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## Influence of Non-Genetic Factors on the Growth of Catfish (*Clarias gariepinus*)

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### Abstract

The objective of the present study was to assess the influence of non-genetic factors on the growth of *Clarias gariepinus* (Burchell 1822). A total of 4,000 and 2,400 *C. gariepinus* fingerlings with an average weight of  $120.18 \pm 24.02$  g and average total length of  $24.09 \pm 0.11$  cm were distributed respectively into two floating net cages (5 m  $\times$  5 m  $\times$  2.5 m) in Toho lake of Benin and two concrete tanks. Fish were hand-fed three times daily until apparent satiety, with a commercial pelleted floating feed containing 45% of crude protein, for 120 days. At the end of the experiment, 700 fish/tank and 1300 fish/cage were collected for measurements of body weight and total length. Mean Final weight and length, average daily weight gain, protein efficiency ratio (PER), specific growth rate (SGR) and feed conversion ratio (FCR) were also evaluated. The physico-chemical parameters of tanks and lake water were within suitable ranges for fish survival. The final average weight of cage fishes and tanks fishes was  $1137.38 \pm 323.79$  g (mean  $\pm$  SD) and  $654.81 \pm 59.45$  g, respectively. The results showed significant differences ( $p < 0.05$ ) in growth parameters between breeding systems. Fish bred in cages achieved significantly increased final weight and length, daily weight gain, PER, SGR and FCR than those from tanks ( $p < 0.05$ ). The results also revealed a significant influence of the farming system on fish growth ( $p < 0.05$ ). Nevertheless, there were no significant differences between tank and cage fish survival rates ( $p < 0.05$ ). This indicated that *C. gariepinus* growth was better in cages than in tanks. Cage culture of this species can help to improve its growth performance.

**Keywords:** Benin, *C. gariepinus*, floating cages, growth, non-genetic factors