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High growth rates of Asian seabass (Lates calcarifer Bloch, 1790) fry reared using a demand feeder with an image processing system for detecting fish behaviour

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Abstract

The feeding behaviour and growth rates of Asian seabass (Lates calcarifer Bloch, 1790) fry were studied using a new type demand (NTD) feeder. This feeding system was equipped with a programme to detect hunger behaviour in fish and automatically dispense pellets. This system could overcome hierarchy in fish during feeding. Fish rearing experiments were conducted to compare the NTD feeder with infrared light demand (ILD) and automatic timer (AT) feeders. The specific growth rate of body weight (SGR_{BW}) was significantly higher with the use of the NTD feeder than with the ILD or AT feeders. The specific growth rate of total length (SGR_{TL}) and feed conversion ratios (FCR) showed no significant differences among the three types of feeders. Fish feeding behaviour experiments were conducted, and the feeding frequencies were compared. The average feeding frequency and feeding amount per day by the NTD feeder were significantly higher than those by the ILD feeder. In the NTD

feeder, seabass ate small amounts of pellets with high frequencies at each feeding time. Therefore, high frequency feeding could be one of the reasons for the high growth rates of fish fed using the NTD feeder. © 2021 John Wiley & Sons Ltd

Abstract

Author keywords

fish behaviour; images processing system; new type demand feeder; specific growth rates

Indexed keywords

SciVal Topics

Metrics

Funding details

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