possible. Therefore, fish of all stages must be handled with care and released gently by means of acclimatization (Fig. 2). Time invested in this action will achieve better survival of stocked fish.

Fig. 2 : Process of acclimatization

Supplementary feeding : Supplementary feed in the form of ground nut oil cake and rice bran mixture should be provided in the pond at 4-3, 3-2 and 2-1% during 1-2, 3-4, 5-6 and 6 months respectively. Nowa-days, sinking/floating pelleted feed are commercially available in the market which are also being fed to fish with good result.

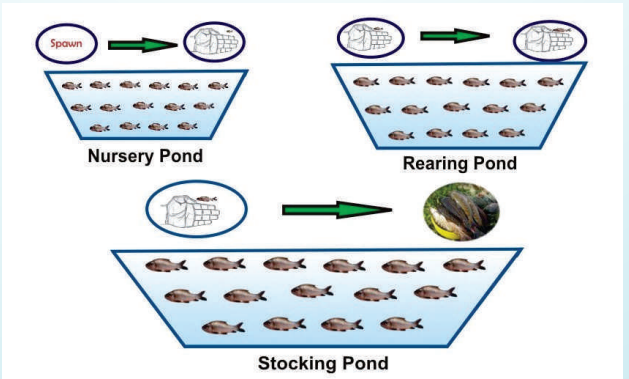

Fig. 3 : Types of pond for fish culture

Harvesting: The periodical harvesting is done subsequently with dragnet of suitable mesh size and final harvesting is carried out by completely draining the pond.

Table no 2. Details of carp culture practices

Particulars	Nursery Pond	Rearing Pond	Stocking Pond
Area (ha)	0.02 to 0.05	0.04 to 0.1	0.5 to 2.0
Depth (m)	1.0	1.0 to 1.5	1.5 to 2.5
Stocking stage of fish	Spawn (6 mm)	Fry (20-25mm)	Fingerling (80-100 mm)
Stocking density per Hector	0.5 to 1.0 million Spawn	2 to 3 lakh Fry	8 to 10 thousand Fingerling
Stocking period	1 Month	3 to 4 month	8 to 10 Month
Production	10-15 lakh fry	1.2-1.8 lakh fingerling	3 to 4 thousand Kg
Selling price	₹ 20,000/- lakh	₹ 60,000/- lakh	₹ 80-100/- Kg

Keeping in the view the local climatic condition the better management practice is introduces in carp polyculture system. The local availability of carp seed, strengthen the private fish farming and by adopting this management the farmers can produce 3-5 tonnes/ha of production every year.

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Better Management Practices for Modern Carp Culture

भाकृअनुप ICAR

हर कदम, हर डगर किसानों का हमसफर भारतीय कृषि अनुसंधान परिषद

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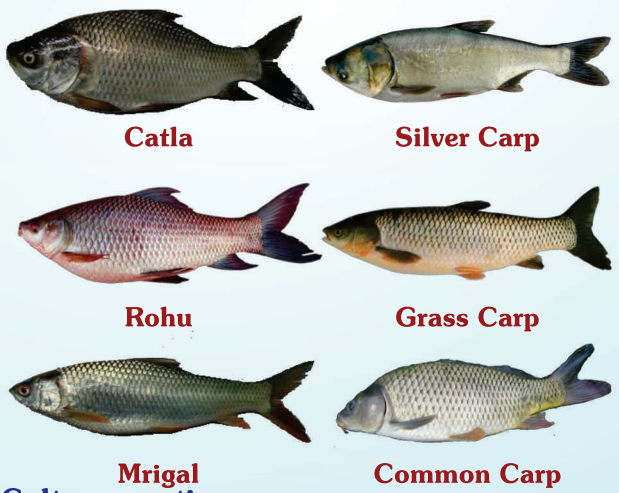
Introduction

The century long history of carp culture is well known and the most important group of cultured fish in India are Indian Major Carp and Chinese Major Carp. The principle of these modern farming practices is to employ compatible selected fast growing species of different feeding habit in different ratio at utilization of pond productivity at different ecological niche.

