

Title Effect of pre and post-harvest calcium treatments on the storage life of Asian pear
Authors A.S. Dhatt, B.V.C. Mahajan and A.R. Bhatt
Citation ISHS Acta Horticulturae 696: 497-501. 2005
Keywords Asian pear, calcium chloride, calcium nitrate, firmness, storage

Abstract

The fruits of Asian pear from own rooted trees develop small green islands (speckles) on skin surface with underneath corky tissues which is also suspected to be a symptom of localized calcium deficiency. Such problems ultimately affect the storability and marketability of the fruits. Two calcium salts i.e. CaCl_2 and $\text{Ca}(\text{NO}_3)_2$, at four concentrations (0.5, 1.0, 2.0 and 4.0 per cent) each were tested. The fruits were harvested at physiological mature stage, packed in crates and stored at ambient temperature. It was observed that the five pre-harvest sprays of CaCl_2 (4.0 per cent) increased peel and flesh Ca content of harvested fruit from 44.0 and 21.6 ppm to 77.7 and 29.9 ppm on fresh weight basis, respectively. Similarly, this dose also led to an increase of 16.4, 21.0 and 47.8 per cent in fruit firmness after 0, 14, and 35 days of ambient storage. Longer the storage period, higher was the effectiveness of Ca sprays in retaining fruit firmness. In another experiment, the mature fruits were dipped in aqueous solutions of CaCl_2 and $\text{Ca}(\text{NO}_3)_2$ (0.5, 1.0, 2.0 and 4.0 per cent) for 20 minutes and after air drying, stored at ambient temperature. The post-harvest dips in 4 percent CaCl_2 resulted in increase in Ca content of peel and flesh from 34.66 ppm and 18.33 ppm to 56.73 ppm and 28.00 ppm, respectively after 15 days of storage as compared to the untreated fruit. Similarly, this concentration also resulted in 17.97 per cent increase in fruit firmness after 2 weeks of storage over the control. Even up to 35 days of storage, the Ca dips were effective in retaining firmness of Pathernakh fruit.