CHAPTER VI

CONCLUSIONS

1. Relatively high genetic diversity of hatchery (G8 and B) and wild (Talibong Island) stocks of *H. asinina* were observed based on microsatellite analysis.

2. The number of contributed sire and dam in the previous generation was equally 10 individuals each in both hatchery samples. The estimated effective number of population size (N_e) and inbreeding coefficient of each stock were 20 individuals and 2.5% per generation, respectively.

3. Significant correlation between genotypes and the body weight of *H. asinina* (group B) was found at the locus *Haμ13* ($P < 0.05$).

4. Significant differences between the body weight of the B sample having different genotypes, for example between homozygotes and heterozygotes carrying the 124 alleles and those carrying the 128 allele, were found ($P < 0.05$).

5. Genetic-based breeding plans should be implemented to reduce the inbreeding coefficient of the hatchery stocks of *H. asinina*. Genetic diversity of the propagated stocks should be regularly examined by microsatellites.

6. Association between genotypes and commercially important traits should be further carried out using type I (coding) markers.