MOLECULAR DETECTION OF *Babesia* spp. IN CATTLE IN A SELECTED FARMS IN CAVITE USING POLYMERASE CHAIN REACTION

THESIS

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MOLECULAR DETECTION OF *Rickettsia* spp. IN CATTLE FROM SELECTED FARMS IN CAVITE USING POLYMERASE CHAIN REACTION

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ABSTRACT

BERAÑA, LENA C. Molecular Detection of *Rickettsia* spp., in Cattle from Selected Farms in Cavite using Polymerase Chain Reaction. Undergraduate Thesis Doctor of Veterinary Medicine. Cavite State University, Indang, Cavite. June 2019. Adviser: Dr. Cherry R. Alvarez

The study was conducted to detect the presence of *Rickettsia* spp. among cattle from selected farms in Cavite. One hundred cattle were sampled from different municipalities in Cavite through blood collection from the ear vein. Then after, the DNA was extracted using a commercially available DNA/RNA extraction kit with the mammalian *actin* gene serving as the internal control. The detection rate was correlated to different risk factors such as sex, age, type of operation, breed, topography of farm and acaricidal treatment.

The result of the study suggested that *Rickettsia* spp. is not present in the areas of collection as shown in the PCR results.

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MOLECULAR DETECTION OF *Rickettsia* spp. IN CATTLE FROM SELECTED FARMS IN CAVITE USING POLYMERASE CHAIN REACTION

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INTRODUCTION

The Philippines is an agricultural country located in Southeast Asia. It is rich in natural resources, cultural and historical attractions. Yearly, millions of air travel tourists visit the country and investors' deals from agricultural crops and livestock increase as well. Despite these developments, there are still some problems encountered in animal health care and prevention of different diseases that the government needs to solve. One of these are the tick borne diseases (TBDs) which remain as a global animal health threat. One of the types of TBDs is the *Rickettsia* spp. infection which leads to the decline of productivity, health status of the cattle and infection to human, with a mortality of 20 to 25 percent (Walker, 1996).

In Southeast Asia, there are clinical studies published regarding the prevalence of *Rickettsia* infections in humans for 15 years, from 1999 to 2014. According to Aung *et al.* (2014), Rickettsial infection ranked fourth among the identifiable causes of systemic febrile illness among returned travelers from Southeast Asia with 16 of 547 (12.9%) identified etiologies.