

Pengaruh Media dan Kondisi Penyimpanan Terhadap Kandungan Protein dan Antioksidan Mikroalga *Spirulina Maxima* Sebagai Bahan Pangan Fungsional (Effect of Media and Storage Types on Protein and Antioxidants Content of Microalgae *Spirulina Maxima* as Functional Food Materials)
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ABSTRACT

Spirulina maxima is a type of microalgae which has a protein content of 55-70% from the total weight of dry biomass. The protein and bioactive peptide content of *Spirulina maxima* has the potential to be used as a functional food. The purpose of this research was to determine the effect of media and storage on growth, productivity, protein content, phycobiliprotein and antioxidants of the microalgae *Spirulina maxima*. The research was conducted by growing *Spirulina maxima* in ZM (Zarrouk Medium) sea water and fresh water. Biomass *Spirulina maxima* was stored using the oven drying and freezing method as the treatment variable in this research. *Spirulina maxima* biomass extraction was carried out using the freeze thaw method in dark conditions. The results of the research on fresh water media have higher growth and productivity of biomass than sea water media. The highest protein content was obtained in *Spirulina maxima* wet biomass from fresh water media with a value of 0.37 ± 0.11 mg/ml. The highest content of Phycocyanin and Phycoerythrin was obtained in *Spirulina maxima* wet biomass from fresh water media with values of 116.42 ± 17.81 g/ml and 27.87 ± 0.01 g/ml. The highest Allophycocyanin content was obtained in *Spirulina maxima* wet biomass from sea water media with a value of 48.82 ± 9.32 g/ml. The lowest IC50 value was obtained in *Spirulina maxima* dry biomass from Sea water media with a value of 3.79 ± 0.29 mg/ml.

Keywords: Antioxidant, Phycocyanin, Protein, *Spirulina maxima*.