



The use of agricultural waste as substrate for cell growth

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Abstract : *Strains of Streptomyces albospinus & Streptomyces somaliensis are known to be cellulose degraders and were examined for cellulase production. Cellulase is a group of hydrolytic enzymes capable of degrading cellulose to the smaller glucose units and are produced by variety of bacteria and fungi as well as actinomycetes which convert cellulose into soluble sugars either by acid or enzymatic hydrolysis. Both the strains were found to grow in medium containing CMC as a sole carbon source. The highest cellulase activity obtained and observed on the 6th day of incubation from both the strains, Streptomyces albospinus and Streptomyces somaliensis were significantly not different. Comparing their growth in*

three different agricultural waste, maximum cell numbers were obtained from the medium containing pineapple peels followed by corn cob and vegetable residues. Pineapple peels stimulated higher production of cellulose than other agricultural waste. The value of these agricultural wastes can, therefore, be increased by its use not only in manufacture of cheap media but also in the production of valuable microbial biomass which is rich in protein and fatty acid.

Keywords : *Carboxymethyl cellulose, CMCase, Streptomyces somaliensis, Streptomyces albospinus, agricultural waste.*