

The Ohio State University

Acuron Herbicide for Weed Control and Corn Tolerance

Trial ID: 14PREC1 Location: Western Branch F-7 W Trial Year: 2014
 Protocol ID: 14PREC1 Investigator: Dr. Mark M. Loux
 Project ID: HBI001B3-2014 Study Director: Anthony Dobbels
 Sponsor Contact: Dain Bruns, Syngenta

General Trial Information

Study Director: Anthony Dobbels
Investigator: Dr. Mark M. Loux

Trial Location

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

Latitude of LL Corner °: 39.86034 N
Longitude of LL Corner °: 83.87326 W

Contacts

Study Director: Anthony Dobbels
Investigator: Dr. Mark M. Loux

Crop Description

Crop 1: ZEAMX Zea mays
Variety: Seed Consultants SC 11HR12
Description: RR/LL

Corn
Planting Date: Apr-26-2014
Planting Method: SEEDDED seeded
Planting Equipment: FPP Finger Pickup Planter
Emergence Date: May-12-2014
Harvest Date: Sep-30-2014
Harvested Width, Unit: 5 FT
Harvested Length, Unit: 30 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: 1.75 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:** AMBTR Ambrosia trifida
Common Name: Giant ragweed
- Pest 2 Type:** W **Code:** SETFA Setaria faberi
Common Name: Giant foxtail
- Pest 3 Type:** W **Code:** CHEAL Chenopodium album
Common Name: Common lambsquarters
- Pest 4 Type:** W **Code:** AMBEL Ambrosia artemisiifolia
Common Name: Common ragweed
- Pest 5 Type:** W **Code:** POLPY Persicaria pensylvanica
Common Name: Pennsylvania smartweed
- Pest 6 Type:** W **Code:** AMARE Amaranthus retroflexus
Common Name: Redroot pigweed
- Pest 7 Type:** W **Code:** ABUTH Abutilon theophrasti
Common Name: velvetleaf

Site and Design

Treated Plot Width: 10 FT
Treated Plot Length: 30 FT
Treated Plot Area: 300 FT² **Treatments:** 10
Replications: 3
Site Type: FIELD field
Experimental Unit: 1 PLOT plot
Tillage Type: CONTIL conventional-till
Study Design: RACOB Randomized Complete Block (RCB)

No. Previous Crop Year
 1. Soybean 2013

Soil Description

Description Name: F-7 West
% OM: 3.8 **Texture:** SICL silty clay loam
pH: 7.2 **Soil Name:** Kokomo
CEC: 23.6 **Fert. Level:** G good
Soil Drainage: G good

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Analyzed By:
Spectrum Analytic, Inc
Wahington Court House, Oh

Additional Measured Elements

Date	Element	Quantity	Unit
Mar-10-2014 P		71	LB/A
Mar-10-2014 K		250	LB/A

Application Description

	A	B
Application Date:	Apr-26-2014	Jun-5-2014
Appl. Start Time:	7:00 PM	10:30 AM
Appl. Stop Time:	7:15 PM	10:35 AM
Application Method:	SPRAY	SPRAY
Application Timing:	PRE	POST
Application Placement:	BROSOI	BROFOL
Applied By:	Loux	Loux
Air Temperature, Unit:	74 F	66 f
% Relative Humidity:	47	73
Wind Velocity, Unit:	7 MPH	5.5 MPH
Wind Direction:	N	W
Dew Presence (Y/N):	N no	N no
Soil Temperature, Unit:	62 F	62 F
Soil Moisture:	MOIST	MOIST
% Cloud Cover:	5	10
Next Moisture Occurred On:	Apr-28-2014	Jun-8-2014
Time to Next Moisture, Unit:	1.5 DAY	3 DAY

Crop Stage At Each Application

	A	B
Crop 1 Code, BBCH Scale:	ZEAMX BCOR	ZEAMX BCOR
Stage Scale Used:		DESC
Stage Majority, Percent:		15 100
Height, Unit:		18 IN
Height Minimum, Maximum:		17 19

