

Ohio State University Horticulture and Crop Science

Midwest Corn Herbicide Systems Demonstration

Title No. 2:
 Trial ID: 11MWREG Protocol ID: 11MWREG
 Location: WESTERN BRANCH G-6 Study Director: Anthony F. Dobbels
 Project ID: Investigator: Dr. Mark M. Loux
 Sponsor Contact: John Willis, Monsanto

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 °:** 39.85937 N
State/Prov.: Ohio **Longitude of LL Corner °:** -83.6739 W
Postal Code: 45368
Country: USA

No. Description

1. 14-21 DAT after APPLICATION A

Crop Description

Crop 1: ZEAMX Zea mays Corn
Variety: Dekalb DKC 62-97
BBCH Scale: BCOR **Description:** RR
Planting Method: SEEDED seeded **Planting Date:** May-31-2011
Depth, Unit: 2 IN **Rate, Unit:** 32097 S/A
Row Spacing, Unit: 30 IN
Seed Bed: MEDIUM medium **Soil Temperature, Unit:** 72 F
Soil Moisture: SLIWET slightly wet **Emergence Date:** Jun-6-2011
Harvested Width, Unit: 5 FT **Harvested Length, Unit:** 30 FT

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:** ABUTH *Abutilon theophrasti*
Common Name: Velvetleaf

Pest 4 Type: W **Code:** CHEAL *Chenopodium album*
Common Name: Common lambsquarters

Pest 5 Type: W **Code:** IPOHE *Ipomoea hederacea*
Common Name: Ivyleaf morningglory

Site and Design

Plot Width, Unit: 10 FT **Site Type:** FIELD field
Plot Length, Unit: 30 FT **Experimental Unit:** 1 PLOT plot
Plot Area, Unit: 300 FT² **Tillage Type:** CONTIL conventional-till
Replications: 4 **Study Design:** RACOB Randomized Complete Block (RCB)
Untreated Arrangement: INCLUDED single control randomized in each block

Soil Description

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

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Application Description

	A	B	C	D	E
Application Date:	May-31-2011	Jun-21-2011	Jun-27-2011	Jul-7-2011	Jul-7-2011
Time of Day:	11:15 A.M	11:45 A.M	8:45 A.M.	10:00 A.M	10:00 A.M
Application Method:	SPRAY	SPRAY	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	EPO	POST	LPO	LPO
Application Placement:	BROSOI	BROFOL	BROFOL	BROFOL	BROFOL
Applied By:	Reeb	Ackley	Dobbels	Parish	Parish
Air Temperature, Unit:	89.9 F	87 F	67.5 F	87 F	87 F
% Relative Humidity:	62.1	70	72.5	87	87
Wind Velocity, Unit:	3.8 MPH	5 MPH	1.9 MPH	1 MPH	1 MPH
Wind Direction:	SSW	WSW	SSW	W	W
Dew Presence (Y/N):	N no	N no	Y yes	N no	N no
Soil Temperature, Unit:	72 F	74 F	62 F	77 F	77 F
Soil Moisture:	GOOD	SLIWET	GOOD	MOIST	MOIST
% Cloud Cover:	2	40	75	20	20
Next Rain Occurred On:	Jun-4-2011	Jun-21-2011	Jun-27-2011	Jul-8-2011	Jul-8-2011

Crop Stage At Each Application

	A	B	C	D	E
Crop 1 Code, BBCH Scale:	ZEAMX BCOR	ZEAMX BCOR	ZEAMX BCOR	ZEAMX BCOR	ZEAMX BCOR
Stage Scale Used:		BBCH	BBCH	BBCH	BBCH
Stage Majority, Percent:		15 100	16 100	19 100	19 100
Height, Unit:		11 IN	22 IN	44 IN	44 IN
Height Minimum, Maximum:		11 12	20 24	44 44	44 44

