

Title Effect of washing with citric acid and packaging in modified atmosphere on the sensory and microbiological quality of sliced mushrooms (*Agaricus bisporus* L.)

Author A. Simón, E. González-Fandos and M. Vázquez

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Abstract

The effect of washing with citric acid before slicing and the effect of modified atmosphere packaging on the sensorial and microbiological quality of sliced mushrooms when stored at 5 °C for up to 17 days was evaluated.

The atmosphere generated with the perforated PVC film was similar to that of air atmosphere. The non-perforated PVC film generated CO₂ concentrations inside the packages ranging from 6.9% to 3.1% and O₂ concentrations ranging from 2% to 6% depending on the storage time. Washing with citric acid reduced microbial counts by 2.5 log units on day 0. The anti-microbial effect of citric acid decreased during storage but remained significant on each sampling day. Modified atmospheres reduced the microbial counts by 0.8 log units throughout storage. The effect of washing with citric acid combined with packaging in modified atmosphere resulted additive. The reduction of microbial counts avoided bacterial blotch in washed mushrooms during 17 days of storage at 5 °C.