

Efficacy of 3lb Gramaxone Formulation

Trial ID: 19GRAM Location: Urbana Trial Year: 2019
Protocol ID: 19GRAM Investigator: Dr. Mark M. Loux
Project ID: HPQ250A4-2019US Study Director: Anthony Dobbels
Sponsor Contact: Dain Bruns, Syngenta

General Trial Information

Study Director: Anthony Dobbels
Investigator: Dr. Mark M. Loux

Trial Status: E established
ARM Trial Created On: Mar-26-2019

Trial Location

City: Urbana **Country:** USA United States
State/Prov.: Ohio
Postal Code: 43078 **Climate Zone:** USWARM US Warm Continental
Latitude of LL Corner °: 40.04143 N
Longitude of LL Corner °: 83.73813 W
Altitude of LL Corner: 1094.00 FT

Conducted Under GLP: No
Conducted Under GEP: No

Contacts

Study Director: Anthony Dobbels

Investigator: Dr. Mark M. Loux

Crop Description

C

Pest Description

Pest 1 Type: W **Code:** ERICA *Erigeron canadensis*
Common Name: Canada horseweed **Entry Date:** Apr-24-2019
Attributes: glyphosate resistant

Pest 2 Type: W **Code:** LAMPU *Lamium purpureum*
Common Name: Purple deadnettle **Entry Date:** Apr-24-2019

Pest 3 Type: W **Code:** STEME *Stellaria media*
Common Name: Common chickweed **Entry Date:** Apr-24-2019

Pest 4 Type: W **Code:** VERAR *Veronica arvensis*
Common Name: Corn speedwell **Entry Date:** Apr-24-2019

Site and Design

Treated Plot Width: 6.67 FT **Site Type:** FIELD field
Treated Plot Length: 30 FT **Experimental Unit:** 1 PLOT plot
Treated Plot Area: 200.1 FT2 **Treatments:** 6 **Tillage Type:** NOTILL no-till
Replications: 3 **Study Design:** RACOBL Randomized Complete Block (RCB)

Previous

No. Crop Year
1. CORN 2018

Soil Description

Description Name: Urbana **Texture:** CL clay loam
% Sand: 31 **% OM:** 1.4 **pH:** 7.4 **Soil Name:** Fox
% Silt: 39 **CEC:** 11.2 **Fert. Level:** G good
% Clay: 31

Analyzed By:

Spectrum Analytic, Inc.

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 BRNDOWN
Application Placement BROFOL
Applied By Reeb
Appl. Entry Date Apr-24-2019
Air Temperature Start, Stop 53 53 F
% Relative Humidity Start, Stop 68 69
Wind Velocity+Dir. Start 2 MPH E
Wind Velocity+Dir. Stop 2 MPH E
Wind Velocity+Dir. Max 2 MPH E
Wet Leaves (Y/N) N no
Soil Temperature 50 F
Soil Moisture MOIST
Soil Surface Condition DRY
% Cloud Cover 90

Pest Stage At Each Application

A

Pest 1 Code, Type, Scale ERICA W
Stage Majority, Percent 19 100
Diameter 3 IN
Height Average 3 IN
Height Minimum, Maximum 2 3
Density Average 8 PLA/m2
Density Min, Max 1 12
Pest 2 Code, Type, Scale LAMPU W
Stage Majority, Percent 65 100
Diameter 4 IN
Height Average 5 IN
Height Minimum, Maximum 4 6
Density Average 5 PLA/m2
Density Min, Max 2 6
Pest 3 Code, Type, Scale STEME W
Stage Majority, Percent 65 100
Diameter 6 IN
Height Average 3 IN
Height Minimum, Maximum 3 5
Density Average 3 PLA/m2
Density Min, Max 2 6
Pest 4 Code, Type, Scale VERAR W
Stage Majority, Percent 65 100
Diameter 9 IN
Height Average 4 IN
Height Minimum, Maximum 3 4
Density Average 3 PLA/m2
Density Min, Max 2 6

Application Equipment

A

Appl. Equipment 10' TTI
Equipment Type SPRBAC
Operation Pressure 46 PSI
Nozzle Type AI XR
Nozzle Size 110015
Nozzle Spacing 18 IN
Boom Length 10 FT
Boom Height 20 IN
Ground Speed 3 MPH
Carrier WATER
Application Amount 15 GPA
Mix Size 2 Liters
Propellant CO2

Date	By	Context	Notes
Mar-26-2019	Dr. Mark M. Loux	STATUS	Automatically added by ARM: Trial Status updated to 'S' during trial creation.
Apr-24-2019	Dr. Mark M. Loux	STATUS	Automatically added by ARM: Trial Status updated to 'E' when Application Date entered.

SE Definitions

1.
Crop Type, Code C

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Table with 6 columns: Pest Type, Crop Type, Rating Date, Rating Type, Rating Unit, Number of Subsamples, Data Entry Date, Days After First/Last Applic., Trt-Eval Interval, Number of Decimals. Rows include W Weed ERICA, W Weed STEME, W Weed LAMPU, W Weed VERAR, W Weed ERICA.

Main data table with columns: Trt No., Treatment Name, Rate, Unit, Other Rate, Other Unit, Appl Unit Code, 1*, 2*, 3*, 4*, 5*. Rows include treatments 1-6 (UTC, NIS, Gramoxone 3 LB, Metribuzin) and statistical summary rows (LSD P=.05, Standard Deviation, CV, Levene's F, Skewness, Kurtosis, Replicate F, etc.).

