

## Phenolic compounds and antioxidant activities of gold apple (*Diospyros decandra* L.) green and ripe fruit

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### Abstract :

The objective of this study was to analyze the phenolic compounds and antioxidant activities of gold apple (*Diospyros decandra* L.) green and ripe fruit. The samples were analyzed for total phenolic content (TPC), total flavonoid content (TFC) and phenolic compounds using HPLC. Antioxidant activity was analyzed using 1,1-diphenyl-2-picrylhydrazyl radical scavenging (DPPH) and ferric reducing/anti-oxidant power assays (FRAP). The results showed that ripe fruit had higher content of TPC (125.77 mg GAE/g), TFC (5.82 mg RE/g) and FRAP (1546.64 mmol FeSO<sub>4</sub>/g) than those in green fruit. The green and ripe fruits had high DPPH value (146.99 and 147.64 mgTrolox /100g, respectively). Major phenolic acids identified were protocatechuic acid, p-hydroxy benzoic acid, vanillic acid and caffeic acid, while predominant flavonoids were rutin and myricetin. This study has provided useful information that local fruits are potential sources of bioactive components with high antioxidant properties that may be of interest to the consumers and public health workers.

**Keywords:** antioxidant activity, phenolic compound, flavonoid, *Diospyros decandra* L.