

## **Lecture Wintering Pond,Quarentine pond and Isolation Pond**

**Wintering Pond:** These are used for keeping adult and young fish during the winter. These are also known as hibernating ponds. In favorable wintering conditions with well-fed fish, carp fingerlings weighing 25 to 30 g are stocked in the pond @ 3,50,000 to 4,00,000 fish per hectare or crucian carp fry at 600,000-700,000 per ha. Mostly the wintering ponds are located in temperate countries.

**Quarentine or Isolation Ponds:** Quarantine is one of the most important animal management and biosecurity measures. Quarantine is the procedure by which an individual or population is isolated, acclimated, observed and, if necessary, treated for specific diseases before its release onto the farm or for live market sale (e.g., for growout or for aquarium fish stores). The principles of quarantine apply for new fish coming into a facility, fish moving from one area or system to another within the facility, and resident fish that become diseased.

Well-designed quarantine systems physically separate incoming fish from the rest of the farm. Water in quarantine systems also should be separate from that on the main farm, and discharges should be handled appropriately. Proper quarantine not only protects established populations from potential exposure to pathogens but also gives the new animals time to acclimate to water, feeds and management and to recover from handling and transport. Handling and transport have been shown to reduce disease resistance and recovery may take weeks.

Fish in the general population that become sick may have to be isolated in tanks in the same system or room as their healthy counterparts; signs or other methods should be used to alert employees that the population is diseased. Major components of quarantine include all-in-all-out stocking, isolation or separation, observation and diet adjustment, and sampling and treatment.

All-in-all-out stocking. This involves bringing animals in as a group from only one original source population and maintaining them as a group throughout the quarantine period. It prevents exposure to other pathogens not currently in that

population. Ideally, no new animals should be added to a group currently in quarantine. All-in-all-out quarantine may involve an entire facility, room or system.

Isolation or separation. A group of animals in quarantine should be physically isolated from other quarantined populations and from the resident populations. Methods of isolation should be built into the facility and system design. If logistics prevent complete isolation, populations should at least be separated by tank or vat. Regardless of the level of isolation, appropriate sanitation and disinfection measures must be used to reduce cross-contamination between quarantined and established populations and between separate populations in quarantine.

Observation and diet adjustment. Animals should be observed for normal and abnormal appearance and behaviors throughout the quarantine period so disease problems can be detected early. Loss of appetite, for example, is a very common, early sign of disease. Good nutrition will increase disease resistance and careful adjustment from the diet of origin to the on-farm diet will reduce problems from sudden changes.

Sampling and treatment. Fish in quarantine should be sampled for specific diseases of concern at the beginning and end of the quarantine period and at any time that disease signs develop. Although complete necropsy evaluation of a number of specimens is best, limited sampling of more valuable specimens can be done without sacrificing the animals by examining small sections of skin, fin and gills for parasites and doing a blood culture for systemic bacterial infections. The results can then be used to improve quarantine methods and the use of drugs. Consult with a fish health professional to assist with this. Legal issues associated with drug usage should be considered before treatment.

### Pathogen Management

Not all pathogens (disease-causing organisms such as bacteria, parasites, viruses and fungi) are of equal concern. Pathogens vary in their regulatory significance, survivability in reservoirs, pathogenicity (how easily they can infect and cause disease), diagnostics, and control. Although some pathogens cause disease more readily than others, environmental and host factors—especially the

species and its immune status—will ultimately determine whether fish become sick.

Regulatory significance. Some diseases and pathogens are considered important internationally and listed by the OIE (World Organization for Animal Health) because of their economic or environmental importance. Many of these, or others, are also currently regulated or under regulatory consideration by the USDA/APHIS and/or by state and local governments. Outbreaks of some of these diseases require depopulation, which will greatly affect the operation. The proper authorities (local, state and federal) must be notified if a reportable disease is suspected or diagnosed on your facility. Work with a fish health professional to determine if your species is susceptible to any regulated diseases, and get professional assistance with disease diagnostics and management.

For Quarantine Purpose the fishes can be stocked in quarantine/Isolation ponds