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ASSESSING OF MAIZE-BASED SNACKS FORMULATED WITH WHOLE AND SEEDLESS WHITE GRAPE POMACE

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ABSTRACT

Grape pomace is a winery by-product with a high biological value that can be valorized in snacks production. This work aimed to explore the impact of white grape pomace type, seedless (SGPW) and with seeds (GPW) and addition level (10-40%) on the chemical, antioxidant, color, texture, and sensory acceptability of maize snacks obtained through extrusion by means of Response Surface Methodology. Furthermore, the optimal addition level for each grape pomace type was selected and the optimal samples were characterized from a molecular point of view. The results showed that the protein, lipids, fiber, ash, total polyphenols, and antioxidant activity increased proportionally with the addition level, while the cutting force and L* decreased. The optimal samples were found to contain 29.66% SGPW or 29.22% GPW and exhibited enhanced nutritional profile and antioxidant activity compared to maize snacks used as control. The acceptability of the product was satisfactory (>7 score), which confirmed the opportunity to include these ingredients in extrusion to obtain functional snacks. The molecular characterization of the optimal samples revealed changes in absorbances intensities and the presence of additional compounds compared to the control. These results can be of real interest for producers who want to develop novel products with functional benefits and for consumers aware of a healthy diet.