



Application of dried shrimp head in the diets of sea cucumber *Holothuria scabra*

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Abstract

This study aims to determine the suitability of dried shrimp head as part of the ingredient in formulated diet to promote growth of sea cucumber in captivity. The sea cucumber *Holothuria scabra* were divided into two tanks to test two different diets: Diet A (commercial diet supplemented with dried shrimp waste) and Diet B (commercial diet without dried shrimp waste). A total of 20 pieces of *H. scabra* per tank for each diet were involved in the experiment that lasted for 8 weeks. The weight increment of *H. scabra* from each tank was recorded weekly and survival rate (SR), weight gain rate (WGR) and specific growth rate (SGR) were calculated. Overall, *H. scabra* fed with Diet A showed higher WGR than *H. scabra* fed with Diet B, with increment of 30.57 % (12.10 g) recorded in Diet A to 14.26 % (11.18 g) for Diet B from their average initial weight. The overall SGR of Diet A and Diet B were 0.48 % and 0.24 %, respectively. SR remaining at 100 % for all treatments. Statistical analysis showed the average wet weight of Diet A was significantly higher ($p < 0.05$) than Diet B. Results showed the ability of sea cucumber *H. scabra* to consume and digest diet containing dried shrimp head, suggested that there is potential in using dried shrimp head to promote growth rates of sea cucumber. Using dried shrimp heads can be considered to make good use of shrimp farming waste.

Keywords: dried shrimp head, *Holothuria scabra*, sea cucumber diets