



Extensive Shrimp Farming Culture and Operation Method

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DESCRIPTION

Shrimp farming produces shrimp or prawns for human consumption in either a freshwater or marine environment. In several Asian nations, the farming of marine shrimp has been practiced for hundred years. This product was typically regarded as a supplemental crop in conventional fish farming techniques until around ten years ago. Shrimp fry are caught in brackish water fishponds, coastal paddy fields, or salt beds where they are allowed to grow until they are marketable. However, many farmers have turned their farmlands, salt beds, and fish farming into shrimp farms in recent years as the harvest of shellfish generates better income than the primary crop. In the conventional farming method, fry are either gathered from the wild or confined in the ponds by tidal water entering them. Due to reliance on seasonal availability, shrimp output is unpredictable and varies throughout the year.

In recent years, some advancement in conventional farming practices has been made. Pumping additional tidal waters into the pond will enhance the density of fish farms by concentrating the fry. To reduce environmental parameter variations, pond depth is raised. Pond yield has thus grown in line with this. The lengthy development process for shrimp farming practices may be the result of insufficient technical and financial resources to successfully show their commercial viability. Today, shrimp farming is a significant food sector focused on exports. In this kind of farming method, the ponds are typically sized and shaped erratically. Each pond typically has a periphery ditch that is 10–20 meters diameter and 30–60 cm thick. While the bottom of the pond is completely flat in the Philippines, it is slightly raised to around 40 cm just above bottom. The simplest culture strategy is widely regarded as extensive culture operation. Seed stock often comes from the wild, and availability varies by season. Shrimp fry discovered in such farms either entered through water exchange or were purposefully supplied by the owner with wild shrimp fry.

The shrimp also find shelter in the ditch on bright days. Higher stocking rates, the use of supplemental feed, and the execution of a normal water management plan are all part of this strategy.

The current state of affairs varies both inside and between nations. For semi-intensive culture operations, the standard rate of stocking fry ranges from 5 million to 20 million fry per hectare. Daily supplemental feed, either freshly prepared or freshly made, is given in addition to the organic food already created by the use of fertilizers. In order to promote the exchange of water, this procedure also needs the usage of a water pump. This cultural operation is more complex and demands significant financial and technological resources. Either concrete tanks or clay ponds serve as the rearing facilities.

This culture operation stands out for its strict reliance on broodstock fry, high stocking densities, use of prepared foods, application of agitation to raise the level of dissolved oxygen in the pond water, and rigorous water management. In shrimp farming, choosing an appropriate location is crucial. Only after careful consideration of data on terrain, environmental, climatic, and socioeconomic variables in connection to farming design, species compatibility, and economic feasibility is a site chosen for shrimp farming here are some criteria that could be used as benchmarks for determining a site's potential. The water shouldn't be overly murky. Water supply system siltation issues can be caused by water with a very high silt load. It is ideal for the water to be microbial active. The proposed site's tidal characteristics need to be understood. It is crucial to understand this metric in order to calculate the slope ratio, drainage system, and height of the pond bottom.

The ideal locations for shrimp aquaculture should have tidal fluctuations that are between 2-3 meters. The site may be uneconomical to build or manage in locations where the water depth exceeds 4 meters because big, tall reservoir dikes will be needed. Water management in places with tidal ranges of less than one meter will be costly and necessitate the use of pumps. Nevertheless, it is imperative to take into account the local specificities irrespective of the system selected and implemented. Adjusting continuing production methods and day-to-day management techniques as necessary the marketing and post-harvest factors are also essential to ensure the resilience and profitability of based shrimp farms given the increased manufacturing costs compared to conventional low-input

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Received: 25-Nov-2022, Manuscript No. JARD-22-19424; **Editor assigned:** 28-Nov-2022, Pre QC No. JARD-22-19424 (PQ); **Reviewed:** 15-Dec-2022, QC No JARD-22-19424; **Revised:** 22-Dec-2022, Manuscript No. JARD-22-19424 (R); **Published:** 30-Dec-2022, DOI: 10.35248/2155-9546.22.13.715

Citation: Castillo D (2022) Extensive Shrimp Farming Culture and Operation Method. J Aquac Res Dev.13:715.

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systems. In this opinion piece, we emphasize upcoming opportunities and challenges that will help ensure the long-term

viability of intensive marine aquaculture while describing some of its important traits from the past and present.