



CENTRAL LUZON STATE UNIVERSITY



GROWTH RESPONSE AND MYCOACCUMULATION ABILITY OF *Lentinus tigrinus* MYCELIA ON MERCURY IN LIQUID CULTURE

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An Undergraduate Thesis Submitted to the Faculty of the Department of
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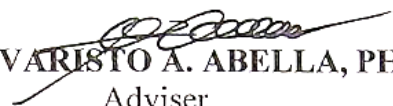


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CENTRAL LUZON STATE UNIVERSITY
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**ABSTRACT**

SORIANO, IRISH IVY C. Bachelor of Science in Biology, Department of Biological Sciences, College of Arts and Sciences, Central Luzon State University, Science City of Muñoz, Nueva Ecija, Philippines, June 2017. **GROWTH RESPONSE AND MYCOACCUMULATION ABILITY OF MERCURY IN *Lentinus tigrinus* IN LIQUID CULTURE MEDIA.**

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In this study, the mycoaccumulation potential of *Lentinus tigrinus* on salt mercury treated liquid culture media was assessed. The growth response of the mycelia of *L. tigrinus* on different concentrations of mercury was evaluated and the presence of mercury on the mycelia was detected using acid digestion/cold vapor atomic absorption spectrophotometry. *L. tigrinus* was inoculated into liquid culture media (PDB) with different concentrations of mercury having 0 ppm, 1 ppm, 10 ppm, 100 ppm and 1000 ppm. The culture was incubated for 15 days.

Results revealed that the highest volume loss was observed in treatment 2 having 17.33 ml while the least was obtained in treatment 7 with 3.3 ml. 0 ppm and 1 ppm were found to be statistically the same with 17.33 ml and 18.33 ml respectively. 10 ppm (15.33 ml), 100 ppm (10.67 ml) and 1000 ppm (3.33 ml) on the other hand were different. The heaviest mycelial weight was obtained in 10 ppm with 5.52 g and the least was noted in 1000 ppm which yielded 2.54 g. 1 ppm having 5.18g, on the other hand, is similar with 100 ppm with 4.18 g which in turn was statistically comparable with 0 ppm (3.42 g). 0



ppm and 1000 ppm (2.54 g) were observed to be statistically the same. Presence of Hg concentrations in mycelia were detected in different treatments with the highest concentration was noted in 1000 ppm with 4.5 mg/kg followed by 100 ppm and 10 ppm with 1.1 and .36 mg/kg respectively. The least concentration with .1 mg/kg was observed in 1 ppm.

The results suggest that Hg concentrations affects both the intake of culture media by mycelia and its growth. It is highly probable that *L. tigrinus* is a potential bioaccumulator of Hg.



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