

**Title** Surface application of new gel-based calcium formulations to peach fruits: Effects on mineral composition and postharvest trails

**Author** Victoria Fernández, Azahara Diaz, Alvaro Blanco and Jesus Val

**Citation** Abstracts Book, 6<sup>th</sup> International Postharvest symposium, 8-12 April 2009, Antalya, Turkey. 256 pages.

**Keyword** Peach; calcium; postharvest

#### **Abstract**

There is an increasing trend towards extending the marketability of late season peach cultivars using longer cold storage periods. However, this approach is increasing the incidence of physiological disorders likely associated with calcium nutrition. Since high-quality Calanda peaches are enclosed while on the tree in paper bags approximately 2 months before harvesting, as a strategy to increase quality, a calcium-containing formulation with slow-release properties was devised. Immediately prior to enclosure in paper bags, water-soluble gels containing 0.5% and 1% Ca<sub>2+</sub> either as CaCl<sub>2</sub> or Ca-propionate were carefully and homogeneously hand-spread over the entire fruit skin in 23<sup>rd</sup> June 2008. Part of the fruits were collected and directly analysed and the rest of harvest stored at 0°C for 1 month. Both calcium-chloride and calcium-propionate treatments significantly increased pulp and skin calcium concentrations with no apparent effect of the gel applied without Ca. The surface appearance of treated fruits revealed the precipitation on Ca-propionate which was however, successfully cleaned with detergent and a subsequent acid wash (0.1% HCl). Best results after cold storage were observed after 0.5% CaCl<sub>2</sub> application which showed the lowest browning rates as compared to the rest of treatments. Results are promising for improving the storability of late-season peach fruits and avoiding the occurrence of physiological disorders with the subsequent economic loss.