

## ABSTRACT

The present study is concerned with the production of alpha amylase by mutant strain of *Bacillus subtilis* GCUCM-25 and its application as desizer on fabric. The fermentation was carried out in 250 ml shake flask containing 50 ml of fermentation medium. The production of enzyme was reached optimum (1178U/ml/min) when the fermentation medium (pH 6.5) was incubated at 40°C for 48 hours.

The desizing of the cotton cloth was carried out by crude enzyme and partially purified enzyme. The enzyme was purified by  $(\text{NH}_4)_2\text{SO}_4$  precipitation. The maximum desizing by crude enzyme (pH 6.5) was obtained as the fabric was incubated at 90°C for 90 minutes. However, 100% desizing was obtained by partially purified enzyme (pH 6.5) when it was incubated at 80°C for 60 minutes. The activity of the enzyme was increased with the addition of  $\text{Na}^+$  ion in the medium while the enzyme activity shows greatly inhibition when incubated with EDTA.