

First report on bacterial soft rot disease on dragon fruit (*Hylocereus* spp.) caused by *Enterobacter cloacae* in Peninsular Malaysia.

ABSTRACT

This study was specifically carried out to isolate and identify the pathogenic bacteria causing disease on dragon fruit in Peninsular Malaysia as well as to study the correlation of disease occurrence with environmental factors. Among 43 surveyed areas, field observations found that disease occurred on 11 sampling areas with the maximum disease occurrence in Ayer Hitam, Kedah (disease incidence, 36% & disease severity, 10.6%); while statistical analysis significantly revealed that the maximum mean disease occurrence was found in Johor (disease incidence, 17.33% & disease severity, 4.53%) and the minimum in Kedah (disease occurrence, 1.30%). The in vitro pathogenicity test and Biolog analysis resulted in *Enterobacter cloacae* as the main pathogenic agents of yellowish to brownish soft and watery symptoms on infected stem and fruit. Pearson coefficient correlation highlighted that disease intensity was significantly correlated with temperature (r value -0.478 & - 0.485) and altitude of surveyed areas (r value 0.508 & 0.540). Disease prevalence was more influenced by plant condition and environmental factors. This could be considered as the first scientific report of bacterial soft rot disease on dragon fruit in Peninsular Malaysia.

Keyword: Dragon fruit; Soft rot; *Enterobacter cloacae*; Disease occurrence; Temperature; Altitude.