CENTRAL LUZON STATE UNIVERSITY

MORPHOLOGICAL AND PHYSIOLOGICAL CHARACTERIZATION OF LACTIC ACID BACTERIA FROM NAPIER, CALVES CONCENTRATES, AND PROBIOTIC SUPPLEMENT

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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 Munoz, Nueva Ecija, Philippines, In Partial Fulfillment of the Requirements for the Degree

BACHELOR OF SCIENCE IN BIOLOGY

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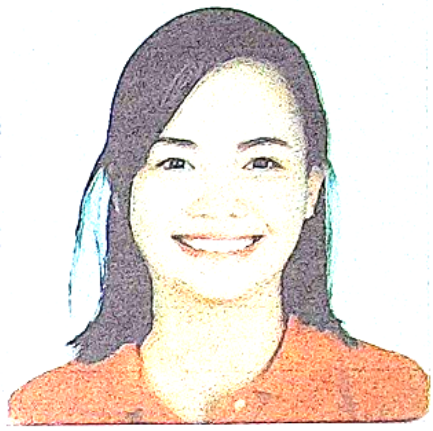

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JO-ELIZ MARTIN GONZALES

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ABSTRACT

JO-ELIZ MARTIN GONZALES, 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, July 2017. **MORPHOLOGICAL AND PHYSIOLOGICAL CHARACTERIZATION OF LACTIC ACID BACTERIA FROM NAPIER, CALVES CONCENTRATE, AND PROBIOTIC SUPPLEMENT.**

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This study aimed to isolate and characterize morphologically and physiologically the lactic acid bacteria present on the calves' diet and probiotic supplement. There were four isolates and marked as LAB1, LAB2, LAB3 and LAB4, isolates were then studied extensively for morphology and physiological growth responses to different pH representing digestive tract pH, and temperature of the environment. All isolates shared common staining - gram positive, nonsporing, and negative in catalase test and microscopic features – rounded end rod to cocci with single, pair, and chain arrangement with different morphology in MRS agar plate and slant and MRS broth. These isolates were categorized into two main genus *Lactobacillus* and *Streptococcus.* All isolates were found to be tolerant to extreme pH and temperature except for LAB3. All isolates were capable of lactic acid production in pasteurized milk.

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