Comparisons on Growth Performance, Survivability, Organoleptic Qualities and Economic Feasibility of Asian Seabass (Lates calcarifer) Reared in Different Salinities

ABSTRACT

Asian seabass, Lates calcarifer is among the most cultured aquaculture species in the Southeast Asian region due to its remarkable tolerance for a diverse environmental fluctuation. In aquaculture, salinity has a direct influence on many biological, physiological and market value of any cultured fish. This study investigated the impacts of different salinities (0, 15, & 30 ppt) on Asian seabass growth, body indices, feeding performance, organoleptic qualities, and production cost for 85 days. Ninety fish were reared in 700-liter tanks equipped with recirculation system with 10 fish each tank. They were fed with commercial marine feed. The findings revealed Asian seabass in 15 ppt attained significantly higher ($p<0.05$) body weight (470.40 ± 41.16 g), total length (31.51 ± 0.81 cm), total feed intake (309.28 ± 35.66 g/fish) and daily feed intake (3.64 ± 0.42 g/fish/day) compared to 30 ppt but remained insignificant with 0 ppt. Meanwhile, there was no significant difference ($p>0.05$) in terms of body weight gain, specific growth rate, body indices, and feed conversion ratio of Asian seabass when reared in different salinities. The organoleptic qualities showed that rearing Asian seabass in different salinities has no significant effect ($p>0.05$) on odour, appearance, texture, and flavour score. However, the overall acceptance score of Asian seabass reared in 30 ppt (3.53 ± 0.22) was significantly higher ($p<0.05$) compared to 15 ppt but remained insignificant with 0 ppt. Economically, Asian seabass cultured in 15 ppt yielded the most optimal conditions for profitable production. The findings conclude 15 ppt can promotes enhanced growth performance and profitability, while 0 ppt and 30 ppt can promote consumer acceptance positively