

ANALYSIS OF CHEESE CONSUMPTION IN ROMANIA

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***Abstract:** Tasty and fickle, cheeses are an essential part of every person's daily diet, being an important source of calcium and fats for the body. They can be consumed as an appetizer before a meal, as a simple snack between meals, in platters combined with fruit or other cold appetizers, or they can be used in cooking - in sauces, for desserts, for gratin, etc. There are over 650 types of cheeses worldwide, most of which are made from cow's milk. Cheeses can be classified according to several criteria - the type of milk they are made from, the fat content, consistency, manufacturing process, country of origin, etc. England, France and Italy are among the countries with long traditions in preparing famous cheese varieties, but Romania also has several cheese varieties that Romanians, but not only, frequently consume for their freshness and flavor: curd, salted cheese, fresh cheese and bellows cheese. The demand for cheese is constantly growing, with the average annual consumption of cheese locally estimated at around 10.4 kilograms per capita. Salted cheese remains the leader in consumer preferences, but hard cheeses such as Parmesan, Grana and Gouda have increased considerably in daily consumption preferences, along with mozzarella and burrata, specialties that have become part of frequent consumption.*

Key words: cheese type, dairy products, milk specialties, cheese production

INTRODUCTION

The local cheese market is constantly developing, with producers relying on traditional Romanian recipes and production techniques from countries such as Italy, Switzerland, Spain or France. In the context where cheese consumption in Romania is below the European average, producers say there is room for growth.

The Romanian cheese market has significant growth potential, given the growing interest in local and authentic products. [1,2]

MATERIALS AND METHODS

The research method used in the study is the statistical processing and economic analysis of official statistical data such as INS, MADR but also websites, specialized magazines. Based on these data, comparative analyses of production, consumption and consumer preferences in the cheese sector were carried out at the national level.

RESEARCH RESULTS

Milk is one of the most essential products for human health, containing essential elements for the human body that are not found in any other product, whether of animal or vegetable origin.

Per capita consumption levels of dairy products are determined by a number of factors, including economic factors, such as income levels and relative prices, demographic factors such as urbanization, and social and cultural factors. [3]

Economic growth and rising incomes have led to increased consumption of livestock products in most developing countries. Indeed, dairy products have a high elasticity of demand, especially at low income levels. [5]

Table 1.

Analysis of the evolution of the average annual consumption of milk and dairy products in milk equivalent 3.5% fat (excluding butter) per capita

Specification	2010	2015	2020	2021	2022	2023
Milk and milk products in milk equivalent 3.5% fat (excluding butter)	244,2	250,7	260,1	236,3	263,8	263,3

Source: data processing according to INSSE

According to the National Institute of Statistics, in the period 2010-2023, an inhabitant consumed an average of 253.06 liters of milk and dairy products (in milk equivalent 3.5% fat - excluding butter).

People's orientation towards a healthy diet, as well as increasing incomes, led to an increase in the consumption of milk and dairy products, so that in 2023 a consumption of 263.3 liters/inhabitant is recorded, which represents an increase of 7.82% compared to the reference year 2010.

There are over 650 types of cheeses worldwide, most of which are made from cow's milk.

Cheeses are obtained by curdling cow's, sheep's, goat's or buffalo's milk. The milk is curdled using a combination of rennet (or substitute) and acidification. Bacteria are what acidify milk and play an important role in defining the texture and flavor of many types of cheese. For added flavor, various herbs, spices, or molds are added to cheeses.

Both cheese and wine, with centuries-old traditions, are natural products that are frequently consumed together. The whiter and fresher the cheese, the stronger the fruit aroma and smell of the wine should be. There are no strict rules for choosing the wine that accompanies a certain type of cheese, but, in general, white wines go better with many cheeses than red wines. Fresh dry red wines go perfectly with soft cheeses, especially goat cheeses. [8]

Romania has over 350 cheese producers, Eurostat data shows, while Spain and France have over 500, and Switzerland has over 2,300 such producers and Italy over 1,600.

On the other hand, Romania ranks 9th in the top of cheese producers at European level, with a production of 98,800 tons. The ranking is led by France (1.8 million tons), Italy (919,000 tons) and Spain. [9]

Depending on the nature of the milk used as raw material and the technology applied, with various variable parameters, numerous cheeses can be made, representing an unexpectedly varied assortment. This diversity makes it difficult to precisely classify cheeses into perfectly delimited groups and to specify the exact classification of any assortment in one of these groups.

