Title Evaluation of potential fungicides against stem end rot and other postharvest diseases in two commercial mango cultivars of Pakistan

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Abstract

Mango fruit quality has prime importance in international fruit markets. Postharvest diseases degrade the fruit quality and affect the consumer acceptance and marketability of the fruit. The current studies were designed to evaluate the performance of new chemicals having potential for postharvest disease management especially stem end rot in different mango cultivars (Samar Bahisht Chaunsa and Sufaid Chaunsa). In study I, this was designed to evaluate efficacy of hot water fungicidal dip against postharvest disease development in mango cv. Samar Bahisht Chaunsa, taking fruit from six orchards ofMultan and Vehari Districts. After four weeks of cold storage (13°C), Nativo [a.i. Tebuconazole (500 g/Kg) + Trifloxystrobin (250 g/Kg) (0.3 g/L) gave best colour development and postharvest disease control as compared to control. Sportak (0.5 ml/L) also performed better in overall disease management. Skin browning was found as a physiological disorder, not linked to any pathogen. In study II, pre and postharvest fungicidal treatments were used for postharvest disease management in mango cv. Sufaid Chaunsa (sourced from one orchard). For preharvest application, selected trees were sprayed with the fungicides 20 days prior to harvest. Preharvest treatment of Scholar (0.6 ml/L) gave maximum SER disease control as compared to control after 4 weeks cold storage (11±1 °C; 80-85% RH). In postharvest treatments, Nativo (HWT) (0.3 g/L) gave best control against Stem end rot, anthracnose and body rots as compared to control. Sportak (0.5 ml/L) also gave better results regarding SER, anthracnose control as compared to control. Extended storage of fruit showed pulp discoloration. *Alternaria alternata* was most abundant isolated fungi from pulp discoloration portion of mango cv. Sufaid Chaunsa. Further work is necessary especially to exploit the potential of combined application ofNativo and Sportak.