



## COMPOSITE FISH CULTURE



**Krishi Vigyan Kendra,**  
**Lohit, Namsai Dist., Momong**  
**Arunachal Pradesh**  
**Pin-792102**

**Under**  
**ICAR-NRC on Yak, Dirang, West Kameng**  
**Arunachal Pradesh**

Fish farming has become popularized from time immemorial for the cheapest and most easily digestible animal protein sources. Fish culture technology in India has come to be known as composite fish culture, aims at fuller utilization of ecological niches by culturing together fast growing six compatible species of complimentary feeding habits, which in turn gives lucrative financial return. It creates gainful employment for skilled & unskilled youths.



### Culturable Species

#### Indian Major Carps

**Catla (*Catla catla*)**- Catla is surface feeder fish and mainly feed on zooplankton and small quantity of green algae and diatoms.

**Rohu (*Labeo rohita*)**- Rohu is a column feeder fish and starts feeding on natural food 5-7 days after hatching. It mainly feeds on vegetables, debris, microscopic green algae, decaying macro vegetation, detritus and mud.

**Mrigal (*Cirrhinus mrigala*)**- Due to bottom dwelling habitat, it depends mainly on decayed plants & animal matter, detritus, mud etc.

#### Exotic carps

**Silver carp (*Hypophthalmichthys molitrix*)**: Silver carp is a surface feeder fish and mainly feed on unicellular algae. Fry and adult mainly subsist on phytoplankton.

**Grass carp (*Ctenopharyngodon idella*)**: Grass carp mainly feed on aquatic macrovegetation. Grass carp like the other major carps has toothless mouth but has modified strong and specialized pharyngeal for rasping and crushing the vegetation.

**Common carp (*Cyprinus carpio*)**: Common carp is omnivorous in nature and feed on bottom debris, sand and mud, nibble of the aquatic weeds like

Hydrilla and Vallisneria.



*Catla catla*



*Hypophthalmichthys molitrix*



*Labeo rohita*



*Ctenopharyngodon idella*



*Cirrhinus mrigala*



*Cyprinus carpio*

**Pond Preparation:**

Item	Quantity Kg/ha	Remarks
Eradication of unwanted fishes		
Mahua oil cake	2000-2500	20-25 days before stocking
Bleaching powder	150-200	10 days before stocking
Agriculture lime	400-450	7 days before stocking

## Pond Management:

Item	Quantity kg/ha	Remarks
Cow dung	2000	7-10 days before stocking
Cow dung	500	In two interval / Month
Single Super Phosphate	15	Monthly (for six month)
Urea	15	Monthly (for three month)
Lime	150-200	Monthly

**Species ratio (6 species culture):** It should be so adjusted that-

Surface feeder 30-40% (catla-20-30%, Silver carp-10-15%)

Column feeder- 25-35% (Rohu-15-20%, Grass carp 5-15%)

Bottom feeder-40-45% (Mrigal-20-25%, Common carp 15-20%)

**Stocking Details:** Generally all the fishes are stocked simultaneously. A pond having average water depth of 1.5-2.0 m, may be stocked with 10,000-12,000 fingerlings/ha. Fish fry may be stocked @ 16,000 to 18,000 / ha with supplementary feeding and management. For predator free pond and small size manageable pond advanced fry (30-40 mm) will give better result.

**Supplementary feeding:** The natural food organism in the ponds may not be sufficient as fish food. The most commonly used mixture of rice bran or rice polish and groundnut or mustard oil cake in 1:1 ratio. A feeding rate 10-15% of body weight of fish per day up to six months and after 2-3%.

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