



CENTRAL LUZON STATE UNIVERSITY



**SINGLE CELL PROTEIN POTENTIAL OF ENDOPHYTIC FUNGI
ASSOCIATED WITH BAMBOO USING DRIED ONION
STALK AS SUBSTRATE**

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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

JUNE 2017




Republic of the Philippines
CENTRAL LUZON STATE UNIVERSITY
Science City of Muñoz, Nueva Ecija

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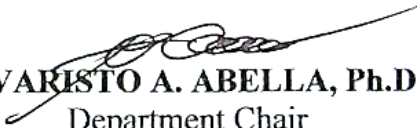

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ACKNOWLEDGEMENT

The author would like to express his sincere and deepest gratitude to his Thesis Adviser, Ms. Mary Jhane G. Valentino for her patience, motivation, willingness, and for not giving up on his advisee. Her non-stop perseverance and advices were unforgettable. If the author were to choose another thesis adviser again, he would still choose Ms. Jhane G. Valentino.

To the author's critic Mrs. Eden S. David, thank you for the suggestions, recommendations and other help to improve the study. To the Department Research Coordinator, Mr. Rich Milton R. Dulay, a sincere thanks is given for the help that he provided to the author. You will always be remembered.

The author would also like to thank all of his BS BIO FRIENDS and DORMMATES, for their support, thoughtfulness and understanding along the way. Deep appreciation and thoughtful gratitude for the help of his acquaintances, KUYA DENNIS, BFAR LUCAP, and JAEC SANTIAGO for the unmeasurable help they provided.

The author would also like to thanks his Relatives in Bongabon, Nueva Ecija specially his grandmother Mrs. Nora P. Marin for her unconditional support, guidance, love, and for always reminding him to not give up on his dreams and goals in life. The author would also like to expound his very special heartfelt thanks to his PARENTS, Mr. Eriberto P. Corpuz and Mrs. Minifreda P, Corpuz who never gave up on their son. Their love, patience, faith, will always be appreciated and valued.



Most of all, the author would like to thank Lord God in his unconditional love, blessings and un-measurable love to the author in order to be safe and to live life every other day. Thank you Lord for everything you have done for me and for everything you will yet to give in my life! Thank you very much! Glory to GOD!

LEVI PADILLA CORPUZ



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ABSTRACT

CORPUZ LEVI P., Bachelor of Science in Biology, Department of Biological Sciences, College of Arts and Sciences, Central Luzon State University, Science City of Munoz, Nueva Ecija, Philippines, June 2017, **SINGLE CELL PROTEIN POTENTIAL OF ENDOPHYTIC FUNGI ASSOCIATED WITH BAMBOO USING DRIED ONION STALK AS SUBSTRATE**

Manuscript No: BIO-M-2nd17-024

Adviser: Mary Jhane G. Valentino, M.Sc.

This study was conducted to determine the ability of nine endophytic fungi associated with bamboo namely; *Aspergillus niger*, *Aspergillus flavus*, *Aspergillus ochraceous*, *Fusarium* sp.1, *Fusarium* sp.2, *Fusarium semitectum*, *Monascus ruber*, *Penicillium citrinum*, and *Cladosporium cladosporoides* in the production of single cell protein using onion stalk as substrate. Single cell protein potential of the nine fungal endophytes were evaluated through the increase in crude protein content of the fungal enriched onion stalk. Additionally, proximate composition of the fungal enriched dried onion stalks was also tested.

Results revealed the capability of the nine endophytic fungi in single cell protein production using dried onion stalks as substrates which led to the increased CPC of the dried onion stalk. *P. citrinum* - treated dried onion stalk exhibited the highest CPC of 19.06% while *A. niger* - treated dried onion stalk had the least of 16.87%. As for the proximate composition analysis, reduction of the moisture content in all fungi treated dried onion stalks was assessed after 20 days of solid state fermentation. Increase in ash



content and crude fiber of all fungi treated dried onion stalks were also noted. Meanwhile, reduction in the crude fat content of dried onion stalks treated with *A. flavus*, *M. ruber*, *F. semitectum*, *A. ochraceous*, *Fusarium sp.2*, *A. niger* and *Fusarium sp.1* were observed while the rest of the fungal endophytes increased the crude fat of the substrate.



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