

Title New packaging strategies to preserve fresh-cut artichoke quality during refrigerated storage

Author M.A. Del Nobile, A. Conte, C. Scrocco, J. Laverse, I. Brescia, G. Conversa and A. Elia

Citation Innovative Food Science & Emerging Technologies, Volume 10, Issue 1, January 2009, Pages 128-133

Keywords Artichoke; Biodegradable packaging; Microbial characteristics; Pre-treatments; Sensory characteristics; Shelf life

Abstract

The influence of both post-harvest treatments and film permeability on the quality loss kinetic of minimally processed artichokes is assessed in this study. In particular, fresh-cut artichoke heads were subjected to dipping in citric acid/calcium chloride water solution, and coating with citric acid loaded sodium alginate, respectively. Three different packaging materials were used: a polyester-based biodegradable film, an aluminum-based multilayer film, and a commercially available oriented polypropylene film. Artichokes quality loss kinetic during storage was determined by monitoring produce appearance, weight loss, pH, and viable cell load of the main spoilage microorganisms. Results suggest that among the selected treatments, coating shows the best performance in terms of artichokes shelf life. As far as the packaging material is concerned, the biodegradable film tested in this work seems to be the most suitable packaging to preserve the quality of the coated fresh-cut produce.

Industrial relevance: Fresh-cut vegetables market has grown rapidly in recent years as a result of changes in consumer attitudes. There is a real need to find methods for preservation of minimally processed food products that can gain widespread acceptance by the industry. This paper suggests effective packaging solutions to delay the quality decay kinetic of fresh-cut artichokes. Moreover, the present study proposes a new “green packaging system” that could emphasize the relevance of the obtained results due to the increased attention to the environmental impact.