
Chapter 10: Conclusion

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CONCLUSION

The study of physico-chemical parameters of the ponds like water temperature, pH, dissolved oxygen, transparency, salinity, alkalinity, chloride, phosphate, total inorganic nitrogen, total hardness, calcium, free CO_2 remained acceptable for fish culture. During the study period, water level, water temperature, pH, DO, alkalinity, were considered parameters.

Plankton is the chief food resources of fishes. The availability of zooplanktons were rich by Copepoda > Rotifera > Cladocera > Protozoa > Ostracoda > Amphipoda. The maximum numbers of phytoplankton were recorded during winter and summer and poor in monsoon and post-monsoon. Phytoplankton were rich by Chlorophyceae > Bacillariophyceae > Cyanophyceae > Tribophyceae > Dinophyceae > Xanthophyceae respectively. Transparency, DO, pH, were observed to be high in winter and these parameters provide better growth of plankton. In monsoon, zooplankton and phytoplankton population were lower than other seasons. It is to be mentioned here that presence of various types of plankton and its availability throughout the year indicates clearly the balanced ecological condition of the ponds.

Anatomical parameters like gastrosomatic index, gonadosomatic index, hepatosomatic index and condition factor (K) were observed scientifically. The gastrosomatic index gradually increased from monsoon to post-monsoon whereas gradually decreased in winter and summer. The gonadosomatic index of adult and young, male and female were observed to be highest in summer to monsoon and lowest in post-monsoon to winter. Hepatosomatic index is being observed to be highest in winter to summer and lowest in monsoon to post-monsoon which shows healthy condition of the fish. Condition factor (K) of young and adult were observed to be highest in winter and lowest in monsoon and post-monsoon. The gonadosomatic index increased as the increasing of gonadal development. The percentage of total protein in body

muscles of fishes showed that highest or lowest protein depend on season, sex and reproductive cycle. The protein concentration in body muscle of three species varies according to the change of seasons. Thus environment plays the key role in the seasonal variations of muscle protein of fishes. Finally, it can be concluded that the values of physico-chemical parameters, planktonic abundance, anatomical parameters and biochemical muscle protein are co-related to each other to bring about the optimum growth and yield of fish ponds. All these factors have cumulative impact on the growth and yield of fish and fish ponds respectively.