Lipid production from microalgae as a promising candidate for biodiesel production

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Abstrak

Recently, several strains of microalgae have been studied as they contain high lipid content capable to be converted to biodiesel. Fresh water microalgae Chlorella vulgaris studied in this research was one of the proof as it contained high triacyl glyceride which made it a potential candidate for biodiesel production. Factors responsible for good growing of microalgae such as CO2 and nitrogen concentration were investigated. It was found that total lipid content was
increased after exposing to media with not enough nitrogen concentration. However, under this nitrogen depletion
media, the growth rate was very slow leading to lower lipid productivity. The productivity could be increased by
increasing CO2 concentration. The lipid content was found to be affected by drying temperature during lipid extraction
of algal biomass. Drying at very low temperature under vacuum gave the best result but drying at 60oC slightly decreased the total lipid content.