

**Callisto Cranberry Chemigation studies
2008 and 2009**

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2008 Studies

Single replication trials for False Lily of the Valley control and phytotoxicity screening at 1X, 2X and 4X rate of simulated Callisto in 2008

Treatment	False Lily of the Valley Burn-down rating 1=none 5=dead 8/14/08	Cranberry phytotoxicity Rating 1=none 5=dead 8/14/08
Control	1.0	1.0
Callisto 1000 gpa 8 fl oz/a	1.0	1.0
Callisto 1000 gpa 16 fl oz/a	3.0	1.0
Callisto 1000 gpa 24 fl oz/a	5.0	1.0

Trial comments: 10'x10' plots applied with high volume boom @ 1000 gpa with no surfactant to simulate chemigation on 5/8/08 and 6/3/08; 5/8/08. Air 51F; soil 50F; RH 80%; rain on/off; cloud cover 75%. 6/3/08. Air 56F; RH 70%; wind 3-7 mph SW; cloud cover 100%; soil 59F; cranberry roughneck. Plots rated on 8/14/08 with no evidence of crop damage at high rates at that time.

Multi-site replicated for control of mixed weed species and phytotoxicity screening for Callisto @ 8 oz/ac applied with no surfactant at 1000 gpa spray volume in 2008

Timing	Weed/site	Weed control rating* 1= none ; 5= 100% 8/14/08	Cranberry phytotoxicity rating; 1=none 5=severe/dead* 8/14/08
21-Feb and 8-May	Lotus	1±0	1±0
8-May	Lotus	4.7 ±0.27	1±0
21-Feb	Sour dock	1±0	1±0
21-Feb & 18- Apr	Yellow weed	1±0	1±0
18-Apr	Yellow weed	1±0	1±0
21-Feb	<i>Carex stipata</i>	1±0	1±0

* means ± Std. Err.

Trial comments: Treatment applied using 1000 gpa spot treatment with high volume nozzle from a 33 gal bulk mix to a 50 to 100 ft² / rep for each weed at each site.

2/21/08 1-4pm. Air 55F; wind 0 mph; cloud cover 100%.

4/18/08. 12-2 pm. Air 42F; soil 50F; wind 5-7 mph W. Hail and rain on/off all day

4/21/08. Air: 49F; soil 44F @ 5"; cloud cover 40%.

5/8/08. 11am. Air 51F; soil 50 F; cloud cover 60%; rain on/off, sun on/off.

2009 studies

False Lily of the Valley control with simulated chemigated Callisto @ 8 oz/ac – 2009

	% control False Lily of the Valley	Cranberry Phytotoxicity rating 1=none 5=dead
Treatment	6/29/09	6/29/09
Control	0.0 a	1.0 b
Callisto 8 fl oz/a twice 400 gpa to apply % 400 gpa washoff	0.0 a	1.6 a
LSD (P=.05)	4.99	0.42
Treatment F	1.000	7.728
Treatment Prob(F)	0.4219	0.0219

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)

Trial Comments: 10'x10' plots, 4 replications

Applied 5/19/09. 2pm. 100 gpa on followed by 400 gpa washoff, soil saturated at time.

Applied 6/16/09. 12pm. 400 gpa on followed by 400gpa washoff. Air 61F; wind 0 mph; cloud cover 100%.

Rate 6/26/09 for efficacy and crop damage. Treatment not effective on lily; slight white coloring of cranberry leaf, which faded within a month. Grower-applied backpack sprayed Callisto @ 8 fl oz/ac @ 100 gpa in area, no difference in crop damage or control on lily noted.

Lotus control with Callisto applied at 8oz/ac with chemigation and without chemigation in 2009

	Lotus % control 6/3/09 Site 1	Lotus % control 6/3/09 Site 2	Lotus % control 6/29/09 Site 1	Lotus % control 6/29/09 Site 2	Yield bbl/ac
Control	0.0 b	7.0 b	0.0 c	0.0 b	45 a
Callisto 8 fl oz/ac @ 40 gpa with 1% v/v Agridex	53.3 a	87.4 a	35.0 a	95.0 a	70 a
Callisto 8 fl oz/ac @ 400 gpa	45.0 a	85.0 a	17.5 b	84.6 a	56 a
LSD (P=.05)	35.44	17.65	16.91	23.18	60.22
Treatment F	6.508	71.402	10.964	60.538	0.558
Treatment Prob(F)	0.0155	0.0001	0.0039	0.0001	0.6041

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)

Trial Comments

Applied 4/22/09. 49F; wind 10 mph NW; partly cloudy; two sites, 4 reps 4.5' by 10'.

Silverleaf control with Callisto chemigation @ 8 oz/ac in 2009

Treatment	% Control Pacific silver leaf 8/20/09	Cranberry phytotoxicity rating 1=none, 5=dead 8/20/2009
Control	0 b	1 a
Callisto 8 fl oz/a applied twice through sprinkler system	100 a	1 a
LSD (P=.05)	0.00	0.00
Treatment F	0.000	0.000
Treatment Prob(F)	1.0000	1.0000

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)

Trial Comments

Applied 6/12/09 and 7/22/09 using standard chemigation equipment through a sprinkler system on a 2-acre bed. Control data taken from adjacent untreated bed. Good efficacy on Silverleaf; evergreen blackberry and common rush both show bleaching.

Lotus and False Lily of the valley control with Callisto applied at 8oz/ac with chemigation and without chemigation in 2009

Treatment	% control Lotus 5/5/09	% control Lily 6/4/09	% control Lily 7/3/09	Yield bbl/ac
Control	0 b	0 b	0 b	19 a
Callisto 8 fl oz/ac simulated chemigation	100 a	56 a	41 a	25 a
Callisto 8 fl oz/ac 100 gpa with 1% Agridex v/v	100 a	44 a	16 a	16 a
LSD (P=.05)	0.00	20.95	39.19	17
Treatment F	0.000	22.155	2.740	0.8
Treatment Prob(F)	1.0000	0.0009	0.1125	0.47

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)

Trial Comments:

Applied at two sites for lily and lotus control using simulated chemigation (broadcast application @ 100 gpa, followed by sprinkler running on site for 15 to 20 minutes. The broadcast treatment @ 100 gpa was applied to plots 2 to 7 days after the chemigation treatments were applied to the site.

Lily site - chemigated 4/10/09 & 5/7/09; broadcast 4/17/09 & 5/14/09

Lotus site- chemigated 4/10/09; broadcast 4/17/09