Title Postharvest quality of two Pakistani mango (*Mangifera Indica* L.) cultivars subjected to high temperature ripening

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Abstract

Mango is one of the most important tropical fruits in Pakistan; however, despite its significance, chemometric profiles of indigenous and commercially prevalent cultivars is scant. The present study was designed to determine the level of non-structural carbohydrates (NSC), non-volatile organic acids (OA), total phenolics (TP) and antioxidant capacity (AOC) from both peel and pulp of two commercially-grown Pakistani mango cultivars viz. Anwar Ratole and Chaunsa that took 4-5 days to ripen at 32°C. Results showed that sucrose was the dominant sugar (504.0-595.3 mg g^{-1}DW) and contributed to more than half of the total sugars present in both peel and pulp followed by fructose (22.9-99.7 mg g^{-1}'DW) and glucose (0.5-53.5 mg g^{-1}DW). Citric acid was the principal organic acid (58.9%) observed in the cultivars tested. Higher mean values for total acids was observed in cv. Anwar Ratole (40.4 mg g^{-1}DW) followed by Chaunsa (23.5 mg g^{-1}DW). Peel extracts for the cultivars exhibited significantly higher mean values for TP (44.6-53.8 mg GAE g^{-1}DW) as compared to pulp (1.1-1.9 mg GAE g^{-1}DW). Concomitantly, AOC was double in pulp of cv. Anwar Ratole compared with Chaunsa. The study revealed unique features of the two mango cultivars. From a market perspective, the study demonstrated that high temperature (32°C) storage conditions did not change ripening physiology and nutritional qualities.