

Title Integrated post harvest disease management in mango for safety fruits production
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Abstract

Experiments were conducted to develop a package of integrated control measures for post harvest diseases, quality of fruits as influenced by different post harvest treatments on the shelf life of mango. Two mango varieties, namely Amrapali and Fazli were used in these experiments. Mangoes were found to be affected with stem end rot, anthracnose and other post harvest disease, during storage. Number of lesions were always higher in Amrapali than Fazli whereas lesion size (cm) and fruit area diseased was lower in Amrapali. The study revealed that variety Amrapali was found to be very susceptible to Anthracnose and Fazli was susceptible to stem end rot. *Botryodiplodia theobromae* pat. was consistently isolated from stem end rot while *Colletotrichum gloeosporioides* from anthracnose diseases. Among the hot water treatments 55°C for 5 minutes showed the best performance to control anthracnose, reduced disease incidence (13.33%) and severity (3.10%) in Amrapali. It improved peel colour and fruit quality also. Skin scalding was noticed in both varieties due to high temperature at 60°C for 5-15 minute. Fruits of Amrapali stored in non-perforated white polythene bags resulted delayed in ripening (8.33days) and packed with perforated with polythene bag had the lowest disease incidence (6.66%) and severity (1.13%). Furthermore, perforated white polythene bag successfully controlled incidence of stem end rot and other diseases in Amrapali and anthracnose in Fazli. Out of 3 packaging materials, fruits packed in wooden box for long distance road transportation showed lowest disease incidence (12.49%) and severity (5.27%) and extended shelf life (15.66 days) in mango. Ripening was generally slower (11.13 days) in paraffin coated fruits and found as the most effective to extended shelf life (25.80, 22.80 days in cv. Amrapali and Fazli, respectively), followed by soybean oil treatment (20.40, 16.70 days in cv. Amrapali and Fazli, respectively). But these two treatments decreased general appearance and eating quality in mango due to skin discoloration and caused a kind of off-flavour which made the fruit unfit for consumption. Beside this, paraffin treated fruits showed best result to check disease incidence and severity.