Unit 8: Selection of candidate species for Aquaculture

- **Criteria for selection of species**
  Profitable fish culture aims at the production of maximum quantity of edible fish flesh form a given quantity of organic matter in the shortest possible time. Therefore, the species selected for culture should have certain essential qualities like.

1. **Rate of growth**
   Fishes which grow to big size in a short period of time are the most suitable for cultivation. Eg. Indian major Carps.

2. **Short food chain**
   Fishes with short feeding chain are ideal. This will help to reduce the loss of energy from the passage of one link of production to the next. Because at every tropic level, there is loss of 90% of the energy. Fishes feeding on detritus, plankton or vegetation have additional advantage (of being tolerant of other species in a pond) Raising carnivores in expansive – trout, salmons, snake heads.

3. **Adaptation to climate**
   This is an essential condition which limits the use of both cold and warm water species. Salmonids which are cold water species cannot tolerate warm water. Similarly warm water species like Tilapia spp, Indian major carps etc., can't tolerate the cold climates of temperate countries.
4. **Consumer liking**
   It is absolutely essential to bear in mind the consumers liking, when a species is selected for culture. Eg. Silver carp (not liked because of spines, low keeping quality etc.

Aptitude for artificial food

In order to obtain a high production rate, it is necessary to rear the fishes, which accept artificial feed.

Tolerance to fluctuations in physic – chemical conditions of water

This is highly desirable quality of a species selected for culture. Such fishes with stand handling and transportation stress.

Resistance to common fish diseases and parasites

Catla is more susceptible for Lernea infection, rainbow trout (RBT) is better resistant than Brown trout (BT) to IPN virus.

Easy reproduction under controlled conditions

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Amiability to live together

The quality to live together without troubling other species is especially required in fishes used in poly culture. In this respect, carnivores fishes should be cultured separately.

More edible flesh per unit weight

Species which gives more flesh per unit weight is more economical.