Pest Stage At Each Application

	A	B	C	D	E
Pest 1 Code, Type, Scale:	SETFA W	SETFA W	SETFA W	SETFA W	SETFA W
Stage Majority, Percent:		14 90		15 100	
Stage Minimum, Percent:		12 10			
Stage Maximum, Percent:		14 90			
Height, Unit:		4 IN		22 IN 2 IN	
Height Minimum, Maximum:		2 5		20 24 2 2	
Density, Unit:		181.33 M2		181.33 M2 181.33 M2	
Pest 2 Code, Type, Scale:	AMBTR W	AMBTR W	AMBTR W	AMBTR W	AMBTR W
Stage Majority, Percent:		14 80		19 100	
Stage Minimum, Percent:		12 10 14			
Stage Maximum, Percent:		16 10 19			
Height, Unit:		4 IN 6 IN		30 IN 2 IN	
Height Minimum, Maximum:		2 6 4 8		28 32 2 4	
Density, Unit:		80 M2 80 M2		80 M2 80 M2	
Pest 3 Code, Type, Scale:	ABUTH W	ABUTH W	ABUTH W	ABUTH W	ABUTH W
Stage Majority, Percent:		14 90 12 100		16 100	
Stage Minimum, Percent:		12 10			
Stage Maximum, Percent:		14 90			
Height, Unit:		3 IN 3 IN		26 IN	
Height Minimum, Maximum:		2 3 3 6		24 28	
Density, Unit:		17 M2 17 M2		17 M2	
Pest 4 Code, Type, Scale:	CHEAL W	CHEAL W	CHEAL W	CHEAL W	CHEAL W
Stage Majority, Percent:				19 100	
Height, Unit:				26 IN 2 IN	
Height Minimum, Maximum:				24 28 2 2	
Density, Unit:				37 M2 37 M2	
Pest 5 Code, Type, Scale:	IPOHE W	IPOHE W	IPOHE W	IPOHE W	IPOHE W
Stage Majority, Percent:				16 100	
Height, Unit:				6 IN	
Height Minimum, Maximum:				6 8	
Density, Unit:				5 M2	

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Application Equipment

	A	B	C	D	E
Appl. Equipment:	6 foot boom	10 Foot Boom	10 Foot Boom	drops	drops
Equipment Type:	SPRBAC	SPRBAC	SPRBAC	SPRBAC	SPRBAC
Operation Pressure, Unit:	46 PSI	46 PSI	46 PSI	46 PSI	46 PSI
Nozzle Type:	TEEJET DG	TEEJET DG	TEEJET DG	TEEJET DG	TEEJET DG
Nozzle Size:	80015	80015	80015	11020	11020
Nozzle Spacing, Unit:	18 IN	18 IN	18 IN	30 IN	30 IN
Boom Length, Unit:	6 FT	10 FT	10 FT	6 FT	6 FT
Boom Height, Unit:	20 IN	20 IN	20 IN	20 IN	20 IN
Ground Speed, Unit:	3 MPH	3 MPH	3 MPH	3 MPH	3 MPH
Carrier:	WATER	WATER	WATER	WATER	WATER
Spray Volume, Unit:	15 GPA	15 GPA	15 GPA	15 GPA	15 GPA
Mix Size, Unit:	0.33 Gallons	0.33 Gallons	0.33 Gallons	0.5 gallons	0.5 gallons
Propellant:	COMCO2	COMCO2	COMCO2	COMCO2	COMCO2

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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		Nov-2-2011	Nov-2-2011	Nov-2-2011	
Rating Type		YIELD	MOICON	YIELD	
Rating Unit		LBS	%	BU	
Number of Subsamples		1	1	1	
Days After First/Last Applic.		155 118	155 118	155 118	
Trt-Eval Interval		HARVEST	HARVEST	HARVEST	
Plant-Eval Interval		155 DP-1	155 DP-1	155 DP-1	
Days After Emergence		149 DE-1	149 DE-1	149 DE-1	
ARM Action Codes				TY1	
Number of Decimals		1	1	1	

