

Watcharapong Suddee 2011: Prevalence and Risk Factors Associated with *Brucella* spp. Infection in Meat Goats and Quantitative Release Assessment of *Brucella* spp. into Chainat Province by Live Meat Goats Importation. Master of Science (Veterinary Epidemiology), Major Field: Veterinary Epidemiology, Department of Veterinary Public Health and Diagnostic Services. Thesis Advisor: Associate Professor Theera Rukkwamsuk, Ph.D. 109 pages.

The objectives of this study were 1) to determine prevalence and risk factors associated with *Brucella* spp. infection in meat goats, and 2) to perform quantitative release assessment of *Brucella* spp. into Chainat Province by live meat goat importation. For the first part of the study, 4,150 meat goat serum samples were used to determine antibodies against *Brucella* spp. infection using the modified Rose Bengal test. Risk factors associated with the infection, collected from the questionnaires, were evaluated by the Chi-square test and the odds ratio analysis. For the second part of the study, data from the questionnaires and from interviewing the experts were used to perform the quantitative release assessment using the risk assessment model.

Results revealed that average seroprevalence of *Brucella* spp. infection were 16.88 % (95 % CI 9.39 – 28.03) at the herd level, and 1.59 % (95 % CI 1.24 – 2.03) at individual level. Important risk factors of finding seropositivity for *Brucella* spp. were 1) herd with a history of abortion or previously observed seropositivity for *Brucella* spp. and 2) no separation or condemnation of seropositive goats out of the herd. Results from the risk assessment model showed that an annual probability of introduction of *Brucella* spp. infected goat into Chainat Province from live meat goat importation was 0.0006.

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Thesis Advisor's signature