PATHOGENIC MICROORGANISMS INCIDENCE OF POISON IN SOME MEAT

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Abstract
        This study addresses ways forecasting and real-time setting of toxicological effects caused by microorganisms on meat.
        Analysis and deepening knowledge of qualitative changes of meat lead to more objective assessment of the shelf life of these products and mainly to preventive detection of alterative microbiological and toxicological changes involving pathogenic microorganisms, knowledge that contributes to consumer health protection.

Key words: food poisoning, pathogenic microorganisms, toxicological agents

INTRODUCTION

Potentially toxic microorganisms most commonly found in meat products are: Salmonella spp, Escherichia coli. or Clostridium perfringens organisms analyzed in this study because they are bacteria growing easily at temperatures of 35-37 ° C, and limits contamination with coliform bacteria, to food of animal origin are large, and are not generally pathogenic but are investigated as sanitary indicators, it is known that the large number of coliform bacteria may produce undesirable phenomena both for product and consumer.

Research incidence of potentially toxic microorganisms, microbiological parameters determined by the evolution of species of Salmonella, Escherichia coli, Clostridium perfringens, is an indication of wholesomeness of meat and constituted objectives of this study and indicators make up the freshness of meat products.

MATERIAL AND METHOD

The study material analyzed in this paper was the baloney, Victoria salami and Dry summer salami.

The study method is the general microbiological examination imposed on meat products according to quality standards. According to STR 2356/1994 meat bacteriological analysis shall be performed on samples collected separately from other tests in approved laboratories. Weekly

bacteriological analysis is done to verify the disinfection efficiency, aiming at NTG and Salmonella.

Daily there are analyzed the bacterioscopic finished products. If after bacterioscopic examination products are loaded with germs, continue with bacteriological analysis.

The research method applied in this paper according to previous information regarding the evolution of microbiological parameters studied meat products was performed by the following steps:

1. For each studied meats (baloney, Victoria salami and dry summer salami) there were followed the quality parameters from microbiological point of view.

2. There was studied the evolution of microbiological quality parameters through the following types of tests:
- Determination of the presence or absence of microorganisms in the test sample;
- Determination of microorganisms in the test sample;
- Determination of colony forming units in the sample analyzed.

For each of the three groups of meat has been taken a single factor experience.

RESULTS AND DISSCUSIONS

On the analysis of quality parameters from microbiological point of view, by analysis of incidence of germ E. coli, Salmonella and Clostridium perfringens three meat products, baloney, Victoria salami and dry summer salami in Figure 3.1. - 3.6 and Tables 3.1-3.3 are the number of microorganisms on three repetitions in three variants namely at obtaining the product, 30 days after obtaining in the last 14 days of validity. The version I test values at obtaining the products are taken from the units producing in batch analysis reports.

1. Highlighting germs during storage in baloney

A. Highlighting *E. Colli germs* (max/g produs)
In Figure 3.1 it is observed that the number of E. Colli bacteria ranges on average from 0.03 to 1.26 / g, at obtaining and within the last 14 days of shelf life and after 30 days of obtaining the number of E.colli reached on average 0.63 / g. Alterative obvious changes occur at values of 1.07 E. Colli / g.

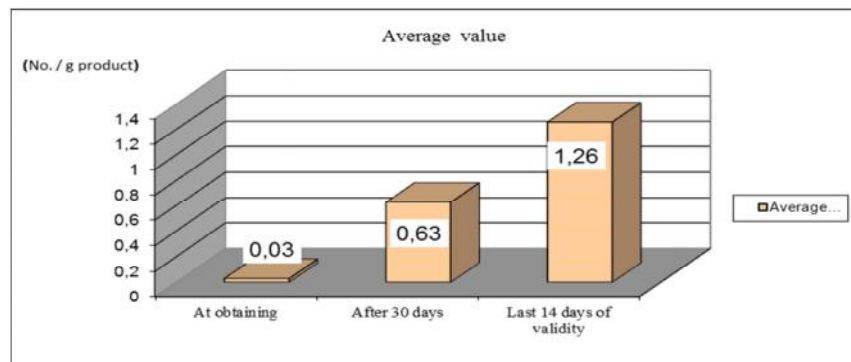Fig. 3.1 Average incidence of E colii germs in baloney in three experimental versions

B. Highlighting *Salmonella spp*.germs /25 g product

Table 3.1.

Number of *Salmonella spp.* Bacteria in baloney during storage

No.	Version	Repetition			Average
		R1	R2	R3	
1	At obtaining	absent	absent	absent	absent
2	After 30 days	absent	absent	absent	absent
3	Last 14 days of validity	absent	absent	absent	absent

The Salmonella spp./25 g type of germs were not observed in the samples examined, being absent in all variants.

