

## Identification and quantification of phenolic compounds in bambangan (*Mangifera pajang* Kort.) peels and their free radical scavenging activity.

### ABSTRACT

Phenolic compounds and antioxidant capacity of acidified methanolic extract prepared from fully ripe bambangan (*Mangifera pajang* K.) peel cultivated in Sarawak, Malaysia, were analyzed. The total phenolic content (98.3 mg GAE/g) of bambangan peel powder (BPP) was determined by the Folin-Ciocalteu method. BPP showed a strong potency of antioxidant activity and was consistent with that of BHT and vitamin C as confirmed by the DPPH (1,1-diphenyl-2-picrylhydrazyl) radical scavenging activity and FRAP (ferric-reducing antioxidant power) assays. Gallic acid, p-coumaric acid, ellagic acid, protocatechuic acid, and mangiferin were the major compounds among the 16 phenolics that have been identified and quantified in *M. pajang* peels with 20.9, 12.7, 7.3, 5.4, and 4.8 mg/g BPP, respectively. Peak identities were confirmed by comparing their retention times, UV-vis absorption spectra, and mass spectra with authentic standards. The 16 phenolic compounds identified in *M. pajang* K. using HPLC-DAD and TSQ-ESI-MS are reported here for the first time.

**Keyword:** HPLC-ESI-MS; *Mangifera pajang*; Peel; Phenolic compounds; Scavenging activity.