

P1. Pond preparation

Aim- To prepare the pond for fish culture

Principle

Pond preparation is an essential practice to the success of fish culture. High organic matter content in neutral soil often promotes higher primary productivity and hence higher fish yield. Good pond preparation can serve a number of purposes such as sterilize and improve soil quality of ponds, induce production of natural foods; It is rich in protein, vitamins, minerals and other essential growth elements that simple supplementary feed cannot complete, Increase fish survival, Maintain fish health, Ensure good growth and yield. Fish yield in pond can also be affected by the presence of predators, deteriorating water quality and improper pond management. Hence, pond preparation is a first step towards ensuring a better pond production.

Procedures

1. Drain water from ponds completely and let ponds dry for 1-2 weeks until the bottom mud cracks.
2. Upon drying, air and sunlight can enhance oxidation of reduced chemical compounds in pond bottom, and eradicate unwanted organisms, predators and micro-organisms.
3. Liming is usually applied during or after the pond drying stage.
4. Liming is an important procedure to increase alkalinity and pH in pond soil, maintain pH (7-8) in pond water, provide sufficient CO₂ for phytoplankton growth, and enhance good response to fertilization.
5. The amount of lime applied to ponds depends on the nature of the soil and history of ponds.
6. In general, newly dug ponds require greater amount of initial lime input than aged ponds; loamy soil needs less lime than clayey and acid soil.
7. To enhance the lime reaction with pond soil, the pond bottom should be saturated with water prior to lime application. Lime should be spread evenly on the pond bottom and dike slopes.
8. Liming can be done in three different ways: by broadcast over dried pond which includes the dike walls. by mixing with water and spraying over the pond, and by liming the water flowing into the pond.

9. One to two weeks after liming, ponds are ready to be filled with water. Inlet and overflow pipes should be covered with screen nets to prevent wild fish from being introduced.
10. Some rocks, a piece of bamboo mat or a piece of iron wire can be put under the inlet pipe to protect the soil from being eroded there and the water from becoming too muddy during filling.
11. Fertilization using chemical fertilizers, manure or their combinations starts on the next day after filling and should continue on a weekly basis until water becomes green.
12. When Secchi disk visibility reaches about 30 cm, fish can be stocked. If the Secchi disk is not available, you may roughly test how fertile the pond water is by putting your arm in the water until it reaches your elbow, and then look at your hand. If you can see your palm through the water, you need to add more fertilizers and test again before stocking fish.