**Abstract**

Increase in waste production, especially municipal house waste (MSW), has pushed the need for alternate ways to tackle waste management. One of these methods is to recycle food waste, fermenting them to form eco-enzyme (EE). One of the requirements to make EE is letting it ferment for 3 months, which may deter its adoption in household settings. Effective Microorganism 4 (EM4) is a commercially available inoculant that is promoted to help with decomposition. This study aims to investigate the effect of EM4 towards accelerating the fermentation process of eco-enzyme. The substrate that was used to make EE was citrus fruit peels (CPW) from *Citrus x sinensis*. The EE was made using a 1:3:10 ratio of molasses, waste, and water. The fermentation time lasted for 70 days. The parameters that were measured to determine this were; pH, temperature, and enzyme activity. Results showed that there was a significant difference in the pH progression between EE and eco-enzyme with EM4 (EEM) (p-value = 0.005). However, no temperature difference was seen. Furthermore, no enzymatic activity was detected, which is crucial in an eco-enzyme. Hence, it can be concluded that EM4 did not have any effect in accelerating the fermentation process of eco-enzyme.

***Keywords:*** eco-enzyme, garbage enzyme, citrus peel waste, EM4, fermentation, effective microorganism, enzymatic activity, amylase, protease, pH, temperature.