

INDUSTRIAL AND BIOTECHNOLOGICAL POTENTIAL OF MICROBIAL CELLULASES

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Abstract: Biodegradation of plant cellulose is achieved through a concerted action of a group of enzymes of the cellulase system, synthesized by a diverse range of organisms. This biodegradation holds importance not only in the efficient recycling of cellulosic biomass within the biosphere, but also in a vast variety of industrial and biotechnological applications. In industrial and research arena, there is an increased interest in utilizing cellulases for lignocellulosic biomass conversion for the production of biobased products and bioenergy. This article presents an overview of cellulase producing microorganisms, along with the important applications of cellulases in the bioconversion of lignocellulosic biomass and in several industries like food, animal feed, brewery, wine, textile, laundry, paper and pulp.

Keywords: Cellulase system, Cellulosome, Industrial applications, Lignocellulose bioconversion

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