

Guidelines for Regulating Establishment and Operation of SPF Shrimp Broodstock Multiplication Centres

1. Broodstock Multiplication Centre

Shrimp Broodstock Multiplication Centre (BMC) means a facility which receives the Specific Pathogen Free (SPF) post larvae (PL) from a Nucleus Breeding Centre (NBC) and rears post larvae upto adult broodstock for supply to hatcheries. BMC is a facility for developing broodstock from the post larvae to adult, under strict biosecurity and close disease surveillance.

2. Objective

In order to encourage and promote establishment of Shrimp Broodstock Multiplication Centers (BMCs) for increasing production and productivity of the shrimp aquaculture sector, the Department of Animal Husbandry, Dairying & Fisheries in the Ministry of Agriculture, Government of India issues the following guidelines for regulating the establishment and operation of Specific Pathogen Free (SPF) Shrimp Broodstock Multiplication Centres in the coastal areas.

These guidelines lay down certain norms and procedure to govern the establishment and operation of BMCs for the production of SPF broodstock of the two species of shrimp, namely the Pacific White Shrimp - *Litopenaeus vannamei* and Black Tiger Shrimp - *Penaeus monodon* in coastal areas as defined under the Coastal Aquaculture Authority Act, 2005.

The BMCs for more species of shrimp would be considered as and when required.

The following guidelines are also aimed at ensuring that BMCs perform their functions in an effective way by addressing all biosecurity and sustainability issues and also by instituting environmental safeguards.

3. Method of selection and approval for BMCs

3.1 Site Selection

BMC shall be located in an area where any Shrimp Hatchery, Aquaculture Activities or Fish Landing Centers (FLCs) do not already exist within a radius of 1000 meters (1.0 km) and the promoters put in place adequate biosecurity measures and follow the standards as prescribed in the OIE Aquatic Animal Health Code.

3.2 Permission for establishing BMC

Permission for establishing BMC shall be granted by the Department of Animal Husbandry, Dairying & Fisheries (DADF), Ministry of Agriculture, Government of India based on the recommendations of a Project Screening Committee consisting of the following:

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|----|---|--------------------|
| 1) | Joint Secretary (Fisheries), DADF | - Chairman |
| 2) | Member Secretary, Coastal Aquaculture Authority (CAA) | - Member |
| 3) | Director, Central Institute of Brackish-water Aquaculture (CIBA) | - Member |
| 4) | Fisheries Development Commissioner/
Assistant Commissioner (Fisheries), DADF | - Member Secretary |

It will be assisted by a Technical and Inspection Committee to be constituted separately by the Department of Animal Husbandry, Dairying & Fisheries (DADF), Ministry of Agriculture, Government of India.

4. Infrastructure requirement

The grant of permission for establishing and operating BMCs shall be subject to the creation of infrastructure and fulfilment of the other conditions as enumerated below and the planned annual broodstock production of the BMC shall be according to the capacity so created:-

- 1) Proper designs and drawings of the BMC buildings ensuring prescribed bio-security arrangements and standards, an illustrative list of which is give as hereunder:
 - a) Totally bio-secure area with fencing, shower room, disinfection for men and materials.

- b) Water treatment protocol with required reservoirs, filters and mandatory ozonization.
- c) An Effluent Treatment System (ETS) to ensure that no water is discharged without disinfecting the same.
- d) A fully equipped disease diagnostic laboratory with stock of all required primers as well as qualified and trained technicians.
- e) Full-fledged facility for incineration of dead/diseased animals.
- f) At least two independent units of rearing space if the operator plans to import the second batch while the first batch is still in the rearing.
- g) Import of post larvae will be permitted only once in a quarter. Since about 5-6 months of rearing is required, the third batch of stock will be permitted only when the first batch of broodstock are totally removed from the facility.

5. Source material: SPF Shrimp post larvae

5.1 Source of SPF shrimp Post Larvae

The BMC must have a reliable supply of SPF post larvae from an established Nucleus Breeding Centre (NBC) Facility located in India or overseas. The NBC facility should have its own selective breeding programme.

5.2 Nucleus Breeding Centre

Nucleus Breeding Centre (NBC) means a facility where Specific Pathogen Free (SPF) shrimp broodstock are raised over a number of generations in a highly bio-secure environment, excluding a number of pathogens of concern from the facility. A strict surveillance protocol is followed to ensure that the pathogens are excluded. A highly bio secure NBC is used for producing multiple generations of the SPF stock.

5.3 Import Permit and Quarantine

The permission for importing source material for the BMC shall be granted by the Government (Ministry of Agriculture in Department of Animal Husbandry, Dairying & Fisheries) under the provisions of the Livestock Importation Act, 1898 as amended in 2001. The imported source material shall be subject to quarantine for a minimum period of one

month or as may be prescribed in the sanitary health certificate for import of source material. The Aquatic Quarantine Facility shall be set up within the Broodstock Multiplication Centre.

5.4 Pathogens to be excluded in the BMC

All OIE listed shrimp pathogens should be excluded from the BMC facility through strict bio-security and constant disease surveillance. In addition, other pathogens which are not listed in OIE but are of concern in India (see Appendix) should be included in the surveillance and testing protocols.

Further, the Government may by an order include or delete, such disease(s) from the given list (Appendix).

6. Monitoring and Regulation of BMC

1. The Technical Committee constituted as per Para 3.2 for the purpose shall develop a detailed Standard Operating Procedure (SOP) and periodically monitor the operation of the BMC.
2. The BMC operator shall strictly comply with the SOP and any change required shall be placed before the Technical Committee.
3. The Technical Committee may be deputed to visit the BMC periodically for the purpose of inspection or as and when required.
4. Post larvae for BMC should always be obtained only from the same approved SPF facility. In case of any change of source, the matter shall be referred to the Department of Animal Husbandry, Dairying and Fisheries for consideration.
5. The broodstock shall be sold by the BMC only to the hatcheries registered with CAA or States, in a fair and transparent manner and the BMC shall maintain a record of such sales.
6. The BMC operator shall maintain a detailed record of the growth, survival, disease occurrence of the shrimp population during rearing.
7. In the event of any disease occurrence in the facility, it shall be reported immediately to the Chairman or Member Secretary of the Project Sanctioning Committee, and based on the report of the team sent for inspection as per requirement, the entire stock shall be

destroyed by the BMC operator within the facility if it is an exotic pathogen/ or from the unit from which it is reported if it is an endemic pathogen.

7. Penalty for violation/non-compliance

Penalty of withdrawing permission and closure of the BMC may be imposed in case of any act of violation/non-compliance of the stipulated guidelines.

List of pathogens to be excluded in the BMC

	OIE Listed Disease	<i>P. monodon</i>	<i>L. vannamei</i>
1.	Infectious hypodermal and haematopoietic necrosis (IHHNV)	√	√
2.	Infectious myonecrosis (IMNV)	√	√
3.	Taura syndrome (TSV)	√	√
4.	White spot disease (WSSV)	√	√
5.	Yellow head disease (YHV)	√	√
6.	Acute hepatopancreatic necrosis disease (AHPND)	√	√
	Non-OIE listed disease but of concern to India	<i>P. monodon</i>	<i>L. vannamei</i>
1.	Spherical baculovirus (<i>Penaeus monodon</i> -type baculovirus) (MBV)	√	√
2.	Necrotizing Hepatopancreatitis(NHP)	√	√
3.	Laem – Singh Virus	√	-