



ICAR-CIFA

# CIFABROOD™

Horizontal and vertical expansion of any aquaculture practice require sustained supply of quality seed during and beyond spawning season. With the advancement in carp breeding technique, hatchery management practices and establishment of number of hatcheries, carp seed production has substantially increased in the country. Induced breeding and seed production of carps have been taken up as commercial entrepreneurship activity particularly in Chattisgarh and West Bengal. Therefore, the availability of carp seed in terms of quantity may not be a problem, while quality of seed still remains a hindrance for large scale propagation of carp culture.

The problem exists mainly due to non - availability of suitable feed for broodstock rearing and the carp seed producers in India are compelled to employ a variety of feeding regime as hit and trial method. This results into frequent failure of breeding response, either partially or completely with reduction in fecundity, fertilization and spawn recovery. Moreover, the survival of such larvae during nursery rearing hardly exceeds 30% in spite of taking all possible management measures under pond condition incurring economic loss to the carp seed producers as well as to the sector. To address this inherent problem in the seed production, an urgent need was felt to develop a broodstock feed suitable for Indian major carps. Generally, in oviparous carps the nutrient is transferred from female brood to egg which is necessary for successful embryonic development. Therefore, adequate nutrient source through exogenous feed containing indispensable amino acids (IAA), long - chain fatty acids (PUFAs), vitamins and trace elements must be provided to the brood prior to maturation in such a way that voluntary dietary intake becomes optimum. ICAR-CIFA for the first time in India has developed a balanced feed for carp brood after a decade of research duly validated through repeated field trials. This is named "CIFABROOD" and for which trade mark registration has also been granted by the Govt. of India. This ensures quality and quantity of egg production, remarkable improvement in their breeding responses and hatching performance.

## Field Trials and Success

CIFABROOD™ was extensively tested in farmers' fields and resulted in wonderful results. Early maturation was achieved and survival was also found to be improved significantly.

## Feed Form for supply in pond culture:

Generally to be provided in pelleted form (3 - 5 mm pellet dia)

## Feeding Methods:

1. Feeding in bag: Feed can also be provided in perforated nylon bags tied with the handles to be fitted with the bamboo poles. The basket, tray or feedbag should be kept suspended at about 0.5 m below surface water level.

## Feeding Strategy:

Feed is to be provided @3% of total body weight of fish during February to April following a rigid schedule. From May onwards ration may be reduced to 2 % of the total body weight till they are ready for breeding. Spent fish, only in the case of repeated spawning is to be fed at the rate of 5% of body weight for the first one week. The feed should not be continued throughout the year. Water temperature and dissolved oxygen content should remain within the recommended levels.

## Feeding Frequency:

Feeding twice a day at 6 hours interval during daytime is recommended

## Salient Features:

- Readily accepted by carp broods, palatable and water stable.
    - Provides essential macro and micro nutrients generally lacking in conventional feed or natural fish food organisms
  - Advances gonad growth and maturation and facilitates early spawning.
  - Improves breeding response.
  - Ensures higher production of viable eggs and sperms.
  - Remarkably improves hatching performance.
  - Suitable for multiple repeated breeding of carp.
  - Enhances spent fish recovery
  - Promises higher recovery of quality seed per unit body weight of female
  - Ensures better survival of seed and rapid growth during nursery rearing
- Economically viable and validated through repeated multi locational field trials.

## Availability

The “CIFABROOD™” technology was commercialized and the license was granted to M/s Aisharya Aquaculture Pvt. Ltd. Naihati, West Bengal by the DG, ICAR in 2013. The product was well received in the market and readily available for the farmers.

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