

The Ohio State University

Maverick two-pass comparisons conventional till

Trial ID: 23MAVPRPO
 Protocol ID: VUSA2023MAVERICHMD68.02 Location: Western Branch F-7 Trial Year: 2023
 Project ID: Project ID 2: Project ID 3:
 Study Director: Sponsor Contact:
 Investigator:

Status: E established
 ARM Trial Created On: Mar-30-2023
 Interim Report Due: Aug-31-2023 Final Report Due: Nov-30-2023

Trial Location

City: South Charleston Country: USA United States
 State/Prov.: Ohio County: Clark
 Postal Code: 45368 Climate Zone: EPPONE EPPO North East

Latitude of LL Corner °: 39.86016 N
 Longitude of LL Corner °: -83.67073 W
 Altitude of LL Corner: 1083.00 FT

Regulations

Conducted Under GLP: No
 Conducted Under GEP: No

No.	Guideline	Discipline	Description
1.	ADM-C-PUB CO		Confidentiality - Public Trial - No Secrecy Agreement Required

Objectives:

Evaluate Maverick efficacy in a two-pass program compared to other commercially available programs.

Crop Description

Crop 1: C	ZEAMX Zea mays	Corn	BBCH Scale: BCOR
	Entry Date: May-4-2023		Stage Scale: BBCH
	Variety: Pioneer P0947Q		
	Attributes: Glyphosate-R, Glufosinate-R		
	Planting Date: Apr-14-2023		Seed Size: 1401 S/LB
	Depth: 1.5 IN		Planting Rate: 32097 S/A
	Rows per Plot: 4		Planting Method: PLANTD planted
	Row Spacing: 30 IN		Planting Equipment: FE field equipment
			Seed Bed: MEDIUM medium
	Soil Temperature: 53 F		Soil Moisture: SLIDRY slightly dry
	Emergence Date: May-8-2023		
	Harvest Date: Oct-18-2023		Harvest Equipment: Kincaid 8XP
	Moisture Meter: Harvest Master		Harvested Width: 5 FT
	% Standard Moisture: 15.5		Harvested Length: 30 FT
	Weighing Equipment: Harvest Master HM800		

Pest Description

Pest 1 Type: W	Code: SETFA	Setaria faberi	Stage Scale: BBCH
		Common Name: Giant foxtail	
Pest 2 Type: W	Code: SETPU	Setaria helvola	Entry Date: Jun-8-2023
		Common Name: yellow foxtail	Stage Scale: BBCH
Pest 3 Type: W	Code: AMBTR	Ambrosia trifida	Entry Date: Jun-8-2023
		Common Name: Giant ragweed	Stage Scale: BBCH
Pest 4 Type: W	Code: CHEAL	Chenopodium album	Entry Date: Jun-8-2023
		Common Name: common lambsquarters	Stage Scale: BBCH
Pest 5 Type: W	Code: ABUTH	Abitilon theophrasti	Entry Date: Jun-8-2023
		Common Name: velvetleaf	Stage Scale: BBCH
Pest 6 Type: W	Code: IPOHE	Ipomoea hederacea	Entry Date: Jun-8-2023
		Common Name: ivy-leaf morning glory	Stage Scale: BBCH

Site and Design

Treated Plot Width: 10 FT	Site Type: FIELD field
Treated Plot Length: 30 FT	Experimental Unit: 1 PLOT plot
Treated Plot Area: 300.0 FT ²	Tillage Type: CONTIL conventional-till
Replications: 4	Treatments: 10 Plots: 40
	Study Design: RACOB L Randomized Complete Block (RCB)

Previous
 No. Crop Year
 1. SOYBEAN 2022

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Application Description

	A	B
Date	Apr-14-2023	Jun-7-2023
Start Time	10:30 AM	9:59 AM
Stop Time	11:00 AM	10:15 AM
Method	SPRAY	SPRAY
Timing	PREPRE	POSPOS
Placement	BROADC	BROADC
Applied By	Dobbels	MCCORMICK
Entry Date	May-4-2023	Jun-8-2023
Air Temperature Start, Stop	67, 71.5 F	63, 63 F
% Relative Humidity Start, Stop	49, 43	40, 40
Wind Velocity+Dir. Start	8 MPH, SE	5 MPH, NNE
Wind Velocity+Dir. Stop	8 MPH, SE	4 MPH, NNE
Wind Velocity+Dir. Max	9 MPH, SE	6 MPH, NNE
Wet Leaves (Y/N)	N, no	N, no
Soil Temperature	55 F	62 F
Soil Moisture	NORMAL	DRY
Soil Surface Condition	SLIDRY	MEDIUM
% Cloud Cover	90	10
First Moisture Occurred On	Apr-15-2023	Jun-11-2023
Time to First Moisture	1.0 DAY	4.0 DAY
Moisture 6 Hours after Appl.	0 IN	0 IN
Moisture 24 Hours after Appl.	0 IN	0 IN
Moisture 1 Week after Appl.	0.6 IN	2.09 IN
Problems with Application?	N, no	N, no

