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PRODUCTION OF DEEP-FRIED WHEAT CHIPS USING PURPLE WHEAT FLOUR: PHYSICOCHEMICAL, TEXTURAL, SENSORY PROPERTIES AND OPTIMIZATION

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ABSTRACT

The aim of this study was to develop alternative and healthy deep-fried chips by fortifying wheat chips with purple wheat flour (PWF). The effect of process variables (PWF content: 0-100%, frying temp. and time: 170-190 °C and 40-60 s) on the physicochemical, textural, instrumental color, sensorial properties, and optimization of the chips were investigated using response surface methodology. The levels of PWF in the chips receipt dramatically reduced oil uptake (by 23%), whereas the protein content of chips increased of the end products. The instrumental hardness of the enriched chips increased while sensory firmness decreased with increasing PWF. Generally, the chips enriched with PWF received the highest overall acceptability score by the panelists. Higher desirability (optimization results) and the process variables were determined as a 0.73 and 92.72 g/100g PWF, 170 °C, 40 s, respectively. These findings show that PWF can be easily incorporated into products that involve deep-fried chips.