

Water quality is a key factor for successful shrimp farming, how to choose the water source for shrimp farming

Water quality at the intake point is an important consideration for successful shrimp farming. The culture site should have access to an unpolluted supply of estuarine or marine water with an optimal salinity range of 15 to 25 ppt. Seasonal effects of rainfall and evaporation can cause fluctuations, but salinity should not be below 1 ppt or above 35 ppt (the average salinity level of seawater). Tropical coastal areas that experience long dry seasons will be particularly susceptible to high salinity levels in ponds, which may slow growth and subsequently increase production costs. The optimal range of pH for water sources is 7.5 to 8.5. The pH of estuarine water can be influenced by acidic sulfate soils and other local soil factors. Water sources affected by significant coastal pollution from industry, urban areas and agriculture, and water treatment facilities should be avoided. A very important aspect of the water intake requirements for a successful shrimp farm is access to adequate amounts of seawater. Before selecting a site for a pump station location, it may be necessary to determine if there is sufficient daily volume of water available for the farm design and size under consideration.

How to do water quality monitoring.

Systematically

Daily or monthly at the same location and at the same time

Repeatedly and continuously

Responsive

Information is available at any time

Friendly to surrounding neighbors so others can understand

Interactive

It provides feedback on crop progress

It enables analysis of disease problems caused by previous events

It provides the ability to react quickly to situations

Predictive

It can be used for future planning and decision making

Key notes on water quality management.

Screening of incoming water, as this is important to prevent disease carriers Use a reservoir ratio of 3:1 (pond area: reservoir area). Start pumping 20 days before the stocking date. Ponds should be filled with water within 4 days. When pumping, sift the water with a 3-tier double sieve. Foot valves should be placed in bamboo baskets or metal cages covered with 20-gauge netting to prevent large animals from entering the inlet net. Use a double layer of 60 gauge screen at the inlet. Properly tie the strainer to the delivery tube. Provide two additional layers of size 80 mesh haba below the inlet.

Depending on the increase in pumping capacity, the surface area of the strainer increases. Strainers should be properly washed out of the pond daily and waste should be properly disposed of. Strainers should not be washed in the rearing pond. After washing and drying the filters, they should be thoroughly inspected for any damage and if damage is found, it is best to replace them with new filters. Keep extra strainers on hand at all times at

the farm. Keep the intake channel clean. After filling the ponds, keep the water for 7 to 110 days before stocking the fish species. Strainers must be maintained throughout the crop.

Do not use pesticides to disinfect or kill fish, shrimp and crabs in the pond. Pesticides can enter and remain in the shrimp's body and cause human health problems when consumed. Because of the serious health risks, pesticide-contaminated shrimp are banned from international markets. If necessary, use tea seed cake @ 10 ppm (50 kg/ha, water depth 0.5 m) to kill unwanted fish in the pond.

Fertilization of pond water to produce good plankton is the key to successful shrimp farming. Plankton blooms shade the bottom of the pond and prevent the growth of benthic algae. It provides a darker environment that is less stressful for shrimp. Before releasing shrimp fry, ensure that the water level in the center of the pond reaches at least 1.2 meters. A week after water injection, splashing usually occurs in ponds with vermicompost/compost.

If the color of the pond water is clear, conduct weekly trawling to stabilize the plankton bloom. Add 200 kg of dolomite per hectare during periods of full sunlight. A 2-day fermentation mixture of rice bran, gigley and good brewer's yeast @ 25kg+10kg+0.25kg/ha was applied in parts for 3 days in the morning hours. The fermented mixture was spread in the pond using a floating device.

When the color of water is green, the pond is ready for stocking. If there are benthic or floating algae in the pond, remove them. The best method is to remove them manually.

Do not fertilize the water heavily to obtain dark green water. This will reduce the oxygen in the water at night, which will suffocate the shrimp. This is one of the reasons for the low survival rate of shrimp seeds. During the first month of culture, add a fermented mixture of rice bran, jigglypuff and yeast @ 25 kg + 10 kg + 0.25 kg/ha whenever the water color intensity decreases (Sechi disk reading over 50 cm).

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