

**Internship Experiment in the Quynh Lien commune,
Quynh Luu district, Nghe An province**

By: TRUONG TIEN HAI

Supervised by: MSc. LUU ANH LUC

INTRODUCTION

One of most important stages for shrimp farming development is breeding. And artificial seed production has been considering as a mean to meet for the demand of seed quantity and quality. The purpose of artificial shrimp production is to provide sufficient seed for farming helping restoration of marine ecosystems as well as protection of aquatic environment.

Additionally, development shrimp farming will also promote export revenue, create more jobs and income for people enhancing living standard and reducing pressure on natural exploitation.

With an aim to study and grasp the situation of shrimp production. I did the internship on: “*Study the situation of artificial production of Penaeus monodon (Penaeus monodon fabriciut 1798) in Quynh Lien Aquatic Seed Center- Quynh Luu district- Nghệ An province*”

Time of research: From March to July 2010

CONTENT OF RESEARCH



Aquatic seed centre of Nghe An

Penaeus monodon breeding technique: eye adlation, sperm sack implant techniques, technical tank preparation, hatching of larvae, Nauplius harvesting and collecting

INTERNSHIP EXPERIENCE

Technique of eyes cutting, Sperm sack implantation

Preparing tank for broodstock



Interview to Director of Nghe An aquatic seed centre



*Maturation induction for broodstocks using heat
proction system*

Tank specification: Painted with back colour, V = 1 – 4m³, Depth of water = 0.3 – 1m, stocking density 3 heads/ m² the bottom is smooth to prevent scratch or damage on tail, appendages.

Handling and management:

Food used: shrimp, squid, beef (feeding every 4 hours)
Continuous aeration, daily siphoning tank bottom in the morning.

Technique of eye ablation, artificial implants

Eye cutting

Preparation: 2 people, a 20- liter pots, a rubber ring



Parents shrimp



Female shrimp before ablation



And after eye ablation



Female shrimp 5 – 7 days after ablation

Ablation procedure: Getting shrimp in hands and firmly hold it in the curve of shrimp, use rubber ring to tighten stalk of eye.

Implanting of sperm sack

Preparation: two people, a 20 – liter pots, a cotton towel, a implant stick, a plastic tube keeping shrimp, well matured male shrimp.



Thelycum of a female before the artificial insemination

Male shrimp: Using right hand to pull up five crawling feet, taking out sperm sack.



Taking out sperm from male shrimp

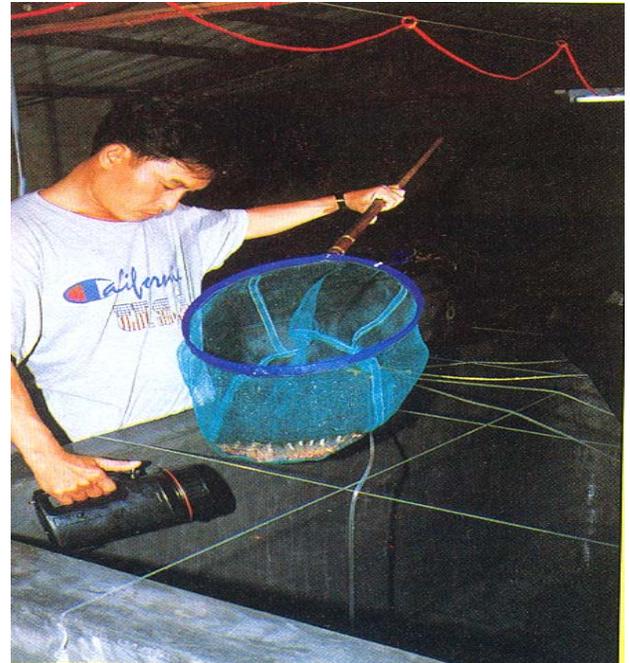


Macroview of sperm sack of male shrimp

Method of artificial implant: Getting two vesicles of the male shrimp in two half of thelycum, using glass rod to insert by pressing hard enough on the shrimp's thelycum (ensuring light and fast, accurate)



After the artificial insemination



Checking for female shrimp after cut eye and insemination

Table 1. Maturation after ablation and insemination

No	Initial No. (♀)	Survival rate		Mat. time (day)	Mat. rate		Spawning rate	
		No.	%		No.	%	No.	%
1	19	19	100	6-8	19	100	19	100
2	3	3	100	7-8	3	100	3	100
3	1	1	100	6	1	100	1	100

Technical preparation for larvae hatching tank

Centre possesses 24 hatching tanks, 2 tanks, 4 maturation tanks

Table 2. Specification of hatching system

Type	No.	Height (cm)	Length (cm)	Width (cm)	Drainage pipe (cm)	Thickness of tank (cm)	V. of tank
Filtration tank	1	126	203	113	34	10	2,98
Filter pool	2	122	100	100	42	10	1,22
Tank	2	144	371	371	34	21	19,8
Tank of parents shrimp	4	100	200	200	34	11	4
Larvae hatching tank	24	133	210	210	34	11-21	5,86
Tank of dipping equipment	1	133	192	93	34	10	2
Fresh water tank	1	135	135	113	34	10	2,05
Waste treatment tank	1	250	320	310	110	18	24,8