Pest Stage At Each Application

	A	B
Pest 1 Code, Type, Scale:	AMBTR W	AMBTR W
Stage Majority, Percent:		14 100
Height, Unit:		3 IN
Height Minimum, Maximum:		2 4
Density, Unit:		21.66 M2
Pest 2 Code, Type, Scale:	SETFA W	SETFA W
Stage Majority, Percent:		12 100
Height, Unit:		1.5 IN
Height Minimum, Maximum:		1 2
Density, Unit:		8 M2
Pest 3 Code, Type, Scale:	CHEAL W	CHEAL W
Density, Unit:		5.33 M2
Pest 4 Code, Type, Scale:	AMBEL W	AMBEL W
Density, Unit:		1 M2
Pest 5 Code, Type, Scale:	POLPY W	POLPY W
Density, Unit:		5 M2
Pest 6 Code, Type, Scale:	AMARE W	AMARE W
Density, Unit:		2.33 M2
Pest 7 Code, Type, Scale:	ABUTH W	ABUTH W
Density, Unit:		1 M2

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Application Equipment

	A	B
Appl. Equipment:	6 FOOT BOOM	6 FOOT BOOM
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:	6.67 FT	6.67 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	1 Liters
Propellant:	CO2	CO2

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Pest Type				
Pest Code				
Pest Scientific Name				
Pest Name				
Crop Code	ZEAMX	ZEAMX	ZEAMX	ZEAMX
BBCH Scale	BCOR	BCOR	BCOR	BCOR
Crop Scientific Name	Zea mays	Zea mays	Zea mays	Zea mays
Crop Name	Corn	Corn	Corn	Corn
Rating Date	Sep-30-2014	Sep-30-2014	Sep-30-2014	Sep-30-2014
Rating Type	WEIGHT	MOICON	YIELD	WEITES
Rating Unit	LBS	%	BU	LBS
Number of Subsamples	1	1	1	1
Days After First/Last Applic.	157 117	157 117	157 117	157 117
Trt-Eval Interval				
Plant-Eval Interval	157 DP-1	157 DP-1	157 DP-1	157 DP-1
Days After Emergence	141 DE-1	141 DE-1	141 DE-1	141 DE-1
ARM Action Codes	ET1		ET1 TY1	
Number of Decimals	1	1	1	1

Trt No.	Treatment Name	Other Rate	Other Rate Unit	Appl Code	Appl Description	33	34	35	36
1	UTC					9.6	21.1 a	46.6	55.8 c
2	Acuron	2.5 qt/a		A	PRE	44.1 a	19.3 a	218.4 a	57.9 ab
3	Acuron	2.5 qt/a		A	PRE	43.3 a	19.1 a	215.2 a	57.7 ab
3	AAtrex	1 qt/a		A	PRE				
4	Acuron	2.5 qt/a		A	PRE	48.0 a	19.2 a	238.2 a	57.7 ab
4	Touchdown Total	30 oz/a		B	POST				
4	Status	5 oz/a		B	POST				
4	N PAK AMS	1.5 qt/a		B	POST				
5	Anthem ATZ	2.5 pt/a		A	PRE	7.6 c	20.6 a	37.2 c	56.0 c
6	Surestart	1.75 pt/a		A	PRE	25.6 b	19.0 a	127.2 b	58.4 a
7	Verdict	15 oz/a		A	PRE	13.2 c	21.1 a	63.6 c	56.6 bc
8	Corvus	5.6 oz/a		A	PRE	45.1 a	19.6 a	222.8 a	57.5 ab
9	Acuron	3 qt/a		A	PRE	44.6 a	19.4 a	220.6 a	57.4 ab
10	Acuron	3 qt/a		A	PRE	45.2 a	20.0 a	222.1 a	57.7 ab
10	AAtrex	1 qt/a		A	PRE				
LSD (P=.05)						6.40	1.56	33.45	1.30
Standard Deviation						3.70	0.91	19.32	0.76
CV						10.51	4.6	11.11	1.33
Grand Mean						35.19	19.83	173.92	57.28
Bartlett's X2						7.79	11.267	7.723	13.358
P(Bartlett's X2)						0.454	0.258	0.461	0.147
Skewness						-0.9714*	0.7264	-0.9642*	0.0978
Kurtosis						-0.7145	0.3904	-0.7228	-0.7405
Replicate F						7.314	1.042	6.192	3.435
Replicate Prob(F)						0.0055	0.3731	0.0102	0.0545
Treatment F						53.038	2.367	47.954	3.811
Treatment Prob(F)						0.0001	0.0572	0.0001	0.0076

Crop Code
ZEAMX, BCOR, Zea mays, = US

Rating Type
WEIGHT = weight
MOICON = moisture content

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.

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YIELD = yield

WEITES = weight - test

Rating Unit

% = percent

BU = bushel

Plant-Eval Interval

157 DP-1 = 1 ZEAMX Apr-26-2014

ARM Action Codes

ET1 = Excluded treatment 1

TY1 = $5.185714 * [C33] * (100 - [C34]) / 84.5$