The Ohio State University

Trial ID: 18RYE1 Location: Western Branch F-10 E Trial Year: 2018
Protocol ID: 18RYE1 Investigator: Dr. Mark M. Loux
Project ID: Study Director:
Sponsor Contact:

General Trial Information

Investigator: Dr. Mark M. Loux

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 °: 39.85857 N
Longitude of LL Corner °: 83.67007 W
Altitude of LL Corner, Unit: 1084.00 ft

Conducted Under GLP: No
Conducted Under GEP: No

Investigator: Dr. Mark M. Loux
Organization: The Ohio State Universtiy
Address: 2021 Coffey Road
City+State/Prov: Columbus, Ohio
Postal Code: 43210
Country: USA United States

The Ohio State University

Trial ID: 18RYE1 Location: Western Branch F-10 E Trial Year: 2018
Protocol ID: 18RYE1 Investigator: Dr. Mark M. Loux
Project ID: Study Director:
Sponsor Contact:

Crop Description

Crop 1: GLXMA Glycine max Soybean
Variety: 36X6 **BBCH Scale:** BSOY
Description: Asgrow RR2X

Planting Date: Apr-30-2018
Planting Method: PLANTD planted
Planting Rate, Unit: 166000 S/A **Planting Equipment:** PP plot planter
Depth, Unit: 1.25 IN **Emergence Date:** May-11-2018
Row Spacing, Unit: 15 IN

Harvested Width, Unit: 6.25 FT
Rows per Plot: 8 **Harvested Length, Unit:** 30 FT
Soil Temperature, Unit: 50 F **% Standard Moisture:** 13.5
Soil Moisture: SLIWET slightly wet, moist
Seed Bed: MEDTRA medium/trashy

Crop 2: SECCW Secale cereale Winter rye
Variety: NS **BBCH Scale:** BCER

Planting Date: Sep-25-2017
Planting Method: DRILLE drilled
Planting Rate, Unit: 45 LB/A **Planting Equipment:** DD Disc Drill
Depth, Unit: 0.75 IN **Emergence Date:** Oct-2-2017
Row Spacing, Unit: 7.5 IN
Soil Temperature, Unit: 70 F
Soil Moisture: GOOD good
Seed Bed: MEDTRA medium/trashy

Crop 3: SECCW Secale cereale Winter rye
Variety: NS **BBCH Scale:** BCER

Planting Date: Sep-25-2017
Planting Method: DRILLE drilled
Planting Rate, Unit: 90 LB/A **Planting Equipment:** DD Disc Drill
Depth, Unit: 0.75 IN **Emergence Date:** Oct-2-2017
Row Spacing, Unit: 7.5 IN
Soil Temperature, Unit: 70 F
Soil Moisture: GOOD good
Seed Bed: MEDTRA medium/trashy

Crop 4: SECCW Secale cereale Winter rye
Variety: NS **BBCH Scale:** BCER

Planting Date: Oct-22-2017
Planting Method: DRILLE drilled
Planting Rate, Unit: 45 LB/A **Planting Equipment:** DD Disc Drill
Depth, Unit: 1 IN **Emergence Date:** Nov-6-2017
Row Spacing, Unit: 7.5 IN
Soil Temperature, Unit: 60 F
Soil Moisture: GOOD good
Seed Bed: MEDTRA medium/trashy

Crop 5: SECCW Secale cereale Winter rye
Variety: NS **BBCH Scale:** BCER

Planting Date: Oct-22-2017
Planting Method: DRILLE drilled
Planting Rate, Unit: 90 LB/A **Planting Equipment:** DD Disc Drill
Depth, Unit: 1 IN **Emergence Date:** Nov-6-2017
Row Spacing, Unit: 7.5 IN
Soil Temperature, Unit: 60 F
Soil Moisture: GOOD good
Seed Bed: MEDTRA medium/trashy

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:** 18 **Tillage Type:** NOTILL no-till
Replications: 4 **Study Design:** SPLPLO Split-Plot

No.	Previous Crop	Year
1.	SOYBEAN	2017

Maintenance

No.	Date	Type	Maintenance Product Name	Form Conc	Form Unit	Form Type	Registration Number	Rate	Rate Unit	Tank Mix Code	Tank Mix
1.	Nov-29-2017	HERB	2,4-D Ester	4	LBA/GAL	SC	1381-102	1	PT/A	N	no
2.	Jun-2-2018	HERB	Roundup Powermax	5.5	LB/GAL	SL	524-549	32	OZ/A	Y	yes
3.	Jun-2-2018	HERB	Dual II Magnum	7.674	LBA/GAL	EC		1.6	PT/A	Y	yes

The Ohio State University

Trial ID: 18RYE1 Location: Western Branch F-10 E Trial Year: 2018
Protocol ID: 18RYE1 Investigator: Dr. Mark M. Loux
Project ID: Study Director:
Sponsor Contact:

Soil Description

Description Name: F-10 East

% Sand: 41	**% OM:** 3.3	**Texture:** SICL silty clay loam
% Silt: 43	**pH:** 6.2	**Soil Name:** Kokomo
% Clay: 17	**CEC:** 16.6	**Fert. Level:** G good
		Soil Drainage: G good

