

Extraction of total polyphenols from mango peel and its application in food products

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Abstract

Mango (*Mangifera indica*) is “King” of fruits. Its production and consumption has gradually increased. As mango peel is not currently being utilized, discarded as waste and becoming source of pollution. The edible pulp makes up to 33 to 85 per cent of the fresh fruit, while the peel and the kernel amounts to 7–24 and 9–40 per cent respectively. It contains total polyphenols (TPP) and total dietary fiber (TDF) which needs to be exploited as natural phyto-nutrients. Hence the present study sought to determine the processing of mango peel, development of food products from the extractions, sensory evaluation and shelf life study. The results revealed that Mango peel powder is good source of protein 3.8g, fat 2.6g, crude fiber 8.9g, carbohydrate 86.4g, ash 3.3g and energy 384 Kcal per 100g. Mineral content of the peel was 4.15 calcium, 0.45 phosphorous, 4.62 iron and 2.85 zinc mg/100g respectively. The total dietary fiber, insoluble dietary fiber and soluble dietary fiber was 69.86, 44.23 and 24.63g/100g of MPP; β -carotene 5600 μ g/g; total polyphenols 4.5 mg GAE/100g and antioxidant activity 76.96 per cent. These extracts were incorporated at different levels in formulation of bakery and extruded products which enhanced nutrition and shelf life of products. Hence the TPP and DF can be commercially exploited as natural anti-oxidants which are useful in nutraceutical formulation in the management of life style disorders.