SINGLE CELL PROTEIN POTENTIAL OF FUNGI ASSOCIATED WITH VERMICAST USING BANANA FRUIT PEEL AS SUBSTRATE

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ACCEPTANCE SHEET

This undergraduate thesis entitled "**SINGLE CELL PROTEIN POTENTIAL OF FUNGI ASSOCIATED WITH VERMICAST USING BANANA FRUIT PEEL AS SUBSTRATE**" prepared and submitted by **MA. LYN H. SIMON**, in partial fulfillment of the requirements for the degree of **BACHELOR OF SCIENCE IN BIOLOGY (MICROBIOLOGY)**, is hereby accepted.

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BIOGRAPHICAL SKETCH

The author's name is Ma. Lyn Habal Simon and she is a 20-year-old from Galvan, Guimba, Nueva Ecija. She was born on September 14, 1997 in Guimba, Nueva Ecija and her religion is a Roman Catholic. Her Father's name is Felipe G. Simon and her Mother's name is Maylene H. Simon. She is living with her grandparents and cousin but while studying in Central Luzon State University she lives in Ladies Dorm 3 Dahlia Residence.

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ABSTRACT

SIMON, MA. LYN H., Department of Biological Sciences, College of Arts and Sciences, Central Luzon State University, Science City of Munoz, Nueva Ecija, Philippines, **JUNE 2018, SINGLE CELL PROTEIN POTENTIAL OF FUNGI ASSOCIATED WITH VERMICAST USING BANANA FRUIT PEEL AS SUBSTRATE**

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This study was conducted to determine the potential of four fungi associated with vermicast namely; *Aspergillus niger, Rhizopus stolonifer, Aspergillus fumigatus* and *Rhizomucor pusillus* as sources of single cell protein using banana fruit peel as substrate. This study is about the production of single cell protein wherein proximate composition of the protein enriched banana peel and percentage increase in crude protein content were determined.

Results revealed that inoculation of fungi from vermicast could affect the proximate composition of the banana fruit peel. For the crude protein content (CPC), *R. stolonifer* obtained the highest CPC of 6.29% while *R. pusillus* and *A. fumigatus* obtained the lowest CPC of 4.14% and 4.05%. Similarly, on the percentage increase CPC, *R. stolonifer* recorded the highest increase in CPC of 10.73% meanwhile, reduction of 28.64% and 27.11% were observed in *A. fumigatus* and *R. pusillus* respectively. For the proximate composition analysis, both increment and reduction in moisture, ash, crude fat and crude fiber content of the banana fruit peel were recorded. For the moisture content, *A. fumigatus* had the highest moisture of 38.62% while *R. stolonifer* had the least with 12.37%. Meanwhile, *A. niger* recorded the highest ash content of 12.30% while *A. fumigatus* and *R.*

pusillus recorded the lowest content of 8.35% and 8.28%, respectively. For the crude fat, *R. stolonifer* obtained the highest content with 12.43% while *A. fumigatus* and *R. pusillus* obtained the lowest content with 7.90% and 7.88% and lastly for the crude fiber, *R.* obtained recorded the highest content with 12.81% while *A. fumigatus* obtained the lowest content with 8.32%.

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