

Proximate Composition, Minerals and Sensory Attributes of Cake, Cookies, Cracker, and Chin-Chin Prepared from Cassava-Gari Residue Flour

Authors : Alice Nwanyioma Ohuoba, Rose Erdo Kukwa, Ukpabi Joseph Ukpabi

Abstract : Cassava root (*Manihot esculenta*) is one of the important carbohydrates containing crops in Nigeria. It is a staple food, mostly in the southern part of the country, and a source of income to farmers and processors. Cassava gari processing methods result to residue fiber (solid waste) from the sieving operation, these residue fibers (solid wastes) can be dried and milled into flour and used to prepare cakes, cookies, crackers and chin-chin instead of being thrown away mostly on farmland or near the residential area. Flour for baking or frying may contain carbohydrates and protein (wheat flour) or rich in only carbohydrates (cassava flour). Cake, cookies, crackers, and chin-chin were prepared using the residue flour obtained from the residue fiber of cassava variety NR87184 roots, processed into gari. This study is aimed at evaluating the proximate composition, mineral content and sensory attributes of these selected snacks produced. The proximate composition results obtained showed that crackers had the lowest value in moisture (2.3390%) and fat (1.7130%), but highest in carbohydrates (85.2310%). Amongst the food products, cakes recorded the highest value in protein (8.0910%). Crude fibre values ranges from 2.5265% (cookies) to 3.4165% (crackers). The result of the mineral contents showed cookies ranking the highest in Phosphorus (65.8535 ppm) and Iron (0.1150 mg/L), Calcium (1.3800mg/L) and Potassium (7.2850 mg/L) contents, while chin-chin and crackers were lowest in Sodium (2.7000 mg/L). The food products were also subjected to sensory attributes evaluation by thirty member panelists using 9-hedonic scale which ranged from 1 (dislike extremely) to 9 (like extremely). The means score obtained shows all the food products having above 7.00 (above "like moderately"). This study has shown that food products that may be functional or nutraceuticals could be prepared from the residue flour. There is a call for the use of gluten-free flour in baking due to celiac disease and other allergic causes by gluten. Therefore local carbohydrates food crops like cassava residue flour that are gluten-free, could be the solution. In addition, this could aid cassava gari processing waste management thereby reducing post-harvest losses of cassava root.

Keywords : allergy, flour, food-products, gluten-free

Conference Title : ICFSCC 2019 : International Conference on Food Science, Contamination and Components

Conference Location : Rome, Italy

Conference Dates : December 12-13, 2019