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.