

P3-15 Cell Turgor Evolution during Storage of Fresh-cut Lettuce

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Fresh-cut vegetables have been developed to provide for new consumer requirements. When they are cut into easily prepared pieces fresh cut vegetables quickly shows signs of deterioration if storage conditions are not optimized. Dehydration and loss of turgidity are the principal factors affecting quality deteriorations in fresh vegetables. The objective of this study was to determine the involvement of turgor in the quality of fresh cut vegetables. Water status and cells turgor of minimally processed butterhead lettuce (*Lactuca sativa* L.) were followed during 7 day storage. Different storage conditions were tested with OPP (oriented polypropylene) or microperforated OPP pouches with or without CO₂ flushing. Sensorial quality attributes of leaves after several days of storage at 6°C were evaluated. The turgor was determined with a version of the technology TEProbeu (Thermo Elastic Probe), using the thermoelastic properties of fluids to measure pressures in volumes of the order of microliters (Pessoa & Calbo, 2004), and with the psychrometric method calculating the difference between water and osmotic potential values. Study and following of the different quality parameters showed that the nature of package and gas atmosphere inside may influence evolution of the turgor pressure of vegetable cells. Moreover, water content of vegetable did not significantly change during storage. In spite of strong dependence between water content and cell turgidity, it appeared that others parameters can play an important role in changing turgor pressure of cells.

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