

# Milk and Dairy Products in Romania Before and After EU Accession

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## Abstract

The paper provides an analysis and documentation in the dairy supply. The dairy sector is of great importance to the European Union (EU) in a variety of ways. Its most striking feature is that milk is produced in every single EU Member State without exception. Milk production is on the second place in Romania's agriculture after meat production. Romanian milk and dairy production and consumption registered significant changes over the last years and it is foreseen to be emphasizing in the next period. The most important event which influences the production and consumption is the integration of Romania in European Union.

**Keywords:** butter, cheese, dairy, milk, production

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## 1. Introduction

Milk is as ancient as mankind itself, as it is the substance created to feed the mammalian infant. All species of mammals, from man to whales, produce milk for this purpose. These included cows (genus *Bos*), buffaloes, sheep, goats, and camels, all of which are still used in various parts of the world for the production of milk for human consumption. Fermented products such as cheeses were discovered by accident, but their history has also been documented for many centuries, as has the production of concentrated milks, butter, and even ice cream [1]. Technological advances have only come about very recently in the history of milk consumption, and our generations will be the ones credited for having turned milk processing from an art to a science. <sup>1</sup>The availability and distribution of milk and milk products today in the modern world is a blend of the centuries old knowledge of traditional milk products with the

application of modern science and technology [2]. The custom of milk consumption has varied greatly. Finland, Norway and Sweden have a high consumption of fluid milk and in countries like France and Italy cheeses have tended to dominate milk consumption. Raw milk contains enzymes which are essential to life; in milk they play numerous roles including protection from pathogens, support the immune system, easy digestion and enhanced nutrient assimilation [3]. In Romania the dairy sector is significant as part of the national economy because rearing dairy cows is an important and traditional occupation in rural areas, especially in mountain districts; it brings regular incomes, contributes to the stability of the labor force in these areas and makes good use of the pastures and hayfields that cover about 33% of the agricultural land in Romania [4]. Also, the biological importance of milk and its derived products make them strategic items on the agri-food market and in the economy [5].

## 2. Material and Methods

Data is a statistical survey on the production of milk and milk products, in accordance with

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Council Directive no. 96/16/EC on the production of milk and dairy products on March 19/1996 and the European Parliament and Council Directive no. 2003/107/CE dated December 5, 2003 for the amendment of Council Directive. 96/16/EC.

All data collected from FAO [6], Undata [7], and National Institute of Statistics [4] were rewritten into the tables. We use data series regarding the production, consumption, including the product balances, the export and the import of the considered products, the macroeconomic variables and the parameters regarding policies for each of the modeled product. The model database contains a series of years considered as representative for the analyzed period, respectively period 2004 - 2009. The specific indicators for each investigated agricultural product (productions, consumptions, exports and imports) were also considered.

### 3. Results and discussion

Romanian milk and dairy market registered significant changes over the last years and it is foreseen to be emphasizing in the next period. The most important event which influences the market is the integration of Romania in European Union. In the structure of expenses for food products, the milk and dairy products hold the 3<sup>rd</sup> position (12%) after meat and bread [8]. Except for cheese, Romania is a net importer of dairy products.

Milk quota for Romania was established at 3,057,000 tonnes per year, out of which: 1,251,000 tonnes to processing (36%) and 1,806,000 tonnes direct sales (64%). Romania was also entitled to a reserve quota of 188,000 tonnes allocated in 2009 (added to the quantity of national reserves up by withholding a percentage of the quantity of milk sold). For 2010, of the three million tonnes of milk quota allocated to Romania, the producers requested an amount of about 2.47 million tonnes or 82%.

