

Acid saccharification of the invasive biomass, *Gracilaria verrucosa*

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Algae biomass is a potential raw material for the production of biofuels and other chemicals. Seaweed contains high levels of hydrocolloid compounds such as agar, carrageenan and alginate. Chemical hydrolysis is favorable due to its low cost. Acid hydrolysis, particularly sulfuric acid hydrolysis, is widely used to treat materials to obtain mono-sugars. The hydrolysates contained glucose, mannose, galactose, and mannitol, among other sugars, at different ratios. In general, concentrated acid hydrolysis is much more effective than dilute acid hydrolysis. In this study, we found an optimal condition for the saccharification of red-algae into mono sugar by acid hydrolysis. *Gracilaria verrucosa* were experimentalized by autoclave using sulfuric acid, hydrochloric acid and solid acid as catalyst with different acid concentrations, substrate concentrations and reaction time to determine the optimal conditions. A difference in galactose, glucose, reducing sugar and total sugar content was observed under the different hydrolysis conditions. The results indicate that acid hydrolysis provided effective process for the producing mono sugar from marine biomass.