The Ohio State University

2024 USB Metribuzin Early Planted Soybean Trial

Trial ID: 24USBMETEARLYPL_3
Protocol ID: 24USBMETEARLYPL Location: Trial Year: 2024
Study Director: Sponsor Contact:
Investigator:

Status: E established
ARM Trial Created On: Mar-22-2024

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 °: 39.85573 N
Longitude of LL Corner °: -83.66833 W
Altitude of LL Corner: 1108.00 FT

Regulations
Conducted Under GLP: No
Conducted Under GEP: No

Crop Description
Crop 1: C GLXMA Glycine max Soybean BBCH Scale: BSOY
Entry Date: Mar-26-2024 Stage Scale: BBCH
Variety: Xitavo
Attributes: 2,4-D Choline, Glyphosate, Glufosinate Tol
Planting Date: Mar-25-2024 Planting Rate: 155000 S/A
Depth: 1.25 IN
Rows per Plot: 7 Planting Method: PLANTD planted
Row Spacing: 15 IN Planting Equipment: FE field equipment
Seed Bed: SMOOTH smooth
Soil Temperature: 45 F Soil Moisture: DRY dry
Emergence Date: Apr-18-2024
Harvest Date: Sep-10-2024 Harvest Equipment: Kincaid 8XP
Moisture Meter: HarvestMaster Harvested Width: 6.75 FT
% Standard Moisture: 13.0 Harvested Length: 30 FT
Weighing Equipment: HarvestMaster Grain Gauge

Crop 2: C GLXMA Glycine max Soybean BBCH Scale: BSOY
Entry Date: May-7-2024 Stage Scale: BBCH
Variety: Xitavo
Attributes: 2,4-D Choline, Glyphosate, Glufosinate Tol
Planting Date: May-6-2024 Planting Rate: 155000 S/A
Depth: 1.25 IN
Rows per Plot: 7 Planting Method: PLANTD planted
Row Spacing: 15 IN Planting Equipment: FE field equipment
Seed Bed: SMOOTH smooth
Soil Temperature: 45 F Soil Moisture: DRY dry
Emergence Date: May-17-2024
Harvest Date: Sep-18-2024 Harvest Equipment: Kincaid 8XP
Moisture Meter: HarvestMaster Harvested Width: 6.75 FT
% Standard Moisture: 13.0 Harvested Length: 30 FT
Weighing Equipment: HarvestMaster Grain Gauge

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 FT2 Tillage Type: CONTIL conventional-till
Replications: 4 Treatments: 16 Plots: 64 Study Design: SPLPLO Split-Plot
Distance between Blocks: 0 FT
Distance between 'Plot' Experimental Units: 0 FT

Maintenance

No.	Date	Type	Maintenance Product Name	Form Conc	Form Unit	Form Type	Description	Rate	Rate Unit	Tank Mix (Yes/No)
1.	May-8-2024	FERT	AMSOL	100.0	%	L	AMS	2.5	% V/V	yes
2.	May-8-2024	HERB	Roundup Powermax 3	4.8	LB/GAL	L		30	oz/a	yes
3.	May-8-2024	HERB	Enlist ONE	3.8	LBAE/GAL	L		1	pt/a	yes

Comment: Burndown was sprayed on the second planting date so we could get accurate representation of what the treatments would do.

Soil Description
Description Name: Entomology W-1
% Sand: 35 % OM: 2.3 Texture: L loam
% Silt: 40 Soil Name: Crosby
% Clay: 25 Fert. Level: G good
pH: 6.6 CEC: 12.7
Soil Drainage: G good

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Application Description

	A	B	C	D
Date	Mar-25-2024	May-6-2024	May-30-2024	Jun-24-2024
Start Time	11:52 AM	9:58 AM	12:00 PM	3:25 PM
Stop Time	12:15 PM	10:13 AM	12:10 PM	3:32 PM
Method	SPRAY	SPRAY	SPRAY	SPRAY
Timing	PRE	PRE	POST	POST
Placement	BROSOI	BROSOI	BROFOL	BROFOL
Mixed/Prepared By		Colin Barclay	Ella Poling	Colin Barclay
Applied By	McCormick	Tony Dobbels	Colin Barclay	Colin Barclay
Entry Date	Mar-26-2024	May-7-2024	May-31-2024	Jun-25-2024
Air Temperature Start, Stop	59, 59 F	66, 66 F	65, 65 F	79, 79 F
% Relative Humidity Start, Stop	23, 23	80, 80	39, 39	45, 45
Wind Velocity+Dir. Start	12 MPH, N	3 MPH, SE	3.4 MPH, SW	5.5 MPH, NW
Wind Velocity+Dir. Stop	12 MPH, N	3 MPH, SE	4 MPH, SW	5.5 MPH, NW
Wind Velocity+Dir. Max	12 MPH, N	6.2 MPH, SE	5 MPH, SW	7.6 MPH, NW
Wet Leaves (Y/N)	N, no	N, no	N, no	N, no
Soil Temperature	44 F	60 F	62 F	77 F
Soil Temperature Depth	6 IN	6 IN	6 IN	10 cm
Soil Moisture	dry	SLIWET	SLIWET	DRY
Soil Surface Condition	SMOOTH	MEDIUM	SMOOTH	SMOOTH
% Ground Cover	0	0		
% Cloud Cover	75	100	95	25
First Moisture Occurred On	Mar-26-2024	May-6-2024	May-30-2024	Jun-28-2024
Time to First Moisture	12.0 HR	6.0 HR	20.0 MIN	24.0 HR
Amount of First Moisture	0.5 IN	0.35 IN	0.01 IN	0.18 IN
Moisture 1 Week Before Appl.	0.02 IN	0 IN	0.69 IN	0.24 IN
Moisture 6 Hours After Appl.	0 IN	0.2 IN	0.01 IN	0 IN
Moisture 24 Hours After Appl.	0.5 IN	0.35 IN	0.01 IN	0.18 IN
Moisture 1 Week After Appl.	0.61 IN	1.09 IN	0.67 IN	0.1 IN
Problems with Application?	N, no	N, no	N, no	N, no

Crop Stage At Each Application

	A	B	C	D
Crop 1 Code, BBCH Scale	GLXMA, BSOY	GLXMA, BSOY	GLXMA, BSOY	GLXMA, BSOY
Days after Emergence	-24	18	42	67
Crop 2 Code, BBCH Scale	GLXMA, BSOY	GLXMA, BSOY	GLXMA, BSOY	GLXMA, BSOY
Days after Emergence	-53	-11	13	38

Application Equipment

	A	B	C	D
Equipment Name	10' TTI	10' TTI	10' AIXR	10' AIXR
Equipment Type	BACCAI	BACCAI	BACCAI	BACCAI
Operation Pressure	44 PSI	44 PSI	44 PSI	44 PSI
Nozzle Model	110002	110002	110015	110015
Nozzle Type	TTI	TTI	AIXR	AIXR
Nozzle TradeName	Turbo TeeJet Induct	Turbo TeeJet Induct	Air Inducted XR Flat	Air Inducted XR Flat
Nozzle Tip Size, Color	015, Yellow	015, Yellow	015, GREEN	015, GREEN
Nozzle Spacing	18 IN	18 IN	18 IN	18 IN
Boom Length	10 FT	10 FT	10 FT	10 FT
Boom Height	20 IN	20 IN	20 IN	20 IN
Ground Speed	3 MPH	3 MPH	3 MPH	3 MPH
Carrier	WATER	WATER	WATER	WATER
Water Hardness (ppm CaCO3)	250	250	250	250
Application Amount	15 GAL/AC	15 GAL/AC	15 GAL/AC	15 GAL/AC
Mix Overage	0 mL		0 mL	0 mL
Mix Size	2.0 L	2.0 L	3.0 GAL	3.0 GAL
Spray pH	7.8	7.8	7.8	7.8
Propellant	COMCO2	COMCO2	COMCO2	COMCO2

Notes

No.	Context	Date	By	Notes
1.	STATUS	Mar-22-2024	Dr. Alyssa Essman	Automatically added by ARM: Trial Status updated to 'S' during trial creation by (EOHESA).
2.	STATUS	Mar-26-2024	Dr. Alyssa Essman	Automatically added by ARM: Trial Status updated to 'E' when Planting Date was entered by (EOHESA).

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Protocol ID: 24USBMETEARLYPL Location: Trial Year: 2024
Study Director: Sponsor Contact:
Investigator:

Assessed By	Colin Barclay	Colin Barclay	Ella Poling	Ella Poling	Ella Poling
Rating Date	May-2-2024	May-2-2024	May-8-2024	May-8-2024	May-8-2024
Part Rated					
Rating Type	PHYNEC	CONTRO	COUNT	COUNT	COUNT
Rating Unit	%	%	0.25 m2	0.25 m2	
Rating Min/Max/Interval	0, 100, -	0, 100, -			
Sample Size	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis			0.25 m2	0.25 m2	0.25 m2
Reporting Basis			0.25 m2	0.25 m2	0.5 m2
Number of Subsamples	1	1	1	1	1
Crop Type, Code	C, GLXMA	C, GLXMA			
Crop Scientific Name	Glycine max	Glycine max			
Crop Name	Soybean	Soybean			
Pest Type			W, Weed	W, Weed	W, Weed
Pest Code			SETFA	SETFA	SETFA
Pest Scientific Name			Setaria faberi	Setaria faberi	Setaria faberi
Pest Name			Giant foxtail	Giant foxtail	Giant foxtail
Rating Timing	14 DA-EMERGE	14 DA-EMERGE	14 DA-EMERGE	14 DA-EMERGE	14 DA-EMERGE
Days After First/Last Applic.	38, 38	38, 38	44, 2	44, 2	44, 2
Trt-Eval Interval					
Plant-Eval Interval	38 DP-1	38 DP-1	44 DP-1	44 DP-1	44 DP-1
Days After Emergence	14 DE-1	14 DE-1	20 DE-1	20 DE-1	20 DE-1
ARM Action Codes	AL		AL	AL	AL T1
Number of Decimals					
Data Entry Date	May-7-2024	May-7-2024	May-9-2024	May-9-2024	

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	1* dAL	2*	3* dAL	4* dAL	5* dAL
1	Early Plant				1.8 -	83.8 a	1.9 -	1.6 -	3.6 -
	Fierce EZ	0.143	lb ai/a	A					
	AMSOL	2.5	% v/v	C					
	Roundup Powermax 3	1.12	lb ae/a	C					
	Enlist One	1	qt/a	C					
2	Early Plant				2.5 -	90.0 a	1.8 -	1.8 -	4.0 -
	Fierce EZ	0.143	lb ai/a	A					
	Metribuzin	0.188	lb ai/a	A					
3	Early Plant				3.6 -	86.0 a	2.6 -	1.7 -	4.3 -
	Fierce EZ	0.143	lb ai/a	A					
	Metribuzin	0.375	lb ai/a	A					
4	Early Plant				3.8 -	85.0 a	3.2 -	0.5 -	3.4 -
	Fierce EZ	0.143	lb ai/a	A					
	Metribuzin	0.56	lb ai/a	A					
5	Early Plant				1.4 -	83.8 a	2.3 -	3.7 -	5.7 -
	Fierce EZ	0.143	lb ai/a	A					
	Metribuzin	0.75	lb ai/a	A					
6	Early Plant				1.4 -	78.5 a	4.2 -	10.9 -	15.4 -
	Spartan	0.313	lb ai/a	A					
7	Early Plant				1.9 -	75.0 a	4.4 -	11.1 -	14.5 -
	Preview 2:1	0.6	lb ai/a	A					
8	Early Plant				0.7 -	12.5 b	12.7 -	3.2 -	17.6 -
	utc								
9	Normal Plant								
	Fierce EZ	0.19	lb ai/a	B					
10	Normal Plant								
	Fierce EZ	0.19	lb ai/a	B					
	Metribuzin	0.188	lb ai/a	B					

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
Mean separations are based on the complete error term.
t=Mean descriptions are reported in transformed data units, and are not de-transformed.
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. 42=3.3; 43,66=3; 44=1.8
* Adjusted means
Excluded replicate 2 in column 66
Could not calculate LSD (% mean diff) or mean separation letters for columns 10,36,45,46,47,66,84,85,86,99,100,101,108,109,110,115 because error variance is 0.
Mean separation letters are 'na' (not applicable) when error variance is 0
^Calculated from residual.
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Assessed By	Colin Barclay	Colin Barclay	Ella Poling	Ella Poling	Ella Poling
Rating Date	May-2-2024	May-2-2024	May-8-2024	May-8-2024	May-8-2024
Part Rated					
Rating Type	PHYNEC	CONTRO	COUNT	COUNT	COUNT
Rating Unit	%	%	0.25 m2	0.25 m2	
Rating Min/Max/Interval	0, 100, -	0, 100, -			
Sample Size	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis			0.25 m2	0.25 m2	0.25 m2
Reporting Basis			0.25 m2	0.25 m2	0.5 m2
Number of Subsamples	1	1	1	1	1
Crop Type, Code	C, GLXMA	C, GLXMA			
Crop Scientific Name	Glycine max	Glycine max			
Crop Name	Soybean	Soybean			
Pest Type			W, Weed	W, Weed	W, Weed
Pest Code			SETFA	SETFA	SETFA
Pest Scientific Name			Setaria faberi	Setaria faberi	Setaria faberi
Pest Name			Giant foxtail	Giant foxtail	Giant foxtail
Rating Timing	14 DA-EMERGE	14 DA-EMERGE	14 DA-EMERGE	14 DA-EMERGE	14 DA-EMERGE
Days After First/Last Applic.	38, 38	38, 38	44, 2	44, 2	44, 2
Trt-Eval Interval					
Plant-Eval Interval	38 DP-1	38 DP-1	44 DP-1	44 DP-1	44 DP-1
Days After Emergence	14 DE-1	14 DE-1	20 DE-1	20 DE-1	20 DE-1
ARM Action Codes	AL		AL	AL	AL T1
Number of Decimals					
Data Entry Date	May-7-2024	May-7-2024	May-9-2024	May-9-2024	

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	1* dAL	2*	3* dAL	4* dAL	5* dAL
11	Normal Plant								
	Fierce EZ	0.19	lb ai/a	B					
	Metribuzin	0.375	lb ai/a	B					
12	Normal Plant								
	Fierce EZ	0.19	lb ai/a	B					
	Metribuzin	0.56	lb ai/a	B					
13	Normal Plant								
	Fierce EZ	0.19	lb ai/a	B					
	Metribuzin	0.75	lb ai/a	B					
14	Normal Plant								
	Spartan	0.313	lb ai/a	B					
15	Normal Plant								
	Preview 2:1	0.6	lb ai/a	B					
16	Normal Plant								
	utc								
LSD P=.05					3.18 - 3.42	26.55	8.01 - 10.13	4.34 - 9.03	14.37 - 15.22
Standard Deviation					0.32t	18.05	0.40t	0.40t	0.44t
CV					67.73t	24.3	60.9t	65.22t	48.71t
Levene's F^					1.185	0.513	0.289	0.454	0.461
Levene's Prob(F)					0.348	0.816	0.952	0.858	0.853
Shapiro-Wilk^					0.9671	0.9567	0.9807	0.9652	0.9766
P(Shapiro-Wilk)^					0.4239	0.2225	0.8208	0.3788	0.6952
Skewness^					-0.3244	-0.4998	-0.1537	-0.0794	-0.2755
P(Skewness)^					0.46	0.2579	0.7255	0.8558	0.5299
Kurtosis^					-0.5073	1.0492	-0.3141	-0.5548	0.0059
P(Kurtosis)^					0.5535	0.2246	0.7132	0.5172	0.9945
Analyzed as					RCB	RCB	RCB	RCB	RCB
Replicate F					1.875	0.446	1.756	2.015	1.583
Replicate Prob(F)					0.1648	0.7225	0.1864	0.1426	0.2234
Treatment F					0.837	7.913	1.264	2.582	1.525
Treatment Prob(F)					0.5691	0.0001	0.3146	0.0436	0.2129

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* Adjusted means
Excluded replicate 2 in column 66
Could not calculate LSD (% mean diff) or mean separation letters for columns 10,36,45,46,47,66,84,85,86,99,100,101,108,109,110,115 because error variance is 0.
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Study Director: Sponsor Contact:
Investigator:

Assessed By				Ella Poling	Ella Poling	Ella Poling	Ella Poling	Ella Poling
Rating Date				May-8-2024	May-8-2024	May-8-2024	May-8-2024	May-8-2024
Part Rated								
Rating Type				COUNT	COUNT	COUNT	COUNT	COUNT
Rating Unit				0.25 m2	0.25 m2	0.25 m2	0.25 m2	0.25 m2
Rating Min/Max/Interval								
Sample Size				1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis				0.25 m2	0.25 m2	0.25 m2	0.25 m2	0.25 m2
Reporting Basis				0.25 m2	0.25 m2	0.5 m2	0.25 m2	0.25 m2
Number of Subsamples				1	1	1	1	1
Crop Type, Code								
Crop Scientific Name								
Crop Name								
Pest Type				W, Weed	W, Weed	W, Weed	W, Weed	W, Weed
Pest Code				AMBTR	AMBTR	AMBTR	CHEAL	CHEAL
Pest Scientific Name				Ambrosia trifida	Ambrosia trifida	Ambrosia trifida	Chenopodium alb>	Chenopodium alb>
Pest Name				Giant ragweed	Giant ragweed	Giant ragweed	common lambsqua>	common lambsqua>
Rating Timing				14 DA-EMERGE	14 DA-EMERGE	14 DA-EMERGE	14 DA-EMERGE	14 DA-EMERGE
Days After First/Last Applic.				44, 2	44, 2	44, 2	44, 2	44, 2
Trt-Eval Interval								
Plant-Eval Interval				44 DP-1	44 DP-1	44 DP-1	44 DP-1	44 DP-1
Days After Emergence				20 DE-1	20 DE-1	20 DE-1	20 DE-1	20 DE-1
ARM Action Codes				AA	AA	AA T2	AA	ET8
Number of Decimals								
Data Entry Date				May-9-2024	May-9-2024		May-9-2024	May-9-2024
Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	6* dAA	7* dAA	8* dAA	9* dAA	10*
1	Early Plant				0.3 -	0.5 -	0.8 -	0.1 b	0.0 na
	Fierce EZ	0.143	lb ai/a	A					
	AMSOL	2.5	% v/v	C					
	Roundup Powermax 3	1.12	lb ae/a	C					
	Enlist One	1	qt/a	C					
2	Early Plant				1.1 -	0.1 -	1.7 -	0.0 b	0.0 na
	Fierce EZ	0.143	lb ai/a	A					
	Metribuzin	0.188	lb ai/a	A					
3	Early Plant				0.1 -	0.1 -	0.1 -	0.0 b	0.0 na
	Fierce EZ	0.143	lb ai/a	A					
	Metribuzin	0.375	lb ai/a	A					
4	Early Plant				1.3 -	1.8 -	3.7 -	0.0 b	0.0 na
	Fierce EZ	0.143	lb ai/a	A					
	Metribuzin	0.56	lb ai/a	A					
5	Early Plant				0.1 -	0.1 -	0.2 -	0.0 b	0.0 na
	Fierce EZ	0.143	lb ai/a	A					
	Metribuzin	0.75	lb ai/a	A					
6	Early Plant				0.4 -	1.4 -	2.0 -	0.0 b	0.0 na
	Spartan	0.313	lb ai/a	A					
7	Early Plant				0.9 -	0.9 -	2.4 -	0.0 b	0.0 na
	Preview 2:1	0.6	lb ai/a	A					
8	Early Plant				0.6 -	1.0 -	1.9 -	5.6 a	20.0
	utc								
9	Normal Plant								
	Fierce EZ	0.19	lb ai/a	B					
10	Normal Plant								
	Fierce EZ	0.19	lb ai/a	B					
	Metribuzin	0.188	lb ai/a	B					

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* Adjusted means
Excluded replicate 2 in column 66
Could not calculate LSD (% mean diff) or mean separation letters for columns 10,36,45,46,47,66,84,85,86,99,100,101,108,109,110,115 because error variance is 0.
Mean separation letters are 'na' (not applicable) when error variance is 0
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d=Means are reported in de-transformed data units

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Study Director: Sponsor Contact:
Investigator:

Assessed By	Ella Poling	Ella Poling	Ella Poling	Ella Poling	Ella Poling
Rating Date	May-8-2024	May-8-2024	May-8-2024	May-8-2024	May-8-2024
Part Rated					
Rating Type	COUNT	COUNT	COUNT	COUNT	COUNT
Rating Unit	0.25 m2	0.25 m2	0.25 m2	0.25 m2	0.25 m2
Rating Min/Max/Interval					
Sample Size	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis	0.25 m2	0.25 m2	0.25 m2	0.25 m2	0.25 m2
Reporting Basis	0.25 m2	0.25 m2	0.5 m2	0.25 m2	0.25 m2
Number of Subsamples	1	1	1	1	1
Crop Type, Code					
Crop Scientific Name					
Crop Name					
Pest Type	W, Weed	W, Weed	W, Weed	W, Weed	W, Weed
Pest Code	AMBTR	AMBTR	AMBTR	CHEAL	CHEAL
Pest Scientific Name	Ambrosia trifida	Ambrosia trifida	Ambrosia trifida	Chenopodium alb>	Chenopodium alb>
Pest Name	Giant ragweed	Giant ragweed	Giant ragweed	common lambsqua>	common lambsqua>
Rating Timing	14 DA-EMERGE	14 DA-EMERGE	14 DA-EMERGE	14 DA-EMERGE	14 DA-EMERGE
Days After First/Last Applic.	44, 2	44, 2	44, 2	44, 2	44, 2
Trt-Eval Interval					
Plant-Eval Interval	44 DP-1	44 DP-1	44 DP-1	44 DP-1	44 DP-1
Days After Emergence	20 DE-1	20 DE-1	20 DE-1	20 DE-1	20 DE-1
ARM Action Codes	AA	AA	AA T2	AA	ET8
Number of Decimals					
Data Entry Date	May-9-2024	May-9-2024		May-9-2024	May-9-2024

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	6* dAA	7* dAA	8* dAA	9* dAA	10*
11	Normal Plant								
	Fierce EZ	0.19	lb ai/a	B					
	Metribuzin	0.375	lb ai/a	B					
12	Normal Plant								
	Fierce EZ	0.19	lb ai/a	B					
	Metribuzin	0.56	lb ai/a	B					
13	Normal Plant								
	Fierce EZ	0.19	lb ai/a	B					
	Metribuzin	0.75	lb ai/a	B					
14	Normal Plant								
	Spartan	0.313	lb ai/a	B					
15	Normal Plant								
	Preview 2:1	0.6	lb ai/a	B					
16	Normal Plant								
	utc								
LSD P=.05					1.25 - 1.64	1.77 - 1.79	2.62 - 3.28	0.60 - 2.32	.
Standard Deviation					4.12t	4.34t	5.10t	2.21t	0.00
CV					104.71t	100.03t	77.33t	116.93t	0.0
Levene's F^					0.33	0.674	0.466	2.252	.
Levene's Prob(F)					0.932	0.692	0.849	0.065	.
Shapiro-Wilk^					0.9526	0.9566	0.9579	0.7891*	.
P(Shapiro-Wilk)^					0.1705	0.2209	0.2398	0.0*	.
Skewness^					-0.2577	0.7248	0.3461	-0.9447*	.
P(Skewness)^					0.5567	0.1047	0.4308	0.0371*	.
Kurtosis^					-1.0365	0.3507	-0.7288	6.4212*	.
P(Kurtosis)^					0.2302	0.6816	0.3961	0.0*	.
Analyzed as					RCB	RCB	RCB	RCB	RCB
Replicate F					0.670	2.283	1.135	1.054	NaN
Replicate Prob(F)					0.5800	0.1086	0.3579	0.3896	NaN
Treatment F					0.893	1.304	1.529	18.811	NaN
Treatment Prob(F)					0.5293	0.2964	0.2118	0.0001	NaN

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
Mean separations are based on the complete error term.
t=Mean descriptions are reported in transformed data units, and are not de-transformed.
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. 42=3.3; 43,66=3; 44=1.8
* Adjusted means
Excluded replicate 2 in column 66
Could not calculate LSD (% mean diff) or mean separation letters for columns 10,36,45,46,47,66,84,85,86,99,100,101,108,109,110,115 because error variance is 0.
Mean separation letters are 'na' (not applicable) when error variance is 0
^Calculated from residual.
d=Means are reported in de-transformed data units

The Ohio State University

2024 USB Metribuzin Early Planted Soybean Trial

Trial ID: 24USBMETEARLYPL_3
Protocol ID: 24USBMETEARLYPL Location: Trial Year: 2024
Study Director: Sponsor Contact:
Investigator:

