

The Effect of Depectination of Coffee Skin Waste on the Production of Xylose Crystal Sugar

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ABSTRACT

Coffee skin contains cellulose, hemicellulose and lignin. The hemicellulose content in coffee skins can be converted into xylose by hydrolysis with the enzyme xylanase. This research was to determine the effect of depectination of coffee skin waste on the production of xylose crystal sugar. Method used Coffee skins were pretreated using 3% NaOH using a water bath for 2.5 hours. After that, depekination is carried out in the hydrolysis process. The material used during the depectination process is PEG 6000 with concentrations of 3 g/L, 5 g/L, 7 g/L, and 9 g/L. 12.317% Substrate with PEG 6000 then added with 4.016% xylanase enzyme. Lignocellulose composition was determined using the Chesson method. The results of the lignocellulose test before treatment were 15% hemicellulose, 29% cellulose, and 19% lignin, while after depectination it was 28% hemicellulose, 38% cellulose, and 15% lignin. Pectin levels after depectination treatment decreased by 8%. The best xylose and glucose levels when adding PEG 6000 were 9 g/L. It can be concluded that depectination can have a significant effect on xylose levels.

Keywords: *Coffee waste, depectination, lignocellulose, xylose*