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The effects of the EU enlargement on the milk sector in the Czech Republic and prospects of future development

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Abstract

Milk production belongs to conventional branches of agricultural production in the Czech Republic. Its results affect economics results of the whole animal production by significant way because milk sector participates by more than one third on the value of the animal production and almost by 17% on the rough agricultural production. The EU enlargement brought in this sector the amendment in the direction and volume of distribution flows both of raw material - i.e. raw cows' milk and of processed milk products. The identification of amendments in the whole chain of production, processing and final utilization, including impacts on price development and estimation of future development should contribute to better understanding and adaptation of Czech farmers and Czech milk processors to new economic and business conditions.

Keywords: milk sector, distribution flows, changes; JEL Q 13

Introduction

The EU enlargement represents for Czech farmers and processors not only the access to a broader competitive environment but also an acceptance of new market conditions requiring a creation of new production and market policy. The effort to be successful in conditions of the European market brought amendments on all levels of the agri-food chain. After first months of the membership in the EU we can make an early evaluation of the results.

1. Agricultural plants – producers of milk

The basic input for milk production is the dairy cows' herd and means for provision of good conditions of its' breeding. The contemporary state and number of dairy cows is a result of difficult development during the transformation period, when after a substantial reduction in consumer demand a significant reduction of number of cows followed. Persisting trend of reduction of the herd has been stabilized on about 6 % yearly in the past 5 years, which is however more or less compensated by the increase of the average milk efficiency. In 2004 the average state of dairy cows in the Czech Republic was 433 300 of heads.

The high step of concentration is typical for production of milk in the Czech Republic. In the frame of the performance recording, being carried out by the Czech-Moravian Society of Breeders and covering 95 % of dairy cows, the examination of the structure of plants with the dairy cows breeding was made. The table with results of this examination shows that the agricultural plants with more than 500 stabled cows include about 39 % of the total number of dairy cows. Approximately 81 % of dairy cows are stabled in the plants with 100 and more stable places. In the stables with the capacity less than 50 places are being bred about 3,7 % of dairy cows only.

Table 1. Categories of enterprises and stables acc. to number of dairy cows

No. of cows	Enterprises (1 987)			Stables (3 096)	
	Enterprises (%)	Stables in enterprise	Share of cows (%)	Stables (%)	Share of cows (%)
1 - 10	5,5	1,0	0,1	7,7	0,2
11 - 50	21,2	1,0	2,6	17,0	3,4
51 - 100	15,5	1,0	5,3	27,6	15,6
101 - 300	30,3	1,4	25,5	35,2	43,0
301 - 500	15,5	2,0	27,4	10,0	26,6
500 and more	12,0	3,3	39,1	2,5	11,2
Total	100,0	1,6	100,0	100,0	100,0

Note: data to 30. 9. 2003

Source: Ročenka 2003 - chov skotu v ČR

The examination, being carried out by the International Committee for Animal Recording ICAR, and showing the average numbers of cows in plants (included in the milking recording) in selected European countries, can be a good measure for the evaluation of the initial position of the Czech Republic in this sphere. The examination shows that the average numbers of dairy cows in one plant in original member states of the EU are lower than in the Czech Republic. In Germany the average of 44 cows in plant is exhibited, in France 41 cows, in Great Britain 115 cows (all data from 2000). In the Czech Republic there was the average of 212 cows in plant (2002), the average number of cows in one stable was 124. (Published in Ročenka 2003 – Chov skotu v České republice.) Stated results show that the initial conditions of Czech breeders are good and that they can lay up a good foundation for further activities in the frame of the EU.

An important point for keeping the competitive position of Czech breeders is a permanent improving of breeding conditions including good housing. For this purpose, both before and after the enlargement, a range of endowment programmes supports was used, on the base of which a lot of stables were successfully modernised and built up. Currently the share of dairy cows with free housing on the total number of dairy cows is being estimated of about 60 %.

2. Total milk production and its utilization

The volume of total production of raw cows' milk in the Czech Republic is stabilized and moves round 2,6 – 2,7 bill. litres a year. The share of market production is on a high level and is being increasing. The purchase of milk to dairies for further processing amounted 95,7 % of total milk production in 2003, in 2004 already 95,9 %. The farm gate sales are estimated in the volume of about 0,5 % of total production. The sales of raw milk to dairies are executed by marketing organisations or by farmers directly.