Assessed By				Ella Poling	Ella Poling	Ella Poling	Ella Poling	Ella Poling
Rating Date				May-8-2024	May-8-2024	May-8-2024	May-8-2024	May-8-2024
Part Rated								
Rating Type				COUNT	COUNT	COUNT	COUNT	COUNT
Rating Unit				0.25 m2	0.25 m2	0.25 m2	0.25 m2	0.25 m2
Rating Min/Max/Interval								
Sample Size				1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis				0.25 m2	0.25 m2	0.25 m2	0.25 m2	0.25 m2
Reporting Basis				0.5 m2	0.25 m2	0.25 m2	0.5 m2	0.25 m2
Number of Subsamples				1	1	1	1	1
Crop Type, Code								
Crop Scientific Name								
Crop Name								
Pest Type				W, Weed	W, Weed	W, Weed	W, Weed	W, Weed
Pest Code				CHEAL	AMATU	AMATU	AMATU	CONAR
Pest Scientific Name				Chenopodium alb>	Amaranthus tube>	Amaranthus tube>	Amaranthus tube>	Convolvulus arv>
Pest Name				common lambsqua>	tall waterhemp	tall waterhemp	tall waterhemp	Field bindweed
Rating Timing				14 DA-EMERGE	14 DA-EMERGE	14 DA-EMERGE	14 DA-EMERGE	14 DA-EMERGE
Days After First/Last Applic.				44, 2	44, 2	44, 2	44, 2	44, 2
Trt-Eval Interval								
Plant-Eval Interval				44 DP-1	44 DP-1	44 DP-1	44 DP-1	44 DP-1
Days After Emergence				20 DE-1	20 DE-1	20 DE-1	20 DE-1	20 DE-1
ARM Action Codes				AL T3	AL	AL	AL T4	
Number of Decimals								
Data Entry Date					May-9-2024	May-9-2024		May-9-2024
Trt No.	Treatment Name	Rate	Rate Unit / Appl Code	11* dAL	12* dAL	13* dAL	14* dAL	15*
1	Early Plant			0.2 b	0.2 c	0.3 c	0.4 c	0.3 -
	Fierce EZ	0.143	lb ai/a A					
	AMSOL	2.5	% v/v C					
	Roundup Powermax 3	1.12	lb ae/a C					
	Enlist One	1	qt/a C					
2	Early Plant			0.0 b	0.0 c	0.0 c	0.0 c	0.5 -
	Fierce EZ	0.143	lb ai/a A					
	Metribuzin	0.188	lb ai/a A					
3	Early Plant			0.0 b	0.0 c	0.0 c	0.0 c	0.5 -
	Fierce EZ	0.143	lb ai/a A					
	Metribuzin	0.375	lb ai/a A					
4	Early Plant			0.0 b	0.0 c	0.0 c	0.0 c	0.0 -
	Fierce EZ	0.143	lb ai/a A					
	Metribuzin	0.56	lb ai/a A					
5	Early Plant			0.0 b	0.0 c	0.0 c	0.0 c	1.0 -
	Fierce EZ	0.143	lb ai/a A					
	Metribuzin	0.75	lb ai/a A					
6	Early Plant			0.0 b	2.9 b	4.0 b	7.6 b	0.0 -
	Spartan	0.313	lb ai/a A					
7	Early Plant			0.0 b	0.5 c	0.7 c	0.9 c	0.0 -
	Preview 2:1	0.6	lb ai/a A					
8	Early Plant			21.1 a	30.3 a	18.0 a	54.0 a	0.8 -
	utc							
9	Normal Plant							
	Fierce EZ	0.19	lb ai/a B					
10	Normal Plant							
	Fierce EZ	0.19	lb ai/a B					
	Metribuzin	0.188	lb ai/a B					

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
Mean separations are based on the complete error term.
t=Mean descriptions are reported in transformed data units, and are not de-transformed.
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. 42=3.3; 43,66=3; 44=1.8
* Adjusted means
Excluded replicate 2 in column 66
Could not calculate LSD (% mean diff) or mean separation letters for columns 10,36,45,46,47,66,84,85,86,99,100,101,108,109,110,115 because error variance is 0.
Mean separation letters are 'na' (not applicable) when error variance is 0
^Calculated from residual.
d=Means are reported in de-transformed data units

The Ohio State University

2024 USB Metribuzin Early Planted Soybean Trial

Trial ID: 24USBMETEARLYPL_3
Protocol ID: 24USBMETEARLYPL Location: Trial Year: 2024
Study Director: Sponsor Contact:
Investigator:

Assessed By				Ella Poling	Ella Poling	Ella Poling	Ella Poling	Ella Poling
Rating Date				May-8-2024	May-8-2024	May-8-2024	May-8-2024	May-8-2024
Part Rated								
Rating Type				COUNT	COUNT	COUNT	COUNT	COUNT
Rating Unit				0.25 m2	0.25 m2	0.25 m2	0.25 m2	0.25 m2
Rating Min/Max/Interval								
Sample Size				1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis				0.25 m2	0.25 m2	0.25 m2	0.25 m2	0.25 m2
Reporting Basis				0.5 m2	0.25 m2	0.25 m2	0.5 m2	0.25 m2
Number of Subsamples				1	1	1	1	1
Crop Type, Code								
Crop Scientific Name								
Crop Name								
Pest Type				W, Weed	W, Weed	W, Weed	W, Weed	W, Weed
Pest Code				CHEAL	AMATU	AMATU	AMATU	CONAR
Pest Scientific Name				Chenopodium alb>	Amaranthus tube>	Amaranthus tube>	Amaranthus tube>	Convolvulus arv>
Pest Name				common lambsqua>	tall waterhemp	tall waterhemp	tall waterhemp	Field bindweed
Rating Timing				14 DA-EMERGE	14 DA-EMERGE	14 DA-EMERGE	14 DA-EMERGE	14 DA-EMERGE
Days After First/Last Applic.				44, 2	44, 2	44, 2	44, 2	44, 2
Trt-Eval Interval								
Plant-Eval Interval				44 DP-1	44 DP-1	44 DP-1	44 DP-1	44 DP-1
Days After Emergence				20 DE-1	20 DE-1	20 DE-1	20 DE-1	20 DE-1
ARM Action Codes				AL T3	AL	AL	AL T4	
Number of Decimals								
Data Entry Date					May-9-2024	May-9-2024		May-9-2024
Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	11* dAL	12* dAL	13* dAL	14* dAL	15*
11	Normal Plant								
	Fierce EZ	0.19	lb ai/a	B					
	Metribuzin	0.375	lb ai/a	B					
12	Normal Plant								
	Fierce EZ	0.19	lb ai/a	B					
	Metribuzin	0.56	lb ai/a	B					
13	Normal Plant								
	Fierce EZ	0.19	lb ai/a	B					
	Metribuzin	0.75	lb ai/a	B					
14	Normal Plant								
	Spartan	0.313	lb ai/a	B					
15	Normal Plant								
	Preview 2:1	0.6	lb ai/a	B					
16	Normal Plant								
	utc								
LSD P=.05					0.74 - 8.48	1.05 - 14.63	2.06 - 11.62	1.89 - 31.45	1.36
Standard Deviation					0.14t	0.19t	0.28t	0.25t	0.93
CV					80.87t	63.71t	95.78t	64.71t	246.89
Levene's F^					1.292	1.231	1.678	0.546	0.42
Levene's Prob(F)					0.296	0.325	0.162	0.791	0.88
Shapiro-Wilk^					0.762*	0.9318*	0.8848*	0.879*	0.9006*
P(Shapiro-Wilk)^					0.0*	0.0438*	0.0026*	0.0019*	0.0064*
Skewness^					-1.8526*	0.6784	0.2667	1.356*	1.1957*
P(Skewness)^					0.0002*	0.1278	0.543	0.0038*	0.0097*
Kurtosis^					8.9934*	2.1643*	2.1925*	4.099*	2.2416*
P(Kurtosis)^					0.0*	0.0157*	0.0145*	0.0*	0.0126*
Analyzed as					RCB	RCB	RCB	RCB	RCB
Replicate F					1.166	0.370	0.334	0.625	2.139
Replicate Prob(F)					0.3464	0.7757	0.8010	0.6069	0.1257
Treatment F					43.311	31.936	11.193	25.541	0.667
Treatment Prob(F)					0.0001	0.0001	0.0001	0.0001	0.6976

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Due to missing data, the effective replicates used for mean comparisons are: col. 42=3.3; 43,66=3; 44=1.8
* Adjusted means
Excluded replicate 2 in column 66
Could not calculate LSD (% mean diff) or mean separation letters for columns 10,36,45,46,47,66,84,85,86,99,100,101,108,109,110,115 because error variance is 0.
Mean separation letters are 'na' (not applicable) when error variance is 0
^Calculated from residual.
d=Means are reported in de-transformed data units

The Ohio State University

2024 USB Metribuzin Early Planted Soybean Trial

Trial ID: 24USBMETEARLYPL_3
Protocol ID: 24USBMETEARLYPL Location: Trial Year: 2024
Study Director: Sponsor Contact:
Investigator:

Assessed By				Ella Poling	Ella Poling	Ella Poling	Ella Poling	Ella Poling
Rating Date				May-8-2024	May-8-2024	May-8-2024	May-8-2024	May-8-2024
Part Rated								
Rating Type				COUNT	COUNT	COUNT	COUNT	COUNT
Rating Unit				0.25 m2	0.25 m2	0.25 m2	0.25 m2	0.25 m2
Rating Min/Max/Interval								
Sample Size				1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis				0.25 m2	0.25 m2	0.25 m2	0.25 m2	0.25 m2
Reporting Basis				0.25 m2	0.5 m2	0.25 m2	0.25 m2	0.5 m2
Number of Subsamples				1	1	1	1	1
Crop Type, Code								
Crop Scientific Name								
Crop Name								
Pest Type				W, Weed	W, Weed	W, Weed	W, Weed	W, Weed
Pest Code				CONAR	CONAR	CIRAR	CIRAR	CIRAR
Pest Scientific Name				Convolvulus arv>	Convolvulus arv>	Cirsium arvense	Cirsium arvense	Cirsium arvense
Pest Name				Field bindweed	Field bindweed	Californian thi>	Californian thi>	Californian thi>
Rating Timing				14 DA-EMERGE	14 DA-EMERGE	14 DA-EMERGE	14 DA-EMERGE	14 DA-EMERGE
Days After First/Last Applic.				44, 2	44, 2	44, 2	44, 2	44, 2
Trt-Eval Interval								
Plant-Eval Interval				44 DP-1	44 DP-1	44 DP-1	44 DP-1	44 DP-1
Days After Emergence				20 DE-1	20 DE-1	20 DE-1	20 DE-1	20 DE-1
ARM Action Codes					AA T5	AA		T6
Number of Decimals								
Data Entry Date				May-9-2024		May-9-2024	May-9-2024	
Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	16*	17* dAA	18* dAA	19*	20*

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	16*	17* dAA	18* dAA	19*	20*
1	Early Plant				0.0 -	0.1 -	0.1 -	0.0 -	0.5 -
	Fierce EZ	0.143	lb ai/a	A					
	AMSOL	2.5	% v/v	C					
	Roundup Powermax 3	1.12	lb ae/a	C					
	Enlist One	1	qt/a	C					
2	Early Plant				0.0 -	0.1 -	0.1 -	0.0 -	0.5 -
	Fierce EZ	0.143	lb ai/a	A					
	Metribuzin	0.188	lb ai/a	A					
3	Early Plant				0.3 -	0.4 -	0.0 -	0.0 -	0.0 -
	Fierce EZ	0.143	lb ai/a	A					
	Metribuzin	0.375	lb ai/a	A					
4	Early Plant				0.0 -	0.0 -	0.3 -	1.3 -	2.5 -
	Fierce EZ	0.143	lb ai/a	A					
	Metribuzin	0.56	lb ai/a	A					
5	Early Plant				0.3 -	0.3 -	0.0 -	0.0 -	0.0 -
	Fierce EZ	0.143	lb ai/a	A					
	Metribuzin	0.75	lb ai/a	A					
6	Early Plant				0.3 -	0.1 -	0.0 -	0.0 -	0.0 -
	Spartan	0.313	lb ai/a	A					
7	Early Plant				0.0 -	0.0 -	1.0 -	0.0 -	2.0 -
	Preview 2:1	0.6	lb ai/a	A					
8	Early Plant				1.0 -	0.9 -	0.7 -	0.3 -	1.3 -
	utc								
9	Normal Plant								
	Fierce EZ	0.19	lb ai/a	B					
10	Normal Plant								
	Fierce EZ	0.19	lb ai/a	B					
	Metribuzin	0.188	lb ai/a	B					

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
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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. 42=3.3; 43,66=3; 44=1.8
* Adjusted means
Excluded replicate 2 in column 66
Could not calculate LSD (% mean diff) or mean separation letters for columns 10,36,45,46,47,66,84,85,86,99,100,101,108,109,110,115 because error variance is 0.
Mean separation letters are 'na' (not applicable) when error variance is 0
^Calculated from residual.
d=Means are reported in de-transformed data units

The Ohio State University

2024 USB Metribuzin Early Planted Soybean Trial

Trial ID: 24USBMETEARLYPL_3
Protocol ID: 24USBMETEARLYPL Location: Trial Year: 2024
Study Director: Sponsor Contact:
Investigator:

Assessed By				Ella Poling	Ella Poling	Ella Poling	Ella Poling	Ella Poling
Rating Date				May-8-2024	May-8-2024	May-8-2024	May-8-2024	May-8-2024
Part Rated								
Rating Type				COUNT	COUNT	COUNT	COUNT	COUNT
Rating Unit				0.25 m2	0.25 m2	0.25 m2	0.25 m2	0.25 m2
Rating Min/Max/Interval								
Sample Size				1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis				0.25 m2	0.25 m2	0.25 m2	0.25 m2	0.25 m2
Reporting Basis				0.25 m2	0.5 m2	0.25 m2	0.25 m2	0.5 m2
Number of Subsamples				1	1	1	1	1
Crop Type, Code								
Crop Scientific Name								
Crop Name								
Pest Type				W, Weed	W, Weed	W, Weed	W, Weed	W, Weed
Pest Code				CONAR	CONAR	CIRAR	CIRAR	CIRAR
Pest Scientific Name				Convolvulus arv>	Convolvulus arv>	Cirsium arvense	Cirsium arvense	Cirsium arvense
Pest Name				Field bindweed	Field bindweed	Californian thi>	Californian thi>	Californian thi>
Rating Timing				14 DA-EMERGE	14 DA-EMERGE	14 DA-EMERGE	14 DA-EMERGE	14 DA-EMERGE
Days After First/Last Applic.				44, 2	44, 2	44, 2	44, 2	44, 2
Trt-Eval Interval								
Plant-Eval Interval				44 DP-1	44 DP-1	44 DP-1	44 DP-1	44 DP-1
Days After Emergence				20 DE-1	20 DE-1	20 DE-1	20 DE-1	20 DE-1
ARM Action Codes					AA T5	AA		T6
Number of Decimals								
Data Entry Date				May-9-2024		May-9-2024	May-9-2024	
Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	16*	17* dAA	18* dAA	19*	20*

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	16*	17* dAA	18* dAA	19*	20*
11	Normal Plant								
	Fierce EZ	0.19	lb ai/a	B					
	Metribuzin	0.375	lb ai/a	B					
12	Normal Plant								
	Fierce EZ	0.19	lb ai/a	B					
	Metribuzin	0.56	lb ai/a	B					
13	Normal Plant								
	Fierce EZ	0.19	lb ai/a	B					
	Metribuzin	0.75	lb ai/a	B					
14	Normal Plant								
	Spartan	0.313	lb ai/a	B					
15	Normal Plant								
	Preview 2:1	0.6	lb ai/a	B					
16	Normal Plant								
	utc								
LSD P=.05					1.12	0.88 - 1.21	1.01 - 1.69	1.34	2.85
Standard Deviation					0.76	3.44t	3.89t	0.91	1.94
CV					347.81	161.89t	173.08t	485.12	230.1
Levene's F^					0.585	0.557	1.316	0.656	0.707
Levene's Prob(F)					0.761	0.783	0.286	0.706	0.667
Shapiro-Wilk^					0.7938*	0.9695	0.9622	0.689*	0.834*
P(Shapiro-Wilk)^					0.0*	0.4868	0.3153	0.0*	0.0002*
Skewness^					2.1593*	0.3378	0.5476	2.6292*	1.7791*
P(Skewness)^					0.0*	0.4418	0.2161	0.0*	0.0003*
Kurtosis^					8.9563*	0.1645	-0.0289	12.3697*	6.4546*
P(Kurtosis)^					0.0*	0.8473	0.973	0.0*	0.0*
Analyzed as					RCB	RCB	RCB	RCB	RCB
Replicate F					1.206	4.071	1.678	0.856	1.644
Replicate Prob(F)					0.3321	0.0200	0.2023	0.4791	0.2094
Treatment F					0.794	1.142	1.349	0.928	1.003
Treatment Prob(F)					0.6004	0.3754	0.2776	0.5055	0.4566

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
Mean separations are based on the complete error term.
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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. 42=3.3; 43,66=3; 44=1.8
* Adjusted means
Excluded replicate 2 in column 66
Could not calculate LSD (% mean diff) or mean separation letters for columns 10,36,45,46,47,66,84,85,86,99,100,101,108,109,110,115 because error variance is 0.
Mean separation letters are 'na' (not applicable) when error variance is 0
^Calculated from residual.
d=Means are reported in de-transformed data units

The Ohio State University

2024 USB Metribuzin Early Planted Soybean Trial

Trial ID: 24USBMETEARLYPL_3
Protocol ID: 24USBMETEARLYPL Location: Trial Year: 2024
Study Director: Sponsor Contact:
Investigator:

Assessed By								
Rating Date				May-16-2024	May-16-2024	May-16-2024	May-16-2024	May-16-2024	May-16-2024
Part Rated									
Rating Type				COUNT	COUNT	COUNT	COUNT	COUNT	COUNT
Rating Unit				0.25 m2	0.25 m2		0.25 m2	0.25 m2	
Rating Min/Max/Interval									
Sample Size				1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis									
Reporting Basis									
Number of Subsamples				1	1	1	1	1	1
Crop Type, Code									
Crop Scientific Name									
Crop Name									
Pest Type				W, Weed	W, Weed	W, Weed	W, Weed	W, Weed	W, Weed
Pest Code				AMBTR	AMBTR	AMBTR	SETFA	SETFA	SETFA
Pest Scientific Name				Ambrosia trifida	Ambrosia trifida	Ambrosia trifida	Setaria faberi	Setaria faberi	Setaria faberi
Pest Name				Giant ragweed	Giant ragweed	Giant ragweed	Giant foxtail	Giant foxtail	Giant foxtail
Rating Timing									
Days After First/Last Applic.				52, 10	52, 10	52, 10	52, 10	52, 10	52, 10
Trt-Eval Interval									
Plant-Eval Interval				52 DP-1	52 DP-1	52 DP-1	52 DP-1	52 DP-1	52 DP-1
Days After Emergence				28 DE-1	28 DE-1	28 DE-1	28 DE-1	28 DE-1	28 DE-1
ARM Action Codes				AL	AL	AS T7	AL	AA	AL T8
Number of Decimals									
Data Entry Date				May-17-2024	May-17-2024		May-17-2024	May-17-2024	

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	21* dAL	22* dAL	23* dAS	24* dAL	25* dAA	26* dAL
1	Early Plant				1.0 -	0.7 -	2.1 -	0.7 -	0.6 -	1.5 -
	Fierce EZ	0.143	lb ai/a	A						
	AMSOL	2.5	% v/v	C						
	Roundup Powermax 3	1.12	lb ae/a	C						
	Enlist One	1	qt/a	C						
2	Early Plant				1.8 -	1.9 -	3.9 -	1.0 -	2.6 -	2.9 -
	Fierce EZ	0.143	lb ai/a	A						
	Metribuzin	0.188	lb ai/a	A						
3	Early Plant				1.1 -	1.1 -	2.4 -	1.1 -	0.4 -	1.5 -
	Fierce EZ	0.143	lb ai/a	A						
	Metribuzin	0.375	lb ai/a	A						
4	Early Plant				1.9 -	2.5 -	4.9 -	1.4 -	0.9 -	2.0 -
	Fierce EZ	0.143	lb ai/a	A						
	Metribuzin	0.56	lb ai/a	A						
5	Early Plant				0.6 -	0.9 -	1.5 -	0.8 -	1.8 -	2.9 -
	Fierce EZ	0.143	lb ai/a	A						
	Metribuzin	0.75	lb ai/a	A						
6	Early Plant				1.4 -	2.3 -	4.3 -	9.0 -	6.2 -	15.4 -
	Spartan	0.313	lb ai/a	A						
7	Early Plant				2.2 -	1.1 -	3.6 -	2.8 -	4.4 -	6.7 -
	Preview 2:1	0.6	lb ai/a	A						
8	Early Plant				1.1 -	1.6 -	3.1 -	11.3 -	5.1 -	15.7 -
	utc									
9	Normal Plant									
	Fierce EZ	0.19	lb ai/a	B						
10	Normal Plant									
	Fierce EZ	0.19	lb ai/a	B						
	Metribuzin	0.188	lb ai/a	B						

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
Mean separations are based on the complete error term.
t=Mean descriptions are reported in transformed data units, and are not de-transformed.
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. 42=3.3; 43,66=3; 44=1.8
* Adjusted means
Excluded replicate 2 in column 66
Could not calculate LSD (% mean diff) or mean separation letters for columns 10,36,45,46,47,66,84,85,86,99,100,101,108,109,110,115 because error variance is 0.
Mean separation letters are 'na' (not applicable) when error variance is 0
^Calculated from residual.
d=Means are reported in de-transformed data units

The Ohio State University

2024 USB Metribuzin Early Planted Soybean Trial

Trial ID: 24USBMETEARLYPL_3
Protocol ID: 24USBMETEARLYPL Location: Trial Year: 2024
Study Director: Sponsor Contact:
Investigator:

Assessed By						
Rating Date	May-16-2024	May-16-2024	May-16-2024	May-16-2024	May-16-2024	May-16-2024
Part Rated						
Rating Type	COUNT	COUNT	COUNT	COUNT	COUNT	COUNT
Rating Unit	0.25 m2	0.25 m2		0.25 m2	0.25 m2	
Rating Min/Max/Interval						
Sample Size	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis						
Reporting Basis						
Number of Subsamples	1	1	1	1	1	1
Crop Type, Code						
Crop Scientific Name						
Crop Name						
Pest Type	W, Weed	W, Weed	W, Weed	W, Weed	W, Weed	W, Weed
Pest Code	AMBTR	AMBTR	AMBTR	SETFA	SETFA	SETFA
Pest Scientific Name	Ambrosia trifida	Ambrosia trifida	Ambrosia trifida	Setaria faberi	Setaria faberi	Setaria faberi
Pest Name	Giant ragweed	Giant ragweed	Giant ragweed	Giant foxtail	Giant foxtail	Giant foxtail
Rating Timing						
Days After First/Last Applic.	52, 10	52, 10	52, 10	52, 10	52, 10	52, 10
Trt-Eval Interval						
Plant-Eval Interval	52 DP-1	52 DP-1	52 DP-1	52 DP-1	52 DP-1	52 DP-1
Days After Emergence	28 DE-1	28 DE-1	28 DE-1	28 DE-1	28 DE-1	28 DE-1
ARM Action Codes	AL	AL	AS T7	AL	AA	AL T8
Number of Decimals						
Data Entry Date	May-17-2024	May-17-2024		May-17-2024	May-17-2024	

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	21* dAL	22* dAL	23* dAS	24* dAL	25* dAA	26* dAL
11	Normal Plant									
	Fierce EZ	0.19	lb ai/a	B						
	Metribuzin	0.375	lb ai/a	B						
12	Normal Plant									
	Fierce EZ	0.19	lb ai/a	B						
	Metribuzin	0.56	lb ai/a	B						
13	Normal Plant									
	Fierce EZ	0.19	lb ai/a	B						
	Metribuzin	0.75	lb ai/a	B						
14	Normal Plant									
	Spartan	0.313	lb ai/a	B						
15	Normal Plant									
	Preview 2:1	0.6	lb ai/a	B						
16	Normal Plant									
	utc									
LSD P=.05					1.88 - 2.18	2.20 - 2.83	4.10 - 4.76	5.65 - 9.38	5.25 - 5.67	10.23 - 13.43
Standard Deviation					0.26t	0.29t	0.81t	0.43t	6.96t	0.48t
CV					70.11t	76.08t	42.19t	82.72t	79.72t	66.12t
Levene's F^					0.471	0.184	0.288	0.465	0.337	0.376
Levene's Prob(F)					0.846	0.986	0.952	0.85	0.929	0.907
Shapiro-Wilk^					0.9557	0.956	0.9251*	0.9344	0.9597	0.9549
P(Shapiro-Wilk)^					0.2088	0.2131	0.0286*	0.0519	0.269	0.1987
Skewness^					0.6509	0.463	0.895*	0.2834	0.6253	0.0512
P(Skewness)^					0.1434	0.2938	0.0475*	0.5182	0.1593	0.9067
Kurtosis^					1.0474	0.6128	0.5786	-1.1886	0.0211	-1.1003
P(Kurtosis)^					0.2254	0.4747	0.4995	0.1704	0.9803	0.2034
Analyzed as					RCB	RCB	RCB	RCB	RCB	RCB
Replicate F					1.520	0.400	0.532	0.662	0.413	0.403
Replicate Prob(F)					0.2385	0.7543	0.6652	0.5844	0.7452	0.7525
Treatment F					0.642	0.668	0.593	2.550	1.445	2.038
Treatment Prob(F)					0.7168	0.6966	0.7546	0.0456	0.2404	0.0978

