

**Title** Effects of *Colletotrichum gloeosporioides* and *Monilinia fructicola* on quality of red flesh dragon fruit (*Hylocereus polyrhizus*)

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#### **Abstract**

*Colletotrichum gloeosporioides* and *Monilinia fructicola* have been identified as important pathogenic fungi of dragon fruit in Malaysia. Based on external appearance, fruit are unlikely to be acceptable a few days after infection. A study was conducted to examine changes in several fruit quality attributes of red flesh dragon fruit (*Hylocereus polyrhizus*) following inoculation with *C. gloeosporioides* and *M. fructicola* at two spore concentrations ( $10^4$  and  $10^6$  spores  $\text{ml}^{-1}$ ). Three days after inoculation, disease symptoms were apparent on fruit inoculated with *C. gloeosporioides* at both spore concentrations while fruits inoculated with *M. fructicola* were only infected at a concentration of  $10^6$  spores  $\text{ml}^{-1}$ . At  $10^6$  spores  $\text{ml}^{-1}$ , lesions caused by *M. fructicola* were larger than those caused by *C. gloeosporioides*. Once infected, fruit quality was markedly reduced but the magnitude of the effect was dependent on spore concentration. Fruit soluble solids content decreased from 8.9% in uninoculated control fruits to 6.0 and 6.1, respectively in *C. gloeosporioides* and *M. fructicola* inoculated fruits ( $10^6$  spores  $\text{ml}^{-1}$ ), while titratable acidity was reduced from 0.11 to 0.06% under similar conditions.