

Title Postharvest litchi (*Litchi chinensis* Sonn.) quality preservation by *Lactobacillus plantarum*
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Citation Postharvest Biology and Technology, Volume 59, Issue 2, February 2011, Pages 172-178
Keywords Litchi; *Lactobacillus plantarum*; Browning control; Color retention

Abstract

The objective of this work was to preserve the postharvest quality of litchi cv Brewster by the application of *Lactobacillus plantarum*. A suspension of 1×10^9 CFU/mL of the bacteria was sprayed on ripe litchis and then stored at 10 °C with 75% of relative humidity. Treated fruit exhibited a significantly higher Gram positive bacteria growth on the rind (4–5 log CFU/g) than that detected in control fruit (2.5–3.75 log CFU/g). This result was corroborated by observing a high population of lactobacilli in scanning electron micrographs and by measurement of the content of lactic acid produced. Treated fruit displayed significantly ($\alpha \leq 0.05$) reduced color losses as indicated by the higher L^* and C^* values in comparison with the untreated ones. Additionally, cyanidin-3-rutinoside and total anthocyanin contents supported the measured color retention, since the pericarp of fruit treated with *Lb. plantarum* showed a significantly higher concentration of pigments than those used as control. In addition, a high concentration of phenolic compounds was found in the rind of treated fruit.