Title Postharvest quality and antioxidant activity of karanda (*Carissa carandas*) fruit

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Abstract

Karanda fruit (*Carissa carandas*) is an evergreen shrub belonging to Apocynaceae family. There is lack of report in literature on the physico-chemical characteristics and antioxidant potential of karanda fruit. A study was conducted to determine postharvest quality and antioxidant activity ofkaranda fruit at three maturity stages, which were whitishpink, red and purple stages. The experimental design was a complete randomized design and repeated thrice. Analysis ofvarianc was used to test any difference in postharvest characteristics and antioxidant activities. Tukey's HSD test was used to determine significant differences of measures. Results showed that there were significant differences between the postharvest quality and antioxidant activity ofkaranda fruit. The lightness ofkaranda peel declined while the hue values showed colour changed from red to purple as maturation progressed. The lightness of pulp also decreased and colour change from yellow to red as maturation progressed. The firmness decreased while the soluble solids concentration (SSC) increase as maturation occurred. Purple stage ofkaranda fruit exhibited the highest total phenolic content and antioxidant activity evaluated based on the DPPH radical-scavenging activity, FRAP assay and ABTS assay. The study showed karanda fruit harvested at purple stage attained high SSC and has strong antioxidant activity. Therefore, this fruit has great potential to be promoted as nutritional food.