

Characterisation of fibre-rich powder and antioxidant capacity of *Mangifera pajang* K. fruit peels.

ABSTRACT

The composition of bambangan peel dietary fibre (DF) and several properties related to its nutritional quality were investigated. The physicochemical properties and antioxidant capacity for the fibre-rich powder (FRP) were investigated, and the chemical composition for soluble dietary fibre (SDF) and insoluble dietary fibre (IDF) were also studied. The FRP had a high amount of total dietary fibre (TDF; 72.3 g/100 g FRP) with a balanced SDF/IDF ratio (46.3/53.7%). The FRP had a high glucose retardation index, water-holding capacity (WHC), oil-holding capacity (OHC), and swelling. The antioxidant capacity of the FRP, as determined by the DPPH radical dot assay using an Elisa reader, exhibited a strong potency due to the presence of associated total polyphenols (98.3 mg/g FRP). These FRP characteristics indicated that bambangan peels are a rich source of DF, antioxidants, and other bioactive compounds that can be incorporated with food products to improve the nutraceutical properties of these products.

Keyword: Antioxidant capacity; Dietary fibre; *Mangifera pajang* peel; Physicochemical properties.