

BIOPROCESSING OF LACTIC ACID BY FERMENTATION TECHNIQUE

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Process Optimization of Lactic Acid Fermentation in Bioreactor

Maizirwan Mel, Mohamed Ismail Abdul Karim, Parveen Jamal, Mohammad Ramlan Mohammad Salleh, Ruzi Aini Zakaria

Abstract

This chapter discussed about the influence of process parameters on lactic acid fermentation in laboratory scale fermenter via *Lactobacillus rhamnosus*. This fermentation research was designed by Taguchi Method using STATISTICA software. As for that, three parameters were chosen such as agitation speed of the impeller, dissolve oxygen level (pO_2) and pH. It was found that pH at acidic value of 6, stirrer speed (rpm) and pO_2 effect significantly on the growth of *L. rhamnosus*. The pO_2 and rpm play the same role in maintaining appropriate dissolved oxygen to the cells.

Keyword(s): *Lactobacillus rhamnosus*, lactic acid, Taguchi Method, optimization, laboratory scale fermentation