

# The Ohio State University

## Callisto marestail study - Residual control - 14 EPP

Trial ID: 16CALERICA      Location: Western Branch F-10 W      Trial Year: 2016  
 Protocol ID: 16CALERICA      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 °: 39.85875      N  
 Longitude of LL Corner °: 83.67295      W  
 Altitude of LL Corner, Unit: 1090.00 FT

Conducted Under GLP: No  
 Conducted Under GEP: No

### Pest Description

Pest 1 Type: W      Code: ERICA      Conyza canadensis  
 Common Name: Canada horseweed

Pest 2 Type: W      Code: LAMPU      Lamium purpureum  
 Common Name: Purple deadnettel

Pest 3 Type: W      Code: ERYRE      Erysimum repandum  
 Common Name: Bushy wallflower

Pest 4 Type: W      Code: LEPVI      Lepidium virginicum  
 Common Name: Virginia pepperweed

Pest 5 Type: W      Code: TAROF      Taraxacum officinale  
 Common Name: Common dandelion

Pest 6 Type: W      Code: AMBTR      Ambrosia trifida  
 Common Name: Giant ragweed

### 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: 8      Tillage Type: NOTILL no-till  
 Replications: 3      Study Design: RACOB L Randomized Complete Block (RCB)

No. Previous Crop Year  
 1. Wheat      2015

### Soil Description

Description Name: F-10 West      Texture: SIC silty clay  
                                  % OM: 1.6      Soil Name: Crosby  
                                  pH: 6.6      Fert. Level: G good  
                                  CEC: 9      Soil Drainage: G good

### Application Description

**A**  
 Application Date: 4-20-2016  
 Appl. Start Time: 9:20 AM  
 Appl. Stop Time: 9:40 AM  
 Application Method: SPRAY  
 Application Timing: 7 EPP  
 Application Placement: BROFOL  
 Applied By: Reeb  
 Air Temperature, Unit: 55 F  
 % Relative Humidity: 42  
 Wind Velocity, Unit: 8 MPH  
 Wind Direction: E  
 Dew Presence (Y/N): N no  
 Soil Temperature, Unit: 50 F  
 Soil Moisture: NORMAL  
 % Cloud Cover: 30  
 Next Moisture Occurred On: 4-21-2016  
 Time to Next Moisture, Unit: 1 DAY

# The Ohio State University

## Callisto marestalk study - Residual control - 14 EPP

Trial ID: 16CALERICA      Location: Western Branch F-10 W      Trial Year: 2016  
 Protocol ID: 16CALERICA      Investigator: Dr. Mark M. Loux  
 Project ID:      Study Director:  
                                  Sponsor Contact:

### Pest Stage At Each Application

**A**

**Pest 1 Code, Type, Scale:** ERICA W  
**Stage Majority, Percent:** 19 100  
**Diameter, Unit:** 3 IN  
**Height, Unit:** 3 IN  
**Height Minimum, Maximum:** 3 4  
**Density, Unit:** 13.3 M2

**Pest 2 Code, Type, Scale:** LAMPU W  
**Stage Majority, Percent:** 69 100  
**Diameter, Unit:** 3 IN  
**Height, Unit:** 5 IN  
**Height Minimum, Maximum:** 4 6  
**Density, Unit:** 5.3 M2

**Pest 3 Code, Type, Scale:** ERYRE W  
**Stage Majority, Percent:** 69 100  
**Diameter, Unit:** 4 IN  
**Height, Unit:** 12 IN  
**Height Minimum, Maximum:** 8 12  
**Density, Unit:** 4 M2

**Pest 4 Code, Type, Scale:** LEPVI W  
**Stage Majority, Percent:** 69 100  
**Diameter, Unit:** 3 IN  
**Height, Unit:** 12 IN  
**Height Minimum, Maximum:** 8 12  
**Density, Unit:** 2.6 M2

**Pest 5 Code, Type, Scale:** TAROF W  
**Stage Majority, Percent:** 69 100  
**Diameter, Unit:** 8 IN  
**Height, Unit:** 2 IN  
**Height Minimum, Maximum:** 1 2  
**Density, Unit:** 1.3 M2

**Pest 6 Code, Type, Scale:** AMBTR W  
**Stage Majority, Percent:** 12 80  
**Stage Minimum, Percent:** 11 10  
**Stage Maximum, Percent:** 2.6 80  
**Height, Unit:** 2 IN  
**Height Minimum, Maximum:** 1 2  
**Density, Unit:** 8 M2