Cheeses can be classified according to several criteria – the type of milk they are made from, the fat content, the consistency, the manufacturing process, the country of origin, etc. [4]

1. Depending on the milk used:

a. from cow's milk: Trappist, Swiss, Mozzarella, Parmesan, Provolone, Mascarpone, Emmenthaler, Gouda, Cheddar;

b. from sheep's milk: Roquefort, Pecorino, Nasal, Branza de burduf, oat salty cheese, Cas de oat;

c. from goat's milk: Feta, Montrachet, Chevre, Caprino;

d. from buffalo, mare, camel or yak milk: Caravane, Airag.

2. Depending on the consistency:

a. soft: Mascarpone, Ricotta, Camembert;

- b. semi-hard: Brie, Roquefort, Emmenthaler;
- c. hard: Parmesan, Pecorino Romano;
- 3. By manufacturing process:
 - a. cheeses with mold on the outside: Brie;
 - b. cheeses with mold on the inside: Roquefort;
 - c. kneaded cheeses: Cheese in bladder;
 - d. scalded: Mozzarella;
 - e. brine: Feta.
- 4. Depending on the fat content:
 - a. low-fat cheese: Ricotta, Cottage Cheese;
 - b. semi-fat: Mozzarella, Halloumi, Caș, Salty cheese;
 - c. fat: Bellows cheese, Feta, Brie, Gorgonzola, Roquefort, Camembert;
 - d. very fat: Mascarpone.
- 5. Country of origin: England, France and Italy are among the countries with long traditions in the preparation of famous cheese varieties such as Roquefort, Brie, Gorgonzola, Mozzarella, but Romania also has several varieties of cheese that Romanians, but not only, frequently consume for their freshness and flavor: ricotta, salty cheese, cașul and bellows cheese.

In Romania, in the Sibiu area, cheese fermented in fir bark is prepared, following a recipe similar to that of sheep's bellows cheese. The spicy cheese paste is stuffed into a cylinder made of fir or spruce bark.

The cheese thus acquires a very special aroma due to the resins in the bark. The essences from the bark of fir and spruce trees were used in traditional medicine to treat various digestive disorders.

Cheese production is a European tradition, according to statistical data. Europe is the world's leading producer, with an estimated production of 9,375,486 tons of cheese in 2020. [10,12]

Dairy product production recorded an increase in all components. For cheese, the total production in 2024 was 82,222 tons, 5.75% higher than that recorded in the period from January 1 to September 30, 2023, of which 75,656 tons came from cow's milk.

The production of cheese obtained from cow's milk represents 92.1% of the total production of cheese.

Table 2.

Cheese production

No	Name of the product	2021	2022	2023	2024
1	Cheese (including curd)	98822	102793	103867	109655
2	- from cow's milk	91433	95612	96327	101729
3	Processed cheese	10321	10804	11014	11784

Source: data processing according to INSSE

Cheeses are fresh or matured products, in a solid or semi-solid state, obtained by the coagulation of milk, cream, whey or buttermilk, following the action of rennet or another coagulant agent. Depending on the consistency, they can be:

- soft cheeses: cheeses in which, in general, the moisture content, excluding fat, after maturation, is at least 68%;
- semi-soft cheeses: cheeses with a moisture content, excluding fat, of 62-68%;
- semi-hard cheeses: cheeses with a moisture content, excluding fat, of 55-62%;
- hard cheeses: cheeses with a moisture content, excluding fat, of 47-55%;
- very hard cheeses: cheeses in which, in general, the moisture content, excluding fat, after ripening is not more than 47%;

- fresh cheeses: products obtained from sour milk from which most of the whey has been removed (for example by a draining or pressing process); this also includes cow's cheese (other than powdered cheese) containing up to 30% by weight of sugar or added fruit.

In Romania, the structure of cheese production in 2023 is shown in the following table:

Table 3.

