Effect of harvest date and postharvest dipping in calcium chloride on the storage life and quality of pears

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Despite the calcareous nature of the soils in fruit orchards of Iran, the high concentrations of bicarbonates in irrigation water, increase pH of the tree saps, resulting in the poor absorption of calcium and micronutrients, or their preciptation in the tree pheloems. On the other hand, due to the high fruit reqirements for calcium and the fact that, calcium is only absorbed by fruits through xylem, exterme high summer tempratures associated with high rates of leaf transpiration, will cause translocation of calcium from fruits to leaves. Under these conditions, the pears will have poor taste, as well as short storage life caused by their low calcium contents.

An experiment was carried out in pears orchards in Karaj, to solve the fruits, calcium deficiency by early harvests, as well as by dipping the fruits in different solutions of calcium chloride. The first harvest time was done when the pears, tissue resistence to pressure was about 8 kg/cm^2 and they were still green. The second harvest was done one week later. The fruits were then dipped in solutions of 2 and 4% calcium chloride, after harvest and before being stored in cold^{c} and 85% relative humidity for 60 days. The rooms at 0.5 had a significant effect on results showed that the harvest time increasing the storage life and quality of Shahmiveh pears. The effect of dipping the pears in calcium chloride solutions was to increase significantly crunchinness, and improve the color, total sugar content and firmness of the pear tissue, pH and TSS. The combined synergistic effects of early harvest and calcium chloride treatment, become significant during synergistic effects of early harvest and calcium chloride treatment, become significant during storage, only with respect to the pear tissue firmness, its pH, color, and TSS.