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Notes for B.Sc part 3rd, paper
VI Unit = 2(3).

Question :- Write notes on PISCICULTURE?

Answer :- Fish Farming :- Fish Farming
or pisciculture involves raising
fish commercially in tanks or
enclosures such as fish ponds,
usually for food. It is the
principal form of aquaculture,
while other methods may fall
under mariculture. A facility
that releases juvenile fish into
the wild for recreational fishing
or to supplement a species'
natural numbers is generally
referred to as a fish hatchery.
Worldwide, the most important
fish species produced in fish
farming are carp, tilapia, salmon
and catfish.

Major species :-

Top 15 cultured fish species
by weight, according to FAO
statistics for 2013

Species	Environment	Yanrage (millions)	Value (US\$ billion)
Grass carp	Freshwater	5.23	6.69
Silver carp	Freshwater	4.59	6.13
Common carp	Freshwater	3.76	5.19
Nile tilapia	Freshwater	3.26	5.39
Bighead carp	Freshwater	2.90	3.72
Catla (India carp)	Freshwater	2.76	5.49
Cucum carp	Freshwater	2.45	2.67
Atlantic salmon	Marine	2.07	10.10
Rohu labeo	Freshwater	1.57	2.54
Milkfish	Marine	0.94	1.71
Rainbow trout	Freshwater Brackish Marine	0.88	3.80
Wuchangbream	Freshwater	0.71	1.16
Black carp	Freshwater	0.50	1.15
Northorn	Freshwater	0.48	0.59
Snakehead			
Amur catfish	Freshwater	0.41	0.55

Categories :-

Growth is limited by available food. Commonly zooplankton feeding on pelagic algae or benthic animals, such as crustaceans and mollusks. Tilapia filter feed directly on phytoplankton, which makes

higher production possible. photosynthesis production can be increased by fertilizing pond water with either artificial fertilizer mixtures, such as potash, phosphorus, nitrogen, and microelements.

Another issue is the risk of algal blooms. When temperatures, nutrient supply, and available sunlight are optimal for algal growth, algae multiply at an exponential rate, eventually exhausting nutrients and causing a subsequent die-off in fish. The decaying algal biomass depletes the oxygen in the pond water because it blocks out the sun and pollutes it with organic and inorganic solutes (such as ammonium ions), which can (and frequently do) lead to massive loss of fish.

Types of ponds for fish culture

Fish Farm requires different types of pond for the various development stages of fish growth. They are:

(a) Breeding pond :- healthy and sexually

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• mature male and female fishes are collected and introduced in this pond for breeding. The eggs released by the female are fertilized by the sperm and fertilized eggs float in water as frothy mass.

(b) Hatchling pits :- The fertilized eggs are transferred to hatching pits for hatching. Two types of hatching pits are hatcheries and hatching tanks.

(c) Nursery ponds :- The hatchlings are transferred from hatching pits after 2 to 7 days. The hatchlings grow into fry and are cultured in these ponds for about 60 days with proper feeding till they reach 2-2.5 cm in length.

(d) Rearing ponds :- Rearing ponds are used to culture the fry. The fish fry are transferred from nursery pond to rearing ponds and are maintained for about three months till they reach 10 to 15 cm in length. In these rearing ponds the fry develop into fingerlings.

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Bithal

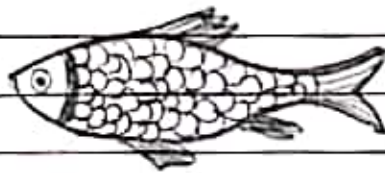
Cultivable food fishes in India :-

● Freshwater cultivable fishes :-

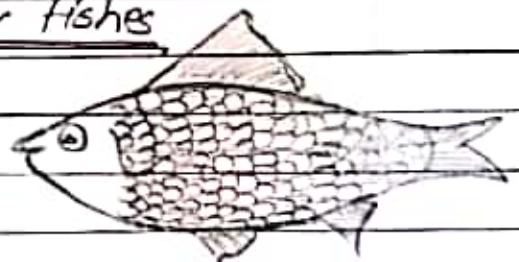
Indian major carps (kanda) - catla, Rohu, Mrigal, catfishes (koluthi), Mussels (vandi) and Tilapia (Tilapi kanda) are cultured in freshwater.

● Marine water cultivable fishes :- Sea bass (koduva), Grey mullet (Madavani) and chanos chanos (Milk fish) are the fishes cultured in marine water.

Freshwater fishes

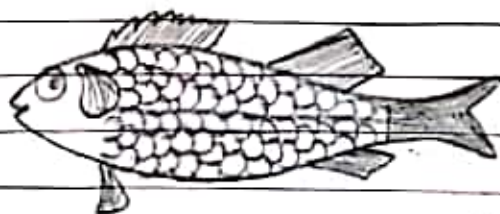


catla - Catla catla



Rohu - Labeo rohita

Marine water fishes



Sea Bass



Grey Mullet