

Title Respiratory Rate of Litchi Fruit Treated with Antioxidants and Cold Stored

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Abstract

The litchi is native of the area between the south of China and the north of Vietnam, where is cultivated more than 3000 years, more recently has being cultivated at some countries of sub-tropical climates. The knowledge of the potential of respiratory rate (CO_2) for the fruits facility in the handling powder-crop, once the storage, in a same cold storage chamber. The objective of this work was to study the respiratory rate of litchi fruit cv. Bengal submitted to treatment with different antioxidants and cold stored. The treatments applied were (immersion for three minutes): control (immersion in distilled water); 4-hexylresorcinol (300 mg L^{-1}); citric acid (300 mg L^{-1}); ascorbic acid (300 mg L^{-1}), citric acid (150 mg L^{-1}) + ascorbic acid (150 mg L^{-1}). To evaluate respiratory rate six flasks of glass of 580 mL, containing a septum of silicon in the cover, for each treatment, were putted in cold chamber (5°C and 90% of relative humidity). For 15 days of storage, being made the daily reading of respiratory rate in a gas chromatographer, starting from a bracket of the atmosphere interns solitary of the flasks (1 mL). Fruit from all treatments showed higher respiratory rate on the 2nd day and a decrease in this variable afterwards. Control fruit showed the high respiratory rates during the evaluation period, this treatment showed the highest respiratory rate throughout the experiment, reaching $62.30 \text{ mL CO}_2 \text{ kg}^{-1} \text{ h}^{-1}$ on the 2nd day of evaluation. Fruit submitted to citric acid treatments showed lower respiratory activity during the evaluation period. The treatment ascorbic acid + citric acid showed the minor respiratory rate throughout the experiment, reaching $12.97 \text{ mL CO}_2 \text{ kg}^{-1} \text{ h}^{-1}$ on the 3rd day of evaluation.