Abstract

The storage response of cactus pear [*Opuntia ficus-indica* Miller (L.)] following hot water brushing was investigated. Fruit were simultaneously brushed for spine removal and sprayed with water. Ranges of temperature (60–70 °C) and treatment time intervals (10–30 s) were evaluated. All tested treatments were found not to significantly affect respiration rate, total soluble solids or acid concentrations. Treatments at 60 and 65 °C were found to reduce water loss and the incidence of rusty-brown spots on fruit peel. At higher temperatures, some negative effects were observed, namely increased electrolyte leakage and extended light brown areas on the fruit peel, indicating heat damage to the fruit. All the treatments effectively controlled decay in fruit stored at 6 ± 1 °C for 4 weeks followed by 1 week at 20 ± 1 °C. The effectiveness of treatments to control decay was increased with temperature and treatment time. Based on the results of this study, treatments at 60 °C for 30 s or 65 ° C for 20 s reduced the decay incidence by 86–91% without compromising fruit quality. These treatments can be easily applied in commercial practice with slight modification of the despining facilities in use.