Effects of ripening initiation on quality of double dipped hot water Frangi papaya fruit

ABSTRACT

Hot water treatment is an effective and economical method for controlling plant pathogens, improving fruit resistance to chilling, inhibiting fruit ripening and alleviating some physiological storage disorders. ‘ Frangi’ papaya is a new hybrid and the literature on its response to hot water treatment is lacking. Therefore, this study was carried out to determine the effects of ripening initiation on the quality of ‘ Frangi’ papaya after double-dipped hot water treatment. Mature green papaya fruit were dipped in 42°C for 30 min, then 49°C for 20 min. This followed by cooling the fruit with running tap water of 26°C for 20 min. The fruit was then divided into two lots where one lot of fruit was allowed to undergo a natural ripening without using ethylene, while another lot of fruit was initiated to ripening using 1 mL L^{-1} ethylene. Fruit peel and flesh color (L*, C* and h°), weight loss, firmness, soluble solids concentration, titratable acidity (TA) and pH at day 0, 3 and 6 were analysed. Among all the parameters, only weight loss of fruit differed significantly with higher weight loss occurred in natural ripening fruit. As ripening progressed, all parameters showed significant changes except TA. It can be concluded that ‘ Frangi’ papaya could undergo normal ripening even after treated with double-dipped hot water.

Keyword: Peel color; Firmness; Soluble solids concentration; Titratable acidity; pH