A new polyunsaturated gelled emulsion as replacer of pork back-fat in burger patties: Effect on lipid composition, oxidative stability and sensory acceptability

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Abstract

A new gelled carrageenan containing emulsion developed as ingredient was used as fat replacer in burger patties. Increasing amounts (25, 50, 75 and 100%) of this gelled emulsion were added into the product in order to reduce the fat content while improving its fatty acid profile. A 41% reduction of the total fat content with an increment of the 74.5% of the unsaturated fatty acids, and a significant decrease in cholesterol (47%) and saturated fat (62%) were achieved in the product with the highest level of substitution. These products showed significantly lower thiobarbituric acid reactive substances (TBARS) and cholesterol oxidation products (COPs) compared to control. Additionally, when samples were subjected to thermal treatment (180 ºC, 15 min, oven conditions) higher lipid oxidation rates were found when increasing amounts of the gelled emulsion were incorporated into the new formulations, without impairment of their final sensory properties