

Growth of black sea bream *Acanthopagrus schlegeli*, experiencing weekly cycles of different numbers of feeding days and feed deprivation in floating sea cages

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An experiment was conducted to investigate the effects of the weekly cycles of feed deprivation and re-feeding on growth and feed consumption of black sea bream, *Acanthopagrus schlegeli* (initial mean weight 9.2 ± 1.9 g), cultured in floating sea cages. Fish were held under natural fall-winter ($34^{\circ}37' \text{ N}$, $127^{\circ}42' \text{ E}$) photoperiod and ambient water temperatures ($24.8\text{-}13.0^{\circ}\text{C}$, mean 18.8°C) for 12 weeks. Fish were fed to satiation feeding weekly cycles as follow; on day 7 (F_{7.0}), day 6 (F_{6.1}: 6 days feeding and 1 day deprivation), day 5 (F_{5.1}: 5 days feeding and 1 day deprivation), day 4 (F_{4.1}: 4 days feeding and 1 day deprivation), day 3 (F_{3.1}: 3 days feeding and 1 day deprivation), day 2 (F_{2.1}: 2 days feeding and 1 day deprivation) and every other day (F_{1.1}). At the end of experiment there was no significant difference in weight between the fish fed continuously (F_{7.0}) and those of F_{6.1}, F_{5.1}, F_{4.1} and F_{3.1} groups, but fish weight in F_{2.1} and F_{1.1} groups was significantly lower than that of control group and fish weight in F_{1.1} group was significantly lower than those of the other feeding groups ($P < 0.05$). The SGRs in F_{2.1} and F_{1.1} fish that had experienced the longest feed deprivation periods were always higher than those in the control fish during the experimental periods ($P < 0.05$). Total feed supplied to group F_{7.0}, F_{6.1}, F_{5.1}, F_{4.1}, F_{3.1}, F_{2.1} and F_{1.1} was 35.1, 30.1, 29.9, 29.1, 28.2, 26.7 and 22.6 kg, respectively. Feeding rates in F_{2.1} and F_{1.1} fish were always higher than those in the control fish during the experimental periods ($P < 0.05$). Overall food conversion efficiency in F_{2.1} fish for the 12 week feeding trial was only significantly higher than that in control fish ($P < 0.05$). The results could be applied to weekly feeding schedules for black sea bream culture in the floating sea cage during fall and winter season in Korea.

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