

Degree of Hydrolysis of Proteinaceous Components of Porang Flour Using Papain

Authors : Fadilah Fadilah, Rochmadi Rochmadi, Siti Syamsiah, Djagal W. Marseno

Abstract : Glucomannan can be found in the tuber of porang together with starch and proteinaceous components which were regarded as impurities. An enzymatic process for obtaining higher glucomannan content from Porang flour have been conducted. Papain was used for hydrolysing proteinaceous components in Porang flour which was conducted after a simultaneous extraction of glucomannan and enzymatic starch hydrolysis. Three variables affecting the rate were studied, i.e. temperature, the amount of enzyme and the stirring speed. The ninhydrin method was used to determine degree of protein hydrolysis. Results showed that the rising of degree of hydrolysis were fast in the first ten minutes of the reaction and then proceeded slowly afterward. The optimum temperature for hydrolysis was 60 °C. Increasing the amount of enzyme showed a remarkable effect to degree of hydrolysis, but the stirring speed had no significant effect. This indicated that the reaction controlled the rate of hydrolysis.

Keywords : degree of hydrolysis, ninhydrin, papain, porang flour, proteinaceous components

Conference Title : ICCEPT 2016 : International Conference on Chemical Engineering and Process Technology

Conference Location : Venice, Italy

Conference Dates : August 08-09, 2016