

Prestorage high temperature conditioning at 38°C and high or low humidity ameliorates storability of cactus pear fruit (*Opuntia ficus-indica* 'Gialla')

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Abstract

Cactus pears, as many fruits and vegetables of tropical origin, are susceptible to chilling injury when stored at temperatures below 10-12°C. To enhance low temperature tolerance of sensitive commodities, different postharvest treatments, like intermittent warming, hot water dip, high temperature conditioning, film wrapping, have been developed. Objective of this experiment was to assess the impact of a prestorage high temperature conditioning treatment at 38°C for 36 h either at high (95-100%) (HTHH) or low (50-60% RH) humidity (HTLH) on cactus pear 'Gialla' stored at 5°C for 4 weeks plus one week at 20°C to simulate marketing conditions (SMC). Both heat treatments reduced decay, and chilling injury, which developed mainly at the end of the week of SMC at 20°C as pitting, scald and browning of the peel. Heat treatments also reduced weight loss, but HTHH was more effective than HTLH. The appearance of heated fruit was better than control fruit over storage, and difference would have been greater had control decayed fruit for chilling injury evaluated for overall appearance. In conclusion, both heat treatments reduced weight losses, decay, chilling injury and preserved overall appearance during cold storage and SMC with HTLH being more effective than HTHH in reducing decay.