Table 2. Production of milk and delivery to dairies in the Czech Republic

	Unit	2000	2001	2002	2003	2004
Dairy cows	'000 pcs	515,4	483,4	477,0	459,6	433,3
Yield	l/pc/year	5 255	5 589	5 718	5 756	6 006
Production	mil.l	2 708,1	2 701,8	2 727,6	2 645,7	2 602,4
Market production *)	mil.l	2 514,3	2 532,2	2 536,2	2 530,9	2 496,8
Share of market production	%	92,84	93,72	92,98	95,66	95,94
Deliveries to dairies	mil.l.	2 493,4	2 512,0	2 523,7	2 530,9	2 495,8

Note: *) before 2003 deliveries to dairies + farm gate sale, from 2003 ČSÚ calculates market production in the value of deliveries to dairies only

Source: ČSÚ- Výsledky chovu skotu; Rezortní statistika Mlék(MZe)6-12

The quota system, limiting the maximum volume of market production of milk, was introduced in 2001 in the Czech Republic in order to prepare the smooth shift to the EU regulation. For the Czech Republic the quota of 2 682 143 tonnes of raw cows' milk was agreed with the EU. The total quota, divided in the Czech Republic before its accession to the EU, did not represent any constraining measure, as usually it was filled in about 90 %. However the divided total quota was higher than the awaited and agreed EU quota, so that the individual reference quantities of producers of milk had to be shortened. The shortening was made equally by 8,95 % by all producers. National reference quantity in quota year 2004/05 was filled in 99,72 % what indicates that the individual reference quantities become a limiting factor for some producers.

The biggest volumes of raw cows' milk are being produced in the regions Vysočina, Jihočeský and Středočeský (incl. Prague). In these regions about 41 % of production of milk in the Czech Republic is being put out. The share of quantity being produced and being purchased by dairies was approximately equal in all regions of the republic before the accession to the EU but the opening of the boarder brought significant changes in this sphere.

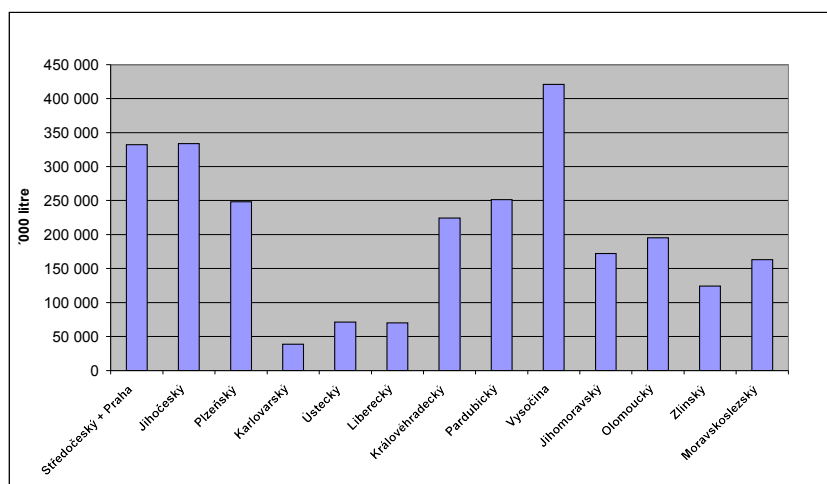


Figure 1. Production of raw cows' milk in regions of the Czech Republic in 2003

Source: ČSÚ – Výsledky chovu skotu

3. Sales of milk for further processing

The different level of producer price for raw cows' milk in the Czech Republic and neighbour countries stimulates the transfers of raw milk to countries with higher producer prices. The average producer price of milk in the Czech Republic in April 2004 was 7,94 CZK/litre at average content of fat 3,99 % and protein 3,38 % (i.e. 24,17 EUR/100 kg), while the average producer price in Germany in the same month indicated by ZMP was 26,90 EUR/100 kg for 3,7 % fat and 3,4 % protein contents.

Already in the first days after opening of the Czech boarder the domestic raw milk was being sold to German dairies. First shipments involving about 25 000 litres a day were being increased gradually so that according to data available the daily exports reached about 300 000 litres before the end of 2004. This quantity is estimated to been increased by three times at the beginning of 2005. The most exports are being realised from the south – west, northern and middle regions of the Czech Republic. The main customers are two big processors of milk in Saxony and Bavaria, the distance of collection can exceed 300 km.

The shortage of raw milk is being compensated by imports. However there are areas where the imports are impossible as for the distance. The processors in northern and middle parts of the republic buy raw milk from Poland and Slovakia. The imbalance of the offer and of the demand appeared in the south - west part of the republic in particular.

