Ketsarin Kamyingkird 2009: Epidemiology of *Trypanosoma evansi* Infection of Dairy Cattle in Thailand. Master of Science (Veterinary Parasitology), Major Field: Veterinary Parasitology, Department of Parasitology. Thesis Advisor: Associate Professor Sathaporn Jittapalapong, Ph.D. 76 pages.

Trypanosoma evansi is a tissue-blood parasite known as a haemoflagellate. It is causing "surra" that has spread in various geographical areas and widely distributed amongst the domestic and wild animals; it was even recently found in a human case in India. In cattle, T. evansi induces chronic infection more than acute; however it affects cattle production, especially dairy cows, since it is responsible for abortion and loss of weight and reducing milk production. Its economical and medical impacts are thus far from negligible. The diagnosis of surra is complicated since the parasitological methods are of low sensitivity. Therefore, the study of this disease in Thailand has been limited. The aim of this study was to determine the distribution of T. evansi infection in dairy cattle, to compare parasitological, serological and molecular technique for the diagnosis of T. evansi infection, and to measure the prevalence of *T. evansi* infection among dairy cattle in Thailand. Of 1,979 dairy cows tested by ELISA-T. evansi, 163 (8.2%) were seropositive, and 4/595 (0.7%) were positive by microscopic examination. By PCR examination, 55 out of 119 seropositive were positive; however all the 107 seronegative were still negative. Chaing Mai province located in the Northern region had the highest prevalence (P=21.3%) with 75% (6/8) of the farms infected. The statistic analysis indicated that regions, provinces and districts were associated with T. evansi infection (p < 0.05). Chi-squared test showed significant differences between age groups (p=0.02, $\chi 2=7.71$, df=2), and the seroprevalence was higher in older animals. These results may provide useful knowledge for establishing the prevention and control program for *T. evansi* infection of dairy cattle in Thailand.

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