The Ohio State University

19 Corn cover
Trial ID: 19 Corn cover w Location: Trial Year: 2019
Protocol ID: 19 Corn cover Investigator: Alyssa Lamb
Project ID: Study Director:
Sponsor Contact:

General Trial Information
Investigator: Dr. Mark M. Loux

Trial Status: E established
ARM Trial Created On: Oct-10-2019

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 °: 39.85645 N
Longitude of LL Corner °: 83.67023 W
Altitude of LL Corner: 1107.00 ft

Conducted Under GLP: No
Conducted Under GEP: No

Investigator: Dr. Mark M. Loux

Crop Description

Crop 1: C ZEAMX Zea mays Corn **BBCH Scale:** BCOR
Stage Scale: VR
Variety: DKC62-52RIB
Attributes: RR/LL
Planting Date: May-16-2019 **Planting Rate:** 32097 S/A
Depth: 1.5 IN
Rows per Plot: 4 **Planting Method:** PLANTD planted
Row Spacing: 30 IN **Planting Equipment:** FPP finger pickup planter
Seed Bed: SMOTRA smooth/trashy
Soil Temperature: 65 F **Soil Moisture:** SLIWET slightly wet, moist

Crop 2: C SECCW Secale cereale Winter rye **BBCH Scale:** BCER
Attributes: Monoculture - trt 1 & 2
Planting Date: Oct-8-2018
Depth: 1.5 IN
Planting Method: DRILLE drilled
Row Spacing: 7.5 IN **Planting Equipment:** PP plot planter
Emergence Date: Oct-18-2018

Crop 3: C SECCW Secale cereale Winter rye **BBCH Scale:** BCER
Attributes: Mis - trts 3-6
Planting Date: Oct-8-2018
Depth: 0.25 IN
Planting Method: DRILLE drilled
Planting Equipment: PP plot planter
Emergence Date: Oct-18-2018

Crop 4: C MIXES Cover crop mixes Clover, Vetch, Radish
Planting Date: Oct-8-2018
Depth: 0.25 IN
Planting Method: DRILLE drilled
Row Spacing: 7.5 IN **Planting Equipment:** PP plot planter
Emergence Date: Oct-18-2018

Crop 5: C SECCW Secale cereale Winter rye **BBCH Scale:** BCER
Attributes: Monoculture - trt 1 & 2
Planting Date: Oct-8-2018
Depth: 1.5 IN
Planting Method: DRILLE drilled
Planting Equipment: PP plot planter
Emergence Date: Oct-18-2018

Crop 6: C SECCW Secale cereale Winter rye **BBCH Scale:** BCER
Attributes: Mis - trts 3-6
Planting Date: Oct-8-2018
Depth: 0.25 IN
Planting Method: DRILLE drilled
Planting Equipment: PP plot planter
Emergence Date: Oct-18-2018

Crop 7: C MIXES Cover crop mixes Clover, Vetch, Radish
Planting Date: Oct-8-2018
Depth: 0.25 IN
Planting Method: DRILLE drilled
Row Spacing: 7.5 IN **Planting Equipment:** PP plot planter
Emergence Date: Oct-18-2018
Harvested Width: 5 FT
% Standard Moisture: 15.5 **Harvested Length:** 30 FT

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 FT2 **Treatments:** 14 **Tillage Type:** NOTILL no-till
Replications: 4 **Study Design:** SPLPLO Split-Plot

Soil Description

Description Name: Big E
% Sand: 45 **% OM:** 3.1 **Texture:** L loam
% Silt: 45 **pH:** 6.6 **Soil Name:** Kokomo
% Clay: 11 **CEC:** 15.2 **Fert. Level:** G good
Soil Drainage: G good

Application Description

	A
Application Date	Apr-24-2019
Appl. Start Time	9:15 AM
Appl. Stop Time	9:45 AM
Application Method	SPRAY
Application Timing	7 EPP
Application Placement	BROFOL
Applied By	Loux
Air Temperature Start, Stop	53 53 F
% Relative Humidity Start, Stop	68 68
Wind Velocity+Dir. Start	2 MPH SSE
Wind Velocity+Dir. Stop	2 MPH SSE
Wind Velocity+Dir. Max	2 MPH SSE
Wet Leaves (Y/N)	N no
Soil Temperature	50 F
Soil Moisture	NORMAL
Soil Surface Condition	DRY
% Cloud Cover	98

Crop Stage At Each Application

	A
Crop 1 Code, BBCH Scale	ZEAMX BCOR
Stage Scale Used	VR
Crop 2 Code, BBCH Scale	SECCW BCER
Crop 3 Code, BBCH Scale	SECCW BCER
Days after Emergence	188
Crop 4 Code, BBCH Scale	MIXES
Days after Emergence	188
Crop 5 Code, BBCH Scale	SECCW BCER
Days after Emergence	188
Crop 6 Code, BBCH Scale	SECCW BCER
Crop 7 Code, BBCH Scale	MIXES

Application Equipment

	A
Appl. Equipment	10' TTI
Equipment Type	SPRBAC
Operation Pressure	40 PSI
Nozzle Type	TTI
Nozzle Size	110015
Nozzle Spacing	18 IN
Boom Length	10 FT
Boom Height	20 IN
Boom Flow Rate	IN
Ground Speed	3 MPH
Carrier	WATER
Application Amount	15 GPA
Mix Size	3 GAL
Propellant	CO2

Context	Date	By	Notes
	Jan-15-2019	Alyssa Lamb	Automatically added by ARM: Trial Status updated to 'S' during trial creation.
	Jan-15-2019	Alyssa Lamb	Automatically added by ARM: Trial Status updated to 'S' during trial creation.
	Jan-15-2019	Alyssa Lamb	Automatically added by ARM: Trial Status updated to 'E' when Planting Date entered.
STATUS	May-17-2019	Dr. Mark M. Loux	Automatically added by ARM: Trial Status updated to 'E' when Planting Date entered.

