

A NOTE ON THE USE OF GROUND WATER FOR SUCCESSFUL BREEDING OF COMMON CARPS IN EXTREMELY COLD CLIMATE

J. SOMALINGAM, R. K. LANGER AND S. SOMDUTT

Freshwater Fish Farm, Central Institute of Fisheries Education, Powarkheda (M.P.)

ABSTRACT

Common carps are known for prolific breeding habits but they generally do not breed in water with temperature value less than 20°C. During winter months of 1985 when the temperature ranged from 15.5-20.5°C, the common carps were successfully bred by using ground water having temperature of 25-26°C and the results are discussed.

The common carp (*Cyprinus carpio var. communis*) is unique for its prolific breeding habits and great adaptability to varied geoclimatic conditions. Generally two peak seasons are recognised for breeding common carps via; one minor peak during June– August and another major peak during February – April. Nevertheless, common carps are known to breed through out the year, whenever favourable conditions exist, due to their prolific breeding nature.

The common carps were successfully bred at Fresh Water Fish Farm, (FWFF) Powarkheda, during the period 24-1-1985 to 21-2-1985, when the climate was extremely cold and the temperature range was 15.5 to 20.5°C. During this low temperature, common carps generally do not breed. But successful breeding could be obtained by the use of underground water which had a consistent temperature of 25–26°C.

A total of 21 sets of common carps were kept for breeding, out of which 16 sets bred successfully. The breeding success achieved was 76.2%. Polythene strips were used as egg collectors and breeding was arranged in cement pools and plastic pools. A total of 16.6 Kgs females bred giving 19.39 lakhs eggs and the relative fecundity worked out to 1.16 lakhs eggs per kg body weight to female. The percentage fertilization was about 50% and good eggs were 9.76 lakhs. These were hatched in modern carp hatchery model CIFE-, D-81 (Dwivedi and Ravindranathan, 1982) when 7.25 lakhs common carp spawn was realised showing a hatching rate of 74.2% which is reasonably good when the prevailing extremely cold climatic conditions are taken into account. Ground water was used for hatching the eggs. During hatching period extra aeration was provided to keep the D.O. level between 6 and 7 mg/l

water. Thus ground water which has a consistent temperature of 25 – 26°C has brought about successful breeding and hatching of common carp during the winter months when the climatic conditions were extremely cold at FWFF, Powarkheda.

ACKNOWLEDGEMENT

The authors are grateful to Dr. S. N. Dwivedi, Director, Central Institute of Fisheries Education, Bombay for constant encouragement and for his keen interest in the work.

REFERENCE

Dwivedi, S. N. and Ravindranathan, V., 1982. A Carp hatchery model, *CIFE, Bull.* 3-4.