BASIC KNOWLEDGE IN MARINE SCIENCES

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IIUM Press

Published by:
IIUM Press
International Islamic University Malaysia

First Edition, 2011

Perpustakaan Negara Malaysia Cataloguing-in-Publication Data

Normawaty Mohammd-Noor: Basic Knowledge in Marine Sciences

ISBN: 978-967-418-199-4

Member of Majlis Penerbitan Ilmiah Malaysia – MAPIM
(Malaysian Scholarly Publishing Council)

Printed by :
IIUM PRINTING SDN. BHD.
No. 1, Jalan Industri Batu Caves 1/3
Taman Perindustrian Batu Caves
Batu Caves Centre Point
68100 Batu Caves
Selangor Darul Ehsan

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Introduction

Establishing pure culture of microalgae is important in order to study on a particular species in more detail. Microalgae cultures can be used to study genetic characteristics, bioactive compounds, life cycle, physiology of the cell etc. There are several techniques that can be applied to establish pure culture and these techniques will be explained below.

Single cell isolation/Pipette isolation (Guillard, 1973)

The technique is to be carried out in rapid and gentle way to avoid stress to the cell.

- Draw out the pipette to form micropipettes by using a fine flame from a bunsen burner. The narrow end should be about twice the diameter of the cell to be isolated.

- Place few drops of sterile medium onto a sterile glass slide.

- Locate algal cell to be isolated in the sample using inverted microscopy. Use high magnification to find the cell and change to low magnification when want to isolate the cell. By using a tube that is attached to the micropipette, suck up a single cell. Depending on the individual's skill, the cell can be sucked up by using only micropipettes.

- Transfer the cell to a drop of sterile medium on glass slide.

- Pick up the cell from one drop to another drop to "wash" the cell. The more times a cell is washed the less likely it suffers bacterial contamination. However, the risk of cell damage