

## Growth Promotion Effects of Suspended Solids in the Costal Seawater of Youngheung Island

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Microalgae have many properties as feedstock for biofuels production, but a great volume of water is required for microalgal biomass production. Cultivation of marine microalgae using seawater can substantially reduce the usage of freshwater in microalgal biofuels production. Seawater contains various dissolved compounds and suspended solids (SSs) with various properties. The effects of SSs, which include bacteria and soil particles, on the growth of a marine microalga, *Tetraselmis* sp. KCTC12433BP, was investigated in this study. The SSs in seawater were fractionated with filtration by filter membranes with various pore sizes. While the SSs which size were 1.2 – 3.0  $\mu\text{m}$  improved the biomass productivity of *Tetraselmis* sp., SSs larger than 3.0  $\mu\text{m}$  decreased the biomass productivity. It has been reported that some bacteria promote growth of microalgae whereas some zooplankton prey on microalgae. The SSs at 1.2 – 3.0  $\mu\text{m}$  were screened for isolation of such promoting bacteria. Six species of bacteria were isolated from the SSs: *Algoriphagus* sp., *B. aquimaris*, *B. vietnamensis*, *L. litoralis*, *R. bacterium*, *Roseobacter* sp. Further research will be on the effects of each bacterial isolates on the growth of *Tetraselmis* sp., and the interaction between the SSs and the growth of cells.