

## **Abstract**

This study explores the most effective method for ethanol production using peanuts as the raw material. The process begins with the preparation of 2 kg of peanuts, which are cleaned, dried at 150°C for 3 hours, and ground into powder before entering the hydrolysis stage. In this stage, the peanut powder is mixed with 2 liters of distilled water and 3 grams of cellulase enzyme, then hydrolyzed for 4 hours to convert starch into a sugar solution. The hydrolysis product is then fermented in sealware containers with a capacity of 2 liters, using three different types of yeast fungi, namely Schizophyllum, Saccharomyces, and Aspergillus, separately. The fermentation process lasts for two weeks while monitoring room temperature, which is 22.2°C for Schizophyllum, 21.6°C for Saccharomyces, and 22.2°C for Aspergillus. After fermentation, the alcohol content is tested, and the analysis results show that Saccharomyces produces the highest alcohol content at 1.0%, while Schizophyllum and Aspergillus do not produce any alcohol (0%). Thus, it can be concluded that Saccharomyces is more effective in producing ethanol compared to the other two fungi.

**Keywords:** Ethanol production, peanuts, hydrolysis, fermentation, cellulase enzyme, Saccharomyces, Schizophyllum, Aspergillus.