[illegible] OF SEA WATER FOR GROWTH AND [illegible] OF *AGLAONEMA SIMPLEX*

[illegible]

FAKULTI SAINS DAN TEKNOLOGI
KOLEJ UNIVERSITI SAINS DAN TEKNOLOGI MALAYSIA

2006

MANIPULATION OF SEA WATER FOR GROWTH AND PROLIFERATION OF *AGLAONEMA SIMPLEX*

By

Sitty Nur Syafa Bakri

Research Report submitted in partial fulfillment of
the requirements for the degree of
Bachelor of Science (Biological Sciences)

Department of Biological Sciences
Faculty of Science and Technology
KOLEJ UNIVERSITI SAINS DAN TEKNOLOGI MALAYSIA
2006

This project should be cited as:

Bakri, S.N.S. 2006. Manipulation of sea water for growth and proliferation of *Aglaonema simplex*. Udergraduate thesis, Bachelor of Science (Biological Sciences), Faculty of Science and Technology, Kolej Universiti Sains dan Teknologi Malaysia. Terenganu. 37pp.

JABATAN SAINS BIOLOGI
FAKULTI SAINS DAN TEKNOLOGI
KOLEJ UNIVERSITI SAINS DAN TEKNOLOGI MALAYSIA

PENGAKUAN DAN PENGESAHAN LAPORAN
PROJEK PENYELIDIKAN I DAN II

Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk: **MANIPULATION OF SEAWATER FOR GROWTH AND PROLIFERATION OF *Aglaonema simplex*** oleh **SITTY NUR SYAFA BAKRI**, no. matrik: **UK 9004** telah diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Sains Biologi sebagai memenuhi sebahagian daripada keperluan memperolehi ljazah **SARJANA MUDA SAINS (SAINS BIOLOGI)** , Fakulti Sains dan Teknologi, Kolej Universiti Sains dan Teknologi Malaysia.

Disahkan oleh:

.....

Penyelia Utama

Nama: **Dr. Aziz Ahmad**

Cop Rasmi:

DR. AZIZ BIN AHMAD (Ph.D)
LECTURER
Dept of Biological Sciences
Fakulty of Science and Technology
University Collage of Science
and Technology Malaysia
21030 Kuala Terengganu.

Tarikh: 20/4/2006.

.....

Penyelia Kedua (jika ada)

Nama:

Cop Rasmi

Tarikh: .....

.....

Ketua Jabatan Sains Biologi

Nama: **Prof. Madya Dr.Nakisah Mat AMin**

Cop Rasmi:

PROF. MADYA DR. NAKISAH BT. MAT AMIN
Ketua
Jabatan Sains Biologi
Fakulti Sains dan Teknologi
Kolej Universiti Sains dan Teknologi Malaysia
(KUSTEM)
21030 Kuala Terengganu

Tarikh: 25 APRIL 2006

ACKNOWLEDGMENT

In the name of Allah, The most gracious and the most merciful

First things first, my greatest thanks to Allah S.W.T for his bless and graciousness who provide me with on ideas until this research were done.

Special thanks go to my supervisor, Dr. Aziz Ahmad for the opportunity, trustiness, supervised and guidance he had given me along the way to complete my final year project.

Not to forget, En.Mazrul, Kak Rokiah, Kak Nyuk Ling and all lab staff of Biology department for their dedication and patient to help me anytime I need. Also, to all my course mate and friends that involves direct or indirectly to the successful of this project, thank you so much.

Most important, special dedicate to Fisah, Syida and Lela, thanks for all the encouragement, support and happiness you three had give to me during my lifetime in KUSTEM. Also to my lovely room mates Lai and Rose, thanks for the tenderness,care and moment that we had share together. Last but not least, for most important person in my life, without you two guys, I cannot make this myself. This is for youummi, Rohayati Abd.Wahab and for you too my honey JayB, you are the greatest things god ever sent to me, sarangee b upaa

TABLE OF CONTENT

LIST OF TABLES

LIST OF ABBREVIATIONS

cm	-	centimeter
g	-	gram
mM	-	mili Molar
M	-	Molar
ppt	-	part per trillion
^{o}C	-	celcius
%	-	percentage

ABSTRACT

The manipulation of seawater for growth and proliferation of *Aglaonema simplex* was investigated. The research was done successfully using various concentrations of seawater. For determination of suitable seawater for plant growth, 0, 3, 5, 10 and 15 ppt was manipulated for 1, 3, 7, 15 and 30 days. Media MS (Murashige and Skoog, 1962) was used as control (0 ppt). The survival rate of the plant was used as parameter to choose the suitable seawater. The suitable seawater, (3, 5, and 10 ppt) were than manipulated. The survival rate, mean fresh weight and number of new plantlet were the parameters used to determine effect of seawater to *A. **simplex*** and observed every 10 for 30 days of treatment. The results showed that 3, 5 and 10 ppt of seawater were suitable salinity to growth and proliferation of the plants. Besides, EDTA or ethylene diaminete tetra acetate acid also manipulated during this research in order to buffer the ions of seawater. All the parameters that had been observed show no significance found.

MANIPULASI AIR LAUT UNTUK PERTUMBUHAN DAN PROLIFERASI

Aglaonema simplex

ABSTRAK

Air laut telah dimanipulasikan untuk mengkaji kesan air laut keatas pertumbuhan pokok *Aglaonema simplex*. Kajian ini dijalankan menggunakan pelbagai kepekatan air laut. Bagi penentuan air laut yang sesuai untuk pertumbuhan pokok, 0, 3, 5, 10 dan 15ppt telah diuji untuk 1,3,7,15 dan 30 hari. MS media (Murashige and Skoog, 1962) telah digunakan sebagai kawalan (0 ppt). Air laut yang sesuai ditentukan berdasarkan kebolehan pokok untuk hidup pada kepekatan yang diuji. Seterusnya, Kepekatan air laut yang sesuai (3, 5 dan 10 ppt) dimanipulasi. Bilangan pokok yang hidup, mean berat basah dan bilangan anak pokok baru yang tumbuh adalah parameter yang diperhatikan untuk menentukan kesan air laut keatas *A. simplex*. Ini diperhatikan setiap 10 hari selama 30 hari. Keputusan menunjukkan 3, 5 dan 10 ppt air laut adalah sesuai untuk pertumbuhan dan pertambahan pokok *A. simplex*. Disamping itu, EDTA atau asid etilin diamin tetra asetat turut dimanipulasikan untuk menyeimbangkan ion-ion yang terdapat pada air laut. Didapati, tiada perbezaan yang ketara wujud antara parameter yang diperhatikan.