

THE EFFECT OF SALINITY ON ANTIOXIDANT ACTIVITIES
AND PIGMENT CONTENTS IN *Aglaonema simplex*
CULTURES

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**THE EFFECT OF SALINITY ON ANTIOXIDANT ACTIVITIES AND PIGMENT
CONTENTS IN *Aglaonema simplex* CULTURE**

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Adalah ini diakui dan disahkan bahawa laporan PITA bertajuk, The Effect of Salinity Stress on Antioxidants and Pigments of *Aglaonema simplex* Cultures no matrik: UK 23655 telah diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Sains Biologi sebagai memenuhi sebahagian daripada keperluan memperolehi Ijazah SARJANA MUDA SAINS (SAINS BIOLOGI), Fakulti Sains dan Teknologi, Universiti Malaysia Terengganu

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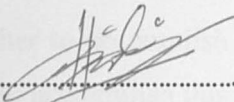
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DECLARATION

I hereby declare that this FYP research report entitled the effect of salinity stress on pigments and antioxidants of *Aglaonema simplex* cultures is the result of my own research except as cited in the references.

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THE EFFECT OF SALINITY ON ANTIOXIDANT ACTIVITIES AND PIGMENT CONTENTS IN *Aglaonema simplex* CULTURE

ABSTRACT

The plant growth, metabolisms, and productivity can be affected by the various environmental stresses such as salinity. The effect of salinity stress on growth, activities of antioxidants and pigments of *Aglaonema simplex* was investigated. The plantlets were cultured in MS medium containing NaCl at concentrations of 0, 100 and 200 mM for 30 days. The results showed the significant decreases of plant fresh weight specifically at final treatment periods. The chlorophyll content, total phenol, flavonoid, carotenoid, and α -tocopherol were decreased the concentration of NaCl increases especially at the longer treatment periods. Moderate concentration of NaCl is suitable to enhance production of secondary metabolites in *A. simplex* cultures.

**KESAN TEKANAN KEMASINAN TERHADAP PIGMEN DAN AKTIVITI
ANTIOKSIDA DALAM KULTUR *Aglaonema simplex***

ABSTRAK

Tumbesaran, metabolisme, and penghasilan tumbuhan boleh dipengaruhi oleh pelbagai jenis tekanan daripada alam sekitar seperti tekanan air masin. Kesan tekanan kemasinan terhadap tumbesaran, aktiviti antioksidan dan pigmen pokok *Aglaonema simplex* telah dikaji. Anak pokok telah dikultur dalam media MS yang mengandungi kadar kemasinan yang berbeza; 0, 100, 200 mM selama 30 hari. Hasil kajian telah menunjukkan penurunan yang ketara bagi berat bersih pokok terutama pada peringkat terakhir kajian. Kandungan klorofil, jumlah kandungan fenol, flavanoid, karotenoid, dan α -tokoferol telah menurun berikutan kenaikan kepekatan NaCl terutama pada peringkat pendedahan kepada tekanan yang lama. Terdapat sesetengah penghasilan antioksidan telah menaik dengan jelas terutama pada peringkat kepekatan kemasinan yang sederhana. Hasil kajian menunjukkan bahawa berat, aktiviti antioksidan, kandungan klorofil dan karotenoid telah dipengaruhi oleh NaCl. Kepekatan NaCl yang sederhana adalah yang sesuai untuk meningkatkan penghasilan metabolisme dalam pokok.