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### **Extraction, quantification, and antioxidant activities of phenolics from pericarp and seeds of bitter melons (*Momordica charantia*) harvested at three maturity stages (immature, mature, and ripe).**

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#### **Abstract**

Bitter melon (*Momordica charantia*) is an exotic vegetable used for consumption and medicinal purposes mainly throughout Asia. Phenolics were extracted from pericarp (fleshy portion) and seeds of bitter melons harvested at three maturation stages (immature, mature, and ripe) using ethanol and water solvent systems. Total phenolic assessment demonstrated 80% of ethanol to be the optimal solvent level to extract phenolics either from pericarp or seed. Main phenolic constituents in the extracts were catechin, gallic acid, gentisic acid, chlorogenic acid, and epicatechin. Free radical scavenging assay using 2,2-diphenyl-1-picrylhydrazyl (DPPH) demonstrated the bitter melon extracts as slow rate free radical scavenging agents. There were low correlations between the total phenolic contents and antiradical power values of the extracts, suggesting a possible interaction among the phenolic constituents occurred. Bitter melon phenolic extracts contain natural antioxidant substances, and could be used as antioxidant agents in suitable food products.

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