

The Ohio State University

Enlist Soybean Programs

Trial ID: 23ENLISTII
 Protocol ID: 23ENLISTII Location: 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

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 °: 39.85766 N
 Longitude of LL Corner °: -83.67003 W
 Altitude of LL Corner: 1082.00 FT

Regulations

Conducted Under GLP: No
 Conducted Under GEP: No

Crop Description

Crop 1: C	GLXMA Glycine max	Soybean
	Entry Date: Jun-2-2023	Stage Scale: BBCH
	Variety: Pioneer P35T15E	
	Attributes: 2,4-D Choline, Glyphosate, Glufosinate Tol	
	Planting Date: May-31-2023	Seed Size: 2518 S/LB
	Depth: 1 IN	Planting Rate: 160000 S/A
	Rows per Plot: 8	Planting Method: PLANTD planted
	Row Spacing: 15 IN	Planting Equipment: FE field equipment
	Soil Temperature: 68 F	Seed Bed: MEDIUM medium
	Emergence Date: Jun-15-2023	Soil Moisture: DRY dry
	Harvest Date: Oct-10-2023	Harvest Equipment: Kincaid 8XP
	Moisture Meter: Harvest Master	Harvested Width: 6.25 FT
	% Standard Moisture: 13	Harvested Length: 30 FT
	Weighing Equipment: Harvest Master HM800	

Pest Description

Pest 1 Type: W	Code: SETFA Setaria faberi	Entry Date: Jul-6-2023
	Common Name: Giant foxtail	Stage Scale: BBCH
Pest 2 Type: W	Code: ECHCG Echinochloa crus-galli	Entry Date: Jul-6-2023
	Common Name: common barnyardgrass	Stage Scale: BBCH
Pest 3 Type: W	Code: AMBTR Ambrosia trifida	Entry Date: Jul-6-2023
	Common Name: Giant ragweed	Stage Scale: BBCH
Pest 4 Type: W	Code: AMARE Amaranthus retroflexus	Entry Date: Jul-6-2023
	Common Name: Redroot pigweed	Stage Scale: BBCH
Pest 5 Type: W	Code: IPOHE Ipomoea hederacea	Entry Date: Jul-6-2023
	Common Name: ivy-leaf morning glory	Stage Scale: BBCH
Pest 6 Type: W	Code: ABUTH Abutilon theophrasti	Entry Date: Jul-6-2023
	Common Name: velvetleaf	Stage Scale: BBCH
Pest 7 Type: W	Code: CHEAL Chenopodium album	Entry Date: Jul-6-2023
	Common Name: common lambsquarters	Stage Scale: BBCH

Site and Design

Treated Plot Width: 6.67 FT	Site Type: FIELD field
Treated Plot Length: 30 FT	Experimental Unit: 1 PLOT plot
Treated Plot Area: 200.1 FT ²	Tillage Type: CONTIL conventional-till
Replications: 4	Treatments: 8 Plots: 32
	Study Design: RACOB L Randomized Complete Block (RCB)

Previous
 No. Crop Year
 1. SOYBEAN2022

Soil Description

Description Name: Big E
 % Sand: 44 % OM: 3.1 Texture: SICL silty clay loam
 % Silt: 45 Soil Name: Kokomo
 % Clay: 11 Fert. Level: G good
 pH: 6.6 CEC: 15
 g o o d

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Application Description

	A	B
Date	Jun-1-2023	Jul-5-2023
Start Time	9:00 AM	9:59 AM
Stop Time	9:30 AM	10:15 AM
Method	SPRAY	SPRAY
Timing	PRE	POST
Placement	BROSOL	BROFOL
Applied By	Poling	POLING
Entry Date	Jun-2-2023	Jul-6-2023
Air Temperature Start, Stop	69, 69 F	80, 80 F
% Relative Humidity Start, Stop	63, 63	74, 74
Wind Velocity+Dir. Start	5 MPH, E	3 MPH, W
Wind Velocity+Dir. Stop	5 MPH, E	3 MPH, W
Wind Velocity+Dir. Max	5 MPH, E	3 MPH, W
Wet Leaves (Y/N)	N, no	N, no
Soil Temperature	69 F	65 F
Soil Moisture	dry	SLIWET
Soil Surface Condition	MEDIUM	MEDIUM
% Cloud Cover	0	20
First Moisture Occurred On	Jun-2-2023	Jul-6-2023
Time to First Moisture	1.0 DAY	26.0 HR
Moisture 6 Hours after Appl.	0 IN	0 IN
Moisture 24 Hours after Appl.	0 IN	0 IN
Moisture 1 Week after Appl.	0.54 IN	0.69 IN
Problems with Application?	N, no	N, no

Crop Stage At Each Application

	A	B
Crop 1 Code, BBCH Scale	GLXMA, BSOY	GLXMA, BSOY
Days after Emergence	-14	20
Stage Majority, Percent		V4, 80
Stage Minimum, Percent		V3, 10
Stage Maximum, Percent		V5, 10
Height Average		5 IN
Height Minimum, Maximum		3, 6

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Pest Stage At Each Application

