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Effects of culture condition towards fatty acids in a harpacticoid copepod, *Amphiascoides neglectus* (Lang 1965)

Zaleha Kassim

International Islamic University Malaysia, Malaysia

Copepods have been found as one of the best live feed in aquaculture. This study was carried out to determine the development time, growth performance and fatty acid content of a marine copepod, *Amphiascoides neglectus*, potentially become live feed for marine larval rearing. The laboratory experiments were designed to expose the population of *A. neglectus* to different sets of temperature, pH and salinity treatment. The copepods were maintained in the combination of salinity of 15, 25 and 35 ppt, pH of 5, 7, 9 and temperature of 25, 28, 35°C for 25 days under hygienic condition. Fatty acid content was determined using gas chromatography method. The life cycle consists of 6 naupliar stages, 5 copepodite stages and an adult stage. Total development time of each life stage was from 9 ± 3.61 h to 17 ± 2.65 h and range from 53.86 μm to 593.98 μm in size. Nauplii, copepodites and adult stage showed highest population density when cultured in 28°C, salinity 25 ppt and pH 9 (T28P9S25). The bad growth performance was shown when they were cultured in 35°C, salinity 15 and pH 5 (T35P5S15). *A. neglectus* cultured in T28P9S25 demonstrated the highest fatty acid content with linoleic acid C18:2n-6 (LA), eicosapentaenoic acid C20:5n-3 (EPA), docosahexaenoic acid C22:6n-3 (DHA), arachidonic acid C20:4n-6 (ARA) and linolenic acid C18:3n-3 (LNA). The findings of this study could become the baseline for the optimum culture condition of *A. neglectus*.

Biography

Zaleha Kassim has completed her PhD in 2001 from Universiti Putra Malaysia, Serdang. Her field of study is taxonomy and some ecological aspect of harpacticoid copepods. She is the Head of a marine research station which focus on the aquaculture and oceanography. She is involved in teaching undergraduate and postgraduate students in the field of aquaculture and oceanography. She is active in innovative and product invention research particularly in live feeds study. She leads many applied type of research grants as well as knowledge transfer program grant.

drzack@iium.edu.my

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