

The Effect of Meat and Cereal Fillers on the Nutritional Composition and the Textural Properties of Pig Blood Sausages

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Abstract

Introduction: Nutritional composition and texture are some of the important quality parameters in processed meat products leading to consumer acceptance. In blood sausages, these important quality characteristics depend largely on the ingredients used in the formulation. In addition to quality, the cost is another economic factor determining the purchase intent for certain consumers. Cereal and low-value meat ingredients are used in the sausages to increase the volume and therefore reduce the cost of sausages; however, these ingredients can compromise the quality of the final product. Hence, the aim of this study was to evaluate the nutritional composition and textural properties of pig blood sausages produced with varying levels of cereal and low-value meat ingredients/fillers.

Methodology: Four recipes of pig blood sausages were formulated with pig blood, skin, and back fat. The formulations were varied with the addition of cereal and low-value meat fillers. Product A contained no meat or cereal ingredients (control). Product B contained 20 % meat ingredients, C contained 15 % meat and 5% cereal ingredients, and D contained 10 % meat and 10 % cereal ingredients. The proximate composition, amino acid content, and textural properties were evaluated on cooked sausages.

Results and Discussion: The addition of fillers in the formulation increased the carbohydrate and moisture contents of the sausages by approx. 8.55 % and 11.49 %, respectively, when compared to the control. However, the protein content, ash and fat contents decreased. The decrease in protein (approx. 7.09 %) and ash contents (approx. 0.89 %) demonstrates a clear nutrient dilution in the sausage. The addition of the fillers did not negatively affect the presence of essential amino acids. Meat fillers made the sausage harder and chewier than the control and the sausages with cereal fillers. The springiness linearly decreased with the addition of fillers, and the cohesiveness of all products was similar.

Conclusions: The findings of this work indicate that meat and cereal ingredients can be used to modify the texture of blood sausages. However, their addition can negatively affect the nutritional value of the product.