BIOPROCESSING OF LACTIC ACID BY FERMENTATION TECHNIQUE

Editors:
Maizirwan Mel
Mohamed Ismail Abdul Karim
Parveen Jamal
Nur Aimi Mohd Nasir
Nurhafizah Seeni Mohamed

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Chapter 4

Effect of pO_2 Level on the Fermentation of *Lactobacillus rhamnosus*

Maizirwan Mel, Mohamed Ismail Abdul Karim, Parveen Jamal, Mohammad Ramlan Mohammad Salleh, and Rohane Abdullah

Abstract

This chapter discussed about the growth kinetic of *Lactobacillus rhamnosus* that directly influenced the production of lactic acid. This experiment was conducted via fermentation process using bioreactor's batch mode operation at acidic pH condition and constant stirrer speed. Since *L. rhamnosus* is aerobic microorganism, thus it needs oxygen to live. In this study, oxygen level was varied and at the same time several sampling and analysis were done such as cell dry weight (CDW), optical density (OD) glucose analysis as well as lactic acid analysis. It was found that *L. rhamnosus* can produced higher lactic acid when it was grown in low oxygen level at acidic pH which at pH 6 in 100rpm.

Keyword(s): *growth kinetic, L. rhamnosus, cell dry weight, optical density*