



ABSTRACT

In the present study, three cellulolytic enzymes *i.e.*, endoglucanase, exoglucanase and β -glucosidase were used to carry out the saccharification of the agricultural byproduct bagasse. Different parameters were used to optimize the process. The maximum percentage saccharification of 27.80% ($p \leq 0.05$) was obtained after 2 hours using 0.025% (% w/v) pretreated bagasse substrate by simultaneously adding all the enzymes in the presence of 0.6 mg/ml tetracycline under aseptic conditions. Citrate phosphate buffer (pH 7.0) was used in the enzyme to buffer ratio of 1:2. The optimum temperature and pH was 45°C and pH 7.0, respectively. The optimized units of endoglucanase (50 U/mg), exoglucanase (50 U/mg) and β -glucosidase (150 U/mg) resulted in the maximum percentage saccharification obtained.