



## Design and operation recirculating aquaculture system integrated with aquaponics for tilapia culture

**Nhut Nyugen**

*Vice director of Research Center for Biotechnology in Aquaculture, Vietnam*

### Abstract:

The Mekong Delta of Vietnam has been well-known as a region rich in aquatic resources with a high potential for aquacultural development. The region harbors an abundance of aquatic species and a wealth of natural water bodies. Widespread commercial aquacultural development in the Mekong Delta has increased greatly starting from the last decade. In this region, the giant freshwater prawn, *Macrobrachium rosenbergii*, is a crustacean species of economic significance and a major target of aquaculture activity. *M. rosenbergii* may be cultured either semi-intensively in canals and ponds, or extensively in a manner integrated with rice farming. This species commands high market value, and its culture has the potential to raise income levels in the Mekong Delta. However, limited supply of natural seed and technological problems relating to artificial seed production are serving as constraints to the further development of this industry. The Japan International Research Center for Agricultural Sciences and Cantho University College of Agriculture are currently engaging in collaborative research relating to the improvement of seed production technology for *M. rosenbergii*. This manuscript addresses the current status of seed production and commercial culture of *M. rosenbergii* in the Mekong Delta in this context.

### Biography:

Research on domesticated black tiger shrimp, marine fish hatcheries, microalgae biomass production, *Macrobrachium rosenbergii* larvae culture, white shrimp larvae culture, intensive or super-intensive shrimp culture technologies, bioflocs, design and building recirculating aquaculture systems, including denitrification reactor for warm fish (spiny eel, *anguilla marmorata*, pangasius, tilapia, Loach weather fish, snakehead, white and black tiger shrimp) and aquaponics, aquaculture sludge for composting and methane reactor, study sustainability indicators for aquaculture, nutrients mass balance in aquaculture systems.



### Recent Publications:

1. Domesticated black tiger shrimp broodstock and genetic selection
2. Recirculating aquaculture system for domesticated black tiger shrimp broodstock
3. Development of commercial recirculating aquaculture system for warm fish design and producing of new drum filter for solids removal+ online monitoring of water quality

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