CHAPTER VI
SUMMARY AND CONCLUSION

Neospora caninum infection has been found in variety of animals worldwide. In this study the prevalence of *N. caninum* infection in the swamp buffaloes in Northeast Thailand was fairly low (4.5%). The results suggested that this parasite might not considerably impact the swamp buffaloes in Northeast Thailand.

Neosporosis has been considered an important cause of reproductive failure in cattle in which the abortion was the most popular clinical signs. It usually occurred at the 5^{th} to the 7^{th} month of gestation of cattle. In the present study, effects of *N. caninum* infection on the early pregnancy rate of the swamp buffaloes at day 45^{th} to 60^{th} post-insemination was not detected. However, the parasite was suspected to cause abortion in some river buffaloes in Italy. Studies following to the end of gestation may improve the understanding of the effects of the parasite on the reproduction of the swamp buffaloes.

The infection status of *N. caninum* in different breeds and species of animals seemed to be different. Dairy cattle were found more susceptible to the parasite compared with beef cattle. Among dairy cattle breeds, their resilience to *N. caninum* was also different. The observation was also true among beef cattle. The results from this study showed that from one area in Khon Kaen province, the prevalence of *N. caninum* infection in beef cattle (43.6%) was significantly higher than that in swamp buffaloes (6.4%). It was suggested that swamp buffaloes were less susceptible than the beef cattle to *N. caninum*.

Polymerase chain reaction is a highly sensitive and specific test for neosporosis diagnosis. A nested-PCR was focused on amplification of *N. caninum* DNA from the swamp buffalo whole blood, especially on the iscom ELISA negative samples. None of *N. caninum* DNA was successfully detected. The use of larger number of serologically positive samples, samples from aborted fetuses, aborting dams and repeated sample collection may increase the probability of successful demonstration of the parasite DNA.

The use of PCR-positive control would increase the confidence of the test.

This is the first study on *N. caninum* infection in swamp buffaloes in Thailand. The results would provide better understanding of *Neospora caninum* infection in swamp buffaloes.