C. Highlighting *Clostridium perfringens germs* (max/g product)

In Figure 3.2, based on the analysis of the incidence of the number of bacteria Clostridium perfringens it is observed that they were registered in the number 0.00 / g at obtaining, the number of 0.18 / g at 30 days after obtaining and in a number of 0.31 / g in the last 14 days of life.
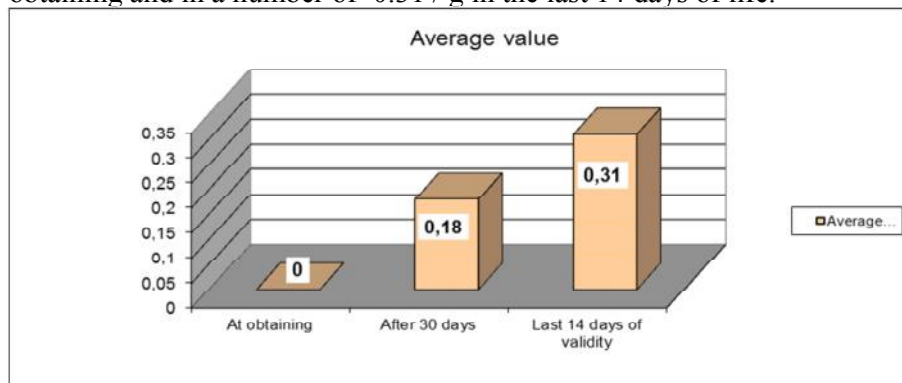

Fig. 3.2. Average incidence of Clostridium perfringens germs in baloney in three experimental versions

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2. Highlighting germs during storage of Victoria salami

A. Highlighting *E. Colli germs* (max/g product)

In Figure 3.3. we observe that E.Colli germs appear in a number of 0.00 / g both at obtaining, after 30 days of storage and 14 days of life in their number increases to 0.19 / g. Alterative obvious changes occur at values of 1.07 E. Colli / g.
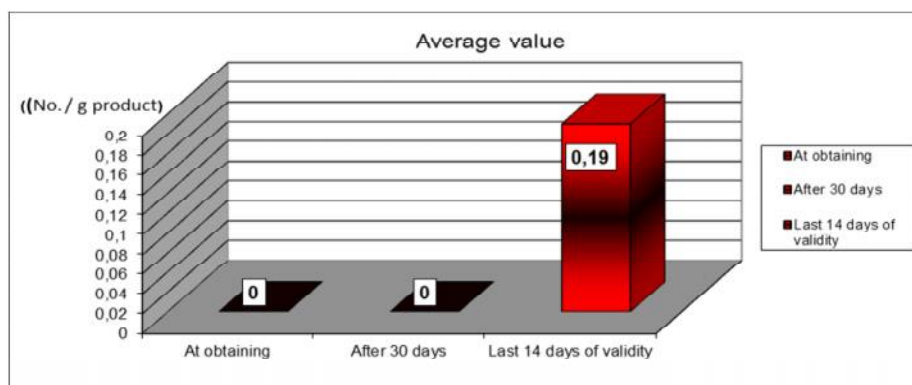

Fig. 3.3 Average incidence of E. colli germs in Victoria salami in three experimental versions

B. Highlighting *Salmonella spp. germs* (absent/25 g product)

Salmonella spp. on 25 g of product is absent in all samples, in all three examined versions during storage.

Table 3.2.

Number of *Salmonella spp.* bacteria in Victoria salami during storage

No.	Version	Repetition			Average
		R1	R2	R3	
1	At obtaining	absent	absent	absent	Absent
3	After 30 days	absent	absent	absent	Absent
4	Last three days of validity	absent	absent	absent	Absent

C. Highlighting *Clostridium perfringen* germs

In figure 3.4. considering the incidence of Clostridium perfringens germs analyzed / g of product it is noted that the production and absent after 30 days in production has been highlighted in the average number of 0.04 / g, the number growing to 0.13 / g produced in the last 14 days of life. Alterative changes are obvious to 1.10 / g.
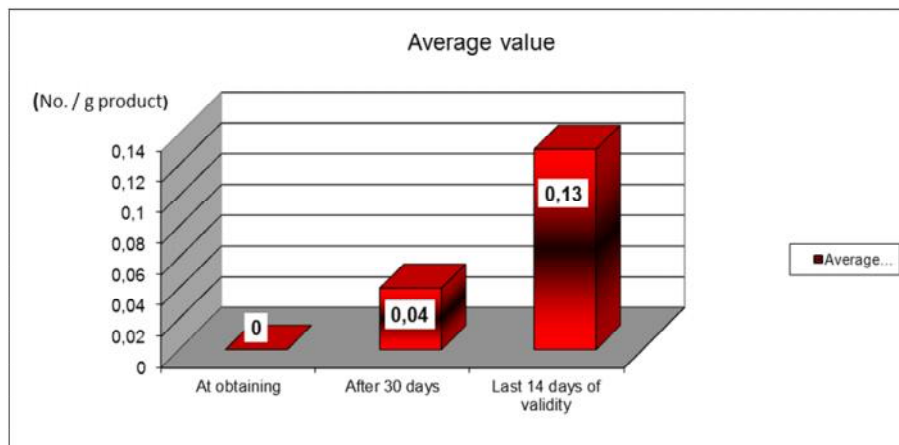
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Fig. 3.4. Average incidence of Clostridium perfringens germs in Victoria salami in three experimental versions

