

The Ohio State University

Glyphosate alternatives for burndown of cereal rye

Trial ID: 22RYEBURN
 Protocol ID: 22RYEBURN Location: Western Branch F-9 East
 Project ID: Project ID 2: Project ID 3:
 Study Director: Sponsor Contact:
 Investigator (Creator): Dr. Mark M. Loux

Status: E established
 ARM Trial Created On: Apr-4-2022

Trial Location

City: South Charleston Country: USA United States
 State/Prov.: Ohio
 Postal Code: 45368

Latitude of LL Corner °: 39.85868 N
 Longitude of LL Corner °: -83.67018 W
 Altitude of LL Corner: 1089.00 FT

Conducted Under GLP: No
 Conducted Under GEP: No
 None

Crop Description

Crop 1: CGLXMA Glycine max Soybean
 Entry Date: May-2-2022 Stage Scale: BBCH
 Variety: P35T15E
 Attributes: 2,4-D Choline, Glyphosate, Glufosinate Tol
 Planting Date: Apr-27-2022 Planting Rate: 165000 S/A
 Depth: 1.5 IN
 Rows per Plot: 8 Planting Method: PLANTD planted
 Row Spacing: 15 IN Planting Equipment: PP plot planter
 Seed Bed: MEDTRA medium/trashy
 Soil Moisture: SLIDRY slightly dry
 Soil Temperature: 50 F

Pest Description

Pest 1 Type: W Code: SECSS Secale sp. Entry Date: Apr-20-2022
 Common Name: Rye Stage Scale: BBCH
 Establishment Date: Oct-12-2021 Artificial Population: Y yes
 Establishment Rate: 90 LB/A Stage at Establishment: 00
 Establishment Method/Description: DRILLED

Pest 2 Type: W Code: LAMPU Lamium purpureum Entry Date: Apr-20-2022
 Common Name: purple deadnettle Stage Scale: BBCH

Pest 3 Type: W Code: TAROF Taraxacum officinale Entry Date: Apr-20-2022
 Common Name: dandelion Stage Scale: BBCH

Pest 4 Type: W Code: RANAB Ranunculus abortivus Entry Date: Apr-20-2022
 Common Name: Smallflower buttercup Stage Scale: BBCH

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: NOTILL no-till
 Replications: 3 Treatments: 10 Plots: 30 Study Design: RACOB L Randomized Complete Block (RCB)

Previous
 No. Crop Year
 1. CORN 2021

Soil Description

Description Name: F-9 East
 % Sand: 36 % OM: 3 Texture: SICL silty clay loam
 % Silt: 49 Soil Name: Kokomo
 % Clay: 15 Fert. Level: G good
 pH: 6.4 CEC: 17.8
 Soil Drainage: G good

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Application Description

Application Date	Apr-20-2022
Appl. Start Time	10:30 AM
Appl. Stop Time	11:00 AM
Application Method	SPRAY
Application Timing	14 EPP
Application Placement	BROFOL
Applied By	Dobbels
Appl. Entry Date	Apr-20-2022
Air Temperature Start, Stop	47, 49 F
% Relative Humidity Start, Stop	52, 52
Wind Velocity+Dir. Start	9 MPH, S
Wind Velocity+Dir. Stop	9 MPH, S
Wind Velocity+Dir. Max	10 MPH, S
Wet Leaves (Y/N)	N, no
Soil Temperature	41 F
Soil Moisture	DAMP
Soil Surface Condition	MEDTRA
% Cloud Cover	20
Next Moisture Occurred On	Apr-21-2022
Time to Next Moisture	1.0 DAY
Moisture 6 Hours after Appl.	0 IN
Moisture 1 Week after Appl.	0.15 IN

Crop Stage At Each Application

Crop 1 Code, BBCH Scale GLXMA, BSOY

Pest Stage At Each Application

Pest 1 Code, Type, Scale	SECSS, W, BBCH
Stage Majority, Percent	23, 90
Stage Minimum, Percent	22, 10
Stage Maximum, Percent	23, 90
Height Average	9 IN
Height Minimum, Maximum	8, 10
Pest 2 Code, Type, Scale	LAMPU, W, BBCH
Stage Majority, Percent	60, 95
Stage Minimum, Percent	59, 05
Stage Maximum, Percent	60, 95
Diameter Average	3 IN
Diameter Minimum, Maximum	3, 4
Height Average	4 IN
Height Minimum, Maximum	3, 5
Pest 3 Code, Type, Scale	TAROF, W, BBCH
Stage Majority, Percent	60, 90
Stage Minimum, Percent	59, 10
Stage Maximum, Percent	60, 90
Diameter Average	6 IN
Diameter Minimum, Maximum	4, 6
Height Average	2 IN
Height Minimum, Maximum	2, 3
Pest 4 Code, Type, Scale	RANAB, W, BBCH
Stage Majority, Percent	60, 80
Stage Minimum, Percent	50, 20
Stage Maximum, Percent	60, 80
Diameter Average	3 IN
Diameter Minimum, Maximum	3, 4
Height Average	6 IN
Height Minimum, Maximum	4, 6

