

Abstract

Anthracnose caused by *Colletotrichum gloeosporioides* is a serious disease of mango, and is a significant factor in quality loss in harvested fruit. Chemical control of anthracnose is an integral part of postharvest handling but consumers are reluctant to buy chemically-treated fruits, so alternative methods of disease control are needed. Mango fruits contain sap that causes damage to the mango fruit skin, so they are desapped prior to packaging. However, the role of this sap in protecting fruit against postharvest anthracnose has not been adequately studied. Therefore, the present experiment aimed to determine whether antifungal compounds in the fruit sap helped maintain fruit resistance to anthracnose in harvested mango fruit.

Mango fruit (Kensington Pride) at commercial maturity, were 'non-desapped', 'desapped immediately after harvest', and 'desapped 24 hours after harvest'. The fruits were then inoculated with droplets of *Colletotrichum gloeosporioides* (1×10^7 spores/mL) and stored at 22°C during which time anthracnose severity (lesion area) was measured daily. Results revealed that 'non-desapped' mangoes contained significantly smaller anthracnose lesions compared with all desapped mangoes. HPLC analyses revealed that a very high concentration of 5-n-heptadecenylresorcinol was present in sap. Currently, the antifungal properties of this resorcinol are being tested against *Colletotrichum gloeosporioides* using a thin layer chromatography bioassay and a spore germination assay. In a separate experiment, the sap of a highly anthracnose-susceptible variety (Nam Doc Mai) contained much lower levels of 5-n-heptadecenylresorcinol, which strongly suggests that sap has an important role in maintaining anthracnose resistance in fruits.