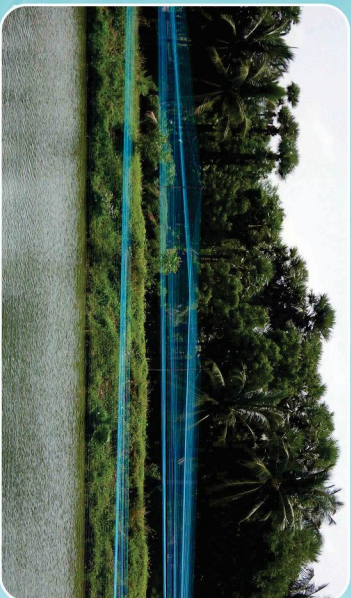




health examination, prophylaxis including timely diagnosis and chemotherapy as per the BMP guidelines.

viii) Biosecurity in Aqua farms

Biosecurity is the set of activities which prevents the outbreak of disease and guards against other invasive threat such as unwanted fish, plants, invertebrate, etc. Basic biosecurity measures are concerned with minimizing the spread of diseases through contaminated vehicles, clothing, footwear and equipment by implementing best practices like hygiene and protective clothing.



ix) Harvest and Post Harvest Management

Stop application of fertilizers before two months and stop feeding before one day of harvest and allow withdrawal period for antibiotic used before harvesting. Post harvest management includes use of quality ice made from potable water and proper packing with insulation system to maintain the fish quality.



x) Record keeping/ traceability

Recording of information related to all management measures will help for quality monitoring, management modulation, traceability and risk analysis



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August, 2015

Design & Print - M/s Bala Graphics, Mohanpura | 9933276059

Published under NFDB funded project on National Surveillance Programme for Aquatic Animal Diseases (NSPAAD)
Coordinated by ICAR-NBFGR

Better Management Practices (BMPs) of Freshwater Fish Farm



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BMPs are a set of protocols which targets for

- (i) Optimizing the utilization of resources, facilitating sustainability and increasing profitability
- (ii) Improving growth performance
- (iii) Improving environmental conditions by reducing impacts on the environment
- (iv) Minimizing disease occurrence and
- (v) Attaining food quality standards and improving marketability of the product.

BMPs of freshwater fish farm require adaptation of the protocol at all phases of aquaculture operation as detailed below:

i) Site Selection and Pond Construction

Site selection is based on its climatic condition, topography and should have good quality water



source and facilitates easy access to markets. Pond construction depends on available land area and target species for culture and starts with removal of upper 5-10 cm top soil and vegetation. Rectangular ponds are preferred with water depth of 1.5 to 3 m.

ii) Pond Renovation and Preparation

After dewatering, pond bottom should be dried and wrecked with tractor for aeration of bottom soil and improving the soil health. Cow dung at the rate of 5-10 tonnes/ ha or other inorganic fertilizers can be used to fertilize the pond. During pond preparation, a dose of 200-300 kg/ ha CaO



may be used to the pond sediment and subsequently 200 kg of CaCO₃/ ha may be applied once in every three months during the culture operation.

iii) Pond Waste Monitoring

Waste removal from pond improves water quality, increases productivity, lowers production cost and reduces environmental impacts.



iv) Quality Seed Selection

Quality seed selection includes recording the genetic history, stocking size, species ratio



(surface, column and bottom feeder in the ratio of 3:4:3), stocking density (7000-8000 fingerlings/ ha) and seed quarantine before stocking is mandatory.

v) Management of Water Quality

Water quality has to be maintained with suitable levels of pH (6.5 to 8), temperature (24-30 °C), dissolved oxygen (>4 mg/l), transparency (30-40 cm), ammonia (<0.05 mg/l), alkalinity (50-100 mg/l) and hardness (>40 mg/l).



vi) Feed and Feeding Management

Feeding shall be done twice daily with rice bran and oil cake at a ratio of 1:1 and fed at 3-5% of body weight/ day. Feed should be procured from commercial feed manufacturer or can be produced hygienically in the farm and should be properly stored in dry area with good ventilation.



vii) Fish Health Management

It includes wider areas like water quality maintenance, providing proper nutrition, selection of good quality seed and broodstock, routine fish