Effect of Different Carbon Sources and Endogenous Nitrogen on Simultaneous Saccharification and Fermentation

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Abstract

In this study the starch based carbon sources such as wheat, corn, rice, manioc and soybean were tested. The study was carried out to investigate the best starch based carbon source for SSF process. Among the locally available starch based carbon sources, corn flour (in suspension 38%, w/w) could be used after liquefaction (with 0.225 KNUml-1 Termanyl) and endogenous protein hydrolysis (with 0.5 AUml-1 Neutrase) for simultaneous saccharification (0.8 AGUml-1 glucoamylase) and fermentation (by S. cerevisiae). The simultaneous saccharification and fermentation not only reduced the inhibition of fermentation by sugars but also reduced the total time required for this process from 85 to 67 h.

Keywords: Simultaneous saccharification and fermentation, Liquefaction, Endogenous protein.