Protocol Application Directions:

One preemergence and one postemergence application to weeds that are 4 inches or less in height using the most restrictive label for post application 12 inch

Crop Stage At Each Application

	A	B
Crop 1 Code, BBCH Scale	ZEAMX, BCOR	ZEAMX, BCOR
Days after Emergence	-24	30
Stage Majority, Percent		17, 100
Stage Minimum, Percent		17, 100
Stage Maximum, Percent		17, 100
Height Average		16 IN
Height Minimum, Maximum		16, 18

Pest Stage At Each Application

	A	B
Pest 1 Code, Type, Scale	SETFA, W, BBCH	SETFA, W, BBCH
Stage Majority, Percent		14, 70
Stage Minimum, Percent		13, 10
Stage Maximum, Percent		15, 10
Height Average		3 IN
Height Minimum, Maximum		2, 4
Pest 2 Code, Type, Scale	SETPU, W, BBCH	SETPU, W, BBCH
Stage Majority, Percent		15, 70
Stage Minimum, Percent		13, 10
Stage Maximum, Percent		17, 10
Height Average		4 IN
Height Minimum, Maximum		2, 4
Pest 3 Code, Type, Scale	AMBTR, W, BBCH	AMBTR, W, BBCH
Stage Majority, Percent		19, 70
Stage Minimum, Percent		18, 10
Stage Maximum, Percent		19, 70
Height Average		8 IN
Height Minimum, Maximum		6, 10
Pest 4 Code, Type, Scale	CHEAL, W, BBCH	CHEAL, W, BBCH
Stage Majority, Percent		19, 80
Stage Minimum, Percent		18, 10
Stage Maximum, Percent		19, 80
Height Average		3 IN
Height Minimum, Maximum		2, 4
Pest 5 Code, Type, Scale	ABUTH, W, BBCH	ABUTH, W, BBCH
Stage Majority, Percent		14, 70
Stage Minimum, Percent		13, 10
Stage Maximum, Percent		15, 10
Height Average		3 IN
Height Minimum, Maximum		3, 5
Pest 6 Code, Type, Scale	IPOHE, W, BBCH	IPOHE, W, BBCH
Stage Majority, Percent		14, 80
Stage Minimum, Percent		12, 10
Stage Maximum, Percent		14, 80
Height Average		2 IN
Height Minimum, Maximum		1, 2

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Application Equipment

	A	B
Equipment Name	10' TTI	10' AIXR
Equipment Type	BACCAI	BACCAI
Operation Pressure	44 PSI	44 PSI
Nozzle Model	110015	110015
Nozzle Type	TTI	AI XR
Nozzle TradeName	Turbo Tee Injection	TeeJet
Nozzle Tip Size, Color	015, green	015, green
Nozzle Spacing	18 IN	18 IN
Boom Length	10 FT	10 FT
Boom Height	20 IN	20 IN
Ground Speed	3 MPH	3 MPH
Carrier	WATER	WATER
Water Hardness (ppm CaCO3)		250
Application Amount	15 GAL/AC	15 GAL/AC
Mix Overage		25 mL
Mix Size	2 L	2 L
Spray pH		7.8
Propellant	COMCO2	COMCO2
Tank Mix (Y/N)	Y, yes	Y, yes

Notes

Context	Date	By	Notes
STATUS	Mar-30-2023	Dr. Mark M. Loux	Automatically added by ARM: Trial Status updated to 'S' during trial creation.
STATUS	May-4-2023	Dr. Mark M. Loux	Automatically added by ARM: Status changed to: E: changed by (EOHLOM).
STATUS	May-4-2023	Dr. Mark M. Loux	Automatically added by ARM: Trial Status updated to 'E' when Planting Date entered.

