

Physical properties of skin, flesh, and kernel of *Canarium odontophyllum* fruit.

ABSTRACT

Fruits are needed in our life as part of nutrition component and have many beneficial effects on human health, e.g. as the source of dietary antioxidants. In Malaysia, Sarawak is one of the states that is rich in many types of flora, e.g. *Canarium odontophyllum*, which have not been well investigated. This fruit is not well known because it was categorized as underutilized and indigenous species. As part of an investigation, knowledge on the physical properties of fruit is important as the basic information. Therefore, this study was conducted with the objective to determine the physical properties of *C. odontophyllum* (length, width and thickness, cm), shape (sphericity index, aspect ratio, %) and mass (whole, skin, flesh, kernel, g). The data were obtained from the measurements of physical properties of two different sizes of *C. odontophyllum* and were stated as mean \pm SD for whole fruit and mass fractions (skin, flesh and kernel) of the fruit. Averaged values (mean \pm SD) of big and small fruits were determined for length (4.10 \pm 0.11; 3.74 \pm 0.08 cm), width (2.79 \pm 0.13; 2.40 \pm 0.07 cm), thickness (0.50 \pm 0.00; 0.40 \pm 0.00 cm), sphericity index (67.37 \pm 4.32; 41.28 \pm 0.69%), aspect ratio (43.62 \pm 0.76; 65.79 \pm 2.26 %), whole fruit mass (18.28 \pm 1.59; 12.73 \pm 0.69 g), skin mass (1.02 \pm 0.19; 0.86 g), flesh mass (11.22 \pm 0.93; 7.81 g) and kernel mass (6.79 \pm 0.81; 5.84 g). These findings can be used as baseline information for further nutritional and processing application of the fruit.

Keyword: Aspect ratio; *Canarium odontophyllum*; Length; Mass; Physical properties; Shape; Sphericity index; Thickness; Width.