

An executive summary of the final report of work done on the Minor Research Project of Mr Melwyn Gregory Sequeira, Department of Microbiology, entitled “PRODUCTION OF FUEL FROM BANANA AGROWASTE” sanctioned by UGC, Vide Sanction Letter No. MRP(S)-0514/13-14/KAMA002/UGC-SWRO, dated 28.3.2014

Summary of the report

Enzyme production by *Aspergillus niger* was found to peak on the 10th day. Gupte and Madamwar (1997) have reported production of cellulolytic enzymes on bagasse under solid state fermentation by co-culture of *A. ellipticus* and *A.fumigatus*. They observed improved hydrolytic and β -glucosidase activities under co-culture experiments as compared to when each strains were used separately, and maximum enzyme production was observed after 8 d of fermentation process. CMC test was found to be ideal for determining the enzyme assay. Saccharification yielded 2.6kg sugar per kg of substrate. Maximum saccharification was found to occur after 24 hours of incubation at pH 6 and 45°C with leaf as the substrate. Leaf was found to give better yield of reducing sugars probably due to the lower content of lignin in the tissues. Stem was found to give the least yield of reducing sugars. *Trichoderma* was found to bring about better saccharification as compared to *Aspergillus*. Baig *et al* (2004) investigated the saccharification of banana agro-waste by cellulases of *Trichoderma lignorum*. The steam treated agro-waste yielded 1.34 mg/mL of reducing sugars after 24 h 10 μ g/ml of ethanol was obtained from saccharified medium containing 1040 μ g of sugar.