**Table 1.** Milk and dairy products in Romania (2004-2009)\*

Tonnes and (kg/capita)	2004	2005	2006	2007	2008	2009
Total cow milk	5,053,100	5,007,800	6,011,452	5,652,143	5,533,448	5,215,004 <sup>1</sup>
Cow milk (collected)	1,103,391	1,108,696	1,107,021	1,144,097	1,122,770	1,054,665
Cow milk import	1,393	1,941	3,823	14,521	14,106	17,723 <sup>1</sup>
Cow milk export	58	890	424	543	506	428 <sup>1</sup>
Total consumption	53,386	53,852	53,886	54,991	69,463	86,271
Milk kg/capita	238.9	239.2	246.6	252.8	254.6	251.8 <sup>1</sup>
Butter	9,865	6,563	7,714	8,216	8,484	9,772
Butter import	2,955	3,672	5,514	4,764	4,310	4,118 <sup>1</sup>
Butter export	193	144	303	409	398	372 <sup>1</sup>
Butter kg/capita	0.45	0.53	0.6	0.62	0.68	0.46 <sup>1</sup>
Cream	32,584	33,940	39,370	46,159	47,297	46,048
Cream kg/capita	0.05	0.04	0.05	0.05	0.06	0.04 <sup>1</sup>
Yoghurt and other fresh (acidified) products	87,721	92,331	116,229	129,951	143,121	143,080
Yoghurt, fresh kg/capita	3.5	3.7	4.8	4.9	5.2	5.1 <sup>1</sup>
Cheese	51,168	65,547	68,655	67,304	69,618	68,204
Cheese cow	50,422	56,913	65,032	61,877	64,892	62,747
Cheese cow /import	1,701	2,489	4,895	18,510	18,257	16,425 <sup>1</sup>
Cheese cow /export	3,354	3,510	4,167	786	829	627 <sup>1</sup>
Cheese kg/capita	2.36	2.76	2.38	2.43	2.68	2.47 <sup>1</sup>
Sheep milk, whole, fresh	451,000	544,400	650,790	637,702	656,833	627,372 <sup>1</sup>
Cheese sheep import	12	26	6	30	28	17 <sup>1</sup>
Cheese sheep export	577	418	342	125	217	316 <sup>1</sup>

\*data from FAO, Undata and NIS

<sup>1</sup> data from 31.XI.2009 (NIS)

As table 1 illustrated, total milk production was over 5.6 million tonnes in 2007, of which only 22% (about 1.23 million tonnes) was delivered for processing to commercial plants. It was estimated that a significant percentage of the production (27%) was marketed directly either as milk or dairy products, 41% retained for self-consumption, while the balance goes for calf feeding. Milk production has decreased as a result of the withdrawal of some small producers who could not cope anymore with milk quality requirements and high production costs. On the other hand, also the quantity of the raw milk collected for processing has decreased, processors having started to import cheaper milk from neighboring countries. Despite the fact that the quantity of raw milk collected by processors has decreased, the production of dairy products has increased. This can be explained by both an increase in the fat content of the collected milk and in imports of raw milk into Romania.

In 2007 compared with the previous year, the amount of cow's milk collected processor units increased by 37,076 tonnes (3.25%). Most of the processed milk products have been increased, except cheese. Quantity milk consumption increased by 1,105 tonnes (2%) in 2007 from the previous year. Production of cream consumption was an increasing trend growth in 2007 compared with 2006 being 6789 tons (17.2%). Production of sour milk (yogurt, drinking yogurt and other) increased by 13,722 tonnes (10.55%) in 2007 from the previous year. The production of butter increased by 502 tonnes (+ 6.11%) compared with the production obtained in 2006. Cheese production decreased to 1,351 tonnes (-2%) compared to 2006, mainly on account of the quantity of cheese produced exclusively from cow's milk which has accounting for 91.93% of total cheese in 2007.

In 2008, comparative with the previous year, the amount of cow's milk collected processor units declined by 21,327 tonnes (-1.9%). Although the amount of cow's milk collected processor units decreased production of processed milk products increased. This is due to increased fat content of milk collected and quantities of imported raw materials. Production of sour milk (yogurt, drinking yogurt and other) increased by 13,170 tonnes (10.1%) in 2008 from the previous year. The quantity of milk consumption also increased, with 14,472 tonnes (7.9%) in 2008 compared with

the previous year. The production of cheese has also increased by 2314 tons (3.4 %) compared to 2007. The quantity of cheese produced exclusively from cow's milk (93.21% of total production of cheese) had the same trends. The production of butter increased by 268 tonnes (3.3%) compared with the production obtained in 2007. Production of cream was an increasing trend growth in 2008 compared with 2007 being 1138 tonnes (2.5%).

