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Trends in grain-based foods

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1° Trends in grain-based foods

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A BREAKTHROUGH ON BREAD FORMULATION: NATURAL MINERAL WATER AS A NOVEL FUNCTIONAL INGREDIENT

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The food industry has a significant impact on global economy. The development of new products and food ingredients that improve the nutritional, functional, and organoleptic properties play a critical role in the discovery of higher-quality products. Bread is one of the most common foods found in most people's daily diets. Water plays a crucial role in its preparation, since it hydrates the flour, amide, and proteins. In this way, natural mineral waters (thermal and carbonated) are rich in trace elements, presenting great potential in the development of new enriched products[1,2]. The main purpose of this study was to create bread, biju, and chapata formulations that used natural mineral water instead of regular water to better understand the impact of different liquids on the physicochemical properties and centesimal composition of bread (thermal and carbonated). After cooking, parameters such as carbohydrates, ash, fat, protein, salt content, pH, water activity, minerals and fatty acids were determined. With regards to the centesimal composition, the carbonated and thermal biju breads showed significant increase in the energy value when compared to normal bread. Although the chapata thermal bread had the highest protein and salt content, the energy value remained unchanged. Noteworthy, analyzing the fatty acid profile for the thermal biju bread there was a significant decrease in the PUFA content. Considering the chapata bread (carbonated and thermal) highest contents of mainly SFA and MUFA were found. When comparing normal bread with carbonated and thermal chapata breads in pH parameter, these breads showed the highest values, while the water activity increased in the carbonated and thermal biju bread. Finally, a highest total mineral content, was observed in the carbonated and thermal biju bread. Overall, the results suggest that thermal and carbonated waters could be useful ingredients in the development of novel functional products.

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