Cheese production structure 2023

Cheese (from all types of milk) by moisture content including curd (tonnes)	Production achieved	%
Total	102793	100
Soft cheese	22754	20,80
Semi-soft cheese	19227	21,44
Semi-hard cheese	39495	37,14
Hard and very hard cheese	227	0,38
Fresh cheese (including curd)	21090	20,24

Source: data processing according to INSSE

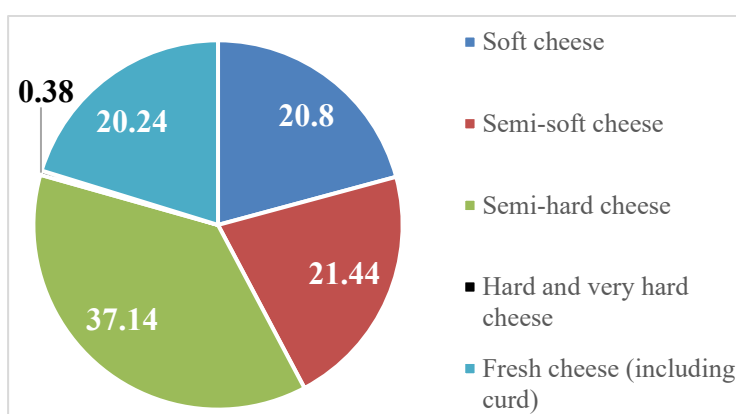


Figure 1. Cheese production structure 2023

Source: data processing according to INSSE

An upward trend is shown by the consumption of both cow's milk and sheep's milk cheese. The most consumed are cow's salty cheese and fresh cow's cheese. During the period 2010-2023, the consumption of cow's cheese (salty cheese) fluctuated from 0.408 kg/person in 2010 to 0.456 kg/person in 2023, being 8.6% higher than the minimum of the period. Also, the consumption of fresh cow's cheese increased during the analyzed period from 0.285 kg/person in 2010 to 0.301 kg/person in 2023. [11]

Regarding the consumption of sheep's cheese, it is found that it has an upward trend, in the analyzed time period, with an annual rate of 1.2%. In 2023, the average monthly consumption of sheep's cheese was 0.237 kg/person, representing an increase of 12.72% compared to 2010, but 1.5% lower than the previous year. [13]

Table 4.

Evolution of the average monthly consumption of cheese in Romania, during the period 2010-2023 (kg/person)

Specification	2010	2015	2020	2021	2022	2023
Cheese and cream (kg)	1,299	1,287	1,572	1,627	1,603	1,592
Cow cheese (salty cheese)	0.408	0.447	0.443	0.462	0,459	0,456
Sheep cheese	0.228	0.232	0.257	0,263	0,246	0,237
Fresh cow cheese	0.285	0.275	0.31	0,305	0,302	0,301
Cheese	0,095	0,116	0,163	0,175	0,176	0,177

Source: data processing according to INSSE

A Forbes study, conducted in 2023, reflects consumer preferences in terms of cheeses

Table 5.

Consumer preferences in terms of cheeses

No	Name of the product	%
1	Salty cheese	78,3
2	Fresh cheese	35
3	Processed cheese	10,4
4	Cream cheese	26,3
5	Pressed cheese	56,2
6	Kneaded cheese (bellows type)	27,4
7	Ricotta	18,8
8	Soft cheese like Camembert and Brie	46,4
9	Semi-hard cheese like Comte and Gruyere	23,5
10	Hard cheese like Parmesan, Grana and Gouda	62,7
11	Cheddar cheese	35,8
12	Mozzarella and Burrata	51,4
13	Emmentaler and Swiss	35,2
14	Other types of cheese	10,9

Source: Laura – Georgiana Cioba – Studiu: Noi tendințe în consumul de brânză. Brânzeturile de tip Parmezan, Grana și Gouda cresc considerabil în preferințele zilnice de consum, <https://www.forbes.ro/studiu-noi-tendinte-in-consumul-de-branza-branzeturile-de-tip-parmezan-grana-si-gouda-cresc-considerabil-in-preferintele-zilnice-de-consum-3521>

Salty cheese remains the leader in consumer preferences, but Parmesan, Grana and Gouda cheeses (those with hard paste) have increased considerably in daily consumption preferences, shows a recent study conducted by Revino Romania. The most important decision-making factors when buyers choose cheeses are the type of cheese, the type of milk, the producer and the ripening period, along with the moment of consumption. [4]

