

Review: Pre-treatments and Fermentation of Seaweed for Bioethanol Production

Abstract

This article reviews the current studies on the production of bioethanol from seaweed with a focus on the process pre-treatments and variety of microorganisms used in the process. Pre-treatment selection is essential to maximize the amount of reduced sugar for the fermentation to produce bioethanol. Specific microbial strains are matched to their ability to utilize sugar sources. Some studies focus mainly on general processing with variable microbial strains to gauge their abilities in fermentation. A summary of the current studies was carried out, and it is evident that two or more yield increasing techniques can coexist within a single process. The integration of the findings may be the key to make seaweed fermentation more efficient and affordable to serve as a sustainable and renewable energy source.