

Title Effects of chitosan coating on shelf life of cold-stored litchi fruit at ambient temperature  
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### **Abstract**

Postharvest pericarp browning of litchi fruit results in an accelerated loss in shelf life and a reduced commercial value. Visual quality was lost in only 6 h at ambient temperature when fruit were removed from storage at 2 °C, due to browning. The experiment was conducted to test the role of chitosan coating in inhibiting skin browning and extending shelf life of cold-stored litchi fruit at ambient temperature. Litchi fruit were treated with 2 g chitosan/100 g solution and then stored for 20 days at 2 °C and 90–95% relative humidity (RH), prior to shelf life evaluation at 25 °C and 80–90% RH. Changes in polyphenol oxidase (PPO) activity, anthocyanin concentration, colour index, eating quality and concentrations of total soluble solids and titratable acidity were measured. The effects of chitosan coating on disease incidence were also evaluated. Application of chitosan coating delayed the decrease in anthocyanin content, the increase in PPO activity and the changes in colour index and eating quality, reduced the decrease in concentrations of total soluble solids and titratable acidity, and partially inhibited decay. The results suggested that treatment with chitosan coating exhibited a potential for shelf life extension at ambient temperature when litchi fruit were removed from cold storage.