	A	B
Pest 1 Code, Type, Scale	SETFA, W, BBCH	SETFA, W, BBCH
Stage Majority, Percent		16, 50
Stage Minimum, Percent		13, 20
Stage Maximum, Percent		19, 10
Height Average		3 IN
Height Minimum, Maximum		2, 9
Density Average		896 M2
Density Minimum, Maximum		678, 1120
Pest 2 Code, Type, Scale	ECHCG, W, BBCH	ECHCG, W, BBCH
Stage Majority, Percent		16, 50
Stage Minimum, Percent		13, 20
Stage Maximum, Percent		19, 10
Height Average		3 IN
Height Minimum, Maximum		2, 9
Density Average		54 M2
Density Minimum, Maximum		25, 67
Pest 3 Code, Type, Scale	AMBTR, W, BBCH	AMBTR, W, BBCH
Stage Majority, Percent		18, 80
Stage Minimum, Percent		16, 10
Stage Maximum, Percent		19, 10
Height Average		4 IN
Height Minimum, Maximum		2, 10
Density Average		8 M2
Density Minimum, Maximum		6, 10
Pest 4 Code, Type, Scale	AMARE, W, BBCH	AMARE, W, BBCH
Stage Majority, Percent		16, 70
Stage Minimum, Percent		14, 10
Stage Maximum, Percent		19, 10
Height Average		4 IN
Height Minimum, Maximum		3, 5
Density Average		8 M2
Density Minimum, Maximum		2, 12
Pest 5 Code, Type, Scale	IPOHE, W, BBCH	IPOHE, W, BBCH
Stage Majority, Percent		16, 60
Stage Minimum, Percent		14, 20
Stage Maximum, Percent		19, 10
Height Average		3 IN
Height Minimum, Maximum		2, 4
Density Average		0.33 M2
Density Minimum, Maximum		0, 3
Pest 6 Code, Type, Scale	ABUTH, W, BBCH	ABUTH, W, BBCH
Stage Majority, Percent		14, 70
Stage Minimum, Percent		12, 10
Stage Maximum, Percent		18, 10
Height Average		4 IN
Height Minimum, Maximum		2, 5
Density Average		0.66 M2
Density Minimum, Maximum		0, 6
Pest 7 Code, Type, Scale	CHEAL, W, BBCH	CHEAL, W, BBCH
Stage Majority, Percent		18, 70
Stage Minimum, Percent		14, 10
Stage Maximum, Percent		19, 10
Height Average		4 IN
Height Minimum, Maximum		2, 6
Density Average		12 M2
Density Minimum, Maximum		10, 26

Application Equipment

	A	B
Equipment Name	6' TTI	10' AIXR
Equipment Type	BACCAI	BACCAI
Operation Pressure	44 PSI	44 PSI
Nozzle Model	1110015	110015
Nozzle Type	TTI	AI XR
Nozzle TradeName		TeeJet
Nozzle Tip Size, Color		015, green
Nozzle Spacing	18 IN	18 IN
Boom Length	6.67 FT	10 FT
Boom Height	20 IN	20 IN
Ground Speed	3 MPH	3 MPH
Carrier	WATER	WATER
Water Hardness (ppm CaCO3)	250	250
Application Amount	15 GAL/AC	15 GAL/AC
Mix Overage		25 mL
Mix Size	1 L	2 L
Spray pH	7.8	7.8
Propellant	COMCO2	COMCO2
Tank Mix (Y/N)		Y, yes

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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	Jun-2-2023	Dr. Mark M. Loux	Automatically added by ARM: Status changed to: E: changed by (EOHLOM).
STATUS	Jun-2-2023	Dr. Mark M. Loux	Automatically added by ARM: Trial Status updated to 'E' when Planting Date entered.

