LOW-FAT BOLOGNA SAUSAGES ELABORATED WITH INULIN, FRUCTOOLIGOSACCHARIDES AND OAT FIBER: EFFECTS ON THE SENSORY QUALITY AND TEXTURE PROFILE

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The high fat content presented in emulsified meat products and the large amount of saturated fatty acids in pork back fat may result in harmful consequences to health such as the obesity and the increased risk of cardiovascular diseases. The partial replacement of animal fat by healthier fat substitutes can promote health claims improving the consumer of meat products. In this study, the effects of the addition of inulin, fructooligosaccharides (FOS) and oat fiber on the sensory and texture characteristics of bologna sausages with a reduced fat content were evaluated. Nine different treatments were employed reducing pork back fat (20 to 10%): Control HF (20% pork back fat); Control LF (10% pork back fat); F1 (10% pork back fat and 3% inulin); F2 (10% pork back fat and 6% inulin); F3 (10% pork back fat and 3% FOS); F4 (10% pork back fat and 6% FOS); F5 (10% pork back fat, 3% inulin and 3% FOS); F6 (10% pork back fat and 3% oat fiber) and F7 (10% pork back fat, 1.5% inulin, 1.5% FOS and 3% oat fiber). Texture profile analysis demonstrated that, at the fat level employed and the different inulin, FOS and oat fiber concentrations, similar textures could be created. Consumers did not detect sensory differences (texture, color, aroma and taste) between the controls (HF and LF) and the reformulated bologna sausages. These results established the possibility to reduce significantly the fat content employing inulin, FOS and oat fiber, without detrimental effects on texture and sensory characteristics.