Application Description

	A	B
Application Date:	Apr-26-2018	Jun-2-2018
Appl. Start Time:	1:00 PM	12:01 PM
Appl. Stop Time:	1:30 PM	12:15 PM
Interval to Prev. Appl., Unit:		37 DAYS
Application Method:	SPRAY	SPRAY
Application Timing:	7 EPP	POST
Application Placement:	BROFOL	BROFOL
Applied By:	Lamb	Dobbels
Air Temperature, Unit:	66 F	75 F
% Relative Humidity:	51	75
Wind Velocity, Unit:	3 MPH	6 MPH
Wind Direction:	SSE	N
Dew Presence (Y/N):	N no	N no
Soil Temperature, Unit:	72 F	72 F
Soil Moisture:	SLIWET	DRY
% Cloud Cover:	50	0
Next Moisture Occurred On:	May-3-2018	Jun-8-2018
Time to Next Moisture, Unit:	7 DAY	6 DAY
Moisture 1 Week after Appl.:	0.02 IN	0.65 IN

Crop Stage At Each Application

	A	B
Crop 1 Code, BBCH Scale:	GLXMA BSOY	GLXMA BSOY
Stage Scale Used:		BBCH
Stage Majority, Percent:		13 100
Height, Unit:		10 IN
Height Minimum, Maximum:		10 12
Crop 2 Code, BBCH Scale:	SECCW BCER	SECCW BCER
Stage Scale Used:	BBCH	
Stage Majority, Percent:	23 80	
Stage Minimum, Percent:	23 80	
Stage Maximum, Percent:	24 20	
Height, Unit:	13 IN	
Height Minimum, Maximum:	13 20	
Crop 3 Code, BBCH Scale:	SECCW BCER	SECCW BCER
Stage Scale Used:	BBCH	BBCH
Stage Majority, Percent:	23 80	
Stage Minimum, Percent:	23 80	
Stage Maximum, Percent:	24 20	
Height, Unit:	13 IN	
Height Minimum, Maximum:	13 20	
Crop 4 Code, BBCH Scale:	SECCW BCER	SECCW BCER
Stage Scale Used:	BBCH	
Stage Majority, Percent:	22 100	
Height, Unit:	6 IN	
Height Minimum, Maximum:	4 6	
Crop 5 Code, BBCH Scale:	SECCW BCER	SECCW BCER
Stage Scale Used:	BBCH	
Stage Majority, Percent:	22 100	
Height, Unit:	6 IN	
Height Minimum, Maximum:	4 6	

The Ohio State University

Trial ID: 18RYE1 Location: Western Branch F-10 E Trial Year: 2018
Protocol ID: 18RYE1 Investigator: Dr. Mark M. Loux
Project ID: Study Director:
Sponsor Contact:

Application Equipment

	A	B
Appl. Equipment:	10' AI XR	Tractor
Equipment Type:	SPRBAC	TRMOSP
Operation Pressure, Unit:	46 PSI	32 PSI
Nozzle Type:	AI XR	AI
Nozzle Size:	110015	11002
Nozzle Spacing, Unit:	18 IN	20 IN
Boom Length, Unit:	10 FT	10 FT
Boom Height, Unit:	20 IN	20 IN
Ground Speed, Unit:	3 MPH	3.8 MPH
Carrier:	WATER	WATER
Spray Volume, Unit:	15 GPA	20 GPA
Mix Size, Unit:	2 L	10 GAL
Propellant:	CO2	PUMROL
Tank Mix (Y/N):		N no

Date By Notes
Fall biomass samples consisted of two quarter meter quadrants collected per plot.

Trt No.	Treatment Name	10*	11*	12*	13*
Pest Type					
Pest Code					
Pest Scientific Name					
Pest Name					
Crop Code		GLXMA	GLXMA	GLXMA	GLXMA
BBCH Scale		BSOY	BSOY	BSOY	BSOY
Crop Scientific Name		Glycine max	Glycine max	Glycine max	Glycine max
Crop Name		Soybean	Soybean	Soybean	Soybean
Rating Date		Oct-19-2018	Oct-19-2018	Oct-19-2018	Oct-19-2018
Rating Type		WEIGHT	MOICON	WEITES	YIELD
Rating Unit		LBS	%	LBS	BU
Sample Size, Unit		1 PLOT	1 QT	1 QT	1 A
Number of Subsamples		1	1	1	1
Days After First/Last Applic.		176 139	176 139	176 139	176 139
Trt-Eval Interval					
Plant-Eval Interval		172 DP-1	172 DP-1	172 DP-1	172 DP-1
Days After Emergence		161 DE-1	161 DE-1	161 DE-1	161 DE-1
ARM Action Codes					TY1
Number of Decimals		1	1	1	1
1	early planting planting rate = zero Valor + Tricor + Roundup	17.3 -	13.5 -	55.7 abc	67.0 -
2	early planting planting rate = zero Valor + Roundup	15.2 -	13.5 -	55.4 bc	59.0 -
3	early planting planting rate = zero Roundup	18.7 -	13.4 -	56.0 ab	72.3 -
4	early planting planting rate = low Valor + Tricor + Roundup	18.9 -	13.3 -	55.0 cd	73.4 -
5	early planting planting rate = low Valor + Roundup	16.7 -	13.0 -	55.0 cd	65.2 -
6	early planting planting rate = low Roundup	16.3 -	13.1 -	54.4 d	63.5 -
7	early planting planting rate = high Valor + Tricor + Roundup	15.7 -	13.5 -	55.7 abc	60.8 -
8	early planting planting rate = high Valor + Roundup	17.5 -	13.3 -	55.4 abc	68.0 -
9	early planting planting rate = high Roundup	16.6 -	13.1 -	54.9 cd	64.7 -
10	late planting planting rate = zero Valor + Tricor + Roundup	15.8 -	13.4 -	55.7 abc	61.2 -

