

Title Putrescine and carnauba wax pretreatments alleviate chilling injury, enhance shelf life and preserve pomegranate fruit quality during cold storage

Author Kalyan Barman, Ram Asrey and R.K. Pal

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Abstract

Keeping in mind to reduce chilling injury and retain quality; pomegranate (*Punica granatum* L., cv. Mridula) fruits were treated with putrescine, carnauba wax and putrescine + carnauba wax prior to cold storage at 2 °C. Before analyzing physical, physiological and biochemical parameters fruits were subjected to post cold storage exposure at 20 °C for 3 days. Untreated fruits developed rapidly chilling injury, with main symptoms being brown discolouration of the skin, surface pitting, weight and firmness loss during storage. All these undesirable changes were significantly delayed by putrescine + carnauba wax application. Respiration and ethylene evolution rate were also brought down by combined application of putrescine and carnauba wax treatment. The superiority of combine treatment over other applications seems arises due to additive benefit of antisenescence and barrier properties of putrescine and carnauba wax, respectively.