

## Effects of Different Concentrations and Applications of Calcium on Storage Life and Physicochemical Characteristics of Papaya (*Carica Papaya* L.)

### Abstract

Papaya (*Carica Papaya* L.) fruits index 2 were treated with 1.5, 2.5 and 3.5% solutions of calcium chloride by dipping and vacuum infiltration (-33 Kpa) or untreated (0%) as control. Effects of these treatments were evaluated on storage life and postharvest quality characteristics of papaya. After 21 days of storage at  $13\pm 1^{\circ}\text{C}$ , the fruits were removed from storage for physicochemical analysis. Following additional five days holding in the storage condition for fruits used for evaluation of the rate of disease incidence and storage life. Postharvest dip treatments at different concentrations of calcium prolonged storage life, slowed down the ripening processes and maintained the quality of papaya. Whereas, it was effectively greater with calcium infiltration treatments than that for dip treatments. Calcium infiltration extended the storage life and retained the quality as calcium concentrations increased up to 2.5% and then declined. The desired effect was obtained at 2.5% infiltration compared with other treatments. The least disease incidence was found in those fruits infiltrated with 2.5% calcium. Hence, it can be concluded that postharvest infiltration of calcium at 2.5% has the potential to control disease incidence, prolong the storage life and preserve valuable attributes of postharvest papaya, presumably because of its effects on inhibition of ripening and senescence process and loss of the fruit firmness of papaya.

**Keyword:** Papaya, postharvest, calcium chloride, papaya storage life, papaya quality