

PP 52

Evaluation of nutritional properties and mineral content of *Dillenia indica* (Elephant Apple) fruit

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Background: *Dillenia indica* is an underutilized plant which possess numerous medicinal properties with edible constituents. *Dillenia indica* is popular for its lemon-flavoured fruits that are used to make jellies, curries and beverages. In addition to its fruits, leaves, barks and different parts of this plant have great medicinal values including anti-HIV, anti-inflammatory, anti-cancer, and anti-malarial activity. Furthermore, it has analgesic, anti-diabetic, anti-microbial, antibacterial, anti-oxidant, anti-diarrhoeal, wound healing and hair waving properties. This plant is known by various names in different regions in the world and commonly known as ‘Elephant apple’ and in Sri Lanka, it is known as ‘Hondapara’.

Objective: To evaluate the nutritional properties and mineral content of Sri Lankan *Dillenia indica* fruit powder.

Method: For the study, mature elephant apples were selected and they were cut into pieces and dehydrated for 24 hours at 60 °C to obtain the fruit powder. Then the dehydrated fruit powder was subjected to proximate analysis and mineral analysis. The mineral analysis was performed using Inductively Coupled Plasma Mass Spectrometry. AOAC methods of proximate analysis were used.

Results: The moisture, ash, fat, crude fiber and protein content of the fruit powder were 8.03%±0.09, 4.17%±0.09, 1.77%±0.31, 10.83%±0.29 and 4.40±0.20 respectively. According to the results of the mineral analysis, sodium, magnesium, potassium, calcium and iron contents were 53.2±0.03, 88.17±0.01, 1405.55±0.11, 282.82±0.55, and 20.29±0.10 (mg/100g) respectively. Relevant to heavy metals, this fruit contains, arsenic, cadmium, and chromium in 0.03±0.00, 0.01±0.00 and 0.66±0.05 (µg/100g) amounts respectively.

Conclusion: This fruit powder contains high protein, fiber content, low fat content, and high potassium, calcium and iron content whereas, heavy metal contents are lower than the recommended safe levels.