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Nutritional and consumers acceptance of biscuit made from wheat flour fortified with partially defatted groundnut paste

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1 **NUTRITIONAL AND CONSUMERS ACCEPTANCE OF BISCUIT MADE FROM WHEAT**
2 **FLOUR FORTIFIED WITH PARTIALLY DEFATTED GROUNDNUT PASTE.**

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ABSTRACT

5 Biscuit is a nutritive snack eaten by everyone and often produced from unpalatable batter
6 transformed into appetizing product through oven heat. Wheat, the major raw material used, is
7 deficient in essential amino acid, lysine, while groundnuts lack methionine found in wheat. Blended
8 wheat flour and partially defatted-groundnut paste was used for production in order to replace lost
9 nutrients. Partially defatted-groundnut paste was used to substitute wheat flour at the ratios: A
10 (100:0); B (95:5); C (90: 10); D (85: 15); E (80: 20); F (75: 25); G (70: 30), which were mixed with
11 other ingredients to produce biscuit at 155-180°C for 15-20 minutes, cooled and packaged for
12 analyses. The functional properties of the flour, proximate composition, colour, and sensory
13 evaluation of the biscuit were determined using standard methods. Proximate composition revealed
14 that Protein, Moisture-Content, Ash, Crude-Fat, Crude-Fibre and Carbohydrate respectively ranged
15 thus: (17.14-24.90%), (8.28-13.05%), (1.07-2.76%), (25.38-28.12%), (0.84-2.34%), and (46.35-
16 33.68%). The swelling, water and oil absorption capacities of the flour: (1.10-1.27ml/g), (1.40-
17 1.754ml/g), (0.82-1.99ml/g) respectively. Sensory evaluation shows than sample B (95% wheat
18 flour, 5% partially defatted-groundnut paste) was the most preferred. Concluding, incorporation of
19 partially defatted-groundnut paste into wheat flour to produce biscuits could improve nutritional
20 content and prevent malnutrition among consumers.

21 **Keywords:** Biscuits; Partially defatted-groundnut paste; Nutritional quality; Wheat flour; Functional
22 properties

23

24 **1. INTRODUCTION**

25 Biscuit is the original British word used for small baked products that are sometimes flat shaped and
26 usually made from wheat flour blended with some other ingredients. Biscuits are popular food or
27 snack products consumed by many people, as a result of their varied taste, long shelf life and
28 relatively low cost (Duncan, 2001). In Nigeria, biscuits are one of the most consumed cereal foods
29 apart from bread, because they are readily available in local shops as ready to eat, cheap, convenient
30 and appetizing food products (Kulkarni, 1997; Iwegbue, 2012). Biscuits are produced as nutritive
31 snacks from unpalatable dough transformed into appetizing products through the application of oven
32 heat (Onabanjo and Ighere, 2014). They are flat crisp that may be sweetened or unsweetened

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