

ABSTRAK

ANALISIS KANDUNGAN PROTEIN DALAM MIKROALGAE *Nitzschia* sp. DARI HUTAN MANGROVE LAMPUNG TIMUR

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Protein merupakan zat yang penting bagi tubuh, diantaranya untuk proses pembentukan sel-sel baru sehingga dapat memperbaiki jaringan tubuh yang rusak. Salah satu mikroalga yang memiliki kandungan protein yang cukup tinggi yaitu mikroalga *Nitzschia* sp. Mikroalga ini memiliki kelebihan diantaranya tingkat pertumbuhan yang cepat dan produktivitas biomassa yang tinggi. Tujuan dari penelitian ini untuk mengkultivasi dan menganalisis kandungan protein mikroalga *Nitzschia* sp. dari hutan Mangrove Lampung Timur dengan metode Lowry. Mikroalga *Nitzschia* sp. dikultivasi, diekstraksi dengan buffer fosfat dan dianalisis kandungan protein menggunakan Spektrofotometri Uv Vis pada λ_{maks} 650 nm. Kurva kalibrasi larutan standar BSA ditentukan pada rentang konsentrasi 0 sampai 100 ppm, diperoleh nilai koefisien korelasi (r) sebesar 0,9959, dengan batas deteksi sebesar 16,275 $\mu\text{g/mL}$, nilai presisi *repeatability* sebesar 0,014 %, dan nilai persen *recovery* sebesar 91,684 %. Berdasarkan hasil pengujian diperoleh kandungan protein mikroalga *Nitzschia* sp. sebesar 35,04%.

Kata kunci: Mikroalga *Nitzschia* sp., Spektrofotometri Uv Vis, metode Lowry, verifikasi

ABSTRACT

ANALYSIS OF PROTEIN CONTENT IN MICROALGAE *Nitzschia* sp. FROM EAST LAMPUNG MANGROVE FOREST

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Protein is an important substance for the body, including for the process of forming new cells so that they can repair damaged body tissues. One of the microalgae that has a fairly high protein content, namely microalgae *Nitzschia* sp. This microalgae has advantages including fast growth rate and high biomass productivity. The purpose of this study was to cultivate and analyze the protein content of the *Nitzschia* sp. microalgae. from East Lampung Mangrove forest with Lowry method. *Nitzschia* sp. microalgae was cultivated, extracted with phosphate buffer and analyzed for protein content using Uv Vis Spectrophotometry at λ_{\max} 650 nm. The calibration curve for the BSA standard solution was determined at a concentration range of 0 to 100 ppm, a correlation coefficient (r) of 0.9959 was obtained, with a detection limit of 16.275 $\mu\text{g/mL}$, a repeatability precision value of 0.014%, and a percent recovery value of 91.684%. Based on the test results, the protein content of *Nitzschia* sp. microalgae was obtained. by 35.04%.

Keywords: *Nitzschia* sp. microalgae, Uv Vis Spectrophotometry, Lowry method, verification