

Abstract:

Postharvest ripening behavior and physical, chemical and nutritional properties of Thai mango cultivars were comprehensively characterized. Nine cultivars were harvested at mature green ripe stage and daily analyzed during postharvest ripening for pH, total soluble solids (TSS), titratable acidity (TA), color and firmness of mesocarp as well as color of peel. In fully ripe fruits, contents of β -carotene (provitamin A), pectin, fiber and total phenols were also considered. For individual characterization of the ripening behavior of the cultivars, quality parameters of the ripening fruits were related to each other, thus eliminating extrinsic effects on ripening kinetics. Acidity decreased with rising TSS/TA ratio following a power law relationship independent of cultivar. Decreasing mesocarp firmness and hue angle of flesh may be correlated with increasing TSS/TA ratio by analogy, but power law parameters were dependent on cultivar. From the ripening kinetics and the quality profile of fully ripe fruits, suitable processing applications could be deduced for each cultivar, such as for purée and nectar production requiring soft fruits at low TSS/TA ratio, accompanied by intense yellow-orange flesh color. Furthermore, provitamin A potential and susceptibility to enzymatic browning of the cultivars were discussed in this study.