BIOPROCESSING OF LACTIC ACID BY FERMENTATION TECHNIQUE

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

Abstract

This chapter discussed about the influenced of critical point of dissolved oxygen (pO_2) level control on *Lactobacillus rhamnosus* fermentation producing lactic acid in laboratory scale fermenter using different pO_2 level operating conditions. The pO_2 level have been selected to be the main parameter in order to determine whether *L. rhamnosus* can significantly grow and produce lactic acid or not due to its aerobic characteristic. Together with pO_2, other parameters such as fixed agitation and pH control were also chosen. In this research, the best condition for production of lactic acid has been obtained at Run 1 with 16.85 g/L or 1.68% production yield at condition of 5% pO_2 level, agitation speed of 100 rpm and pH 6.

*Keyword(s):* Lactic acid, Lactobacillus, fermentation, pO_2, critical