ESTABLISHMENT OF TISSUE CULTURE OF *Hibiscus tiliaceus*

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2007

Lihat sebelah

ESTABLISHMENT OF TISSUE CULTURE OF *Hibiscus tiliaceus*

By
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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
UNIVERSITI MALAYSIA TERENGGANU
2007

This project should be cited as:

Nieliana, N. 2007. Establishment of Tissue Culture of *Hibiscus tiliaceus*. Undergraduate thesis, Bachelor of Biological Sciences, Faculty of Science and Technology, Universiti Malaysia Terengganu , Terengganu. 32p.

UNIVERSITI MALAYSIA TERENGGANU

JABATAN SAINS BIOLOGI
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UNIVERSITI MALAYSIA TERENGGANU

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ACKNOWLEDGEMENT

Alhamdulillah, finally I'm able to finish my Final Year Project title Establishment of tissue culture of *Hibiscus tiliaceus*. I would like to appreciate my project supervisor and a very thankful to Dr. Aziz bin Ahmad for his brilliant advice, unambiguous guidance, constructive comments, develop most of the ideas of this topic and undivided patience throughout the course of this project.

I am also glad to express my thanks to my lovely parents, Na'aim bin Abdul Ghani and Latifah Wan Ahmad Bujang for their support, patience and endless love that their give to me. Special thanks to Mohd Khairul Nizam bin Mohamed Nor for his physically and mentally support.

Thankful to Tuan Haji Razali, Encik Mazrul and Puan Fatimah, your deed is etched in my mind for continuous help and guidance.

To my friend, Ikhmal Hisham bin Abdul Halim, Mohd bin Mahmud@Mansor, Hafizah binti Abdul Latib, Siti Nurul 'Ashikin binti Sabaruddin and all my course mates for supporting me either up and down.

You all make me realize that life has a funny way of helping you out when you think everything's gone wrong and everything blows up in your face.

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LIST OF ABBREVIATION

%	percent
2-iP	6-(γ,γ-dimethylallylamino)-purine
BAP	6-benzylaminopurine
g	gram
g/L	gram per liter
m	meter
mg/L	milligram per liter
min	minute
^{o}C	degree Celsius
TDZ	thidiazuron
v/v	volume per volume
w/v	weight per volume

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ABSTRACT

Hibiscus tiliaceus belonging to the family Malvaceae, found along the salty soil at seashore and mangroves forest. *H. tiliaceus* was use in tissue culture to produce antiviral and antifungal plant for using in medicinal properties. The objective of this study is to establish the tissue culture of *Hibiscus tiliaceus* and determine the suitable medium for the growth performance. Shoot tips and axillary bud were used as explants were obtained from swamp surrounding Universiti Malaysia Terengganu (UMT). The explant sterilization was done of varies strength of Clorox (10, 20, 30, 40, 50, 60, 70, 80, 90 and 100%) for 5, 10 and 15 minutes. The best surface sterilization of shoot tip explants was obtained with 70% Clorox with 15 minute immersion time while in 80% Clorox with 15 minute immersion for axillary bud. The MS and X medium containing various concentration of 6-benzylaminopurine (BAP), 6-(γ,γ-dimethylallylamino)-purine (2iP), thidiazuron (TDZ) and zeatine was used for micropropagation. Explants was effect by high level of contamination of fungi and yeast, which appear milky white suspension on the agar and round ball cloud-like around the explants. The high level of phenolic compound in the explants was cause the explants turning black faster and died. There was no culture established due to fungi infection and high phenolic compound problem.

KULTUR TISU *Hibiscus tiliaceus*

ABSTRAK

Hibiscus tiliaceus berada dalam famili Malvaceae, dijumpai sekitar persisir pantai dan hutan paya. *H. tiliaceus* digunakan dalam kultur tisu untuk menghasilkan tumbuhan bebas virus dan kulat. Objektif kajian ini adalah untuk menghasilkan kultur tisu *Hibiscus tiliacues* dan mengenalpasti media yang sesuai bagi menggalakkan pertumbuhannya. Bahagian pucuk dan tunas yang digunakan sebagai eksplan diperolehi daripada kawasan paya dan sekitar Universiti Malaysia Terengganu (UMT). Eksplan disteril menggunakan pelbagai kepekatan Clorox (10, 20, 30, 40, 50, 60, 70, 80, 90 and 100%) dalam 5, 10 dan 15 minit. Pengsterilan permukaan terbaik bagi eksplan pucuk adalah pada kepekatan Clorox 70% dalam 15 minit masa rendaman manakala Clorox 80% dalam 15 minit masa rendaman untuk eksplant tunas. Media MS dan media X yang mengandungi pebagai kepekatan 6-benzylaminopurine (BAP), 6-(γ-γdimethylallylamino)-purine (2iP) dan zeatin digunakan untuk pembiakan *in vitro* eksplan. Eksplan dijangkiti oleh kulat dan yis, dimana terdapat cairan putih pada agar dan bebola awan disekitar eksplan. Kandungan fenolik yang tinggi dalam eksplan menyebabkan eksplan bertukar coklat dengan cepat dan mati. Tiada kultur yang berjaya dihasilkan kerana eksplan menghadapi masalah pencemaran oleh kulat dan masalah kandungan fenolik yang tinggi.