

Effect of different nitrogen sources on growth performance of marine phytoplankton *Nannochloropsis* sp. and *Cheatoceros* sp.

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Nannochloropsis sp. and *Chaetoceros* sp. are marine phytoplankton/microalgae that belong to phylum Ochrophyta. They are important in the aquaculture field as a live feed for larval stages of finfish and shellfish. The present experiment was conducted to identify the effect of nitrogen sources on growth performance of *Nannochloropsis* sp. and *Chaetoceros* sp. For this study, F/2 culture media was used as a medium in control culture which contained NaNO₃ as the source of nitrogen. The culture media were also prepared by using KNO₃ (9 gL⁻¹), CH₄N₂O (urea) (27 gL⁻¹) and NH₄Cl (47.3 gL⁻¹) as the sources of nitrogen. Algae cultures were prepared in triplicates for all treatments in *Nannochloropsis* sp. and two replicates were prepared for *Chaetoceros* sp. and cultured under the indoor condition, maintaining a constant temperature (27.0 °C) and salinity (25.0 ppt) with continuous aeration. The results of ten days experiment revealed that there were significant differences for cell density and chlorophyll-*a* (chl-*a*) with the sampling day and nitrogen source (Two-way ANOVA: p<0.05). Significantly high cell density and chl-*a* content were reported in the culture treated with nitrogen source as urea than that of other cultures treated with NaNO₃ (control culture), KNO₃ and NH₄Cl. The significantly high cell density and chl-*a* were reported in second sampling (3rd day for *Nannochloropsis* sp. and 4th day for *Chaetoceros* sp.) from cultures than that of the other sampling. Urea can be recommended as a more effective source of nitrogen for F/2 culture media to obtain high biomass of both species of microalgae. This study provides the information on effectiveness of nitrogen source on growth performance of marine microalgae which can elevate the biomass of *Nannochloropsis* sp. and *Chaetoceros* sp.

Keywords: *Nannochloropsis* sp., *Chaetoceros* sp., nitrogen sources, cell density, chlorophyll-*a*

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