

CHAPTER V

SUMMARY AND CONCLUSIONS

The vast majority of goat production in the world takes place in developing countries, where goats are usually raised under low-input systems and make an important contribution to the subsistence of local human populations. It is a challenge to develop programs aimed at the characterization, conservation and sustainable utilization of goat genetic resources under these circumstances. The diversity of goat genetic resources throughout the world reflects their adaptation to very different production systems, with a predominance of native breeds, often in danger of extinction, very well adapted to local conditions. There is an urgent need to establish programs aimed at the characterization, conservation and sustainable utilization of those genetic resources and recent developments in the different branches of biotechnology may provide the opportunity for new approaches to achieve those goals (Gama and Bressan, 2011).

Within the livestock industry, reproductive technologies such as estrus synchronization and artificial insemination (AI) are essential in conservation strategies and AI is used to enhance the production of improved offspring via the introduction of superior genotypes, maximize the use of superior small ruminant and control contagious disease within flocks (Evans and Maxwell, 1987; Kershaw et al., 2005). Based on this study, conclusions could be summarized as follows.

1) Long-term (14 days) synthetic progesterone (CIDR) was effective protocols for estrus synchronization in Thai-native goat.

2) The re-use of CIDR device could be used in goat to synchronize the estrus and is therefore a new alternative to reduce cost of the synchrony. In goats, further research is warranted focusing on fixed-timed AI using the re-use CIDR as a precise synchronization protocol due to the delayed onset estrus and time of ovulation to improve conception rate.

3) Both types of synthetic progesterone (Chronogest[®] and Eazi-Breed[™]CIDR[®]) could be used in Thai-native goat for estrus synchronization and AI. However, price of synthetic progesterone should be considered.

4) The TCAI with fresh semen increases conception rate in Thai-native goat than frozen-thawed semen. However, the conception rate was still low, probably due to the quality of frozen semen and anatomical structure of the goat cervix. TCAI can be used for the improvement, and preservation of Thai-native goat genetics resources and reduce cost of AI for goat small holders in Thailand.

Furthermore, the use of genetic markers and, to some extent, the possibility of genetic modifications may provide the opportunity for new approaches in the characterization, conservation and sustainable utilization of goat genetic resources. In addition, genetic makers, genetic characterization and animal welfare will be taken into account for future research in Thai-native goat.