University of Guam Coconut Rhinoceros Beetle Biological Control Project
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https://github.com/aubreymoore/rearing3

Bioassay Report: V23BperOS

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https://github.com/aubreymoore/rearing3/raw/master/bioassay-V23BperOS.pdf

Contents

1 Summary

Table 1: Bioassay summary.

	bioassay_name	date_start_bioassay	date_end_bioassay	bioassay_treatment	N
0	V23BperOS-1	2019-03-05	2019-04-05	control	6
1	V23BperOS-1	2019-03-05	2019-04-05	heat inactivated	5
2	V23BperOS-1	2019-03-05	2019-04-05	virus	5
3	V23BperOS-2	2019-04-12	2019-05-10	control	6
4	V23BperOS-2	2019-04-12	2019-05-10	heat inactivated	5
5	V23BperOS-2	2019-04-12	2019-05-10	virus	5

Fifteen adult beetles maintained for more than 2 weeks to observe possible contamination from green muscardine fungus infection were employed in a preliminary test to determine the susceptibility of adult beetle to infection by virus **V23 B** isolate (Solomon Islands). Each of 5 beetles (5/treatment) were orally fed 10 µl of a virus + 30% sucrose mixture with a sterile pipette tip. Adults were then placed in clean glass mason jars (bleach-treated) with a piece of banana added for food. Beetles were incubated at 30℃ and 80% RH in a Percival incubator. All beetles will be monitored daily to observe any possible signs of infection.

2 Mortality

Table 2: Mortality summary.

	bioassay_treatment	ntotal	ndead	mortality	adjusted_mortality	significance
0	control	12	6	0.5	0.0	1.000000
1	heat inactivated	10	4	0.4	-0.2	0.691355
2	virus	10	9	0.9	0.8	0.074303
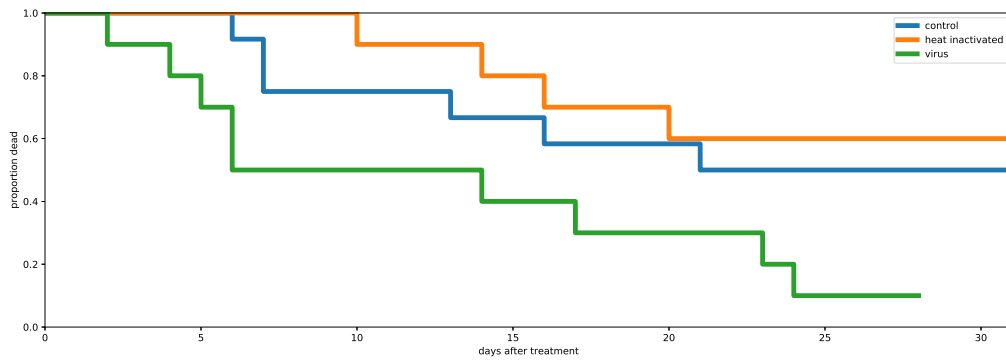
Table 3: Pairwise differences among mortality curves.

		test_statistic	p
control	heat inactivated	0.350703	0.553716
	virus	4.076804	0.043476
heat inactivated	virus	5.842978	0.015639

3 Change in Mass
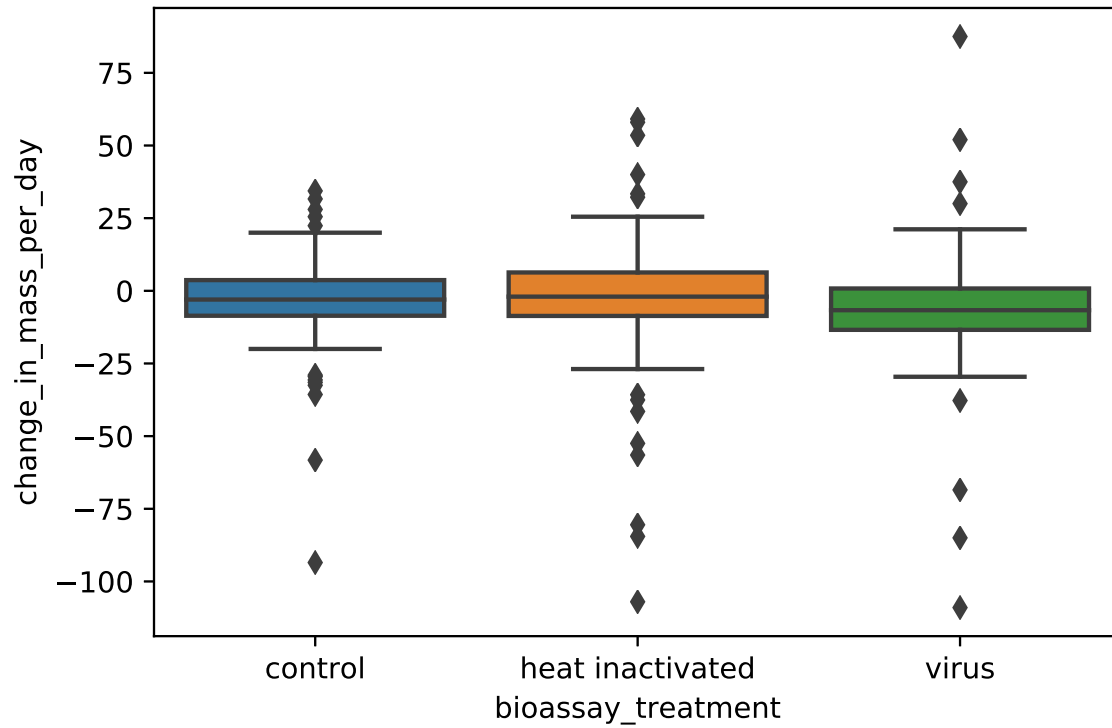
Table 4: Results of pairwise significance tests for differences in change in mass.

	control	heat inactivated	virus
control	-1.000000	0.740696	0.245085
heat inactivated	0.740696	-1.000000	0.157019
virus	0.245085	0.157019	-1.000000