

Downstream Processing for Xylitol Recovery from Fermented Sugar Cane Bagasse Hydrolysate Using Aluminium Polychloride

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Xylitol, a sweetener comparable to sucrose, is anticariogenic and can be consumed by diabetics. This sugar has been employed sucessfully in many foods and pharmaceutical products. The discovery of microorganisms capable of converting xylose present in lignocellulosic biomass into xylitol offers the opportunity of producing this poliol in a simple way. Xylitol production by biotechnological means using sugar cane bagasse is under study in our laboratories, and fermentation parameters have already been established. However, the downstream processing for xylitol recovery is still a bottleneck on which there is only a few data available in the literature. The present study deals with xylitol recovery from fermented sugar cane bagasse hydrolysate using 5.2 g/l of aluminium polychloride associated with activated charcoal. The experiments were performed at pH 9, 50 °C for 50 min. The results showed that aluminium polychloride and activated charcoal promoted a 93.5% reduction in phenolic compounds and a 9.7% loss of xylitol from the fermented medium, which became more discoloured, facilitating the xylitol separation.