LOW-FAT FRANKFURTERS ELABORATED WITH SOLUBLE AND INSOLUBLE FIBERS AS FAT SUBSTITUTES: EFFECTS ON COLOR AND LIPID OXIDATION

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High levels of fat intake from meat products consumer have been involved in harmful consequences to health such as the cardiovascular diseases. In this study, the effects of the addition of different fibers as fat substitute in frankfurter was investigated on color and lipid oxidation properties. Nine different treatments were employed reducing pork back fat: CHF (20% pork fat); CLF (10% pork fat); F1 (10% pork fat and 3% inulin); F2 (10% pork fat and 6% inulin); F3 (10% pork fat and 3% FOS); F4 (10% pork fat and 6% FOS); F5 (10% pork fat, 3% inulin and 3% FOS); F6 (10% pork fat and 3% oat fiber) and F7 (10% pork fat, 1.5% inulin, 1.5% FOS and 3% oat fiber). The color analysis (L*, a* and b*) and lipid oxidation by determination of TBARS (mg malonaldehyde/1000g) were evaluated at 0, 15, 30, 45 and 60 days of storage (4°C ± 1°C). Low fat frankfurters added of fibers had increased L* (p<0.05) for all treatments, but they were stable along storage time. The lowest a* values was observed in F6 and F7, indicating the role of insoluble fiber (p<0.05) regarding redness. Fiber addition influenced (p < 0.05) lipid oxidation resulting in higher TBARS values (p<0.05) in formulations containing FOS and inulin. However, these fibers have sugars components that can react with thiobarbituric acid, increasing the absorbance values. Besides the benefits regarding fibers as fat substitutes in frankfurters, the lipid oxidation susceptibility needs be investigated carefully.