

Ohio State University Horticulture and Crop Science

Midwest Corn Herbicide Systems Demonstration

Title No. 2:
 Trial ID: 10MWREG Protocol ID: 10MWREG
 Location: WESTERN BRANCH F-7 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

Trial Location

City: South Charleston **Latitude of LL Corner °:** 39.85918 N
State/Prov.: Ohio **Longitude of LL Corner °:** 83.66824 W
Postal Code: 45368 **Altitude of LL Corner, Unit:** 1089.00 FT
Country: USA
Description
 14-21 DAT after APPLICATION A

Objectives:

Demonstrate various corn herbicide weed control systems common to the midwest.

Personnel

Study Director: Anthony F. Dobbels **Title:** Research Specialist
Affiliation: The Ohio State University
Address: 7721 South Charleston Pike
Location: South Charleston OH
Postal Code: 45368 **E-mail:** dobbels.1@osu.edu
Investigator: Dr. Mark M. Loux
Address: 7721 South Charleston Pike
Location: South Charleston OH

Crop Description

Crop 1: ZEAMX Zea mays Corn
Variety: DEKALB DKC 62-54
BBCH Scale: BCOR
Planting Method: SEEDED seeded
Depth, Unit: 1.5 IN
Row Spacing, Unit: 30 IN
Seed Bed: MEDIUM medium
Soil Moisture: DRY dry
Harvest Date: 9/14/10
Harvested Width, Unit: 5 FT
% Standard Moisture: 15.5
Weighing Equipment: HARVEST MASTER 401

Description: RR
Planting Date: 4/20/10
Rate, Unit: 32097 S/A

Soil Temperature, Unit: 55 F
Emergence Date: 5/3/10
Harvest Equipment: MASSEY 8 XP
Harvested Length, Unit: 40 FT
Moisture Meter: HARVEST MASTER

Pest Description

Pest 1 Type: W **Code:** SETFA Setaria faberi
Common Name: Giant foxtail

Pest 2 Type: W **Code:** CHEAL Chenopodium album
Common Name: Common lambsquarters

Pest 3 Type: W **Code:** AMBTR Ambrosia trifida
Common Name: Giant ragweed

Pest 4 Type: W **Code:** AMARE Amaranthus retroflexus
Common Name: Redroot pigweed

Pest 5 Type: W **Code:** ABUTH Abutilon theophrasti
Common Name: Velvetleaf

Site and Design

Plot Width, Unit: 10 FT
Plot Length, Unit: 40 FT
Plot Area, Unit: 400 FT²
Replications: 4

Site Type: FIELD field
Experimental Unit: 1 PLOT plot
Tillage Type: CONTIL conventional-till
Study Design: RACOB Randomized Complete Block (RCB)
Untreated Arrangement: INCLUDED single control randomized in each block

Soil Description

Description Name: E-2
% OM: 2.7 **Texture:** SICL silty clay loam
pH: 6.1 **Soil Name:** Kokomo
CEC: 22 **Fert. Level:** G good
Soil Drainage: G good

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Application Description

	A	B	C	D	E
Application Date:	4/20/10	5/25/10	6/1/10	6/4/10	6/17/10
Time of Day:	3:00 P.M.	9:00 A.M.	1:00 P.M.	8:30 A.M.	8:00 AM
Application Method:	SPRAY	SPRAY	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	EPO	V6	LPO	VLP
Application Placement:	BROSOI	BROFO	BROFO	BROFO	BROFO
Applied By:	Ackley/Reeb	Ackley	Dobbels	Dobbels	Dobbels
Air Temperature, Unit:	64 F	68 F	74 F	72 F	75 F
% Relative Humidity:	32	78	74	86	72
Wind Velocity, Unit:	3 MPH	7 MPH	3 MPH	4 MPH	1 MPH
Wind Direction:	N	E	W	SW	NW
Dew Presence (Y/N):	N no	N no	N no	Y yes	Y yes
Soil Temperature, Unit:	58 F	64 F	72 F	68 F	70 F
Soil Moisture:	DRY	NORMAL	NORMAL	WET	WET
% Cloud Cover:	15	40	15	0	0
Next Rain Occurred On:	4/24/10	5/31/10	6/2/10	6/4/10	6/18/10

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		BBCH	
Stage Majority, Percent:	15	100	16	100	16	100	16	100	19	100
Height, Unit:	8	IN	15	IN	24	IN	60	IN		
Height Minimum, Maximum:	7	8	14	16	22	25	50	65		

