Environmental Engineering and Management Journal *July 2011, Vol.10, No. 7, 909-912*
http://omicron.ch.tuiasi.ro/EEMJ/

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CULTIVATION OF *Chlorella sp*. IN ANAEROBIC EFFLUENT FOR BIOMASS PRODUCTION

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Abstract

This study investigated the effectiveness of using anaerobic effluent as a nutrient supplement for cultivation of green algae *Chlorella* sp. Different concentration of 0%, 15%, 30%, 45%, 60%, 75%, 90% and 100% which were raw (group "r") as well as autoclaved (group "a") were applied to the anaerobic effluent and algae growth. They were compared in terms of growth rate and final algae biomass production. In the initial cultivation days, slower growth rates with an increased anaerobic effluent concentration and higher nutritional strength were observed. The dry weight and OD of the 10 days provides a linear relationship (R^2> 0.990). The *Chlorella* sp. shows the highest growth rate of 30%-a (0.3458 d^{-1}) and the highest algae biomass (dry weight) of 75%-a (0.74g/L). Autoclaved process could improve the conditions for algae growth since the group "a" is superior to group "r" both in growth rate and final algae biomass production.

Key words: Chlorella sp., anaerobic effluent, biomass production, growth rate

Received: March, 2011; Revised final: July, 2011; Accepted: July, 2011

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