RESEARCH CONCERNING THE PHYSICAL AND CHEMICAL CHANGES AT THE ITALIAN SALAMI

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Abstract

The quality of a food product is hard to define as a general concept. The best definition of quality is what the public likes more ", some researches believe that the term quality should be" all subjective assessments of a large number of consumers." But this definition of quality refers only to certain sensorial evaluated characteristics of food: visual, tactile and gustative.

The term quality is thus a much broader concept that includes both the nutritional values and the sensory properties, while food must be wholesome. Thus, a quality food is one which assures the innocuity of the organism, covering the needs of the body of nutrients and satisfying your appetite.

Key words: Italian Salami. specific quality indicators

INTRODUCTION

At the heat treatment of food products containing lipids, there are produced modifications in terms of appearance, taste, smell, nutritional value and toxicity. There can be thermally degraded both saturated fats and unsaturated ones, such degradations being especially evident when frying food.

MATERIAL AND METHOD

In experiments carried out on Italian Salami there have been pursued the specific quality indicators, pH, amino nitrogen, ammonia nitrogen, amino nitrogen ratio - total nitrogen, ammonia nitrogen ratio - total nitrogen and hydrogen sulfide as an indication of degradation of nutrients.
These determinations will be evaluated at:

P1 At obtaining
P2 After 24 h
P3 After 15 days
P4 After 30 days
P5 At alteration

The quality determinations, pH, amino nitrogen, ammonia nitrogen, amino nitrogen ratio - total nitrogen, ammonia nitrogen ratio - total nitrogen and hydrogen sulfide have been conducted in the laboratory of the Food Control Department of Environmental Protection Faculty Oradea through established methods with the latest apparatus.

RESULTS AND DISCUSSIONS

Table 1

The ph

No.	Variant	Repetition			Average
		R1	R2	R3	
1	At obtaining	7.28	7.34	7.33	7.31
2	After 24 h	6.79	6.83	6.80	6.80
3	After 15 days	6.34	6.37	6.40	6.37
4	After 30 days	6.13	6.15	6.17	6.15
5	At alteration	5.60	5.63	5.57	5.60

Table 2

Table of comparisons Influence of factor 5

Symbol	Variant	%	Difference	Signification
51	7.32	100.0	0.00	Mt.
52	6.81	93.0	-0.51	000
53	6.37	87.1	-0.95	000
54	6.15	84.1	-1.17	000
55	5.60	76.5	-1.72	000

DL (p 5%) 0.04
DL (p 1%) 0.06
DL (p 0.1%) 0.09

pH when obtaining is below 7.31 and then decreases to 6.15 after 30 days of obtaining and 5.60 since the first signs of deterioration.

Table 3

Total nitrogen

No.	Variant	Repetition			Average
		R1	R2	R3	
1	At obtaining	3.41	3.44	3.42	3.42
2	After 24 h	3.20	3.16	3.18	3.18
3	After 15 days	2.90	3.00	2.97	2.95
4	After 30 days	2.60	2.58	2.57	2.58
5	At alteration	2.00	2.08	2.03	2.03

Table 4

Table of comparisons Influence of factor 5

Symbol	Variant	%	Difference	Signification
51	3.42	100.0	0.00	Mt.
52	3.18	92.9	-0.24	000
53	2.96	86.4	-0.47	000
54	2.58	75.5	-0.84	000
55	2.04	59.5	-1.39	000

DL (p 5%) 0.06
DL (p 1%) 0.09
DL (p 0.1%) 0.13

The total nitrogen, since production is 3.42 g% and after 30 days of storage of 2.58 g%. altered organoleptic changes occur at values of 2.03 g%.

Table 5

Amino nitrogen

No.	Variant	Repetition			Average
		R1	R2	R3	
1	At obtaining	63.14	64.42	63.23	63.59
2	After 24 h	75.63	78.51	76.43	76.85
3	After 15 days	98.22	99.02	97.37	98.20
4	After 30 days	175.30	177.28	176.33	176.30
5	At alteration	270.37	273.20	271.40	271.65

Table 6

Table of comparisons Influence of factor 5

Symbol	Variant	%	Difference	Signification
51	63.60	100.0	0.00	Mt.
52	76.86	120.9	13.26	***
53	98.20	154.4	34.61	***
54	176.30	277.2	112.71	***
55	271.66	427.2	208.06	***
DL (p 5%)		1.01		
DL (p 1%)		1.47		
DL (p 0.1%)		2.20		

The total nitrogen, since production is 3.42 g% and after 30 days of storage of 2.58 g%. altered organoleptic changes occur at values of 2.03 g%.

