

Milk Production and Processing in Romania – Characteristics and Tendencies

**Tabita Cornelia Adamov, Tiberiu Iancu, Cosmina Simona Toader, Andrea Feher,
Mihaela Iancu**

*Banat's University of Agricultural Sciences and Veterinary Medicine, Timișoara, 300645, Calea Aradului, 119,
Romania*

Abstract

Milk and its derived products are a staple food in human nutrition. A suitable food system does not accept food rations which provide milk and milk products in their structure. These considerations have led to increased consumption of milk and its derivatives. For the future, it is predicted that both milk and milk products will occupy an important place in daily human consumption compared with other animal products. Occupying second place, in importance, the Romanian agriculture, after meat production, milk and milk products sector is one of the most important sectors of Romanian agriculture, representing in 2007, 25.03% of total agricultural production and 9.59% from animal production. The restructuring of Romanian agriculture has as a result reducing or even destroying the material base both in agriculture and processors industries. Also, reduction of livestock has like result the reduction of agricultural production animals - an important part of raw material in food industry. Milk production, a major component of animal production, it has faced such problems. Thus explains the decreasing trend in milk production for processing in the period 1990-2000, following a restructuring of the dairy sector industrialization, oversized compared to the productions obtained.

Keywords: milk production, self-consumption, milk processing

1. Introduction

The milk and the dairy products have an important role in a rational alimentation whether they are consumed as such or in combination with other food products. The milk and the derived dairy products always represented a health source. The milk represents a food product which contains in the corresponding proportions all the substances needed for the development of the young human body, in the easiest digestible form.

The economic importance of the milk on the food market is highlighted by its structure and by its role in the population consumption. So, we will present first the biological importance of the milk which leads to its characteristic of strategic product on the food market.

Being on the second place as importance in the Romanian agriculture, after the meat production, the milk and dairy products sector is one of the most important areas of the Romanian agriculture. Almost 95% of the total milk production is obtained in the private sector which supplies the largest quantity of milk for processing.

2. Materials and methods

The milk cow breeding has as main objective the production of increased quantities of milk from the existent breeds and to obtain increased and constant incomes for the farmers.

The milk is the only food product where the internal production has increased constantly, even when till 2002 the head counts decreased,

* Corresponding author: Tabita Cornelia Adamov,
040723729932, tabitaadamov2003@yahoo.com

the growth being determined by the increased with almost 60% of the average production.

In the present, one of the most important major problems of this sector is represented by the fact that both the quality and the quantity of milk are negatively influenced by the excessive fragmentation of the milk production. So, almost 76% of the milk production comes from farms with 1-2 heads, farms which represent 92% of the farms with milk cows which exist at national level.

The small size of the farms with milk cows, the poor development of the infrastructure, the inconsistency of the agricultural policies and the turbulent economical environment, mainly in the rural areas, is very well reflected in the obtained milk production and in its structure concerning the way it is used.

3. Results and discussion

At national level the production is 5 million tons of milk, but, unfortunately, 40% of the total milk quantity produced outside the professional farms, is not conforming to the organic content and the qualitative norms. [1]

During 1990 – 2008, less the years 1990 and 1992, the total milk production increased constantly with 31.69%, despite of the permanent decrease of milk cows number, and 31.73%. This increase is due, mostly, to the improvement of the average production per animal. During the analyzed period the average productivity per animal increased with almost 72.66%.

The transition period is characterized by two different tendencies of the milk production evolution, an increase tendency and a decrease one, the last one was registered on short periods of time and with low intensity. The period 1989 – 1996, excepting the years 1990 and 1992, the production presents an increasing trend, the average increase rate is 22.9%. This increase is due mostly to the increase of the average production which during this period increased with 37.3%. In the period 1997 – 2000 we can notice a decrease of the milk production with 7.7%. The decrease of the total production was caused by the average productivity per animal. This decrease of the total and average production

was caused by the price increase and the reduction of support measures for the farmers.

