

Determining of C:N ratio on Amylase production by Bacillus spp.

maryam rostami*,gholam khayati,

Abstract Introduction Amylase is one of the most important enzymes that are used in industry. Some of them hydrolyze starch molecules into polymers combined with glucose units. Amylase has many applications in a large number of industrial processes such as food, fermentation and pharmaceutical industries. The aim of this project was to determine the optimal ratio of the extracellular amylase production in liquid medium containing nutrients for amylase growth in the optimal pH 7 by *Bacillus licheniformis*. Generally *Bacillus* species for thermostable alpha amylase production are suitable. **Materials and methods** The culture medium was containing nitrogen sources such as Ammonium sulfate, Ammonium nitrate and Yeast extract and carbon sources such as glucose, maltose and starch. 9 tests including, Maltose/Ammonium sulfate, Maltose/Ammonium nitrate, Maltose/Yeast extract, Glucose/Ammonium sulfate, Glucose/Ammonium nitrate, Glucose/Yeast extract, Starch/Ammonium sulfate, Starch/Ammonium nitrate, Starch/Yeast extract was carried out in ratios of 1, 10, 20, 30. for enzymatic assay in one step starch as substrate and the Glucose kit as reagent were added and the samples enzymatic activities in determined ratios was obtained by Spectrophotometer at 500 nm wavelength. **Conclusion** The highest enzyme activity that carbon and nitrogen had, including: Glucose, starch, maltose and ammonium sulfate, Ammonium nitrate and Yeast extract respectively were the optimal carbon and nitrogen. and the errors amount: 9.28 / carbon source amount: 86.26 / nitrogen source amount: 3.82 / and C/N amount: 0.66. **Key words:** Amylase production; Submerged Fermentation; C to N ratio; Enzyme assay

Keywords : Key words: Amylase production; Submerged Fermentation; C to N ratio; Enzyme assay

[Islamic Azad University, Rasht Branch - Thesis Database](#)
[دانشگاه آزاد اسلامی، واحد رشت - سامانه بانک اطلاعات پایان نامه ها](#)