

# FISH DISEASE PREVENTION

\* Fish diseases may cause severe losses on fish farms through:

- reduced fish growth and production;
- increased feeding cost caused by lack of appetite and waste of uneaten feed;
- increased vulnerability to predation;
- increased susceptibility to low water quality;
- death of fish.

\* While it may be difficult to avoid fish diseases completely, it is better to try to **prevent** their occurrence rather than to allow them to develop and then attempting to cure them once they start to cause problems .

## Preventing diseases through good management

\* As already explained, **disease prevention on the fish farm is better than cure**. All efforts should thus be directed to applying good management practices.

(a) **Ensure good water quality:** sufficient supply, with adequate dissolved oxygen concentration and free of pollution .

(b) **Keep the pond environment healthy:** control silt ,control plants ,keep a healthy balance of phytoplankton and zooplankton , and exchange water if needed. If necessary, use mechanical aeration .Disinfect the pond regularly .

(c) **Keep the fish in good condition:** control stocking density. Keep different sizes or sexes separate if necessary to control fighting. Ensure good food supply. Handle the fish properly, especially during harvesting and sorting/grading . Care for fish during storage and transport .

(d) **Prevent the entry of disease organisms from outside your farm:**

- Control wild fish by using filters and screens and regularly eradicate them from canals and ponds .
- Disinfect all fish stocks imported from outside as eggs, juveniles or adults .
- be careful when using trash fish or processing wastes as supplementary feed; if possible boil the raw material for at least 30 minutes or use it for compost or silage feeds; if natural food supplies are limited, add vitamin\* supplements to the cooked food to ensure its quality;
- increase vigilance: if you have to use water downstream from a neighbouring fish farm, use screens to control escaped fish;
- For a hatchery it is safest to use spring or well water, free of disease organisms; it is also useful for rearing small fry; alternatively, consider a sand filter to help remove smaller disease organisms .
- Enclose hatchery and nursery areas with a fence to control access; use footbaths and protective clothing if necessary to limit contamination.

**(e) Prevent the spread of disease organisms within your farm:**

- Control fish-eating predators, particularly birds and mammals.
- Disinfect ponds regularly to kill both the disease organisms and their intermediate hosts. keep different age groups of fish separate; disinfect breeding ponds well and, if possible, remove broodstock from them as soon as spawning has taken place;
- use diversion ponds with parallel flow if possible; if your ponds are arranged in series, it is best to have the water flow from the ponds with the less infected and more sensitive, youngest fish into the ponds with the oldest fish (more infected and less sensitive);
- Disinfect juveniles before stocking them in clean fattening ponds; treat broodstock before using them for propagation in breeding ponds .
- If a disease breaks out on your farm, remove dead or dying fish from the ponds as quickly as possible, at least daily, and do not disturb and stress remaining fish excessively;
- Bury diseased fish with quicklime away from the ponds; carefully treat infected ponds and disinfect all equipment that has come in contact with them.
- In a hatchery have separate equipment for handling small and large fish, if possible keeping one set of hand nets, buckets, etc. for each tank or pond;
- Use disinfectant bins for routine disinfection of equipment, and clearly mark the equipment accordingly.

