ESTABLISHMENT TISSUE CULTURE OF *NYPA FRUTICANS*

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FAKULTI SAINS DAN TEKNOLOGI
KOLEJ UNIVERSITI SAINS DAN TEKNOLOGI MALAYSIA
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ESTABLISHMENT TISSUE CULTURE OF *NYPA FRUTICANS*

By

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Research Report submitted in partial fulfillment of
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FAKULTI SAINS DAN TEKNOLOGI
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PENGAKUAN DAN PENGESAHAN LAPORAN
PROJEK PENYELIDIKAN I DAN II

Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk: ESTABLISHMENT TISSUE CULTURE OF *Nypa fruticans* oleh WONG HUI LIEN no. matrik: ...UK7905...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, Kolej Universiti Sains dan Teknologi Malaysia.

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cm	-	centimeter
Mm	-	millimeter
Mg	-	milligram
M	-	Meter
cm^3	-	centimeter square
%	-	percentage
°C	-	degree centigrade
$v.v^{-1}$	-	volume pervolume
NaOH	-	sodium hydroxide
HCl	-	hydrochloride acid
PGR	-	plant growth regulator
BAP	-	benzylaminopurine
NAA	-	naphthalene acetic acid
IAA	-	indoleacetic acid
MS	-	media Murashige and Skoog
2-ip,	-	isopentenyl adenine
2,4-D	-	2,4-dichlorophenoxyacetic acid

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ABSTRACT

A mangrove palm *Nypa fruiticans* was successfully cultured *in-vitro*. Several sterilization treatments had been tested. The most suitable sterilization technique for the shoot tips where by using 100% Clorox (v/v) and immersed for 30 minutes. The explants were cultured in Murashige and Skoog (MS) medium containing either BAP, Kinetin, 2ip, Zeatin at various concentrations. The best medium for shoot tips cultures were on MS medium containing 5.0 mg/l Zeatin. The addition of 5ppt seawater was also enhance the growth of shoot and callus cultures about 50% of shoot were survived in the media MS containing 5.0 mg/l Zeatin, however, rarely damayed by tissue browning in subcultured. The best media for callus induction was MS added with 100mg/L of 2,4-D. Addition of sea water into the media did not significantly enhance the growth of callus.

ABSTRAK

Palma paya bakau *Nypa fruiticans* telah berjaya dikultur secara *in vitro*. Pelbagai rawatan pensterilan telah diujikan. Teknik pensterilan yang paling sesuai bagi tunas pucuk adalah menggunakan 100% klorox (v/v) dan direndamkan selama 30 minit. Eksplan telah dikultur atas media Murashige and Skoog (MS) yang mengandungi BAP, 2ip, Kinetin dan Zeatin dalam pelbagai kepekatan. Media lebih baik bagi kultur tunas pucuk adalah MS yang mengandungi 5.0 mg/L Zeatin. Pertambahan 5ppt air laut juga telah meningkatkan pertumbuhan kultur tisu pucuk dan kallus kira-kira 50% daripada pucuk eksplan telah hidup dalam MS media yang mengandungi 5.0 mg/L Zeatin, bagaimanapun terdapat sedikit tisu mengalami rosak akibat keperangan dalam subkultur. Media yang paling sesuai untuk pengaruhan kallus adalah yang ditambah dengan 100mg/L 2,4-D. Penambahan air laut ke dalam media tidak membawa kesan yang ketara merangsang pertumbuhan callus.