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Rating Date	Rating Type	Rating Unit/Min/Max	Sample Size	Collection Basis	Reporting Basis	Number of Subsamples	Crop Type, Code	Crop Scientific Name	Crop Name	Pest Type	Pest Code	Pest Scientific Name	Pest Name	Rating Timing	Days After First/Last Applic.	Trt-Eval Interval	Plant-Eval Interval	Days After Emergence	ARM Action Codes	Number of Decimals	Data Entry Date
Oct-10-2023	WEIGHT	LBS, -, -	1 PLOT	1 PLOT	1 PLOT	1	C, ZEAMX	Zea mays	Corn					131, 97	131, 97	131, 97	131, 97	131, 97	131, 97	1	Oct-16-2023
Oct-10-2023	MOICON	%, 0, 100	1 QT	1 QT	1 PLOT	1	C, ZEAMX	Zea mays	Corn					131, 97	131, 97	131, 97	131, 97	131, 97	131, 97	1	Oct-16-2023
Oct-10-2023	YIELD	BU, -, -	1 PLOT	1 PLOT	1 A	1	C, ZEAMX	Zea mays	Corn					131, 97	131, 97	131, 97	131, 97	131, 97	131, 97	1	Oct-16-2023
Oct-10-2023	WEITES	LBS, -, -	1 QT	1 QT	1 BU	1	C, ZEAMX	Zea mays	Corn					131, 97	131, 97	131, 97	131, 97	131, 97	131, 97	1	Oct-16-2023
Trt No.	Treatment Name	Rate	Other Rate	Other Rate	Appl Unit	Code	27*	28*	29*	30*											
1	UTC						4.5293b	14.68a	17.2b	52.38-											
2	Fierce EZ	6 oz/a	0.143 lb ai/a		A		14.1263a	13.38ab	54.4a	54.50-											
2	Enlist Duo	76 oz/a	1.96 lb ai/a		B																
2	Perpetuo	6 oz/a	0.108 lb ai/a		B																
2	AMSOL	2.5% v/v	1.5 qt/a		B																
2	Enlist Duo	76 oz/a	1.96 lb ai/a		B																
2	Perpetuo	6 oz/a	0.108 lb ai/a		B																
2	AMSOL	2.5% v/v	1.5 qt/a		B																
3	Fierce MTZ	16 oz/a	0.33 lb ai/a		A		15.5935a	13.85ab	59.8a	52.85-											
3	Enlist Duo	76 oz/a	1.96 lb ai/a		B																
3	Perpetuo	6 oz/a	0.108 lb ai/a		B																
3	AMSOL	2.5% v/v	1.5 qt/a		B																
4	Fierce XLT	4 oz/a	0.156 lb ai/a		A		13.4770a	13.13ab	52.1a	52.75-											
4	Enlist Duo	76 oz/a	1.96 lb ai/a		B																
4	Perpetuo	6 oz/a	0.108 lb ai/a		B																
4	AMSOL	2.5% v/v	1.5 qt/a		B																
5	Tendovo	2 qt/a	2.09 lb ai/a		A		15.0483a	12.05ab	58.9a	54.45-											
5	Enlist Duo	76 oz/a	1.96 lb ai/a		B																
5	AMSOL	2.5% v/v	1.5 qt/a		B																
6	Sonic	4.5 oz/a	0.197 lb ai/a		A		14.6783a	11.53b	57.8a	54.28-											
6	Enlist Duo	76 oz/a	1.96 lb ai/a		B																
6	AMSOL	2.5% v/v	1.5 qt/a		B																
7	Zidua Pro	6 oz/a	0.192 lb ai/a		A		13.9623a	13.20ab	53.9a	53.80-											
7	Enlist Duo	76 oz/a	1.96 lb ai/a		B																
7	AMSOL	2.5% v/v	1.5 qt/a		B																

Means followed by same letter or symbol do not significantly differ (P=0.05, Student-Newman-Keuls).
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.
 * Adjusted means
 ^Calculated from residual.

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Rating Date	Oct-10-2023	Oct-10-2023	Oct-10-2023	Oct-10-2023
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
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				
Rating Timing				
Days After First/Last Applic.	131, 97	131, 97	131, 97	131, 97
Trt-Eval Interval				
Plant-Eval Interval	132 DP-1	132 DP-1	132 DP-1	132 DP-1
Days After Emergence	117 DE-1	117 DE-1	117 DE-1	117 DE-1
ARM Action Codes			TY1	
Number of Decimals			1	
Data Entry Date	Oct-16-2023	Oct-16-2023		Oct-16-2023
Trt Treatment	Rate	Other	Other	Appl
No. Name	Rate Unit	Rate	Rate	Unit Code
8 Authority Edge	8 oz/a	0.266 lb ai/a		A
8 Enlist Duo	76 oz/a	1.96 lb ai/a		B
8 AMSOL	2.5 % v/v	1.5 qt/a		B
LSD P=.05	1.37156	1.771	5.34	1.755
Standard Deviation	0.93271	1.204	3.63	1.194
CV	7.1	9.17	7.14	2.23
Grand Mean	13.13013	13.131	50.84	53.509
Levene's F^	0.632	1.184	0.566	0.655
Levene's Prob(F)	0.725	0.349	0.776	0.707
Rank X2
P(Rank X2)
Shapiro-Wilk^	0.9854	0.9773	0.9812	0.9656
P(Shapiro-Wilk)^	0.9325	0.7195	0.8349	0.387
Skewness^	0.0157	0.0855	0.0665	-0.5681
P(Skewness)^	0.9713	0.845	0.8792	0.1998
Kurtosis^	-0.2123	1.0657	-0.2835	-0.0046
P(Kurtosis)^	0.8037	0.2176	0.74	0.9957
Replicate F	3.882	2.711	3.326	10.204
Replicate Prob(F)	0.0236	0.0710	0.0393	0.0002
Treatment F	57.915	2.650	58.755	2.015
Treatment Prob(F)	0.0001	0.0394	0.0001	0.1013

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

PLOT = total plot
 QT = quart

PLOT = total plot
 A = acre
 BU = bushel

Crop Type, Code
 C = EPPQ species (Bayer) codes
 ZEAMX, BCOR, Zea mays, Corn = US

Plant-Eval Interval
 132 DP-1 = 1 GLXMA May-31-2023

ARM Action Codes
 TY1 = 3.872*[27]*(100-[28])/87

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