

Seed production and culture techniques of climbing perch, *Anabas testudineus*

A.H.M. Kohinoor*, M.S. Islam, M. Zaher and M.G. Hussain

Freshwater Station, Bangladesh Fisheries Research Institute
Mymensingh 2201, Bangladesh

*Corresponding author

E-mail address: fsbfri@bdonline.com (M.G. Hussain)

Abstract

Six treatments each with 12 replications designed to optimize the dose of inducing agent PG to achieve fertilization and hatching success of climbing perch, *Anabas testudineus* were tested. The females were given single injection of 7-12 mg PG/kg body weight and the males were given 4 mg PG/kg body weight. Fertilization and hatching rate varied from 67±4.55% to 66±3.0% and 59±4.88% to 57±6.21% for the doses of 10, 11 and 12 mg PG/kg of body weight, respectively. The hormone dose had significant ($P < 0.05$) effect on fertilization and hatching. Six mini shallow cisterns (570 cm x 105 cm) were used to investigate the efficacy of zooplankton and *Artemia* nauplii as feed for spawn rearing. Three-day old spawns were stocked in six mini shallow cisterns at a stocking density of 100 individuals/L of water. Two treatments each with three replications were used to develop culture technique of the climbing perch. In case of treatment-1, the spawns were fed with *Artemia* nauplii three times daily, while in treatment-2, zooplankton were used as feed in the same manner as in treatment-1. After 14 days of rearing, mean final weight of the fry of treatments-1 and 2 were 95.55±6.71 and 57.69±5.40 mg, respectively. In treatment-1, spawn fed with *Artemia* nauplii showed significantly ($P < 0.05$) higher mean weight than the spawn fed with zooplankton (treatment 2).

Key words: Seed production, Culture techniques, Climbing perch

Research findings

- PG doses ranging from 7 to 12 mg/kg body weight (bw) of females responded equally in all the treatments.
- Fertilization and hatching successes of 67% and 59% were obtained for PG dose of 10.0 mg/kg of bw while it was 66% and 57% for the PG dose of 12.0 mg/kg of bw.
- Fry gained a mean weight of 95.55±6.71 mg in treatment-1 (*Artemia* nauplii) and 57.69±5.40 mg in treatment-2 (zooplankton) after 14 days of rearing.
- Spawn fed with *Artemia* nauplii showed significantly ($p < 0.05$) higher growth in weight than spawn fed with zooplankton.
- Mean survival rate was higher in treatment-1 (56%) than in treatment-2 (42%).

- For better survival and growth, *Artemia* nauplii was found to be a suitable feed for the spawn of *A. testudineus* than zooplankton in cistern condition.

Policy implications

- Department of Fisheries (DoF) and NGO's can take initiative to disseminate the techniques of breeding and rearing of climbing perch to the Government and private hatchery operators for mass seed production.
- Bangladesh Fisheries Research Institute (BFRI) may organise regular training programme on climbing perch breeding and rearing technology for interested fish farmers, hatchery managers and graduate student of different universities.
- BFRI should continue the research programme of climbing perch to develop a low-cost culture system of this high valued species in collaboration with private fish farms and NGOs

Livelihood implications

Climbing perch is an important and endangered fish species having high market value, which will obviously play an important role for livelihood upliftment of the rural fish farmers. The farmers may come forward for adopting climbing perch rearing techniques from which they will be able to make more profit than carps and other species. The unutilised small ditches and ponds in different areas of Bangladesh can be used for culturing this species, which will ultimately change the livelihood of the rural poor.