

KEY FACTORS FOR FRESH-CUT POTATOES QUALITY AND STABILITY

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Fresh-cut or minimally processed fruit and vegetable are products that have to maintain their quality (appearance, texture, flavour and nutritive value) similar to those of fresh product. The fundamental principle underlying the quality of these commodities is that they are metabolic active tissues, and as a consequence, show physiological response to preparation procedures as well as to the package environment in which they are enclosed. Minimal processing for fresh-cut potato production includes raw material selection, pre-washing and washing, sanitization, peeling and cutting, pre-treatments, draining, weighing and packaging. The purpose of this presentation is to give an overview of the effects of the different minimal processing steps on the physiology and related quality of the final product. Particular attention is given to the newest studies on processing innovation and innovative scientific approaches for a better understanding of fresh-cut potatoes as biological systems. According to the literature, the use of ozone sanitization, natural dipping pre-treatments (e.g. edible film enriched in AA, CA) and high O₂ MAP result the most promising and non-invasive techniques for fresh-cut potatoes preservation. As far as physiological studies of the products is concerned, fundamental metabolic research for process optimisation and quality assurance are needed. As previously reported, isothermal calorimetry may provide a versatile tool to conduct fundamental metabolic studies of the effect of different processing steps on the quality and shelf life of minimally processed potato.