P47

PRODUCTION OF BACTERIAL CELLULOSE FROM GRAPE POMACE (BAGAÇO) BY *Acetobacter xylinum*.

M. González-Pajuelo , H. Bungay , I. Vasconcelos and T. A. Hogg
Escola Superior de Biotecnologia. Rua Dr. António Bernardino de Almeida.4200. Porto.Portugal

Abstract

Most of the cellulose used for industrial purposes is obtained from the products of plants, such as forest trees, cotton etc. It is now known that certain bacteria produce cellulose from simple sugars, the most important in industrial terms being *Acetobacter xylinum*, this being the only species that produces sufficient cellulose to be economically viable. *A. xylinum* is a gram-negative, aerobic bacterium that secretes cellulose fibrils as part of its normal metabolic activity. Cellulose produced by this organism is chemically pure, free of lignin and hemicellulose, has a high polymer crystallinity and a high degree of polymerization, thus distinguishing it from other forms. The most developed commercial application of microbial cellulose is in acoustic diaphragms for audio speakers, although various medical applications also exist.

In this study the microbial nutrients status of grape pomace was evaluated. Extracts of grape pomace, supplemented by various nitrogen sources were employed as a feedstock for the production of microbial cellulose. Results indicate that pomace extracts can form the basis of culture media for the production of high yields of microbial cellulose.-