

**PENGARUH *INDOLE ACETIC ACID* (IAA) TERHADAP  
PERTUMBUHAN DAN KADAR LIPIDA *Nannochloropsis oculata***

WILDAN KHURIL'AIN

NIM 1127020080

**ABSTRAK**

*Nannochloropsis oculata* merupakan salah satu mikroalga potensial yang dapat dikembangkan di Indonesia. *N. oculata* memiliki jumlah lipida cukup tinggi serta dapat dimanfaatkan sebagai *biofuel* dan *biodiesel*. *Indole Acetic Acid* merupakan salah satu fitohormon yang dapat meningkatkan pertumbuhan mikroalga dan kadar lipida *Nannochloropsis oculata*. Tujuan penelitian ini adalah untuk meningkatkan pertumbuhan dan kadar lipida *Nannochloropsis oculata* dengan memeberikan perlakuan IAA. Penelitian dilakukan menggunakan Rancangan Acak Lengkap (RAL) dengan 5 perlakuan yaitu IAA 0 ppm, IAA 5 ppm, IAA 10 ppm, IAA 15 ppm dan IAA 20 ppm. Pertumbuhan sel diamati menggunakan sprektofotometer dan analisis lipid dilakukan menggunakan metode Bligh & Dyer. Sedangkan kadar klorofil dihitung berdasarkan metode arnon. Berdasarkan Hasil pengamatan dapat diketahui bahwa pertumbuhan mikroalga *Nannochloropsis oculata* tertinggi didapat pada perlakuan IAA 15 ppm dengan jumlah kerapatan 0,84 sel/ml , nilai berat basah dan berat kering paling tinggi didapat pada konsentrasi IAA 20 ppm yaitu berat Basah 1,70 gr dan berat kering 0,30 gr , nilai klorofil a tertinggi didapati pada perlakuan IAA 15 ppm dengan nilai 2,40 mg/L, klorofil b tertinggi terdapat pada perlakuan IAA 15 ppm dengan nilai 2,51 mg/L dan kadar lipida tertinggi terdapat pada perlakuan IAA 20 ppm dengan kadar lipida 30 %

**Kata Kunci :** *Indol Acetic Acid*, Kadar Lipida, Klorofil, *Nannochloropsis oculata*,  
Pertumbuhan sel

**EFFECT *INDOLE ACETIC ACID*(IAA) ON THE GROWTH AND LIPID  
CONTENT OF *Nannochloropsis oculata***

WILDAN KHURIL'AIN

NIM 1127020080

**ABSTRACT**

*Nannochloropsis oculata* is one of the potential microalgae that can be developed in Indonesia. *N. oculata* Has high amount of lipid and can be used as biofuel and biodiesel. Indole Acetic Acid is one of phytohormones that can increase the growth of microalgae and lipid levels of *Nannochloropsis oculata*. The purpose of this study was to increase growth and lipid levels of *Nannochloropsis oculata* by giving IAA treatment. The research was conducted using Completely Randomized Design (RAL) with 5 treatment IAA 0 ppm, IAA 5 ppm, IAA 10 ppm, IAA 15 ppm and IAA 20 ppm. Cell growth was observed using spektrofotometer and lipid analysis was performed using Bligh & Dyer method. While the chlorophyll content is calculated based on arnon method. Based on the observation result, it can be seen that the highest growth of *Nannochloropsis oculata* microalgae is obtained at IAA 15 ppm with the density 0,84 cell / ml, the highest wet weight and dry weight is found at IAA 20 ppm concentration which is Wet weight 1.70 gr and weight dry 0.30 gr, the highest value of chlorophyll was found in the treatment of IAA 15 ppm with the value of 2.40 mg / L, the highest chlorophyll b was in the treatment of IAA 15 ppm with the value of 2.51 mg / L and the highest lipid levels were in IAA treatment 20 ppm with a lipid content of 30%

**Keywords:** *Indole Acetic Acid*, lipid levels, chlorophyll, growth, *Nannochloropsis oculata*