

**PRODUCTION AND OPTIMIZATION OF GLUCONIC ACID IN BATCH FERMENTATION BY
*ASPERGILLUS NIGER***

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ABSTRACT

The optimization study of gluconic acid fermentation was carried out using *Aspergillus niger* at three different carbon sources. The experimental study was conducted with different glucose concentration, pH, temperature, age of culture, agitation and volume of inoculums with a continuous shaking flask method. Gluconic acid production was affected by increase of carbon concentrations at the same time fermentation time also increased. The significant level of gluconic acid (148 g/L) production was observed at 96 hrs with maximum 84% of glucose conversion. The gluconic acid yield/gram of glucose feeding was 74%. The isolated fungus has the capacity to produce maximum amount of gluconic acid.

Keywords: *Aspergillus niger*, *Gluconic acid*, Reducing Sugar, Fermentation, Agitation.

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