

Abstract

Candida utilis isolated from fermenting cassava tubers was cultivated in salt media containing sucrose as carbon source and different concentrations of ammonium sulphate, potassium nitrate, sodium nitrate and urea used individually as sole nitrogen sources. The yeast was grown in a 100 ml shaken culture and harvested after a 10-day fermentation period. Variations in media composition significantly ($P \leq 0.05$) affected yeast biomass production. Ammonium sulphate at 0.1% (w/v) concentration resulted in the best biomass production of the isolate. Concentrations above 0.1% (w/v) did not result in correspondingly greater biomass yield. Urea gave better yields at lower concentrations but concentrations above 0.07% (w/v) resulted in lower biomass yield. Sodium nitrate and potassium nitrate were inferior to ammonium sulphate and urea as nitrogen sources for yeast biomass production. A kinetic model based on the variations of these inorganic nitrogen supplementation, level of aeration and subsequent biomass production by the isolate was proposed.

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