

## BOOK REVIEWS

**Carp seed production technology**, edited by P Keshavanath & K V Radhakrishnan, Special Publ. No. 2 (Asian Fisheries Society, Indian Branch, Mangalore), 1990, pp. 94 [ISBN 81-85340-03-x]

The volume is the proceedings of the national workshop organised by Asian Fisheries Society, Indian Branch with joint sponsorship of the Andhra Pradesh Agriculture University and Fish Farmers of Andhra Pradesh at Eluru during September 2-4, 1988.

The volume starts with a review by Tripathi and Khan on current status of induced spawning with special reference to inducing agents and brood stock management followed by a paper by Nandeeshia *et al.* which is also a retrospection and hence repetition, except that the reader is introduced to the use of ovaprim as an alternate inducing agent in India.

Papers on breeding of gold fish by Sita Rami Reddy *et al.* using HCG, silver carp by Chonder using HCG singly and in combination with pituitary, Indian major carp by Somasekarappa *et al.* using HCG along with feeding, fertilization and water management and rohu by Gupta *et al.* using Winstrol and progesterone, are useful. Papers on effect of amino acids and vitamin B<sub>1</sub> on growth and survival of rohu and catla seeds in nursery ponds by Venugopal *et al.* and effect of aeration on growth and survival of rohu by George *et al.* are helpful to improve seed production. While Gupta *et al.* deal with brood stock management for advancing maturity and spawning in Asiatic carps, it is production of intergeneric hybrids and their utility in aquaculture and reservoir stocking that matter to Khan *et al.* and mass production and growth of intergeneric hybrid catla between *Catla catla* males and *Labeo rohita* females in ponds and reservoirs that concern Somalingam *et al.* Chonder's paper on breeding of silver carp in Bangla Bundh and the case study by Kiran and Dubey on Mandi Dry Bundh are very useful information. But hatcheries have to take a leading role in the supply of seeds to the farmers. Inclusion of issues involved in commercial success of fish seed hatchery project by Pathak, phasewise exercises in establishing World Bank aided carp

hatcheries in Bihar with a review on their operational efficiency by Singh *et al.* and field observations on the efficacy of a rural model of a portable circular hatchery by Venugopal, in the book are timely. The publication is a conglomeration of various aspects in the subject and it is more or less complete as it contains even a paper on the economics of the carp seed production by Ranadhir *et al.* The last paper on esterase polymorphism in 3 colour varieties of *Cyprinus carpio* by Lakshmipathi and Reddy, however, is of academic interest only.

The book, on the whole provides baseline information on carp seed production technology. The editors of this volume, however, have spared their scissors from carrying out its duty. The first two papers, being reviews, could have been combined and saved space.

The volume having only 94 pages is repeatedly indexed as 102 pages, possibly accounting for even the cover! It is full of mistakes and anybody would brand such mistakes as printer's devil. But too many of them is an evil that could have been avoided by going through the galley proof carefully.

Most of the papers seem to be written in haste without sufficient data or no data at all. An example for this is the paper on Alternate inducing agents by Nandeeshia *et al.* The authors claim here excellent results in inducing complete spawning in a number of carp species by injecting ovaprim, but give only the dose used and not results achieved. Similarly Chonder's findings on the use of HCG for carp breeding in Bangla Bundh are based just on two experiments. Experimenting only on one diet, it is not understood, how Somasekarappa *et al.* advocate that the nutrient level of ingredient mix appears to be optimum or near optimum for catla brood.

Sita Rami Reddy *et al.* commence their paper with a confident note that induced breeding with pituitary injections has become a commercially viable routine method in India leading to mass production of quality fish seed, and use of HCG is found to be as good as pituitary extract. On the contrary, confusion prevails in the minds of readers when they come across the statement by Somasekarappa *et al.* that

'hypophysation' is yet to be successfully adopted in many carp farms.

The paper on advancing maturity and spawning in Asiatic carp through brood stock management is good. Feeding with protein rich diet and reduction in silver carp density in composite culture greatly improve the quality of catla as well as rohu, they say. Also, well-water generally believed to adversely affect breeding and hatching was found by them, to be good for both purposes. However, the quantity of spawn obtained from the hatchery, they note down, was less on account of 'some technical difficulty' in hatchery operation. These difficulties, if specified could have immensely helped the farmers and hatchery workers.

Venugopal's portable circular hatchery is of course the need of the day. An illustration with the description would have made things easy to register it in the mind. In the abstract of the paper, from viable eggs to spawn, a 50-96% survival (average 71%) is given. In Table 2, it actually ranges between 41 and 98% and in page 59 the average is said to be above 78%. The water quality at the 4 stations studied being not comparable, it bars any such generalisation.

The paper by Venugopal *et al.* on the effect of amino acids and vitamin B<sub>1</sub> on growth and survival of rohu and catla seeds in nursery ponds is interesting. But how they could call these essential constituents for normal growth, metabolism and survival; repeatedly as growth promoters is beyond comprehension.

The paper by Ranadhir *et al.* is neither the economics of a 'model farm' (as told in Abstract) nor a 'model economics' as claimed in the introductory paragraph. To be exact, it is a misnomer. The authors are apologetic to the various limitations in working out regression on a single variable model but recommend the equations got as "simple workable field test for predicting the yield" with respective R<sup>2</sup> values as low as 0.139, 0.028 and 0.107 for rohu, catla and mrigal. An R<sup>2</sup> value below 0.5 is unacceptable and when the 'f' is not significant one should refrain from highlighting the equation.

There are mistakes in the profit calculations too. Depreciation on nets for 0.33 ha pond is given as Rs 6140; against Rs 6086 which one could calculate annually from the given capital cost. The profit is calculated for a 6 month period, but the authors instead used the annual depreciation value in the work

sheet. Accounting interest on capital cost on pond remains internationally also unsettled even today. It suits a person who already owns the pond. For the benefit of an entrepreneur who wants to enter into this business for the first time, a model computation accounting the interest on investment and also maintenance and depreciation on construction if any should have been given. Moreover, the authors, if serious on making a model, should have worked out yearwise economics till investments neutralise and returns become attractive. It is imperative in such condition to account the interest on the capital cost on fabrication of nets (evidently not considered in this paper) also. If everything is properly accounted, the profit and rate of return on the capital would be much less than what are given by the authors. This lacunae exist in the economics calculated for fry and fingerlings rearing and the integrated project for seed production also. In their enthusiasm to fabricate a model, the authors totally forgot to cite in the text the literature listed in References. This mistake is unique to Ranadhir *et al.* On the contrary, with others, literature (page number given in brackets) like Khan 1983 (8), Hirao *et al.* 1955 (8), Blaxter 1969 (8), Billiard *et al.* 1983 (13), Nandeeshia *et al.* unpublished (16), Reddy *et al.* unpublished (41 and 43) and IIMA 1983 (53) are not included in the References. Ibrahim *et al.* 1970 cited in page 3 is entered in the References as Ibrahim and Chaudhari.

Table 3 of the paper by Somalingam *et al.* despite dealing with weight of fishes is titled as 'average size'. Though size can stand for measure and dimension, it is customary to use it in relation to length than weight. Further, instead of providing weighted general means; the Table, may be by mistake, gives only arithmetic averages on averages that contorts truth.

The authors may be responsible for the findings in a paper. But bringing them out with perfections is editors' onus. Therefore no care should be spared to make them without mistakes, on sound technology and concrete findings in national, if not international standards.

A Noble

Central Marine Fisheries Research Institute  
Cochin 682 031, India