

Title: Utilization of agro-industrial residues from palm oil industry for production of lignocellulolytic enzymes by *curvularia clavata*

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Abstract: Production of crude palm oil generates a huge amount of palm oil mill effluent (POME) and oil palm empty fruit bunch (OPEFB), leading to adverse environmental impacts. This study seeks to explore the ability of *Curvularia clavata* in the utilization of such waste to produce lignocellulolytic enzymes such as carboxymethyl cellulase, xylanase, manganese peroxidase, laccase and lignin peroxidase. Raw POME generated from the milling process is discharged to the raw pond, followed by generation of anaerobic POME that is an intermediate step in treatment process. Utilization of raw POME produces higher enzyme activities compared to anaerobic POME. This simultaneously resulted in detoxification and significant removal of COD (67 %), BOD₃ (45 %), total polyphenolic (50 %) and ammoniacal nitrogen (61 %) of POME. Under submerged fermentation of OPEFB, *C. clavata* produces 3569 U/mL of xylanase, which has a potential application in the production of xylanase.