

Morphological, pathogenic and molecular characterization of *Lasiodiplodia theobromae*: a causal pathogen of black rot disease on kenaf seeds in Malaysia

ABSTRACT

Kenaf (*Hibiscus cannabinus*) is a fibre crop grown in Malaysia as a substitute crop for tobacco. Previous study have recorded that kenaf has been infected by various genera of seed-borne pathogen include *Fusarium*, *Synnematium*, *Alternaria*, *Colletotrichum* and *Botrytis*. Seed-borne disease affects and actively attacks seeds and may be harmful. *Lasiodiplodia theobromae* is a seed-borne fungal pathogen that infects a variety of crop seeds. Studies on the isolation of seed-borne fungi on kenaf seed have revealed that *L. theobromae* causes black rot disease on kenaf seeds. *L. theobromae* was successfully isolated from kenaf seeds on an agar plate and a blotter. *L. theobromae* was isolated frequently from infected seeds and identified based on its cultural and morphological characteristics. The fungus sequence was analysed using molecular technique (ITS-rDNA amplification). A pathogenicity test was used to confirm that *L. theobromae* caused blackening of the seeds and reduced the germination against a control treatment in potato Dextrose Agar (PDA) medium. To our knowledge, this study is the first to confirm that *L. theobromae* is the causal agent of black rot on kenaf seed in Malaysia.

Keyword: ITS-rDNA amplification; Kenaf; *Lasiodiplodia theobromae*; Seed-borne fungal pathogen