

10. Identification of fish Seed (Indian Major Carps and Exotic Carps and Catfishes)

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Introduction

Aquaculture was traditionally dependent on the supply of the fish seed from natural sources till the mid fifties from Indian rivers, reservoirs and in artificially constructed bundh type tanks. After the fish breeding in natural systems, a mixed type of fish seed is available. When seed is collected from the natural sources it is difficult to identify economical varieties of fish seed. A lot of efforts goes waste in culture system when the fish is not available of desired variety. If a seed is identified at initial stages correctly and stocked in ponds then aquaculture results become economic and commercially viable. The identification of fish seed based on their external characters which are given below : viz eggs, spawn, fry and fingerlings of commercially available fishes cultured under aquaculture systems.

A. Indian Major Carps

S.No.	Species	Common name
1.	<i>Catla catla</i> (Hamilton)	Catla
2.	<i>Labeo rohita</i> (Hamilton)	Rohu
3.	<i>Cirrhinus mrigala</i> (Hamilton)	Mrigal

B. Exotic Carps

4.	<i>Ctenopharyngodon idella</i> (Cuvier & Valenciennes)	Grass carp
5.	<i>Hypophthalmichthys molitrix</i> Valenciennes	Silver carp
6.	<i>Cyprinus carpio</i> (Linnaeus)	Common carp

IDENTIFICATION OF EGGS

FERTILIZED EGG

	NATURE	DIAMETER (mm)	SHAPE	COLOUR	SPECIES
1.	NON FLOATING				
A.	Non-Adhesive	5.3-6.5	Round	Yolk light red	<i>Catla catla</i>
	Non-Adhesive	5.5	Round	Brownish	<i>C. mrigal</i>
	Non-Adhesive	5.0	Round	Reddish	<i>Labeo rohita</i>
	Non-Adhesive	3-4	Round	Bluish	<i>L. calbasu</i>
B.	Adhesive				
	Non-Filamentous	1.5-1.3	Oval	Greenish	<i>C. batrachus</i>
	Non-Filamentous	1.5	Round	Greenish	<i>H. fossilis</i>
	Non-Filamentous	1.2-1.5	Round	Yellowish	<i>W. attu</i>

2. EXOTIC CARPS

A	Adhesive	1.0 - 2.0	Spherical	Yellow/light	Common carp
B.	Non-Adhesive	4.2 - 4.76	Demersal	brown	Grass carp
	Non-Adhesive	3.8 - 5.5	Round	Ashygrey	Grass carp
				Round	Deep golden brown

Identification of Spawn

Spawn : Fish hatchling measuring upto 6-8 mm in length are known as spawn .It is further categorised into undesirable and desirable species.

Undesirable		Desirable	
1.	Yolk absent	1.	Yolk rudimentary or absent
2.	Dorsal fin with ray	2.	Dorsal fin indicated but without fin supports
3.	Rudiments of anal fin visible	3.	Anal fin not indicated
4.	Embryonic fin-fold discontinuous	4.	Embryonic fin-fold continuous
5.	Eyes small	5.	Mouth formed
	Exp. <i>Puntius sp., Oxygaster sp. Chanda spp.</i>	6.	Eyes pigmented
			Exp. <i>Catla catla, Labeo rohita, Cirrhinus mrigala</i>

Identification of fry (size 20-25 mm)

Catla catla		Labeo rohita		Cirrhinus mrigala	
1.	Head conspicuous	1.	Lip margins gently fimbriated.	1.	Head small
2.	Snout flat and pointed	2.	Distinct black chromatophores visible behind the eyes on the head region and spotted.	2.	Few black chromatophores in the caudal region.
3.	Head more spotted than body	3.	Opercular outline distinct.	3.	No reddish hue in the opercular region.
4.	Dorsal and caudal fin differentiated and spotted.	4.	Dorsal and ventral fin folds persistent.	4.	Red colouration in the abdominal region visible.
5.	Gills reddish			5.	Lips thin.
6.	Body colour light green			6.	Dorsal fin separating from the embryonic fold
Ctenopharyngodon idella		Hypophthalmichthys molitrix		Cyprinus carpio	
1.	Operculum covers most of the gills.	1.	Head prominent	1.	Eyes dark.
2.	Pectoral fins become membranous.	2.	Mouth opening more developed with thin lips.	2.	Rudiments of pectoral fin formed.