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Effects of different salinities on the propagation of microalgae
Isochrysis galbana and *Tetraselmis suecica* / Suniza Anis
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PERPUSTAKAAN SULTANAH NUR ZAHIRAH UMT

**EFFECTS OF DIFFERENT SALINITIES ON THE PROPAGATION OF
MICROALGAE *Isochrysis galbana*. and *Tetraselmis suecica***

Suniza Anis Binti Mohamad Sukri

**This project report is submitted in partial fulfillment of the requirement of the
degree of Bachelor of Science in Agrotechnology (Aquaculture)**

**FACULTY OF AGROTECHNOLOGY AND FOOD SCIENCE
KOLEJ UNIVERSITI SAINS DAN TEKNOLOGI MALAYSIA**

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ABSTRACT

Tetraselmis suecica and *Isocrysis galbana* was cultured in different salinities; 12 ppt, 18 ppt, 24 ppt and 36 ppt. The cultivation of the algae was done in two different media; CONWAY and TMRL. The propagation was done in Batch Culture technique started from agar plate streaking, test tubes culturing and transferring to 250 ml and 1000 ml Erlenmeyer flasks. *Tetraselmis suecica*, which cultured using CONWAY grows better in salinity of 24 ppt with the cell density of 4.400×10^6 cellml⁻¹ whilst in TMRL nutrient media, the best salinity is 18 ppt (cell density of 4.020×10^6 cellml⁻¹). For *Isochrysis galbana*, the cell density is highest in salinity 24 ppt (3.673×10^6 cellml⁻¹) using the TMRL media and by comparing this to CONWAY media, the cell density is highest (4.650×10^6 cellml⁻¹) in the salinity of 36 ppt. Thus, the best growth of *Tetraselmis suecica* and *Isochrysis galbana* can be obtained at 24 ppt culturing using CONWAY media.

ABSTRAK

Tetraselmis suecica dan *Isochrysis galbana* telah dikultur dalam saliniti yang berbeza iaitu 12 ppt, 18 ppt, 24 ppt dan 36 ppt. Pengkulturan alga ini dikultur di dalam dua media yang berbeza iaitu CONWAY dan TMRL. Pengkulturan alga ini dijalankan secara 'Batch Culture' iaitu bermula dari lorekkan pada plat agar, pengkulturan dalam tabung uji dan dipindahkan ke kelalang Erlenmeyer bersaiz 250 ml dan 1000 ml. *Tetraselmis suecica* yang dikultur menggunakan media CONWAY tumbuh dengan baik pada saliniti 24 dengan kepadatan sel sebanyak 4.400×10^6 selml⁻¹ sementara dalam media TMRL, saliniti terbaik ialah 18 ppt (kepadatan sel 4.020×10^6 selml⁻¹). Bagi *Isochrysis galbana*, populasi sel adalah tinggi dalam saliniti 24 ppt (3.673×10^6 selml⁻¹) dengan menggunakan media TMRL dan apabila membandingkannya dengan media CONWAY, kepadatan sel adalah tinggi (4.650×10^6 selml⁻¹) pada saliniti 36 ppt. Dengan demikian, pertumbuhan terbaik untuk *Tetraselmis suecica* dan *Isochrysis galbana* boleh didapati pada saliniti 24 ppt dengan menggunakan media CONWAY.