The Ohio State University

Trial ID: 18RYE1 Location: Western Branch F-10 E Trial Year: 2018
Protocol ID: 18RYE1 Investigator: Dr. Mark M. Loux
Project ID: Study Director:
Sponsor Contact:

Trt No.	Treatment Name	10*	11*	12*	13*
	Pest Type				
	Pest Code				
	Pest Scientific Name				
	Pest Name				
	Crop Code	GLXMA	GLXMA	GLXMA	GLXMA
	BBCH Scale	BSOY	BSOY	BSOY	BSOY
	Crop Scientific Name	Glycine max	Glycine max	Glycine max	Glycine max
	Crop Name	Soybean	Soybean	Soybean	Soybean
	Rating Date	Oct-19-2018	Oct-19-2018	Oct-19-2018	Oct-19-2018
	Rating Type	WEIGHT	MOICON	WEITES	YIELD
	Rating Unit	LBS	%	LBS	BU
	Sample Size, Unit	1 PLOT	1 QT	1 QT	1 A
	Number of Subsamples	1	1	1	1
	Days After First/Last Applic.	176 139	176 139	176 139	176 139
	Trt-Eval Interval				
	Plant-Eval Interval	172 DP-1	172 DP-1	172 DP-1	172 DP-1
	Days After Emergence	161 DE-1	161 DE-1	161 DE-1	161 DE-1
	ARM Action Codes				TY1
	Number of Decimals	1	1	1	1
11	late planting planting rate = zero Valor + Roundup	17.3 -	13.3 -	55.4 abc	67.3 -
12	late planting planting rate = zero Roundup	16.9 -	13.2 -	55.1 cd	65.9 -
13	late planting planting rate = low Valor + Tricor + Roundup	16.9 -	13.2 -	55.3 bc	65.6 -
14	late planting planting rate = low Valor + Roundup	15.4 -	13.3 -	55.8 abc	59.6 -
15	late planting planting rate = low Roundup	17.3 -	13.1 -	55.5 abc	67.4 -
16	late planting planting rate = high Valor + Tricor + Roundup	16.3 -	13.3 -	56.0 ab	63.3 -
17	late planting planting rate = high Valor + Roundup	17.3 -	13.3 -	56.2 a	66.9 -
18	late planting planting rate = high Roundup	17.3 -	13.4 -	55.6 abc	67.0 -
	LSD P=.05	2.81	0.31	0.80	10.85
	Standard Deviation	1.97	0.22	0.56	7.61
	CV	10.35	1.63	1.01	10.3
	Levene's F	0.493	0.967	1.267	0.463
	Levene's Prob(F)	0.945	0.507	0.25	0.959
	Skewness	-0.4528	1.7324*	-1.3459*	-0.4504
	Kurtosis	0.1465	9.0668*	3.5479*	0.1411
	Design AIC	RCB	RCB	RCB	RCB
		352.9813	33.5941	152.1487	544.7726
	Spatial AIC	SPa 319.9184	SPa 6.6844	SPa 141.123	SPa 511.7647
	Analyzed as	CRD+SPa	CRD+SPa	CRD+SPa	CRD+SPa
	Replicate F	6.383	55.914	182.847	6.757
	Replicate Prob(F)	0.0011	0.0001	0.0001	0.0008
	Treatment F	1.385	1.431	1.939	1.418
	Treatment Prob(F)	0.1902	0.1683	0.0397	0.1741

Crop Code
GLXMA, BSOY, Glycine max, Soybean = US
Rating Type
WEIGHT = weight
MOICON = moisture content
WEITES = weight - test
YIELD = yield
Rating Unit
% = percent
BU = bushel

PLOT = total plot
QT = quart

The Ohio State University

Trial ID: 18RYE1 Location: Western Branch F-10 E Trial Year: 2018
Protocol ID: 18RYE1 Investigator: Dr. Mark M. Loux
Project ID: Study Director:
Sponsor Contact:

A = acre

Plant-Eval Interval
172 DP-1 = 1 GLXMA Apr-30-2018

ARM Action Codes
TY1 = 3.872*[10]*(100-[11])/86.5

SPa = Cubic spatial trend