### Application Equipment

**A**

**Appl. Equipment:** 6 FOOT BOOM  
**Equipment Type:** SPRBAC  
**Operation Pressure, Unit:** 46 PSI  
**Nozzle Type:** AI XR  
**Nozzle Size:** 110015  
**Nozzle Spacing, Unit:** 18 IN  
**Boom Length, Unit:** 10 FT  
**Boom Height, Unit:** 20 IN  
**Ground Speed, Unit:** 3 MPH  
**Carrier:** WATER  
**Spray Volume, Unit:** 15 GPA  
**Mix Size, Unit:** 1 Liters  
**Propellant:** CO2

# The Ohio State University

## Callisto marestail study - Residual control - 14 EPP

Trial ID: 16CALERICA Location: Western Branch F-10 W Trial Year: 2016  
 Protocol ID: 16CALERICA Investigator: Dr. Mark M. Loux  
 Project ID: Study Director:  
 Sponsor Contact:

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code	ERICA	LAMPU	ERYRE	ERICA	LAMPU
Pest Scientific Name	Conyza canadens>	Lamium purpure>	Erysimum repa>	Conyza canadens>	Lamium purpure>
Pest Name	Canada horsewe>	Purple deadnet>	Bushy wallflow>	Canada horsewe>	Purple deadnet>
Rating Date	5-6-2016	5-6-2016	5-6-2016	5-18-2016	5-18-2016
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit	%	%	%	%	%
Number of Subsamples	1	1	1	1	1
Days After First/Last Applic.	16 16	16 16	16 16	28 28	28 28
Trt-Eval Interval	16 DA-A	16 DA-A	16 DA-A	28 DA-A	28 DA-A
Number of Decimals	0	0	0	0	0

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	1*	2*	3*	4*	5*
1	Roundup PowerMax	1.13 lb	ae/a	A	43 d	60 b	47 -	73 b	100 -
	2,4-D Ester	0.5 lb	ai/a	A					
2	Roundup PowerMax	1.13 lb	ae/a	A	55 cd	92 a	66 -	73 b	100 -
	2,4-D Ester	0.5 lb	ai/a	A					
	Callisto	0.125 lb	ai/a	A					
3	Roundup PowerMax	1.13 lb	ae/a	A	73 bc	100 a	92 -	95 a	100 -
	2,4-D Ester	0.5 lb	ai/a	A					
	Callisto	0.125 lb	ai/a	A					
	Metribuzin	0.375 lb	ai/a	A					
4	Roundup PowerMax	1.13 lb	ae/a	A	68 bcd	100 a	91 -	80 b	100 -
	2,4-D Ester	0.5 lb	ai/a	A					
	Callisto	0.125 lb	ai/a	A					
	Valor SX	0.064 lb	ai/a	A					
5	Roundup PowerMax	1.13 lb	ae/a	A	53 cd	93 a	61 -	77 b	100 -
	2,4-D Ester	0.5 lb	ai/a	A					
	Callisto	0.125 lb	ai/a	A					
	Spartan	0.156 lb	ai/a	A					
6	Roundup PowerMax	1.13 lb	ae/a	A	95 a	95 a	97 -	100 a	100 -
	2,4-D Ester	0.5 lb	ai/a	A					
	Sharpen	0.0334 lb	ai/a	A					
	Callisto	0.125 lb	ai/a	A					
7	Roundup PowerMax	1.13 lb	ae/a	A	85 ab	100 a	95 -	95 a	100 -
	2,4-D Ester	0.5 lb	ai/a	A					
	Sharpen	0.0334 lb	ai/a	A					
	Callisto	0.125 lb	ai/a	A					
	Metribuzin	0.28 lb	ai/a	A					
8	Roundup PowerMax	1.13 lb	ae/a	A	45 d	100 a	107 -	67 b	100 -
	2,4-D Ester	0.5 lb	ai/a	A					
	Valor SX	0.064 lb	ai/a	A					
	Metribuzin	0.28 lb	ai/a	A					
	LSD P=.05				17.2	15.4	31.8	11.4	.
	Standard Deviation				9.8	8.6	15.2	6.5	0.0
	CV				15.17	9.38	18.63	7.88	0.0
	Bartlett's X2				3.796	0.154	3.05	5.159	0.0
	P(Bartlett's X2)				0.803	0.985	0.384	0.524	.
	Skewness				0.2554	-1.7377*	-1.3112*	0.0587	.
	Kurtosis				-1.0008	2.1354*	0.3808	-1.1267	.
	Replicate F				2.664	0.170	0.802	3.845	0.000
	Replicate Prob(F)				0.1046	0.8458	0.4988	0.0467	1.0000
	Treatment F				11.031	7.142	2.865	10.930	0.000
	Treatment Prob(F)				0.0001	0.0023	0.1322	0.0001	1.0000

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).  
 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. 2=2.5; 3=1.5; 5=2.8; 6=1.7  
 \* Adjusted means  
 Could not calculate LSD (% mean diff) for columns 5 because error mean square = 0.

