

Title Effect of *Lactobacillus plantarum* and chitosan in the reduction of browning of pericarp Rambutan (*Nephelium lappaceum*)

Author Gustavo Martínez-Castellanos, Keiko Shirai, Clara Pelayo-Zaldívar, Laura J. Pérez-Flores and José D. Sepúlveda-Sánchez

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Abstract

The effects of *Lactobacillus plantarum* alone or in combination with chitosan were evaluated on quality and color retention in rambutan fruits (*Nephelium lappaceum*) stored at 25 °C and 10 °C with 75 ± 2.5% of relative humidity for 10 and 15 days, respectively. The development of the microorganisms was evidenced by viability analyses and lactic acid production. The application of *L. plantarum* significantly improved color retention (a^* and L^*), and reduced weight losses. The *lactobacilli*, alone or in combination with chitosan, preserved fruit quality characteristics such as firmness, total soluble solids and titratable acidity. The *lactobacilli* application on rambutan pericarp produced acidification of pericarp and avoided the browning; thereby desiccation was prevented due to biofilm formation.