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
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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. 42=3.3; 43,66=3; 44=1.8
* Adjusted means
Excluded replicate 2 in column 66
Could not calculate LSD (% mean diff) or mean separation letters for columns 10,36,45,46,47,66,84,85,86,99,100,101,108,109,110,115 because error variance is 0.
Mean separation letters are 'na' (not applicable) when error variance is 0
^Calculated from residual.
d=Means are reported in de-transformed data units

The Ohio State University

2024 USB Metribuzin Early Planted Soybean Trial

Trial ID: 24USBMETEARLYPL_3
Protocol ID: 24USBMETEARLYPL Location: Trial Year: 2024
Study Director: Sponsor Contact:
Investigator:

Assessed By								
Rating Date				May-16-2024	May-16-2024	May-16-2024	May-16-2024	May-16-2024
Part Rated								
Rating Type				COUNT	COUNT	COUNT	COUNT	COUNT
Rating Unit				0.25 m2	0.25 m2		0.25 m2	0.25 m2
Rating Min/Max/Interval								
Sample Size				1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis								
Reporting Basis								
Number of Subsamples				1	1	1	1	1
Crop Type, Code								
Crop Scientific Name								
Crop Name								
Pest Type				W, Weed	W, Weed	W, Weed	W, Weed	W, Weed
Pest Code				AMATU	AMATU	AMATU	CONAR	CONAR
Pest Scientific Name				Amaranthus tube>	Amaranthus tube>	Amaranthus tube>	Convolvulus arv>	Convolvulus arv>
Pest Name				tall waterhemp	tall waterhemp	tall waterhemp	Field bindweed	Field bindweed
Rating Timing								
Days After First/Last Applic.				52, 10	52, 10	52, 10	52, 10	52, 10
Trt-Eval Interval								
Plant-Eval Interval				52 DP-1	52 DP-1	52 DP-1	52 DP-1	52 DP-1
Days After Emergence				28 DE-1	28 DE-1	28 DE-1	28 DE-1	28 DE-1
ARM Action Codes				AL		AL T9		
Number of Decimals								
Data Entry Date				May-17-2024	May-17-2024		May-17-2024	May-17-2024
Trt No.	Treatment Name	Rate	Rate Unit / Appl Code	27* dAL	28*	29* dAL	30*	31*
1	Early Plant			0.4 c	0.0 b	0.4 c	0.8 -	0.5 -
	Fierce EZ	0.143	lb ai/a A					
	AMSOL	2.5	% v/v C					
	Roundup Powermax 3	1.12	lb ae/a C					
	Enlist One	1	qt/a C					
2	Early Plant			0.0 c	0.0 b	0.0 c	0.0 -	0.0 -
	Fierce EZ	0.143	lb ai/a A					
	Metribuzin	0.188	lb ai/a A					
3	Early Plant			0.2 c	0.0 b	0.2 c	0.8 -	0.5 -
	Fierce EZ	0.143	lb ai/a A					
	Metribuzin	0.375	lb ai/a A					
4	Early Plant			0.2 c	0.0 b	0.2 c	0.0 -	0.0 -
	Fierce EZ	0.143	lb ai/a A					
	Metribuzin	0.56	lb ai/a A					
5	Early Plant			0.0 c	0.0 b	0.0 c	1.3 -	0.5 -
	Fierce EZ	0.143	lb ai/a A					
	Metribuzin	0.75	lb ai/a A					
6	Early Plant			2.9 b	5.5 b	5.5 b	0.0 -	0.0 -
	Spartan	0.313	lb ai/a A					
7	Early Plant			0.0 c	0.0 b	0.0 c	0.0 -	0.0 -
	Preview 2:1	0.6	lb ai/a A					
8	Early Plant			19.1 a	17.5 a	36.0 a	1.0 -	0.5 -
	utc							
9	Normal Plant							
	Fierce EZ	0.19	lb ai/a B					
10	Normal Plant							
	Fierce EZ	0.19	lb ai/a B					
	Metribuzin	0.188	lb ai/a B					

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
Mean separations are based on the complete error term.
t=Mean descriptions are reported in transformed data units, and are not de-transformed.
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. 42=3.3; 43,66=3; 44=1.8
* Adjusted means
Excluded replicate 2 in column 66
Could not calculate LSD (% mean diff) or mean separation letters for columns 10,36,45,46,47,66,84,85,86,99,100,101,108,109,110,115 because error variance is 0.
Mean separation letters are 'na' (not applicable) when error variance is 0
^Calculated from residual.
d=Means are reported in de-transformed data units

The Ohio State University

2024 USB Metribuzin Early Planted Soybean Trial

Trial ID: 24USBMETEARLYPL_3
Protocol ID: 24USBMETEARLYPL Location: Trial Year: 2024
Study Director: Sponsor Contact:
Investigator:

Assessed By								
Rating Date				May-16-2024	May-16-2024	May-16-2024	May-16-2024	May-16-2024
Part Rated								
Rating Type				COUNT	COUNT	COUNT	COUNT	COUNT
Rating Unit				0.25 m2	0.25 m2		0.25 m2	0.25 m2
Rating Min/Max/Interval								
Sample Size				1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis								
Reporting Basis								
Number of Subsamples				1	1	1	1	1
Crop Type, Code								
Crop Scientific Name								
Crop Name								
Pest Type				W, Weed	W, Weed	W, Weed	W, Weed	W, Weed
Pest Code				AMATU	AMATU	AMATU	CONAR	CONAR
Pest Scientific Name				Amaranthus tube>	Amaranthus tube>	Amaranthus tube>	Convolvulus arv>	Convolvulus arv>
Pest Name				tall waterhemp	tall waterhemp	tall waterhemp	Field bindweed	Field bindweed
Rating Timing								
Days After First/Last Applic.				52, 10	52, 10	52, 10	52, 10	52, 10
Trt-Eval Interval								
Plant-Eval Interval				52 DP-1	52 DP-1	52 DP-1	52 DP-1	52 DP-1
Days After Emergence				28 DE-1	28 DE-1	28 DE-1	28 DE-1	28 DE-1
ARM Action Codes				AL		AL T9		
Number of Decimals								
Data Entry Date				May-17-2024	May-17-2024		May-17-2024	May-17-2024
Trt No. Treatment Name	Rate	Rate Unit	Appl Code	27* dAL	28*	29* dAL	30*	31*
11 Normal Plant								
Fierce EZ	0.19	lb ai/a	B					
Metribuzin	0.375	lb ai/a	B					
12 Normal Plant								
Fierce EZ	0.19	lb ai/a	B					
Metribuzin	0.56	lb ai/a	B					
13 Normal Plant								
Fierce EZ	0.19	lb ai/a	B					
Metribuzin	0.75	lb ai/a	B					
14 Normal Plant								
Spartan	0.313	lb ai/a	B					
15 Normal Plant								
Preview 2:1	0.6	lb ai/a	B					
16 Normal Plant								
utc								
LSD P=.05				1.16 - 9.95	7.47	1.54 - 20.86	1.94	0.96
Standard Deviation				0.20t	5.08	0.24t	1.32	0.65
CV				73.51t	176.62	73.05t	281.85	261.86
Levene's F^				1.001	2.986*	1.768	0.30	0.268
Levene's Prob(F)				0.454	0.021*	0.141	0.947	0.961
Shapiro-Wilk^				0.9128*	0.7654*	0.8835*	0.8762*	0.894*
P(Shapiro-Wilk)^				0.0133*	0.0*	0.0024*	0.0016*	0.0044*
Skewness^				-1.0945*	1.6946*	-1.1862*	1.1976*	0.9898*
P(Skewness)^				0.0169*	0.0005*	0.0102*	0.0096*	0.0295*
Kurtosis^				2.7603*	8.019*	4.6188*	1.4447	1.1284
P(Kurtosis)^				0.0027*	0.0*	0.0*	0.098	0.1924
Analyzed as				RCB	RCB	RCB	RCB	RCB
Replicate F				1.236	0.524	1.025	1.450	2.333
Replicate Prob(F)				0.3215	0.6708	0.4016	0.2567	0.1032
Treatment F				20.812	5.992	21.473	0.632	0.667
Treatment Prob(F)				0.0001	0.0006	0.0001	0.7246	0.6976

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Due to missing data, the effective replicates used for mean comparisons are: col. 42=3.3; 43,66=3; 44=1.8
* Adjusted means
Excluded replicate 2 in column 66
Could not calculate LSD (% mean diff) or mean separation letters for columns 10,36,45,46,47,66,84,85,86,99,100,101,108,109,110,115 because error variance is 0.
Mean separation letters are 'na' (not applicable) when error variance is 0
^Calculated from residual.
d=Means are reported in de-transformed data units

The Ohio State University

2024 USB Metribuzin Early Planted Soybean Trial

Trial ID: 24USBMETEARLYPL_3
Protocol ID: 24USBMETEARLYPL Location: Trial Year: 2024
Study Director: Sponsor Contact:
Investigator:

Assessed By								
Rating Date				May-16-2024	May-16-2024	May-16-2024	May-16-2024	May-16-2024
Part Rated								
Rating Type				COUNT	COUNT	COUNT	COUNT	COUNT
Rating Unit					0.25 m2	0.25 m2		0.25 m2
Rating Min/Max/Interval								
Sample Size				1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis								
Reporting Basis								
Number of Subsamples				1	1	1	1	1
Crop Type, Code								
Crop Scientific Name								
Crop Name								
Pest Type				W, Weed	W, Weed	W, Weed	W, Weed	W, Weed
Pest Code				CONAR	CIRAR	CIRAR	CIRAR	CHEAL
Pest Scientific Name				Convolvulus arv>	Cirsium arvense	Cirsium arvense	Cirsium arvense	Chenopodium alb>
Pest Name				Field bindweed	Californian thi>	Californian thi>	Californian thi>	common lambsqua>
Rating Timing								
Days After First/Last Applic.				52, 10	52, 10	52, 10	52, 10	52, 10
Trt-Eval Interval								
Plant-Eval Interval				52 DP-1	52 DP-1	52 DP-1	52 DP-1	52 DP-1
Days After Emergence				28 DE-1	28 DE-1	28 DE-1	28 DE-1	28 DE-1
ARM Action Codes				T10			T11	ET8
Number of Decimals								
Data Entry Date					May-17-2024	May-17-2024		May-17-2024
Trt No.	Treatment Name	Rate	Rate Unit / Appl Code	32*	33*	34*	35*	36*
1	Early Plant			1.3 -	0.0 -	0.3 -	0.3 -	0.0 na
	Fierce EZ	0.143	lb ai/a A					
	AMSOL	2.5	% v/v C					
	Roundup Powermax 3	1.12	lb ae/a C					
	Enlist One	1	qt/a C					
2	Early Plant			0.0 -	0.0 -	0.0 -	0.0 -	0.0 na
	Fierce EZ	0.143	lb ai/a A					
	Metribuzin	0.188	lb ai/a A					
3	Early Plant			1.3 -	0.0 -	0.0 -	0.0 -	0.0 na
	Fierce EZ	0.143	lb ai/a A					
	Metribuzin	0.375	lb ai/a A					
4	Early Plant			0.0 -	1.0 -	1.3 -	2.3 -	0.0 na
	Fierce EZ	0.143	lb ai/a A					
	Metribuzin	0.56	lb ai/a A					
5	Early Plant			1.8 -	0.0 -	0.0 -	0.0 -	0.0 na
	Fierce EZ	0.143	lb ai/a A					
	Metribuzin	0.75	lb ai/a A					
6	Early Plant			0.0 -	0.0 -	0.0 -	0.0 -	0.0 na
	Spartan	0.313	lb ai/a A					
7	Early Plant			0.0 -	0.8 -	1.0 -	1.8 -	0.0 na
	Preview 2:1	0.6	lb ai/a A					
8	Early Plant			1.5 -	0.5 -	0.3 -	0.8 -	4.0
	utc							
9	Normal Plant							
	Fierce EZ	0.19	lb ai/a B					
10	Normal Plant							
	Fierce EZ	0.19	lb ai/a B					
	Metribuzin	0.188	lb ai/a B					

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
Mean separations are based on the complete error term.
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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. 42=3.3; 43,66=3; 44=1.8
* Adjusted means
Excluded replicate 2 in column 66
Could not calculate LSD (% mean diff) or mean separation letters for columns 10,36,45,46,47,66,84,85,86,99,100,101,108,109,110,115 because error variance is 0.
Mean separation letters are 'na' (not applicable) when error variance is 0
^Calculated from residual.
d=Means are reported in de-transformed data units

The Ohio State University

2024 USB Metribuzin Early Planted Soybean Trial

Trial ID: 24USBMETEARLYPL_3
Protocol ID: 24USBMETEARLYPL Location: Trial Year: 2024
Study Director: Sponsor Contact:
Investigator:

Assessed By								
Rating Date				May-16-2024	May-16-2024	May-16-2024	May-16-2024	May-16-2024
Part Rated								
Rating Type				COUNT	COUNT	COUNT	COUNT	COUNT
Rating Unit					0.25 m2	0.25 m2		0.25 m2
Rating Min/Max/Interval								
Sample Size				1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis								
Reporting Basis								
Number of Subsamples				1	1	1	1	1
Crop Type, Code								
Crop Scientific Name								
Crop Name								
Pest Type				W, Weed	W, Weed	W, Weed	W, Weed	W, Weed
Pest Code				CONAR	CIRAR	CIRAR	CIRAR	CHEAL
Pest Scientific Name				Convolvulus arv>	Cirsium arvense	Cirsium arvense	Cirsium arvense	Chenopodium alb>
Pest Name				Field bindweed	Californian thi>	Californian thi>	Californian thi>	common lambsqua>
Rating Timing								
Days After First/Last Applic.				52, 10	52, 10	52, 10	52, 10	52, 10
Trt-Eval Interval								
Plant-Eval Interval				52 DP-1	52 DP-1	52 DP-1	52 DP-1	52 DP-1
Days After Emergence				28 DE-1	28 DE-1	28 DE-1	28 DE-1	28 DE-1
ARM Action Codes				T10			T11	ET8
Number of Decimals								
Data Entry Date					May-17-2024	May-17-2024		May-17-2024
Trt No. / Treatment Name	Rate	Rate Unit	Appl Code	32*	33*	34*	35*	36*
11 Normal Plant								
Fierce EZ	0.19	lb ai/a	B					
Metribuzin	0.375	lb ai/a	B					
12 Normal Plant								
Fierce EZ	0.19	lb ai/a	B					
Metribuzin	0.56	lb ai/a	B					
13 Normal Plant								
Fierce EZ	0.19	lb ai/a	B					
Metribuzin	0.75	lb ai/a	B					
14 Normal Plant								
Spartan	0.313	lb ai/a	B					
15 Normal Plant								
Preview 2:1	0.6	lb ai/a	B					
16 Normal Plant								
utc								
LSD P=.05				2.66	1.36	1.55	2.48	.
Standard Deviation				1.81	0.92	1.06	1.69	0.00
CV				251.57	328.32	307.12	269.89	0.0
Levene's F^				0.357	0.705	0.342	0.64	.
Levene's Prob(F)				0.918	0.668	0.927	0.719	.
Shapiro-Wilk^				0.8675*	0.7999*	0.8361*	0.8264*	.
P(Shapiro-Wilk)^				0.001*	0.0*	0.0002*	0.0001*	.
Skewness^				1.2698*	1.9482*	1.3269*	1.8565*	.
P(Skewness)^				0.0063*	0.0*	0.0045*	0.0002*	.
Kurtosis^				2.1734*	5.5611*	3.0961*	7.0175*	.
P(Kurtosis)^				0.0153*	0.0*	0.0009*	0.0*	.
Analyzed as				RCB	RCB	RCB	RCB	RCB
Replicate F				1.692	0.721	2.645	2.021	NaN
Replicate Prob(F)				0.1993	0.5508	0.0757	0.1418	NaN
Treatment F				0.752	0.791	0.893	1.130	NaN
Treatment Prob(F)				0.6319	0.6032	0.5293	0.3823	NaN

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
Mean separations are based on the complete error term.
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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. 42=3.3; 43,66=3; 44=1.8
* Adjusted means
Excluded replicate 2 in column 66
Could not calculate LSD (% mean diff) or mean separation letters for columns 10,36,45,46,47,66,84,85,86,99,100,101,108,109,110,115 because error variance is 0.
Mean separation letters are 'na' (not applicable) when error variance is 0
^Calculated from residual.
d=Means are reported in de-transformed data units

The Ohio State University

2024 USB Metribuzin Early Planted Soybean Trial

Trial ID: 24USBMETEARLYPL_3
Protocol ID: 24USBMETEARLYPL Location: Trial Year: 2024
Study Director: Sponsor Contact:
Investigator:

Assessed By								
Rating Date				May-16-2024	May-16-2024	May-16-2024	May-16-2024	May-31-2024
Part Rated								
Rating Type				COUNT	COUNT	PHYDEF	CONTRO	STAOBJ
Rating Unit				0.25 m2		%	%	/acre
Rating Min/Max/Interval						0, 100, -	0, 100, -	
Sample Size				1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis								
Reporting Basis								
Number of Subsamples				1	1	1	1	1
Crop Type, Code						C, GLXMA	C, GLXMA	C, GLXMA
Crop Scientific Name						Glycine max	Glycine max	Glycine max
Crop Name						Soybean	Soybean	Soybean
Pest Type				W, Weed	W, Weed			
Pest Code				CHEAL	CHEAL			
Pest Scientific Name				Chenopodium alb>	Chenopodium alb>			
Pest Name				common lambsqua>	common lambsqua>			
Rating Timing								AT POST
Days After First/Last Applic.				52, 10	52, 10	52, 10	52, 10	67, 1
Trt-Eval Interval								
Plant-Eval Interval				52 DP-1	52 DP-1	52 DP-1	52 DP-1	67 DP-1
Days After Emergence				28 DE-1	28 DE-1	28 DE-1	28 DE-1	43 DE-1
ARM Action Codes				AL	AL T12	AS		
Number of Decimals								
Data Entry Date				May-17-2024		May-17-2024	May-17-2024	May-31-2024
Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	37* dAL	38* dAL	39* dAS	40*	41*

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	37* dAL	38* dAL	39* dAS	40*	41*
1	Early Plant				0.2 b	0.2 b	3.7 bc	88.8 a	82750.0 -
	Fierce EZ	0.143	lb ai/a	A					
	AMSOL	2.5	% v/v	C					
	Roundup Powermax 3	1.12	lb ae/a	C					
	Enlist One	1	qt/a	C					
2	Early Plant				0.0 b	0.0 b	9.8 a	94.3 a	72500.0 -
	Fierce EZ	0.143	lb ai/a	A					
	Metribuzin	0.188	lb ai/a	A					
3	Early Plant				0.0 b	0.0 b	3.6 bc	94.8 a	89500.0 -
	Fierce EZ	0.143	lb ai/a	A					
	Metribuzin	0.375	lb ai/a	A					
4	Early Plant				0.0 b	0.0 b	5.2 bc	85.0 a	76000.0 -
	Fierce EZ	0.143	lb ai/a	A					
	Metribuzin	0.56	lb ai/a	A					
5	Early Plant				0.0 b	0.0 b	6.2 ab	95.8 a	94500.0 -
	Fierce EZ	0.143	lb ai/a	A					
	Metribuzin	0.75	lb ai/a	A					
6	Early Plant				0.0 b	0.0 b	1.6 c	65.0 a	89250.0 -
	Spartan	0.313	lb ai/a	A					
7	Early Plant				0.0 b	0.0 b	2.5 bc	80.0 a	88000.0 -
	Preview 2:1	0.6	lb ai/a	A					
8	Early Plant				7.1 a	11.1 a	0.0 d	5.0 b	84250.0 -
	utc								
9	Normal Plant								
	Fierce EZ	0.19	lb ai/a	B					
10	Normal Plant								
	Fierce EZ	0.19	lb ai/a	B					
	Metribuzin	0.188	lb ai/a	B					

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
Mean separations are based on the complete error term.
t=Mean descriptions are reported in transformed data units, and are not de-transformed.
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. 42=3.3; 43,66=3; 44=1.8
* Adjusted means
Excluded replicate 2 in column 66
Could not calculate LSD (% mean diff) or mean separation letters for columns 10,36,45,46,47,66,84,85,86,99,100,101,108,109,110,115 because error variance is 0.
Mean separation letters are 'na' (not applicable) when error variance is 0
^Calculated from residual.
d=Means are reported in de-transformed data units

The Ohio State University

2024 USB Metribuzin Early Planted Soybean Trial

Trial ID: 24USBMETEARLYPL_3
Protocol ID: 24USBMETEARLYPL Location: Trial Year: 2024
Study Director: Sponsor Contact:
Investigator:

Assessed By								
Rating Date				May-16-2024	May-16-2024	May-16-2024	May-16-2024	May-31-2024
Part Rated								
Rating Type				COUNT	COUNT	PHYDEF	CONTRO	STAOBJ
Rating Unit				0.25 m2		%	%	/acre
Rating Min/Max/Interval						0, 100, -	0, 100, -	
Sample Size				1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis								
Reporting Basis								
Number of Subsamples				1	1	1	1	1
Crop Type, Code						C, GLXMA	C, GLXMA	C, GLXMA
Crop Scientific Name						Glycine max	Glycine max	Glycine max
Crop Name						Soybean	Soybean	Soybean
Pest Type				W, Weed	W, Weed			
Pest Code				CHEAL	CHEAL			
Pest Scientific Name				Chenopodium alb>	Chenopodium alb>			
Pest Name				common lambsqua>	common lambsqua>			
Rating Timing								AT POST
Days After First/Last Applic.				52, 10	52, 10	52, 10	52, 10	67, 1
Trt-Eval Interval								
Plant-Eval Interval				52 DP-1	52 DP-1	52 DP-1	52 DP-1	67 DP-1
Days After Emergence				28 DE-1	28 DE-1	28 DE-1	28 DE-1	43 DE-1
ARM Action Codes				AL	AL T12	AS		
Number of Decimals								
Data Entry Date				May-17-2024		May-17-2024	May-17-2024	May-31-2024
Trt No. Treatment Name	Rate	Rate Unit	Appl Code	37* dAL	38* dAL	39* dAS	40*	41*
11 Normal Plant								
Fierce EZ	0.19	lb ai/a	B					
Metribuzin	0.375	lb ai/a	B					
12 Normal Plant								
Fierce EZ	0.19	lb ai/a	B					
Metribuzin	0.56	lb ai/a	B					
13 Normal Plant								
Fierce EZ	0.19	lb ai/a	B					
Metribuzin	0.75	lb ai/a	B					
14 Normal Plant								
Spartan	0.313	lb ai/a	B					
15 Normal Plant								
Preview 2:1	0.6	lb ai/a	B					
16 Normal Plant								
utc								
LSD P=.05				0.33 - 1.78	0.32 - 2.57	2.31 - 3.73	25.44	17619.56
Standard Deviation				0.07t	0.07t	0.44t	17.30	11981.94
CV				58.94t	48.76t	21.78t	22.75	14.16
Levene's F^				0.978	1.285	0.785	0.875	0.805
Levene's Prob(F)				0.47	0.299	0.607	0.54	0.591
Shapiro-Wilk^				0.905*	0.7975*	0.9693	0.8082*	0.9475
P(Shapiro-Wilk)^				0.0083*	0.0*	0.4804	0.0*	0.122
Skewness^				0.1236	1.7674*	-0.2895	-2.1141*	-0.5105
P(Skewness)^				0.7774	0.0003*	0.5093	0.0*	0.2481
Kurtosis^				3.5471*	5.5263*	-0.6393	9.2014*	-0.4232
P(Kurtosis)^				0.0002*	0.0*	0.456	0.0*	0.6208
Analyzed as				RCB	RCB	RCB	RCB	RCB
Replicate F				1.709	0.763	2.313	0.502	0.187
Replicate Prob(F)				0.1958	0.5273	0.1053	0.6851	0.9044
Treatment F				77.273	115.904	11.764	12.401	1.509
Treatment Prob(F)				0.0001	0.0001	0.0001	0.0001	0.2182

