

TROPICAL SEMESTERS
Can Tho University, Vietnam
Campus 2, 3/2 Street, Ninh Kieu District, Can Tho City, Vietnam
Tel: + 84 71 838262, Fax: + 84 71 838474
interoffice@ctu.edu.vn
www.ctu.edu.vn/tropmester

TROPICAL AQUACULTURE

Module number 6

2 credits

**Lecturer(s): Assoc. Dr. Nguyen Thanh Phuong, Dr. Duong Nhat Long,
Dr. Tran Ngoc Hai**

Course Introduction

Aquaculture is a very dynamic industry in the tropical area. In Vietnam, with an area of 3260 km coast line and over 1.7 million ha of inland water surface, aquaculture has been developing very fast in the tropic. Total aquaculture production in Vietnam was over 1 million ton by 2003 and may reach over 2 million tons by 2010 (Ministry of Fisheries, 2003). Mekong Delta is a main region for aquaculture in Vietnam which cover for over 80% of country-wide cultured area and production. Aquaculture in Vietnam is dominated with different systems in freshwater, brackish water and marine water are such as culture in cage and ponds, freshwater fish culture in ponds and giant prawn culture on rice fields, shrimp culture in ponds and rice field, organic shrimp culture in integration with mangrove, mud crab culture, white clam and blood cockle culture, marine fish culture. These production systems will be focused in this course.

Objectives

The objectives of the course are to introduce to trainees the current status and development trends of aquaculture in the tropical region with emphasis on the case of aquaculture in Vietnam .

Lectures (1 credit)

- **Lecture 1:** General introduction to aquaculture development in Vietnam (History, status, development trends, management policies, opportunities and challenges of aquaculture in Vietnam)
- **Lecture 2:** Freshwater fish culture in Vietnam (Pond culture, cage culture, integrated fish – rice farming systems)
- **Lecture 3:** Giant freshwater prawn culture in Vietnam (integrated and alternative rice – prawn culture, culture in pen)
- **Lecture 4:** Shrimp culture in Vietnam (Intensive culture, rice-shrimp culture, organic shrimp culture systems)

- **Lecture 5:** Mud crab culture in Vietnam (fattening crabs, soft shell crab production, culture of crabs from soft shell to hard shell, grow-out in the mangrove- shrimp systems)
- **Lecture 6:** Marine finfish cage culture in Vietnam
- **Lecture 7:** Mollusk culture in Vietnam (Clam culture, cockle culture)

Field trip (1 credit)

A field trip will be conducted to different places as the follow:

- Visiting freshwater fish and freshwater prawn farms and hatcheries in An Giang and Can Tho provinces (2 days)
- Visiting shrimp farms and hatcheries and crab farming in Bac Lieu and Ca Mau province (2 days)
- Visiting white clam farms in Ben Tre province (1 days)
- Visiting marine finfish cage culture in Vung Tau (2 days)

Suggested readings

- Can Tho University (2000). Proceedings of International workshop on Rice – fish farming. Vietnam – Netherland Research programme, 166 p.
- Chanratchakool, P., J. F. Turnbull, S. J. Funge-Smith, I. H. MacRae and C. Limsuwan (1998). Health Management in Shrimp Pond (Third Edition). Aquatic Animal Health Research Institute, Kasetsart University Campus, Bangkok, 152p.
- Keenan, C.P. and A. Blackshaw (1999). Mud Crab Aquaculture and Biology. ACIAR Proceedings No 78. 216.
- Liao, I.C. and C.K. Lin, editors (2000). Cage Aquaculture in Asia: Proceedings of the first International Symposium on Cage Aquaculture in Asia, 318 p. Asian Fisheries Society and World Aquaculture Society – Southeast Asian Chapter.
- Little, D. and J. Muir (1987). A guide to Integrated Warm Water Aquaculture. Institute of Aquaculture Publication, University of Stirling, 237p
- New, M. B. (2002). Farming freshwater prawns – A manual for the culture of the giant river prawn (*Macrobrachium rosenbergii*). FAO Fisheries Technical Paper No 428, 212 p.
- Nguyen Van Hao, editor in chief (2005). Proceedings of the National Workshop on Research and Technologies Applied in Aquaculture. Vung Tau, 22-23/12/2004. Agricultural Publishing House, HCM City. Abstract in English.
- Pillay, T.V.R. and M.N. Kutty (2005) . Aquaculture Principle and Practices (2nd edition). Blackwell Publisher, 624p.
- Primavera, J. H. , L. Ma. B. Garcia, M.T. Castranos & M.B. Surtida, editors (2000). *Mangrove –friendly aquaculture*. SEAFDEC
- Silva, S. S. D. (Ed.) (1998). Tropical Mariculture. Academic Press, 478p
- Son, V.N, Yang-Yi and N.T. Phuong, (2005). River pen culture of freshwater prawn *Macrobrachium rosenbergii* (De Man) in Southern Vietnam. *Aquaculture Research*, 36, 284-291.
- Tran Ngoc Hai (2005). Effects of Mangrove Leaf Litters on the Integrated Mangrove – Shrimp Farming Systems in Ca Mau Province, Vietnam. Doctoral Thesis, Asian Institute of Technology, 192 p.
- Wickins, J.F. and D.O’C. Lee, (2002). Crustacean farming – Ranching and Culture. 2nd edition. Blackwell Science, 446 pp.
- Wilder, M.N, and Nguyen Thanh Phuong (2002). The status of Aquaculture on the Mekong Delta Region of Vietnam: Sustainable production and Combined Farming systems. In Proceedings of International Commemorative Symposium: 70th Anniversary of the Japanese Society of Fisheries Science. Fisheries Science, Vol 68, Supplement I, Nov, 2002.

List of photos

Photo 1: Catfish culture in cages

Photo 2: Catfish culture in ponds

Photo 3: Giant freshwater prawn culture on rice fields

Photo 4: Giant freshwater prawn at harvest

Photo 5: Intensive shrimp farming

Photo 6: Organic shrimp farming with mangrove

Photo 7: Large shrimp harvested from organic farming