

ABSTRACT

Newspaper, a major component of solid waste, is an important cellulosic substrate. Microorganisms were isolated from the waste newspaper. Screening for the cellulase activity was conducted by using Congo red dye on CMC agar medium. These microbes were identified as *Bacillus subtilis* and *Chaetomium globosum*. Microbes were applied on substrate before and after pretreatments to analyze their degradation capability. The author presents the results concerning the effects of physical (particle size, boiling) and chemical (alkaline and acidic) pretreatments on biodegrading activity of isolated cultures in solid state fermentation. It was observed that degradation of substrate depends on the type of pretreatment and the organisms used. *Bacillus subtilis* showed the highest cellulose degradation (52%) and fiber degradation (25%) with 2% NaOH pretreatment in newspaper with 3.0 inch² particle size. Similar results were exhibited by *Chaetomium globosum* and maximum percentage degradation of cellulose (80%) and fiber degradation (upto 47%) were obtained after 2% NaOH pretreatment.