3. Highlighting germs during storage at dry summer salami

A. Evidencing *E. Colli* germs

In figure 3.5, based on microbiological determinations in dry summer sausage, it is noted that the number of bacteria E. Colli / g, an average of a number ranging from 0.19 / g to obtain a total of 9.13 / g in the last 14 days of life. In this case, the first signs of alterations appear to more than 10 / g.
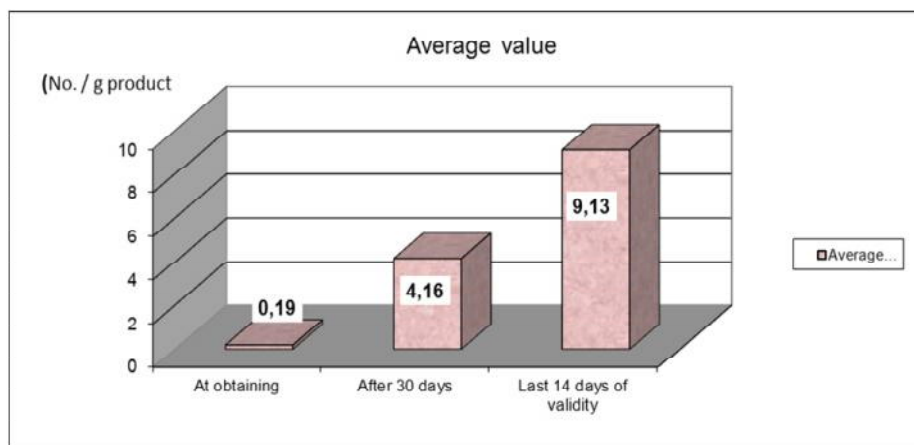

Fig. 3.5. Average incidence of E colii germs in dry summer salami in three experimental versions

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B. Highlighting *Salmonella spp.* germs

Number of *Salmonella spp.* Bacteria at dry summer salami during storage

No.	Version	Repetition			Average
		R1	R2	R3	
1	At obtaining	Absent	Absent	Absent	Absent
3	After 30 days	Absent	Absent	Absent	Absent
4	Last three days of validity	Absent	Absent	Absent	Absent

The germs of *Salmonella spp.* type are absent at all examined samples.

C. Highlighting *Clostridium perfringens* germs

In figura 3.6, considering the incidence of germs of Clostridium perfringens it can be noted that the identification of the seed analysis, the product has not been identified or not the micro-organism is missing in this embodiment, 30 days after production there was identified an average of 1.31 bacteria / g and in the last 14 days of life the average number of germs identified was 1.39 / g.

In this case alteration changes occur in the values over 1.66 / g.
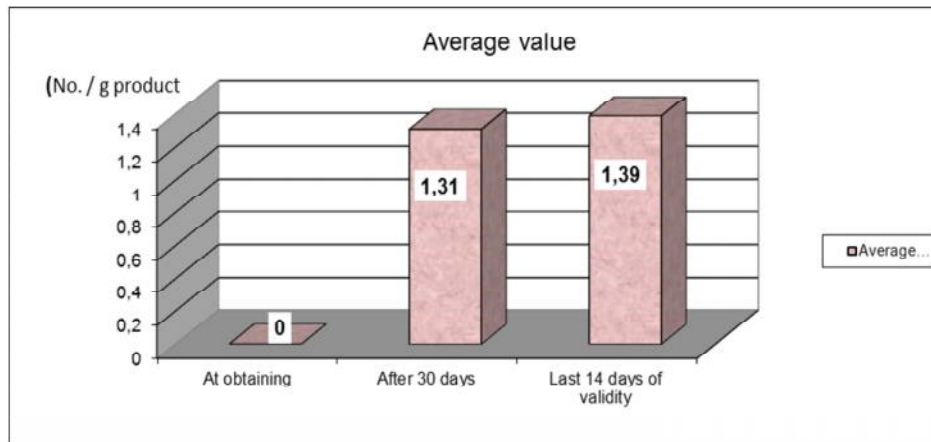

Fig. 3.6. Average incidence of Clostridium perfringens germs in the dry summer salami in three experimental versions

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CONCLUSIONS

The quality of most industrial products characterized by a quality or group of well-defined physical and chemical properties for food, quality is characterized by several groups of organoleptic, physical, chemical, physical-chemical, microbiological, toxicological.

Microbiological and toxicological analysis approaches ways of establishing real-time prediction of toxicological effects caused by microorganisms on meat.

Standardization of practical methods for determining the quality parameters which were strict in the legislation has given a new dimension and accuracy in all aspects of food safety *in these conditions has profound implications for the quality of food is the basis of life*, being a factor with permanent action that causes development of metabolic processes and can have a decisive influence on the development of the organism.

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