

UNIVERSITI TEKNOLOGI MARA

**THE EFFECT OF DIFFERENT
FERTILIZATION TREATMENTS ON
THE GROWTH RATE OF
Gracilaria sp.**

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of the requirements for the degree of
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AUTHOR'S DECLARATION

I declared that the work in this thesis was carried out in accordance with the regulations of Universiti Teknologi MARA (UiTM). It is a result of my research and originally my own effort, unless it was indicated or acknowledged as reference work. This paper has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

Thus, I have been acknowledging that this thesis has been supported with the Academic Rules and Regulations for Undergraduate of Universiti Teknologi MARA, relating to my study and research.

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ABSTRACT

Conway medium has been widely used in microalgae culture as another kind of plant's supplement, especially for seaweed. Many positive results were observed. This study was conducted to compare the effect of fertilizer treatments and the aeration supply towards the growth of sea plants, *Gracilaria* sp. The experiment conducted based on three different kinds of fertilizers, which are the Conway medium and another two compounds of urea and NPK fertilizer as one of the treatment and the present of water circulation during algae cultivation. The environment and seaweed parameters were measured daily together with the growth rate of the *Gracilaria* sp. cultured in six days experimental period. The data obtained were analyzed using Two-way ANOVA. Generally, in the cultivation of seaweed without aeration, water treatment with Conway media gives an upbeat impression with the best percentage of Daily Growth Rate (DGR) per day (>2%). While in the cultivation without aeration, urea was recorded to give the highest growth rate among the other fertilizer treatments. This concluded that both treatments of fertilizers and aeration system play important roles in micro and macroalgae cultivation. The nutrients contained in each of the fertilizer treatments and also the parameters and external factors that contributed to the increasing or decreasing of the DGR value. In the end, this study shows the ability of three different fertilizer treatments on *Gracilaria* sp. to sustain the growth rates among the higher measured for outdoor cultures.

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