In 2009, compared with the previous year, the amount of cow's milk collected processor units declined by 68,105 tonnes (-6.5%). Decreased production may be referred to cream consumption whose production quantity in 2009 decreased by 1249 tonnes (-2.6%) compared to 2008 and 1414 cheese tonnes (-2.0%), including the amount of cheese produced exclusively from cow's milk (92.9% of total cheese). The production of sour milk (yogurt, drinking yogurt and others) was maintained in quantitative terms, in 2009, the value close to that of the previous year. It can be noticed two significant increases in dairy products production achieved in 2009 compared with 2008 i.e. butter 1288 tons (14.0%) and milk consumption by 25,223 tonnes (12.8%). This development is due to the increase in total milk imported and other raw materials used in the manufacture.

Of the total market for milk products, cheese is about 50%, while milk and yoghurt have a share of 30% and 20%. Consumption of milk and milk products in milk equivalent (excluding butter) increased by 61.88% in 2004-2009, ascending trend and characteristic of processed liquid milk consumption (3.8% fat) and cheese and cream cheese production is constantly increasing.

Cottage cheese (white) has the highest penetration rate (79%), but the most important growth, between 2004 and 2009, were registered for flavored and fruited yoghurt. On a scale from 1 to 10, the most preferred dairy products are processed cheese, and the lowest preferred is milk purchased direct from farmers. Sourcing of milk (of cow, of sheep, of buffalo) is one of the most important criteria for Romanian consumers in the moment of purchasing.

Although the fresh dairy market is growing (especially yogurt), Romanians remain from Europeans in terms of consumption of these products. In Romania, the average consumption of fresh milk per capita is around 4.5 kilograms per year while in Germany is 33.6 kilograms, in

France, of 33.7 kilograms, and in Bulgaria, 16, 2 kg.

During 2004-2009 Romania was a net importer of milk and milk products and the deficit increased year by year, and after accession has reached the highest level (about 112000 thousand Euros in 2007 and was surpassed in 2008) in relation to the EU majority.

Only for cheese category balance has positive values in the period 2004 to 2009. Analysis of volume and structure of exports in the period 2004 - 2008 show that by 2007 the share in total exports of milk and dairy products was significant.

Before 1989, Romania exported about 60,000 tonnes of cheese/year. In the period 2004-2006 exports of cheese have been around 3000 - 4500 tons annually and has decreased significantly after accession so that the first 8 months of 2007 and 2008, the amount of cheese was exported around 800 tonnes.

Sales of milk and dairy products in EU countries in 2007 was 83% of total exports and the main destination in 2007 and the first 8 months of 2008 was 53% in Greece in 2007 and 39% in 2008 followed by Bulgaria with 15 % and 29% respectively.

Imports of milk and milk products increased significantly after accession, especially in category materials for processing milk and dairy products, and the trend is increase.

Imports of milk and milk products after accession came from Germany, 31% of all dairy products imported in 2007 and 33% in first 8 months of 2008, followed by Hungary with 21% in 2007 and 16% in 2008, Poland with 16% in 2007 and 14% in 2008. From Bulgaria has imported about 5% of the total.

#### 4. Conclusions

Romania, although it already has EU membership, are facing significant structural problems both in the structure of farming in general (excessive fragmentation of agricultural holdings) and in the processing. Farmers, processors and traders must comply with EU quality standards for milk and rigors of the *acquis communautaire* in the field. Sector production and processing establishments in Romania is currently away from the model practiced in the EU-15 and even to some new

Member States and the need for change is evident, proving the long reluctant to structural changes. Should be aimed at achieving a balance between framing the rules imposed by the *acquis communautaire* and agricultural interests of Romania based on national realities and opportunities and active involvement in discussions of European makers sector reforms. The market balance for the major dairy products is expected to improve over the medium term, with increasing cheese production and consumption, but lower availabilities of butter and skim milk powder (SMP).

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