

ESTABLISHMENT TISSUE CULTURE OF
Bruguiera carangulæ

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FAKULTI SAINS DAN TEKNOLOGI
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ESTABLISHMENT TISSUE CULTURE OF *Bruguiera sexangula*

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LIST OF ABBREVIATIONS

%	Percentage
°C	Degree of Celsius
μM	Micromolar
AA	Amino Acid
ATP	Adenine Triphosphate
cm	Centimeter
CO ₂	Carbon dioxide
g	Gram
g/l	Gram per liter
lb	Pound
mg/L	Milligram per liter
mM	Millimolar
mm	Millimeter
MS	Murashige and Skoog medium
NaCl	Sodium Chloride
O ₂	Oxygen
V/V	Volume over volume
WPM	Woody Plant Media

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ABSTRACT

The objectives of this study is to determine the most effective method for surface sterilization, the most suitable media for regeneration and hence to establish a tissue culture technique of *Bruguiera sexangula*. This is because this technology can produce a large number of parent genetically same plants rapidly. In same time, *B. sexangula* is special for having many uses as anti-tumor and produce tannin for leather industry. For this study, explants in form of shoot tips, fruits and seedlings obtained from mangrove area near Universiti Malaysia Terengganu were immersed for various time periods and various concentration of commercial bleach (Clorox) in searching for best surface sterilization method. For tissue culture establishment, Murashige and Skoog (1962) and X media was used. It is found that, the best method for surface sterilization is immersed shoot tips, fruits and seedlings in 90% Clorox for 10 minutes, 60% for 10 minutes and 80% for 10 minutes respectively. Prolong the time was found to damage explants tissue. However, *B. sexangula* was not truly successful cultured due to browning problem and high degree of contamination.

PENGHASILAN TISU KULTUR *Bruguiera sexangula*

ABSTRAK

Objektif kajian ini adalah bagi menentukan kaedah yang paling efektif bagi pensterilan permukaan, media paling sesuai untuk penumbuhan semula dan seterusnya menjalankan kultur tisu terhadap *Bruguiera sexangula*. Ini kerana teknologi ini mampu menghasilkan sejumlah besar tumbuhan yang mempunyai genetik seiras induk dengan pantas. Dalam masa yang sama, *B. sexangula* adalah istimewa kerana mempunyai banyak kegunaan seperti anti-tumor dan juga menghasilkan tannin bagi kegunaan industri kulit. Untuk kajian ini, eksplan dalam bentuk pucuk, buah dan anak pokok diperolehi daripada kawasan bakau berhampiran Universiti Malaysia Terengganu direndam dalam tempoh masa dan kepekatan peluntur komersial (Clorox) pelbagai dalam pada mencari kaedah pensterilan terbaik. Untuk penghasilan kultur tisu, media Murashige and Skoog (1962) serta X telah digunakan. Didapati bahawa cara terbaik untuk pensterilan permukaan adalah dengan merendam pucuk, buah dan anak pokok di dalam 90% Clorox selama 10 minit, 60% untuk 10 minit dan 80% selama 10 minit masing-masing. Memanjangkan tempoh masa didapati merosakkan tisu eksplan. Walaubagaimanapun, *B. sexangula* tidak berjaya dikultur kerana masalah keperangan serta darjah pencemaran yang tinggi.