Application Equipment

Appl. Equipment	10' TT
Equipment Type	BACCAI
Operation Pressure	44 PSI
Nozzle Model	110015
Nozzle Type	TT
Nozzle Tip Size, Color	015, GREEN
Nozzle Spacing	18 IN
Boom Length	10 FT
Boom Height	20 IN
Ground Speed	3 MPH
Carrier	WATER
Application Amount	15 GAL/AC
Mix Size	2 L
Propellant	COMCO2
Tank Mix (Y/N)	Y, yes

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Notes

Context Date By Notes
 STATUS Apr-4-2022 Dr. Mark M. Loux Automatically added by ARM: Trial Status updated to 'S' during trial creation.
 STATUS Apr-20-2022 Dr. Mark M. Loux Automatically added by ARM: Trial Status updated to 'E' when Application Date entered.

Pest Type	W, Weed	W, Weed	W, Weed	W, Weed
Pest Code	SECCE	LAMPU	TAROF	SECCE
Pest Name	Rye purple deadnett>	dandelion	Rye	
Rating Date	May-4-2022	May-4-2022	May-4-2022	May-18-2022
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit/Min/Max	% , 0, 100	% , 0, 100	% , 0, 100	% , 0, 100
Number of Subsamples	1	1	1	1
Data Entry Date	May-4-2022	May-4-2022	May-4-2022	May-20-2022
Days After First/Last Applic.	14, 14	14, 14	14, 14	28, 28
Trt-Eval Interval	14 DA-A	14 DA-A	14 DA-A	28 DA-A
Number of Decimals	0	0	0	0

Trt No.	Treatment Name	Rate	Unit	Appl Code	1*	2*	3*	4*
1	Assure II 1 COC	61.6g ai/ha 1% v/v	A		30bc	0d	0b	73a
2	Fusilade 2 COC	210g ai/ha 1% v/v	A		25bc	0d	0b	53bc
3	Select Max 3 COC	105g ai/ha 1% v/v	A		23bc	0d	0b	48bc
4	Assure II 42,4-D Ester 4 COC	61.6g ai/ha 560g ai/ha 1% v/v	A		20bc	27b	57a	67ab
5	Fusilade 52,4-D Ester 5 COC	210g ai/ha 560g ai/ha 1% v/v	A		22bc	30b	57a	37c
6	Select Max 62,4-D Ester 6 COC	105g ai/ha 560g ai/ha 1% v/v	A		30bc	30b	60a	45c
7	NIS 7 Gramoxone 3 7 Metribuzin	0.25% v/v 0.75lb ai/a 0.375lb ai/a	A		73a	100a	63a	63ab
8	Metribuzin 8 COC	0.375lb ai/a 1% v/v	A		8d	15c	15b	7d
9	Assure II 9 Sharpen 9 HC MSO	61.6g ai/ha 25g ai/ha 1% v/v	A		32b	33b	62a	67ab
10	Reviton 10 HC MSO	74g ai/ha 1% v/v	A		18c	33b	67a	13d

LSD P=.05	8.1	8.8	15.3	13.3
Standard Deviation	4.7	5.2	8.9	7.8
CV	16.7	19.21	23.44	16.43
Grand Mean	28.2	26.8	38.0	47.3
Levene's F^	0.422	0.867	1.08	0.472
Levene's Prob(F)	0.908	0.569	0.418	0.877
Rank X2
P(Rank X2)
Skewness^	0.5225	0.8641*	0.5968	-0.0415
Kurtosis^	0.032	2.8083*	0.7335	-0.0371
Replicate F	2.297	1.348	0.662	0.923
Replicate Prob(F)	0.1293	0.2847	0.5281	0.4152
Treatment F	40.540	97.314	33.881	25.611
Treatment Prob(F)	0.0001	0.0001	0.0001	0.0001

Pest Type

W, Weed = Weed or volunteer crop

Pest CodeSECCE, Secale cereale, Rye = US
LAMPU, Lamium purpureum, purple deadnettle = US

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TAROF, Taraxacum officinale, dandelion = US
Rating Type
CONTRO = control / burndown or knockdown
Rating Unit/Min/Max
%, 0, 100 = percent