Yield Required: Y

Data to Collect:

crop injury 14 and 21 DA-A and 7, 14 and 21 DA-B. Weed control ratings 14, 28, and 36 DA-A and 14, 21, 28, and preharvest DA-B. Yield

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Rating Date	Oct-18-2023	Oct-18-2023	Oct-18-2023	Oct-18-2023
Part Rated				
Rating Type	WEIGHT	MOICON	YIELD	WEITES
Rating Unit/Min/Max	LBS, -, -	%, 0, 100	BU, -, -	LBS, -, -
Sample Size	1 PLOT	1 QT	1 PLOT	1 QT
Collection Basis	1 PLOT	1 QT	1 PLOT	1 QT
Reporting Basis	1 PLOT	1 PLOT	1 A	1 BU
Number of Subsamples	1	1	1	1
Crop Type, Code	C, ZEAMX	C, ZEAMX	C, ZEAMX	C, ZEAMX
BBCH Scale	BCOR	BCOR	BCOR	BCOR
Crop Scientific Name	Zea mays	Zea mays	Zea mays	Zea mays
Crop Name	Corn	Corn	Corn	Corn
Pest Type				
Pest Code				
Pest Scientific Name				
Pest Name				
Days After First/Last Applic.	187, 133	187, 133	187, 133	187, 133
Trt-Eval Interval				
Plant-Eval Interval	187 DP-1	187 DP-1	187 DP-1	187 DP-1
Days After Emergence	163 DE-1	163 DE-1	163 DE-1	163 DE-1
EDC App				
ARM Action Codes			TY1	
Number of Decimals			1	
Data Entry Date	Oct-19-2023	Oct-19-2023		Oct-19-2023

Trt Treatment No. Name	Rate Rate Unit	Other Rate	Other Rate Unit	Appl Code	30*	31*	32*	33*
1 UNTREATED CHECK					17.025b	17.98-	85.7b	56.20-
2 ACURON HERBICIDE	1.5 qt/a	1.5 qt/a		A	51.478a	17.28-	261.3a	56.33-
2 ACURON HERBICIDE	1.5 qt/a	1.5 qt/a		B				
2 ROUNDUP POWER MAX(AE)	28 fl oz/a	28 fl oz/a		B				
2 INDUCE	0.25 % v/v	0.25 % v/v		B				
2 AMSOL	2.5 % v/v	1.5 qt/a		B				
3 BICEP II MAGNUM	2.1 qt/a	2.1 qt/a		A	50.074a	16.83-	255.4a	57.55-
3 ACURON GT	3.75 pt/a	3.75 pt/a		B				
3 AMSOL	2.5 % v/v	1.5 qt/a		B				
4 RESICORE XL	1.4 qt/a	1.4 qt/a		A	52.118a	16.95-	265.6a	57.28-
4 RESICORE XL	1.4 qt/a	1.4 qt/a		B				
4 ROUNDUP POWER MAX(AE)	28 fl oz/a	28 fl oz/a		B				
4 AMSOL	2.5 % v/v	1.5 qt/a		B				
5 RESICORE XL	1.4 qt/a	1.4 qt/a		A	50.240a	16.93-	256.1a	56.23-
5 KYRO	45 fl oz/a	45 fl oz/a		B				
5 ROUNDUP POWER MAX(AE)	28 fl oz/a	28 fl oz/a		B				
5 INDUCE	0.25 % v/v	0.25 % v/v		B				
5 AMSOL	2.5 % v/v	1.5 qt/a		B				
6 MAVERICK HERBICIDE	18 fl oz/a	18 fl oz/a		A	51.018a	17.18-	259.3a	56.85-
6 MAVERICK HERBICIDE	14 fl oz/a	14 fl oz/a		B				
6 ROUNDUP POWER MAX(AE)	28 fl oz/a	28 fl oz/a		B				
6 AMSOL	2.5 % v/v	1.5 qt/a		B				
6 INDUCE	0.25 % v/v	0.25 % v/v		B				
7 MAVERICK HERBICIDE	18 fl oz/a	18 fl oz/a		A	50.973a	16.90-	260.0a	57.30-
7 MAVERICK HERBICIDE	14 fl oz/a	14 fl oz/a		B				
7 ATRAZINE	1 qt/a	1 qt/a		B				
7 ROUNDUP POWER MAX(AE)	28 fl oz/a	28 fl oz/a		B				
7 AMSOL	2.5 % v/v	1.5 qt/a		B				
7 INDUCE	0.25 % v/v	0.25 % v/v		B				
8 Restraint	36 oz/a	36 oz/a		A	51.210a	16.80-	261.5a	57.73-
8 Atrazine	1 qt/a	1 qt/a		A				
8 Shieldex	1.35 oz/a	1.35 oz/a		B				
8 Atrazine	1 qt/a	1 qt/a		B				
8 COC	1 % v/v	1 % v/v		B				

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.
 Due to missing data, the effective replicates used for mean comparisons are: col. 30-33=3.8
 * Adjusted means
 ^Calculated from residual.

