Title Changes in the physico-chemical characteristics of 'Fajri' mango during low temperature storage

Author Ahmad S. Khan, Syed A. Raza and Aman U. Malik

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Abstract

Mango cultivar 'Fajri' with its large size, mid to late season of maturity is an important fruit being grown in Pakistan. with tremendous potential for export. However, to extend the postharvest life and maintain the fruit quality of this premium mango cultivar, the effect of low temperature storage has not been explored yet. Hence the studies were carried out to investigate the performance of 'Fajri' mango under low temperature storage. After harvest at commercial maturity fruit were were stored at 10°C, 12°C or 14°C ± PC, and 80-85% RH for 21 days. The fruit stored at 10°C and 12°C exhibited statistically similar behaviour regarding fruit softness, fruit peel colour, disease incidence and severity, skin shriveling, titratable acidity (T A), soluble solids concentrations (SSC):T A ratio, total sugars and reducing sugar contents. The fruit exhibited potential for about 21-day storage at 1O-12°C followed by 5-6 days of shelf at ambient conditions (32 ± 2°C and 55-60% RH). No chilling injury was recorded even at 10°C indicating the possibility of storing 'Fajri' at a temperature below 10°e. Storage of fruit at 14°C resulted in significantly higher fruit weight loss, fruit softness, SSC:TA ratio, ascorbic acid contents and more fruit skin shriveling along with higher disease incidence and severity. Storage temperature exhibited statistically significant interaction with post-storage peel colour development and disease incidence. The extent of yellow peel colour and disease incidence was significantly higher at 14°C as compared to at 10°C and 12°C. The mango cv. 'Fajri' exhibited best storage potential at 10-12°C with better fruit physico-chemical characteristics than at 10°C.