The Main Physical-Chemical Characteristics of Smoked Sausage

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ABSTRACT
The paper presents the organoleptic and physical-chemical quality of smoked sausage, produced by a manufacturer in the western part of Romania. The organoleptic examination highlighted: product shape, exterior and in section aspect, consistency, color, taste and flavor. The physical-chemical examination of the samples highlighted the content of fat, sodium chloride, nitrites and easy hydrolyzed nitrogen.

Medium fat value was 32.24%±4.39, by 5.76% under the 38% maximum limit. Medium sodium chloride content was 2.1%±0.36, under the maximum admitted limit of 3%. Easy hydrolyzed nitrogen registered a medium value of 26.71±3.29 mg NH₃/100g product under the 45% maximum admitted limit. Nitrites content was 5.18±.31 ppm, under the 7 ppm imposed limit.

Keywords: smoked sausages, physical-chemical quality, admissible limits for sausages.

INTRODUCTION
For a healthy eating, quality of raw materials is crucial, because, in the end, it does not transfer to food products only calories, but also various substances – from proteins to vitamins, all ensuring the smooth running of the biological processes that occur in human nutrition [1,5]. Often, salt, water and starch are often added into the mixed meat during the processing of sausage. It has been proved that some ingredients affect the textural properties of sausage significantly [3,4]. Previous studies have focused on the interactive effect of fat, starch and egg white on the texture and morphological variations of sausage [2,6].

MATERIALS AND METHODS
In order to carry out the experimental part were analyzed samples of smoked sausage from a producer in the western part of Romania, for six weeks consecutively. Processed samples were analyzed from the organoleptic point of view, aiming the shape of the products, appearance and in section aspect, consistency, color, taste and flavor. Also, the following physical-chemical parameters were determined: fat ( Soxhlet method), sodium chloride ( Mohr method), nitrites ( Griess method) and easy hydrolyzed nitrogen ( indirect titration with sodium hydroxide).

RESULTS AND DISCUSSION
From the organoleptic point of view, all the analyzed samples were consistent with accepted legal norms. Physical-chemical examination results are presented in the following figures.

The freshness degree of the analyzed products was appreciated by determining the easily hydrolysable nitrogen, expressed as NH₃/100g product. None of the six sausage samples exceed the maximum permissible limit of 45 mg NH₃/100g product (figure 1).

Salt content of the analyzed sausage samples ranged below the maximum limits of 3% for this
The percentage of salt in the analyzed samples showed values between 1.64% and 2.69% (figure 2).

Values of nitrates from the analyzed sausage samples ranged between 4.0 ppm and 7.3 ppm. The maximum value admitted for this parameter is 7 ppm, observing that for sample 3 the threshold for admissibility has been exceeded.

Fat content of the analyzed sausage samples registered values below the limit of admissibility (38%) in all cases. The lowest value for this parameter was determined in case of sample 2 (27.02%) and the highest value in case of sample 1 (37.91%).

CONCLUSION

Organoleptic and physical-chemical analysis of the examined samples found no deviations from legal norms imposed for smoked sausages. The obtained results led to the following main conclusions:

- regarding salt and fat content of the analyzed sausage samples, the obtained values were below the maximum admitted limits;
- except for one sample, all the values of nitrates from the examined sausage samples were below the maximum permissible value of 7 ppm;
- easily hydrolysable nitrogen ranged between 20.4 mg NH₃/100 g and 28.9 mg NH₃/100 g, indicating that all samples were fresh.

It can be concluded that the manufacturing company produces smoked sausages with organoleptic and physical-chemical qualities in the admitted limits, proper for consumption.

REFERENCES