Possible contribution of impact injury at harvest to anthracnose expression in ripening avocado: A review

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Abstract

In spite of burgeoning global demand for avocados, meeting consumer expectations for fruit quality is an ongoing challenge. Flesh bruising and body rots (principally anthracnose) are the main postharvest quality defects of avocado fruit. Mechanical damage causes bruising more so in ripening fruit than in hard unripe fruit. As a result, current emphasis is on careful handling of avocado fruit during later supply chain stages. However, emerging evidence suggests mechanical injury to unripe avocado fruit may trigger body rot development. Fruit responses to impact injury and their possible relevance to the pathogenicity of fungi which cause anthracnose in avocado (i.e. various *Colletotrichum* species) are presented here. Research on impact-induced physiological and biochemical changes that occur in avocado fruit appears to be limited and contradictory. The pathogenicity of *Colletotrichum* spp. in avocado is influenced by tissue pH, lipoxygenase activity, and concentrations of reactive oxygen species, antifungal compounds, epicatechin and mineral nutrients. Understanding how these parameters change in response to impact is important for predicting disease development and providing appropriate postharvest handling advice to industry.