Table 7

Ammonia nitrogen

No.	Variant	Repetition			Average
		R1	R2	R3	
1	At obtaining	16.43	17.01	17.03	16.82
2	After 24 h	19.12	19.23	19.16	19.17
3	After 15 days	36.60	36.73	36.70	36.67
4	After 30 days	42.36	42.38	42.38	42.37
5	At alteration	69.23	68.72	68.69	68.88
6	Maximum admitted witness	45.00	45.00	45.00	45.00

Table 8

Table of comparisons Influence of factor 5

Symbol	Variant	%	Difference	Signification
56	45.00	100.0	0.00	Mt.
51	16.82	37.4	-28.18	000
52	19.17	42.6	-25.83	000
53	36.68	81.5	-8.32	000
54	42.37	94.2	-2.63	000
55	68.88	153.1	23.88	***
DL (p 5%)		0.37		
DL (p 1%)		0.53		
DL (p 0.1%)		0.77		

Table 9

Ratio of amino nitrogen – total nitrogen

No.	Variant	Repetition			Average
		R1	R2	R3	
1	At obtaining	1.85	1.87	1.84	1.85
2	After 24 h	2.36	2.48	2.40	2.41
3	After 15 days	3.38	3.30	3.27	3.31
4	After 30 days	6.74	6.87	6.86	6.82
5	At alteration	13.51	13.13	13.36	13.33

Table 10

Table of comparisons Influence of factor 5

Symbol	Variant	%	Difference	Signification
51	1.85	100.0	0.00	Mt.
52	2.41	130.2	0.56	***
53	3.32	179.0	1.46	***
54	6.82	368.2	4.97	***
55	13.33	719.4	11.48	***

DL (p 5%) 0.20
DL (p 1%) 0.30
DL (p 0.1%) 0.45

Table 11

Ratio of ammonia nitrogen – total nitrogen

No.	Variant	Repetition			Average
		R1	R2	R3	
1	At obtaining	0.48	0.49	0.49	0,48
2	After 24 h	0.59	0.60	0.60	0.59
3	After 15 days	1.26	1.22	1.23	1.23
4	After 30 days	1.62	1.64	1.64	1.63
5	At alteration	3.46	3.30	3.38	3.38

Table 12

Table of comparisons Influence of factor 5

Symbol	Variant	%	Difference	Signification
51	0.49	100.0	0.00	Mt.
52	0.60	122.6	0.11	**
53	1.24	254.1	0.75	***
54	1.63	335.6	1.15	***
55	3.38	694.5	2.89	***

DL (p 5%) 0.07
DL (p 1%) 0.10
DL (p 0.1%) 0.16

Ammonia nitrogen when obtaining the product is 16.82 mg% and 42.37 mg% after 30 days, at deterioration it reaches 68.88 mg%.

Table 13

Hydrogen sulfide

No.	Variant	Repetition			Average
		R1	R2	R3	
1	At obtaining	Absent	Absent	Absent	Absent
2	After 24 h	Absent	Absent	Absent	Absent
3	After 15 days	Absent	Absent	Absent	Absent
4	After 30 days	Weak positive	Weak positive	Weak positive	Weak positive
5	At alteration	Positive	Positive	Positive	Positive

CONCLUSIONS

1. At the Italian Salami, dynamic physical-chemical changes during storage follow the same course as with the rosy sausage (Parisian).
2. The amine nitrogen, during storage of products increases from 63.59 mg% (in production) to 176.30 mg% after 30 days. In altering its value reaches 271.65mg%.
3. The ratio of amine nitrogen- total nitrogen when obtaining the Italian salami is of 1,85, at 30 days after obtaining its value increases to 6,82 and at alteration is of 13,33.
4. The ratio of ammonia nitrogen- total nitrogen when obtaining the product is of 0,48 an then increases to 1,63 after 30 days of storage, and at the appearance of alteration signs has the value of 3,38.
5. Hydrogen sulfide occurs in the product after 30 days with a weak positive reaction and it becomes positive at the alteration of the product.

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