



## Abstract

Objective of this research work was the optimization of L-lysine biosynthesis by *Brevibacterium flavum* in 250 ml Erlenmeyer flask in shaking incubator. Eleven fermentation media were analyzed for screening purpose and the medium which gave the maximum production of L-lysine was used for further optimization steps. Its composition was: Glucose (3%), Ammonium sulphate (3%), Peptone (0.5%), Biotin (2 mg/L), Yeast extract (0.25%), Calcium chloride (0.05%), Potassium dihydrogen phosphate (0.05%) and Dipotassium hydrogen phosphate (0.05%). The biochemical and physical conditions were then optimized. In case of biochemical optimization effect of carbon and nitrogen sources was examined. Glucose and Ammonium sulphate were best L-lysine producing carbon and nitrogen sources respectively. Physical parameters were also optimized as incubation time of fermentation (72 hrs), temperature (35°C), inoculum age (6 hrs), inoculum size (8 %) and agitation (250 rpm). Maximum L-lysine production using all these optimized parameters was 14.2 g/L from *B. flavum*.