Table 1. The evolution of total and average milk production in Romania, 1989 – 2007, [1]

Year	Total milk production (thousand of hl)	Average milk production (l/head)
1990	40311	2063
1991	41823	2203
1992	41079	2305
1993	43507	2440
1994	49632	2790
1995	52830	2995
1996	53477	3018
1997	52581	3057
1998	50902	3030
1999	49249	2990
2000	44831	2525
2001	46367	2656
2002	51800	2945
2003	54199	3085
2004	55444	3159
2005	55334	3054
2006	58307	3221
2007	54875	3458
2008	53089	3562

Source: Statistic registry of Romania, 2008

Starting with 2001, both the total production and the average one are back on the increasing track. In the period 2001 – 2007 the total production increased with 8508 thousands of hl meaning 18.34%, and the average production with 19.27%. The milk production is realized mainly in the private sector, represented generally by the small individual farms. So, if in 1990 the milk production obtained in the private sector represented 56.2% of the total milk production, in 2007 this was almost entirely realized in the private farms, 99.75%.

The average production follows the total production trend (figure 1). In the period 1989 – 2007, this increased with 53.56%. The bonus for the obtained milk is an answer to the change in the animal feeding and an improvement of the milk cow number by eliminating those with low productivity and infertile.

Generally, the average production is obtained in the private sector is almost equal and even higher than the national production.

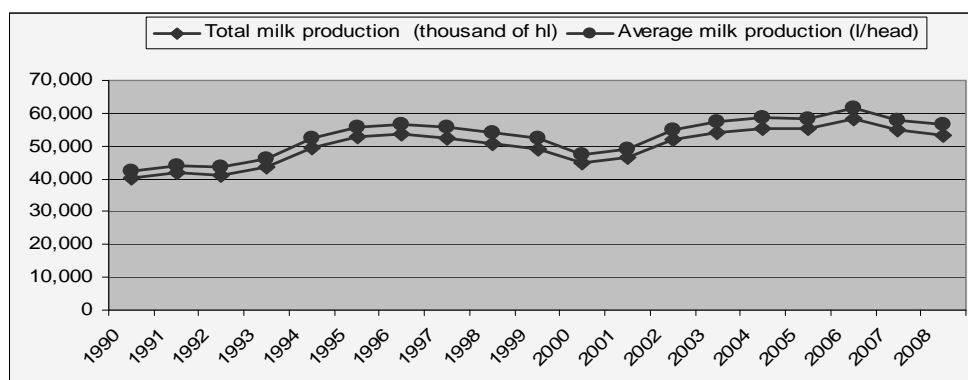


Figure 1. The total and average production evolution, 1990 - 2007

The increase of the average is the effect of the support offered from the state budget to the economical agents specialized in processing and also to the animal breeders. The amounts determined most of the breeders to hold and to introduce in the reproduction circuit the animals with high zoo-technical value, by using biotechnologies for artificial fertilization as an efficient method to accelerate the genetic improvement process of the animals. We can add to all these also the repartition of shelters which should be used by the cattle breeders.

Even if the average milk production registered some important increases compared to 1989, in

the present it is much lower than the European Union average production. Low productions per animal are due to the low genetic potential of some animals, especially those belonging to small individual farms which produce for self-consumption.

The restructuring of the national economy had a negative effect on the milk processing sector, the quantity destined for processing decreased very much so that in 2007 it represented only 21.92% of the total production.

We will present the structure of the milk production in the period 1990 – 2007, figure 2.

