

# The occurrence of anthracnose disease caused by *Colletotrichum gloeosporioides* on dragon fruit (*Hylocereus* spp.) in Peninsular Malaysia

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## Abstract

This study was carried out to identify the suspected pathogenic micro-organisms associated with anthracnose disease on dragon fruit (*Hylocereus* spp.) and to investigate the occurrence of this disease in Peninsular Malaysia. Fifty posts of dragon fruit crops from several surveyed dragon fruit-growing areas were randomly sampled to assess the disease occurrence. The results revealed that anthracnose, caused by *Colletotrichum gloeosporioides* (Penz.) Penz. & Sacc., was one of the main diseases on this crop. This disease not only infected the stem but also the fruit. Diseased stem and fruit had symptoms of reddish-brown lesions with chlorotic haloes. The lesion had brown centers and coalesced to rot. Identification of the isolated pathogen showed that it had a whitish-orange colony, septated hyphae and capsule-like conidia (6-10  $\mu\text{m}$   $\times$  2-2.5  $\mu\text{m}$  in size). The highest disease incidence (80%) was recorded from Pekan (Pahang), a farm with unfavorable environmental condition for the optimum growth of dragon fruit crops; while the most severe disease (32.0%) was documented from a Durian Tunggal (Malacca) farm where the crop hygiene was poor. Correlation of disease incidence and severity showed a positive linear correlation with an  $R^2$  value close to 1; while regression analysis results highlighted that the occurrence and progress of disease were highly influenced by environmental conditions, alternative sources of inoculum and agricultural practices rather than by climatic factors.