

The Ohio State University

Broadcast mix - Western

Trial ID: 21 Broadcast Mix W Location: WARS Trial Year: 2021
 Protocol ID: Investigator (Creator): Alyssa Lamb
 Project ID: Study Director: Alyssa Essman
 Sponsor Contact:

General Trial Information

Study Director: Alyssa Essman
Investigator: Dr. Mark M. Loux

Trial Status: E established

ARM Trial Created On: Sep-14-2020

Initiation Date: Sep-24-2020

Trial Location

City: South Charleston **Country:** USA United States
State/Prov.: Ohio
Postal Code: 45368 **Climate Zone:** USWARM US Warm Continental

Latitude of LL Corner °: 39.85789 N
Longitude of LL Corner °: -83.6741 W
Altitude of LL Corner: 1038.00 FT

Conducted Under GLP: No

Conducted Under GEP: No

Contacts

Role: STYDIR study director
Study Director: Alyssa Essman
Organization: The Ohio State University
Address 1: 2021 Coffey Road
Country: USA United States **E-mail:** essman.42@osu.edu
City: Columbus, Ohio **Postal Code:** 43210
Role: INVEST investigator
Investigator: Dr. Mark M. Loux

Crop Description

Crop 1: C	SECCW Secale cereale Entry Date: Mar-31-2020 Variety: Hazlet Attributes: Heartland Seed, LLC (West Jefferson, OH) Planting Date: Sep-24-2020	Winter rye Stage Scale: BBCH	BBCH Scale: BCER
		Planting Method: BROADCAST broadcast	
Crop 2: C	RAPSN Raphanus sativus var. niger Entry Date: Mar-31-2020 Variety: Daikon Planting Date: Sep-24-2020	Tillage radish Stage Scale: BBCH	BBCH Scale: BVRT
		Planting Method: BROADCAST broadcast	
Crop 3: C	AVESW Avena sativa Entry Date: Mar-31-2020 Variety: Armor Planting Date: Sep-24-2020	Oat, winter Stage Scale: BBCH	BBCH Scale: BCER
		Planting Method: BROADCAST broadcast	
Crop 4: C	SECCW Secale cereale Entry Date: Apr-20-2020 Variety: VNS Attributes: Description % Germination: 0	Winter rye Stage Scale: BBCH	BBCH Scale: BCER
		Planting Method: DRILLE drilled	
Crop 5: C	RAPSN Raphanus sativus var. niger Entry Date: Apr-20-2020 Variety: Daikon % Germination: 0	Tillage radish Stage Scale: BBCH	BBCH Scale: BVRT
		Planting Method: DRILLE drilled	
Crop 6: C	AVESW Avena sativa Entry Date: Apr-20-2020 Variety: Armor % Germination: 0	Oat, winter Stage Scale: BBCH	BBCH Scale: BCER
		Planting Method: DRILLE drilled	
Crop 7: C	GLXMA Glycine max Entry Date: May-12-2020 % Standard Moisture: 13	Soybean Stage Scale: BBCH Harvested Width: 6.25 FT Harvested Length: 30 FT	BBCH Scale: BSOY

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Site and Design

Treated Plot Width: 60 FT
 Treated Plot Length: 30 FT
 Treated Plot Area: 1800.0 FT² Treatments: 18
 Replications: 4 Study Design: SPLPLO Split-Plot

Soil Description

Description Name: Big E

Application Description

	B
Application Date	Jun-24-2021
Appl. Start Time	8:30 AM
Appl. Stop Time	9:00 AM
Application Method	SPRAY
Application Timing	POST
Application Placement	BROFOL
Applied By	Dobbels
Appl. Entry Date	Jun-25-2021
Air Temperature Start, Stop	67 69 F
% Relative Humidity Start, Stop	65 62
Wind Velocity+Dir. Start	5 MPH SW
Wind Velocity+Dir. Stop	5 MPH SW
Wind Velocity+Dir. Max	5 MPH SW
Wet Leaves (Y/N)	Y yes
Soil Temperature	66 F
Soil Moisture	dry
Soil Surface Condition	MEDIUM

Comment:

Crop Stage At Each Application

	A	B
Crop 1 Code, BBCH Scale	SECCW BCER SECCW BCER	SECCW BCER
Crop 2 Code, BBCH Scale	RAPSN BVRT RAPSN BVRT	RAPSN BVRT
Crop 3 Code, BBCH Scale	AVESW BCER AVESW BCER	AVESW BCER
Crop 4 Code, BBCH Scale	SECCW BCER SECCW BCER	SECCW BCER
Crop 5 Code, BBCH Scale	RAPSN BVRT RAPSN BVRT	RAPSN BVRT
Crop 6 Code, BBCH Scale	AVESW BCER AVESW BCER	AVESW BCER
Crop 7 Code, BBCH Scale	GLXMA BSOY GLXMA BSOY	GLXMA BSOY

Application Equipment

	A	B
Appl. Equipment		Tractor
Equipment Type	BACCAI	SPRAYE
Operation Pressure	30	PSI
Nozzle Model		11002
Nozzle Type		TTI
Nozzle Spacing	20	IN
Boom Length	10	FT
Boom Height	20	FT
Ground Speed	3.8	MPH
Carrier		WATER
Application Amount	15	GAL/AC
Mix Size	5	GAL
Propellant		PUMROL
Tank Mix (Y/N)		Y yes

Notes

Context	Date	By	Notes
STATUS	Sep-17-2019	Alyssa Lamb	Automatically added by ARM: Trial Status updated to 'S' during trial creation.
STATUS	Mar-31-2020	Alyssa Lamb	Automatically added by ARM: Trial Status updated to 'E' when Planting Date entered.