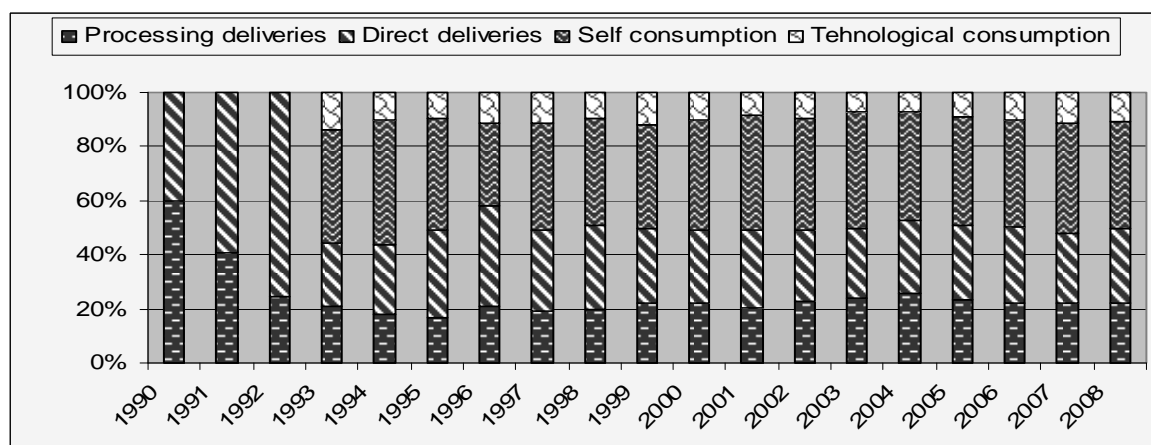


Figure 2. The structure of the milk production, 1990-2007

Analyzing carefully the structure of milk production in the period 1990 – 2008, we can notice that there are no important changes concerning the components starting with 1993. the highest quantity of milk is represented by the self-consumption, meaning about 40%, having as variation limits 37% - 45%. The milk production destined to the market, the deliveries to the

processing units and the direct deliveries to the market represent about 45% by the end of the analyzed period as a result of the come back of the milk processing industry, increasing to 50%.

The restructuring process of the Romanian agriculture had as result the decrease and even the elimination of the material basis both in agriculture and in the processing industries. Also,

the decrease of the animal number has as result the decrease of the animal production – an important part of the raw material from the food industry. So, the negative events which happened in the animal production domain had negative consequences on the processing industry.

A major challenge for the commercial development of the milk and dairy products sector is represented by the increase of the high quality raw milk quantity delivered to the processing sector for reasonable prices for both partners.

The processed milk represents a part of the total produced milk. About 80% of the total milk quantity is consumed by the farmers or sold on the rustic markets, mainly as liquid milk, cheese and cream. The rest of 20% is delivered to the milk processing units.

In 2008, the destination of the milk production is represented as follows:

- Processing deliveries – 22.1%;
- Direct deliveries – 27.4%;
- Self-consumption – 39.6%;
- Technological consumption – 10.9%;

The milk and dairy market is one of the most dynamic markets from the consumption goods market from the country. Romania registered during 1998 – 2006 the most pronounced increase rhythm at international level, with an annual average of 25%.

The financial difficulties met in insuring the raw material and the lack of the basic material led to the decrease of the internal production.

The permanent decrease of the production of milk as raw material delivered to the processing units determined, also the decrease of the dairy production.

After 1990 the range of goods was diversified and the Romanian dairy products' quality has improved. The importation of dairy products, the changes in the consumers' preferences for the foreign products, impelled the milk industry to modernization. The design of the products has changed also, so new products were developed: products packed in vacuum in small portions which could be consumed at one meal, the milk packed in Tetrapack, yogurt in modern packaging material easy to transport, etc.

The analysis of the data presented in the above figure (figure 3), shows a big decrease for all the

dairy products. So, the milk quantity for consumption with 1.8% fat continuously decreased after 1989 till 2001, from 5628 thousand hl to 1168 thousand hl, actually the produced quantity of this product decreased about 5 times. Then there is a period where the production of milk for consumption with 1.8% fat increased in 2004 registering a value of 1577 thousands of hl milk. Compared to 1990, the milk production decreased with 70%. [1,2]

A similar situation can be found also in case of cheese, during the analyzed period the production of cheese decreased with 67%. For the milk powder we can notice a progressive decrease till 1999 and then from 2000 the quantity offered for sale increased slowly. We can notice the same thing also for the fresh dairy products with 3.5% fat. In the case of butter the production decreased continuously till 1998 and then it stabilized at the value of 6 thousand tons.

