

# Shrimp Farming: Methods Of Harvesting

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**KEYWORDS:** Shrimp Farming, Harvesting Methods, Aquaculture.

## ABBREVIATIONS

CRS: Closed Recirculating System, USD: United States Dollar.

## 1.0 INTRODUCTION

An aquaculture industry that grows shrimp and prawns for human consumption is shrimp farming. A number of Western European countries, including Japan, the United States, and many others, developed this idea in the 1970s. Over 1.6 million tons of shrimp had been produced by 2003, worth more than USD 9 billion. Shrimp farms are mainly found in Asia. Asiatic countries such as Thailand and China produce 75 percent of farmed shrimp. The remaining farms are located in other Latin American countries. In particular, Brazil is the region's largest shrimp producer. India, Vietnam, Ecuador, and Bangladesh produce most of the farmed shrimp in the world, accounting for 55% of the total shrimp production worldwide.

## 2.0 SHRIMP FARM TECHNIQUES

A farmer's choice of shrimp cultivation technique is influenced by the following factors: climate, land, water, power, and cost. Transportation costs, credit availability, labor availability, availability and cost of feed, fertilizer, and probiotics, environmental restrictions, and national planning regulations, costs of import and export, proximity to a currently active market.

### 2.1 MAJOR TECHNIQUES USED IN SHRIMP CULTURE

A wide variety of systems are available, including intensive, semi-intensive, super-intensive, biofloc technology, and multi-phase production systems. Water conditions with high salinity and freshwater are ideal for culture. The CRS is highly recommended for shrimp farming.

#### 2.1.1 CLOSED RECIRCULATION SYSTEMS

Both semi-intensive and super-intensive systems can benefit from closed recirculation. The recirculation of shrimp grow-out water is required in closed recirculation systems. For the growth of shrimp or fish, the culture water is continuously reused and treated.

A closed recirculation system contains the following components:

Particles suspended in the culture basin are removed by a solids filter. The denitrification process reduces nitrate products and balances pH and alkalinity at the same time. In nitrification, organic debris and ammonia products are removed using a reservoir and a biofilter. Removing and disposing of sludge.

#### 2.1.2 INTEGRATED MANURE DENITRIFICATION SYSTEM

In the integrated manure denitrification system, the concentrated waste flow from a shrimp or fish farm system contains dissolved and particulate fecal organic waste, bacterial flocs, and inorganic compounds. During the denitrogenation of fecal particulate carbonaceous waste in bioreactor sludge, bacterial biomass is produced, nitrate is reduced into nitrogen gas, carbon dioxide is produced, alkalinity is produced, minerals are extracted, and sludge is reduced.

Sludge bed debris also serves as a growing medium for denitrifying bacteria. Using a proprietary filtering device, sludge is removed from the bioreactor and may be released as needed. Probiotics and clear water may be combined with heterotrophic and autotrophic bacterial flocs, depending on the species being cultivated.

Shrimp aquaculture is not just about growing and exporting high-quality shrimp; and it also supports a variety of auxiliary industries. This includes equipment, chemicals, transportation, marketing, medicines, and research and development. Perishability is one of the most challenging aspects of raising seafood.

Traditionally, shrimp harvested from water bodies must travel a long distance to reach market customers. In order to transport and preserve shrimp, significant resources are required. Access to the market is improved when shrimp farms are strategically located in key parts of a country. Thus, clients can be assured that their purchases are both fresh and well-preserved [1-5].

### 3.0 CONCLUSION

Shrimp is one of the world's most popular seafood types. Future demand for these healthy and exquisite cuts of meat will only increase. Because of this, it is crucial to reduce dependence on natural shrimp and prawn supplies, which are unsustainable. The time is now for shrimp and fish farming processes to be developed and perfected. In spite of the fact that this system has existed for almost five decades, it still has several difficulties that need to be resolved. In spite of this, given the potential of this type of farming, they should focus on refining it.

### CONFLICT OF INTEREST

None.

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