

ABSTRACT

Present investigation deals with citric acid fermentation by *Candida lipolytica* BTGCA in submerged fermentation. Among all the carbon sources evaluated, glucose (125 g/l) gave significant production of citric acid (7.80 ± 0.13 g/l). Different cultural conditions such as rate of fermentation (144 hours), incubation temperature (30°C), initial pH (6.5), volume of fermentation medium (37.5 ml), agitation intensity (200 rpm) were optimized for enhanced citric acid production. Vegetative inoculum (2ml/37.5 ml of medium), developed for 32 hrs gave maximal production in fermentation medium. Significant increase in citrate biosynthesis (20.86 ± 0.20 g/l) was obtained when NH_4Cl (0.05 %) and KH_2PO_4 (0.15 %) were used in fermentation medium as inorganic nitrogen and phosphate sources. Sugar consumption and dry cell mass at this level were 96.37 ± 0.64 and 13.87 ± 0.10 g/l, respectively.