

Title Effects of maturity stage and mild heat treatments on quality of minimally processed kiwifruit
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Abstract

A central composite rotatable experimental design was used on kiwifruits of two distinct maturity stages (firm ripe and soft ripe), subjected to mild heat pre-treatments by immersion during 10–90 min in water at temperatures of 25–50 °C. Minimal processing of the fruits was performed 24 h after the heat treatment and soluble solid content, colour and texture properties were analysed in the samples during the whole storage period (0–10 days). For both maturity stages, the effect of heat treatment on colour was negligible. For fruits of the early maturity stage (firm ripe), total content of soluble solids increased with the mild heat pre-treatments. Pre-treatments avoided texture breakdown in firm ripe kiwi slices. Firmness, the most sensitive parameter, is increased or preserved using treatment periods of up to 40 min. Favourable responses were evidenced immediately after them and during the whole storage period. Therefore, mild heat pre-treatments, when applied to firm ripe kiwi at temperatures below 45 °C during less than 25 min improve the quality, mainly the firmness, colour being only marginally affected.