Concerning the evolution of the production of milk powder, butter and cheese, we can notice that it registered a decreasing trend during the analyzed period. For milk powder the decrease is characteristic for the period 1990 – 1999, when the production decreased with 80%. Then there is a period of increase but with a reduced intensity. We can notice the same situation also for the butter production. Compared to 1990 the total production decreased with 79%.

The cheese production shows a fluctuating evolution, where periods of decrease alternate with periods of increase. During 1990 – 1992, the production decreases with 49%, then there is a 4 years period of increase but with reduced intensity, 3.9%. During 1995 – 1997, the production decreases and then increases again in 1999 reaching the same value as in 1995, 51 thousand of tons. In 2000, the butter production reduces almost by half, 43%. Starting with 2001, the tendency is a permanent increase and in 2005 the cheese production is 61 thousand tons, an increase of 47%.

The cheese occupies almost half of the dairy product market from Romania. The other half is shared between the milk for consumption 20% and yogurt 30%.

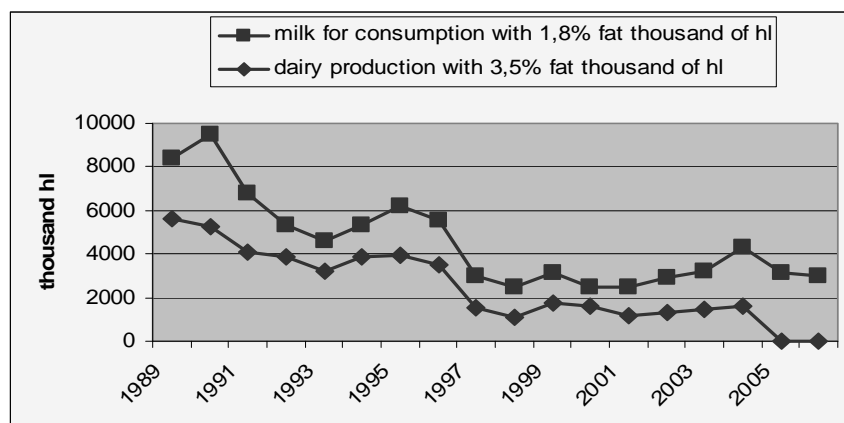


Figure 3. The evolution of fresh dairy production with 3.5% fat and milk for consumption with 1.8% fat,

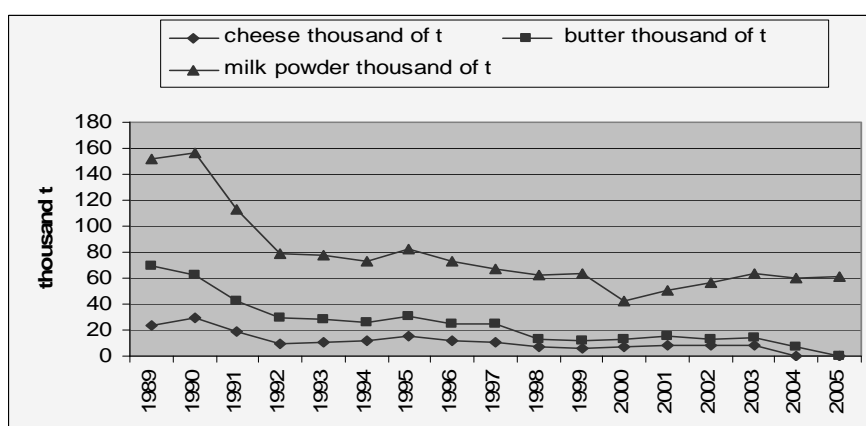


Figure 4. The evolution of the production of cheese, butter and milk powder

In the period 1998 – 2006, the value of total investments registered for the milk industry is about 360.5 million Euros.

