

**PRODUKSI BIOETANOL DARI LIMBAH KULIT KENTANG DENGAN
MENGUNAKAN *Saccharomyces cerevisiae* (Production of Bioethanol from
Potato peels wastes by *Saccharomyces cerevisiae* Dedy Eko Rahmanto, S.TP,
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ABSTRACT

In Indonesian Research and Development institutions and universities, research on the production of second-generation bioethanol has been actively pursued. Several countries have produced and used second generation bioethanol as a liquid fuel. Bioethanol may be made from of the peel of potatoes (*Solanum tuberosum* L.). Hemicellulose, cellulose, and cellulose fiber lignin are the main components of potato peels (*Solanum tuberosum* L) used to make bioethanol. The purpose of the study is seeing how pretreatment with chemically delignification NaOH affects the lignocellulosic content of potato peels and how acid concentration determines the rate of ethanol produced during effective hydrolysis in order to make bioethanol from potato peels with the highest ethanol content. Chesson Datta 1981 was used to examine the delignified raw materials for content. The raw materials were soaked in a 10 percent NaOH solution with a ratio of 1:10 (g/ml) for 12 hours to break down potato skin lignin utilizing chemical pretreatment (delignification). The delignification results were carried over to the hydrolysis stage with H₂SO₄ at concentrations of 0 percent, 0.5 percent, 1 percent, and 5%. Fermentation using the yeast *Saccharomyces cerevisiae* is used to produce bioethanol. Fermentation using baker's yeast, for 3 days and the substrate volume is 100 ml, then continued with distillation until the substrate is used up. The delignification method can reduce potato skin lignin by (2.25%). The best bioethanol content of potato peels was (6.09%) and the treatment was obtained from the concentration of H₂SO₄ which was 5% where the levels were 6.09%. (treatment) with ethanol content (6.09 percent), brix value(14.25), and distilled ethanol volume (22.5 ml/hour) had the highest weighted effectiveness score (3.00).

Keywords: Bioethanol, fermentation, potato peels, and baker's yeast.