Aplikasi Belimbing Wuluh (*Averrhoa bilimbi*) sebagai Katalis Alami pada Proses Hidrolisis Onggok untuk Produksi Bioetanol (*Application of Averrhoa bilimbi as Natural Catalyst on Hydrolysis Process of "onggok" for Bioethanol Production*)

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ABSTRACT

Producing bioethanol from "onggok" (Solid waste from industrial prosessing of tapioca flour) requires acid catalyst on the process of hydrolysis to speed up the reaction rate. One of the acid catalysts that can be used is Averrhoa bilimbi because it is more environmentally friendly than chemical acid catalyst that is corrosive. The purpose of this study is to determine effect of hydrolysis time and concentration of averrhoa bilimbi to the value of Dextrose Equivalent and ethanol concentration that can be produced. The experimental design used in this study was RAL (Rancangan Acak Lengkap) with 2 factors: catalyst concentration (50%, 33.33% and 25%) and hydrolysis time (45 minutes and 15 minutes). The best DE value using Averrhoa bilimbi at concentration 33,33% and hydrolysis time 45 minutes equal to 22,34%. The average ethanol concentration produced was 11.8% with an average ethanol yield of 26.21%, so the ethanol concentration in the fermentation yield was 0.885%.

***Keywords** : Bioethanol, Dextrose Equivalent, Hydrolysis, Averrhoa bilimbi.*