Trt No.	Treatment Name	Rate	Unit	Appl Code	13	14	15
1	HARNESS XTRA5.6	1.5	qt/a	A	52.1 cd	21.5 a	250.9 de
2	HARNESS XTRA5.6	1.5	qt/a	A	56.4 ab	21.7 a	270.9 ab
	AMS PREM BLEND	2	% w/v	C			
	ROUNDUP POWERMAX	0.75	lb ae/a	C			
3	HARNESS XTRA5.6	2.6	qt/a	A	54.7 a-d	21.8 a	262.7 a-d
4	HARNESS XTRA5.6	2.6	qt/a	A	56.2 ab	21.5 a	270.6 abc
	AMS PREM BLEND	2	% w/v	C			
	ROUNDUP POWERMAX	0.75	lb ae/a	C			
5	AATREX 4L	2	qt/a	A	55.5 ab	21.1 a	268.6 abc
6	AATREX 4L	2	qt/a	A	55.8 ab	22.0 a	267.2 abc
	AMS PREM BLEND	2	% w/v	C			
	ROUNDUP POWERMAX	0.75	lb ae/a	C			
7	INTEGRITY	16	oz ai/a	A	54.4 bcd	22.2 a	259.8 b-e
8	INTEGRITY	16	oz ai/a	A	53.9 bcd	19.9 a	264.8 a-d
	AMS PREM BLEND	2	% w/v	C			
	ROUNDUP POWERMAX	0.75	lb ae/a	C			
9	CORVUS	5.6	oz ai/a	A	55.5 ab	22.8 a	263.1 a-d
10	CORVUS	5.6	oz ai/a	A	54.5 a-d	21.0 a	264.3 a-d
	AMS PREM BLEND	2	% w/v	C			
	ROUNDUP POWERMAX	0.75	lb ae/a	C			
11	BALANCE FLEXX	5	oz ai/a	A	55.1 abc	22.8 a	260.7 b-e
12	BALANCE FLEXX	5	oz ai/a	A	55.2 abc	21.9 a	264.7 a-d
	AMS PREM BLEND	2	% w/v	C			
	ROUNDUP POWERMAX	0.75	lb ae/a	C			
13	GUARDSMAN MAX	2	qt/a	A	53.9 bcd	22.9 a	254.9 cde
14	GUARDSMAN MAX	2	qt/a	A	57.6 a	21.4 a	277.9 a
	AMS PREM BLEND	2	% w/v	C			
	ROUNDUP POWERMAX	0.75	lb ae/a	C			
15	LUMAX	3	qt/a	A	55.1 abc	21.1 a	267.1 abc
16	LUMAX	3	qt/a	A	55.2 abc	22.3 a	263.0 a-d
	AMS PREM BLEND	2	% w/v	C			
	ROUNDUP POWERMAX	0.75	lb ae/a	C			
17	HARNESS XTRA5.6	1.5	qt/a	A	54.8 a-d	21.5 a	264.0 a-d
	HORNET	3	oz ai/a	A			
18	HARNESS XTRA5.6	1.5	qt/a	A	54.9 a-d	22.1 a	262.3 a-e
	HORNET	3	oz ai/a	A			
	AMS PREM BLEND	2	% w/v	C			
	ROUNDUP POWERMAX	0.75	lb ae/a	C			
19	SURESTART	1	qt/a	A	54.7 a-d	21.5 a	263.4 a-d
20	SURESTART	1	qt/a	A	54.3 bcd	20.4 a	265.2 a-d
	AMS PREM BLEND	2	% w/v	C			
	ROUNDUP POWERMAX	0.75	lb ae/a	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.

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Trt	Treatment	Rate	Appl			
No.	Name	Rate Unit	Code	13	14	15
21	AMS PREM BLEND	2 % w/v	B	55.0 abc	22.2 a	262.5 a-d
	HALEX GT	1.8 qt/a	B			
22	AMS PREM BLEND	2 % w/v	B	53.9 bcd	22.1 a	257.6 b-e
	ROUNDUP POWERMAX	0.75 lb ae/a	B			
	AMS PREM BLEND	2 % w/v	E			
	ROUNDUP POWERMAX	0.75 lb ae/a	E			
23	AMS PREM BLEND	2 % w/v	D	51.8 d	22.5 a	246.4 e
	ROUNDUP POWERMAX	0.75 lb ae/a	D			
24	UNTREATED CHECK			39.0 e	21.8 a	187.1 f
	LSD (P=.05)			3.16	1.97	15.97
	Standard Deviation			2.23	1.39	11.29
	CV			4.12	6.39	4.34
	Bartlett's X2			42.83	25.452	49.249
	P(Bartlett's X2)			0.007*	0.327	0.001*
	Replicate F			3.458	8.162	0.457
	Replicate Prob(F)			0.0210	0.0001	0.7131
	Treatment F			9.592	1.095	8.863
	Treatment Prob(F)			0.0001	0.3728	0.0001

Crop Code
 ZEAMX, BCOR, Zea mays, = US
 Rating Type
 YIELD = yield
 MOICON = moisture content
 Rating Unit
 % = percent
 BU = bushel
 Plant-Eval Interval
 155 DP-1 = 1 May-31-2011
 ARM Action Codes
 TY1 = 5.185714*[C13]*(100-[C14])/84.5

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