PRODUCTION OF LACTIC ACID FROM MOLASSES

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A Project Report
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ABSTRACT

There are many problems faced by the industries today, especially the problem of waste disposal. One such problem faced by sugar industry is discarding blackstrap molasses, which is a waste produced after separation of sugar from molasses. Thus in this project we are dealing mainly on useful utilization of molasses, which on fermentation gives useful compound lactic acid.

This project relates to an improved and an economical process for production of lactic acid from molasses. Most studies within the production of lactic acid have focused on the use of pure substrates such as glucose or lactose for the production of lactic acid. The use of natural substrates like starch and cellulose is economically unfavorable because they are very expensive and also require pretreatment in order to release fermentable sugars. The manufacturing cost of lactic acid can be significantly reduced if waste products such as whey or molasses containing fermentable sugars could be used for the production of lactic acid.

In this project, we describe the efficient conversion of molasses sugar by *Lactobacillus delbrueckii* and *Lactobacillus caessi* for lactic acid production. We took sample of molasses from Rani Sugars, Satish Sugars and Gokak Sugars. Pure culture of *Lactobacillus delbrueckii* was added to Gokak and Satish sugar samples where as *Lactobacillus caessi* was added to Rani Sugar sample, and a comparative study of lactic acid production of these samples was made.