
Nozzle Size:	110015	110015	110015	110015	110015	110015
Nozzle Spacing, Unit:	18	IN	18	IN	18	IN
Boom Length, Unit:	6	FT	10	FT	10	FT
Boom Height, Unit:	20	IN	20	IN	20	IN
Ground Speed, Unit:	3	MPH	3	MPH	3	MPH
Carrier:	WATER	WATER	WATER	WATER	WATER	WATER
Spray Volume, Unit:	15	GPA	15	GPA	15	GPA
Mix Size, Unit:	1	Liters	0.33	Gallons	0.33	Gallons
Propellant:	CO2	CO2	CO2	CO2	CO2	CO2

The Ohio State University

Pre fb Post Weed Control in Corn IV

Trial ID: 13PRPOC4
 Protocol ID: 13PRPOC4
 Project ID: USHECCOR029-2013

Location: WESTERN BRANCH F-8 W Trial Year: 2013
 Investigator: Dr. Mark M. Loux
 Study Director: Anthony F. Dobbels
 Sponsor Contact: Dain Bruns, Syngenta

Rating Date	Oct-21-2013	Oct-21-201	Oct-21-2013				
Pest Type							
Pest Code							
Pest Scientific Name							
Pest Name							
Crop Code	ZEAMX	ZEAMX	ZEAMX				
BBCH Scale	BCOR	BCOR	BCOR				
Crop Scientific Name	Zea mays	Zea mays	Zea mays				
Crop Name	Corn	Corn	Corn				
Description							
Rating Date	Oct-21-2013	Oct-21-201	Oct-21-2013				
Rating Type	YIELD	MOICON	YIELD				
Rating Unit	LBS	%	BU				
Sample Size, Unit	1 PLOT	1 PLOT	1 PLOT				
Collection Basis, Unit	200 FT2	200 FT2	200 FT2				
Number of Subsamples	1	1	1				
Rating Timing							
Days After First/Last Applic.	168 136	168 136	168 136				
Trt-Eval Interval							
Plant-Eval Interval	168 DP-1	168 DP-1	168 DP-1				
Days After Emergence	157 DE-1	157 DE-1	157 DE-1				
ARM Action Codes			TY1				
Number of Decimals	1	1	1				
Trt Treatment No. Name	Other Rate	Other Rate Unit	Growth Stage	Appl Code	32	33	34
1 UTC					37.3 g	16.9 a	142.5 f
2 Lexar EZ	3.5 qt/a		PRE	A	61.4 def	16.5 a	236.3 cde
3 Corvus	5.6 oz/a		PRE	A	59.6 f	16.5 a	228.8 e
3 Atrazine	1.5 qt/a		PRE	A			
4 Keystone NXT	2.4 qt/a		PRE	A	60.1 ef	16.6 a	230.4 de
4 Hornet	3 oz/a		PRE	A			
5 Halex GT	3.6 pt/a		V3	B	60.8 ef	16.6 a	233.6 de
5 Atrazine	2 pt/a		V3	B			
5 NIS	4.8 oz/a		V3	B			
5 N-PAK AMS	1.5 qt/a		V3	B			
6 Capreno	3 oz/a		V3	B	61.6 def	16.2 a	237.9 cde
6 Atrazine	2 pt/a		V3	B			
6 Roundup PowerMax	22 oz/a		V3	B			
6 N-PAK AMS	1.5 qt/a		V3	B			
7 Surestart	2 pt/a		V3	B	60.9 ef	16.9 a	233.1 de
7 Durango DMA	1.5 pt/a		V3	B			
7 N-PAK AMS	1.5 qt/a		V3	B			
8 Bicep II Magnum	1.5 qt/a		PRE	A	64.5 abc	17.4 a	245.1 abc
8 Halex GT	3.6 pt/a		POST	C			
8 Atrazine	0.5 pt/a		POST	C			
8 NIS	4.8 oz/a		POST	C			
8 N-PAK AMS	1.5 qt/a		POST	C			
9 Lexar EZ	1.75 qt/a		PRE	A	65.6 a	16.4 a	252.5 a
9 Halex GT	3.6 pt/a		POST	C			
9 Atrazine	0.5 pt/a		POST	C			
9 NIS	4.8 oz/a		POST	C			
9 N-PAK AMS	1.5 qt/a		POST	C			

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.

The Ohio State University

Pre fb Post Weed Control in Corn IV

Trial ID: 13PRPOC4
Protocol ID: 13PRPOC4
Project ID: USHECCOR029-2013

Location: WESTERN BRANCH F-8 W Trial Year: 2013
Investigator: Dr. Mark M. Loux
Study Director: Anthony F. Dobbels
Sponsor Contact: Dain Bruns, Syngenta

Pest Type			
Pest Code			
Pest Scientific Name			
Pest Name			
Crop Code	ZEAMX	ZEAMX	ZEAMX
BBCH Scale	BCOR	BCOR	BCOR
Crop Scientific Name	Zea mays	Zea mays	Zea mays
Crop Name	Corn	Corn	Corn
Description			
Rating Date	Oct-21-2013	Oct-21-201	Oct-21-2013
Rating Type	YIELD	MOICON	YIELD
Rating Unit	LBS	%	BU
Sample Size, Unit	1 PLOT	1 PLOT	1 PLOT
Collection Basis, Unit	200 FT2	200 FT2	200 FT2
Number of Subsamples	1	1	1
Rating Timing			
Days After First/Last Applic.	168 136	168 136	168 136
Trt-Eval Interval			
Plant-Eval Interval	168 DP-1	168 DP-1	168 DP-1
Days After Emergence	157 DE-1	157 DE-1	157 DE-1
ARM Action Codes			TY1
Number of Decimals	1	1	1

