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**Evaluation of kinetic parameters in continuous culture of *Vishiniacozyma victoriae*****NPCC 1263**

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Postharvest diseases are responsible for consistent losses of fresh fruits. The use of yeast can be biological alternatives to fungicides in the control of postharvest pathogens.*Vishiniacozyma victoriae* NPCC 1263, a cold-adapted yeast recently isolated from pear fruits with antagonistic properties against fungal pathogens, was selected for the present work. The yeast was cultured in continuous culture in order to determine kinetic parameters that would allow to define fed-batch scaling-up of the bioprocess.

The yeast was grown in batch culture in a 5L LH S 210 (Incelth) fermentor. Agitation (300 rpm) and temperature (20°C) were maintained constant. The medium culture (M1) with glucose (20g/L), yeast extract (10g/L), MgSO4.7H2O (1g/L), KH2PO4 (2g/L), (NH4)2 SO4 (4g/L) and peptone (5g/L) was used and the initial pH (5.0) was not automatically controlled. Once the early exponential growth phase had been reached, the inflow of fresh medium was started. Each steady state was maintained for about 3 residence times before being changed. Dilution rates (D h-1 ) from 0.05 to 0.15 h-1 were assayed. Biomass concentration was determined by OD540nm and dry weight at 105°C. Maximal specific growth rate (µ h-1) was determined by the washing-out method (Pirt and Callow) and maximal volumetric productivity (Pdvol g dry weight biomass/L.h) was determined at the critical dilution rate attained. Culture samples were collected during continuous culture and the biomass was separated by tangential filtration. The filtrated biomass was resuspended in 30% (v.v) of milk powder and 1% sodium glutamate and dried by lyophilization (Temperature:-40ºC pressure 10-1 mb Thermo Electron Corporation Supermodulyo Freeze Dryer). Viability of the dried biomass was evaluated by serial dilutions on YPD agar plates.

Continuous culture of the yeast at different dilution rates allowed to determine maximal biomass concentration= 3.46 g/L, µ = 0.086h-1, critical D= 0.0870h -1 and maximal Pd vol = 0.277g dry weight biomass/L.h for *Vishiniacozyma victoriae*NPCC 1263. It was also determined the viability of dried biomass= 1,3x109 UFC/g freeze-dried biomass.

Even that the results showed the feasibility of producing the yeast in continuous culture, low Pdvol  achieved demonstrated that higher biomass concentration must be attained by fed-batch culture in order to scaling-up the bioprocess. The commercial production as a freeze-dried powder can improve its application in biological control of fungi contamination of foods.

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