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Due to missing data, the effective replicates used for mean comparisons are: col. 42=3.3; 43,66=3; 44=1.8
* Adjusted means
Excluded replicate 2 in column 66
Could not calculate LSD (% mean diff) or mean separation letters for columns 10,36,45,46,47,66,84,85,86,99,100,101,108,109,110,115 because error variance is 0.
Mean separation letters are 'na' (not applicable) when error variance is 0
^Calculated from residual.
d=Means are reported in de-transformed data units

The Ohio State University

2024 USB Metribuzin Early Planted Soybean Trial

Trial ID: 24USBMETEARLYPL_3
Protocol ID: 24USBMETEARLYPL Location: Trial Year: 2024
Study Director: Sponsor Contact:
Investigator:

Assessed By								
Rating Date				May-31-2024	May-31-2024	May-31-2024	May-31-2024	May-31-2024
Part Rated								
Rating Type				BIOMAS	BIOMAS	BIOMAS	BIOMAS	BIOMAS
Rating Unit				g	g	g	g	g
Rating Min/Max/Interval								
Sample Size				1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis								
Reporting Basis								
Number of Subsamples				1	1	1	1	1
Crop Type, Code								
Crop Scientific Name								
Crop Name								
Pest Type				W, Weed	W, Weed	W, Weed	W, Weed	W, Weed
Pest Code				AMBTR	1GRAF	AMATU	CONAR	CIRAR
Pest Scientific Name				Ambrosia trifida	Poaceae	Amaranthus tube>	Convolvulus arv>	Cirsium arvense
Pest Name				Giant ragweed	Grasses	tall waterhemp	Field bindweed	Californian thi>
Rating Timing				AT POST	AT POST	AT POST	AT POST	AT POST
Days After First/Last Applic.				67, 1	67, 1	67, 1	67, 1	67, 1
Trt-Eval Interval								
Plant-Eval Interval				67 DP-1	67 DP-1	67 DP-1	67 DP-1	67 DP-1
Days After Emergence				43 DE-1	43 DE-1	43 DE-1	43 DE-1	43 DE-1
ARM Action Codes				AS	AL	AS	AS	
Number of Decimals								
Data Entry Date				Jun-5-2024	Jun-5-2024	Jun-5-2024	Jun-5-2024	Jun-5-2024
Trt No.	Treatment Name	Rate	Rate Unit / Appl Code	42* dAS	43* dAL	44* dAS	45 dAS	46
1	Early Plant			13.94580 -	2.43995 -	0.58622 b	12.560	26.960
	Fierce EZ	0.143	lb ai/a A					
	AMSOL	2.5	% v/v C					
	Roundup Powermax 3	1.12	lb ae/a C					
	Enlist One	1	qt/a C					
2	Early Plant			14.83923 -	1.19351 -	0.00000 b	2.860	
	Fierce EZ	0.143	lb ai/a A					
	Metribuzin	0.188	lb ai/a A					
3	Early Plant			7.25716 -	1.27468 -	0.49148 b	6.890	
	Fierce EZ	0.143	lb ai/a A					
	Metribuzin	0.375	lb ai/a A					
4	Early Plant			9.74397 -	0.47049 -	0.00000 b		39.670
	Fierce EZ	0.143	lb ai/a A					
	Metribuzin	0.56	lb ai/a A					
5	Early Plant			2.78507 -	1.37134 -		35.020	
	Fierce EZ	0.143	lb ai/a A					
	Metribuzin	0.75	lb ai/a A					
6	Early Plant			12.11062 -	3.92798 -	3.88875 ab		
	Spartan	0.313	lb ai/a A					
7	Early Plant			11.01253 -	2.28414 -	1.22681 b		20.740
	Preview 2:1	0.6	lb ai/a A					
8	Early Plant			9.29759 -	3.63870 -	9.17343 a	6.579	39.930
	utc							
9	Normal Plant							
	Fierce EZ	0.19	lb ai/a B					
10	Normal Plant							
	Fierce EZ	0.19	lb ai/a B					
	Metribuzin	0.188	lb ai/a B					

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Due to missing data, the effective replicates used for mean comparisons are: col. 42=3.3; 43,66=3; 44=1.8
* Adjusted means
Excluded replicate 2 in column 66
Could not calculate LSD (% mean diff) or mean separation letters for columns 10,36,45,46,47,66,84,85,86,99,100,101,108,109,110,115 because error variance is 0.
Mean separation letters are 'na' (not applicable) when error variance is 0
^Calculated from residual.
d=Means are reported in de-transformed data units

The Ohio State University

2024 USB Metribuzin Early Planted Soybean Trial

Trial ID: 24USBMETEARLYPL_3
Protocol ID: 24USBMETEARLYPL Location: Trial Year: 2024
Study Director: Sponsor Contact:
Investigator:

Assessed By								
Rating Date				May-31-2024	May-31-2024	May-31-2024	May-31-2024	May-31-2024
Part Rated								
Rating Type				BIOMAS	BIOMAS	BIOMAS	BIOMAS	BIOMAS
Rating Unit				g	g	g	g	g
Rating Min/Max/Interval								
Sample Size				1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis								
Reporting Basis								
Number of Subsamples				1	1	1	1	1
Crop Type, Code								
Crop Scientific Name								
Crop Name								
Pest Type				W, Weed	W, Weed	W, Weed	W, Weed	W, Weed
Pest Code				AMBTR	1GRAF	AMATU	CONAR	CIRAR
Pest Scientific Name				Ambrosia trifida	Poaceae	Amaranthus tube>	Convolvulus arv>	Cirsium arvense
Pest Name				Giant ragweed	Grasses	tall waterhemp	Field bindweed	Californian thi>
Rating Timing				AT POST	AT POST	AT POST	AT POST	AT POST
Days After First/Last Applic.				67, 1	67, 1	67, 1	67, 1	67, 1
Trt-Eval Interval								
Plant-Eval Interval				67 DP-1	67 DP-1	67 DP-1	67 DP-1	67 DP-1
Days After Emergence				43 DE-1	43 DE-1	43 DE-1	43 DE-1	43 DE-1
ARM Action Codes				AS	AL	AS	AS	
Number of Decimals								
Data Entry Date				Jun-5-2024	Jun-5-2024	Jun-5-2024	Jun-5-2024	Jun-5-2024
Trt No. Treatment Name	Rate	Rate Unit	Appl Code	42* dAS	43* dAL	44* dAS	45 dAS	46
11 Normal Plant								
Fierce EZ	0.19	lb ai/a	B					
Metribuzin	0.375	lb ai/a	B					
12 Normal Plant								
Fierce EZ	0.19	lb ai/a	B					
Metribuzin	0.56	lb ai/a	B					
13 Normal Plant								
Fierce EZ	0.19	lb ai/a	B					
Metribuzin	0.75	lb ai/a	B					
14 Normal Plant								
Spartan	0.313	lb ai/a	B					
15 Normal Plant								
Preview 2:1	0.6	lb ai/a	B					
16 Normal Plant								
utc								
LSD P=.05				14.344773 - 19.104719	3.665211 - 4.268134	2.123247 - 4.192747	.	.
Standard Deviation				1.947505t	0.392357t	0.444524t	.	.
CV				59.78t	79.77t	23.57t	.	.
Levene's F^				0.516	0.758	1.105	.	.
Levene's Prob(F)				0.812	0.629	0.429	.	.
Shapiro-Wilk^				0.9383	0.9481	0.9742	.	.
P(Shapiro-Wilk)^				0.1106	0.2097	0.9014	.	.
Skewness^				0.5668	0.6272	-0.2611	.	.
P(Skewness)^				0.241	0.2045	0.6777	.	.
Kurtosis^				-0.7481	0.5814	-0.0874	.	.
P(Kurtosis)^				0.4234	0.5405	0.9425	.	.
Analyzed as				RCB	RCB	RCB	SPP	SPP
Replicate F				0.398	0.287	2.655		
Replicate Prob(F)				0.7562	0.8338	0.1426		
Treatment F				0.420	0.556	8.922		
Treatment Prob(F)				0.8758	0.7798	0.0088		

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Due to missing data, the effective replicates used for mean comparisons are: col. 42=3.3; 43,66=3; 44=1.8
* Adjusted means
Excluded replicate 2 in column 66
Could not calculate LSD (% mean diff) or mean separation letters for columns 10,36,45,46,47,66,84,85,86,99,100,101,108,109,110,115 because error variance is 0.
Mean separation letters are 'na' (not applicable) when error variance is 0
^Calculated from residual.
d=Means are reported in de-transformed data units

The Ohio State University

2024 USB Metribuzin Early Planted Soybean Trial

Trial ID: 24USBMETEARLYPL_3
Protocol ID: 24USBMETEARLYPL Location: Trial Year: 2024
Study Director: Sponsor Contact:
Investigator:

Assessed By									
Rating Date				May-31-2024	May-31-2024	May-31-2024	May-31-2024	May-31-2024	May-31-2024
Part Rated									
Rating Type				BIOMAS	CONTRO	CONTRO	PHYDEF	COUPLA	COUPLA
Rating Unit				g	%	%	%	0.25 m2	0.25 m2
Rating Min/Max/Interval					0, 100, -	0, 100, -	0, 100, -		
Sample Size				1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis									
Reporting Basis									
Number of Subsamples				1	1	1	1	1	1
Crop Type, Code									
Crop Scientific Name									
Crop Name									
Pest Type				W, Weed	W, Weed	W, Weed	W, Weed	W, Weed	W, Weed
Pest Code				CHEAL				AMBTR	AMBTR
Pest Scientific Name				Chenopodium alb>				Ambrosia trifida	Ambrosia trifida
Pest Name				common lambsqua>				Giant ragweed	Giant ragweed
Rating Timing				AT POST	AT POST	14 DAT	14 DAT	ATPOST/14DAT	ATPOST/14DAT
Days After First/Last Applic.				67, 1	67, 1	67, 1	67, 1	67, 1	67, 1
Trt-Eval Interval						25 DA-B	25 DA-B		
Plant-Eval Interval				67 DP-1	67 DP-1	67 DP-1	67 DP-1	67 DP-1	67 DP-1
Days After Emergence				43 DE-1	43 DE-1	43 DE-1	43 DE-1	43 DE-1	43 DE-1
ARM Action Codes							ET11	AA	AA
Number of Decimals									
Data Entry Date				Jun-5-2024	Jun-5-2024	Jun-5-2024	Jun-5-2024	Jun-5-2024	Jun-5-2024
Trt No.	Treatment Name	Rate	Rate Unit / Appl Code	47	48*	49*	50*	51* dAA	52* dAA
1	Early Plant				77.5 a			2.4 -	1.6 -
	Fierce EZ	0.143	lb ai/a A						
	AMSOL	2.5	% v/v C						
	Roundup Powermax 3	1.12	lb ae/a C						
	Enlist One	1	qt/a C						
2	Early Plant				77.3 a			2.3 -	0.7 -
	Fierce EZ	0.143	lb ai/a A						
	Metribuzin	0.188	lb ai/a A						
3	Early Plant				83.3 a			2.2 -	1.0 -
	Fierce EZ	0.143	lb ai/a A						
	Metribuzin	0.375	lb ai/a A						
4	Early Plant				75.0 a			4.0 -	2.3 -
	Fierce EZ	0.143	lb ai/a A						
	Metribuzin	0.56	lb ai/a A						
5	Early Plant				81.3 a			0.5 -	0.3 -
	Fierce EZ	0.143	lb ai/a A						
	Metribuzin	0.75	lb ai/a A						
6	Early Plant				40.0 b			2.2 -	1.1 -
	Spartan	0.313	lb ai/a A						
7	Early Plant				66.3 a			2.0 -	2.4 -
	Preview 2:1	0.6	lb ai/a A						
8	Early Plant			2.23940	0.0 c			1.8 -	0.6 -
	utc								
9	Normal Plant					96.8 a	27.5 a	0.1 -	0.4 -
	Fierce EZ	0.19	lb ai/a B						
10	Normal Plant					94.5 a	28.8 a	0.1 -	0.1 -
	Fierce EZ	0.19	lb ai/a B						
	Metribuzin	0.188	lb ai/a B						

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
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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. 42=3.3; 43,66=3; 44=1.8
* Adjusted means
Excluded replicate 2 in column 66
Could not calculate LSD (% mean diff) or mean separation letters for columns 10,36,45,46,47,66,84,85,86,99,100,101,108,109,110,115 because error variance is 0.
Mean separation letters are 'na' (not applicable) when error variance is 0
^Calculated from residual.
d=Means are reported in de-transformed data units

The Ohio State University

2024 USB Metribuzin Early Planted Soybean Trial

Trial ID: 24USBMETEARLYPL_3
Protocol ID: 24USBMETEARLYPL Location: Trial Year: 2024
Study Director: Sponsor Contact:
Investigator:

Assessed By						
Rating Date	May-31-2024	May-31-2024	May-31-2024	May-31-2024	May-31-2024	May-31-2024
Part Rated						
Rating Type	BIOMAS	CONTRO	CONTRO	PHYDEF	COUPLA	COUPLA
Rating Unit	g	%	%	%	0.25 m2	0.25 m2
Rating Min/Max/Interval		0, 100, -	0, 100, -	0, 100, -		
Sample Size	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis						
Reporting Basis						
Number of Subsamples	1	1	1	1	1	1
Crop Type, Code						
Crop Scientific Name						
Crop Name						
Pest Type	W, Weed	W, Weed	W, Weed	W, Weed	W, Weed	W, Weed
Pest Code	CHEAL				AMBTR	AMBTR
Pest Scientific Name	Chenopodium alb>				Ambrosia trifida	Ambrosia trifida
Pest Name	common lambsqua>				Giant ragweed	Giant ragweed
Rating Timing	AT POST	AT POST	14 DAT	14 DAT	ATPOST/14DAT	ATPOST/14DAT
Days After First/Last Applic.	67, 1	67, 1	67, 1	67, 1	67, 1	67, 1
Trt-Eval Interval			25 DA-B	25 DA-B		
Plant-Eval Interval	67 DP-1	67 DP-1	67 DP-1	67 DP-1	67 DP-1	67 DP-1
Days After Emergence	43 DE-1	43 DE-1	43 DE-1	43 DE-1	43 DE-1	43 DE-1
ARM Action Codes				ET11	AA	AA
Number of Decimals						
Data Entry Date	Jun-5-2024	Jun-5-2024	Jun-5-2024	Jun-5-2024	Jun-5-2024	Jun-5-2024

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	47	48*	49*	50*	51* dAA	52* dAA
11	Normal Plant						98.8 a	28.8	0.3 -	0.1 -
	Fierce EZ	0.19	lb ai/a	B						
	Metribuzin	0.375	lb ai/a	B						
12	Normal Plant						97.3 a	31.3 a	0.3 -	1.2 -
	Fierce EZ	0.19	lb ai/a	B						
	Metribuzin	0.56	lb ai/a	B						
13	Normal Plant						96.0 a	35.0 a	0.3 -	0.1 -
	Fierce EZ	0.19	lb ai/a	B						
	Metribuzin	0.75	lb ai/a	B						
14	Normal Plant						91.0 a	10.0 b	1.0 -	1.7 -
	Spartan	0.313	lb ai/a	B						
15	Normal Plant						94.8 a	8.8 b	1.1 -	0.9 -
	Preview 2:1	0.6	lb ai/a	B						
16	Normal Plant						0.0 b	0.0 c	1.1 -	1.6 -
	utc									
LSD P=.05					.	20.22	5.41	7.89	2.01 - 3.35	2.39 - 2.78
Standard Deviation					.	13.75	3.68	5.31	4.81t	5.80t
CV					.	21.98	4.4	26.31	80.68t	111.99t
Levene's F^					.	2.344	1.536	1.626	0.68	2.015*
Levene's Prob(F)					.	0.057	0.203	0.189	0.79	0.034*
Shapiro-Wilk^					.	0.9347	0.9481	0.991	0.9823	0.976
P(Shapiro-Wilk)^					.	0.0529	0.1269	0.9963	0.4877	0.2464
Skewness^					.	-0.8104	-0.5251	-0.0853	0.091	0.4018
P(Skewness)^					.	0.0711	0.235	0.8554	0.7673	0.1943
Kurtosis^					.	3.3055*	1.0943	-0.0159	0.4099	0.7054
P(Kurtosis)^					.	0.0005*	0.2058	0.9861	0.5	0.2475
Analyzed as					SPP	RCB	RCB	RCB	RCB	RCB
Replicate F						0.597	0.719	2.651	1.223	1.082
Replicate Prob(F)						0.6241	0.5517	0.0799	0.3123	0.3665
Treatment F						17.548	338.376	26.282	1.648	0.750
Treatment Prob(F)						0.0001	0.0001	0.0001	0.0985	0.7219

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
Mean separations are based on the complete error term.
t=Mean descriptions are reported in transformed data units, and are not de-transformed.
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. 42=3.3; 43,66=3; 44=1.8
* Adjusted means
Excluded replicate 2 in column 66
Could not calculate LSD (% mean diff) or mean separation letters for columns 10,36,45,46,47,66,84,85,86,99,100,101,108,109,110,115 because error variance is 0.
Mean separation letters are 'na' (not applicable) when error variance is 0
^Calculated from residual.
d=Means are reported in de-transformed data units

The Ohio State University

2024 USB Metribuzin Early Planted Soybean Trial

Trial ID: 24USBMETEARLYPL_3
Protocol ID: 24USBMETEARLYPL Location: Trial Year: 2024
Study Director: Sponsor Contact:
Investigator:

Assessed By								
Rating Date				May-31-2024	May-31-2024	May-31-2024	May-31-2024	May-31-2024
Part Rated								
Rating Type				COUPLA	COUPLA	COUPLA	COUPLA	COUPLA
Rating Unit					0.25 m2	0.25 m2		0.25 m2
Rating Min/Max/Interval								
Sample Size				2 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis								
Reporting Basis								
Number of Subsamples				1	1	1	1	1
Crop Type, Code								
Crop Scientific Name								
Crop Name								
Pest Type				W, Weed	W, Weed	W, Weed	W, Weed	W, Weed
Pest Code				AMBTR	AMATU	AMATU	AMATU	CIRAR
Pest Scientific Name				Ambrosia trifida	Amaranthus tube>	Amaranthus tube>	Amaranthus tube>	Cirsium arvense
Pest Name				Giant ragweed	tall waterhemp	tall waterhemp	tall waterhemp	Californian thi>
Rating Timing				ATPOST/14DAT	ATPOST/14DAT	ATPOST/14DAT	ATPOST/14DAT	ATPOST/14DAT
Days After First/Last Applic.				67, 1	67, 1	67, 1	67, 1	67, 1
Trt-Eval Interval								
Plant-Eval Interval				67 DP-1	67 DP-1	67 DP-1	67 DP-1	67 DP-1
Days After Emergence				43 DE-1	43 DE-1	43 DE-1	43 DE-1	43 DE-1
ARM Action Codes				AL T13		AL	AL T14	
Number of Decimals								
Data Entry Date					Jun-5-2024	Jun-5-2024		Jun-5-2024
Trt No.	Treatment Name	Rate	Rate Unit / Appl Code	53* dAL	54*	55* dAL	56* dAL	57*
1	Early Plant			5.4 -	1.0 c	0.2 c	0.9 c	0.0 -
	Fierce EZ	0.143	lb ai/a A					
	AMSOL	2.5	% v/v C					
	Roundup Powermax 3	1.12	lb ae/a C					
	Enlist One	1	qt/a C					
2	Early Plant			3.4 -	0.0 c	0.0 c	0.0 c	0.0 -
	Fierce EZ	0.143	lb ai/a A					
	Metribuzin	0.188	lb ai/a A					
3	Early Plant			3.4 -	0.0 c	0.0 c	0.0 c	0.0 -
	Fierce EZ	0.143	lb ai/a A					
	Metribuzin	0.375	lb ai/a A					
4	Early Plant			6.0 -	0.3 c	0.2 c	0.3 c	1.0 -
	Fierce EZ	0.143	lb ai/a A					
	Metribuzin	0.56	lb ai/a A					
5	Early Plant			1.0 -	0.0 c	0.6 bc	0.6 c	0.0 -
	Fierce EZ	0.143	lb ai/a A					
	Metribuzin	0.75	lb ai/a A					
6	Early Plant			4.2 -	8.8 bc	2.5 b	10.0 b	0.3 -
	Spartan	0.313	lb ai/a A					
7	Early Plant			4.2 -	4.0 c	2.1 bc	5.2 b	1.0 -
	Preview 2:1	0.6	lb ai/a A					
8	Early Plant			2.8 -	13.3 b	12.7 a	26.8 a	1.3 -
	utc							
9	Normal Plant			0.7 -	0.0 c	0.0 c	0.0 c	0.0 -
	Fierce EZ	0.19	lb ai/a B					
10	Normal Plant			0.4 -	0.0 c	0.0 c	0.0 c	0.5 -
	Fierce EZ	0.19	lb ai/a B					
	Metribuzin	0.188	lb ai/a B					

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
Mean separations are based on the complete error term.
t=Mean descriptions are reported in transformed data units, and are not de-transformed.
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. 42=3.3; 43,66=3; 44=1.8
* Adjusted means
Excluded replicate 2 in column 66
Could not calculate LSD (% mean diff) or mean separation letters for columns 10,36,45,46,47,66,84,85,86,99,100,101,108,109,110,115 because error variance is 0.
Mean separation letters are 'na' (not applicable) when error variance is 0
^Calculated from residual.
d=Means are reported in de-transformed data units

The Ohio State University

2024 USB Metribuzin Early Planted Soybean Trial

Trial ID: 24USBMETEARLYPL_3
Protocol ID: 24USBMETEARLYPL Location: Trial Year: 2024
Study Director: Sponsor Contact:
Investigator:

Assessed By								
Rating Date				May-31-2024	May-31-2024	May-31-2024	May-31-2024	May-31-2024
Part Rated								
Rating Type				COUPLA	COUPLA	COUPLA	COUPLA	COUPLA
Rating Unit					0.25 m2	0.25 m2		0.25 m2
Rating Min/Max/Interval								
Sample Size				2 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis								
Reporting Basis								
Number of Subsamples				1	1	1	1	1
Crop Type, Code								
Crop Scientific Name								
Crop Name								
Pest Type				W, Weed	W, Weed	W, Weed	W, Weed	W, Weed
Pest Code				AMBTR	AMATU	AMATU	AMATU	CIRAR
Pest Scientific Name				Ambrosia trifida	Amaranthus tube>	Amaranthus tube>	Amaranthus tube>	Cirsium arvense
Pest Name				Giant ragweed	tall waterhemp	tall waterhemp	tall waterhemp	Californian thi>
Rating Timing				ATPOST/14DAT	ATPOST/14DAT	ATPOST/14DAT	ATPOST/14DAT	ATPOST/14DAT
Days After First/Last Applic.				67, 1	67, 1	67, 1	67, 1	67, 1
Trt-Eval Interval								
Plant-Eval Interval				67 DP-1	67 DP-1	67 DP-1	67 DP-1	67 DP-1
Days After Emergence				43 DE-1	43 DE-1	43 DE-1	43 DE-1	43 DE-1
ARM Action Codes				AL T13		AL	AL T14	
Number of Decimals								
Data Entry Date					Jun-5-2024	Jun-5-2024		Jun-5-2024
Trt No. Treatment Name	Rate	Rate Unit	Appl Code	53* dAL	54*	55* dAL	56* dAL	57*
11 Normal Plant				0.7 -	0.0 c	0.0 c	0.0 c	0.3 -
Fierce EZ	0.19	lb ai/a	B					
Metribuzin	0.375	lb ai/a	B					
12 Normal Plant				1.6 -	0.0 c	0.0 c	0.0 c	0.0 -
Fierce EZ	0.19	lb ai/a	B					
Metribuzin	0.56	lb ai/a	B					
13 Normal Plant				0.6 -	0.0 c	0.0 c	0.0 c	0.3 -
Fierce EZ	0.19	lb ai/a	B					
Metribuzin	0.75	lb ai/a	B					
14 Normal Plant				2.9 -	0.0 c	0.4 c	0.4 c	0.5 -
Spartan	0.313	lb ai/a	B					
15 Normal Plant				2.1 -	0.0 c	0.3 c	0.3 c	0.0 -
Preview 2:1	0.6	lb ai/a	B					
16 Normal Plant				2.8 -	20.5 a	13.0 a	32.0 a	0.0 -
utc								
LSD P=.05				2.81 - 4.65	6.18	1.15 - 6.86	1.25 - 16.10	1.37
Standard Deviation				0.33t	4.34	0.21t	0.20t	0.96
CV				65.67t	145.36	83.21t	57.67t	308.23
Levene's F^				0.749	1.852	1.313	2.045*	0.782
Levene's Prob(F)				0.724	0.054	0.232	0.031*	0.691
Shapiro-Wilk^				0.9781	0.7553*	0.8479*	0.944*	0.7757*
P(Shapiro-Wilk)^				0.313	0.0*	0.0*	0.0059*	0.0*
Skewness^				-0.0355	1.764*	0.9886*	0.8236*	2.0501*
P(Skewness)^				0.9081	0.0*	0.002*	0.0092*	0.0*
Kurtosis^				-0.0246	8.0428*	5.6793*	1.1242	5.6618*
P(Kurtosis)^				0.9677	0.0*	0.0*	0.0675	0.0*
Analyzed as				RCB	RCB	RCB	RCB	RCB
Replicate F				0.951	1.850	0.657	1.653	0.449
Replicate Prob(F)				0.4240	0.1518	0.5828	0.1905	0.7192
Treatment F				1.858	7.750	14.262	27.261	0.772
Treatment Prob(F)				0.0553	0.0001	0.0001	0.0001	0.6994