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
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. 1-12=3
* Adjusted means
Could not calculate LSD (% mean diff) for columns 2,6,7,8 because error mean square = 0.

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed			
PEST Code	STEME	LAMPU	VERAR	ERICA	STEME			
Pest Name	Common chickwe>	Purple deadnet>	Corn speedwell	Canada Common chickwe>	horsewe>			
Crop Type, Code	C -	C -	C -	C -	C -			
Rating Date	May-8-2019	May-8-2019	May-8-2019	May-22-2019	May-22-2019			
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO			
Rating Unit	%	%	%	%	%			
Number of Subsamples	1	1	1	1	1			
Data Entry Date	May-8-2019	May-8-2019	May-8-2019	May-22-2019	May-22-2019			
Days After First/Last Applic.	14 14	14 14	14 14	28 28	28 28			
Trt-Eval Interval	14 DA-A	14 DA-A	14 DA-A	28 DA-A	28 DA-A			
Number of Decimals	0	0	0	0	0			
Trt Treatment	Rate	Other	Other	Appl				
No. Name	Rate Unit	Rate	Rate Unit	Code				
		6*	7*	8*	9*			
		10*						
1 UTC		0 -	0 -	0 -	0	0 b		
2 NIS	0.25 % v/v	0.25 % v/v	A	100 -	100 -	100 -	42 -	77 a
2 Gramoxone 3 LB	840 g ai/ha	2 pt/a	A					
3 NIS	0.25 % v/v	0.25 % v/v	A	100 -	100 -	100 -	53 -	93 a
3 Gramoxone 3 LB	1140 g ai/ha	2.71 pt/a	A					
4 NIS	0.25 % v/v	0.25 % v/v	A	100 -	100 -	100 -	60 -	100 a
4 Boundary	1640 g ai/ha	1.8 pt/a	A					
4 Gramoxone 3 LB	840 g ai/ha	2 pt/a	A					
5 NIS	0.25 % v/v	0.25 % v/v	A	100 -	100 -	100 -	62 -	100 a
5 Metribuzin	420 g ai/ha	8 oz/a	A					
5 Gramoxone 3 LB	840 g ai/ha	2 pt/a	A					
6 NIS	0.25 % v/v	0.25 % v/v	A	100 -	100 -	100 -	53 -	90 a
6 Gramoxone	840 g ai/ha	3 pt/a	A					
LSD P=.05		.	.	.	19.3	21.8		
Standard Deviation		0.0	0.0	0.0	10.2	12.0		
CV		0.0	0.0	0.0	18.94	15.62		
Levene's F		0.00	0.00	0.00	0.442	2.578		
Levene's Prob(F)		.	.	.	0.776	0.083		
Skewness		-1.9558*	-1.9558*	-1.9558*	-0.1667	-1.5783*		
Kurtosis		2.04	2.04	2.04	0.9223	0.9599		
Replicate F		0.000	0.000	0.000	0.622	0.349		
Replicate Prob(F)		1.0000	1.0000	1.0000	0.5612	0.7138		
Treatment F		0.000	0.000	0.000	1.777	31.070		
Treatment Prob(F)		1.0000	1.0000	1.0000	0.2266	0.0001		

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Pest Type	W Weed	W Weed
Pest Code	LAMPU	VERAR
Pest Name	Purple deadnet>	Corn speedwell
Crop Type, Code	C -	C -
Rating Date	May-22-2019	May-22-2019
Rating Type	CONTRO	CONTRO
Rating Unit	%	%
Number of Subsamples	1	1
Data Entry Date	May-22-2019	May-22-2019
Days After First/Last Applic.	28 28	28 28
Trt-Eval Interval	28 DA-A	28 DA-A
Number of Decimals	0	0

Trt No.	Treatment Name	Rate	Other Rate	Other Rate	Appl Unit Code	11*	12*
1	UTC					0 b	0 b
2	NIS	0.25 % v/v	0.25 % v/v		A	87 a	77 a
2	Gramoxone 3 LB	840 g ai/ha	2 pt/a		A		
3	NIS	0.25 % v/v	0.25 % v/v		A	100 a	87 a
3	Gramoxone 3 LB	1140 g ai/ha	2.71 pt/a		A		
4	NIS	0.25 % v/v	0.25 % v/v		A	100 a	100 a
4	Boundary	1640 g ai/ha	1.8 pt/a		A		
4	Gramoxone 3 LB	840 g ai/ha	2 pt/a		A		
5	NIS	0.25 % v/v	0.25 % v/v		A	100 a	100 a
5	Metribuzin	420 g ai/ha	8 oz/a		A		
5	Gramoxone 3 LB	840 g ai/ha	2 pt/a		A		
6	NIS	0.25 % v/v	0.25 % v/v		A	90 a	93 a
6	Gramoxone	840 g ai/ha	3 pt/a		A		
LSD P=.05						19.8	24.3
Standard Deviation						10.9	13.4
CV						13.72	17.57
Levene's F						0.988	0.809
Levene's Prob(F)						0.464	0.565
Skewness						-1.7014*	-1.5032*
Kurtosis						1.3053	0.8293
Replicate F						0.327	0.031
Replicate Prob(F)						0.7284	0.9695
Treatment F						39.075	24.627
Treatment Prob(F)						0.0001	0.0001

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