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MEAT PRODUCTS - ARE THEY SAFE FOR GUARANTEE THE POPULATION HEALTH?

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Abstract
Foodstuffs of animal origin continues to record increased demand among consumers, compared to vegetable products, because they are characterized by a high biological value which is given by the rich content of most essential amino acids (Tăpăloagă, 2014). The development of metabolic processes, where foods are involved, must be done with respect for certain values for parameters that influence consumer health. The study presents some of the ingredients involved in making meat preparations and their medical importance, the values of some parameters that characterize their quality and safety while assessing the degree of consumption of these assortments of animal food. Sometimes, food quality characteristics are omitted by consumers either knowingly (when the cost price is the one that is the prime), or because of the way the product is presented which most of the time does not reflect the true reality, but the appearance, the smell, the taste or the way of packaging make it unremitting. Although, the values for the parameters determined by us, have been within the normal limits set by current legislation, the age of consumers (especially children) is worrying and also their weight in the daily diet, the two may adversely affect the health of these consumers later.

Key words: *cold meats, food quality and safety, medical diseases, population health.*

INTRODUCTION

The cold meats (cold cuts) are meat products, usually in membranes, which is consumed without prior cooking and for the manufacture of which are used raw materials, represented by meat (cattle, swine, sheep, poultry), bacon and by-products, but also many auxiliary materials (Hubert, 2005). Among the auxiliary materials used, we are particularly interested in salt, nitrite, polyphosphates.

The increased consumption of salt, over daily requirements is associated with higher blood pressure and an increased risk of hypertension, but also with serious consequences of water retention, such as: heart failure, kidney disease and renal lithiasis, edema, stroke or osteoporosis (APC, 2017).

The sodium nitrite, used for antimicrobial properties, being bacteriostatic at a pH= 5-6 is associated with potentially carcinogenic substances, especially for the digestive tract (stomach), as a result of interaction with the proteins in the preserved food (ILSI, 2011).

Also, excessive fat consumption, especially saturated ones, is the main cause of an increased value of cholesterol at children and later for obesity and cardiovascular disease.

MATERIALS AND METHODS

A total of 30 samples, representing assortments of semi-smoked meat products, were collected and analyzed by sensorial and physical-chemical exams. Samples were collected from units with a specific profile in Romania (a selling meat and meat products unit) and were represented by pork salami, summer salami, „extra" salami, „Victoria" salami and two kinds of sausages, these assortments being the most commonly used for making sandwiches. To these samples, the values of some quality and food safety parameters have been appreciated, namely: water, salt, nitrates, fat and protein, along with sensorial properties.

RESULTS AND DISCUSSIONS

The sensorial exam has followed the appreciation of the exterior and on the section appearance, consistency, colour, smell and taste. The examination revealed normal characteristics for these samples. The pieces were whole, with clean surface, without impurities or mould islands, smooth membrane, continue, adherent to the composition, resistant to traction; under the membrane without air voids.

Table 1. Results of quality parameters assessment

No	Type of sample	Water %	NaCl %
1	pork salami	51,8	2,7
2	pork salami	52,9	1,8
3	pork salami	53,7	2,3
4	pork salami	56,3	1,8
5	pork salami	52,3	2,3
6	summer salami	51,6	2,3
7	summer salami	55,1	2,4
8	summer salami	54,2	2,2
9	summer salami	56,3	2,4
10	summer salami	49,8	2,4
11	summer salami	48,7	2,1
12	„extra" salami	52,5	2,3
13	„extra" salami	55,1	2,4
14	„extra" salami	56,9	2,1
15	„extra" salami	51,2	2,3
16	„extra" salami	54,9	2,4
17	„Victoria" salami	52,6	2,3
18	„Victoria" salami	55,5	2,3
19	„Victoria" salami	50,8	2,4
20	„Victoria" salami	54,2	2,1
21	sausages type 1	55,1	2,2
22	sausages type 1	51,7	2,2
23	sausages type 1	53,7	2,5
24	sausages type 1	55,6	2,1
25	sausages type 1	49,6	2,2
26	sausages type 2	54,2	2,5
27	sausages type 2	56,2	2,3
28	sausages type 2	46,7	2,3
29	sausages type 2	53,9	1,9
30	sausages type 2	53,6	2,2