Trt No. Name	Treatment	Other Rate	Other Rate Unit	Growth Stage	Appl Code	32	33	34
10	Lexar EZ	2.25 qt/a		PRE	A	64.5 abc	16.1 a	249.0 ab
10	Touchdown Total	24 oz/a		POST	C			
10	N-PAK AMS	1.5 qt/a		POST	C			
11	Lumax EZ	1.5 qt/a		PRE	A	65.1 ab	16.7 a	249.5 ab
11	Halex GT	3.6 pt/a		POST	C			
11	Atrazine	0.5 pt/a		POST	C			
11	NIS	4.8 oz/a		POST	C			
11	N-PAK AMS	1.5 qt/a		POST	C			
12	Bicep II Magnum	1.75 qt/a		PRE	A	65.6 a	16.2 a	253.1 a
12	Callisto Xtra	24 oz/a		POST	C			
12	Touchdown Total	24 oz/a		POST	C			
12	N-PAK AMS	1.5 qt/a		POST	C			
13	Surestart	2 pt/a		PRE	A	63.6 a-d	16.5 a	244.3 abc
13	Durango DMA	1.5 pt/a		POST	C			
13	N-PAK AMS	1.5 qt/a		POST	C			
14	Surestart	2 pt/a		PRE	A	62.5 b-e	17.2 a	238.3 cde
14	Surestart	1.5 pt/a		POST	C			
14	Durango DMA	1.5 pt/a		POST	C			
14	N-PAK AMS	1.5 qt/a		POST	C			
15	Corvus	3.5 oz/a		PRE	A	61.4 def	16.0 a	237.3 cde
15	Atrazine	1 qt/a		PRE	A			
15	Roundup PowerMax	22 oz/a		POST	C			
15	Clarity	8 oz/a		POST	C			
15	N-PAK AMS	1.5 qt/a		POST	C			
16	Verdict	15 oz/a		PRE	A	62.5 b-e	16.4 a	240.5 bcd
16	Roundup PowerMax	22 oz/a		POST	C			
16	Status	5 oz/a		POST	C			
16	N-PAK AMS	1.5 qt/a		POST	C			
17	Anthem ATZ	32 oz/a		PRE	A	63.6 a-d	16.6 a	244.5 abc
17	Roundup PowerMax	22 oz/a		POST	C			
17	Cadet	9.8 oz/a		POST	C			
17	N-PAK AMS	1.5 qt/a		POST	C			

The Ohio State University

Pre fb Post Weed Control in Corn IV

Trial ID: 13PRPOC4
Protocol ID: 13PRPOC4
Project ID: USHECCOR029-2013

Location: WESTERN BRANCH F-8 W Trial Year: 2013
Investigator: Dr. Mark M. Loux
Study Director: Anthony F. Dobbels
Sponsor Contact: Dain Bruns, Syngenta

Pest Type			
Pest Code			
Pest Scientific Name			
Pest Name			
Crop Code	ZEAMX	ZEAMX	ZEAMX
BBCH Scale	BCOR	BCOR	BCOR
Crop Scientific Name	Zea mays	Zea mays	Zea mays
Crop Name	Corn	Corn	Corn
Description			
Rating Date	Oct-21-2013	Oct-21-201	Oct-21-2013
		3	
Rating Type	YIELD	MOICON	YIELD
Rating Unit	LBS	%	BU
Sample Size, Unit	1 PLOT	1 PLOT	1 PLOT
Collection Basis, Unit	200 FT2	200 FT2	200 FT2
Number of Subsamples	1	1	1
Rating Timing			
Days After First/Last Applic.	168 136	168 136	168 136
Trt-Eval Interval			
Plant-Eval Interval	168 DP-1	168 DP-1	168 DP-1
Days After Emergence	157 DE-1	157 DE-1	157 DE-1
ARM Action Codes			TY1
Number of Decimals	1	1	1

Trt Treatment	Other	Other	Growth	Appl			
No. Name	Rate	Rate	Unit	Stage	Code		
18 Fierce	3 oz/a			PRE	A	62.4	cde
18 Atrazine	1.5 qt/a			PRE	A	17.2	a
18 Roundup PowerMax	22 oz/a			POST	C	237.7	cde
18 N-PAK AMS	1.5 qt/a			POST	C		
LSD (P=.05)						2.63	1.52
Standard Deviation						1.86	1.08
CV						3.03	6.49
Bartlett's X2						20.711	20.413
P(Bartlett's X2)						0.239	0.254
Skewness						-2.8069*	0.9605*
Kurtosis						8.2955*	0.3946
Replicate F						20.971	0.303
Replicate Prob(F)						0.0001	0.8233
Treatment F						45.615	0.535
Treatment Prob(F)						0.0001	0.9215

Crop Code
ZEAMX, BCOR, Zea mays, = US
Rating Type
YIELD = yield
MOICON = moisture content
Rating Unit
% = percent
BU = bushel

PLOT = total plot

FT2 = square foot

Plant-Eval Interval

168 DP-1 = 1 ZEAMX May-6-2013

ARM Action Codes

TY1 = 3.889286*[32]*(100-[33])/84.5