

Piriya Saenrak 2010: The Study of Farm Management and Simulation for Aquaculture Planning of Pacific White Shrimp (*Litopenaeus vannamei*) in Thailand. Master of Science (Agro-Industry Technology Management), Major Field: Agro – Industry Technology Management, Department of Agro-Industry Technology. Thesis Advisor: Assistant Professor Porntipa Ongkunaruk, Ph.D. 141 pages.

The goal of this study is to explore the current situation of the white shrimp farming and attempted to identify factors affecting the yield. The results showed that farm management practice in the Southern and the Eastern parts of Thailand were similar. These practices included production planning based on climate and season, production resource (post larva and feeds) sourcing based on reputation of the hatcheries or companies and the use of post larva aged between P10 – P15 as stated in the GAP. The only practice that the farmers did not follow GAP was high stocking densities of post larva per rai where GAP recommendation is 80,000 post larva per rai.

In general the result showed that, the farmers rarely feed shrimp during winter as the low temperature affect the growth and survival rate of shrimps. Therefore we conducted a simulation to help the farmers to make decisions on when they should feed and at what quantity in order to maximize profit. The researcher applied Monte Carlo Simulation technique and found that in summer and rains due to appropriate climate, the farmers can release the high stocking densities of post larva per rai. During winter, the farmers can not release post larva at a high stocking density due to the increment of death rate. However, in case the farmer have successfully grown the shrimp during winter, they would have gained a lot of profit due to the high selling price. This is because the supply is less than demand. In addition appropriate post larva density, the farmers should consider other risk factors affecting the farming success including the outbreak of diseases, the close monitoring of the growth, and the application of good farm management practices.

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Thesis Advisor's signature