

## ABSTRACT

Leaf spot disease is a major constraint during the nursery stage of oil palm cultivation, as it can significantly reduce the quality and productivity of seedlings. This study aimed to identify fungal pathogens associated with leaf spot disease and to assess the incidence and severity of the disease in oil palm seedlings across three locations: Sawang Subdistrict (North Aceh Regency), and Gandapura and Juli Subdistricts (Bireuen Regency). The research involved field surveys, collection of symptomatic leaf samples, fungal isolation and morphological identification in the laboratory, as well as Koch's postulates testing to confirm pathogenicity. The results revealed several pathogenic fungi including *Curvularia* sp., *Pestalotiopsis* sp., *Phoma* sp., and *Nigrospora* sp. In addition, several fungal isolates remained unidentified due to limitations in laboratory resources. Disease incidence reached up to 100%, with severity levels as high as 45.5%, influenced by environmental conditions, cultivation techniques, and field sanitation. This study highlights the importance of early pathogen identification and proper nursery management to mitigate the spread of leaf spot disease in oil palm seedlings.

Keywords: fungal pathogen, identification, leaf spot, nursery, oil palm