Candidate species

The three species being cultured of IMC i.e; *Catla catla* (Catla), *Labeo rohita* (Rohu) and *Cirrhinus mrigala* (Mrigal) in addition to these three species of Chinese carp i.e; *Hypophthalmichthys molitrix* (Silver carp), *Ctenopharyngodon idella* (Grass carp) and *Cyprinus carpio* (Common carp) are used in composite fish culture.



Culture practices

Carp culture in ponds is basically a three-tier culture system i.e. Nursery, Rearing and Production system; where the first step begins with the rearing of spawn (6 mm) upto fry stage (20-25 mm) for one month in nursery ponds. Water of the nursery pond must be filtered through a dense sieve which has mesh size of 1 mm. After one month nursing period ends then Fry must be harvested and transferred to rearing pond for 3-4 months. Production system is those that are in action when fingerling is reared to the table size fish. The harvested fingerling is stocked in stocking pond upto table size fish (see fig. 3). It can be practiced on different levels of intensity such as extensive, semi-intensive and intensive. To ensure high rate of survival and growth during all the three stages of rearing, a package of management practices should be strictly followed, ad slackness at any stage of the management procedure may affect farm productivity and profitability adversely.

Management Practices

The fundamental of pond management are 1) Pre-Stocking Management; 2) Stocking Management; 3) Post-Stocking Management.

Pond drying : In the course of harvesting ponds, water is drained. It is a general rule that ponds should remain as dry as possible until the next production season.

Cleaning and cultivation of pond bottom: Removing objects, vegetation and aquatic weeds is the second step of pond preparation. Passing of dry pond bottom with a ploughing will ensure healthier pond bottom with a ploughing will ensure healthier life of benthos.

Eradication of unwanted fish & disinfection of pond bottom: The predatory or invasive fishes directly pray upon the juveniles (young once of the fish) and compete with culture species for food, space and oxygen. Hence, before stocking of desirable species utmost care shall be taken for complete eradication of undesirable species which shall be done by repeated netting of pond or using fish toxicant (Mahua Oil Cake).

Liming: Quick lime at the rate of 200 kg/ha is recommended for accelerating the mineralization of organic matter and act as prophylactic measure. It act as buffer against pH changes and it increases the availability of carbon for photosynthesis.

Inundation of pond : When filing pond, there are recommended intervals of time otherwise water condition become favourable for aquatic plants which will grow with the rising water. Appropriate screening of water during inundation of ponds is the only prevention against the entering unwanted fish and items.

Manuring and fertilization : Next step after flooding a pond is manuring and fertilization, which is essential nutrient play a vital role in the productivity of the pond where fish prefer natural fish food is expected. Fertilization rate varies with water quality, temperature, pond nutrient component in the pond ecosystem. Organic manure i.e. cattle dung @ 1000 kg/ha is generally applied in 4 equal installments. Inorganic fertilizers like Urea @ 25 kg/ha/month and single super phosphate 20 kg/ha/month. Manuring and fertilization should be applied at monthly intervals.

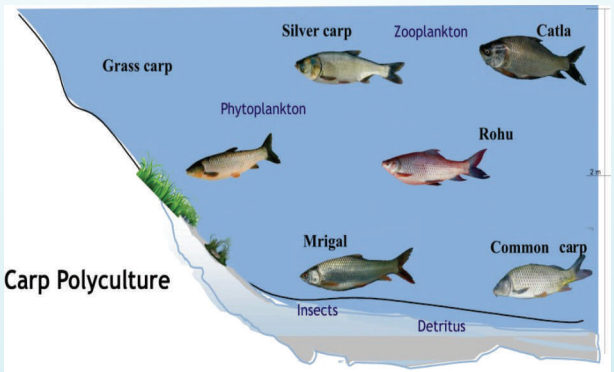


Fig. 1 : Illustration of polyculture system in pond

Quantity of stocked fish : The stocking rate depends on an area of pond and stage of fish (see fig 3 and table 2).

Execution of stocking : The task of stocking is simple. Fish should pass with least stresses