CENTRAL LUZON STATE UNIVERSITY

INFLUENCE OF SELENIUM SUPPLEMENTATION IN THE PRODUCTION OF SPERMATOZOA AND SEMEN QUALITY OF RIVERINE BUFFALOES

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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

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MAORIN MARI RAMOS SANTOS

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ABSTRACT

SANTOS, MAORIN MARI, RAMOS, 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. **INFLUENCE OF SELENIUM SUPPLEMENTATION IN THE PRODUCTION OF SPERMATOZOA AND SEMEN QUALITY OF RIVERINE BUFFALOES**

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The primary objective of the study was to determine the influence of different concentrations of selenium in the production of spermatozoa and semen quality of Riverine buffaloes. Experimental animals were divided into 6 groups. The first group of animals were not supplemented with selenium and act as a control. The second and third group were given 10% and 5% below the required selenium for mammals, respectively. The fourth group were supplemented with the required amount of selenium. The fifth and sixth group were supplemented with 5% and 10% above the required selenium respectively. Thirty Riverine buffaloes were fed for three months under complete confinement system of management. Parameters such as semen volume, sperm motility, sperm concentration and sperm morphology were evaluated.

The results showed that the Treatment 5 (5% above the required selenium for animal) produced the highest value in semen volume, sperm motility, concentration, viability (3.68 mL, 71.82%, 126.84 x 10^7 and 82.91%) and had the lowest abnormal

sperm (10.55%) among the treatments. These results indicate that the spermatozoa production and semen quality was affected by dietary selenium supplementation of different concentration in terms of mean values. Supplementing Selenium to a diet provided additional benefit in semen production and sperm quality over the non-supplemented control diet. Therefore, selenium may be tightly regulated by the bull's physiology, thereby standardizing the effects of selenium on semen production and sperm quality.

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