

**Title** Quality retention and potential shelf-life of fresh-cut lemons as affected by cut type and temperature

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#### **Abstract**

The effects of four cut types (wedges, slices, 1/2 and 1/4 slices) of 'Lisbon' lemons (*Citrus lemon* L.) and storage at four temperatures (0, 2, 5 and 10 °C) on post-cutting life were studied. Respiration rates of all cut types that were stored at 0, 2 and 5 °C up to 8 days were 2–5 times higher than those of the whole lemons, while the increase was up to 12-fold at 10 °C. Small differences among treatments were observed in the post-cutting changes of color parameters and chemical composition. Based on sensory analysis, the four cut types remained marketable for up to 7 days at all tested temperatures, but only the wedges, slices, and 1/2 slices stored at 0, 2 and 5 °C preserved their sensory attributes for up to 10 days. Good retention of vitamin C (about 85% ascorbic acid and 15% dehydroascorbic acid) and antioxidant capacity were found after 10 days at 0, 2, and 5 °C. Ethanol was the main fermentative metabolite found (88% of the total) and its concentration increased by up to three-fold in slices, 1/2 and 1/4 slices after 10 days at 10 °C. Total phenolics concentrations decreased gradually throughout the storage period in all cases.