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Part Rated				
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Rating Unit/Min/Max	LBS, -, -	%, 0, 100	BU, -, -	LBS, -, -
Sample Size	1 PLOT	1 QT	1 PLOT	1 QT
Collection Basis	1 PLOT	1 QT	1 PLOT	1 QT
Reporting Basis	1 PLOT	1 PLOT	1 A	1 BU
Number of Subsamples	1	1	1	1
Crop Type, Code	C, ZEAMX	C, ZEAMX	C, ZEAMX	C, ZEAMX
BBCH Scale	BCOR	BCOR	BCOR	BCOR
Crop Scientific Name	Zea mays	Zea mays	Zea mays	Zea mays
Crop Name	Corn	Corn	Corn	Corn
Pest Type				
Pest Code				
Pest Scientific Name				
Pest Name				
Days After First/Last Applic.	187, 133	187, 133	187, 133	187, 133
Trt-Eval Interval				
Plant-Eval Interval	187 DP-1	187 DP-1	187 DP-1	187 DP-1
Days After Emergence	163 DE-1	163 DE-1	163 DE-1	163 DE-1
EDC App				
ARM Action Codes			TY1	
Number of Decimals			1	
Data Entry Date	Oct-19-2023	Oct-19-2023	Oct-19-2023	Oct-19-2023

Trt No.	Treatment Name	Rate	Other Rate	Other Rate	Appl Unit Code	30*	31*	32*	33*
9	Restraint	36 oz/a	36 oz/a		A	52.150 a	17.00-	265.7 a	56.93-
9	Atrazine	1 qt/a	1 qt/a		A				
9	Shieldex	1.35 oz/a	1.35 oz/a		B				
9	Atrazine	1 qt/a	1 qt/a		B				
9	Roundup Powermax 3	20 oz/a	20 oz/a		B				
9	AMSOL	2.5 % v/v	1.5 qt/a		B				
10	Perpetuo	8 oz/a	8 oz/a		A	51.027 a	16.76-	260.6 a	57.39-
10	ATRAZINE	1 qt/a	1 qt/a		A				
10	MAVERICK HERBICIDE	14 fl oz/a	14 fl oz/a		B				
10	ROUNDUP POWER MAX(AE)	28 fl oz/a	28 fl oz/a		B				
10	AMSOL	2.5 % v/v	1.5 qt/a		B				
10	INDUCE	0.25 % v/v	0.25 % v/v		B				
	LSD P=.05					4.2537	0.993	21.36	1.207
	Standard Deviation					2.9209	0.682	14.67	0.829
	CV					6.15	3.99	6.07	1.46
	Grand Mean					47.4821	17.084	241.81	56.937
	Levene's F^					3.928*	0.851	4.393*	1.146
	Levene's Prob(F)					0.003*	0.578	0.001*	0.366
	Rank X2				
	P(Rank X2)				
	Shapiro-Wilk^					0.9782	0.9703	0.9737	0.9748
	P(Shapiro-Wilk)^					0.6538	0.3991	0.5002	0.5351
	Skewness^					0.11	0.203	0.1348	0.2735
	P(Skewness)^					0.7837	0.6129	0.7367	0.496
	Kurtosis^					1.3488	0.4641	1.4464	0.3939
	P(Kurtosis)^					0.0917	0.5549	0.0713	0.6161
	Replicate F					1.821	2.162	2.161	0.378
	Replicate Prob(F)					0.1691	0.1177	0.1179	0.7695
	Treatment F					54.297	1.029	56.517	1.688
	Treatment Prob(F)					0.0001	0.4447	0.0001	0.1449

Rating Type
 WEIGHT = weight
 MOICON = moisture content
 YIELD = yield
 WEITES = weight - test
Rating Unit/Min/Max
 %, 0, 100 = percent
 BU, , = bushel

PLOT = total plot
 QT = quart

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PLOT = total plot
QT = quart

PLOT = total plot
A = acre
BU = bushel

Crop Type Code

C = EPPO species (Bayer) codes
ZEAMX, BCOR, Zea mays, Corn = US

Plant Eval Interval

187 DP-1 = 1 ZEAMX Apr-14-2023

ARM Action Codes

TY1 = $5.18571429 * [30] * (100 - [31]) / 84.5$

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