Nutritional, mineral and organic acid composition of passion fruit (Passiflora species)

ABSTRACT

This study focused onproximate composition, mineral content and organic acid properties of fruit juices from four Passifloraspecies; Passiflora edulis(Purple), Passiflora edulis(Frederick), Passiflora maliformis, and Passiflora quadrangularis and the mesocarp of Passiflora quadrangularis. The moisture content varied between 84.37±0.63% in P. edulis(Frederick) to 86.63±0.33% in mesocarp of P. quadrangularis. The ash content of mesocarp of P. quadrangulariswas significantly lower (0.51±0.02%) than its juice (1.37±0.14%). Among the Passiflora species, P. edulis(Purple) and P. edulis(Frederick) possessed higher protein, 2.81±0.19% and 2.40±0.11%, respectively. The fiber content in P. quadrangularis mesocarp was significantly higher (8.49±0.40%) than other juices. Passiflorafruits have fat content 80% phosphorus and provides an adequate level of micronutrients especially Ferum content which is 90% of daily recommended allowance of minerals. The major organic acid in Passiflorafruit juice was citric acid and ranged 1137.00±0.13 mg 100 g-1in P. quadrangularisto 1487.30±0.28 mg 100 g-1in P. edulis(Purple). Malic acid was second abundant organic acid with 156.00±0.07 mg 100 g-1in P. edulis(Frederick) to 502.30±0.07 mg 100 g-1in P. quadrangularis. Apart from the common species of Passiflora edulis, other lesser known Passifloraspecies are also gaining visibility in drinks, food and health promoter.

Keyword: Passiflora species; Organic acid; Proximate analysis; Mineral content; Mesocarp