

Characteristics of *Chlorella vulgaris* mutants by UV-B radiation

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The microalgae are unicellular photosynthetic organisms that use light energy and carbon dioxide, with higher photosynthetic efficiency than plants for the production of biomass. The micro-algae are unicellular photosynthetic organisms and produce the pigments like chlorophyll and carotenoid. *Chlorella* was contained the much protein and functional component like lipid, chlorophyll and carotenoids. We induced mutants of *Chlorella vulgaris*(*C. vulgaris*) through ultraviolet radiation(UV-B) and selected two mutants by pigment(chlorophyll and carotenoids) contents. We named mutants 'UBM1-2', 'UBM2-57' and they were cultivated for 21-days. We were measured to cell growth, dry cell weight, protein content, lipid and pigments content. The result of analysis to cell growth, dry cell weight and protein content, the mutants were slower than wild type. But, UBM1-2 of lipid content was increased 21% compared to wild type. Especially, the mutants of chlorophyll content were increased 37%, 89% compared with wild type and carotenoids content were increased 27%, 70% compared with wild type.