



**CENTRAL LUZON STATE UNIVERSITY**



**PROFILE OF LACTOSE FERMENTING AND SACCHAROLYTIC BACTERIA  
IN THE DIGESTIVE TRACT FLUID OF YOUNG WATER BUFFALO  
(*Bubalus bubalis*) GIVEN DIFFERENT DIETS**

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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,  
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Requirements for the Degree

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COLLEGE OF ARTS AND SCIENCES  
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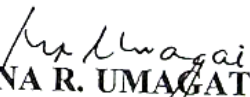
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ABSTRACT

**ERIKKA Y. SEVERO**, 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. **PROFILE OF LACTOSE FERMENTING AND SACCHAROLYTIC BACTERIA IN THE DIGESTIVE TRACT FLUID OF YOUNG WATER BUFFALO (*Bubalus bubalis*) GIVEN DIFFERENT DIETS.**

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This study aimed to isolate and culture lactose fermenting and saccharolytic bacteria which are found in the digestive tract fluid of the calves. In this study, young water buffalos were adapted to varied feeding rations treatment with the hypothesis that alteration of different diets will have an effect to the microbial diversity on host physiology. Ten young water buffalos were subjected to gradually adapt to the weaning diets. Digestive fluids were collected from the calves on four sampling periods (1st , 6th , 16th and 30th days) in accordance to different feeding rations. Lactobacilli were isolated from the digestive fluids collected and assessed based on their morphological, cultural, physiological characteristics and to analyze the chemical composition of the diets. MRS agar medium was used to culture lactose fermenting and saccharolytic bacteria. There are 7 morphologically identified genus species of lactose fermenting bacteria namely, *Streptococcus sp.*, *Butyrivibrio sp.*, *Lactobacillus sp.*, *Weisella sp.*, *Prevotella sp.*, *Bifidobacterium sp.* and *Streptobacillus sp.* And 3 of them (*Streptococcus sp.*,



*Lactobacillus sp.* and *Bifidobacterium sp.*) were classified as saccharolytic bacteria. The lactose fermenting bacteria population growth is much higher on the treated group as compared with the controlled group from day 1 up to day 30 of the calves.

Chemical composition of diets were composed of moisture with 10.06%, protein with 22.53%, fiber content of about 8.50%, fat content at 7.09% and a 6.41% of when ash. Feeds content of protein was typically higher compared with the content analysis of napier grass specifically known as Pakchong 1' that has only 7%-11% crude protein, 8%-12% Ash, but when compared to fiber content that grass has higher percentage of about 58%-61% of hemicellulose (NDF) and 18%-20% range of dry matter. It implies that one of the compositions of the diet of the calves on treatment group (napier grass) has higher content of nutrient compared to the composition of diet in control group which is the feed (calf starter pellet).



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