

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

Tolulope A.¹, Justina O.², Mary K. I²

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

²Obafemi Awolowo University, Department. of Soil Science and Land Resources Management, Nigeria



1. Introduction

Vegetables are sources of nutrients, vitamins, proteins, anti-oxidants and fibre needed by the human body for growth. Vegetables are essential in human's daily food because their presence alongside other food materials make a balanced meal. The vegetation of the south western Nigeria being in the rainforest is very rich in fruits and leafy vegetables. 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 vegetable plants. This is also in combination to strong discrimination about dietary and nutritional values of several other vegetables in different communities due to cultural background. In the light of the global food crisis, this phenomenon has also reduced the available nutritional sources of such communities, making it a situation of suffering amidst plenty. This study assessed the Copper and Iron composition of selected underutilized vegetables of this geographical area with the view to evaluate their nutritional qualities.

2. Materials and Methods

The selected vegetable crops were cultivated at the Fertility plot of the Teaching and Research Farm, Obafemi Awolowo University Ile-Ife, Nigeria. The vegetable leaves were collected from the fertility plot three times, sorted and subjected to plant tissue analysis. Concentrations of iron and copper were determined in each of the vegetable samples using the Atomic Absorption Spectrophotometer (AAS). The experiment was carried out in triplicate and the mean was calculated.

Pictures of some selected Underutilized Vegetables



Cucurbita maxima
(Elegede)

Solanum aethiopicum
(Igbagba)

Solanum nigrum
(Ogunmo)



Vernonia amygdalina
(Ewuro)

Senecio biafrae
(Woroowo)

Telfaria occidentalis
(Ugu)

3. Results

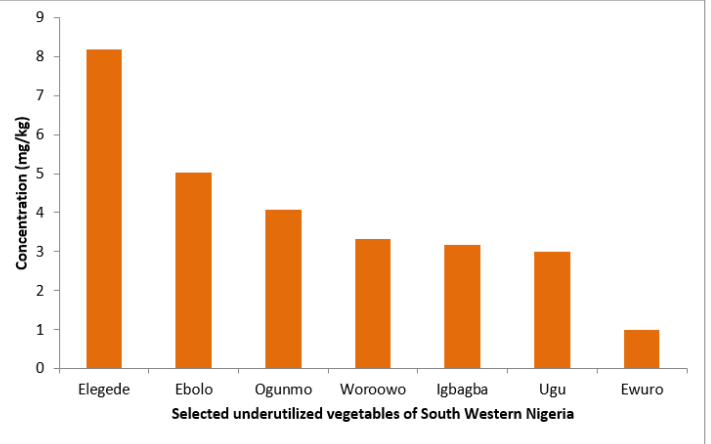


Figure 1: The Concentration of iron in selected underutilized vegetables.

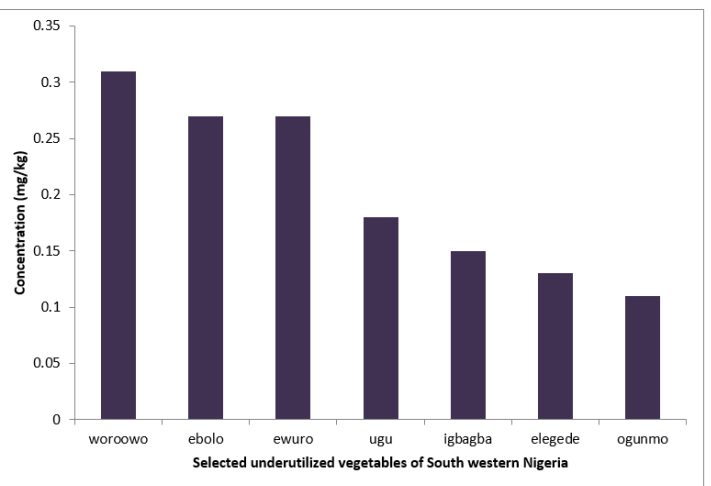


Figure 2: The Concentration of copper in selected underutilized vegetables.

4. Conclusions

This 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. However, there is a need to encourage Nigerian farmers to grow more of these underutilized vegetables, create awareness on the benefits of usage and encourage the general populace to consume them.

5. Acknowledgement

This project was a part of NICan veg. project sponsored by CIDA (Canadian International Development Agency) and IDRC (International Development Research Centre).

References

- Olaiya, C., and C. Adebisi (2010). Phytoevaluation of the nutritional values of ten green leafy vegetables in South -Western Nigeria. The Internet Journal of Nutrition and Wellness. Vol 9(2)
- Schmidt, D.R. (1974), Agronomy Journal. Comparative yield and composition of eight tropical leafy vegetables grown at two soil fertility levels. 63: 559.

Contact : tolulopeayeyemi@gmail.com