

**CELLULOLYTIC THERMOPHILIC MICROORGANISMS : POWERFUL
APPROACH FOR CELLULOSIC BIOMASS RECYCLING*****KHELILI Omar, & CHEBA B.A.***¹ Department of Biotechnology -Faculty of Sciences-University of Sciences and Technology-Oran-Algeria
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Cellulosic biomass has been identified as one of the most promising alternative renewable source for bioenergy production and other value-added products. The large availability of cellulosic wastes as agricultural, industrial and forest residuals and the need to their biodegradation and bioconversion into fermentable sugars increase the demands to find more efficient cellulase producing microorganisms. In this sense our present study was conducted. 111 microorganisms (91 bacteria and 20 yeast) were isolated from 10 west Algerian sources (thermal and non thermal) and tested for thermophilic /thermotolerant property and cellulase production. Screening results revealed on the presence of 20 thermophilic cellulolytic isolates (18%).After the macroscopic and microscopic examination, the isolates were tested for cellulosic biowastes degradation (paper and fruit wastes). The promising results obtained make these potential microorganisms very useful in cellulosic biomass conversion and biofuel production after optimization in the near future .

Keywords: Biomass; cellulose; thermophilic microorganisms; biodegradation; cellulose