SE Definitions

	1.
Crop Type, Code	C

Crop Type, Code	C ZEAMX	C ZEAMX	C ZEAMX	C ZEAMX
BBCH Scale	BCOR	BCOR	BCOR	BCOR
Crop Scientific Name	Zea mays	Zea mays	Zea mays	Zea mays
Crop Name	Corn	Corn	Corn	Corn
Rating Date	Oct-9-2019	Oct-9-2019	Oct-9-2019	Oct-9-2019
Rating Type	WEIGHT	MOICON	YIELD	WEITES
Rating Unit	LBS	%	BU	LBS
Sample Size	1 PLOT		1 A	
Number of Subsamples	1	1	1	1
Days After First/Last Applic.	168 168	168 168	168 168	168 168
Trt-Eval Interval	168 DA-A	168 DA-A	168 DA-A	168 DA-A
Plant-Eval Interval	146 DP-1	146 DP-1	146 DP-1	146 DP-1
ARM Action Codes			TY1	
Number of Decimals	2	2	1	2
Trt Treatment No. Name	1*	2*	3*	4*

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Trt-Eval Interval	168 DA-A	168 DA-A	168 DA-A	168 DA-A
Plant-Eval Interval	146 DP-1	146 DP-1	146 DP-1	146 DP-1
ARM Action Codes			TY1	
Number of Decimals	2	2	1	2
Trt Treatment No. Name	1*	2*	3*	4*
1 90 lbs rye 1 Spring residual - atrazine	41.69 -	21.83 -	200.0 -	54.67 -
2 90 lbs rye 2 No spring residual	41.97 -	21.52 -	202.0 -	54.03 -
3 45 lbs rye 3 Spring residual - atrazine	44.95 -	21.76 -	215.8 -	54.18 -
4 45 lbs rye 4 No spring residual	44.62 -	21.04 -	216.2 -	53.62 -
5 45 lbs rye + 12 lbs clover 5 Spring residual - atrazine	44.94 -	21.12 -	217.4 -	54.38 -
6 45 lbs rye + 12 lbs clover 6 No spring residual	45.72 -	22.17 -	218.3 -	54.50 -
7 45 lbs rye + 6 lbs clover 7 Spring residual - atrazine	43.72 -	20.81 -	212.5 -	53.74 -
8 45 lbs rye + 6 lbs clover 8 No spring residual	46.77 -	21.76 -	224.7 -	53.35 -
9 45 lbs rye + 13 lbs vetch 9 Spring residual - atrazine	42.81 -	21.30 -	206.7 -	54.34 -
10 45 lbs rye + 13 lbs vetch 10 No spring residual	45.18 -	21.36 -	218.0 -	54.89 -
11 45 lbs rye + 7 lbs vetch 11 Spring residual - atrazine	44.57 -	21.89 -	213.5 -	53.37 -
12 45 lbs rye + 7 lbs vetch 12 No spring residual	45.60 -	20.99 -	221.0 -	53.31 -
13 No cover 13 Spring residual - atrazine	44.85 -	21.41 -	216.2 -	53.80 -
14 No cover 14 No spring residual	46.53 -	22.26 -	222.0 -	54.15 -
LSD P=.05	4.762	1.838	22.11	1.515
Standard Deviation	3.330	1.285	15.46	1.059
CV	7.47	5.97	7.2	1.96
Grand Mean	44.565	21.514	214.58	54.024
Levene's F	0.85	0.585	1.213	0.553
Levene's Prob(F)	0.608	0.852	0.304	0.876
Skewness	0.1344	0.4728	0.2258	0.1227
Kurtosis	-0.3893	-1.0126	-0.2448	-0.5898
Analyzed as	RCB	RCB	RCB	RCB
Replicate F	1.461	0.462	1.207	1.385
Replicate Prob(F)	0.2400	0.7104	0.3199	0.2616
Treatment F	0.852	0.479	0.871	0.916
Treatment Prob(F)	0.6058	0.9232	0.5881	0.5453

Crop Type, Code
C = EPPO species (Bayer) codes

ZEAMX, BCOR, Zea mays, Corn = US

Rating Type
WEIGHT = weight
MOICON = moisture content
YIELD = yield
WEITES = weight - test

Rating Unit
% = percent
BU = bushel

PLOT = total plot
A = acre

Plant-Eval Interval
146 DP-1 = 1 ZEAMX May-16-2019

ARM Action Codes
TY1 = 5.185714*[1]*(100-[2])/84.5