

## ABSTRACT

The production of glucose oxidase by submerged fermentation was investigated in shake flask incubator by *Aspergillus Niger*. For the growth and production of glucose oxidase by *A. Niger*, glucose was found to be the best carbon source. pH has already been reported, we focused on optimization of biomass production, temperature, carbon source, effect of aeration, intra and extra cellular GOX production,  $\text{CaCO}_3$ , Glucose and nitrogen source consumption were optimized. Best optimum conditions for glucose oxidase are after 12 hours of biomass production, extra cellular GOX is released at highest between 72-85 hours, intra-cellular enzyme production is highest at 36 hours.  $\text{CaCO}_3$  and Sodium Nitrate are best mineral components for fermentation. Only 5u/ml of extra cellular enzyme was estimated along with 350 u/g of intracellular activity. At this time the fungal biomass was 42 g/l. However maximum fungal biomass was obtained at 90 hours of incubation. At this time the intracellular activity was lost.