

Proximate composition, sugar profiles, minerals and carotenoids content and antioxidant capacity of momordica cochinchinensis L. Spreng or Gac (Vietnam) or Teruah (Malaysia) fruit fractions (peel, pulp, and aril)

ABSTRACT

The proximates, sugar profiles, minerals, carotenoids, and antioxidant capacity of *Momordica cochinchinensis* L. Spreng or Gac (Vietnam) or Teruah (Malaysia) fruits fractions (peel, pulp, and aril); were evaluated. Results showed Gac aril to contain the significant highest carbohydrate (55.6g/100g); compared to the pulp (30.9g/100g) and peel (19.3g/100g). Meanwhile, Gac peel contained the highest protein (6.2g/100g) and dietary fibre (56.9g to 58.1g/100g). Glucose and fructose are present in Gac fruit. Glucose was the main type of sugar in both Gac pulp and aril, with a significant value of 6.66 g/100 g and 7.55 g/100 g, respectively. Meanwhile, fructose also detected in Gac pulp and aril amounted to 5.84 g/100 g and 6.45 g/100 g, respectively. Potassium was the most abundant mineral in the Gac peel (817.59 mg/100g), followed by pulp (658.20 mg/100g) and aril (228.79 mg/100g). Lycopene was the main carotenoid found in Gac aril (31.7 – 103.7 mg/g) followed by β -carotene (2.9 – 9.6 mg/g); astaxanthin, (1.54 – 4.91 mg/g); lutein, (0.16 – 1.35 mg/g) and zeaxanthin (0.35 – 1.49 mg/g) in the pulp. Antioxidant activities of Gac were found between 22.61% – 58.76%, 37.63% – 41.64% and 2.46% –19.66% in the gac peel, pulp, and aril, respectively, using the DPPH assay. In conclusion, Gac pulp and aril contained good sources of carbohydrates, minerals, lycopene, and β -carotene.