

Breeding of carps with ovaprim in India, by M C Nandeesh, S K Das, D E Nathaniel & T J Varghese, Special Publ. No. 4 (Asian Fisheries Society, Indian Branch, Mangalore), 1990, pp. 41 [ISBN 81-85340-07-2]

Results obtained in the trial runs conducted in 9 states in the country on breeding 8 species of carps with 'Ovaprim', a readymade, easy to store and easy to administer, synthetic substitute for pituitary, effective almost without fail in single small dose, are given in the publication. The findings, listed excellently in 13 tables are rather good. Notwithstanding this, the text loaded with drab descriptions of the data already available in the tables, makes reading unpleasant.

In the tables, the ovaprim dose (ml.kg^{-1}) administered to female catla ranged between 0.3 and 0.55. Similarly, its range for rohu was 0.25-0.5, silver carp 0.4-0.8, grass carp 0.35-0.8, big-head carp 0.5-0.6 and bata 0.3-0.5. In the 'Conclusion', smaller doses like 0.4-0.5, 0.3-0.4, 0.25-0.3, 0.5-0.7 and 0.5 were recommended as suitable respectively for catla, rohu, mrigal, silver and grass carps and big-head carp and bata. Basis for arriving at these values are not made clear in the paper. Nowhere in the text, do the doses given to males find place, except the sudden appearance in the 'Conclusion' affirming that a dose between 0.1 and 0.2 (as against 0.1-0.15 given in an article by Nandeesh *et al.* 1990 in Special Publication No. 2 of Asian Fisheries Society, Indian Branch) 'will work', because the doses from 0.1 to 0.15 could induce them to breed on several occasions during the study. The authors in place of guess work should have tried some statistical treatment of the tabulated raw data and attempted flawless establishment of the findings.

Allegedly, the authors appear to nurture the notion that only lengthy accounts carry weight. Evidently it comes to light as the reader proceeds further from the 'Results' to tumble into almost verbatim reproductions in 'Discussion'. For instance, the result on fringe-lipped carp on page 17 that reads as follows:

"The response of fringe-lipped carp to ovaprim was excellent at the only dose tried i.e. 0.50 ml/kg (Table 13). All the five fish injected spawned completely. The fertilisation and hatching success were quite high"

is repeated as under on page 22 in the 'Discussion'.

"The response of fringe-lipped carp to ovaprim was found to be excellent at the only dose tried, i.e. 0.50 ml/kg. The spawning was complete in all the

fishes and rate of fertilisation and hatching were very good".

To make this replica look like discussion, the authors added a suggestion to it that it would be possible to further reduce the dosage in this species. Discussion, instead should have concisely highlighted the merits with reference to already available information on the subject or related aspects if any and pointed out demerits for further chastisement. The introduction also is too lengthy. It even digresses from the subject matter. Figures 1 and 2 on pathways could have been eliminated by simply mentioning that ovaprim works at the stage of releasing the hormones.

Coming to the economics, the authors write (page 19, paragraph 3) that a preliminary analysis of both pituitary and ovaprim treated fish indicated that "the profit obtained for 1 kg of brood fish in the later treatment was nearly 30% higher than that from the former treatment". Table 2 dealing with the economics of breeding catla shows the potential profit derived/kg of brood fish as Rs 446 for ovaprim treatment against Rs 356/kg of brood fish for pituitary. In Table 5, in rohu, this works out to be Rs 921.80/kg for ovaprim and Rs 672.80/kg of brood fish for pituitary. Taking only the cost of inducing agents, they concluded that "ovaprim is more economical than pituitary". Against the cost of inducing agent, the return per rupee spent, on the contrary, calculates to be Rs 32.86 on ovaprim and Rs 45.50 on pituitary for catla. In the case of rohu this is respectively Rs 83.30 and Rs 125.56.

Nonetheless, as the authors think and hope the cost will really be cheaper for ovaprim since breeding is mostly 100% virtually without any casualty on the brood fish on account of minimum handling. The authors may take care of all these aspects for computing the economics, standardise the doses using statistical methods and publish the findings afresh, without mistakes in the matter and eliminating printers devil. Wide use of this 'Wonder drug' in the country may be strongly recommended.

Printing mistakes are too many in the volume. Peter *et al.* 1980 cited in the text (page 17) is not included in the References. On the contrary, Dwivedi and Zaidi (1983) listed in it is not quoted anywhere in the text. In another one, *Ctenopharyngodon idella* (page 1) changes over to *Ctenopharyngodon idellus* in the References.

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