

First report on the fungal pathogens associated with leaf tip blight of oil palm at nursery stage in Malaysia

ABSTRACT

Oil palm has been contributing to the economic growth and gross national income (GNI) of Malaysia. On that note, supply of disease-free oil palm seedlings to field is crucial. At present many nurseries encounter disease infestations of the seedlings at nursery stages. One of the most common diseases identified was leaf tip blight. The disease incidences cause critical quality, quantity loss of the seedlings and draw other pathogens in the field to infect the initially infected host. Till to date, no study has been conducted to diagnose leaf tip blight disease of oil palm at nursery stage in Malaysia. Molecular identification was conducted by using 3 specific primers namely actin gene (ACT), β -tubulin-2 (Bt2), glyceraldehyde-3-phosphate dehydrogenase (GD) gene and complete rDNA-ITS (ITS) to confirm the isolates. All the isolated fungi matched 98% to 100% similarity with GenBank database. Thus, the isolated isolates were identified as *Nigrospora* sp., *Colletotrichum gloeosporioides* and *Phoma* sp. In vitro pathogenicity test demonstrated that, the three-isolates produced similar leaf tip blight symptoms as the infested seedlings at the nursery. As a conclusion, *Nigrospora* sp., *C. gloeosporioides* and *Phoma* sp. were identified as the causal pathogen of leaf tip blight of oil palm with different levels of virulence.

Keyword: Fungal pathogens; Leaf tip blight; Oil palm; *Nigrospora* sp.; *Colletotrichum gloeosporioides*; *Phoma* sp.