

## **ABSTRACT**

The purpose of this study was to determine the optimum conditions of coffee rind waste substrate concentration and optimum fermentation time on xylanase enzyme production. The research method used was experimental using optimisation design of Design Expert v13. The enzyme production method used was solid fermentation using *Therioderma viride* with coffee rind waste substrate. Substrate concentration (25%, 50%, 75%) and fermentation time (24 hours, 48 hours, and 72 hours) were the factors used in this study. The optimum condition obtained through RSM optimisation was fermentation for 24 hours with 75% substrate concentration. Validation was carried out at these optimum conditions and resulted in an enzyme activity of 60.214U/mg and protein of 0.413 mg/ml with 97% validation agreement.

**Keywords :** Ari Coffee Peel Waste, Solid Fermentation, Optimisation.