

PHYTOCHEMICAL SCREENING AND ANTIOXIDANT
PROPERTIES OF *Metroxylon sagu* Rottb. FRUIT

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ABSTRACT

PHYTOCHEMICAL SCREENING AND ANTIOXIDANT PROPERTIES OF *Metroxylon sagu* Rottb. FRUIT

Metroxylon sagu Rottb. or locally known as sagu belongs to the family Areaceae. This species considered as the forgotten fruit that rarely known by younger generation nowadays. There are very few and limited reported studies about *Metroxylon sagu* Rottb. especially the study on the antioxidant content of this fruit. The aim of this study is to screen the phytochemical properties, to determine vitamin C content, to evaluate the total phenolic content (TPC) and the antioxidant property of *Metroxylon sagu* Rottb. fruit. Dried sample both peels and flesh extract were used for all evaluations. The extraction was conducted using ethanolic extraction. The vitamin C content was evaluated using redox titration method meanwhile antioxidant properties was determined using DPPH assay. Phytochemical screening of peels and flesh extract revealed the presence of diterpenes, flavonoids, glycosides, phenols, saponins, tannins, and terpenoid but the absence of alkaloid. In the evaluation of vitamin C, peels exhibit 1.96 mg AAE/g and flesh exhibit 2.15 mg AAE/g of vitamin C. The results of TPC equivalent to Rutin standard of peels and flesh are 6.388 mg RE/g and 5.337 mg RE/g respectively. For the antioxidant property as compared to Ascorbic acid equivalent (AAE) of peels and flesh are 43.23 mg AAE/g and 6.36 mg AAE/g respectively. Peels showed the highest TPC and DPPH scavenging activity meanwhile the flesh exhibited the highest vitamin C content. This indicates that there a strong correlation between TPC and DPPH and their contribution to antioxidant capacity. This shows that the antioxidant property of *Metroxylon sagu* Rottb. fruit contribute by phenolic, not the vitamin C. Hence, further study needs to be done using different maturity stage of the tree, various assays for determination of antioxidant property and isolating and identifying the active compound.