

Antioxidant capacity and total phenolic content of Malaysian underutilized fruits

ABSTRACT

The purpose of this study was to evaluate the antioxidant capacity (AC) and total phenolic content (TPC) of selected Malaysian underutilized fruits. The 58 underutilized fruits of 32 different species from 21 genera were analyzed for AC and TPC. AC was measured using β -carotene bleaching, ferric reducing antioxidant potential (FRAP) and 2,2-diphenyl-1-picrylhydrazyl (DPPH) assays, and TPC was determined using the Folin-Ciocalteu reagent assay. Our findings showed that the fruits from genera of Pometia, Averrhoa, Syzygium, Sallacca, Phyllanthus, Garcinia, Sandoricum and Maipighia had higher AC compared to other studied genera. Among the underutilized fruits, Sandoricum and Phyllanthus fruits contained the highest TPC (>2000 mg/100 g edible portion). The correlation between AC and TPC varied. The study indicated that some of these underutilized fruits have the potential to be sources of antioxidant components.

Keyword: Antioxidant activity; Food analysis; Food composition; Inhibition of oxidation activity; Scavenging activity; Total phenolic content; Underutilized fruit