

Characteristics of *Arthrospira platensis* mutants by UV-B radiation

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Arthrospira platensis (*A. platensis*) is an economically important filamentous cyanobacterium that is commercially produced as a source of human health food, animal feed, and cosmetic colorants. Isolation of mutants by chemical or physical mutagen is a clue for strain improvement. In this study, effects of ultraviolet-B (UV-B) radiation on *A. platensis* were investigated and several mutants by UV-B were obtained. The *A. platensis* were exposed to UV-B (15 Watt, 254 nm) for 1, 3, 5 and 10 min, and then spread on the solid plate. The resulting colonies were isolated and further cultured in liquid medium. After 12 days after cultivation, biomass, protein, chlorophyll, carotenoid and lipid content were measured. The lipid content of mutants by Nile red fluorescence was considerably increased about 11-fold compared to wild type. However, biomass, protein and pigments level of mutants was not significantly different. Development of microalgae strain producing high lipid content will be useful in the fuel industry.