

# **BIOPROCESSING OF LACTIC ACID BY FERMENTATION TECHNIQUE**

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**IIUM  
Press**

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Published by:  
IIUM Press  
International Islamic University Malaysia

First Edition, 2011  
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Perpustakaan Negara Malaysia

Cataloguing-in-Publication Data

Maizirwan Mel  
Bioprocessing of Lactic Acid by Fermentation Technique / Maizirwan Mel ... [et al.].  
978-967-418-093-5

ISBN 978-967-418-093-5

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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# Chapter 10

## Growth Kinetic Study of *Rhizopus oryzae* via Fermentation of Lactic Acid from Kenaf Biomass

*Nur Aimi Mohd Nasir, Mohd Adlan Mustafa Kamalbhryn, Nurhafizah Seeni Mohamed, Hazleen Anuar, Maizirwan Mel, Rashidi Othman*

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### Abstract

This chapter discussed about the growth kinetic of *Rhizopus oryzae* to produce lactic acid from kenaf biomass in shake flask experiment. The parameter that varied during fermentation was speed (rpm) and temperature (°C). It was carried out in shake flask for 3 days at pH 6. Several conditions for fermentation process had been selected which were 25 °C at 150 rpm, 25 °C at 200 rpm, 37 °C at 150 rpm and 37 °C at 200 rpm. In this fermentation process, 0.471 g/L, 0.428 g/L, 0.444 g/L and 0.38 g/L of lactic acid was produced respectively. Sample at 25°C at 200 rpm produced maximum amount of lactic acid compared to others.

**Keyword(s):** *Lactic acid, Rhizopus oryzae, fermentation, kenaf biomass*