Compared to the previous period there is a bigger movement of raw milk both across the boarder and in the frame of the Czech Republic. The higher price difference among particular regions is the result. Although the exact regional statistics is not been released as for the data protection law, it is evident that the producer price is lower in the regions with the better attainability of raw milk (north and middle of republic) while in the south – west region is being growing. According to available information producer price here was getting near to producer price in Germany at the end of 2004. The average producer price in the Czech Republic as a whole had an unconventional development in 2004. Instead of the typical decrease during spring and summer months there was an increasing trend all over the year. The year average reached the value 8,06 CZK/litre (i.e. 24,50 EUR/100 kg by rate 31,904 CZK/EUR), what is compared to the average price 7,79 CZK/litre (i.e. 23,71 EUR/100 kg) in 2003 by 3,5 % more.

In order to create a common policy at the sale of raw milk, many Czech producers associates to sales companies and cooperatives. More than one half of the milk purchase is being realised through various kind of marketing organisations. At present there are two main marketing organisations operating on the Czech market of milk.

The strongest marketing cooperative controlled and facilitated about 30 % of the whole purchase in the Czech Republic in 2004. Marketing organisations from the whole area of the republic are the members of this cooperative. That means that this cooperative makes a certain roofing of particular marketing organisations. The second strong subject facilitated about 12 % of purchased milk in the

same year. Its' members are producers of milk of south and west regions. At the end of 2004 this cooperation associated about 220 members.

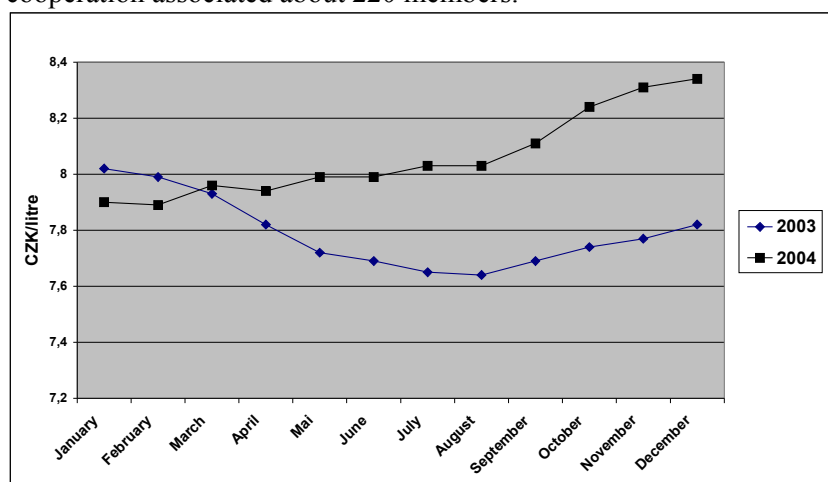


Figure 2. Producer price of milk in the Czech Republic

Source: Rezortní statistika Mlék(MZe)6-12

Both cooperatives represent the strong supply subjects with the common trade policy. The common procedure sets the Czech processors of milk to a disadvantageous position. Both cooperatives facilitated a part of the sales abroad. Although all supplies being facilitated by these marketing cooperatives are based on the contracting relation producer - cooperative and cooperative - processor, there appeared efforts of processors to contact producers directly. In the regions with a shortage of raw milk the processors streams to force particular producers to disrupt the common policy of cooperatives.

4. Processing industry

There are about 70 processors of milk in the Czech Republic, 57 of which is being purchasing raw milk. About 60 % of the whole volume of milk is being processed in 10 biggest plants. Daily purchase of 500 000 litres is being exceeded by 3 plants. The average quantity, being processed in Czech dairy plant before the accession to the EU, reached about 100 000 litres a day. According to information available (Křivánek, Mliekarstvo 2004/2), none of new member countries except of the Czech Republic has the daily processing average higher than 50 000 litres.

The regional differences of raw milk availability began to project to the extent of utilization of processing capacities. The biggest processing plant in the Czech Republic situated in the south – west region had to solve the new supply situation by organisation arrangements. The plant, having 8 mills before the EU enlargement, had to close one mill and to reduce production in one mill before the end of 2004. The reduction of production was made at cheese because this product is relatively much raw material demanding and can be finished of imported semi - finished products.

