ABSTRACT

The by-products of agriculture in the society are quite numerous and have not been optimally utilized. Agricultural by-products or so-called biomass contain high organic materials such as cellulose, hemicellulose and lignin that are potentially utilized as bioenergy like bioethanol. One of biomass that is potentially used as a bioetanol raw material is peanut peel. The production of peanuts in Indonesia in 2022 reached 416.457 tons, and the peat peel percentage in peas reached 30%, resulting in 124.937 tons of peat skin. Peat peels contain 47.19% cellulose, 7.19% hemicillulosa and 34.30% lignin. In this study peanut skins were pratreatmen with NaOH to degrade lignin. Then hydrolysed with H_2SO_4 for 60 minutes at a temperature of 100 ºC. The resulting fermentation was distilled at a temperature of 78 ºC. The highest bioethanol content of 72.33 percent was obtained with 450 ml of starter and 8 days of fermenting.

Keyword: cellulose, distilled, lignin, hydrolysis.