

# Parametric Studies of Bioenergetic Transformation of Molasses Pollutant to Ethanol by *Saccharomyces Cerevisiae* NCIM-2086



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## ABSTRACT

Alcohol fermentation is the process utilizing fungi, yeast. These micro-organisms convert sugar into ethyl alcohol and carbon dioxide. Alcoholic fermentation begins after glucose enters the cell. The glucose is broken down into pyruvic acid. This pyruvic acid is then converted to  $\text{CO}_2$ , ethanol and energy. Parametric determination for alcoholic fermentation by *Saccharomyces cerevisiae* NCIM – 2086 is virtually as important to the success of an alcoholic fermentation as is the selection of an organism to carry out the fermentation. The optimization of parametric conditions. Viz. molasses concentration, pH, temperature and incubation period has been studied for bioenergetic transformation of molasses pollutant to ethanol by *Saccharomyces Cerevisiae* NCIM-2086. This strain was subjected to parametric studies. Major effects were caused due to pH value, incubation temperature, incubation period and concentration of molasses. It has been reported that optimum values for alcoholic fermentation have been found when molasses 16% (w/v) is allowed to ferment for 46 hours at  $32^\circ\text{C}$  by maintaining the pH value of the fermentation medium at 4.8 in the presence of yeast *Saccharomyces cerevisiae* NCIM-2086.

**Keywords :** Micro-Organisms, Pyruvic, Alcoholic Fermentation. *Saccharomyces Cerevisiae* NCIM-2086. Molasses.