

9. Check water quality and the pond bottom condition. If there is any problem take corrective actions (refer brochures 3. Water Quality management and 5. Pond bottom Management).



10. If you find sick or dead shrimp after rain and you have acid soil, immediately add lime to the water (100-200 kg CaO/ha) and spread lime on pond dikes.



Acid Sulphate soil

11. If shrimp are swimming in the morning (oxygen problem), change 15-20 cm water immediately and reduce the feeding rate.



12. Check the health of the shrimp regularly using a clean and dry cast net or check tray, even if no dead shrimp.



13. Do not feed shrimp with crustaceans (crabs or shrimp) or by catch waste.
14. Never move shrimp or any equipments from a pond with sick or dead shrimp to another pond. Remove and bury any dead or moribund shrimp away from any shrimp pond.



White spot

15. To reduce disease risks and to improve profitability implement "Better Management Practices" developed by MPED-NACA project starting from pond preparation to the final shrimp harvest.



SHRIMP HEALTH MANAGEMENT

REDUCING SHRIMP DISEASE RISKS THROUGH
ADOPTION OF BETTER MANAGEMENT PRACTICES



6. Shrimp Health Management



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July' 2006

BACKGROUND

As a part of the technical collaboration between MPEDA and NACA on shrimp disease control in India, village demonstration programmes were conducted between 2002 to 2005. These demonstration programmes involved organizing small scale farmers into self-help groups known as “Aquaclubs” for adoption of “Better Management Practices (BMPs)” towards capacity building among the farmers.



Shrimp disease is a major constraint to shrimp aquaculture production. The most successful strategies for controlling diseases in shrimp ponds are based on a combination of prevention by exclusion, and Better Management Practices that focus on creating a healthy, non-stressful environment for the shrimp. White spot disease (WSD), vibriosis and loose shell syndrome are the most common disease problems in India.



IMPORTANT STEPS

1) Check the pond daily for sick or dead shrimp or other signs (oxygen problems or any other unusual observations) and record them



2. If you see sick shrimp check and record if they have white spots, check gills, gut content, water quality and pond bottom condition



3. If shrimp have white spots do not let water out and inform immediately all the farmers of neighboring ponds.



4. If mortality increasing over 2 days don't change the water, collect a sample. If >50% of the shrimp are not feeding consider harvesting with out draining the pond.



5. If you don't harvest and mortality decreases and stops for 10 days, can start changing water again.

6. If the shell or gills of the shrimp are dirty (check pond bottom), spread the feed further from dike, remove any bottom or floating algae, change 15-20 cm water and then apply lime (100 -200 kg. Agri. lime/ ha).



7. Gut content of >80% of the shrimp sampled from a healthy, recently fed pond should be full of food. If not it could be an indication of onset of disease. Check pond bottom, change 15-20 cm water and then apply lime (100 - 200 kg. Agri. lime/ ha)



8. Examine the gut content color and take corrective actions.

GUT CONTENT COLOR	PROBABLE FOOD ITEM	PROBABLE CAUSE(S)	CORRECTIVE ACTION
Black, dark brown	Benthic detritus, sediment	Under-feeding; inadequate feeding frequency	Increase feeding and frequency
Red, pinkish	Cannibalized body parts from dead shrimp	Disease event in pond	Check for dead shrimp in the pond
Green	Benthic algae	Under-feeding	Increase feeding
Pale, whitish	Manufactured feed or natural food	Gut infection	Reduce feeding
Light or golden brown	Manufactured feed	Normal	