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* Adjusted means
Excluded replicate 2 in column 66
Could not calculate LSD (% mean diff) or mean separation letters for columns 10,36,45,46,47,66,84,85,86,99,100,101,108,109,110,115 because error variance is 0.
Mean separation letters are 'na' (not applicable) when error variance is 0
^Calculated from residual.
d=Means are reported in de-transformed data units

The Ohio State University

2024 USB Metribuzin Early Planted Soybean Trial

Trial ID: 24USBMETEARLYPL_3
Protocol ID: 24USBMETEARLYPL Location: Trial Year: 2024
Study Director: Sponsor Contact:
Investigator:

Assessed By								
Rating Date				May-31-2024	May-31-2024	May-31-2024	May-31-2024	May-31-2024
Part Rated								
Rating Type				COUPLA	COUPLA	COUPLA	COUPLA	COUPLA
Rating Unit				0.25 m2		0.25 m2	0.25 m2	
Rating Min/Max/Interval								
Sample Size				1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis								
Reporting Basis								
Number of Subsamples				1	1	1	1	1
Crop Type, Code								
Crop Scientific Name								
Crop Name								
Pest Type				W, Weed	W, Weed	W, Weed	W, Weed	W, Weed
Pest Code				CIRAR	CIRAR	SETPU	SETPU	SETPU
Pest Scientific Name				Cirsium arvense	Cirsium arvense	Setaria pumila	Setaria pumila	Setaria pumila
Pest Name				Californian thi>	Californian thi>	yellow foxtail	yellow foxtail	yellow foxtail
Rating Timing				ATPOST/14DAT	ATPOST/14DAT	ATPOST/14DAT	ATPOST/14DAT	ATPOST/14DAT
Days After First/Last Applic.				67, 1	67, 1	67, 1	67, 1	67, 1
Trt-Eval Interval								
Plant-Eval Interval				67 DP-1	67 DP-1	67 DP-1	67 DP-1	67 DP-1
Days After Emergence				43 DE-1	43 DE-1	43 DE-1	43 DE-1	43 DE-1
ARM Action Codes					T15	AS		AL T16
Number of Decimals								
Data Entry Date				Jun-5-2024		Jun-5-2024	Jun-5-2024	
Trt No.	Treatment Name	Rate	Rate Unit	Appl Code 58*	59*	60* dAS	61*	62* dAL
1	Early Plant			0.0 -	0.0 -	8.1 ab	4.0 b	10.8 bc
	Fierce EZ	0.143	lb ai/a	A				
	AMSOL	2.5	% v/v	C				
	Roundup Powermax 3	1.12	lb ae/a	C				
	Enlist One	1	qt/a	C				
2	Early Plant			0.8 -	0.8 -	10.9 ab	15.0 b	22.9 ab
	Fierce EZ	0.143	lb ai/a	A				
	Metribuzin	0.188	lb ai/a	A				
3	Early Plant			0.0 -	0.0 -	3.0 ab	2.5 b	4.2 c
	Fierce EZ	0.143	lb ai/a	A				
	Metribuzin	0.375	lb ai/a	A				
4	Early Plant			1.3 -	2.3 -	2.8 ab	11.0 b	10.3 bc
	Fierce EZ	0.143	lb ai/a	A				
	Metribuzin	0.56	lb ai/a	A				
5	Early Plant			0.0 -	0.0 -	7.8 ab	6.5 b	14.1 bc
	Fierce EZ	0.143	lb ai/a	A				
	Metribuzin	0.75	lb ai/a	A				
6	Early Plant			0.0 -	0.3 -	7.4 ab	19.8 b	22.2 ab
	Spartan	0.313	lb ai/a	A				
7	Early Plant			1.0 -	2.0 -	18.4 a	14.0 b	27.0 ab
	Preview 2:1	0.6	lb ai/a	A				
8	Early Plant			1.5 -	2.8 -	16.1 a	44.0 a	56.0 a
	utc							
9	Normal Plant			0.8 -	0.8 -	0.0 b	0.0 b	0.0 d
	Fierce EZ	0.19	lb ai/a	B				
10	Normal Plant			0.0 -	0.5 -	0.0 b	0.0 b	0.0 d
	Fierce EZ	0.19	lb ai/a	B				
	Metribuzin	0.188	lb ai/a	B				

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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. 42=3.3; 43,66=3; 44=1.8
* Adjusted means
Excluded replicate 2 in column 66
Could not calculate LSD (% mean diff) or mean separation letters for columns 10,36,45,46,47,66,84,85,86,99,100,101,108,109,110,115 because error variance is 0.
Mean separation letters are 'na' (not applicable) when error variance is 0
^Calculated from residual.
d=Means are reported in de-transformed data units

The Ohio State University

2024 USB Metribuzin Early Planted Soybean Trial

Trial ID: 24USBMETEARLYPL_3
Protocol ID: 24USBMETEARLYPL Location: Trial Year: 2024
Study Director: Sponsor Contact:
Investigator:

Assessed By							
Rating Date			May-31-2024	May-31-2024	May-31-2024	May-31-2024	May-31-2024
Part Rated							
Rating Type			COUPLA	COUPLA	COUPLA	COUPLA	COUPLA
Rating Unit			0.25 m2		0.25 m2	0.25 m2	
Rating Min/Max/Interval							
Sample Size			1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis							
Reporting Basis							
Number of Subsamples			1	1	1	1	1
Crop Type, Code							
Crop Scientific Name							
Crop Name							
Pest Type			W, Weed	W, Weed	W, Weed	W, Weed	W, Weed
Pest Code			CIRAR	CIRAR	SETPU	SETPU	SETPU
Pest Scientific Name			Cirsium arvense	Cirsium arvense	Setaria pumila	Setaria pumila	Setaria pumila
Pest Name			Californian thi>	Californian thi>	yellow foxtail	yellow foxtail	yellow foxtail
Rating Timing			ATPOST/14DAT	ATPOST/14DAT	ATPOST/14DAT	ATPOST/14DAT	ATPOST/14DAT
Days After First/Last Applic.			67, 1	67, 1	67, 1	67, 1	67, 1
Trt-Eval Interval							
Plant-Eval Interval			67 DP-1	67 DP-1	67 DP-1	67 DP-1	67 DP-1
Days After Emergence			43 DE-1	43 DE-1	43 DE-1	43 DE-1	43 DE-1
ARM Action Codes				T15	AS		AL T16
Number of Decimals							
Data Entry Date			Jun-5-2024		Jun-5-2024	Jun-5-2024	

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	58*	59*	60* dAS	61*	62* dAL
11	Normal Plant				0.0 -	0.3 -	0.0 b	0.0 b	0.0 d
	Fierce EZ	0.19	lb ai/a	B					
	Metribuzin	0.375	lb ai/a	B					
12	Normal Plant				0.0 -	0.0 -	0.0 b	0.0 b	0.0 d
	Fierce EZ	0.19	lb ai/a	B					
	Metribuzin	0.56	lb ai/a	B					
13	Normal Plant				0.5 -	0.8 -	0.0 b	0.0 b	0.0 d
	Fierce EZ	0.19	lb ai/a	B					
	Metribuzin	0.75	lb ai/a	B					
14	Normal Plant				1.5 -	2.0 -	0.0 b	0.0 b	0.0 d
	Spartan	0.313	lb ai/a	B					
15	Normal Plant				0.0 -	0.0 -	0.2 b	0.5 b	0.6 d
	Preview 2:1	0.6	lb ai/a	B					
16	Normal Plant				0.0 -	0.0 -	19.5 a	18.3 b	32.2 ab
	utc								
LSD P=.05					1.66	2.33	6.12 - 12.72	13.11	2.18 - 33.17
Standard Deviation					1.16	1.63	1.25t	9.21	0.27t
CV					256.58	213.25	59.29t	108.72	36.39t
Levene's F^					1.127	1.402	4.093*	2.21*	1.152
Levene's Prob(F)					0.36	0.185	0.00*	0.019*	0.34
Shapiro-Wilk^					0.8927*	0.8908*	0.9454*	0.8907*	0.9481*
P(Shapiro-Wilk)^					0.0*	0.0*	0.0068*	0.0*	0.0092*
Skewness^					1.253*	1.4442*	-0.1938	1.0829*	-0.7171*
P(Skewness)^					0.0001*	0.0*	0.5292	0.0008*	0.0224*
Kurtosis^					2.2181*	5.4757*	2.4527*	5.9638*	0.6447
P(Kurtosis)^					0.0005*	0.0*	0.0001*	0.0*	0.2901
Analyzed as					RCB	RCB	RCB	RCB	RCB
Replicate F					1.584	1.288	1.468	1.855	2.136
Replicate Prob(F)					0.2065	0.2902	0.2360	0.1508	0.1089
Treatment F					1.016	1.331	5.370	6.664	26.143
Treatment Prob(F)					0.4566	0.2241	0.0001	0.0001	0.0001

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
Mean separations are based on the complete error term.
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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. 42=3.3; 43,66=3; 44=1.8
* Adjusted means
Excluded replicate 2 in column 66
Could not calculate LSD (% mean diff) or mean separation letters for columns 10,36,45,46,47,66,84,85,86,99,100,101,108,109,110,115 because error variance is 0.
Mean separation letters are 'na' (not applicable) when error variance is 0
^Calculated from residual.
d=Means are reported in de-transformed data units

The Ohio State University

2024 USB Metribuzin Early Planted Soybean Trial

Trial ID: 24USBMETEARLYPL_3
Protocol ID: 24USBMETEARLYPL Location: Trial Year: 2024
Study Director: Sponsor Contact:
Investigator:

Assessed By							
Rating Date				May-31-2024	May-31-2024	May-31-2024	May-31-2024	May-31-2024
Part Rated								
Rating Type				COUPLA	COUPLA	COUPLA	COUPLA	COUPLA
Rating Unit				0.25 m2	0.25 m2		0.25 m2	0.25 m2
Rating Min/Max/Interval								
Sample Size				1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis								
Reporting Basis								
Number of Subsamples				1	1	1	1	1
Crop Type, Code								
Crop Scientific Name								
Crop Name								
Pest Type				W, Weed	W, Weed	W, Weed	W, Weed	W, Weed
Pest Code				CHEAL	CHEAL	CHEAL	CONAR	CONAR
Pest Scientific Name				Chenopodium alb>	Chenopodium alb>	Chenopodium alb>	Convolvulus arv>	Convolvulus arv>
Pest Name				common lambsqua>	common lambsqua>	common lambsqua>	Field bindweed	Field bindweed
Rating Timing				ATPOST/14DAT	ATPOST/14DAT	ATPOST/14DAT	ATPOST/14DAT	ATPOST/14DAT
Days After First/Last Applic.				67, 1	67, 1	67, 1	67, 1	67, 1
Trt-Eval Interval								
Plant-Eval Interval				67 DP-1	67 DP-1	67 DP-1	67 DP-1	67 DP-1
Days After Emergence				43 DE-1	43 DE-1	43 DE-1	43 DE-1	43 DE-1
ARM Action Codes						T17	ER2	
Number of Decimals								
Data Entry Date				Jun-5-2024	Jun-5-2024		Jun-5-2024	Jun-5-2024
Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	63*	64*	65*	66*	67*
1	Early Plant				0.0 -	0.0 -	0.0 b	0.0 na	1.0 -
	Fierce EZ	0.143	lb ai/a	A					
	AMSOL	2.5	% v/v	C					
	Roundup Powermax 3	1.12	lb ae/a	C					
	Enlist One	1	qt/a	C					
2	Early Plant				0.0 -	0.0 -	0.0 b	0.0 na	1.0 -
	Fierce EZ	0.143	lb ai/a	A					
	Metribuzin	0.188	lb ai/a	A					
3	Early Plant				0.0 -	0.0 -	0.0 b	0.0 na	0.3 -
	Fierce EZ	0.143	lb ai/a	A					
	Metribuzin	0.375	lb ai/a	A					
4	Early Plant				0.0 -	0.0 -	0.0 b	0.0 na	0.0 -
	Fierce EZ	0.143	lb ai/a	A					
	Metribuzin	0.56	lb ai/a	A					
5	Early Plant				0.0 -	0.0 -	0.0 b	0.0 na	2.5 -
	Fierce EZ	0.143	lb ai/a	A					
	Metribuzin	0.75	lb ai/a	A					
6	Early Plant				0.0 -	0.0 -	0.0 b	0.0 na	0.5 -
	Spartan	0.313	lb ai/a	A					
7	Early Plant				0.0 -	0.0 -	0.0 b	0.0 na	0.0 -
	Preview 2:1	0.6	lb ai/a	A					
8	Early Plant				33.5 -	3.8 -	37.3 a	0.0 na	4.8 -
	utc								
9	Normal Plant				0.0 -	0.0 -	0.0 b	0.0 na	0.0 -
	Fierce EZ	0.19	lb ai/a	B					
10	Normal Plant				0.0 -	0.0 -	0.0 b	0.0 na	1.3 -
	Fierce EZ	0.19	lb ai/a	B					
	Metribuzin	0.188	lb ai/a	B					

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
Mean separations are based on the complete error term.
t=Mean descriptions are reported in transformed data units, and are not de-transformed.
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. 42=3.3; 43,66=3; 44=1.8
* Adjusted means
Excluded replicate 2 in column 66
Could not calculate LSD (% mean diff) or mean separation letters for columns 10,36,45,46,47,66,84,85,86,99,100,101,108,109,110,115 because error variance is 0.
Mean separation letters are 'na' (not applicable) when error variance is 0
^Calculated from residual.
d=Means are reported in de-transformed data units

The Ohio State University

2024 USB Metribuzin Early Planted Soybean Trial

Trial ID: 24USBMETEARLYPL_3
Protocol ID: 24USBMETEARLYPL Location: Trial Year: 2024
Study Director: Sponsor Contact:
Investigator:

Assessed By								
Rating Date				May-31-2024	May-31-2024	May-31-2024	May-31-2024	May-31-2024
Part Rated								
Rating Type				COUPLA	COUPLA	COUPLA	COUPLA	COUPLA
Rating Unit				0.25 m2	0.25 m2		0.25 m2	0.25 m2
Rating Min/Max/Interval								
Sample Size				1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis								
Reporting Basis								
Number of Subsamples				1	1	1	1	1
Crop Type, Code								
Crop Scientific Name								
Crop Name								
Pest Type				W, Weed	W, Weed	W, Weed	W, Weed	W, Weed
Pest Code				CHEAL	CHEAL	CHEAL	CONAR	CONAR
Pest Scientific Name				Chenopodium alb>	Chenopodium alb>	Chenopodium alb>	Convolvulus arv>	Convolvulus arv>
Pest Name				common lambsqua>	common lambsqua>	common lambsqua>	Field bindweed	Field bindweed
Rating Timing				ATPOST/14DAT	ATPOST/14DAT	ATPOST/14DAT	ATPOST/14DAT	ATPOST/14DAT
Days After First/Last Applic.				67, 1	67, 1	67, 1	67, 1	67, 1
Trt-Eval Interval								
Plant-Eval Interval				67 DP-1	67 DP-1	67 DP-1	67 DP-1	67 DP-1
Days After Emergence				43 DE-1	43 DE-1	43 DE-1	43 DE-1	43 DE-1
ARM Action Codes						T17	ER2	
Number of Decimals								
Data Entry Date				Jun-5-2024	Jun-5-2024		Jun-5-2024	Jun-5-2024
Trt No. Treatment Name	Rate	Rate Unit	Appl Code	63*	64*	65*	66*	67*
11 Normal Plant				0.0 -	0.0 -	0.0 b	0.0 na	0.0 -
Fierce EZ	0.19	lb ai/a	B					
Metribuzin	0.375	lb ai/a	B					
12 Normal Plant				0.0 -	0.0 -	0.0 b	0.0 na	0.0 -
Fierce EZ	0.19	lb ai/a	B					
Metribuzin	0.56	lb ai/a	B					
13 Normal Plant				0.0 -	0.0 -	0.0 b	0.0 na	1.3 -
Fierce EZ	0.19	lb ai/a	B					
Metribuzin	0.75	lb ai/a	B					
14 Normal Plant				0.0 -	0.0 -	0.0 b	0.0 na	0.0 -
Spartan	0.313	lb ai/a	B					
15 Normal Plant				0.0 -	0.0 -	0.0 b	0.0 na	0.0 -
Preview 2:1	0.6	lb ai/a	B					
16 Normal Plant				4.0 -	0.5 -	4.5 b	0.0 na	2.0 -
utc								
LSD P=.05				18.30	2.02	17.44	.	3.22
Standard Deviation				12.85	1.42	12.25	0.00	2.26
CV				548.15	533.75	469.38	0.0	249.7
Levene's F^				1.102	1.47	1.113	.	1.153
Levene's Prob(F)				0.38	0.155	0.371	.	0.339
Shapiro-Wilk^				0.4608*	0.4925*	0.4628*	.	0.9279*
P(Shapiro-Wilk)^				0.0*	0.0*	0.0*	.	0.0011*
Skewness^				4.1492*	3.8515*	4.0919*	.	0.9042*
P(Skewness)^				0.0*	0.0*	0.0*	.	0.0044*
Kurtosis^				31.4925*	29.4578*	31.3827*	.	2.0389*
P(Kurtosis)^				0.0*	0.0*	0.0*	.	0.0013*
Analyzed as				RCB	RCB	RCB	RCB	RCB
Replicate F				1.017	0.878	0.989	NaN	3.942
Replicate Prob(F)				0.3941	0.4594	0.4065	NaN	0.0140
Treatment F				1.697	1.749	2.309	NaN	1.308
Treatment Prob(F)				0.0863	0.0749	0.0155	NaN	0.2375

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
Mean separations are based on the complete error term.
t=Mean descriptions are reported in transformed data units, and are not de-transformed.
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. 42=3.3; 43,66=3; 44=1.8
* Adjusted means
Excluded replicate 2 in column 66
Could not calculate LSD (% mean diff) or mean separation letters for columns 10,36,45,46,47,66,84,85,86,99,100,101,108,109,110,115 because error variance is 0.
Mean separation letters are 'na' (not applicable) when error variance is 0
^Calculated from residual.
d=Means are reported in de-transformed data units

The Ohio State University

2024 USB Metribuzin Early Planted Soybean Trial

Trial ID: 24USBMETEARLYPL_3
Protocol ID: 24USBMETEARLYPL Location: Trial Year: 2024
Study Director: Sponsor Contact:
Investigator:

Assessed By						
Rating Date	May-31-2024	Jun-14-2024	Jun-14-2024	Jun-14-2024	Jun-14-2024	Jun-14-2024
Part Rated						
Rating Type	COUPLA	CONTRO	PHYDEF	PHYCHL	COUPLA	COUPLA
Rating Unit	0.25 m2	%	%	%	0.25 m2	0.25 m2
Rating Min/Max/Interval		0, 100, -	0, 100, -	0, 100, -		
Sample Size	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis						
Reporting Basis						
Number of Subsamples	1	1	1	1	1	1
Crop Type, Code			C, GLXMA	C, GLXMA		
Crop Scientific Name			Glycine max	Glycine max		
Crop Name			Soybean	Soybean		
Pest Type	W, Weed	W, Weed			W, Weed	W, Weed
Pest Code	CONAR				AMBTR	AMBTR
Pest Scientific Name	Convolvulus arv>				Ambrosia trifida	Ambrosia trifida
Pest Name	Field bindweed				Giant ragweed	Giant ragweed
Rating Timing	ATPOST/14DAT	28 DAT	28 DAT	28 DAT	28 DAT	28 DAT
Days After First/Last Applic.	67, 1	81, 15	81, 15	81, 15	81, 15	81, 15
Trt-Eval Interval						
Plant-Eval Interval	67 DP-1	81 DP-1	81 DP-1	81 DP-1	81 DP-1	81 DP-1
Days After Emergence	43 DE-1	57 DE-1	57 DE-1	57 DE-1	57 DE-1	57 DE-1
ARM Action Codes	T18			AA	AL	AA
Number of Decimals						
Data Entry Date		Jun-17-2024	Jun-17-2024	Jun-17-2024	Jun-17-2024	Jun-17-2024

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	68*	69*	70*	71* dAA	72* dAL	73* dAA
1	Early Plant				2.3 -					
	Fierce EZ	0.143	lb ai/a	A						
	AMSOL	2.5	% v/v	C						
	Roundup Powermax 3	1.12	lb ae/a	C						
	Enlist One	1	qt/a	C						
2	Early Plant				1.0 -					
	Fierce EZ	0.143	lb ai/a	A						
	Metribuzin	0.188	lb ai/a	A						
3	Early Plant				1.0 -					
	Fierce EZ	0.143	lb ai/a	A						
	Metribuzin	0.375	lb ai/a	A						
4	Early Plant				0.0 -					
	Fierce EZ	0.143	lb ai/a	A						
	Metribuzin	0.56	lb ai/a	A						
5	Early Plant				2.5 -					
	Fierce EZ	0.143	lb ai/a	A						
	Metribuzin	0.75	lb ai/a	A						
6	Early Plant				0.5 -					
	Spartan	0.313	lb ai/a	A						
7	Early Plant				0.0 -					
	Preview 2:1	0.6	lb ai/a	A						
8	Early Plant				4.8 -					
	utc									
9	Normal Plant				0.0 -	90.0 a	20.8 a	0.1 -	1.3 -	1.1 -
	Fierce EZ	0.19	lb ai/a	B						
10	Normal Plant				1.3 -	92.8 a	12.5 ab	0.1 -	0.6 -	0.7 -
	Fierce EZ	0.19	lb ai/a	B						
	Metribuzin	0.188	lb ai/a	B						

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
Mean separations are based on the complete error term.
t=Mean descriptions are reported in transformed data units, and are not de-transformed.
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. 42=3.3; 43,66=3; 44=1.8
* Adjusted means
Excluded replicate 2 in column 66
Could not calculate LSD (% mean diff) or mean separation letters for columns 10,36,45,46,47,66,84,85,86,99,100,101,108,109,110,115 because error variance is 0.
Mean separation letters are 'na' (not applicable) when error variance is 0
^Calculated from residual.
d=Means are reported in de-transformed data units

The Ohio State University

2024 USB Metribuzin Early Planted Soybean Trial

Trial ID: 24USBMETEARLYPL_3
Protocol ID: 24USBMETEARLYPL Location: Trial Year: 2024
Study Director: Sponsor Contact:
Investigator:

Assessed By									
Rating Date				May-31-2024	Jun-14-2024	Jun-14-2024	Jun-14-2024	Jun-14-2024	Jun-14-2024
Part Rated									
Rating Type				COUPLA	CONTRO	PHYDEF	PHYCHL	COUPLA	COUPLA
Rating Unit				0.25 m2	%	%	%	0.25 m2	0.25 m2
Rating Min/Max/Interval					0, 100, -	0, 100, -	0, 100, -		
Sample Size				1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis									
Reporting Basis									
Number of Subsamples				1	1	1	1	1	1
Crop Type, Code						C, GLXMA	C, GLXMA		
Crop Scientific Name						Glycine max	Glycine max		
Crop Name						Soybean	Soybean		
Pest Type				W, Weed	W, Weed			W, Weed	W, Weed
Pest Code				CONAR				AMBTR	AMBTR
Pest Scientific Name				Convolvulus arv>				Ambrosia trifida	Ambrosia trifida
Pest Name				Field bindweed				Giant ragweed	Giant ragweed
Rating Timing				ATPOST/14DAT	28 DAT	28 DAT	28 DAT	28 DAT	28 DAT
Days After First/Last Applic.				67, 1	81, 15	81, 15	81, 15	81, 15	81, 15
Trt-Eval Interval									
Plant-Eval Interval				67 DP-1	81 DP-1	81 DP-1	81 DP-1	81 DP-1	81 DP-1
Days After Emergence				43 DE-1	57 DE-1	57 DE-1	57 DE-1	57 DE-1	57 DE-1
ARM Action Codes				T18			AA	AL	AA
Number of Decimals									
Data Entry Date					Jun-17-2024	Jun-17-2024	Jun-17-2024	Jun-17-2024	Jun-17-2024
Trt No. / Treatment Name	Rate	Rate Unit	Appl Code	68*	69*	70*	71* dAA	72* dAL	73* dAA
11 Normal Plant				0.0 -	97.3 a	17.5 ab	0.2 -	0.6 -	0.2 -
Fierce EZ	0.19	lb ai/a	B						
Metribuzin	0.375	lb ai/a	B						
12 Normal Plant				0.3 -	92.3 a	13.8 ab	0.1 -	1.4 -	0.9 -
Fierce EZ	0.19	lb ai/a	B						
Metribuzin	0.56	lb ai/a	B						
13 Normal Plant				1.3 -	88.0 a	21.3 a	0.1 -	0.4 -	0.1 -
Fierce EZ	0.19	lb ai/a	B						
Metribuzin	0.75	lb ai/a	B						
14 Normal Plant				0.0 -	80.0 a	5.0 ab	0.6 -	2.1 -	1.6 -
Spartan	0.313	lb ai/a	B						
15 Normal Plant				0.0 -	90.8 a	5.5 ab	0.0 -	1.1 -	2.4 -
Preview 2:1	0.6	lb ai/a	B						
16 Normal Plant				2.0 -	0.0 b	0.0 b	0.0 -	1.7 -	2.4 -
utc									
LSD P=.05				3.55	12.99	12.04	0.62 - 0.96	1.92 - 2.37	2.22 - 2.35
Standard Deviation				2.49	8.84	8.19	2.97t	0.29t	4.94t
CV				238.31	11.2	68.04	170.35t	91.72t	86.94t
Levene's F^				0.882	1.482	1.052	0.593	0.711	0.909
Levene's Prob(F)				0.587	0.221	0.423	0.755	0.663	0.516
Shapiro-Wilk^				0.9177*	0.9572	0.9683	0.9628	0.9697	0.9656
P(Shapiro-Wilk)^				0.0004*	0.2298	0.4546	0.3268	0.4917	0.3873
Skewness^				0.9854*	-0.6832	0.3324	0.3798	0.1659	0.6497
P(Skewness)^				0.002*	0.1253	0.4492	0.3878	0.7047	0.1442
Kurtosis^				1.771*	0.5157	-0.3796	0.154	0.6488	1.0943
P(Kurtosis)^				0.0047*	0.547	0.6571	0.8568	0.4494	0.2058
Analyzed as				RCB	RCB	RCB	RCB	RCB	RCB
Replicate F				3.838	1.246	0.876	4.583	1.142	2.040
Replicate Prob(F)				0.0157	0.3183	0.4693	0.0128	0.3550	0.1390
Treatment F				1.104	53.290	3.675	0.954	0.728	1.230
Treatment Prob(F)				0.3798	0.0001	0.0095	0.4881	0.6501	0.3307

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
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Due to missing data, the effective replicates used for mean comparisons are: col. 42=3.3; 43,66=3; 44=1.8
* Adjusted means
Excluded replicate 2 in column 66
Could not calculate LSD (% mean diff) or mean separation letters for columns 10,36,45,46,47,66,84,85,86,99,100,101,108,109,110,115 because error variance is 0.
Mean separation letters are 'na' (not applicable) when error variance is 0
^Calculated from residual.
d=Means are reported in de-transformed data units

The Ohio State University

2024 USB Metribuzin Early Planted Soybean Trial

Trial ID: 24USBMETEARLYPL_3
Protocol ID: 24USBMETEARLYPL Location: Trial Year: 2024
Study Director: Sponsor Contact:
Investigator:

Assessed By						
Rating Date	Jun-14-2024	Jun-14-2024	Jun-14-2024	Jun-14-2024	Jun-14-2024	Jun-14-2024
Part Rated						
Rating Type	COUPLA	COUPLA	COUPLA	COUPLA	COUPLA	COUPLA
Rating Unit		0.25 m2	0.25 m2		0.25 m2	0.25 m2
Rating Min/Max/Interval						
Sample Size	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis						
Reporting Basis						
Number of Subsamples	1	1	1	1	1	1
Crop Type, Code						
Crop Scientific Name						
Crop Name						
Pest Type	W, Weed	W, Weed	W, Weed	W, Weed	W, Weed	W, Weed
Pest Code	AMBTR	SETFA	SETFA	SETFA	CIRAR	CIRAR
Pest Scientific Name	Ambrosia trifida	Setaria faberi	Setaria faberi	Setaria faberi	Cirsium arvense	Cirsium arvense
Pest Name	Giant ragweed	Giant foxtail	Giant foxtail	Giant foxtail	Californian thi>	Californian thi>
Rating Timing	28 DAT	28 DAT	28 DAT	28 DAT	28 DAT	28 DAT
Days After First/Last Applic.	81, 15	81, 15	81, 15	81, 15	81, 15	81, 15
Trt-Eval Interval						
Plant-Eval Interval	81 DP-1	81 DP-1	81 DP-1	81 DP-1	81 DP-1	81 DP-1
Days After Emergence	57 DE-1	57 DE-1	57 DE-1	57 DE-1	57 DE-1	57 DE-1
ARM Action Codes	AL T19	AL	AL	AL T20	AA	
Number of Decimals						
Data Entry Date		Jun-17-2024	Jun-17-2024		Jun-17-2024	Jun-17-2024

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	74* dAL	75* dAL	76* dAL	77* dAL	78* dAA	79*
1	Early Plant									
	Fierce EZ	0.143	lb ai/a	A						
	AMSOL	2.5	% v/v	C						
	Roundup Powermax 3	1.12	lb ae/a	C						
	Enlist One	1	qt/a	C						
2	Early Plant									
	Fierce EZ	0.143	lb ai/a	A						
	Metribuzin	0.188	lb ai/a	A						
3	Early Plant									
	Fierce EZ	0.143	lb ai/a	A						
	Metribuzin	0.375	lb ai/a	A						
4	Early Plant									
	Fierce EZ	0.143	lb ai/a	A						
	Metribuzin	0.56	lb ai/a	A						
5	Early Plant									
	Fierce EZ	0.143	lb ai/a	A						
	Metribuzin	0.75	lb ai/a	A						
6	Early Plant									
	Spartan	0.313	lb ai/a	A						
7	Early Plant									
	Preview 2:1	0.6	lb ai/a	A						
8	Early Plant									
	utc									
9	Normal Plant				2.7 -	0.2 b	0.9 bc	0.9 c	0.0 -	0.5 -
	Fierce EZ	0.19	lb ai/a	B						
10	Normal Plant				2.1 -	0.2 b	0.6 bc	0.7 c	0.3 -	0.0 -
	Fierce EZ	0.19	lb ai/a	B						
	Metribuzin	0.188	lb ai/a	B						

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
Mean separations are based on the complete error term.
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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. 42=3.3; 43,66=3; 44=1.8
* Adjusted means
Excluded replicate 2 in column 66
Could not calculate LSD (% mean diff) or mean separation letters for columns 10,36,45,46,47,66,84,85,86,99,100,101,108,109,110,115 because error variance is 0.
Mean separation letters are 'na' (not applicable) when error variance is 0
^Calculated from residual.
d=Means are reported in de-transformed data units

The Ohio State University

2024 USB Metribuzin Early Planted Soybean Trial

Trial ID: 24USBMETEARLYPL_3
Protocol ID: 24USBMETEARLYPL Location: Trial Year: 2024
Study Director: Sponsor Contact:
Investigator:

Assessed By									
Rating Date				Jun-14-2024	Jun-14-2024	Jun-14-2024	Jun-14-2024	Jun-14-2024	Jun-14-2024
Part Rated									
Rating Type				COUPLA	COUPLA	COUPLA	COUPLA	COUPLA	COUPLA
Rating Unit					0.25 m2	0.25 m2		0.25 m2	0.25 m2
Rating Min/Max/Interval									
Sample Size				1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis									
Reporting Basis									
Number of Subsamples				1	1	1	1	1	1
Crop Type, Code									
Crop Scientific Name									
Crop Name									
Pest Type				W, Weed	W, Weed	W, Weed	W, Weed	W, Weed	W, Weed
Pest Code				AMBTR	SETFA	SETFA	SETFA	CIRAR	CIRAR
Pest Scientific Name				Ambrosia trifida	Setaria faberi	Setaria faberi	Setaria faberi	Cirsium arvense	Cirsium arvense
Pest Name				Giant ragweed	Giant foxtail	Giant foxtail	Giant foxtail	Californian thi>	Californian thi>
Rating Timing				28 DAT	28 DAT	28 DAT	28 DAT	28 DAT	28 DAT
Days After First/Last Applic.				81, 15	81, 15	81, 15	81, 15	81, 15	81, 15
Trt-Eval Interval									
Plant-Eval Interval				81 DP-1	81 DP-1	81 DP-1	81 DP-1	81 DP-1	81 DP-1
Days After Emergence				57 DE-1	57 DE-1	57 DE-1	57 DE-1	57 DE-1	57 DE-1
ARM Action Codes				AL T19	AL	AL	AL T20	AA	
Number of Decimals									
Data Entry Date					Jun-17-2024	Jun-17-2024		Jun-17-2024	Jun-17-2024
Trt No.	Treatment Name	Rate	Rate Unit / Appl Code	74* dAL	75* dAL	76* dAL	77* dAL	78* dAA	79*
11	Normal Plant			0.9 -	0.9 b	0.2 bc	1.0 c	0.1 -	0.0 -
	Fierce EZ	0.19	lb ai/a B						
	Metribuzin	0.375	lb ai/a B						
12	Normal Plant			2.5 -	0.4 b	0.2 bc	0.7 c	0.1 -	0.0 -
	Fierce EZ	0.19	lb ai/a B						
	Metribuzin	0.56	lb ai/a B						
13	Normal Plant			0.7 -	0.7 b	0.0 c	0.7 c	0.1 -	0.3 -
	Fierce EZ	0.19	lb ai/a B						
	Metribuzin	0.75	lb ai/a B						
14	Normal Plant			4.1 -	1.9 b	3.0 bc	5.0 bc	1.4 -	0.8 -
	Spartan	0.313	lb ai/a B						
15	Normal Plant			3.4 -	3.5 b	4.6 b	11.0 b	0.0 -	0.3 -
	Preview 2:1	0.6	lb ai/a B						
16	Normal Plant			3.5 -	26.1 a	28.2 a	54.7 a	0.0 -	0.5 -
	utc								
LSD P=.05				3.10 - 3.34	2.77 - 18.93	2.19 - 18.96	3.78 - 38.58	1.41 - 1.72	1.10
Standard Deviation				0.31t	0.36t	0.31t	0.35t	4.24t	0.75
CV				60.27t	84.62t	71.97t	57.13t	241.74t	264.9
Levene's F^				0.916	0.352	1.553	0.643	2.264	0.501
Levene's Prob(F)				0.511	0.921	0.198	0.717	0.064	0.824
Shapiro-Wilk^				0.9329*	0.9866	0.9619	0.9471	0.89*	0.8895*
P(Shapiro-Wilk)^				0.0472*	0.9523	0.3097	0.1188	0.0035*	0.0034*
Skewness^				0.0671	0.0001	0.3969	0.625	0.9921*	1.2959*
P(Skewness)^				0.8781	0.9999	0.3671	0.1595	0.0291*	0.0054*
Kurtosis^				2.9437*	0.1416	1.36	0.3944	2.1986*	2.0075*
P(Kurtosis)^				0.0015*	0.8683	0.1184	0.6447	0.0143*	0.0242*
Analyzed as				RCB	RCB	RCB	RCB	RCB	RCB
Replicate F				2.275	0.968	1.711	2.014	0.217	1.558
Replicate Prob(F)				0.1094	0.4264	0.1954	0.1428	0.8834	0.2293
Treatment F				1.328	6.538	10.328	10.316	1.169	0.571
Treatment Prob(F)				0.2860	0.0004	0.0001	0.0001	0.3611	0.7712

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
Mean separations are based on the complete error term.
t=Mean descriptions are reported in transformed data units, and are not de-transformed.
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. 42=3.3; 43,66=3; 44=1.8
* Adjusted means
Excluded replicate 2 in column 66
Could not calculate LSD (% mean diff) or mean separation letters for columns 10,36,45,46,47,66,84,85,86,99,100,101,108,109,110,115 because error variance is 0.
Mean separation letters are 'na' (not applicable) when error variance is 0
^Calculated from residual.
d=Means are reported in de-transformed data units

The Ohio State University

2024 USB Metribuzin Early Planted Soybean Trial

Trial ID: 24USBMETEARLYPL_3
Protocol ID: 24USBMETEARLYPL Location: Trial Year: 2024
Study Director: Sponsor Contact:
Investigator:

Assessed By								
Rating Date				Jun-14-2024	Jun-14-2024	Jun-14-2024	Jun-14-2024	Jun-14-2024	Jun-14-2024
Part Rated									
Rating Type				COUPLA	COUPLA	COUPLA	COUPLA	COUPLA	COUPLA
Rating Unit					0.25 m2	0.25 m2		0.25 m2	0.25 m2
Rating Min/Max/Interval									
Sample Size				1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis									
Reporting Basis									
Number of Subsamples				1	1	1	1	1	1
Crop Type, Code									
Crop Scientific Name									
Crop Name									
Pest Type				W, Weed	W, Weed	W, Weed	W, Weed	W, Weed	W, Weed
Pest Code				CIRAR	AMATU	AMATU	AMATU	SIDSP	SIDSP
Pest Scientific Name				Cirsium arvense	Amaranthus tube>	Amaranthus tube>	Amaranthus tube>	Sida spinosa	Sida spinosa
Pest Name				Californian thi>	tall waterhemp	tall waterhemp	tall waterhemp	Prickly sida	Prickly sida
Rating Timing				28 DAT	28 DAT	28 DAT	28 DAT	28 DAT	28 DAT
Days After First/Last Applic.				81, 15	81, 15	81, 15	81, 15	81, 15	81, 15
Trt-Eval Interval									
Plant-Eval Interval				81 DP-1	81 DP-1	81 DP-1	81 DP-1	81 DP-1	81 DP-1
Days After Emergence				57 DE-1	57 DE-1	57 DE-1	57 DE-1	57 DE-1	57 DE-1
ARM Action Codes				T21		AL	ET16 T22	ET16	ET16
Number of Decimals									
Data Entry Date					Jun-17-2024	Jun-17-2024		Jun-17-2024	Jun-17-2024
Trt No.	Treatment Name	Rate	Rate Unit / Appl Code	80*	81*	82* dAL	83*	84*	85*
1	Early Plant								
	Fierce EZ	0.143	lb ai/a A						
	AMSOL	2.5	% v/v C						
	Roundup Powermax 3	1.12	lb ae/a C						
	Enlist One	1	qt/a C						
2	Early Plant								
	Fierce EZ	0.143	lb ai/a A						
	Metribuzin	0.188	lb ai/a A						
3	Early Plant								
	Fierce EZ	0.143	lb ai/a A						
	Metribuzin	0.375	lb ai/a A						
4	Early Plant								
	Fierce EZ	0.143	lb ai/a A						
	Metribuzin	0.56	lb ai/a A						
5	Early Plant								
	Fierce EZ	0.143	lb ai/a A						
	Metribuzin	0.75	lb ai/a A						
6	Early Plant								
	Spartan	0.313	lb ai/a A						
7	Early Plant								
	Preview 2:1	0.6	lb ai/a A						
8	Early Plant								
	utc								
9	Normal Plant			0.5 -	0.0 b	0.0 b	0.0 -	0.0 na	0.0 na
	Fierce EZ	0.19	lb ai/a B						
10	Normal Plant			1.0 -	0.0 b	0.0 b	0.0 -	0.0 na	0.0 na
	Fierce EZ	0.19	lb ai/a B						
	Metribuzin	0.188	lb ai/a B						

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
Mean separations are based on the complete error term.
t=Mean descriptions are reported in transformed data units, and are not de-transformed.
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. 42=3.3; 43,66=3; 44=1.8
* Adjusted means
Excluded replicate 2 in column 66
Could not calculate LSD (% mean diff) or mean separation letters for columns 10,36,45,46,47,66,84,85,86,99,100,101,108,109,110,115 because error variance is 0.
Mean separation letters are 'na' (not applicable) when error variance is 0
^Calculated from residual.
d=Means are reported in de-transformed data units

The Ohio State University

2024 USB Metribuzin Early Planted Soybean Trial

Trial ID: 24USBMETEARLYPL_3
Protocol ID: 24USBMETEARLYPL Location: Trial Year: 2024
Study Director: Sponsor Contact:
Investigator:

Assessed By								
Rating Date			Jun-14-2024	Jun-14-2024	Jun-14-2024	Jun-14-2024	Jun-14-2024	Jun-14-2024
Part Rated								
Rating Type			COUPLA	COUPLA	COUPLA	COUPLA	COUPLA	COUPLA
Rating Unit				0.25 m2	0.25 m2		0.25 m2	0.25 m2
Rating Min/Max/Interval								
Sample Size			1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis								
Reporting Basis								
Number of Subsamples			1	1	1	1	1	1
Crop Type, Code								
Crop Scientific Name								
Crop Name								
Pest Type			W, Weed	W, Weed	W, Weed	W, Weed	W, Weed	W, Weed
Pest Code			CIRAR	AMATU	AMATU	AMATU	SIDSP	SIDSP
Pest Scientific Name			Cirsium arvense	Amaranthus tube>	Amaranthus tube>	Amaranthus tube>	Sida spinosa	Sida spinosa
Pest Name			Californian thi>	tall waterhemp	tall waterhemp	tall waterhemp	Prickly sida	Prickly sida
Rating Timing			28 DAT	28 DAT	28 DAT	28 DAT	28 DAT	28 DAT
Days After First/Last Applic.			81, 15	81, 15	81, 15	81, 15	81, 15	81, 15
Trt-Eval Interval								
Plant-Eval Interval			81 DP-1	81 DP-1	81 DP-1	81 DP-1	81 DP-1	81 DP-1
Days After Emergence			57 DE-1	57 DE-1	57 DE-1	57 DE-1	57 DE-1	57 DE-1
ARM Action Codes			T21		AL	ET16 T22	ET16	ET16
Number of Decimals								
Data Entry Date				Jun-17-2024	Jun-17-2024		Jun-17-2024	Jun-17-2024

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	80*	81*	82* dAL	83*	84*	85*
11	Normal Plant				0.3 -	0.0 b	0.0 b	0.0 -	0.0 na	0.0 na
	Fierce EZ	0.19	lb ai/a	B						
	Metribuzin	0.375	lb ai/a	B						
12	Normal Plant				0.3 -	0.0 b	0.0 b	0.0 -	0.0 na	0.0 na
	Fierce EZ	0.19	lb ai/a	B						
	Metribuzin	0.56	lb ai/a	B						
13	Normal Plant				0.5 -	0.0 b	0.0 b	0.0 -	0.0 na	0.0 na
	Fierce EZ	0.19	lb ai/a	B						
	Metribuzin	0.75	lb ai/a	B						
14	Normal Plant				3.8 -	0.8 b	0.7 b	2.8 -	0.0 na	0.0 na
	Spartan	0.313	lb ai/a	B						
15	Normal Plant				0.3 -	0.3 b	0.0 b	0.3 -	0.0 na	0.0 na
	Preview 2:1	0.6	lb ai/a	B						
16	Normal Plant				0.5 -	24.3 a	19.5 a	47.8	1.8	0.8
	utc									
LSD P=.05					3.32	8.13	1.85 - 10.56	2.37	.	.
Standard Deviation					2.26	5.53	0.21t	1.59	0.00	0.00
CV					257.97	175.13	110.76t	372.14	0.0	0.0
Levene's F^					1.695	1.546	1.545	1.489	.	.
Levene's Prob(F)					0.158	0.20	0.20	0.23	.	.
Shapiro-Wilk^					0.8372*	0.6664*	0.7529*	0.7036*	.	.
P(Shapiro-Wilk)^					0.0002*	0.0*	0.0*	0.0*	.	.
Skewness^					1.7264*	2.4036*	1.372*	2.0818*	.	.
P(Skewness)^					0.0004*	0.0*	0.0035*	0.0001*	.	.
Kurtosis^					7.1181*	12.4982*	7.4345*	9.8813*	.	.
P(Kurtosis)^					0.0*	0.0*	0.0*	0.0*	.	.
Analyzed as					RCB	RCB	RCB	RCB	RCB	RCB
Replicate F					0.850	0.879	0.195	1.273	NaN	NaN
Replicate Prob(F)					0.4819	0.4677	0.8988	0.3136	NaN	NaN
Treatment F					1.107	9.519	18.319	1.661	NaN	NaN
Treatment Prob(F)					0.3946	0.0001	0.0001	0.1880	NaN	NaN

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
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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. 42=3.3; 43,66=3; 44=1.8
* Adjusted means
Excluded replicate 2 in column 66
Could not calculate LSD (% mean diff) or mean separation letters for columns 10,36,45,46,47,66,84,85,86,99,100,101,108,109,110,115 because error variance is 0.
Mean separation letters are 'na' (not applicable) when error variance is 0
^Calculated from residual.
d=Means are reported in de-transformed data units

The Ohio State University

2024 USB Metribuzin Early Planted Soybean Trial

Trial ID: 24USBMETEARLYPL_3
Protocol ID: 24USBMETEARLYPL Location: Trial Year: 2024
Study Director: Sponsor Contact:
Investigator:

Assessed By									
Rating Date				Jun-14-2024	Jun-14-2024	Jun-14-2024	Jun-14-2024	Jun-24-2024	Jun-24-2024
Part Rated									
Rating Type				COUPLA	COUPLA	COUPLA	COUPLA	COUPLA	COUPLA
Rating Unit					0.25 m2	0.25 m2	0.25 m2	0.25 m2	0.25 m2
Rating Min/Max/Interval									
Sample Size				1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis									
Reporting Basis									
Number of Subsamples				1	1	1	1	1	1
Crop Type, Code									
Crop Scientific Name									
Crop Name									
Pest Type				W, Weed	W, Weed	W, Weed	W, Weed	W, Weed	W, Weed
Pest Code				SIDSP	CONAR	CONAR	CONAR	SETFA	SETFA
Pest Scientific Name				Sida spinosa	Convolvulus arv>	Convolvulus arv>	Convolvulus arv>	Setaria faberi	Setaria faberi
Pest Name				Prickly sida	Field bindweed	Field bindweed	Field bindweed	Giant foxtail	Giant foxtail
Rating Timing				28 DAT	28 DAT	28 DAT	28 DAT	ATPOST	ATPOST
Days After First/Last Applic.				81, 15	81, 15	81, 15	81, 15	91, 25	91, 25
Trt-Eval Interval									
Plant-Eval Interval				81 DP-1	81 DP-1	81 DP-1	81 DP-1	91 DP-1	91 DP-1
Days After Emergence				57 DE-1	57 DE-1	57 DE-1	57 DE-1	67 DE-1	67 DE-1
ARM Action Codes				ET16 T23			T24	AL	AL
Number of Decimals									
Data Entry Date					Jun-17-2024	Jun-17-2024		Jun-25-2024	Jun-25-2024
Trt No. / Treatment Name	Rate	Rate Unit	Appl Code	86*	87*	88*	89*	90* dAL	91* dAL
1 Early Plant									
Fierce EZ	0.143	lb ai/a	A						
AMSOL	2.5	% v/v	C						
Roundup Powermax 3	1.12	lb ae/a	C						
Enlist One	1	qt/a	C						
2 Early Plant									
Fierce EZ	0.143	lb ai/a	A						
Metribuzin	0.188	lb ai/a	A						
3 Early Plant									
Fierce EZ	0.143	lb ai/a	A						
Metribuzin	0.375	lb ai/a	A						
4 Early Plant									
Fierce EZ	0.143	lb ai/a	A						
Metribuzin	0.56	lb ai/a	A						
5 Early Plant									
Fierce EZ	0.143	lb ai/a	A						
Metribuzin	0.75	lb ai/a	A						
6 Early Plant									
Spartan	0.313	lb ai/a	A						
7 Early Plant									
Preview 2:1	0.6	lb ai/a	A						
8 Early Plant									
utc									
9 Normal Plant				0.0 na	1.8 -	0.0 -	1.8 -	1.6 bc	0.9 cd
Fierce EZ	0.19	lb ai/a	B						
10 Normal Plant				0.0 na	2.5 -	0.0 -	2.5 -	1.2 bc	0.6 cd
Fierce EZ	0.19	lb ai/a	B						
Metribuzin	0.188	lb ai/a	B						