No	Type of sample	Nitrates mg%	Fat %	Protein %
1	pork salami	5,7	28,9	16,3
2	pork salami	3,9	28,6	15,6
3	pork salami	4,5	25,4	16,3
4	pork salami	4,8	31,7	15,5
5	pork salami	2,5	28,1	15,8
6	summer salami	3,5	27,2	15,7
7	summer salami	3,3	29,4	15,4
8	summer salami	5,2	28,2	15,8
9	summer salami	6,7	30,7	15,2
10	summer salami	5,2	32,2	15,6
11	summer salami	3,2	26,8	15,7
12	„extra" salami	4,2	21,2	14,3
13	„extra" salami	3,4	24,4	16,4
14	„extra" salami	6,1	29,6	14,7
15	„extra" salami	6,2	27,2	16,2
16	„extra" salami	5,4	26,6	16,4
17	„Victoria" salami	6,4	33,1	15,4
18	„Victoria" salami	2,5	20,3	15,8
19	„Victoria" salami	4,2	27,4	16,3
20	„Victoria" salami	3,6	26,2	15,7
21	sausages type 1	5,5	26,7	15,4
22	sausages type 1	5,3	26,3	15,6
23	sausages type 1	5,2	31,8	15,8
24	sausages type 1	3,2	28,4	15,7
25	sausages type 1	2,3	26,8	16,2
26	sausages type 2	3,6	25,4	16,3
27	sausages type 2	3,5	21,2	15,1
28	sausages type 2	2,6	27,8	15,5
29	sausages type 2	6,2	27,9	15,6
30	sausages type 2	6,5	28,9	16,3

On the section, the composition it was compact, well mix, with pieces of bacon of uniform size and evenly distributed across the composition, giving mosaic look; without air voids, agglomerations of molten fat, liquid bags or albumin precipitate.

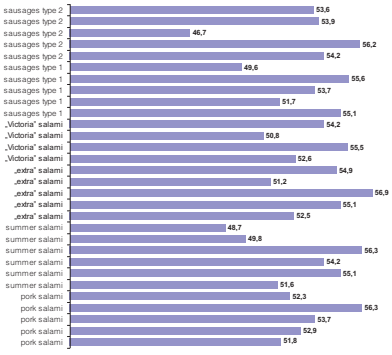

Figure 1. Water values

The consistency is firm and uniform. Smell and taste are pleasant, suitable salted and spiced.

For the physical-chemical parameters analyzed, the results were appropriate, these not exceeding the limits permitted by current legislation (Table 1). The values recorded were placed: for humidity between 46,7 and 56,9%, for salt between 1,8 and 2,7%, for nitrates between 2,3 and 6,7 mg %, for fat between 20,3 and 33,1%, for protein between 14,7 and 16,4%.

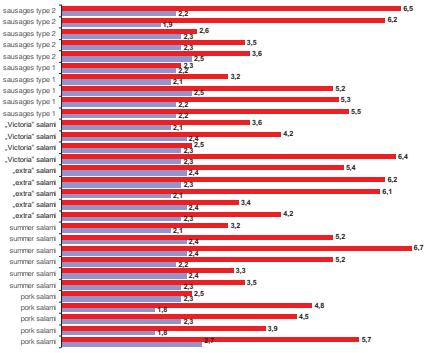

Figure 2. NaCl and Nitrates values

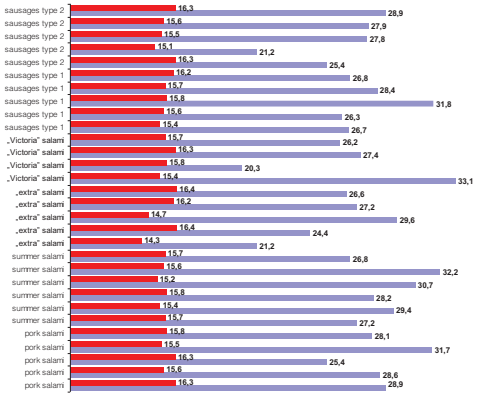

Figure 3. Fat and Protein values

CONCLUSIONS

Evaluating the main parameters that characterize the quality, safety and security of meat products must be carried out by the competent authorities on food, food additives, vitamins, mineral salts, trace elements, other food additives intended to be marketed as such, as well as materials and objects that come into contact with food, in order to verify the compliance with the legal provisions in force, relating to prevention of risks to public health, protecting the interests of the consumer and informing him correctly.

Although the analyzed samples correspond to the evaluated parameters, it is not unimportant the quantity, frequency and age at which these foods are consumed by the population.

Also, an exaggerated consumption of these products, associated with certain pre-existing medical conditions lead to these diseases worsens.

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