

PRELIMINARY SURVEY OF TICKS IN THE PROVINCE OF CAVITE

THESIS

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✓ **PRELIMINARY SURVEY OF TICKS IN THE PROVINCE OF CAVITE**

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ABSTRACT

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This study was conducted to determine the prevalence of ticks in cattle and in pasture lands in the province of Cavite. A total of 1302 ticks, 74.19% from Central Hilly region and 25.81% from the lowland region, were collected from 35 cattle farms in the province of Cavite, all of which were identified as *Rhipicephalus microplus*. Significantly greater proportion of ticks collected ticks were adults (78.96%, $P=0.0000$) while the rest are in the larval stage (21.04%) No nymphal stage was recovered during collection. Among the adult ticks collected, the females have a higher quantity compared to male ticks (84.82%, $P=0.0000$). Weak negative but insignificant association was found between tick density and number of cattle pastured in the farm ($r = -0.1516$, $P= 0.4692$) and ticks collected in pasture and number of ticks in cattle ($r = 0.06$, $P =0.7595$). Results of the univariate analysis revealed that acaricide treatment and number of cattle pastured with tick abundance (OR = 3.48 and 1.38, respectively) are epidemiologically associated but are not statistically significant. Acaricide treatment can lead to a reduction in tick abundance and is most likely to occur if the proper protocols for acaricide treatment are applied. The number of cattle pastured can also affect the level of tick abundance since an increase in the number of cattle pastured can lead to an increase in the abundance of the host, which is essential for the continuation of the life cycle of *R. microplus* ticks.

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INTRODUCTION

Ticks are obligatory, blood-sucking arachnids, which are common ectoparasites of mammals, birds, reptiles, and amphibians (Schmidt and Roberts, 1989). Around ninety-six hard ticks (Ixodidae) and seven soft ticks (Argasidae) are present in the South-east Asian region constituting 12.5% of the world's recognized tick fauna (Petney, 1993). The ticks found in the South-east Asian region are *Amblyomma*, *Boophilus* (*Rhipicephalus*), *Dermacentor*, *Haemaphysalis*, *Argas*, and *Ornithodoros* (Petney, 1993). Certain species of ticks are well distributed in the south-east Asian region while some species have limited distributions such as *Amblyomma robinsoni* which is restricted to the Komodo Island located in Indonesia and *Amblyomma cyprium aetipes* which occurs in certain areas in the Mindanao region in the Philippines (Petney, 1993).

Ticks are known to exhibit variable host specificity and are capable of transmitting different pathogens. In cattle, ticks serve as vectors for diseases such as theileriosis, anaplasmosis, babesiosis, rickettsiosis, and they also cause non-specific conditions such as anemia, dermatosis, toxicosis, and paralysis (Otranto et al., 2012). Secondary infections and