

Physicochemical characteristics of Dabai (*Canarium odontophyllum* Miq.) fruit

ABSTRACT

Introduction. Dabai (*Canarium odontophyllum* Miq.) fruit is an underutilized fruit found in Borneo, Palawan and Sumatra. To our knowledge, no literature exists about the postharvest quality characteristics of dabai fruit. Furthermore, it is a unique fruit whereby the fruit is served by steeping at about 60 °C for 15–20 min to soften the flesh. Therefore, a preliminary study was conducted to determine the physicochemical characteristics of dabai fruit before and after steeping. **Materials and methods.** Physicochemical characteristics (skin color, size, shape, weight, mesocarp thickness, firmness, soluble solids concentration, pH, titratable acidity, organic acids, respiration production rate and ethylene concentration) of dabai fruit were determined before and after steeping in hot water at 60 °C for 15 min. **Results.** The color of mature dabai fruit is dark purplish with very low chromaticity. The fruit is oval-shaped with a length to diameter ratio of 1.40. The seed contributes 61% of the fruit weight. After treating fresh dabai fruit with 10 mL·L⁻¹ ethylene at 20 °C, the respiration production rate decreased while ethylene concentration increased. After steeping dabai fruit at 60 °C for 15 min, the flesh firmness decreased while soluble solids concentration increased tremendously. After steeping, the pH of fruit decreased and titratable acidity increased, as did the citric, malic and succinic acids of dabai fruit, especially citric acid. **Conclusion.** Steeping softens dabai fruit flesh and makes it palatable, with high soluble solids concentration and organic acids. The high respiration production rate means that dabai fruit has a short shelf life under non-cold chain handling practices.

Keyword: Malaysia; *Canarium odontophyllum*; Fruits; Postharvest physiology; Ethylene production; Respiration rate