

## **ABSTRACT**

This paper outlines the process of making eco-friendly soap using eco-enzymes and how this relates to the importance of organic waste management in Indonesia. Eco-enzymes, which are produced from fermentation reactions of organic waste, have the potential to reduce the negative environmental impacts of solid and liquid waste. This research discusses the steps of pineapple waste eco-enzyme-based soap production involving organic waste collection, fermentation, and the use of enzymes as raw materials. Then through the saponification process that produces soap. In this research, the problem to be faced is the irregular and ineffective waste management. Organic waste that is not handled properly can produce greenhouse gases and environmental pollution that is detrimental to human health. Therefore, the use of eco-enzymes to convert organic waste into value-added products such as soap has the potential to reduce these negative impacts. In this study, eco-enzyme soap was successfully made using fermentation and saponification processes on eco-enzyme and soap. The soap made will be tested directly and the effectiveness obtained from the soap. The soaps are compared directly with commercial soaps through Kirby Bauer testing, Organoleptic testing and testing on the physical properties of the soap. With this test, it can be known whether eco-enzyme soap is effective, and safe and whether it can be used as an everyday soap. The tested eco-enzyme soaps are expected to replace hand soaps used daily. From this study, it is known that soap that has 50% more eco-enzyme than soap that has a standard eco-enzyme composition is the most effective.

**Key Words:** Eco Enzyme, Organic Waste, Fermentation, Soap, Pineapple Waste