Effect of the addition of dietary fibers on the quality of pre-baked pizza doughs

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The increase of the pizza market in Brazil, of 5% a year in sales, and the growing public concern in maintaining a healthy diet, but also seeking and giving preference to foods of convenience and practicality are indicators that the development of pre-baked pizza doughs enriched with fibers can have a positive impact on this expanding market and trends in the choice of foods by consumers. The objective of this study was to evaluate the effects of the addition of whole grain wheat flour (WGWF) and white wheat fiber (WWF) on the quality of pre-baked pizza doughs, during refrigerated storage, following a Central Composite Rotational Design (CCRD) with these two independents variables. The sources of dietary fiber had a significant influence in reducing the specific volume \( V = 3.74 - (0.23 \times \text{WGWF}) - (0.91 \times \text{WGWF} \times \text{WWF}) \) mL/g and the thickness of the pizza disks \( E = 8.49 - (0.70 \times \text{WGWF}) - (0.65 \times \text{WWF}) - (0.65 \times \text{WWF}^2) \) mm). The WGWF had greater influence on color parameters \( L^* \) and \( a^* \) than WWF, due to its inherent brown color. The total titrable acidity of the pizza disks increased with an increase in WGWF, while increasing WWF caused the opposite effect on this response. It can be said that the models obtained in this work reproduce the practical results if the same processing conditions and ingredient variation ranges are used. The microbiological evaluation of the pre-baked pizza doughs, during refrigerated storage, guaranteed the microbiological safety for up to 58 days.