APPLICATION OF BEESWAX OLEOGELS AS FAT REPLACERS IN PORK LIVER PÂTÉS

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The composition of pork liver pâté includes meat, liver and pork back fat, characterized by a high content of saturated fatty acids. It is generally recognized that consuming foods rich in saturated fats poses some health risks, including cardiovascular diseases, obesity and oxidative stress. In recent years, the challenge for the meat industry has been to develop new meat products with reduced saturated fat and improved nutritional characteristics. Oleogels represent a feasible alternative in this sense. This study aimed to investigate the effect of different oleogel formulations used as back fat replacers on some physicochemical and sensory properties of pork liver pâté. Beeswax oleogels were prepared using pumpkin seed and rapeseed oils in different ratios (1:0; 3:1). Five pâté samples were formulated by substituting 25% and 50% of the animal fat with the mentioned oleogels. Emulsion stability, pH, oxidative stability, texture and sensory attributes were analyzed. Regarding the physicochemical properties, there were no significant differences from the control sample. Lipid oxidation showed increased values during storage due to fat substitution, but oxidation values were below the acceptable limit. Regarding sensory analysis, the results showed that replacing 25% of animal fat with beeswax oleogel had a less significant modifying effect on the evaluated parameters. The sensory attributes of all reformulated samples were considered acceptable. The results showed the feasibility of oleogels as animal fat replacers in meat products and the possibility to obtain pork liver pâtés with improved content of unsaturated fats and superior nutritional value. This work was supported by a grant from the Ministry of Research, Innovation and Digitization, CCCDI - UEFISCDI, project number PN-III-P2-2.1-PED-2021-3240, within PNCDI III.