

EFFECT OF DIFFERENT CYTOKININ ON PROLIFERATION
OF *Cryptocoryne elliptica* CULTURES

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By

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A PITA ~~report~~ submitted in partial fulfilment of
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PENGAKUAN DAN PENGESAHAN LAPORAN BIO 4999

Adalah ini diakui dan disahkan bahawa laporan PITA bertajuk, Effect of Different Cytokinin on Proliferation of *Cryptocoryne elliptica* Cultures no matrik: UK 24216 telah diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Sains Biologi sebagai memenuhi sebahagian daripada keperluan memperoleh Ijazah SARJANA MUDA SAINS (SAINS BIOLOGI), Fakulti Sains dan Teknologi, Universiti Malaysia Terengganu

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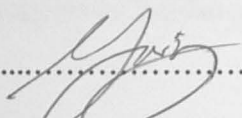
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DECLARATION

I hereby declare that this PITA research report entitled EFFECT OF DIFFERENT CYTOKININ ON PROLIFERATION OF *Cryptocoryne elliptica* CULTURES is the result of my own research except as cited in the references.

Signature :.....

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EFFECT OF DIFFERENT CYTOKININ ON PROLIFERATION OF *Cryptocoryne elliptica* CULTURES

ABSTRACT

Cryptocoryne elliptica is an aquatic plant which is utilised widely in aquarium industry as an ornamental plant. Due to its over-exploitation, deteriorated further by its low rate of propagation, it has become endangered. A way to increase its rate of propagation is through *in vitro* proliferation. Effect of cytokinin was investigated using different hormone (zeatin, benzylaminopurine, thidiazuron) with different concentration (0.2, 0.4, 0.8 mg/L) using different type of explants (basal petiole, four 2-mm consecutive parts from the apical dome of shoot apical meristem). Study showed that there was no significant difference in number of shoot formed between all treatments. However, basal petiole, section 3 and 4 of shoot apical meristem showed higher shoot regeneration rate. Morphology of shoot formed differed in colour and leaf generation rate between zeatin, benzylaminopurine and thidiazuron. Callus was also formed in only basal petiole explants in benzylaminopurine and thidiazuron. Morphology of callus also differed in colour and texture between benzylaminopurine and thidiazuron.

KESAN SITOKININ BERLAINAN KEPADA PERTUMBUHAN KULTUR *Cryptocoryne elliptica*

ABSTRAK

Cryptocoryne elliptica adalah sejenis tumbuhan akuatik yang digunakan secara meluas di dalam industry akuarium sebagai tumbuhan hiasan. Oleh kerana penggunaan melampau, dirumitkan lagi oleh kadar pertumbuhannya yang perlahan, tumbuhan ini telah menjadi terancam. Satu cara untuk meningkatkan kadar pertumbuhannya adalah melalui pertumbuhan *in vitro*. Kesan sitokinin telah disiasat menggunakan hormone yang berlainan (zeatin, benzylaminopurine, thidiazuron) dengan kepekatan yang berlainan (0.2, 0.4, 0.8 mg/L) menggunakan eksplan berlainan (pangkal tangkai daun, empat keratan 2-mm berjujukan daripada puncak meristem apeks pucuk). Kajian menunjukkan tiada perbezaan ketara antara bilangan pucuk terbentuk dia antara semua rawatan. Namun, pangkal tangkai daun, bahagian ketiga dan keempat daripada meristem apeks pucuk menunjukkan kadar penjanaan pucuk yang lebih tinggi. Morfologi pucuk juga berbeza pada warna dan kadar penjanaan daun di antara zeatin, benzylaminopurine dan thidiazuron. Kalus juga terbentuk hanya daripada eksplan pangkal tangkai daun di dalam benzylaminopurine dan thidiazuron.. Morfologi kalus juga berbeza pada warna dan tekstur di antara benzylaminopurine dan thidiazuron.