

Title Evaluation of mango varieties for resistance to post-harvest diseases.

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Abstract

Managing post-harvest rots of mangoes caused by anthracnose (*Colletotrichum gloeosporioides*) and stem end rots (*Fusicoccum parvum*) through fungicide sprays or dips and other unsustainable methods continue to present a challenge to the Australian mango industry. There are concerns of residue levels and the efficacy of these treatments as a whole in managing these diseases. Genetic resistance has been a powerful tool in the control of several diseases but has not been fully exploited to manage postharvest disease of mangoes. This study was initiated on a mango gene pool collection at the DPI&F Research Station in North Queensland, to evaluate the collection for reactions to the different postharvest diseases under natural infection conditions. Thirty varieties were selected from each of which 50 fruits were harvested in December and another 50 from a further 30 varieties in January and evaluated for resistance to post-harvest rots, following incubation for 12-14 days at 22°C. The incidence and severity of anthracnose and stem-end rots as well as any other rots was recorded. The varieties reacted very differently to the postharvest rots, suggesting a large variation in genetic resistance to the diseases among the mango varieties tested. Varieties from the December harvest showed higher levels of resistance than those from the late January harvest. This may be attributed to their exposure to less disease pressure. Some of the highly resistant varieties identified have been propagated to initiate a rootstock development program for future mango disease management research.