

The Ohio State University

Zidua programs vs. Anthem ATZ, Lexar, Surestart, Corvus and Balance Flexx in Corn

Trial ID: 13PREC1 Location: WESTERN BRANCH F-8 M Trial Year: 2013
 Protocol ID: 13PREC1 Investigator: Dr. Mark M. Loux
 Project ID: MKD-H-US-CH1 Study Director: Anthony F. Dobbels
 Sponsor Contact: Trevor Kraus, BASF

Crop Description

Crop 1: ZEAMX Zea mays Corn
Variety: Dekalb DKC 61-21RIB **BBCH Scale:** BCOR
Planting Rate, Unit: 32097 S/A **Planting Date:** May-6-2013
Depth, Unit: 2 IN **Planting Method:** PLANTD planted
Row Spacing, Unit: 30 IN **Planting Equipment:** FPP Finger Pickup Planter
Soil Temperature, Unit: 60 F **Emergence Date:** May-17-2013
Soil Moisture: NORMAL normal, adequate
Seed Bed: MEDIUM medium

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:** AMARE Amaranthus retroflexus
Common Name: Redroot pigweed
- Pest 4 Type:** W **Code:** CHEAL Chenopodium album
Common Name: Common lambsquarters
- Pest 5 Type:** W **Code:** ECHCG Echinochloa crus-galli
Common Name: Common barnyardgrass
- Pest 6 Type:** W **Code:** POLPY Persicaria pensylvanica
Common Name: Pennsylvania smartweed

Site and Design

Treated Plot Width: 6.67 FT **Site Type:** FIELD field
Treated Plot Length: 40 FT **Experimental Unit:** 1 PLOT plot
Treated Plot Area: 266.8 FT2 **Treatments:** 12 **Tillage Type:** CONTIL conventional-till
Replications: 4 **Study Design:** RACOB Randomized Complete Block (RCB)

No. Previous Crop Year

- 1. Soybean 2012

Maintenance

No.	Date	Maintenance Product Name	Rate	Tank Unit	Tank Mix Code	Tank Mix
1.	Jun-19-2013	Stinger	11	OZ/A	N	no

Comment: Applied Stinger at the last PRE rating to clean up giant ragweed.

Application Description

	A	B
Application Date:	May-6-2013	Jun-19-2013
Appl. Start Time:	11:30AM	8:30 AM
Appl. Stop Time:	12:00 PM	
Application Method:	SPRAY	SPRAY
Application Timing:	PRE	POST
Application Placement:	BROSOI	BROFOL
Air Temperature, Unit:	60 F	64 F
% Relative Humidity:	100	68
Wind Velocity, Unit:	7 MPH	4 MPH
Wind Direction:	SE	NE
Dew Presence (Y/N):	N no	Y yes
Soil Temperature, Unit:	56 F	60 F
Soil Moisture:	NORMAL	MOIST
% Cloud Cover:	100	10
Next Moisture Occurred On:	May-6-2013	Jun-22-2013
Time to Next Moisture, Unit:	1 HR	3 DAY

Crop Stage At Each Application

Crop 1 Code, BBCH Scale: ZEAMX BCOR ZEAMX BCOR

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Pest Stage At Each Application

	A	B
Pest 1 Code, Type, Scale:	SETFA W	SETFA W
Density, Unit:	108 M2	
Pest 2 Code, Type, Scale:	AMBTR W	AMBTR W
Density, Unit:	16 M2	
Pest 3 Code, Type, Scale:	AMARE W	AMARE W
Density, Unit:	24 M2	
Pest 4 Code, Type, Scale:	CHEAL W	CHEAL W
Density, Unit:	4 M2	
Pest 5 Code, Type, Scale:	ECHCG W	ECHCG W
Density, Unit:	4 M2	
Pest 6 Code, Type, Scale:	POLPY W	POLPY W
Density, Unit:	4 M2	

