The Utilization of Pineapple Peels in the Production of Fibre Rich Bread

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Sub-Theme: Innovation and Technology in Applied Sciences for Societal Transformation

ABSTRACT
Dietary fibre is that part of plant material in the diet which is resistant to enzymatic digestion. The diets rich in fibre such as cereals, nuts, fruits and vegetables possess medical or health benefits including the prevention and treatment of several diseases. Dietary fibre can be used in various functional foods like bakery, drinks, beverages and meat products. Influence of different processing treatments (like extrusion-cooking, canning, grinding, boiling, frying) alters the physico-chemical properties of dietary fibre and improves their functionality. In this study, fibre extraction and application in the production of high fibre bread was designed to ensure functionality is upheld after processing.

After processing, the functionality of the fibre-antioxidant activity in terms of total phenolics in high fibre bread was not fundamentally affected thus rendering the bread to fall into the category of a functional food. In this study, the total phenolics concentration in the high fibre bread was 61µg gallic acid equivalents (GAE)/g of bread. This was an acceptable amount having used 10g of fibre with approximately 25000µg GAE phenolics into the 400 grams bread formulation. In regard to the product qualities and acceptability, sensory tastes were done using randomly selected respondents within the university who all judged the product to be of superior quality compared to majority of commercially available breads in the region.

The use of pineapple peels (a waste by product from pineapple industry) for food is a good way to relief the environment off green gas emission burden resulting from their rotting at dump sites. This would be possible if bakeries would be encouraged to adopt the use of pineapple peels in their bakery products especially bread. Apart from being an environmental friendly venture, the use of peels in foods adds a health value to them.

Key Words: Fibre bread, Pineapple peels, Bakery products, Dietary fibre