BIOETHANOL PRODUCTION FROM AUTOHYDROLYZED SARGASSUM MUTICUM

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Abstract

Currently, the high demand of energy has led to the seek of new renewable sources, cutting down with fossil fuels. An interesting and novel way may be the use of macoralgae as raw material to obtain third generation bioethanol.

Sargassum muticum is an invasive seaweed highly spread in Asia, Europe and America, which has not been commercially used yet. It has an abundant quantity of polysaccharides which can be used in the production of biofuels. In order to employ them, it is necessary to pretreat the material, and the hydrothermal treatments (as autohydrolysis) have demonstrated to be highly effective, simple, environmentally friendly and economic.

In this work, the study of the autohydrolysis of *Sargassum muticum* has been studied. Consequently, Simultaneous Saccharification and Fermentation took place, using different industrial strains of *Saccharomyces cerevisiae* and two type of experiments: i) using only the autohydrolyzed solid phase, ii) using the liquid and solid phase from the autohydrolysis procedure.