B-92 : POSTHARVEST DISEASES IN PAPAYA AND THEIR CONTROL

Nihal Kodikara, N K B Adikaram, Anjani Karunaratne
Dept. of Botany, University of Peradeniya.

A survey revealed that upto 46% of the papaya fruits are spoiled after harvest, during transport (28%) and storage (18%). The main cause of spoilage during transport is mechanical damage resulting from poor handling and improper packing. Fungal diseases, anthracnose (*Colletotrichum gloeosporioidea, C. capsici*), stem-end rot (*Botryodiplodia theobromae, Phomopsis spp., Penicillium* sp.), wet rot (*Phomopsis sp.*), Cladosporium rot and Fusarium rot account for a major proportion of losses during storage. In laboratory storage trials, however, 50% of the fruits developed fungal rotting.

Hot water dipping reduced the incidence of most fungal diseases by about 20%, double-dip (at 42 °C for 30 min transferred within 3 min to 49°C for 20 min) bing more effective than the single dip (at 54.4° for 3 min). Hot water treatment, however, had a lesser effect on anthracnose disease. Experiments showed that hot water treatment markedly reduced the viability of conidia of the above pathogens and altered the peroxidase isozyme pattern in the papaya skin. Peroxidases are involved in the activation of host defence through enhanced lignification.

Dipping papaya fruits in a papaya latex also reduced fungal development dring ripening. A hot water dip (double dip) immediately before latex treatment reduced fungal development even better. Latex which possesses proteolytic activity, disintegrated conidia and gave a shiny, protective layer to the fruit surface.

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