Concerning the evolution of the investments realized in the milk industry, in the period 1998 – 2006, we can notice that they had a fluctuating evolution. The highest levels of investments in the milk area were registered in 2006, 75.1 million Euros and in 2000 when the total invested value was 57.3 million Euros. Concerning the percentage of the investments value from the milk industry in total realized investment value from the food industry represented 19.6% in 2000 and the investment value was 57.3 millions Euros. During the analyzed period, the percentage of the investments increased from 84% to 100% in the private sector. At this level, 73% of the total investments are insured from own resources and

the rest of 27% is insured from internal credits or from other sources.

Analyzing the structure of the investments from the milk industry, in the period 1998 – 2006, we can notice that the highest percentage is represented by the investments for equipments (with an average of 22.8%) and transportation means (an average of 16.8%). In 2006, the investments for equipments represented 50%, the investments for buildings represented 31% and for transportation 18%. The highest amounts for investments for equipment, 64 million Euros, were registered in 2002 and 2003. Concerning the investments in buildings and special constructions, the highest values were registered in 2006 and 1999, 31 million Euros and 30 million Euros. For the transportation means, the highest values were registered in 2004 – 24 millions- and in 2005 – 26 millions. [3]

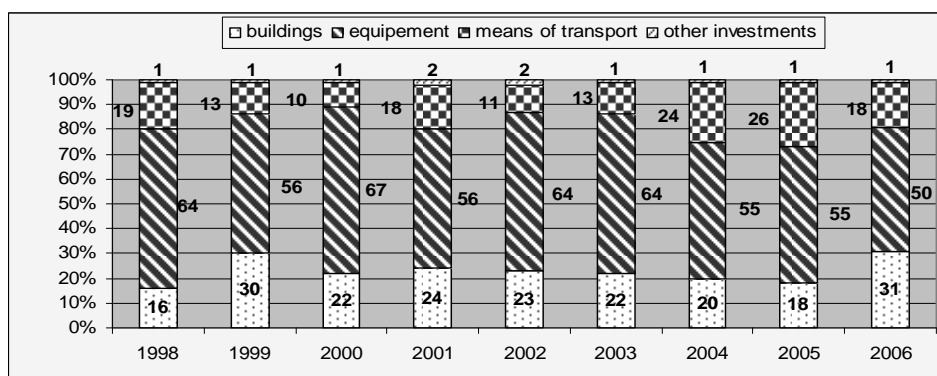


Figure 5. The structure of the investments in the milk industry, 1998-2006

4. Conclusions

The milk and its products represent a basic food for the human alimentation. A rational alimentation system does not accept rations which do not include milk and dairy in their structure. These reasons led to the increase of milk and dairy products consumption. For the future it is foreseen that both the milk and the dairy products will have an important place in the daily human consumption, compared to other animal origin products.

The growth of the size of milk cow farms has as result the increase of the competition in the milk and dairy sector in Romania, on the community market, determined by the realization of high level productions, both qualitative and quantitative point of view, and also by the realization of normal incomes for the producers in a competitive environment. [4]

The sustain and the encouragement of investments in the development of milk cow farms by obtaining biological material with a high genetic potential, by the modernization of the farms with latest generation equipment and by creating new production capacities will allow that the Romanian producers enter on the community market and not only, succeeding to face the competition from the market.

The statistics show that in the last years the main problem of the milk production sector is the usage of large quantities of milk for the farms and for

direct deliveries on the rustic markets, only a small quantity is meant for processing.

By technological modernization of the existent units, by creating new modern units comparable with the technological level of the European Union, the Romanian milk industry can reach the necessary competition level; will develop becoming an active participant on the European Union market and on the international market.

Joining the European Union will makes Romania to establish agricultural and food policies which will take into account the increase of the competition on the international markets for food products and mainly on the European market in order to face the competition.

We can say that, today, the degree of competition for many Romanian food products is unsatisfactory mainly because of the high quality standards which are applied in the European Union.

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