

Title Effect of chitosan coating on respiratory behavior and quality of stored litchi under ambient temperature

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Abstract

Litchi fruit were treated with 1% chitosan solution and stored under ambient temperature to study its change with respiration, temperature, quality etc. The respiration rate, sarcocarp temperature, the activity of polyphenol oxidase and weight loss of litchi with chitosan coating was lower than the uncoated litchi. The pericarp's temperature was lower than the ambient temperature because of litchi's transpiration. The storage time of coated litchi was 5 days longer than the uncoated. The chitosan film was characterized by Fourier transform infrared spectra and atomic force microscopy. The results showed that chitosan formed double-sides film on litchi's pericarp; one was more uniform and closely packed like a barrier, the other was rougher and better transport. Just as a plastic film, the coating can restrain the respiration, reduce moisture loss and lower the heat of respiration during storage.