

**Title** Phenotypic and molecular variations of *Colletotrichum* isolates causing postharvest diseases of dessert banana

**Author** D.M. De Costa and M.D. Kalpage.

**Citation** Journal of Plant Pathology Volume 90 (2, Supplement) August 2008, Book of Abstract, 9<sup>th</sup> International Congress of Plant Pathology, August 24-29, 2008 Torino, Italy, . 507 pages.

**Keywords** banana; anthracnose; *Colletotrichum*

### **Abstract**

*Colletotrichum musae* causes latent and wound infections of dessert banana grown worldwide leading to severe postharvest losses. In-depth investigations on the pathosystem would facilitate the designing of effective management programmes. This study was conducted to determine the diversity of phenotypic and molecular signatures of different *Colletotrichum* isolates associated with anthracnose, blossom-end rot and crown rot, the major postharvest diseases of banana. Twenty *Colletotrichum* isolates representing the three postharvest diseases infecting six different dessert banana cultivars collected from three different locations in Sri Lanka were used to determine phenotypic and molecular variations. Colony morphology and growth rate on PDA, growth inhibition by the fungicide Daconil (chlorothalonil) and spore morphology were investigated as phenotypic features. Molecular signatures of different isolates was determined based on PCR-RFLP of the rRNA gene cluster. PCR products were digested by four different restriction endonucleases namely, *RsaI*, *HhaI*, *HaeIII* and *MspI*. All the isolates tested were morphologically different in colony morphology and showed significant variation in spore dimensions and rate of growth. Different fungal isolates showed slight variation in fungicide response. PCR-RFLP of the rDNA product using *MspI* showed genomic variations among the isolates. The present study revealed the association of morphologically, behaviourally and genomically different *Colletotrichum* isolates with different banana cultivars and postharvest infections, in addition to the commonly existing isolate of *C. musae*.