

**UNIVERSITI TEKNOLOGI MARA**

**THE STUDY OF ANTIOXIDANT  
ACTIVITY OF *Caulerpa lentillifera*  
AND *Caulerpa racemosa***

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Thesis submitted in fulfillment  
of the requirements for the degree of  
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## AUTHOR'S DECLARATION

I declare that the work in this thesis was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the results of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

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## ABSTRACT

Oxidative stress is a dangerous condition which arises when there is imbalance between free radical and antioxidant rates which become one of the main concern worldwide due to its pathological effect. Antioxidant act as defense mechanism in body to protect biological areas from appearance of free radicals in cells. This study centralized on determining potential antioxidant activity of *Caulerpa lentillifera* and *Caulerpa racemosa* extract through TPC, DPPH and FRAP assay. Percentage yield of these seaweeds extracts acquired was 20% using 95% ethanol as extraction solvent. Total phenolic content of *Caulerpa racemosa* and *Caulerpa lentillifera* extract at highest concentration of 100 µg/ml were at  $443.34 \pm 0.16$  µg GAE/g and  $394.08 \pm 0.04$  µg GAE/g, respectively. While, percentage scavenging activity of *Caulerpa racemosa* and *Caulerpa lentillifera* extract at 100 µg/ml were on 65.59% and 63.73%. At 100 µg/ml, FRAP value of *Caulerpa racemosa* and *Caulerpa lentillifera* extract were at  $565.94 \pm 0.03$  µg AAE/g and  $453.89 \pm 0.05$  µg AAE/g, respectively. Through all the tests that have been done in this study, both of the samples were seen to have a potential in health promoting product to fight the pathological effect of free radicals due to their antioxidant activity ability.

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