# The Ohio State University

## Callisto marestail study - Residual control - 14 EPP

Trial ID: 16CALERICA      Location: Western Branch F-10 W      Trial Year: 2016  
 Protocol ID: 16CALERICA      Investigator: Dr. Mark M. Loux  
 Project ID:      Study Director:  
    Sponsor Contact:

Pest Type	W Weed	W Weed
Pest Code	ERYRE	ERICA
Pest Scientific Name	Erysimum Conyza canadensis	
Pest Name	Bushy wallflower> Canada horsewee>	
Rating Date	5-18-2016	7-7-2016
Rating Type	CONTRO	CONTRO
Rating Unit	%	%
Number of Subsamples	1	1
Days After First/Last Applic.	28 28	78 78
Trt-Eval Interval	28 DA-A	78 DA-A
Number of Decimals	0	0

Trt No.	Treatment Name	Rate	Unit	Appl Code	6*	7*
1	Roundup PowerMax	1.13 lb	ae/a	A	76 -	27 c
	2,4-D Ester	0.5 lb	ai/a	A		
2	Roundup PowerMax	1.13 lb	ae/a	A	98 -	73 ab
	2,4-D Ester	0.5 lb	ai/a	A		
	Callisto	0.125 lb	ai/a	A		
3	Roundup PowerMax	1.13 lb	ae/a	A	100 -	77 ab
	2,4-D Ester	0.5 lb	ai/a	A		
	Callisto	0.125 lb	ai/a	A		
	Metribuzin	0.375 lb	ai/a	A		
4	Roundup PowerMax	1.13 lb	ae/a	A	95 -	68 ab
	2,4-D Ester	0.5 lb	ai/a	A		
	Callisto	0.125 lb	ai/a	A		
	Valor SX	0.064 lb	ai/a	A		
5	Roundup PowerMax	1.13 lb	ae/a	A	93 -	62 b
	2,4-D Ester	0.5 lb	ai/a	A		
	Callisto	0.125 lb	ai/a	A		
	Spartan	0.156 lb	ai/a	A		
6	Roundup PowerMax	1.13 lb	ae/a	A	100 -	96 a
	2,4-D Ester	0.5 lb	ai/a	A		
	Sharpen	0.0334 lb	ai/a	A		
	Callisto	0.125 lb	ai/a	A		
7	Roundup PowerMax	1.13 lb	ae/a	A	100 -	95 a
	2,4-D Ester	0.5 lb	ai/a	A		
	Sharpen	0.0334 lb	ai/a	A		
	Callisto	0.125 lb	ai/a	A		
	Metribuzin	0.28 lb	ai/a	A		
8	Roundup PowerMax	1.13 lb	ae/a	A	101 -	20 c
	2,4-D Ester	0.5 lb	ai/a	A		
	Valor SX	0.064 lb	ai/a	A		
	Metribuzin	0.28 lb	ai/a	A		
	LSD P=.05				12.1	21.7
	Standard Deviation				5.8	12.4
	CV				5.99	19.16
	Bartlett's X2				0.934	3.127
	P(Bartlett's X2)				0.627	0.873
	Skewness				-2.184*	-0.6628
	Kurtosis				4.4142*	-0.5039
	Replicate F				0.125	0.615
	Replicate Prob(F)				0.8852	0.5547
	Treatment F				2.564	15.603
	Treatment Prob(F)				0.1586	0.0001

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).  
 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. 2=2.5; 3=1.5; 5=2.8; 6=1.7  
 \* Adjusted means  
 Could not calculate LSD (% mean diff) for columns 5 because error mean square = 0.

# The Ohio State University

## Callisto marestail study - Residual control - 14 EPP

Trial ID: 16CALERICA      Location: Western Branch F-10 W      Trial Year: 2016  
Protocol ID: 16CALERICA      Investigator: Dr. Mark M. Loux  
Project ID:      Study Director:  
Sponsor Contact:

Pest Type

W, Weed, G-BYRW7, G-WedStg = Weed or volunteer crop

Pest Code

LAMPU, Lamium purpureum, Purple deadnettel = US

ERYRE, Erysimum repandum, Bushy wallflower = US

Rating Type

CONTRO = control / burndown or knockdown

Rating Unit

% = percent