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
Mean separations are based on the complete error term.
t=Mean descriptions are reported in transformed data units, and are not de-transformed.
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. 42=3.3; 43,66=3; 44=1.8
* Adjusted means
Excluded replicate 2 in column 66
Could not calculate LSD (% mean diff) or mean separation letters for columns 10,36,45,46,47,66,84,85,86,99,100,101,108,109,110,115 because error variance is 0.
Mean separation letters are 'na' (not applicable) when error variance is 0
^Calculated from residual.
d=Means are reported in de-transformed data units

The Ohio State University

2024 USB Metribuzin Early Planted Soybean Trial

Trial ID: 24USBMETEARLYPL_3
Protocol ID: 24USBMETEARLYPL Location: Trial Year: 2024
Study Director: Sponsor Contact:
Investigator:

Assessed By						
Rating Date	Jun-14-2024	Jun-14-2024	Jun-14-2024	Jun-14-2024	Jun-24-2024	Jun-24-2024
Part Rated						
Rating Type	COUPLA	COUPLA	COUPLA	COUPLA	COUPLA	COUPLA
Rating Unit		0.25 m2	0.25 m2	0.25 m2	0.25 m2	0.25 m2
Rating Min/Max/Interval						
Sample Size	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis						
Reporting Basis						
Number of Subsamples	1	1	1	1	1	1
Crop Type, Code						
Crop Scientific Name						
Crop Name						
Pest Type	W, Weed	W, Weed	W, Weed	W, Weed	W, Weed	W, Weed
Pest Code	SIDSP	CONAR	CONAR	CONAR	SETFA	SETFA
Pest Scientific Name	Sida spinosa	Convolvulus arv>	Convolvulus arv>	Convolvulus arv>	Setaria faberi	Setaria faberi
Pest Name	Prickly sida	Field bindweed	Field bindweed	Field bindweed	Giant foxtail	Giant foxtail
Rating Timing	28 DAT	28 DAT	28 DAT	28 DAT	ATPOST	ATPOST
Days After First/Last Applic.	81, 15	81, 15	81, 15	81, 15	91, 25	91, 25
Trt-Eval Interval						
Plant-Eval Interval	81 DP-1	81 DP-1	81 DP-1	81 DP-1	91 DP-1	91 DP-1
Days After Emergence	57 DE-1	57 DE-1	57 DE-1	57 DE-1	67 DE-1	67 DE-1
ARM Action Codes	ET16 T23			T24	AL	AL
Number of Decimals						
Data Entry Date		Jun-17-2024	Jun-17-2024		Jun-25-2024	Jun-25-2024

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	86*	87*	88*	89*	90* dAL	91* dAL
11	Normal Plant				0.0 na	0.0 -	0.0 -	0.0 -	2.9 bc	0.0 d
	Fierce EZ	0.19	lb ai/a	B						
	Metribuzin	0.375	lb ai/a	B						
12	Normal Plant				0.0 na	0.3 -	1.3 -	1.5 -	0.4 c	1.1 cd
	Fierce EZ	0.19	lb ai/a	B						
	Metribuzin	0.56	lb ai/a	B						
13	Normal Plant				0.0 na	0.0 -	3.8 -	3.8 -	0.9 bc	1.6 bcd
	Fierce EZ	0.19	lb ai/a	B						
	Metribuzin	0.75	lb ai/a	B						
14	Normal Plant				0.0 na	0.0 -	0.0 -	0.0 -	1.9 bc	4.2 bc
	Spartan	0.313	lb ai/a	B						
15	Normal Plant				0.0 na	0.0 -	0.0 -	0.0 -	5.8 b	5.9 b
	Preview 2:1	0.6	lb ai/a	B						
16	Normal Plant				2.5	0.0 -	3.0 -	3.0 -	23.3 a	27.5 a
	utc									
LSD P=.05					.	3.24	5.17	5.87	2.32 - 15.11	2.15 - 16.52
Standard Deviation					0.00	2.21	3.52	3.99	0.29t	0.26t
CV					0.0	392.04	351.53	255.67	51.39t	48.42t
Levene's F^					.	0.707	0.607	0.372	1.084	0.906
Levene's Prob(F)					.	0.666	0.745	0.91	0.404	0.518
Shapiro-Wilk^					.	0.7591*	0.7984*	0.9035*	0.9729	0.9777
P(Shapiro-Wilk)^					.	0.0*	0.0*	0.0076*	0.5844	0.7299
Skewness^					.	2.1229*	1.8668*	1.146*	-0.1898	-0.3798
P(Skewness)^					.	0.0*	0.0002*	0.0128*	0.6646	0.3878
Kurtosis^					.	6.9155*	5.1852*	1.6583	-0.81	-0.3498
P(Kurtosis)^					.	0.0*	0.0*	0.0592	0.3462	0.6824
Analyzed as					RCB	RCB	RCB	RCB	RCB	RCB
Replicate F					NaN	0.711	0.971	1.679	2.013	1.686
Replicate Prob(F)					NaN	0.5562	0.4250	0.2020	0.1429	0.2005
Treatment F					NaN	0.804	0.769	0.540	7.517	13.155
Treatment Prob(F)					NaN	0.5931	0.6195	0.7942	0.0001	0.0001

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
Mean separations are based on the complete error term.
t=Mean descriptions are reported in transformed data units, and are not de-transformed.
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. 42=3.3; 43,66=3; 44=1.8
* Adjusted means
Excluded replicate 2 in column 66
Could not calculate LSD (% mean diff) or mean separation letters for columns 10,36,45,46,47,66,84,85,86,99,100,101,108,109,110,115 because error variance is 0.
Mean separation letters are 'na' (not applicable) when error variance is 0
^Calculated from residual.
d=Means are reported in de-transformed data units

The Ohio State University

2024 USB Metribuzin Early Planted Soybean Trial

Trial ID: 24USBMETEARLYPL_3
Protocol ID: 24USBMETEARLYPL Location: Trial Year: 2024
Study Director: Sponsor Contact:
Investigator:

Assessed By								
Rating Date			Jun-24-2024	Jun-24-2024	Jun-24-2024	Jun-24-2024	Jun-24-2024	Jun-24-2024
Part Rated								
Rating Type			COUPLA	COUPLA	COUPLA	COUPLA	COUPLA	COUPLA
Rating Unit				0.25 m2	0.25 m2		0.25 m2	0.25 m2
Rating Min/Max/Interval								
Sample Size			1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis								
Reporting Basis								
Number of Subsamples			1	1	1	1	1	1
Crop Type, Code								
Crop Scientific Name								
Crop Name								
Pest Type			W, Weed	W, Weed	W, Weed	W, Weed	W, Weed	W, Weed
Pest Code			SETFA	AMBTR	AMBTR	AMBTR	AMATU	AMATU
Pest Scientific Name			Setaria faberi	Ambrosia trifida	Ambrosia trifida	Ambrosia trifida	Amaranthus tube>	Amaranthus tube>
Pest Name			Giant foxtail	Giant ragweed	Giant ragweed	Giant ragweed	tall waterhemp	tall waterhemp
Rating Timing			ATPOST	ATPOST	ATPOST	ATPOST	ATPOST	ATPOST
Days After First/Last Applic.			91, 25	91, 25	91, 25	91, 25	91, 25	91, 25
Trt-Eval Interval								
Plant-Eval Interval			91 DP-1	91 DP-1	91 DP-1	91 DP-1	91 DP-1	91 DP-1
Days After Emergence			67 DE-1	67 DE-1	67 DE-1	67 DE-1	67 DE-1	67 DE-1
ARM Action Codes			AL T25	AA		T26	AL	AL
Number of Decimals								
Data Entry Date				Jun-25-2024	Jun-25-2024		Jun-25-2024	Jun-25-2024

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	92* dAL	93* dAA	94*	95*	96* dAL	97* dAL
1	Early Plant									
	Fierce EZ	0.143	lb ai/a	A						
	AMSOL	2.5	% v/v	C						
	Roundup Powermax 3	1.12	lb ae/a	C						
	Enlist One	1	qt/a	C						
2	Early Plant									
	Fierce EZ	0.143	lb ai/a	A						
	Metribuzin	0.188	lb ai/a	A						
3	Early Plant									
	Fierce EZ	0.143	lb ai/a	A						
	Metribuzin	0.375	lb ai/a	A						
4	Early Plant									
	Fierce EZ	0.143	lb ai/a	A						
	Metribuzin	0.56	lb ai/a	A						
5	Early Plant									
	Fierce EZ	0.143	lb ai/a	A						
	Metribuzin	0.75	lb ai/a	A						
6	Early Plant									
	Spartan	0.313	lb ai/a	A						
7	Early Plant									
	Preview 2:1	0.6	lb ai/a	A						
8	Early Plant									
	utc									
9	Normal Plant				2.7 bc	0.5 -	1.0 -	2.0 -	0.0 b	0.0 b
	Fierce EZ	0.19	lb ai/a	B						
10	Normal Plant				1.8 c	0.3 -	0.8 -	1.3 -	0.2 b	0.2 b
	Fierce EZ	0.19	lb ai/a	B						
	Metribuzin	0.188	lb ai/a	B						

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
Mean separations are based on the complete error term.
t=Mean descriptions are reported in transformed data units, and are not de-transformed.
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. 42=3.3; 43,66=3; 44=1.8
* Adjusted means
Excluded replicate 2 in column 66
Could not calculate LSD (% mean diff) or mean separation letters for columns 10,36,45,46,47,66,84,85,86,99,100,101,108,109,110,115 because error variance is 0.
Mean separation letters are 'na' (not applicable) when error variance is 0
^Calculated from residual.
d=Means are reported in de-transformed data units

The Ohio State University

2024 USB Metribuzin Early Planted Soybean Trial

Trial ID: 24USBMETEARLYPL_3
Protocol ID: 24USBMETEARLYPL Location: Trial Year: 2024
Study Director: Sponsor Contact:
Investigator:

Assessed By								
Rating Date			Jun-24-2024	Jun-24-2024	Jun-24-2024	Jun-24-2024	Jun-24-2024	Jun-24-2024
Part Rated								
Rating Type			COUPLA	COUPLA	COUPLA	COUPLA	COUPLA	COUPLA
Rating Unit				0.25 m2	0.25 m2		0.25 m2	0.25 m2
Rating Min/Max/Interval								
Sample Size			1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis								
Reporting Basis								
Number of Subsamples			1	1	1	1	1	1
Crop Type, Code								
Crop Scientific Name								
Crop Name								
Pest Type			W, Weed	W, Weed	W, Weed	W, Weed	W, Weed	W, Weed
Pest Code			SETFA	AMBTR	AMBTR	AMBTR	AMATU	AMATU
Pest Scientific Name			Setaria faberi	Ambrosia trifida	Ambrosia trifida	Ambrosia trifida	Amaranthus tube>	Amaranthus tube>
Pest Name			Giant foxtail	Giant ragweed	Giant ragweed	Giant ragweed	tall waterhemp	tall waterhemp
Rating Timing			ATPOST	ATPOST	ATPOST	ATPOST	ATPOST	ATPOST
Days After First/Last Applic.			91, 25	91, 25	91, 25	91, 25	91, 25	91, 25
Trt-Eval Interval								
Plant-Eval Interval			91 DP-1	91 DP-1	91 DP-1	91 DP-1	91 DP-1	91 DP-1
Days After Emergence			67 DE-1	67 DE-1	67 DE-1	67 DE-1	67 DE-1	67 DE-1
ARM Action Codes			AL T25	AA		T26	AL	AL
Number of Decimals								
Data Entry Date				Jun-25-2024	Jun-25-2024		Jun-25-2024	Jun-25-2024
Trt No. / Treatment Name	Rate	Rate Unit / Appl Code	92* dAL	93* dAA	94*	95*	96* dAL	97* dAL
11 Normal Plant			2.9 bc	1.0 -	0.5 -	2.0 -	0.2 b	0.0 b
Fierce EZ	0.19	lb ai/a B						
Metribuzin	0.375	lb ai/a B						
12 Normal Plant			1.4 c	0.7 -	1.3 -	2.3 -	0.0 b	0.0 b
Fierce EZ	0.19	lb ai/a B						
Metribuzin	0.56	lb ai/a B						
13 Normal Plant			2.8 bc	0.1 -	0.3 -	0.8 -	0.0 b	0.0 b
Fierce EZ	0.19	lb ai/a B						
Metribuzin	0.75	lb ai/a B						
14 Normal Plant			6.1 bc	1.8 -	1.5 -	4.0 -	0.2 b	0.3 b
Spartan	0.313	lb ai/a B						
15 Normal Plant			12.1 b	0.9 -	1.5 -	2.8 -	0.6 b	0.0 b
Preview 2:1	0.6	lb ai/a B						
16 Normal Plant			51.8 a	0.2 -	2.0 -	2.8 -	9.0 a	9.3 a
utc								
LSD P=.05			3.60 - 31.54	1.78 - 2.02	1.24	2.49	0.78 - 3.97	0.49 - 3.03
Standard Deviation			0.27t	4.35t	0.84	1.70	0.15t	0.10t
CV			34.21t	98.56t	77.03	76.44	84.2t	67.78t
Levene's F^			1.08	0.482	1.259	0.725	0.91	0.39
Levene's Prob(F)			0.406	0.838	0.311	0.652	0.515	0.899
Shapiro-Wilk^			0.9624	0.9761	0.9542	0.9625	0.9744	0.9027*
P(Shapiro-Wilk)^			0.3195	0.6817	0.1895	0.3202	0.6285	0.0073*
Skewness^			-0.111	0.3732	-0.2044	0.581	-0.0071	0.7127
P(Skewness)^			0.7996	0.396	0.6407	0.1901	0.987	0.1104
Kurtosis^			-0.9449	-0.4165	-0.8514	0.3933	-0.0438	1.2539
P(Kurtosis)^			0.2731	0.6263	0.3225	0.6456	0.9591	0.1488
Analyzed as			RCB	RCB	RCB	RCB	RCB	RCB
Replicate F			3.297	1.201	7.675	3.632	1.804	3.503
Replicate Prob(F)			0.0404	0.3336	0.0012	0.0296	0.1773	0.0334
Treatment F			11.023	0.795	1.906	1.377	20.525	47.178
Treatment Prob(F)			0.0001	0.6002	0.1195	0.2662	0.0001	0.0001

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
Mean separations are based on the complete error term.
t=Mean descriptions are reported in transformed data units, and are not de-transformed.
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. 42=3.3; 43,66=3; 44=1.8
* Adjusted means
Excluded replicate 2 in column 66
Could not calculate LSD (% mean diff) or mean separation letters for columns 10,36,45,46,47,66,84,85,86,99,100,101,108,109,110,115 because error variance is 0.
Mean separation letters are 'na' (not applicable) when error variance is 0
^Calculated from residual.
d=Means are reported in de-transformed data units

The Ohio State University

2024 USB Metribuzin Early Planted Soybean Trial

Trial ID: 24USBMETEARLYPL_3
Protocol ID: 24USBMETEARLYPL Location: Trial Year: 2024
Study Director: Sponsor Contact:
Investigator:

Assessed By							
Rating Date			Jun-24-2024	Jun-24-2024	Jun-24-2024	Jun-24-2024	Jun-24-2024
Part Rated							
Rating Type			COUPLA	COUPLA	COUPLA	COUPLA	COUPLA
Rating Unit				0.25 m2	0.25 m2		0.25 m2
Rating Min/Max/Interval							
Sample Size			1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis							
Reporting Basis							
Number of Subsamples			1	1	1	1	1
Crop Type, Code							
Crop Scientific Name							
Crop Name							
Pest Type			W, Weed	W, Weed	W, Weed	W, Weed	W, Weed
Pest Code			AMATU	CHEAL	CHEAL	CHEAL	CIRAR
Pest Scientific Name			Amaranthus tube>	Chenopodium alb>	Chenopodium alb>	Chenopodium alb>	Cirsium arvense
Pest Name			tall waterhemp	common lambsqua>	common lambsqua>	common lambsqua>	Californian thi>
Rating Timing			ATPOST	ATPOST	ATPOST	ATPOST	ATPOST
Days After First/Last Applic.			91, 25	91, 25	91, 25	91, 25	91, 25
Trt-Eval Interval							
Plant-Eval Interval			91 DP-1	91 DP-1	91 DP-1	91 DP-1	91 DP-1
Days After Emergence			67 DE-1	67 DE-1	67 DE-1	67 DE-1	67 DE-1
ARM Action Codes			T27	ET16	ET16	ET16 T28	
Number of Decimals							
Data Entry Date				Jun-25-2024	Jun-25-2024		Jun-25-2024

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	98*	99*	100*	101*	102*
1	Early Plant								
	Fierce EZ	0.143	lb ai/a	A					
	AMSOL	2.5	% v/v	C					
	Roundup Powermax 3	1.12	lb ae/a	C					
	Enlist One	1	qt/a	C					
2	Early Plant								
	Fierce EZ	0.143	lb ai/a	A					
	Metribuzin	0.188	lb ai/a	A					
3	Early Plant								
	Fierce EZ	0.143	lb ai/a	A					
	Metribuzin	0.375	lb ai/a	A					
4	Early Plant								
	Fierce EZ	0.143	lb ai/a	A					
	Metribuzin	0.56	lb ai/a	A					
5	Early Plant								
	Fierce EZ	0.143	lb ai/a	A					
	Metribuzin	0.75	lb ai/a	A					
6	Early Plant								
	Spartan	0.313	lb ai/a	A					
7	Early Plant								
	Preview 2:1	0.6	lb ai/a	A					
8	Early Plant								
	utc								
9	Normal Plant				0.0 b	0.0 na	0.0 na	0.0 na	0.0 -
	Fierce EZ	0.19	lb ai/a	B					
10	Normal Plant				0.5 b	0.0 na	0.0 na	0.0 na	0.8 -
	Fierce EZ	0.19	lb ai/a	B					
	Metribuzin	0.188	lb ai/a	B					

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
Mean separations are based on the complete error term.
t=Mean descriptions are reported in transformed data units, and are not de-transformed.
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. 42=3.3; 43,66=3; 44=1.8
* Adjusted means
Excluded replicate 2 in column 66
Could not calculate LSD (% mean diff) or mean separation letters for columns 10,36,45,46,47,66,84,85,86,99,100,101,108,109,110,115 because error variance is 0.
Mean separation letters are 'na' (not applicable) when error variance is 0
^Calculated from residual.
d=Means are reported in de-transformed data units

The Ohio State University

2024 USB Metribuzin Early Planted Soybean Trial

Trial ID: 24USBMETEARLYPL_3
Protocol ID: 24USBMETEARLYPL Location: Trial Year: 2024
Study Director: Sponsor Contact:
Investigator:

Assessed By								
Rating Date				Jun-24-2024	Jun-24-2024	Jun-24-2024	Jun-24-2024	Jun-24-2024
Part Rated								
Rating Type				COUPLA	COUPLA	COUPLA	COUPLA	COUPLA
Rating Unit					0.25 m2	0.25 m2		0.25 m2
Rating Min/Max/Interval								
Sample Size				1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis								
Reporting Basis								
Number of Subsamples				1	1	1	1	1
Crop Type, Code								
Crop Scientific Name								
Crop Name								
Pest Type				W, Weed	W, Weed	W, Weed	W, Weed	W, Weed
Pest Code				AMATU	CHEAL	CHEAL	CHEAL	CIRAR
Pest Scientific Name				Amaranthus tube>	Chenopodium alb>	Chenopodium alb>	Chenopodium alb>	Cirsium arvense
Pest Name				tall waterhemp	common lambsqua>	common lambsqua>	common lambsqua>	Californian thi>
Rating Timing				ATPOST	ATPOST	ATPOST	ATPOST	ATPOST
Days After First/Last Applic.				91, 25	91, 25	91, 25	91, 25	91, 25
Trt-Eval Interval								
Plant-Eval Interval				91 DP-1	91 DP-1	91 DP-1	91 DP-1	91 DP-1
Days After Emergence				67 DE-1	67 DE-1	67 DE-1	67 DE-1	67 DE-1
ARM Action Codes				T27	ET16	ET16	ET16 T28	
Number of Decimals								
Data Entry Date					Jun-25-2024	Jun-25-2024		Jun-25-2024
Trt No.	Treatment Name	Rate	Rate Unit / Appl Code	98*	99*	100*	101*	102*
11	Normal Plant			0.3 b	0.0 na	0.0 na	0.0 na	0.0 -
	Fierce EZ	0.19	lb ai/a B					
	Metribuzin	0.375	lb ai/a B					
12	Normal Plant			0.0 b	0.0 na	0.0 na	0.0 na	0.5 -
	Fierce EZ	0.19	lb ai/a B					
	Metribuzin	0.56	lb ai/a B					
13	Normal Plant			0.0 b	0.0 na	0.0 na	0.0 na	0.3 -
	Fierce EZ	0.19	lb ai/a B					
	Metribuzin	0.75	lb ai/a B					
14	Normal Plant			0.8 b	0.0 na	0.0 na	0.0 na	0.3 -
	Spartan	0.313	lb ai/a B					
15	Normal Plant			0.8 b	0.0 na	0.0 na	0.0 na	0.0 -
	Preview 2:1	0.6	lb ai/a B					
16	Normal Plant			20.3 a	2.3	1.5	3.8	0.0 -
	utc							
LSD P=.05				4.01	.	.	.	1.06
Standard Deviation				2.73	0.00	0.00	0.00	0.72
CV				97.02	0.0	0.0	0.0	329.44
Levene's F^				1.30	.	.	.	0.586
Levene's Prob(F)				0.293	.	.	.	0.761
Shapiro-Wilk^				0.7444*	.	.	.	0.7935*
P(Shapiro-Wilk)^				0.0*	.	.	.	0.0*
Skewness^				-2.05*	.	.	.	1.9613*
P(Skewness)^				0.0*	.	.	.	0.0*
Kurtosis^				11.1529*	.	.	.	4.8919*
P(Kurtosis)^				0.0*	.	.	.	0.0*
Analyzed as				RCB	RCB	RCB	RCB	RCB
Replicate F				1.595	NaN	NaN	NaN	0.221
Replicate Prob(F)				0.2206	NaN	NaN	NaN	0.8810
Treatment F				26.722	NaN	NaN	NaN	0.610
Treatment Prob(F)				0.0001	NaN	NaN	NaN	0.7411

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
Mean separations are based on the complete error term.
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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. 42=3.3; 43,66=3; 44=1.8
* Adjusted means
Excluded replicate 2 in column 66
Could not calculate LSD (% mean diff) or mean separation letters for columns 10,36,45,46,47,66,84,85,86,99,100,101,108,109,110,115 because error variance is 0.
Mean separation letters are 'na' (not applicable) when error variance is 0
^Calculated from residual.
d=Means are reported in de-transformed data units

The Ohio State University

2024 USB Metribuzin Early Planted Soybean Trial

Trial ID: 24USBMETEARLYPL_3
Protocol ID: 24USBMETEARLYPL Location: Trial Year: 2024
Study Director: Sponsor Contact:
Investigator:

Assessed By								
Rating Date				Jun-24-2024	Jun-24-2024	Jun-24-2024	Jun-24-2024	Jun-24-2024
Part Rated								
Rating Type				COUPLA	COUPLA	COUPLA	COUPLA	COUPLA
Rating Unit				0.25 m2		0.25 m2	0.25 m2	
Rating Min/Max/Interval								
Sample Size				1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis								
Reporting Basis								
Number of Subsamples				1	1	1	1	1
Crop Type, Code								
Crop Scientific Name								
Crop Name								
Pest Type				W, Weed	W, Weed	W, Weed	W, Weed	W, Weed
Pest Code				CIRAR	CIRAR	CONAR	CONAR	CONAR
Pest Scientific Name				Cirsium arvense	Cirsium arvense	Convolvulus arv>	Convolvulus arv>	Convolvulus arv>
Pest Name				Californian thi>	Californian thi>	Field bindweed	Field bindweed	Field bindweed
Rating Timing				ATPOST	ATPOST	ATPOST	ATPOST	ATPOST
Days After First/Last Applic.				91, 25	91, 25	91, 25	91, 25	91, 25
Trt-Eval Interval								
Plant-Eval Interval				91 DP-1	91 DP-1	91 DP-1	91 DP-1	91 DP-1
Days After Emergence				67 DE-1	67 DE-1	67 DE-1	67 DE-1	67 DE-1
ARM Action Codes					T29			T30
Number of Decimals								
Data Entry Date				Jun-25-2024		Jun-25-2024	Jun-25-2024	
Trt No. Treatment Name	Rate	Rate Unit	Appl Code	103*	104*	105*	106*	107*
1 Early Plant								
Fierce EZ	0.143	lb ai/a	A					
AMSOL	2.5	% v/v	C					
Roundup Powermax 3	1.12	lb ae/a	C					
Enlist One	1	qt/a	C					
2 Early Plant								
Fierce EZ	0.143	lb ai/a	A					
Metribuzin	0.188	lb ai/a	A					
3 Early Plant								
Fierce EZ	0.143	lb ai/a	A					
Metribuzin	0.375	lb ai/a	A					
4 Early Plant								
Fierce EZ	0.143	lb ai/a	A					
Metribuzin	0.56	lb ai/a	A					
5 Early Plant								
Fierce EZ	0.143	lb ai/a	A					
Metribuzin	0.75	lb ai/a	A					
6 Early Plant								
Spartan	0.313	lb ai/a	A					
7 Early Plant								
Preview 2:1	0.6	lb ai/a	A					
8 Early Plant								
utc								
9 Normal Plant				0.3 -	0.3 -	1.5 -	0.0 -	1.5 -
Fierce EZ	0.19	lb ai/a	B					
10 Normal Plant				0.0 -	0.8 -	0.5 -	1.3 -	1.8 -
Fierce EZ	0.19	lb ai/a	B					
Metribuzin	0.188	lb ai/a	B					

