

The Ohio State University

Impact Two-Pass and One-Pass Treatments

Trial ID: 13PRPOC5 Location: WESTERN BRANCH F-8 W Trial Year: 2013
 Protocol ID: 13PRPOC5 Investigator: Dr. Mark M. Loux
 Project ID: 13C04HO59 Study Director: Anthony F. Dobbels
 Sponsor Contact: Bob Herrick, AMVAC

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 °: 3951.615 N
Longitude of LL Corner °: 8340.37 W

Crop Description

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

Corn

Planting Rate, Unit: 32097 S/A
Depth, Unit: 1.5 IN
Row Spacing, Unit: 30 IN

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

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

Site and Design

Treated Plot Width: 6.67 FT
Treated Plot Length: 40 FT
Treated Plot Area: 266.8 FT² **Treatments:** 8
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: F-8 West
% OM: 3.1 **Texture:** SIL silt loam
pH: 6 **Soil Name:** Crosby
CEC: 13.7 **Fert. Level:** G good
Soil Drainage: G good

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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	1:50 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:			V3	100	15	100
Stage Minimum, Percent:					15	100
Stage Maximum, Percent:					15	100
Height, Unit:			3	IN	16	IN
Height Minimum, Maximum:			2	3	16	20

Pest Stage At Each Application

	A		B		C	
Pest 1 Code, Type, Scale:	AMARE	W	AMARE	W	AMARE	W
Stage Majority, Percent:			12	100		
Height, Unit:			0.5	IN		
Height Minimum, Maximum:			0.5	0.5		
Density, Unit:			16	M2		
Pest 2 Code, Type, Scale:	IPOHE	W	IPOHE	W	IPOHE	W
Stage Majority, Percent:			10	100		
Height, Unit:			1	IN	1	IN
Height Minimum, Maximum:			1	1	1	2
Density, Unit:			1	M2	1	M2
Pest 3 Code, Type, Scale:	CHEAL	W	CHEAL	W	CHEAL	W
Stage Majority, Percent:			12	100		
Height, Unit:			1	IN	2	IN
Height Minimum, Maximum:			1	1	2	4
Density, Unit:			8	M2	8	M2
Pest 4 Code, Type, Scale:	AMBTR	W	AMBTR	W	AMBTR	W
Stage Majority, Percent:			14	100		
Height, Unit:			3	IN	4	IN
Height Minimum, Maximum:			1	3	4	12
Density, Unit:			12	M2	12	M2
Pest 5 Code, Type, Scale:	ABUTH	W	ABUTH	W	ABUTH	W
Stage Majority, Percent:			11	100		
Height, Unit:			0.5	IN	2	IN
Height Minimum, Maximum:			0.5	0.5	2	4
Density, Unit:					4	M2
Pest 6 Code, Type, Scale:	SETFA	W	SETFA	W	SETFA	W
Stage Majority, Percent:			13	100		
Height, Unit:			1	IN	2	IN
Height Minimum, Maximum:			1	1	2	8
Density, Unit:			292	M2	292	M2

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Application Equipment

	A	B	C
Appl. Equipment:	6 foot boom	10' AI XR	10' AI XR
Equipment Type:	SPRBAC	SPRBAC	SPRBAC
Operation Pressure, Unit:	46 PSI	46 PSI	46 PSI
Nozzle Type:	AI XR	AI XR	AI XR
Nozzle Size:	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
Spray Volume, Unit:	15 GPA	15 GPA	15 GPA
Mix Size, Unit:	1 Liters	0.33 Gallons	0.33 Gallons
Propellant:	CO2	CO2	CO2

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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
Rating Date	Oct-21-2013	Oct-21-2013	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	AA		TY1
Number of Decimals	1	1	1

Trt No.	Treatment Name	Other Rate	Other Rate Unit	Growth Stage	Appl Code	24	25	26
1	UTC					33.9 c	17.1 a	129.5 c
2	Harness Extra 5.6	3.2 pt/a		PRE	A	72.0 a	18.1 a	271.4 a
	Impact	1 oz/a		POST	C			
	Atrazine	1 pt/a		POST	C			
	MSO	0.6 qt/a		POST	C			
	28% UAN	1.5 qt/a		POST	C			
3	Harness Extra 5.6	3.2 pt/a		PRE	A	69.4 ab	17.1 a	264.5 ab
	Impact	0.75 oz/a		POST	C			
	Status	2.5 oz/a		POST	C			
	Atrazine	1 pt/a		POST	C			
	MSO	0.6 qt/a		POST	C			
	28% UAN	1.5 qt/a		POST	C			
4	Harness Extra 5.6	3.2 pt/a		PRE	A	71.9 a	17.8 a	272.1 a
	Roundup PowerMax	32 oz/a		POST	C			
	N-PAK AMS	0.15 qt/a		POST	C			
5	Harness Extra 5.6	3.2 pt/a		PRE	A	68.8 ab	17.2 a	262.1 ab
	Roundup PowerMax	32 oz/a		POST	C			
	Impact	0.75 oz/a		POST	C			
	Atrazine	1 pt/a		POST	C			
	MSO	0.6 qt/a		POST	C			
	28% UAN	1.5 qt/a		POST	C			
6	Harness Extra 5.6	3.2 pt/a		PRE	A	68.7 ab	18.6 a	257.4 ab
	Roundup PowerMax	32 oz/a		POST	C			
	Laudis	3 oz/a		POST	C			
	Atrazine	1 pt/a		POST	C			
	MSO	0.6 qt/a		POST	C			
	28% UAN	1.5 qt/a		POST	C			

Means followed by same letter do not significantly differ (P=.05, LSD)
 t=Mean descriptions are reported in transformed data units, and are not de-transformed.
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

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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
Rating Date		Oct-21-201	Oct-21-201	Oct-21-2013
		3	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		AA		TY1
Number of Decimals		1	1	1

Trt No.	Treatment Name	Other Rate	Other Rate Unit	Growth Stage	Appl Code	24	25	26
7	Warrant	3 pt/a		EPO	B	65.7 b	17.5 a	249.1 b
7	Roundup PowerMax	32 oz/a		EPO	B			
7	Impact	0.75 oz/a		EPO	B			
7	Atrazine	2 pt/a		EPO	B			
7	MSO	0.6 qt/a		EPO	B			
7	28% UAN	1.5 qt/a		EPO	B			
8	Halex GT	3.6 pt/a		EPO	B	68.1 ab	18.2 a	256.2 ab
8	Atrazine	2 pt/a		EPO	B			
8	NIS	4.8 oz/a		EPO	B			
8	N-PAK AMS	1.5 qt/a		EPO	B			
LSD (P=.05)						3.18t	2.22	20.62
Standard Deviation						2.16t	1.51	14.02
CV						4.02	8.53	5.72
Bartlett's X2						13.638	2.054	21.08
P(Bartlett's X2)						0.058	0.957	0.004*
Skewness						-2.029*	0.0377	-2.019*
Kurtosis						2.995*	-1.3683	2.9704*
Replicate F						2.112	0.122	2.257
Replicate Prob(F)						0.1292	0.9463	0.1114
Treatment F						47.267	0.531	45.746
Treatment Prob(F)						0.0001	0.8013	0.0001

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
 AA = Automatic arcsine square root % transformation
 TY1 = $3.889286 * [24] * (100 - [25]) / 84.5$