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Assessment of Iron and Copper Composition of Selected Underutilised Vegetables of South Western Nigeria

Tolulope Ayeyemi[1], Justina Odogwu[2], Mary Kemi Idowu[2]

[1] *University of Bonn, Agricultural Sciences and Resource Management in the Tropics and Sub-Tropics (ARTS), Germany*

[2] *Obafemi Awolowo University, Dept. of Soil Science and Land Resources Management, Nigeria*

Abstract

Vegetables are sources of nutrients, vitamins, proteins, anti-oxidants and fibre needed by the human body for growth. A closer look at the vegetable content of the diets in South Western Nigeria revealed that very few vegetables are routinely included in the diet compared to the abundance of vegetables in the area. This can be attributed to the inadequate knowledge of dietary and medicinal use of some of these plants. This study assessed the Copper and Iron composition of selected underutilised vegetables of this geographical area with the view to evaluate their nutritional qualities. The vegetable crops used in this study are: Ewuro (*Vernonia amygdalina*), Elegede (*Cucurbita maxima*), Ugu (*Telfaria occidentalis* Hoof), Woroowo (*Senecio biafrae*), Ebolo (*Crassocephalum rubens*), Ogunmo (*Solanum nigrum*), and Igbagba (*Solanum aethiopicum L*). The vegetable crops were grown on the fertility plot of the Teaching and Research Farm, Obafemi Awolowo University, Ile-Ife. The vegetable leaves were collected at three points of time and plant tissue analysis was carried out. The iron and copper composition of the leaf tissue were determined using Atomic Absorption Spectrophotometer (AAS). The result showed that copper content ranged between Woorowo (0.31 mg kg^{-1}) and Ogunmo (0.11 mg kg^{-1}) while the highest iron concentration was observed in Elegede (8.18 mg kg^{-1}) and the lowest in Ewuro (1.00 mg kg^{-1}). The concentration of copper in these vegetables is illustrated in a descending order; Woroowo> Ebolo= Ewuro> Ugu> Igbagba> Elegede> Ogunmo. The iron concentration of these vegetables is also illustrated in a descending order; Elegede >Ebolo >Ogunmo> Woroowo> Igbagba> Ugu> Ewuro. The study concluded that the composition of iron and copper in these vegetables are within the standard recommended for good health and therefore these vegetables are good for human consumption and could prevent micronutrient deficiencies in people who consume them.

Keywords: Copper, iron, Nigeria, vegetables

Contact Address: Tolulope Ayeyemi, University of Bonn, Agricultural Sciences and Resource Management in the Tropics and Sub-Tropics (ARTS), Bonn, Germany, e-mail: tolulopeayeyemi@gmail.com