PRODUCTION AND KINETIC STUDIES OF α-AMYLASE FROM *Bacillus licheniformis* 6346 IN SOLID STATE FERMENTATION

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Optimization of α-amylase production by *Bacillus licheniformis* 6346 was done in basal rice bran medium. Maximum enzyme was produced in solid state fermentation (SSF) medium at 144 h (6th day). During SSF, viable cell count, pH and moisture content of the fermentation medium were monitored from the time of inoculation. The cells reached log phase at 96 h and stationary phase at 144 h. Moisture content of the fermentation medium varied within a narrow range during enzyme production (66.7 %—71% (W/W) from Oh to 168h). The pH of fermentation medium increased gradually during enzyme production. Kinetic properties of the enzyme were studied. The enzyme was assayed in starch 1% (W/W)-0.01M phosphate buffer (pH 7) at 85°C for 5 minutes. Optimum temperature for amylase activity was 85°C. The pH activity curve showed two peaks at 6.6 and 8.3. The K_m and V_{max} of the enzyme were determined. Stability of the enzyme was more when stored as dried bacterial bran (retained 44.6% activity at 105th day) than as extract (retained 4.6% activity at 92nd day).