

How to select superior quality shrimp seed

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Introduction

The quality of shrimp seeds is the key to the success of your cultivation efforts. As a consequence, selecting the proper one of good quality is critical for getting best profits. Seed selection, additionally referred to as breeding stock selection, is an important part of the cultivation of shrimps that influences the success and output. 70% of shrimp farming performance is dependent on the quality of the seed that we stock. There are several tests are carried out to assess the quality of shrimp seed. Among them are post larvae quality, the hatchery's origin and reputation, visual and stress evaluation, and other disease detection tests. The list of parameters for selection of shrimp seed mentioned in Table 1 (Kumaran *et al.*, 2016). Don't select the shrimp seeds transported from one farm to another because such shrimp seeds are likely to suffer secondary infection, which may cause decreased survival rate.



Criteria for seed selection

1. Uniform shrimps Size

The uniform shrimp size is the first criteria of seed selection. If the shrimps are non-uniform size then it expressing that the seed grows appropriately and has the same nutritional requirements. Furthermore, the equal size of seeds helps to reduce cannibalism and food rivalry among them(Fortuna).

2. No physically disabled

Good quality shrimp seed should have fully formed limbs. The pleopods are completely intact, from the non-curved tail to the perfectly developed eyes and eye stalks. Preferably stock PL 13 (4+ rostral spines), clean and complete body appendages without any fouling or necrosis. Hepatopancreas should be healthy with fine lipid droplet and no infections.

3. Absolute filled gut

The selected shrimp seed should have a full gut, indicating that it is feeding properly. On the other side, seed with an empty stomach then it indicating that the seed lacks hunger or is under stress. A 8 mm-10 mm shrimp seed's digestive tract should be thick and black and 20%-30% of shrimp seeds produce faeces in water. If there is food in the stomach but no faeces in the digestive system, then seeds are likely to be affected by changes in water quality and maybe contaminated with illness (Yang and Lachans, 2019).

4. Stress test of seed

The healthy shrimp seeds move very actively and which is tested by activity testing methods. This test is need to for shrimp because the shrimp are sensitive to external stimuli. This will estimated by two ways i.e salinity stress test and formalin test (Kumaran et al., 2016).

Salinity stress test: Collect about 100PL in a beaker with animals from a tank having the optimum salinity. Pour equal quantity of freshwater and wait for half an hour. If You find any mortality reject the animals from that tank.

Formalin stress test: Collect 100PL of shrimp seed from the selected tank and put them in 100 ppm formalin water and wait for an hour. If more than 90% of the seed survive, select that batch.

5. Disease free seed

Diseases are mainly caused by viruses and bacteria which can disrupted the culture productions. So seed heath status is need to done to protect farmers from losses. Typically, a Polymerase Chain Reaction (PCR) test is conducted using an extremely careful population



sampling process to verify whether it is actually disease-free. Seed should check for presence of WSSV, EHP. Microbiological test also should conduct to know the presence of vibrio bacteria in hepatopancreas.

6. Shrimp vitality

Shrimp vitality is another important factor in determining the quality of shrimp. For vitality test collect shrimp seed in to water bucket. Then shake the water bucket to make the water swirl. Good seeds will separate soon after being gathered in the center and then lie on the wall of the waterbucket after overcoming the resistance to water flow (Yang and Lachans, 2019).

Table 1: The parameters should look while selecting, shrimp seeds

S.No	Parameter	Standard
1	Shrimp Colour	light to dark brown
2	Shrimp Activity	Very active
3	Feeding behaviour	Readily accept and eat feed
4	Animal Gut	Full gut and with a tail muscle to hind gut ratio (MGR) of 4:1 or more
5	Shrimp Hepatopancreas	Developed in at least 90% of the sample given and full with oil globules.
6	Rostral spines	> 5
7	Body Length	>12 mm
8	Size variation	< 10%
9	Appendages	No deformities
10	Viral and bacterial diseases	-Ve
11	Pigmentation	Chromatophores well defined and located along the mid-ventral line
12	Stress test with survival	100% for salinity reduction and above 90% for formalin test.
13	PL stage	PL12 and above
14	Necrosis	Absent
15	Fouling	Clean without any fouling organism



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