



## BREEDING & SEED PRODUCTION OF CLIMBING PERCH

The climbing perch, *Anabas testudineus* is an important indigenous air-breathing fish of India and popularly known as Kawai or Koi. This is regionally preferred fish and fetch high market price in many states like West Bengal, Tripura, Assam, Manipur, Meghalaya and Bihar. This fish is rich in minerals (iron and copper), unsaturated fatty acids and essential amino acids. The climbing perch is being considered as a candidate fish for species diversification in freshwater aquaculture. The main constraints for spread of its culture practices are non-availability of quality seed, larval rearing, and grows out technology. The ICAR-Central Institute of Freshwater Aquaculture, Bhubaneswar has standardized the seed production technology with high survival.

### Brood Stock Management

- Climbing perch attains sexual maturity in 5-6 month (weight 15-20 g and length 8.0-10 cm).
- It's breeding season in Eastern India is April-August with peak during monsoon.
- It develops distinguished secondary sexual characters during breeding season. Mature female exhibit bulged abdomen, prominent genital papilla and oozing of ova even at a gentle pressure on the abdomen.
- Mature males are darker (Axelrod *et al.*, 1971) and have longer anal fins than females (Riehl and Baensch, 1991). On gentle pressure on abdomen it oozes out white milt during breeding season.
- Before breeding season, brood fish in the weight range of 40 -100g are collected from brood stock pond and kept separately in cement cisterns.
- Brood fishes are fed supplementary diet (30-35% protein) @ 3-4% of the fish biomass per day.
- Regular monitoring of water quality is done and required quantity of water should be exchanged to keep optimum water quality parameters.
- Fishes are regularly checked for their gonad growth. Fully mature fishes are taken for breeding.

## Induced Breeding

- The inducing hormone (OVAPRIM/OVATIDE/WOVA-FH/GONOPROFH) is injected intramuscularly in female and male @ 0.5-1.0 and 0.25-0.5 µl/g body weight, respectively.
- The injected fishes are released in breeding pool.
- It takes around 7-8 hours to spawn after hormone injection.
- The fertilized eggs are small ranging between 70-85 micrometer in diameter and float on water surface.
- They look like non-adhesive tiny crystal beads.
- The fertilized eggs look transparent, but the unfertilized eggs look opaque or milky.
- Fecundity is about 300-400 eggs/g body weight of female.
- The fertilized eggs are incubated in stagnant water in plastic tubs/ FRP tanks.
- Incubation time is 12-15 hrs at 26-28°C water temperature.

## Seed Rearing

- The newly hatched larvae measure 1.6-1.8 mm in length and rest in upside down position.
- They are reared in indoor rearing tanks (FRP/concrete) of 500-1000 ltrs capacity with water depth of 15-20 inches.
- The 3 days old spawn is fed with zooplanktons and it is continued for two weeks.
- It is vital to maintain good water quality for better growth and survival of the larvae. The regular water exchange, feeding and thinning of hatchlings are important.
- In 15 days of rearing the spawn attains size range of 12-16 mm. At this stage they can be fed with mixed plankton and powdered GNOC and rice bran (1:1).
- A stocking density of 1000-1500/m<sup>2</sup> is considered to be ideal for first three weeks for better growth and survival under indoor condition.
- After three weeks fry is reared @ 100-200 nos. /m<sup>2</sup> and fed with formulated floating feed containing 30-35% protein.
- The difference in size is mainly due to differential consumption of food and at this stage utmost care should be taken to segregate the 'shoot' fry at a regular interval as it takes heavy toll of smaller fish and they should be reared separately.
- The average survival rate from spawn to fingerlings is ranged between 20-25%.

© copyright all rights reserved. ICAR-CIFA 2016

For further details please contact

The Director,

ICAR-Central Institute of Freshwater Aquaculture,

Indian Council of Agricultural Research

Kausalyaganga, Bhubaneswar- 751 002, Odisha, India

Tel.: 91-674- 2465421, - 2465446, -2465402 FAX: 91-674-2465407

E mail: [director.cifa@icar.gov.in](mailto:director.cifa@icar.gov.in), Website: [www.cifa.in](http://www.cifa.in)



Prepared by

**Dr Rajesh Kumar**

**Dr U. L. Mohanty**

Published by

**Dr. P. Jayasankar, Director, ICAR-CIFA**