

Characterization of Peanut-based Products from Ghana.

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Peanut production in Ghana is at the subsistence level. Traditionally, most of the peanuts were ground with water into paste, and used in soups or spreads. In recent years, small-scale processors are developing new products but they have not been characterized. This study focused on evaluating some biochemical and physical properties of four popular new products: kurikuri (KK), chocolate pebbles (CP), starch-coated chocolate pebbles (SP), and nkatie burger (NB). The pebbles and nkatie burger are semi-spherical products consisting of a central peanut covered by a coating, whereas the kurikuri are cylindrical in shape and prepared from flavored, ground partially defatted peanuts. Texture of the products was evaluated with a TAXT2i Texture Analyzer fitted with a 2mm blunt probe; moisture by a Denver IR analyzer; water activity by a Rotronic meter; color by a Minolta Chroma Meter Reflectance System; and ash, fat, sucrose and free fatty acids by standard AOAC methods. Extracted fat was methylated to fatty acid methyl esters (FAMES) using the boron-trifluoride esterification method #Ce 1c-89 of AOCS. FAMES were analyzed using an Agilent 6890 GC fitted with a flame ionization detector (FID), and Supelco 2380 fused silica capillary column. Among the semi-spherical products, SP had the hardest coating (446.9 g shear force), but its internal peanuts were the softest (887 g) compared with the others, which ranged from 1304 to 1629 g shear force. Mean moisture (%), sucrose (%), ash (%), and free fatty acid (%) were respectively 4.6, 5.3, 4.42, 0.29 for KK; 2.5, 15.7, 2.59, 1.15 for CP; 3.55, 24.7, 1.91, 1.09 for SP; and 2.2, 6.2, 1.92, 0.38 for NB. Mean total fat (%), monounsaturated fat (%), saturated fat (%), and polyunsaturated fat (%) were respectively 21.1, 47.9, 25.1, 27.0 for KK; 33.6, 45.0, 29.5, 25.5 for CP; 25.3, 35.8, 52.2, 12.1 for SP; and 34.7, 36.9, 50.8, 12.3 for NB. KK had significantly ($p < 0.05$) less total fat but significantly more monounsaturated fat than the other products. Its lipid profile suggests the potential for development of a similar product that could serve as a new flavored and crunchy peanut-based snack from US peanut presscake.