Title Microbiological and visual quality of fresh-cut cabbage as affected by packaging treatments

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Abstract

Microbiological behavior of fresh-cut cabbage as affected by packaging treatments including high oxygen (MAP1: 70 kPa O_2+15 kPa CO_2/balanced N_2), low oxygen (MAP_2: 5 kPa O_2+15 kPa CO_2/balanced N_2), and moderate vacuum (MVP), in combination with gas permeable (LDPE) and barrier (Ny/PE) films, was investigated. Spoilage bacteria and pathogens were inoculated on shredded cabbage, and observed for viable cell counts during storage at 5°C. Overall population of the tested bacteria was noticeably reduced in MAP1 with Ny/PE, but was little influenced by MAP2. However, the inoculated bacteria in MVP with Ny/PE significantly increased or leveled off. In sensory evaluation, the barrier packages maintained better visual quality compared to the permeable. Results indicate that packages with high O_2 and CO_2 in the barrier film showed considerable microbial inhibition without deteriorating visual quality. Therefore, it can be applied as a promising tool to secure microbial safety of fresh-cut vegetables at refrigerated temperatures.

http://www.springerlink.com/content/r936724008546566/fulltext.pdf