Sunday A Malomo et al., Madridge J Food Technol. 2018
http://dx.doi.org/10.18689/2577-4182.a2.006

madridge CONFERENCES

2nd International Conference on
Food Science and Bioprocess Technology
October 1-2, 2018 Frankfurt, Germany

Chemo-Pasting and Functional Characteristics of Sorghum-Lima Bean-Cocoyam Composite Flour

Sunday A Malomo[1]*, Emeka K Okorie[1] and **Charles C Udeh[2]**
[1]Federal University of Technology, Nigeria
[2]Delta State Polytechnic, Nigeria

Composite flour was produced from sorghum (*Sorghum bicolor*), lima bean (*Phaseolus Lunatus*) and cocoyam (*Xanthosoma sagittifolium*) flour blends at five different ratios *viz*: SLC1, SLC2, SLC3, SLC4 and SLC5. Each blend was evaluated for proximate, mineral Compositions, anti-nutritional factors, functional and pasting properties. The proximate results showed that the protein content for all flour blends ranged from 7.26-10.75%. SLC1 and SLC3 have significant ($p<0.05$) higher protein content than the control sample (wheat flour). Only these two flour blends met the FAO/WHO minimum recommended protein content of 10%. Meanwhile, all the flour blends could have maximum storage capacity and longer shelf live due to their low moisture content (10.13-10.94%) when compare with that of the control (9.65%). The results further showed low levels of anti nutritional. Factors such as tannins, oxalate, hydrogen cyanide and phytates, hence enhancing the bioavailability of the nutrients from the flour blends after consumption. The sodium (45.1-52.4 g/100g) and calcium (88.4-103.5 g/100g) contents of the flour blends are significantly ($p<0.05$) higher than those of the control (2.4 and 40.8 g/100g). The Oil Absorption Capacity (OAC) increased significantly ($p<0.05$) from 8.025 to 9.387 with the highest OAC from sample SLC3 (9.387). The OAC of flour is important as it Improved the mouth feel and retains the flavour. It is concluded that the composite flour blends showed a greater promise in substituting wheat flour for baking purposes, to combat Protein Energy Malnutrition (PEM) in developing countries where PEM poses a health threat.

Keywords: Composite, pasting, sorghum, Lima, antinutrient

Biography:

Sunday A Malomo is a Lecturer/ Researcher in the Department of Food Science and Technology of The Federal University of Technology, Akure, Nigeria. He had his Ph.D In human nutrition in the areas of bioactive peptides and functional properties of food Proteins. His particular interest is in the use of bioactive peptides from plant/oil seed Proteins to formulate nutraceutical products serving as acetylcholinesterase inhibitors in The treatment of pathogenesis of Alzheimer's disease. He is a recipient of several Scholarly awards, scholarships and fellowships from many local, national and International bodies; among which include University of Manitoba Graduate Fellowship (UMGF), Manitoba Graduate Scholarship (MGS), University of Manitoba International Graduate Student Scholarship (IGSS) and University of Manitoba International Graduate Student Entrance Scholarship (IGSES), all in Canada. He has authored and co-authored Several academic and research papers published in high-impact and peer-reviewed Journals.