Growth performance of brown-golden marine microalga, Isochrysis sp., cultivated in alternative algal culture media

ABSTRACT

The present study aimed to evaluate the suitability of introduced algal culture media as an alternative to the general enriched seawater media in the laboratory cultivation of Isochrysis sp., a marine microalga commonly cultivated for aquaculture purposes. Isochrysis sp. was established into culture in three replications using three experimental algal culture media (Walne's medium as a control, China-contributed culture medium (CCM) and CCM supplemented with vitamins (CCM + Vit)). The experiment was performed with a continuous illumination for a period of seven days at 25±1°C. The effect of introduced algal culture media (CCM and CCM + Vit) on the growth performance of Isochrysis sp. was highlighted. CCM demonstrated promising results for the cultivation of Isochrysis sp. A maximum cell density of 9.16×106 ± 5.40×105 cells mL-1, which corresponded to an instantaneous growth rate (r) of 0.21 cell day-1 and a doubling time (T2) of 3.29 days, was observed in Isochrysis sp. cultivated in CCM. In view of its potential and reduced preparation labour, CCM may be recommended as an alternative to the general enriched seawater media in the cultivation of Isochrysis sp. in laboratories with basic facility as well as small- and medium-scale aquaculture hatcheries.