Influence of Different Cooking Methods on Fillet Steak Physicochemical Characteristics

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Abstract

Meat is a source of protein widely consumed by the population in many countries due mainly to the nutritional aspects, sensory characteristics, and cultural aspects. The meat cooking preparation can promote significant changes in the meat's chemical composition and physical characteristics. Such transformations can impact both the acceptance of the product and consumers' health. Due to the different thermal processes altering the physical-chemical characteristics of meat, the present study aimed to evaluate the physicochemical characteristics of fillet steak submitted to different cooking methods: pan-frying with and without oil and air fryer. We performed the analysis to evaluate the physicochemical characteristics considering moisture, lipid, protein, ash, sodium, and potassium content, cooking loss index and colorimetry in three degrees of doneness of the meat, rare, medium, and well done. The fillet steak prepared by pan-frying with oil lost higher moisture and weight than the other samples. The air fryer method presented the highest moisture content. There was a significant difference in lipid content in which the pan-frying with oil fillet steak showed the highest amount of lipids. The pan-frying with oil steak fillet also presented more changes in the colorimetric parameters evaluated compared to the other samples. The pan-frying with oil cooking method promoted more pronounced changes in the steak fillet, and the cooking air fryer, the changes in meat quality are less pronounced. Therefore, the air fryer can be considered a good alternative for cooking meat. © 2022 by the authors. Licensee MDPI, Basel, Switzerland.

Author keywords

Air fryer; Cooking methods; Oil; Pan fryer; Steak fillet