



CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

Conclusions.

The effects of broodstock sources and sizes and diets on *P. monodon* maturation and reproduction were studied.

The results could be concluded as follows :

1. The large prawns (> 120 g) could undergo stage IV ovarian maturity and spawning better than the small ones.
2. Both shallow water wild-caught and pond-reared females of the same size were seemed to undergo comparable maturity and spawning success.
3. The prawns fed with fresh natural diets and the prawns fed with combined diets (fresh natural diets and artificial diet) could undergo comparable stage IV ovarian maturity and spawning success. Whereas, the prawns fed merely with artificial diet could undergo lesser stage IV ovarian maturity and spawning than the former groups.
4. The large females could remature and spawn more frequently than the small ones. The prawns fed with fresh natural diets and the prawns fed with combined diets could remature and spawn more frequently than those fed with artificial diet.

5. The elapsed time between the eye-stalk ablation and the first stage IV ovarian maturity was not affected by diets, sources and sizes of broodstocks.
6. The elapsed time between two consecutive stage IV ovarian maturities was also not affected by diets, sources and sizes of broodstocks.
7. The elapsed time between two consecutive stage IV ovarian maturities was significantly shorter than the elapsed time between the eye-stalk ablation and the first stage IV ovarian maturity.
8. The elapsed time between the eye-stalk ablation and the first spawning was not affected by diets, broodstock sources and sizes.
9. The elapsed time between the two consecutive spawnings was not affected by diets, broodstock sources and sizes.
10. The elapsed time between two consecutive spawnings was significantly shorter than the elapsed time between the eye-stalk ablation and the first spawning.
11. The average number of eggs spawned per female of the large prawns were significantly greater than that of the small ones.
12. The average number of eggs spawned per female of the prawns fed with fresh natural diets was significantly greater than that of the prawns fed with artificial diet, while the prawns fed with combined diets produced moderate number of eggs spawned per female as compared to the former groups.

13. Sources of broodstocks did not affect egg quantity of the prawns.
14. Diets, sizes or sources of broodstocks did not produce significant effect on egg quality in terms of percent fertility, hatching rate and percent metamorphosis from eggs to the first protozoa stage.
15. Large ablated female prawns had a moulting period longer than the small ones.

Recommendations.

1. The shallow waters wild-caught *P. monodon* could be replaced by the large size pond-reared *P. monodon* for using as the *P. monodon* broodstocks.
2. The size of pond-reared *P. monodon* for using as broodstocks should be at least 120 g.
3. The *P. monodon* broodstocks should be fed with fresh natural diets or a combination of fresh natural diets and high quality artificial diet for the successful maturation and spawning.
4. Further studies on nutrient requirements for maturation and reproductive success of *P. monodon* should be carried out.
5. Researches on the rearing postlarvae of *P. monodon* until attaining adult size in captivity and subsequently use as the broodstocks should be carried out in various conditions e.g. concrete tank culture, pen or cage culture earthen pond culture.

6. More information on mating, fertilization, hatching, metamorphosis from eggs to larvae of *P. monodon* are required to improve reproductive success of *P. monodon* in captivity.
7. More research on male maturity, sperm quality, and artificial insemination by spermatophore transplantation techniques should be carried out to improve the reproductive success in *P. monodon*.



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