Application Equipment

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

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Pest Code					SETFA	AMBTR	CHEAL	AMARE	ABUTH				
Crop Code					ZEAMX	ZEAMX					ZEAMX		
Rating Date					May-20-2013	Jun-3-2013	Jun-3-2013	Jun-3-2013	Jun-3-2013	Jun-3-2013	Jun-20-2013		
Rating Type					PHYTO	PHYTO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	PHYGEN	
Rating Unit					%	%	%	%	%	%	%	%	
Days After First/Last Applic.					14 14	28 28	28 28	28 28	28 28	28 28	28 28	45 1	
Trt-Eval Interval					14 DA-A	28 DA-A	28 DA-A	28 DA-A	28 DA-A	28 DA-A	28 DA-A	45 DA-A	
Plant-Eval Interval					14 DP-1	28 DP-1	28 DP-1	28 DP-1	28 DP-1	28 DP-1	28 DP-1	45 DP-1	
Days After Emergence					3 DE-1	17 DE-1	17 DE-1	17 DE-1	17 DE-1	17 DE-1	17 DE-1	34 DE-1	
Trt No.	Treatment Name	Other Rate	Other Rate	Growth Unit	Appl Code	1	2	3	4	5	6	7	8
1	Zidua	2.5 oz/a		PRE	A	0 a	0 a	92 a	90 ab	100 a	100 a	100 a	0 a
1	Sharpen	2.5 oz/a		PRE	A								
2	Zidua	2.5 oz/a		PRE	A	0 a	0 a	93 a	85 ab	100 a	100 a	100 a	0 a
2	Verdict	10 oz/a		PRE	A								
3	Zidua	2.5 oz/a		PRE	A	0 a	0 a	89 a	79 ab	100 a	100 a	100 a	0 a
3	Verdict	10 oz/a		PRE	A								
3	Atrazine	1 qt/a		PRE	A								
4	Zidua	2.5 oz/a		PRE	A	0 a	0 a	100 a	88 ab	100 a	100 a	100 a	0 a
4	Sharpen	2.5 oz/a		PRE	A								
4	Atrazine	1 qt/a		PRE	A								
5	Verdict	15 oz/a		PRE	A	0 a	0 a	84 a	79 ab	100 a	100 a	100 a	0 a
6	Anthem ATZ	2.25 pt/a		PRE	A	0 a	0 a	38 b	35 c	38 b	58 b	48 b	0 a
7	Lexar EZ	3.5 qt/a		PRE	A	0 a	0 a	100 a	68 ab	100 a	100 a	100 a	0 a
8	Surestart	2.5 pt/a		PRE	A	0 a	0 a	100 a	59 b	100 a	100 a	100 a	0 a
9	Corvus	5.6 oz/a		PRE	A	0 a	0 a	100 a	94 a	100 a	100 a	100 a	0 a
9	Atrazine	1 qt/a		PRE	A								
10	Balance Flexx	5 oz/a		PRE	A	0 a	0 a	90 a	65 ab	100 a	100 a	100 a	0 a
10	Atrazine	1 qt/a		PRE	A								
11	Lumax	3 qt/a		PRE	A	0 a	0 a	100 a	64 ab	100 a	100 a	100 a	0 a
12	UTC					0 a	0 a	0 c	0 d	0 c	0 c	0 c	0 a
12	Stinger	11 oz/a		POST	B								
LSD (P=.05)						0.0	0.0	20.4	21.0	12.4	21.1	17.8	0.0
Standard Deviation						0.0	0.0	14.1	14.6	8.6	14.6	12.3	0.0
CV						0.0	0.0	17.21	21.73	9.97	16.58	14.13	0.0
Bartlett's X2						0.0	0.0	2.62	13.791	0.0	23.219	0.0	0.0
P(Bartlett's X2)						.	.	0.758	0.183	.	0.001*	.	.
Skewness						.	.	-1.8087*	-1.1817*	-2.1859*	-2.4036*	-2.2931*	.
Kurtosis						.	.	2.0146*	0.8484	3.179*	4.0323*	3.6012*	.
Replicate F						0.000	0.000	0.439	0.201	1.000	0.988	1.000	0.000
Replicate Prob(F)						1.0000	1.0000	0.7264	0.8952	0.4051	0.4104	0.4051	1.0000
Treatment F						0.000	0.000	19.416	13.516	57.285	17.222	25.867	0.000
Treatment Prob(F)						1.0000	1.0000	0.0001	0.0001	0.0001	0.0001	0.0001	1.0000