Pest Stage At Each Application

	A		B		C		D		E	
Pest 1 Code, Type, Scale:	SETFA	W	SETFA	W W	SETFA	W	SETFA	W	SETFA	W
Stage Majority, Percent:	13	100	13	100	14	100	14	100	14	100
Height, Unit:	2	IN	3	IN	6	IN	6	IN		
Height Minimum, Maximum:	1	3	2	3	4	6	2	8		
Pest 2 Code, Type, Scale:	CHEAL	W	CHEAL	W	CHEAL	W	CHEAL	W	CHEAL	W
Stage Majority, Percent:	16	75	16	100	19	80	15	100		
Stage Minimum, Percent:	14	25			16	20				
Stage Maximum, Percent:	15	75			19	80				
Height, Unit:	3	IN	2	IN	6	IN	3	IN		
Height Minimum, Maximum:	1	3	2	3	6	8	2	3		
Pest 3 Code, Type, Scale:	AMBTR	W	AMBTR	W	AMBTR	W	AMBTR	W	AMBTR	W
Stage Majority, Percent:	16	100	19	50	19	100	18	100		
Stage Minimum, Percent:	14	10	14	25						
Stage Maximum, Percent:	16	90	19	50						
Height, Unit:	4	IN	6	IN	14	IN	8	IN		
Height Minimum, Maximum:	3	4	4	6	12	20	4	12		
Pest 4 Code, Type, Scale:	AMARE	W	AMARE	W	AMARE	W	AMARE	W	AMARE	W
Stage Majority, Percent:	14	100			19	100	14	100		
Height, Unit:	2	IN			6	IN	3	IN		
Height Minimum, Maximum:	2	3			6	8	2	4		
Pest 5 Code, Type, Scale:	ABUTH	W	ABUTH	W	ABUTH	W	ABUTH	W	ABUTH	W
Stage Majority, Percent:							12	100		
Height, Unit:							2	IN		
Height Minimum, Maximum:							1	2		

Application Equipment

	A		B		C		D		E	
Appl. Equipment:	BACKPACK	BACKPACK	Tractor		BACKPACK	BACKPACK				
Equipment Type:	SPRBAC	SPRBAC	SPTRMO		SPRBAC	SPRBAC				
Operating Pressure, Unit:	53 PSI	53 PSI	30 PSI		53 PSI	53 PSI				
Nozzle Type:	TEEJET DG	TEEJET DG	DG		TEEJET DG	TEEJET DG				
Nozzle Size:	11002	11002	11002		11002	11002				
Nozzle Spacing, Unit:	18 IN	18 IN	20 IN		18 IN	18 IN				
Boom Length, Unit:	10 FT	10 FT	20 FT		10 FT	10 FT				
Boom Height, Unit:	20 IN	20 IN	20 IN		20 IN	20 IN				
Ground Speed, Unit:	3 MPH	3 MPH	4.7 MPH		3 MPH	3 MPH				
Carrier:	WATER	WATER	WATER		WATER	WATER				
Spray Volume, Unit:	20 GPA	20 GPA	15 GAL/AC		20 GPA	20 GPA				
Mix Size, Unit:	3 Liters	3 Liters	7.5 gallons		3 Liters	3 Liters				
Propellant:	CO2	CO2	PUMROL		CO2	CO2				
Tank Mix (Y/N):			N no							

