

**Effects of Suspended Solids in Natural Seawater on Microalgal Biomass Productivity**

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Various sizes of suspended solids (SSs) exist in natural seawater, and different SSs may influence microalgal biomass productivity or not. In the prior study, removal of all SSs by microfiltration increased biomass productivity in microalgal cultures. The SSs were fractionated by their sizes, and the effect of each fraction on the growth of a green microalga, *Tetraselmis* sp. KCTC12433BP was investigated. SSs were fractionated by a filtering system with glass microfiber filters, which pore sizes were 0.2  $\mu\text{m}$  (A), 0.7  $\mu\text{m}$  (B), 1.2  $\mu\text{m}$  (C), and 3.0  $\mu\text{m}$  (D). The f/2-Si medium was mixed with natural seawater containing each fractions. The highest daily biomass productivity, 0.27 g/L/day, was obtained the experimental group D, and the cultures with fraction B, C, and A followed after. In the control group, which contained whole SSs, the daily biomass productivity was decreased by 57%. Suspended solids with the size between 1.2  $\mu\text{m}$  and 3.0  $\mu\text{m}$  seem to have positive effect while SSs that are larger than 3.0  $\mu\text{m}$  seem to have negative effect on the growth of the microalga. Further research will be on identifying the elements responsible for growth promoting or inhibiting effects in each fraction of SSs.