

CHAPTER I

INTRODUCTION

In the beginning, giant freshwater prawns, *Macrobrachium rosenbergii* was cultured in captivity; the rearing technique was entirely dependent on the wild-caught juveniles and trapping them in tidal ponds and paddy fields more than four decades. The modern aquaculture of this species has originated in the early 1960s. A number of this prawn species have been transferred from their natural location to other parts of the world. *M. rosenbergii* remains the species most used for commercial farming and consequently is the one which has been introduced to more countries. Freshwater prawn culture has shown tremendous development for decades due to a constant increase in freshwater prawn demand in the global market. *M. rosenbergii* is now farmed in many countries, the major producers (>200 mt) are Bangladesh, Brazil, China, Ecuador, India, Malaysia, Taiwan province of China and Thailand (FAO, 2001)

To satisfy the growing demand for prawn, freshwater aquaculture must be increased by utilizing the advance technology to increase the production and the premium product quality with a parallel decrease in cost. One of the most suitable economically important prawns is the giant freshwater prawn, *M. rosenbergii*. A number of potential factors promote the development of freshwater prawn farming, attributed to the following reasons:

1. *M. rosenbergii* is widely cultured in Thailand. It is indigenous freshwater prawn to the local riverine area in Thailand.
2. For hatcheries, there is no shortage of egg-carrying female prawns.
3. Freshwater prawn farming is compatible for polyculture systems and for integrated aquaculture-agricultural.
4. There is minute impact of viral disease to farm this prawn.
5. Freshwater prawn has its own favorable culinary characteristics and it is popular in many Asian foods. Thus, they are in demand both local and global market, with the main consumption in Asians and Asian restaurants all over the world.

Consequently, *M. rosenbergii* is commonly recommended as the most desirable species for the farming. However, the dramatic bottleneck of freshwater prawn farming is the wide growth and size variation between male and female prawns. Male freshwater prawns have rapid growth; they are larger and preferable in the market. By contrast, the berried female prawns are not acceptable in the market, with the advent of sexual maturation within 4 months. The intersexual differences in growth and size have outstandingly influence on commercial prawn aquaculture, which affect to the distribution of body sizes at harvest, total yield, and product value. For this reason, the maleness of giant freshwater prawn is a choice of the improvement in the giant freshwater prawn production.

Red Kwao Krua, *Butea superba*, is Thai traditional medicine. It is tendency to control the male sexual performance. It is supposed to contain the phytoandrogen-like

compound which was found to increase the testosterone level in rat. Thus, this would basically be advantaged to control the egg development in *M. rosenbergii* by the feed supplemented with Red Kwao Krua



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Objective of the study

1. Evaluate the inhibition of ovarian development and oogenesis in female *M. rosenbergii* by *B. superba* mixed particulate diet.
2. Evaluate the sex ratio of *M. rosenbergii*.
3. Evaluate the weight of *M. rosenbergii* with those of the control.



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