

Title Physicochemical changes in fresh-cut wax apple (*Syzygium samarangense* [Blume] Merrill & L.M. Perry) during storage

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Abstract

Physicochemical changes, such as peel and flesh colours, total anthocyanin content, browning index, firmness, total soluble solid (TSS), titratable acidity (TA), sugar acid ratio (TSS/TA), antioxidant capacity, total phenolic content and ascorbic acid content, in fresh-cut Taaptimjan waxapple fruit stored at 4 ± 2 °C and 12 ± 2 °C for 7 days were investigated. The skin of fresh-cut fruit stored at 4 ± 2 °C showed higher a^* value, chroma and total anthocyanin content and lower hue angle than those stored at 12 ± 2 °C. Lightness (L^* value) and whiteness index of the fresh-cut fruit flesh stored at 12 ± 2 °C showed significantly lower than those stored at 4 ± 2 °C which related to an significant increase in browning index. Firmness, total soluble solid, titratable acidity and sugar acid ratio did not significant changes during storage. Antioxidant capacity and total phenolic content increased throughout storage. Ascorbic acid content of the fresh-cut fruit stored at 4 ± 2 °C remained constant throughout storage whilst ascorbic content at 12 ± 2 °C decreased and was lower than that at 4 ± 2 °C. At 4 ± 2 °C antioxidant capacity and ascorbic acid content were higher than that stored at 12 ± 2 °C whilst there was no significant difference in total phenolic content. In conclusion, the reduction of whiteness index and the increase in browning index of fresh-cut waxapple flesh were the key factors affecting its quality and storage at 4 ± 2 °C could reduce the change in the flesh colour and maintained the peel colour and nutritional values of fresh-cut waxapple fruit during storage.