CENTRAL LUZON STATE UNIVERSITY

PERFORMANCE OF *Pleurotus florida* ON BANANA BASED SUBSTRATE FORMULATIONS

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An Undergraduate Thesis Submitted to the Faculty of the Department of Biological Sciences, College of Arts and Sciences, Central Luzon State University, Science City of Muñoz, Nueva Ecija, Philippines, In Partial Fulfilment of the Requirements for the Degree

BACHELOR OF SCIENCE IN BIOLOGY

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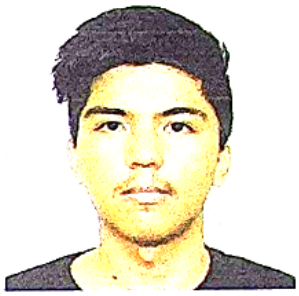

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LEXTER TRISTAN DE FIESTA GAMBOA

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

LIST OF APPENDIX TABLES

LIST OF APPENDIX FIGURES

ABSTRACT

GAMBOA, LEXTER TRISTAN F. 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. **PERFORMANCE OF *Pleurotus florida* ON BANANA BASED SUBSTRATE FORMULATION**

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Pleurotus florida belongs to the phylum Basidiomycota and it is white in color. It usually grows on various types of lignocellulosic agro-wastes that produce fruiting bodies that are rich in proteins, vitamins and minerals.

This study was undertaken to evaluate the mycelial growth and fruiting body production of *P. florida* on banana based substrate formulation. The mycelial growth of *P. florida* was evaluated on banana based culture media using three varieties of banana namely: lakatan, latundan, and saba. Fruiting body performance was assessed on different banana based substrate formulations namely: 100% banana leaves, 75% banana leaves + 25% sawdust, 50% banana leaves + 50% sawdust, 25% banana leaves + 75% sawdust, 100% sawdust, and 75% rice straw + 25% sawdust.

Latundan sucrose gulaman exhibited the highest mycelial growth rate (12.86 mm/day), shortest incubation period (7 days), and thick mycelial density while the potato dextrose agar showed the lowest mycelial growth rate (9 mm/day), longest incubation period (9 days), and very thick mycelial density. Substrate formulation consisting of 75

% banana leaves + 25% sawdust registered the fastest incubation period (28.11 days) and primordial initiation (31.11 days). There was no significant difference on the stipe length and pileus diameter of *P. florida* on the different substrates. The substrate formulation consisting of 50% banana leaves + 50% sawdust exhibited the best yield (143.06 g) and biological efficiency (20.43%).

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