Salinity and stocking density effect on growth and survival of Barbodes gonionotus (Bleeker, 1850) fry.

ABSTRACT

The effect of salinity and stocking density on the growth and survival of Barbodes gonionotus fry were studied. Experiments were carried out at the Aquaculture Research Station Puchong, Department of Aquaculture, Faculty of Agriculture, Universiti Putra Malaysia, Serdang, Selangor. Parameters measured once a week were total length (cm), weight (g) and survival (%). Water quality such as dissolved oxygen (DO), pH, ammonia, nitrite and temperature were monitored once in two days prior to the water change. During the study period, fry were fed ad libitum with commercial pellets (Star Feed with 42% Crude protein), two times daily at 09:00 and 17:00 h. In the first experiment, 2 cm B. gonionotus fry were used and place in 6 glass aquarium (58x38x38 cm). Fry were cultured at three stocking densities, 3, 5 and 8 fry L-1. At the end of culture period, it was found that B. gonionotus fry stocked at 3 fry L-1 showed significantly higher ($p<0.05$) final weight and total length. However, stocking density of 5 fry L-1 resulted the highest percentage of survival at the end of the experimental period. In the second experiment, B. gonionotus fry were cultured in water with four different salinities, 0, 5, 10 and 15 ppt. Similarly, 2 cm fry were used and placed in 6 glass aquariums (58x38x38 cm) with 40 L water. Treatment with 15 and 20 ppt were terminated due to mass mortality between 3-7 days of exposure. As for the rest of the treatments, it was found that B. gonionotus fry cultured at 0 ppt showed significantly higher ($p<0.05$) final body weight and total length as compared to 5 and 10 ppt. However, by the end of the experimental period, the percentage of survival was significantly the highest at 10 ppt. This study showed that B. gonionotus fry can be stocked at 3 fry L-1 without adverse effect on its growth and survival and survive well at 10 ppt.

Keyword: Barbodes gonionotus; Javanese carp; Final weight; Stocking; Survival; Total length.