

Pengaruh penambahan variasi konsentrasi hco₃ terhadap produksi lemak nannochloropsis sp = Effect of variations in the concentration of hco₃ on lipid production of nannochloropsis sp

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Abstrak

Penelitian pengaruh berbagai konsentrasi HCO₃ - terhadap produksi lemak Nannochloropsis sp. telah dilakukan. Tujuan dari penelitian adalah mendapatkan konsentrasi HCO₃ - yang dapat meningkatkan biomassa dan lemak Nannochloropsis sp. Penelitian dilakukan selama 14 hari. Perlakuan yang diberikan terhadap medium berupa kontrol dan penambahan HCO₃ - sebesar 25, 50, 100, dan 200 ppm.

Hasil penelitian menunjukkan bahwa rerata biomassa tertinggi didapat dari penambahan HCO₃ - 200 ppm, yaitu 3,848 gram per liter dengan kadar dan produktivitas lemak sebesar 16,135% berat kering dan 4,39746 g/l/hari. Sementara itu, rerata biomassa terendah didapat dari penambahan HCO₃ - 25 ppm, yaitu 1,8689 gram per liter dengan kadar dan produktivitas lemak sebesar 20,238% berat kering dan 2,66532 g/l/hari.

Tidak terdapat perbedaan kadar lemak pada kontrol, perlakuan dengan penambahan HCO₃ - 25, 50, dan 100 ppm. Dengan demikian, peningkatan kadar lemak Nannochloropsis sp. dapat dilakukan dengan menambahkan HCO₃ - dengan konsentrasi tidak lebih dari 100 ppm.

Research the effect of various concentrations of HCO₃ - on lipid productions of Nannochloropsis sp. has been done. The purpose of this research is to obtain the concentration of bicarbonate which able to increase the biomass and lipid productions of Nannochloropsis sp. This research was conducted for 14 days. The treatments have been given to the medium are the control and with the addition of HCO₃ - at 25, 50, 100, and 200 ppm.

The results showed that the mean of the highest biomass obtained from the addition of HCO₃ - 200 ppm, that is equal to 3,848 grams per litre with lipid content and productivity of 16,135% dry weight and 4,39746 g/l/day. Meanwhile, the lowest biomass was obtained from the addition of HCO₃ - 25 ppm, that is equal to 1,8689 grams per litre with lipid content and productivity of 20,238% dry weight and 2,66532 g/l/day.

There were no differences in lipid content on control, treatment with the addition of HCO₃ - 25, 50, and 100 ppm. Hence, the increase of lipid content on Nannochloropsis sp. can be done by adding HCO₃ - without over than 100 ppm.