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
Mean separations are based on the complete error term.
t=Mean descriptions are reported in transformed data units, and are not de-transformed.
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. 42=3.3; 43,66=3; 44=1.8
* Adjusted means
Excluded replicate 2 in column 66
Could not calculate LSD (% mean diff) or mean separation letters for columns 10,36,45,46,47,66,84,85,86,99,100,101,108,109,110,115 because error variance is 0.
Mean separation letters are 'na' (not applicable) when error variance is 0
^Calculated from residual.
d=Means are reported in de-transformed data units

The Ohio State University

2024 USB Metribuzin Early Planted Soybean Trial

Trial ID: 24USBMETEARLYPL_3
Protocol ID: 24USBMETEARLYPL Location: Trial Year: 2024
Study Director: Sponsor Contact:
Investigator:

Assessed By							
Rating Date				Jun-24-2024	Jun-24-2024	Jun-24-2024	Jun-24-2024	Jun-24-2024
Part Rated								
Rating Type				COUPLA	COUPLA	COUPLA	COUPLA	COUPLA
Rating Unit				0.25 m2		0.25 m2	0.25 m2	
Rating Min/Max/Interval								
Sample Size				1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis								
Reporting Basis								
Number of Subsamples				1	1	1	1	1
Crop Type, Code								
Crop Scientific Name								
Crop Name								
Pest Type				W, Weed	W, Weed	W, Weed	W, Weed	W, Weed
Pest Code				CIRAR	CIRAR	CONAR	CONAR	CONAR
Pest Scientific Name				Cirsium arvense	Cirsium arvense	Convolvulus arv>	Convolvulus arv>	Convolvulus arv>
Pest Name				Californian thi>	Californian thi>	Field bindweed	Field bindweed	Field bindweed
Rating Timing				ATPOST	ATPOST	ATPOST	ATPOST	ATPOST
Days After First/Last Applic.				91, 25	91, 25	91, 25	91, 25	91, 25
Trt-Eval Interval								
Plant-Eval Interval				91 DP-1	91 DP-1	91 DP-1	91 DP-1	91 DP-1
Days After Emergence				67 DE-1	67 DE-1	67 DE-1	67 DE-1	67 DE-1
ARM Action Codes					T29			T30
Number of Decimals								
Data Entry Date				Jun-25-2024		Jun-25-2024	Jun-25-2024	

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	103*	104*	105*	106*	107*
11	Normal Plant				0.3 -	0.3 -	0.0 -	0.0 -	0.0 -
	Fierce EZ	0.19	lb ai/a	B					
	Metribuzin	0.375	lb ai/a	B					
12	Normal Plant				0.0 -	0.5 -	0.8 -	1.0 -	1.8 -
	Fierce EZ	0.19	lb ai/a	B					
	Metribuzin	0.56	lb ai/a	B					
13	Normal Plant				0.0 -	0.3 -	0.3 -	2.0 -	2.3 -
	Fierce EZ	0.19	lb ai/a	B					
	Metribuzin	0.75	lb ai/a	B					
14	Normal Plant				0.3 -	0.5 -	0.0 -	0.0 -	0.0 -
	Spartan	0.313	lb ai/a	B					
15	Normal Plant				0.0 -	0.0 -	0.5 -	0.0 -	0.5 -
	Preview 2:1	0.6	lb ai/a	B					
16	Normal Plant				0.0 -	0.0 -	0.3 -	0.8 -	1.0 -
	utc								
LSD P=.05					0.44	1.11	1.83	2.72	3.70
Standard Deviation					0.30	0.75	1.25	1.85	2.52
CV					321.37	240.63	266.03	296.26	230.01
Levene's F^					0.434	0.694	0.464	0.42	0.231
Levene's Prob(F)					0.871	0.676	0.851	0.88	0.974
Shapiro-Wilk^					0.8211*	0.8844*	0.8881*	0.8791*	0.9438
P(Shapiro-Wilk)^					0.0001*	0.0025*	0.0031*	0.0019*	0.0961
Skewness^					1.4544*	1.4422*	1.472*	1.4837*	0.7925
P(Skewness)^					0.0021*	0.0023*	0.0019*	0.0018*	0.0773
Kurtosis^					2.5112*	2.6937*	4.4667*	3.4095*	0.4667
P(Kurtosis)^					0.0058*	0.0033*	0.0*	0.0003*	0.5855
Analyzed as					RCB	RCB	RCB	RCB	RCB
Replicate F					1.262	0.663	1.842	1.313	2.283
Replicate Prob(F)					0.3128	0.5839	0.1705	0.2967	0.1086
Treatment F					0.738	0.474	0.617	0.667	0.462
Treatment Prob(F)					0.6430	0.8427	0.7358	0.6976	0.8508

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
Mean separations are based on the complete error term.
t=Mean descriptions are reported in transformed data units, and are not de-transformed.
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. 42=3.3; 43,66=3; 44=1.8
* Adjusted means
Excluded replicate 2 in column 66
Could not calculate LSD (% mean diff) or mean separation letters for columns 10,36,45,46,47,66,84,85,86,99,100,101,108,109,110,115 because error variance is 0.
Mean separation letters are 'na' (not applicable) when error variance is 0
^Calculated from residual.
d=Means are reported in de-transformed data units

The Ohio State University

2024 USB Metribuzin Early Planted Soybean Trial

Trial ID: 24USBMETEARLYPL_3
Protocol ID: 24USBMETEARLYPL Location: Trial Year: 2024
Study Director: Sponsor Contact:
Investigator:

Assessed By									Colin Barclay
Rating Date				Jun-24-2024	Jun-24-2024	Jun-24-2024	Jun-24-2024	Jun-24-2024	Sep-18-2024
Part Rated									
Rating Type				COUPLA	COUPLA	COUPLA	CONTRO	STAOBJ	COUPLA
Rating Unit				0.25 m2	0.25 m2		%	/acre	0.25 m2
Rating Min/Max/Interval							0, 100, -		
Sample Size				1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis									
Reporting Basis									
Number of Subsamples				1	1	1	1	1	2
Crop Type, Code								C, GLXMA	
Crop Scientific Name								Glycine max	
Crop Name								Soybean	
Pest Type				W, Weed	W, Weed	W, Weed	W, Weed		W, Weed
Pest Code				MALNE	MALNE	MALNE			AMATU
Pest Scientific Name				Malva neglecta	Malva neglecta	Malva neglecta			Amaranthus tube>
Pest Name				Common mallow	Common mallow	Common mallow			tall waterhemp
Rating Timing				ATPOST	ATPOST	ATPOST		ATPOST	
Days After First/Last Applic.				91, 25	91, 25	91, 25	91, 25	91, 25	177, 86
Trt-Eval Interval									
Plant-Eval Interval				91 DP-1	91 DP-1	91 DP-1	91 DP-1	91 DP-1	177 DP-1
Days After Emergence				67 DE-1	67 DE-1	67 DE-1	67 DE-1	67 DE-1	153 DE-1
ARM Action Codes				ET16	ET16	ET16 T31	AA		
Number of Decimals									
Data Entry Date				Jun-25-2024	Jun-25-2024		Jun-25-2024	Jun-28-2024	Sep-20-2024
Trt No.	**Treatment Name**	**Rate**	**Rate Unit / Appl Code**	**108***	**109***	**110***	**111* dAA**	**112***	**113***
1	Early Plant								
	Fierce EZ	0.143	lb ai/a A						
	AMSOL	2.5	% v/v C						
	Roundup Powermax 3	1.12	lb ae/a C						
	Enlist One	1	qt/a C						
2	Early Plant								
	Fierce EZ	0.143	lb ai/a A						
	Metribuzin	0.188	lb ai/a A						
3	Early Plant								
	Fierce EZ	0.143	lb ai/a A						
	Metribuzin	0.375	lb ai/a A						
4	Early Plant								
	Fierce EZ	0.143	lb ai/a A						
	Metribuzin	0.56	lb ai/a A						
5	Early Plant								
	Fierce EZ	0.143	lb ai/a A						
	Metribuzin	0.75	lb ai/a A						
6	Early Plant								
	Spartan	0.313	lb ai/a A						
7	Early Plant								
	Preview 2:1	0.6	lb ai/a A						
8	Early Plant								
	utc								
9	Normal Plant			0.0 na	0.0 na	0.0 na	93.4 a	108000.0 -	0.0 -
	Fierce EZ	0.19	lb ai/a B						
10	Normal Plant			0.0 na	0.0 na	0.0 na	94.3 a	104000.0 -	0.0 -
	Fierce EZ	0.19	lb ai/a B						
	Metribuzin	0.188	lb ai/a B						

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Due to missing data, the effective replicates used for mean comparisons are: col. 42=3.3; 43,66=3; 44=1.8
* Adjusted means
Excluded replicate 2 in column 66
Could not calculate LSD (% mean diff) or mean separation letters for columns 10,36,45,46,47,66,84,85,86,99,100,101,108,109,110,115 because error variance is 0.
Mean separation letters are 'na' (not applicable) when error variance is 0
^Calculated from residual.
d=Means are reported in de-transformed data units

The Ohio State University

2024 USB Metribuzin Early Planted Soybean Trial

Trial ID: 24USBMETEARLYPL_3
Protocol ID: 24USBMETEARLYPL Location: Trial Year: 2024
Study Director: Sponsor Contact:
Investigator:

Assessed By						Colin Barclay
Rating Date	Jun-24-2024	Jun-24-2024	Jun-24-2024	Jun-24-2024	Jun-24-2024	Sep-18-2024
Part Rated						
Rating Type	COUPLA	COUPLA	COUPLA	CONTRO	STAOBJ	COUPLA
Rating Unit	0.25 m2	0.25 m2		%	/acre	0.25 m2
Rating Min/Max/Interval				0, 100, -		
Sample Size	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis						
Reporting Basis						
Number of Subsamples	1	1	1	1	1	2
Crop Type, Code					C, GLXMA	
Crop Scientific Name					Glycine max	
Crop Name					Soybean	
Pest Type	W, Weed	W, Weed	W, Weed	W, Weed		W, Weed
Pest Code	MALNE	MALNE	MALNE			AMATU
Pest Scientific Name	Malva neglecta	Malva neglecta	Malva neglecta			Amaranthus tube>
Pest Name	Common mallow	Common mallow	Common mallow			tall waterhemp
Rating Timing	ATPOST	ATPOST	ATPOST		ATPOST	
Days After First/Last Applic.	91, 25	91, 25	91, 25	91, 25	91, 25	177, 86
Trt-Eval Interval						
Plant-Eval Interval	91 DP-1	91 DP-1	91 DP-1	91 DP-1	91 DP-1	177 DP-1
Days After Emergence	67 DE-1	67 DE-1	67 DE-1	67 DE-1	67 DE-1	153 DE-1
ARM Action Codes	ET16	ET16	ET16 T31	AA		
Number of Decimals						
Data Entry Date	Jun-25-2024	Jun-25-2024		Jun-25-2024	Jun-28-2024	Sep-20-2024

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	108*	109*	110*	111* dAA	112*	113*
11	Normal Plant				0.0 na	0.0 na	0.0 na	95.3 a	96750.0 -	0.0 -
	Fierce EZ	0.19	lb ai/a	B						
	Metribuzin	0.375	lb ai/a	B						
12	Normal Plant				0.0 na	0.0 na	0.0 na	93.6 a	108500.0 -	0.0 -
	Fierce EZ	0.19	lb ai/a	B						
	Metribuzin	0.56	lb ai/a	B						
13	Normal Plant				0.0 na	0.0 na	0.0 na	95.4 a	98500.0 -	0.0 -
	Fierce EZ	0.19	lb ai/a	B						
	Metribuzin	0.75	lb ai/a	B						
14	Normal Plant				0.0 na	0.0 na	0.0 na	86.0 a	96250.0 -	0.0 -
	Spartan	0.313	lb ai/a	B						
15	Normal Plant				0.0 na	0.0 na	0.0 na	87.8 a	112750.0 -	0.1 -
	Preview 2:1	0.6	lb ai/a	B						
16	Normal Plant				1.5	0.5	2.0	0.0 b	103250.0 -	1.5 -
	utc									
LSD P=.05					.	.	.	8.77 - 9.01	11573.24	0.94
Standard Deviation					0.00	0.00	0.00	6.16t	7870.23	0.64
CV					0.0	0.0	0.0	9.49t	7.6	316.22
Levene's F^					.	.	.	1.439	0.815	21.201*
Levene's Prob(F)					.	.	.	0.236	0.584	0.00*
Shapiro-Wilk^					.	.	.	0.9591	0.9643	0.8155*
P(Shapiro-Wilk)^					.	.	.	0.2597	0.3589	0.0*
Skewness^					.	.	.	-0.0673	-0.1018	0.3674
P(Skewness)^					.	.	.	0.8777	0.816	0.4033
Kurtosis^					.	.	.	-1.111	-0.7224	5.0638*
P(Kurtosis)^					.	.	.	0.1992	0.4002	0.0*
Analyzed as					RCB	RCB	RCB	RCB	RCB	RCB
Replicate F					NaN	NaN	NaN	1.186	2.197	0.827
Replicate Prob(F)					NaN	NaN	NaN	0.3390	0.1185	0.4938
Treatment F					NaN	NaN	NaN	73.790	2.346	2.681
Treatment Prob(F)					NaN	NaN	NaN	0.0001	0.0617	0.0377

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Due to missing data, the effective replicates used for mean comparisons are: col. 42=3.3; 43,66=3; 44=1.8
* Adjusted means
Excluded replicate 2 in column 66
Could not calculate LSD (% mean diff) or mean separation letters for columns 10,36,45,46,47,66,84,85,86,99,100,101,108,109,110,115 because error variance is 0.
Mean separation letters are 'na' (not applicable) when error variance is 0
^Calculated from residual.
d=Means are reported in de-transformed data units

The Ohio State University

2024 USB Metribuzin Early Planted Soybean Trial

Trial ID: 24USBMETEARLYPL_3
Protocol ID: 24USBMETEARLYPL Location: Trial Year: 2024
Study Director: Sponsor Contact:
Investigator:

Assessed By				Colin Barclay	Colin Barclay
Rating Date				Sep-18-2024	Sep-18-2024
Part Rated					
Rating Type				COUPLA	COUPLA
Rating Unit				0.25 m2	0.25 m2
Rating Min/Max/Interval					
Sample Size				1 PLOT	1 PLOT
Collection Basis					
Reporting Basis					
Number of Subsamples				2	2
Crop Type, Code					
Crop Scientific Name					
Crop Name					
Pest Type				W, Weed	W, Weed
Pest Code				AMBTR	SETPU
Pest Scientific Name				Ambrosia trifida	Setaria pumila
Pest Name				Giant ragweed	yellow foxtail
Rating Timing					
Days After First/Last Applic.				177, 86	177, 86
Trt-Eval Interval					
Plant-Eval Interval				177 DP-1	177 DP-1
Days After Emergence				153 DE-1	153 DE-1
ARM Action Codes					ET16
Number of Decimals					
Data Entry Date				Sep-20-2024	Sep-20-2024
Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	114*	115*

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	114*	115*
1	Early Plant					
	Fierce EZ	0.143	lb ai/a	A		
	AMSOL	2.5	% v/v	C		
	Roundup Powermax 3	1.12	lb ae/a	C		
	Enlist One	1	qt/a	C		
2	Early Plant					
	Fierce EZ	0.143	lb ai/a	A		
	Metribuzin	0.188	lb ai/a	A		
3	Early Plant					
	Fierce EZ	0.143	lb ai/a	A		
	Metribuzin	0.375	lb ai/a	A		
4	Early Plant					
	Fierce EZ	0.143	lb ai/a	A		
	Metribuzin	0.56	lb ai/a	A		
5	Early Plant					
	Fierce EZ	0.143	lb ai/a	A		
	Metribuzin	0.75	lb ai/a	A		
6	Early Plant					
	Spartan	0.313	lb ai/a	A		
7	Early Plant					
	Preview 2:1	0.6	lb ai/a	A		
8	Early Plant					
	utc					
9	Normal Plant				0.0 b	0.0 na
	Fierce EZ	0.19	lb ai/a	B		
10	Normal Plant				0.0 b	0.0 na
	Fierce EZ	0.19	lb ai/a	B		
	Metribuzin	0.188	lb ai/a	B		

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
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Due to missing data, the effective replicates used for mean comparisons are: col. 42=3.3; 43,66=3; 44=1.8
* Adjusted means
Excluded replicate 2 in column 66
Could not calculate LSD (% mean diff) or mean separation letters for columns 10,36,45,46,47,66,84,85,86,99,100,101,108,109,110,115 because error variance is 0.
Mean separation letters are 'na' (not applicable) when error variance is 0
^Calculated from residual.
d=Means are reported in de-transformed data units

The Ohio State University

2024 USB Metribuzin Early Planted Soybean Trial

Trial ID: 24USBMETEARLYPL_3
Protocol ID: 24USBMETEARLYPL Location: Trial Year: 2024
Study Director: Sponsor Contact:
Investigator:

Assessed By				Colin Barclay	Colin Barclay
Rating Date				Sep-18-2024	Sep-18-2024
Part Rated					
Rating Type				COUPLA	COUPLA
Rating Unit				0.25 m2	0.25 m2
Rating Min/Max/Interval					
Sample Size				1 PLOT	1 PLOT
Collection Basis					
Reporting Basis					
Number of Subsamples				2	2
Crop Type, Code					
Crop Scientific Name					
Crop Name					
Pest Type				W, Weed	W, Weed
Pest Code				AMBTR	SETPU
Pest Scientific Name				Ambrosia trifida	Setaria pumila
Pest Name				Giant ragweed	yellow foxtail
Rating Timing					
Days After First/Last Applic.				177, 86	177, 86
Trt-Eval Interval					
Plant-Eval Interval				177 DP-1	177 DP-1
Days After Emergence				153 DE-1	153 DE-1
ARM Action Codes					ET16
Number of Decimals					
Data Entry Date				Sep-20-2024	Sep-20-2024
Trt No.	Treatment Name	Rate	Rate Unit	Appl Code 114*	115*
11	Normal Plant			0.0 b	0.0 na
	Fierce EZ	0.19	lb ai/a	B	
	Metribuzin	0.375	lb ai/a	B	
12	Normal Plant			0.0 b	0.0 na
	Fierce EZ	0.19	lb ai/a	B	
	Metribuzin	0.56	lb ai/a	B	
13	Normal Plant			0.0 b	0.0 na
	Fierce EZ	0.19	lb ai/a	B	
	Metribuzin	0.75	lb ai/a	B	
14	Normal Plant			0.3 b	0.0 na
	Spartan	0.313	lb ai/a	B	
15	Normal Plant			0.0 b	0.0 na
	Preview 2:1	0.6	lb ai/a	B	
16	Normal Plant			2.0 a	14.5
	utc				
LSD P=.05				0.32	.
Standard Deviation				0.21	0.00
CV				76.37	0.0
Levene's F^				0.582	.
Levene's Prob(F)				0.764	.
Shapiro-Wilk^				0.841*	.
P(Shapiro-Wilk)^				0.0003*	.
Skewness^				0.8759	.
P(Skewness)^				0.0521	.
Kurtosis^				3.6912*	.
P(Kurtosis)^				0.0001*	.
Analyzed as				RCB	RCB
Replicate F				2.032	NaN
Replicate Prob(F)				0.1401	NaN
Treatment F				42.484	NaN
Treatment Prob(F)				0.0001	NaN

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Due to missing data, the effective replicates used for mean comparisons are: col. 42=3.3; 43,66=3; 44=1.8
* Adjusted means
Excluded replicate 2 in column 66
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Mean separation letters are 'na' (not applicable) when error variance is 0
^Calculated from residual.
d=Means are reported in de-transformed data units

The Ohio State University

2024 USB Metribuzin Early Planted Soybean Trial

Trial ID: 24USBMETEARLYPL_3
Protocol ID: 24USBMETEARLYPL Location: Trial Year: 2024
Study Director: Sponsor Contact:
Investigator:

<u>Rating Type</u>
PHYNEC = phytotoxicity - necrosis /burn
CONTRO = control / burndown or knockdown
COUNT = count
PHYDEF = phyto. deformation (cupping, epinasty, leaf wrap, wrinkling)
STAOBJ = stand - objective (based on counts)
BIOMAS = biomas
COUPLA = count - plant / emergence - objective
PHYCHL = phytotoxicity - chlorosis
<u>Rating Unit</u>
%, 0, 100, = percent
/acre, , , = per acre
g, , , = gram

PLOT = total plot

m2 = square meter

m2 = square meter
<u>Crop Type, Code</u>
C = EPPO species (Bayer) codes
GLXMA, BSOY, Glycine max, Soybean = US
<u>Pest Type</u>
W, Weed = Weed or volunteer crop
<u>Pest Code</u>
SETFA, Setaria faberi, Giant foxtail = US
AMBTR, Ambrosia trifida, Giant ragweed = US
CHEAL, Chenopodium album, common lambsquarters = US
AMATU, Amaranthus tuberculatus, tall waterhemp = US
CONAR, Convolvulus arvensis, Field bindweed = US
CIRAR, Cirsium arvense, Californian thistle = US
1GRAF, Poaceae, Grasses = US
SETPU, Setaria pumila, yellow foxtail = US
SIDSP, Sida spinosa, Prickly sida = US
MALNE, Malva neglecta, Common mallow = US
<u>Plant-Eval Interval</u>
38 DP-1 = 1 GLXMA Mar-25-2024
44 DP-1 = 1 GLXMA Mar-25-2024
52 DP-1 = 1 GLXMA Mar-25-2024
67 DP-1 = 1 GLXMA Mar-25-2024
81 DP-1 = 1 GLXMA Mar-25-2024
91 DP-1 = 1 GLXMA Mar-25-2024
177 DP-1 = 1 GLXMA Mar-25-2024
<u>ARM Action Codes</u>
AL = Automatic log transformation of X+1
AA = Automatic arcsine square root % transformation
ET8 = Excluded treatment 8
AS = Automatic square root transformation of X+0.5
ET11 = Excluded treatment 11
ER2 = Excluded replicate 2
ET16 = Excluded treatment 16
T1 = [C3]+[C4]
T2 = [C6]+[C7]
T3 = [C9]+[C10]
T4 = [C12]+[C13]
T5 = [C15]+[C16]
T6 = [C18]+[C19]
T7 = [C21]+[C22]
T8 = [C24]+[C25]
T9 = [C27]+[C28]
T10 = [C30]+[C31]
T11 = [C33]+[C34]
T12 = [C36]+[C37]
T13 = [C51]+[C52]
T14 = [C54]+[C55]
T15 = [C57]+[C58]
T16 = [C60]+[C61]
T17 = [C63]+[C64]
T18 = [C66]+[C67]
T19 = [C72]+[C73]
T20 = [C75]+[C76]
T21 = [C78]+[C79]
T22 = [C81]+[C82]
T23 = [C84]+[C85]
T24 = [C87]+[C88]
T25 = [C90]+[C91]
T26 = [C93]+[C94]

The Ohio State University

2024 USB Metribuzin Early Planted Soybean Trial

Trial ID: 24USBMETEARLYPL_3
Protocol ID: 24USBMETEARLYPL Location: Trial Year: 2024
Study Director: Sponsor Contact:
Investigator:

T27 = [C96]+[C97]
T28 = [C99]+[C100]
T29 = [C102]+[C103]
T30 = [C105]+[C106]
T31 = [C108]+[C109]