

Abstract:

It is generally recommended that mangoes can be stored at 12-13 °C although 5 and 10°C have been reported to be suitable temperatures (Thompson, 1998). The sensitivity of mangoes to temperatures below 10°C varies with maturity, cultivar and duration and temperature of exposure (Phakawatmongkol et al., 2004). Storage of mangoes below 10°C results in chilling injury (CI), which is manifested by greyish scald-like discoloration of the skin and pulp, skin pitting, uneven ripening, reduction in the level of carotenoids, aroma and flavour during ripening and susceptibility to fungal decay. Discoloration of the skin and pulp is a typical symptom of mangoes subject to CI (Phakawatmongkol et al., 2004). Discoloration or browning is common in plant tissues and usually brought about by oxidation of free phenolic compounds by polyphenol oxidase (Mayer and Harel, 1979; Martinez and Whitaker, 1995). This study reports on experiments aimed at determining the effect of two mango cultivars sensitivity to CI and changes in phenolic content and activities of phenylalanine ammonia lyase (PAL) and polyphenol oxidase (PPO) during low temperature storage and subsequent ripening on transfer to a higher temperature.