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)
 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	CHEAL	AMARE	ABUTH
Crop Code			
Rating Date	Jul-17-2011	Jul-17-2013	Jul-17-2013
Rating Type	3		
Rating Unit	CONTRO	CONTRO	CONTRO
Days After First/Last Applic.	72 28	72 28	72 28
Trt-Eval Interval	28 DA-B	28 DA-B	28 DA-B
Plant-Eval Interval	72 DP-1	72 DP-1	72 DP-1
Days After Emergence	61 DE-1	61 DE-1	61 DE-1

Trt No.	Treatment Name	Other Rate	Other Rate	Growth Unit	Appl Stage	Code	16	17	18
1	Zidua	2.5 oz/a		PRE	A		100 a	100 a	100 a
1	Sharpen	2.5 oz/a		PRE	A				
2	Zidua	2.5 oz/a		PRE	A		100 a	100 a	100 a
2	Verdict	10 oz/a		PRE	A				
3	Zidua	2.5 oz/a		PRE	A		100 a	100 a	100 a
3	Verdict	10 oz/a		PRE	A				
3	Atrazine	1 qt/a		PRE	A				
4	Zidua	2.5 oz/a		PRE	A		100 a	100 a	100 a
4	Sharpen	2.5 oz/a		PRE	A				
4	Atrazine	1 qt/a		PRE	A				
5	Verdict	15 oz/a		PRE	A		100 a	100 a	100 a
6	Anthem ATZ	2.25 pt/a		PRE	A		15 b	100 a	100 a
7	Lexar EZ	3.5 qt/a		PRE	A		100 a	100 a	100 a
8	Surestart	2.5 pt/a		PRE	A		100 a	100 a	100 a
9	Corvus	5.6 oz/a		PRE	A		100 a	100 a	100 a
9	Atrazine	1 qt/a		PRE	A				
10	Balance Flexx	5 oz/a		PRE	A		100 a	100 a	100 a
10	Atrazine	1 qt/a		PRE	A				
11	Lumax	3 qt/a		PRE	A		100 a	100 a	100 a
12	UTC						0 c	0 b	0 b
12	Stinger	11 oz/a		POST	B				
LSD (P=.05)							7.3	0.0	0.0
Standard Deviation							5.0	0.0	0.0
CV							5.97	0.0	0.0
Bartlett's X2							23.807	0.0	0.0
P(Bartlett's X2)							0.001*	.	.
Skewness							-1.931*	-3.1133*	-3.1133*
Kurtosis							1.9217*	8.0253*	8.0253*
Replicate F							0.855	0.000	0.000
Replicate Prob(F)							0.4741	1.0000	1.0000
Treatment F							204.730	0.000	0.000
Treatment Prob(F)							0.0001	1.0000	1.0000

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Pest Code

SETFA, Setaria faberi, = US
AMBTR, Ambrosia trifida, = US
CHEAL, Chenopodium album, = US
AMARE, Amaranthus retroflexus, = US
ABUTH, Abutilon theophrasti, = US

Crop Code

ZEAMX, BCOR, Zea mays, = US

Rating Type

CONTRO = control / burndown or knockdown
PHYGEN = phytotoxicity - general / injury

Rating Unit

% = percent

Plant-Eval Interval

14 DP-1 = 1 ZEAMX May-6-2013
28 DP-1 = 1 ZEAMX May-6-2013
45 DP-1 = 1 ZEAMX May-6-2013
72 DP-1 = 1 ZEAMX May-6-2013