

Nutritional Composition and Physio-Chemical Properties of Peeled and Unpeeled Yam Flour (White Yam, *Dioscorea rotundata*)

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Objectives: The main shelf-stable product of yam is the traditional yam flour (elubo), Yams (*Dioscorea* spp.) which are regarded as traditional foods are consumed in various ways but majorly consumed as yam flour in the south west region of Nigeria. This study investigated the physical, functional and sensory properties and anti-nutrients contents of peeled and unpeeled yam flour.

Methods: Yam bought in the popular market production procedures were followed, washing, peeling and slicing, parboiling, steeping, draining, drying, milling, and packaging for peeled yam and unpeeled yam peeling was not included in the process, the two samples were analyzed chemically according to the official methods of analysis described by the Association of Official Analytical Chemist as well as sensory evaluation.

Results: The results of the study confirmed the significant difference in the micro nutrients content of peeled and unpeeled yam flour in fats and water soluble vitamins respectively (K $\mu\text{g}/100\text{ g} = 6.97, 11.83$, Fe(mg/kg) = 95.2, 126.9, minerals content Zn(mg/kg) 13.48, 22.92, Fe(mg/kg) 95.2126.9 and anti-nutrient properties of the 'Amala' made from the two products (peeled and unpeeled yam flour) the percentage of Tannin 0.0023, 0.0010 and Hydrocynaide (mg/kg) 0.92, 1.01. The proximate analysis of unpeeled yam flour indicated a high value than that of peeled yam flour in protein (2.47, 2.28), fats (1.86, 0.54), ash (3.59, 2.32), and fibre (3.09, 1.31) of both samples respectively but the energy content derived from the 'amala' made from unpeeled yam flour is lesser to that of peeled yam flour. Significant exist between the two samples in sensory evaluation of taste, texture, color, mouldability, aroma and general acceptability.

Conclusions: The result shown that the consumption of unpeeled yam flour can be useful in treatment of nutrient deficiencies diseases.

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