

Nutritive values of passion fruit (*Passiflora* Species) seeds and its role in human health

ABSTRACT

This study focused on proximate composition and mineral content of edible seeds of three *Passiflora* species; *P. edulis* (Purple), *P. quadrangularis* and *P. maliformis*. The moisture content ranged $9.18 \pm 0.34\%$ in *P. edulis* (Purple) to $11.09 \pm 0.40\%$ in *P. quadrangularis*, and the ash content was higher in *P. quadrangularis* ($2.35 \pm 0.13\%$). Among the *Passiflora* seeds, *P. edulis* (Purple) possessed higher protein, $12.71 \pm 0.10\%$ and total dietary fiber, $43.76 \pm 0.64\%$ with 72-74% major fiber fraction of insoluble dietary fiber. The lipid content of $29.65 \pm 0.41\%$ also was higher in *P. edulis* (Purple) indicating that the seed was rich in oil content. *Passiflora quadrangularis* possessed a higher ash content which constitutes minerals such as sodium, $5.508 \pm 5.465 \text{ mg g}^{-1}$; magnesium, $1.975 \pm 1.443 \text{ mg g}^{-1}$; calcium, $2.363 \pm 3.269 \text{ mg g}^{-1}$, and potassium, $2.425 \pm 2.500 \text{ mg g}^{-1}$ that plays a prominent role in human health. Based on ordination with Principal component analyses (PCA), the *Passiflora* seeds properties when compared with maize, oats, flaxseed, sesame, soybean, almond, groundnut, sunflower and pumpkin, *Passiflora* plant seeds formed an independent group correlated with variables, i.e., fiber, sodium, and zinc. By-products from *Passiflora* seeds can be used for pharmaceutical and nutraceutical purposes.

Keyword: By-products; Insoluble dietary fiber; Mineral content; *Passiflora* seeds; Utilization.