Lihat sebelah

POPULATION GROWTH OF THE MARINE CYCLOPOID COPEPODS (*Oithona* sp.) IN DIFFERENT CULTURE MEDIUMS

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ABSTRACT

Provision of copepod nauplii as food source increases the survival rate of fish and shrimp larvae. *Oithona* sp. is a marine cyclopoid copepods with culture potential. Different culture mediums (seawater, artificial seawater, probiotic seawater and green seawater) were tested to determine which is the best culture medium for copepods population growth. The experiment was carried out for 14 days. The initial density of the copepods in this experiment was one copepod per milliliter, cultured in 3 L plastic aquarium at temperature 26.9±1.4 °C, salinity 32.1±0.8 ppt, pH 7.8±0.1 and dissolved oxygen between 5.0 and 6.0 $mg.l^{-1}$. The final densities of *Oithona* sp. after 14 days of culture in seawater was 21.67±3.39 $copepods.ml^{-1}$, artificial seawater was 0.50±0.84 $copepods.ml^{-1}$, probiotic seawater was 18.00±1.41 $copepods.ml^{-1}$ and green seawater was 33.50±2.35 $copepods.ml^{-1}$. All the data were tested using ANOVA one - way and LSD test. The population growth of copepods cultured in four different culture mediums showed significant difference. The results showed that green seawater is the best culture medium while artificial seawater is the worst culture medium. Throughout the experiment, the generation time for the green seawater was twice while the seawater and probiotic seawater was once. The population growth decreased and no generation time occurred for the artificial seawater.

ABSTRAK

Peruntukan kopepod nauplii sebagai makanan bagi larva ikan dan udang boleh meningkatkan kadar kemandirian larva tersebut. *Oithona* sp. merupakan sejenis kopepod cyclopoid air laut yang berpotensi dikultur. Pelbagai media kultur (air laut, air laut tiruan, air laut probiotik dan air laut hijau) telah diuji untuk menentukan media kultur yang paling bagus untuk pertumbuhan populasi kopepod. Eksperimen ini dijalankan selama 14 hari. Densiti permulaan kopepod dalam eksperimen ini ialah satu kopepod.ml^{-1} dan dikulturkan di dalam 3 L akuarium plastik pada suhu 26.9±1.4 ^{o}C, saliniti 32.1±0.8 ppt, pH 7.8±0.1 dan oksigen terlarut 5.0 - 6.0 mg.l^{-1}. Selepas 14 hari, densiti akhir bagi kopepod yang dikultur dalam air laut ialah 21.67±3.39 kopepod.ml^{-1} manakala dalam air laut tiruan, air laut probiotik dan air laut hijau ialah 0.50±0.84 kopepod.ml^{-1}, 18.00±1.41 kopepod.ml^{-1} dan 33.50±2.35 kopepod.ml^{-1} masing-masing. Semua data yang diperoleh telah diuji dengan ANOVA satu hala dan ujian LSD dan menunjukkan perbezaan yang ketara. Keputusan menunjukkan bahawa air laut hijau merupakan media kultur yang paling bagus manakala air laut tiruan merupakan media yang paling tidak bagus untuk pertumbuhan populasi kopepod. Sepanjang eksperimen ini, terdapat dua kali masa generasi bagi kopepod yang dikultur di dalam air laut hijau manakala hanya terdapat satu kali masa generasi bagi kopepod yang dikultur dalam air laut dan air laut probiotik. Dalam air laut tiruan, pertumbuhan populasi kopepod berkurang dan tidak mempunyai masa generasi.