

Title Effect of coating application on chilling injury of grapefruit cultivars.
Authors Dou, H. T.
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Abstract

The effects of grapefruit cultivar (Marsh, Flame, Rio Red and Ruby Red) grown in Florida, USA, and coating type (nonwaxed, carnauba [*Copernicia prunifera*], shellac and polyethylene) on chilling injury (CI) incidence were examined. The shellac coating widely used for exported citrus resulted in the lowest CI incidence in white 'Marsh' grapefruit stored for 2 months at 4 deg C and 92 plus or minus 3% relative humidity compared with nonwaxed fruit or fruit waxed with either carnauba or polyethylene waxes. The order of coating performance for reducing CI was highest for shellac followed by carnauba, polyethylene and nonwaxed fruits. For 'Flame' little difference of coating type on CI was detected after 2 months of storage. Overall, CI incidence was high in fruit of the cultivars harvested from September to December, low in February, and high again after March but was generally higher in white 'Marsh' seedless grapefruit than 'Ruby Red', 'Rio Red', or 'Flame'. However, little difference of cultivar on CI incidence was found among the 'Ruby Red', 'Rio Red', and 'Flame' grapefruit except the October harvest in which CI was higher in 'Ruby Red' than in 'Rio Red' and 'Flame' grapefruit. These studies suggest that the coating and cultivar should be considered in the postharvest management of CI in commercial packing.