Table 3. Exports and imports of customs item 04012099 in the Czech Republic (milk, 3-6% fat, packing over 2 litre)

	Unit	2.halfyear 2003	2.halfyear 2004	Index
Exports	1.000 t	419,4	25 525,9	60,9
Imports	1.000 t	26,2	24 178,9	922,9

Source: customs statistics

It is evident that the high interest in raw milk is all over the Czech Republic. This negative situation for some Czech milk processors is strengthened by the fact that the property connection of processing industry with primary production is on a low level in the Czech Republic. The significant property shares of producers in processing are according to accessible information in 3 plants only. During the future period the regional differences in the availability of milk could be levelled in some degree. However the contemporary exacting situation could contribute to certain concentration of the Czech milk processing industry. For comparison – in Germany between 1991 and 2000 the number of

dairies was reduced from 379 to 250. The most reduction was registered in the category with daily purchase of 30 to 140 000 kg of milk. (Křivánek, Mliekarstvo 2004/2.)

5. Production and sale of milk products

Approximately 70 % of total production of milk expressed in milk equivalent is intended for domestic market. Most of deliveries of milk products are realised to retailers, boarding facilities and commercial chains by processors themselves. The studies of consumer behaviour indicate that increasingly more products (milk products including) are being bought at commercial chains. The project Shopping Monitor 2003/04 made by Incoma Research s.r.o. and by GfK Praha shows that in 1997 about 25 % of Czech households preferred buying of food products in super- or hypermarkets. In 2003 this kind of shopping of food products was preferred by more than 55 % of households. According the same study, milk products shopping in super- or hypermarkets was preferred by 52 % of households in 2003. This development does influence the trade policy of milk processors - suppliers as well as the position of the other subjects on the market. The situation in milk sector in the Czech Republic after the EU enlargement develops detriment to processors. The increasing producer price of raw milk and the press of strong trading companies on the low level of milk products conflicts at the processors. The position and market behaviour of commercial chains is not regulated especially. From the side of government authorities there is an effort to arrange some agreement but the up to now stand point of chains was not helpful. The next development will show if there could be achieved an agreement or if the activities of commercial chains will be regulated.

In 2003 the export of milk equivalent from the Czech Republic reached 772,3 bill. litres, what was 30,5 % of milk purchased. Complete data for 2004 are not known yet but present data indicate that the foreign trade did not extremely go out of usual bounds.

Table 4. Value of foreign trade of milk and milk products in the Czech Republic

	Unit	2003	^a 2004	index
Exports	1.000 EUR	179 154,3	221 818,7	1,24
Imports	1.000 EUR	116 583,7	139 209,4	1,19

Note: market rate 31,904 CZK/EUR

^a preliminary data

Source: customs statistics

As the structure of foreign trade is concerned, in 2004 certain changes in traded volumes of some items were marked compared to 2003. Besides of mentioned increase of exports and imports of the item 04012099 (milk), exports of butter and milk powders were lower, imports of cheese increased. A significant increase of exports of creams was realized, also exports of yoghurts increased, imports of yoghurts were reduced.

Conclusion

The wider free – trade zone after the EU enlargement brought to the sector of milk in the Czech Republic bigger diversity of regional conditions of production and processing of milk and milk products. For the near future, raw milk is awaited to lose local character and is to be transported on bigger distance. In this connection, more business relations are supposed to be changed than in the past. Following that, the regional differences could be levelled gradually. In 2005 further increase of the average producer price of milk in the Czech Republic is awaited. Processing plants will likely be further under the press of increasing producer price and the unwillingness of their customers to accept the increase of processed products prices. In this presumed situation, the importance of the join – up of the whole production – commercial vertical will strengthen. Supposed there will be missing such strong subjects which could make a proprietary joint – venture through the whole vertical, there should be such corporations created which would ensure the control of the whole vertical on the base of agreements at least. There should be supported foundation of such subjects, interest of which would not consist in one part of the chain only but which would participate on production of raw material as well as on its' final utilization in finished products. Such a solution seems to be useful for particular participants of the production – commercial chain as well as for the preservation of the balance of the

Czech milk market. The interest of such subjects on useful marketing on all levels of the vertical would be a logical matter.

Reference

Customs statistics of GŘC.

ČSÚ, (2004). Výsledky chovu skotu za 2. pololetí 2003.

ČSÚ, (2004). Výsledky chovu skotu za 1. pololetí 2004.

INCOMA Research, s.r.o., GfK Praha, (2004). Shopping Monitor 2003/04.

Křivánek, ČMSM, (2004). Mléčné fórum v Berlíně: Mliekarstvo 2, 20 –23.

Kvapilík et al., Českomoravská společnost chovatelů, a.s., Praha (2004). Ročenka 2003 – chov skotu v České republice. Výsledky kontroly užítkovosti dojených krav 36 – 38.

MZe, (2004). Výsledky statistického zjišťování Mlék(MZe)6-12.