Heat generating system



Shrimp larviculture tank system

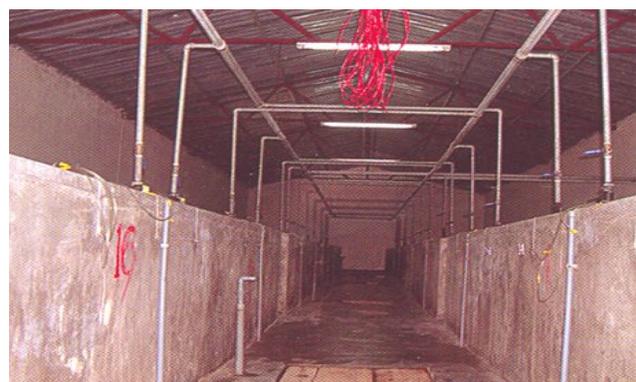


Water container

The system works relatively convenient and ensure adequate water to supply for whole production system.



Tank reconditioning



Shrimp larviculture using heating system

Tanks covered with corrugated cement sheets were designed with smooth walls and round corners, slight slope bottom for better water drainage.

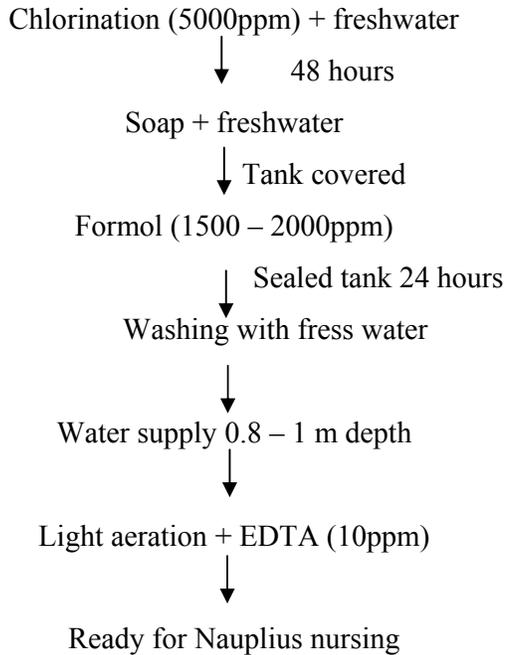
Technical tank preparation, water for hatching larva

Preparation tank

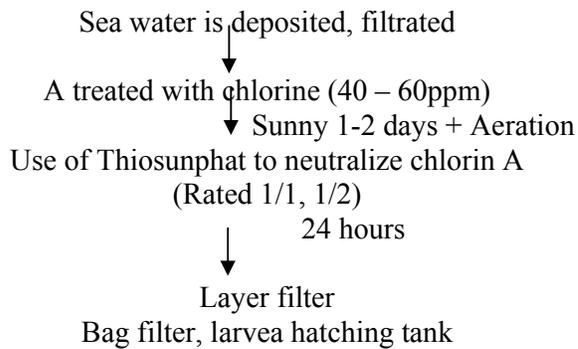
Prior to production cycle, if the tanks is not clean enough, they need cleaning following given procedure using soap and brush.



Tank cleaning and disinfection



Preparation of water



Water filtration system

Hatching tanks of 0.8 – 1 m, EDTA 5 – 10ppm, light aeration, water temperature 27 – 29⁰C, S ‰ = 28 - 30 (32), stocking density 150 – 200 Nau/liter

Nauplius washing and collection

- Preparation: a Net of meshsize 68, a light bulb

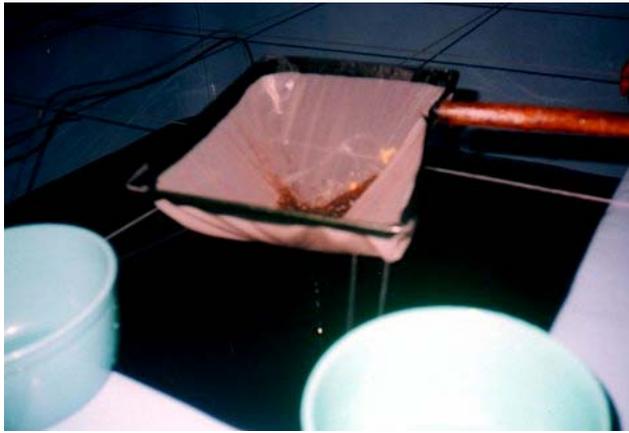


A Net 68

Method: Taking advantage of the optical directing properties of Nauplius, turn on light and then turn off the light, aeration and collect nauplius (Stage N4 – N6)

Technique of Nauplius bathing

Preparation: a 20- liter pot, a Fine Net 68, 20ml formol
 Method: Put formol into the pot with doge 200ppm, salvaged nauplius in pot in 2-3 minutes then ready to transfer to hatching tank.



Larvae Nauplius

CONCLUSION

Sell postlarvae



Postlarvae

Ablation and sperm insemination techniques are quite safe to broodstock and give a good results of breeding. Tank preparation techniques, hatching of larvae, bathing technique are well applied and adopted.

A word of thanks

For completing the internship program in highly success, I had got many help from Manager of Nghe An Aquatic Seed Centre and its staffs. I am grateful to thank them a lot for all their help.

I would also like to thank MSc. Luu Anh Luc who guide me in during the internship period, thank EU-Asia Link project – Phase 2, International Training & Cooperation Department- RIA 1 for offering the internship program.