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TAMILNADU Dr.J.JAYALALITHAA FISHERIES UNIVERSITY

E-FISH HEALTH SURVEILLANCE AND MONITORING NETWORK TO IMPROVE FISHERIES PRODUCTION IN TAMILNADU
(TANII PROJECT 2017-2020)

GOOD MANAGEMENT PRACTICES (GMPs) IN SHRIMP FARMING

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The success of shrimp farming activity depends on the appropriate management practices followed throughout the production process. Good Management Practices (GMPs) to be followed in pre-stocking and post-stocking management for a sustainable shrimp farming.

I. Pre-stocking Management

a. Preparation of pond bottom

- The bottom of the pond should be sun dried for a period of two weeks or till it cracks.
- The sludge in the pond bottom should be removed and ploughed to mix up the moist soil before liming.
- Apply calcium oxide (Quick/burnt lime) to the moist soil at the rate of 6 tonnes/ha area of pond which increases the soil pH and kills the pathogens and parasites including sports of For the prevention of Enterocytozoon hepatopenaei (EHP).
- Construct a reservoir pond for storing and disinfecting the water to be used in the production ponds. The water from the source should be filtered with a double layered bag filter (30mm mesh size) to avoid the entry of disease carriers like fishes and crustaceans.

b. Stocking of shrimp seeds

- Use healthy and disease-free shrimp seeds for farming.
- The seeds should be selected based on the stress test performance (formalin 100ppm for 50-30min one hour) and activity.
- The diseases free status should be ensured by polymerase chain reaction (PCR) test for the diseases White Spot Syndrome Virus (WSSV) and Enterocytozoon hepatopenaei (EHP).
- Maintain the selected seeds in the nursery ponds for a period of 20-30 days to improve the survival rate.
- The stocking densities recommended by the costal aquaculture authority (CAA) should be followed to avoid stress and spread of diseases during culture.

II. Post-stocking management

a. Water quality management

- Use water reservoirs and 10 to 15 days aged water in grow-out ponds.
- Regularly use agricultural lime, especially after water exchange and rain.
- Do not use any harmful/ banned chemicals or antibiotics.
- Monitor water quality to ensure appropriate pH, alkalinity and DO levels.
- Regularly remove the benthic algae, check the bottom mud for blackish organic waste accumulation periodically and remove them.
- Maintain water quality parameters at optimum levels

Parameters	Optimum levels
Temperature	28-32 °C
Transparency	30-40 cm
Dissolved oxygen	Above 3 mg/ l
pH	7.5 to 8.5
Salinity (ppt)	10 to 36
Alkalinity (ppm)	80 to 200
Total Hardness (ppm)	1000 to 8000
Calcium : Magnesium hardness (ppm)	1 : 3
Ammonia (NH_3) (ppm)	Less than 0.1

b. Feed management

- Use feed check trays to ensure sufficient feeding of shrimps based on demand.
- Feed across the pond using boat/floating device to avoid the waste accumulation and effective utilization of feed.
- Monitor the growth of shrimps at regular intervals and adjust the feed according to the estimated biomass.

III. Health management

- Monitor shrimp behaviour and assess general health condition of the shrimps by sampling periodically.
- If the stock is affected by diseases, feed should be reduced,water and pond bottom quality should be improved by adopting necessary steps
- If a disease outbreak occurs, risk of spread of the disease to other farms should be prevented through water discharge, movemnet of infected stocks. The neighbouring farms and authorities should be informed. Dead shrimp if any should be burnt or buried with bleach.
- Do not drain the disease/affected stocks.
- Emergency harvesting to be done after proper planning.