The proximate compositions and mineral contents of Neptunia oleracea Loureiro, an aquatic plant from Malaysia

ABSTRACT

This study was carried out to assess the availability of lesser known aquatic plant Neptunia oleracea Loureiro in Sibu Central native market throughout the year in order to determine the availability market price, edible part's, i.e., weight, diameter, length and the composition of proximate and minerals content of N. oleracea. The bunch's weight, number of individual shoot and their weight were significantly higher ($p \leq 0.05$) in April compared to October. N. oleracea was offered to customer in bunches of 106.91-149.41 g. Each individual young shoot varied in length, diameter and weight as 32.00-33.43 cm, 6.11-6.16 mm and 8.4-9.71 g, respectively. The proximate and mineral compositions of N. oleracea categorizing as moisture content > crude protein > crude fiber > ash > crude fat and K > P > Ca > Na > Mg > Mn > Zn > Cu, respectively. Moisture content was significantly higher in April (83.75±0.55%) and October (86.26±0.62%). However with respect to mineral content, calcium (348.00±14.93 and 381.42±9.00 mg/100g), phosphorous (395.67±26.50 and 405.92±43.67 mg/100g), copper (2.58±0.29 and 2.97±0.12 mg/100g) and Ca/P (0.88±0.09 and 0.95±0.11) were significantly lower in April than those observe in October ($p \leq 0.05$). Thus, the edible parts of N. oleracea provide good sources of crude protein, crude fiber, ash, calorie and mineral such as potassium.

Keyword: Aquatic plant; Mineral contents; Neptunia oleracea; Proximate