

Title Effect of calcium dips and chitosan coatings on postharvest life of strawberries (*Fragaria x ananassa*)  
Author Pilar Hernández-Muñoz, Eva Almenar, María José Ocio and Rafael Gavara  
Citation Postharvest Biology and Technology, Volume 39, Issue 3, March 2006, Pages 247-253  
Keywords Strawberry; Chitosan coating; Calcium gluconate; Fungal decay; Quality

### Abstract

Strawberries (*Fragaria x ananassa* Duch.) were treated either with 1% calcium gluconate dips, 1.5% chitosan coatings or with a coating formulation containing 1.5% chitosan + 1% calcium gluconate and stored at 20 °C for up to 4 days. The effectiveness of the treatments was assessed by evaluating their impact on the following parameters: fungal decay incidence, loss of weight, firmness, external color, pH, titratable acidity and soluble solids content. Calcium dips were effective in decreasing surface damage and delaying both fungal decay and loss of firmness compared to untreated fruit. No sign of fungal decay was observed in fruit coated with 1.5% chitosan which also reduced fruit weight loss. Chitosan coatings markedly slowed the ripening of strawberries as shown by their retention of firmness and delayed changes in their external color. To a lesser extent titratable acidity and pH were also affected by coatings. Whilst addition of calcium gluconate to the chitosan coating formulation did not further extend the shelf-life of the fruit, the amount of calcium retained by strawberries was greater than that obtained with calcium dips alone, thus resulting in increased nutritional value of the strawberries.