Title Free radical scavenging activity and total phenolic content in Malaysian tropical fruits by-products

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Abstract

The methanolic extract from guava, mango, pineapple, papaya, starfruit, watermelon, jackfruit, mangosteen and durian by-products (skin, seed and core) were assayed for free radical scavenging activity and total phenolic content (TPC). Free radical scavenging activity and TPC were analysed using 2,2-diphenyl-I-picrylhydrazyl (DPPH) radical scavenging method and folin-ciocalteau method respectively. Guava skin exhibited the highest radical scavenging activity (96.33%) and the lowest was in pineapple core (20.31 %). TPC investigated in by-products of these tropical fruits varied from 270 to 8997 mg gallic acid equivalent/I OOg of dried samples. Mangosteen skin showed the highest amount ofTPC and the lowest was in pineapple core. Results revealed that most of the tropical fruits skin had higher antioxidant potential compared to the seed and core of the fruits. The fmdings suggest that tropical fruits by-products which demonstrated high radical scavenging activity and TPC could be a valuable source of antioxidant phenolic. Hence, these tropical fruits by-products have the potential to be sources of natural antioxidant components and functional ingredients.