

**EFFECT OF INITIAL pH TO THE PRODUCTION OF
THE THERMOSTABLE CELLULASE BY *Aspergillus fumigatus*
IN SOLID STATE FERMENTATION USING OIL PALM
FROND**

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ABSTRACT

EFFECT OF INITIAL pH TO THE PRODUCTION OF THE THERMOSTABLE CELLULASE BY *Aspergillus fumigatus* IN SOLID STATE FERMENTATION USING OIL PALM FROND

Cellulases are the group of hydrolytic enzymes, capable of degrading all types of lignocellulosic materials. Cellulases have the wide range of applications. Present study was carried out to study the thermostable cellulase enzyme production ability of *Aspergillus fumigatus* against the lignocellulosic bio-waste like oil palm frond as the substrate under solid state fermentation at 50 °C in different initial pH levels, pH (5, 7 and 9). The enzyme activity was measured by using FPase assay every 24 hours for 10 days. In this study, the highest level of enzyme activity was obtained at pH 5.0 followed by pH 7.0 and the least was obtained at pH 9.0. This indicates that alkaline medium is not suitable for *A. fumigatus* development. It was therefore concluded that *A. fumigatus* is able to produce high amount thermostable cellulase at pH 5.0 in solid state fermentation using oil palm frond as the substrate.