Instructions:

Hand seed spreader settings for broadcast cover crop treatments (red hand spreader)

- 60 lbs rye: bottom of 4, top of 3
- 45 lbs rye: 3.6
- 25 rye + 4 radish: 3.5
- Oat mix: 4.8

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Crop Type, Code	C GLXMA	C GLXMA	C GLXMA	C GLXMA
Crop Name	Soybean	Soybean	Soybean	Soybean
Rating Date	Oct-1-2021		Oct-1-2021	
Rating Type	weight	moicon	YIELD	WEITES
Rating Unit/Min/Max	LBS - -	% 0 BU	- - LBS	- -
		100		
Number of Subsamples	1	1	1	1
Data Entry Date	Oct-4-2021	Oct-4-2021		Oct-4-2021
Days After First/Last Applic.	- 99		- 99	
Trt-Eval Interval	99 DA-B		99 DA-B	
Plant-Eval Interval	372 DP-1		372 DP-1	
ARM Action Codes		ET6	TY1	ET6
Number of Decimals			1	

Trt Treatment No. Name	3*	4*	5*	6*
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1 No cover	17.21375 b	12.830 -	66.9 ab	53.2423 -
No spring residual Roundup				
2 No cover	20.24840 a	11.670 -	79.6 a	55.8333 -
Spring residual Valor XTL				
Spring residual Roundup				
3 45 lbs rye broadcast early	15.88973 b	13.000 -	61.6 b	54.4548 -
No spring residual Roundup				
4 45 lbs rye broadcast early	16.76628 b	12.250 -	65.5 ab	55.0105 -
Spring residual Valor XTL				
Spring residual				
5 60 lbs rye broadcast early	15.99845 b	12.720 -	62.2 b	54.4070 -
No spring residual Roundup				
6 60 lbs rye broadcast early	16.28110 b	15.310	62.0 b	50.0035
Spring residual Valor XTL				
Spring residual				
7 30 lbs rye planted late	15.97773 b	13.100 -	61.9 b	53.5605 -
No spring residual Roundup				
8 30 lbs rye planted late	16.96650 b	13.570 -	65.3 ab	53.3733 -
Spring residual Valor XTL				
Spring residual				
9 50 lbs rye planted late	15.68363 b	13.413 -	60.6 b	52.5813 -
No spring residual Roundup				
10 50 lbs rye planted late	16.99703 b	13.143 -	65.9 ab	53.3755 -
Spring residual Valor XTL				
Spring residual				
11 30 lbs rye + 6 lbs radish bc E	16.65328 b	11.740 -	65.4 ab	55.6543 -
No spring residual Roundup				
12 30 lbs rye + 6 lbs radish bc E	17.93905 b	12.755 -	69.6 ab	53.6308 -
Spring residual Valor XTL				
Spring residual				
13 25 lbs rye + 4 lbs radish pl L	15.26623 b	14.235 -	58.4 b	52.8135 -
No spring residual Roundup				
14 25 lbs rye + 4 lbs radish pl L	17.55000 b	13.005 -	68.0 ab	53.8398 -
Spring residual Valor XTL				
Spring residual				
15 21 rye + 5 rad + 17 oat bc E	17.19018 b	11.855 -	67.5 ab	54.9235 -
No spring residual Roundup				
16 21 rye + 5 rad + 17 oat bc E	18.22805 b	11.870 -	71.5 ab	55.6640 -
Spring residual Valor XTL				
Spring residual				
17 17 rye + 3 rad + 14 oat pl L	17.63573 b	12.655 -	68.7 ab	54.7905 -
No spring residual Roundup				

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Crop Name	Soybean	Soybean	Soybean	Soybean
Rating Date	Oct-1-2021		Oct-1-2021	
Rating Type	weight	moicon	YIELD	WEITES
Rating Unit/Min/Max	LBS - -	% 0 BU	- - LBS	- -
		100		
Number of Subsamples	1	1	1	1
Data Entry Date	Oct-4-2021	Oct-4-2021		Oct-4-2021
Days After First/Last Applic.	- 99		- 99	
Trt-Eval Interval	99 DA-B		99 DA-B	
Plant-Eval Interval	372 DP-1		372 DP-1	
ARM Action Codes		ET6	TY1	ET6
Number of Decimals			1	
Trt Treatment	3*	4*	5*	6*
No. Name				
18 17 rye + 3 rad + 14 oat pl L	17.20188 b	12.053 -	67.4 ab	55.2518 -
Spring residual Valor XTL				
Spring residual				
LSD P=.05	1.885324	2.2385	8.58	3.10372
Standard Deviation	1.328089	1.5745	6.04	2.18305
CV	7.82	12.4	9.16	4.02
Levene's F^	1.314	0.481	1.148	0.452
Levene's Prob(F)	0.219	0.946	0.337	0.959
Skewness^	-0.1062	0.3106	-0.317	-0.5393
Kurtosis^	0.6046	-0.662	0.8943	0.2145
Analyzed as	RCB	RCB	RCB	RCB
Replicate F	10.143	12.417	10.848	9.919
Replicate Prob(F)	0.0001	0.0001	0.0001	0.0001
Treatment F	2.999	0.826	2.582	0.907
Treatment Prob(F)	0.0013	0.6512	0.0047	0.5659

Crop Type, Code

C = EPP0 species (Bayer) codes

GLXMA, BSOY, Glycine max, Soybean = US

Rating Type

moicon = moisture content

YIELD = yield

WEITES = weight - test

Rating Unit/Min/Max

%, 0, 100 = percent

BU, , = bushel

Plant-Eval Interval

372 DP-1 = 1 SECCW Sep-24-2020

ARM Action Codes

ET6 = Excluded treatment 6

TY1 = $3.872 * [3] * (100 - [4]) / 87$