

**ANTIFUNGAL ACTIVITY OF *Curcuma longa* AND *Bambusa edulis*
EXTRACTS AGAINST PATHOGENIC FUNGAL OF OIL PALM
DISEASES, *Aspergillus* spp. (STRAIN AG1)**

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This Final Year Project Report entitled “**Antifungal Activity of *Curcuma longa* and *Bambusa edulis* Extracts Against Pathogenic Fungal of oil Palm Diseases, *Aspergillus* spp. (Strain AG1)**” was submitted by Mohamad Naim bin Ahmad Fuad, in partial fulfillment of the requirements for the Degree of Bachelor of Science (Hons.) Biology, in the Faculty of Applied Science, and was approved by

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ABSTRACT

ANTIFUNGAL ACTIVITY OF *Curcuma longa* AND *Bambusa edulis* EXTRACTS AGAINST PATHOGENIC FUNGAL OF OIL PALM DISEASES, *Aspergillus* spp. (STRAIN AG1)

Management of oil palm diseases is essential, as Malaysia is the largest palm oil producer. As to date, prevention technique mainly relies on the application of chemical drugs. Unfortunately, chemicals-based method results in negative impacts toward environment. In this study, attempt has been done to search antifungal activity from extraction of *Curcuma longa* and *Bambusa edulis* as potential biological treatments. Determination of the antifungal activity in *C. longa* and *B. edulis* extracts was done against fungal pathogen, which previously isolated from seed palm oil disease. Identification of this pathogen is confirmed via morphological characteristics and strain AG1 is proposed to be *Aspergillus* spp. Based on antifungal activity test, *C. longa* and *B. edulis* has the ability to suppress the growth of *Aspergillus* species (strain AG1). It was found that extract of *C. longa* recorded the highest holozone diameter compared to extract of *B. edulis*. Water extract from both sources was found not effective to halt *Aspergillus* sp. (strain AG1) growth. Degree of holozone produced from highest to the lesser are ethanol extract of *C. longa* > ethanol extract of *B. edulis* > water extract of *C. longa* and *B. edulis*. However, based on statistical analysis using sample t-test in SPSS, no significant difference ($p>0.05$) were observed. Therefore, future study should be done to further examine the concentration of extract applied during treatments. In conclusion, ethanol extract of *C. longa* has a potential to be used as antifungal agent to biologically treat the seed palm oil diseases.