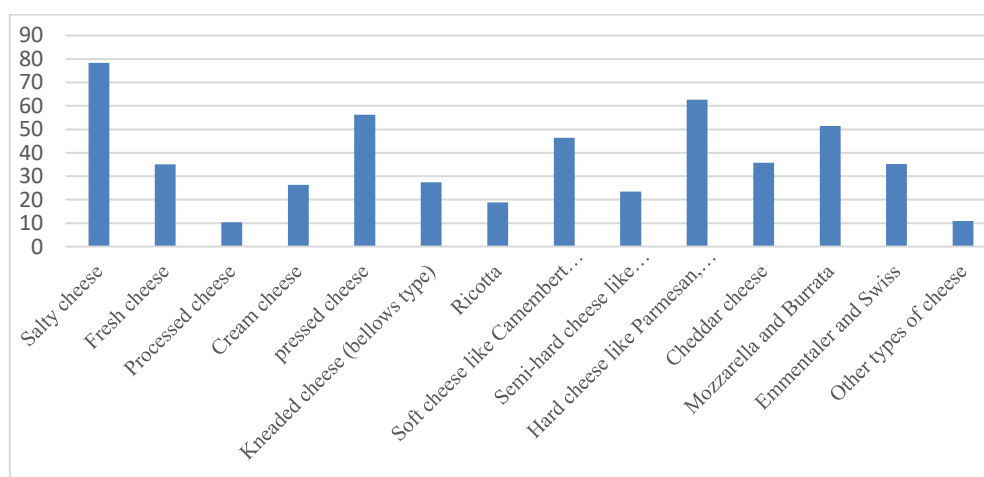


Figure 2. Consumer preferences regarding cheese

Source: Laura – Georgiana Cioba – Studiu: Noi tendințe în consumul de brânză. Brânzeturile de tip Parmezan, Grana și Gouda cresc considerabil în preferințele zilnice de consum, <https://www.forbes.ro/studiu-noi-tendinte-in-consumul-de-branza-branzeturile-de-tip-parmezan-grana-si-gouda-cresc-considerabil-in-preferintele-zilnice-de-consum-3521>

It is observed, according to the graph above, that the most consumed type of cheese is salty cheese at a percentage of 78.3%, at the opposite pole being processed cheese consumed by approximately 10.4% of people.

Table 6.

Cheese price evolution in Romania

Specificare	2010	2015	2020	2021	2022	2023	2024
Cow cheese (salty cheese)	11,63	14,55	18,33	19,53	24,47	29,71	30,14
Sheep cheese	15,88	19,63	24,87	26,6	33,58	39,72	41,99
Fresh cow's cheese	10,44	12,27	15,67	16,61	20,93	25,62	27,22

Source: data processing according to INSSE

Among dairy products, in Romania, cheese is the most consumed, whether from cow's or sheep's milk.

The selling price of a kilogram of salty cheese from cow's milk, at the farm gate, varied during the analyzed period from 11.63 lei in 2010 to 30.14 lei in 2024, registering a significant increase during the analyzed period (259.15%). [14]

The selling price of a kilogram of fresh cheese from cow's milk also increases during the analyzed period, so that in 2023 it reaches 27.22 lei/kg, representing an increase of over 250% compared to the price registered in 2010 of 10.44 lei/kg.

Regarding the price of a kilogram of sheep's milk cheese, it registered the same growth trend as other types of cheese, during the analyzed period, showing variations ranging between 15.88 lei/kg in 2010 and 4199 lei/kg in 2024.

CONCLUSIONS

The economic importance of milk on the agri-food market is highlighted by its structure and the role it plays in the population's consumption. Thus, the biological importance of milk from which it is derived and its quality as a strategic product on the agri-food market are presented. [15]

The milk and dairy products market can certainly be characterized as an uncertain market, being often unpredictable, especially in the recent period when, due to the pandemic caused by Covid-19, considerable changes have taken place that are also seen in the statistical data.

Romania has over 350 cheese producers, while in Spain and France they have over 500, and in Switzerland there are over 2,300 such producers and in Italy over 1,600. On the other hand, Romania is in 9th place in the top of cheese producers at European level, with a production of 98,800 tons. The ranking is led by France (1.8 million tons), Italy (919,000 tons) and Spain.

During the period 2010-2023, an inhabitant consumed an average of 253.06 liters of milk and dairy products (in milk equivalent 3.5% fat - excluding butter). People's orientation towards a healthy diet, as well as increasing incomes, led to an increase in the consumption of milk and dairy products, so that in 2023 a consumption of 263.3 liters/inhabitant is recorded, which represents an increase of 7.82% compared to the reference year 2010. [16]

The dairy market has recorded fluctuations in consumption and sales volumes over the last year, under the impact of inflation, which led to a slight decrease compared to last year. Currently, we see a recovery in consumption, and the milk market tends to reach stability.

To protect the dairy sector during periods of major market disruptions, a series of mechanisms are used. Market intervention, in particular, provides a safety net in the event of a serious market imbalance, in the form of public intervention and aid for private storage. This aid supports part of the storage costs while products are temporarily withdrawn from the market.

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