

Title Hot water treatment and peracetic acid to maintain fresh-cut Galia melon quality
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Abstract

The aim of the present study was to investigate if the use of hot water immersion dipping (HWD) alone or combined with other ecofriendly methods, could replace the use of chlorine in fresh-cut fruits such as melon. Melon pieces were subjected to hot (60 °C) or cold (5 °C) water dipping (60, 90, 120 s or 60 s, respectively) followed by immersion in 80 mg L⁻¹ peracetic acid (PAA) for 60 s at 5 °C or in water, packed in polypropylene trays under passive modified atmosphere (7.4 kPa O₂ and 7.4 kPa CO₂ at steady state), and stored up to 10 days at 5 °C. Respiration rate, ethylene emission, microbial load, flesh firmness, polyamine content and sensorial quality were determined. As main conclusions the longer HWD treatment times (90 and 120 s) followed by PAA dip, provided the lowest metabolic activity and helped to control microbial load without affecting the sensorial quality. In addition, both treatments increased the polyamine content helping to maintain the cell membranes integrity.