

Vapor heat treatment effects on microbial populations and sensory quality of fresh-cut broccoli florets

P. Renumarn, V. Srilaong, A. Uthairatanakij, S. Kanlayanarat, P. Jitareerat

Acta Horticulturae 989: 185-191. 2013.

Abstract

This study determined the effects of vapor heat treatments (VHT) at 90°C on microbial population and sensory quality of fresh-cut broccoli florets during storage. The florets were treated with VHT for various lengths of time for 0 (control), 15, 30, and 45 s and immediately cooled with water. After cooling, the florets were spin dried, placed in PVC boxes and stored at 4°C. At initial day of storage, VHT for 15 s reduced *E. coli* by 0.51 log CFU.g⁻¹ but was not enough to reduce *Salmonella* spp., total bacteria and yeast and mold population. Sensory quality of the florets at this period was acceptable. With long exposure time to VHT resulted in increasing microbial populations and had significant effects on the changes in unacceptable by panelists in the fresh-cut broccoli florets during storage at 4°C. These results suggest that VHT for 15 s may be poor to control microbial population but this treatment could be accepted by panelists during 3 d of storage.