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Pest Code		AMARE		ABUTH			
Rating Date		6/21/10		6/21/10			
Rating Type		CONTRO		CONTRO			
Rating Unit		%		%			
Trt-Eval Interval		20 DA-C		20 DA-C			
Plant-Eval Interval		62 DP-1		62 DP-1			
Days After Emergence		49 DE-		49 DE-			
Trt No.	Treatment Name	Form Conc	Other Rate	Other Rate	Appl Unit Code	9	10
1	HARNESS XTRA5.6	5.6	1.5 qt/a		A	96	85
2	HARNESS XTRA5.6	5.6	1.5 qt/a		A	100	100
2	AMS PREM BLEND	100	4 qt/a		C		
2	ROUNDUP POWERMAX	4.5	21.3 oz/a		C		
3	HARNESS XTRA5.6	5.6	2.6 qt/a		A	95	96
4	HARNESS XTRA5.6	5.6	2.6 qt/a		A	100	100
4	AMS PREM BLEND	100	4 qt/a		C		
4	ROUNDUP POWERMAX	4.5	21.3 oz/a		C		
5	AATREX 4L	4	2 qt/a		A	64	100
6	AATREX 4L	4	2 qt/a		A	99	100
6	AMS PREM BLEND	100	4 qt/a		C		
6	ROUNDUP POWERMAX	4.5	21.3 oz/a		C		
7	INTEGRITY	5.57	16 oz/a		A	87	100
8	INTEGRITY	5.57	16 oz/a		A	100	100
8	AMS PREM BLEND	100	4 qt/a		C		
8	ROUNDUP POWERMAX	4.5	21.3 oz/a		C		
9	CORVUS	2.63	5.6 oz/a		A	88	100
10	CORVUS	2.63	5.6 oz/a		A	100	100
10	AMS PREM BLEND	100	4 qt/a		C		
10	ROUNDUP POWERMAX	4.5	21.3 oz/a		C		
11	BALANCE FLEXX	2	5 oz/a		A	53	100
12	BALANCE FLEXX	2	5 oz/a		A	99	100
12	AMS PREM BLEND	100	4 qt/a		C		
12	ROUNDUP POWERMAX	4.5	21.3 oz/a		C		
13	GUARDSMAN MAX	5	2 qt/a		A	83	75
14	GUARDSMAN MAX	5	2 qt/a		A	100	100
14	AMS PREM BLEND	100	4 qt/a		C		
14	ROUNDUP POWERMAX	4.5	21.3 oz/a		C		
15	LUMAX	3.948	3 qt/a		A	98	100
16	LUMAX	3.948	3 qt/a		A	100	100
16	AMS PREM BLEND	100	4 qt/a		C		
16	ROUNDUP POWERMAX	4.5	21.3 oz/a		C		
17	HARNESS XTRA5.6	5.6	1.5 qt/a		A	95	98
17	HORNET	85.6	3 oz/a		A		
18	HARNESS XTRA5.6	5.6	1.5 qt/a		A	100	100
18	HORNET	85.6	3 oz/a		A		
18	AMS PREM BLEND	100	4 qt/a		C		
18	ROUNDUP POWERMAX	4.5	21.3 oz/a		C		

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Pest Code		AMARE		ABUTH			
Rating Date		6/21/10		6/21/10			
Rating Type		CONTRO		CONTRO			
Rating Unit		%		%			
Trt-Eval Interval		20 DA-C		20 DA-C			
Plant-Eval Interval		62 DP-1		62 DP-1			
Days After Emergence		49 DE-		49 DE-			
Trt No.	Treatment Name	Form Conc	Other Rate	Other Rate	Appl Unit Code	9	10
19	SURESTART	4.25	1 qt/a		A	98	100
20	SURESTART	4.25	1 qt/a		A	100	100
20	AMS PREM BLEND	100	4 qt/a		C		
20	ROUNDUP POWERMAX	4.5	21.3 oz/a		C		
21	AMS PREM BLEND	100	4 qt/a		B	100	100
21	HALEX GT	4.389	1.8 qt/a		B		
22	AMS PREM BLEND	100	4 qt/a		B	100	100
22	ROUNDUP POWERMAX	4.5	21.3 oz/a		B		
22	AMS PREM BLEND	100	4 qt/a		E		
22	ROUNDUP POWERMAX	4.5	21.3 oz/a		E		
23	AMS PREM BLEND	100	4 qt/a		D	100	100
23	ROUNDUP POWERMAX	4.5	21.3 oz/a		D		
24	UNTREATED CHECK	0				0	0
LSD (P=.05)						11.7	10.5
Standard Deviation						8.3	7.4
CV						9.21	7.9
Bartlett's X2						33.299	44.048
P(Bartlett's X2)						0.001*	0.001*
Replicate F						1.028	0.327
Replicate Prob(F)						0.3855	0.8056
Treatment F						29.862	31.566
Treatment Prob(F)						0.0001	0.0001

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Location: WESTERN BRANCH F-7 Study Director: Anthony F. Dobbels
Project ID: Investigator: Dr. Mark M. Loux
Sponsor Contact: John Willis, Monsanto

Pest Code

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

Rating Type

CONTRO = control / burndown or knockdown

Rating Unit

% = percent

Plant-Eval Interval

41 DP-1 = 1 4/20/10
62 DP-1 = 1 4/20/10