

Benjamas Khurajog 2014: Prevalence of *Giardia duodenalis* and Factors Associated with Its Infection of Water Buffaloes in Northeast Thailand. Master of Science (Agricultural Biotechnology), Major Field: Agricultural Biotechnology, Interdisciplinary Graduate Program. Thesis Advisor: Associate Professor Sathaporn Jittapalapong, Ph.D. 61 pages.

*Giardia duodenalis* is the intestinal protozoa causing giardiasis in animals and humans. Transmission of the disease occurs via the fecal-oral route between animals to animals and animals to humans. The objectives of this study were to determine the prevalence of *G. duodenalis*, to identify the assemblage, and to analyze factors associated with *G. duodenalis* infections of water buffaloes in Northeast Thailand. A total of 567 buffalo fecal samples were collected from northeast provinces including Sakon Nakhon, Buri Ram, Ubon Ratchathani, Roi Et, Si Sa Ket and Surin. Fecal samples were tested by zinc sulphate floatation and nested PCR (nPCR) based on the SSU-rRNA gene. The overall prevalence of *G. duodenalis* infections by nPCR was 0.4% (2/567). The prevalence of *G. duodenalis* infections in water buffaloes among six provinces was ranged between 0 and 1.6%. Buri Ram had the highest individual infections (1.6%, 1/62) and the herd prevalence was 0.7% (2/276). The positive DNAs were sequenced and compared to reference nucleotide sequences from GenBank. A buffalo from Buri Ram was infected by *G. duodenalis* assemblage D and the other buffalo from Ubon Ratchathani was infected by the assemblage E. Regarding the factors associated with *G. duodenalis* infections, sex, age, herd size, and geographical landscape (basin) were analysed, but they were not statistically significant.

---

Student's signature

---

Thesis Advisor's signature

\_\_\_ / \_\_\_ / \_\_\_