Milk Production in Croatia

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SUMMARY

In the last few years Croatian economy is restructuring through the processes of market liberalization and closing to EU, which is demanding some significant changes. Agriculture is in the process of reforms on the basis of CAP (Common Agricultural Policy) policies of the EU, and those changes are producing different effects in each agricultural sector. The most sensitive area is livestock production, especially cattle and milking cows (production of meat and milk). This sector has insufficient production. More precise, domestic production in Croatia can satisfy around 80% of one-year consumption. This study shows economic position of production and processing of milk with the emphasis on primary milk production, processing of milk, domestic market and export-import situation. The goal is to consider the situation, position and possibilities for development of this sector.

KEY WORDS

milk, processing, production, market

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INTRODUCTION

Cattle production in Croatia is the main part of the total livestock production and that means if the cattle production development can be solved, that would be the answer for complete livestock and agricultural production. The main problem with cattle production is the insufficient production of milk and meat. Despite the significant amount of subsidies there were no quality and quantity improvements in the last ten years.

Croatian cattle production, if compared to EU, is very understated because the share of cattle production in agricultural GDP in Croatia is 14.2% and only 7.3% for milk. In the same time this share in EU is 28.7%, and 17.9% for milk.

PRIMARY PRODUCTION AND THE BUYOUT OF COW MILK

Our agricultural structure is not developed, the farms are very small with the average of 2.7 ha per farm, and that same figure in the EU is 18.4 ha. Only 15.5% of farms in Croatia have over 5 ha of arable land. Privatization and the change of status of government land are not giving satisfactory results. And it is especially land that responsible factor that limits development of cattle and milk production.

Besides that, production capacities in the cattle raising are very dispersed on the big number of small farms whose average production is only around 6000 liters per farm (EU average per farm - 133000 lit.).

In the period of 1991-2001 there were some significant changes in the cattle production. There is constant decrease in the total number of cattle (decrease of 392.000 head of cattle) as well as decrease in the number of cows and heifers (decrease of 205.000 head). In the milk production there is no proportional decrease with the number of cows, so the production was 634 Mil. liters in 2001 compared with 1990. when the production was around 889 Mil. liters.

The number of dairy cows during that period is decreased by 206.000. But, the yearly buyout of milk has stabilized and started to increase. In the 1990 buyout was at 342. Mil. liters and in the 2001 it was at 409 Mil.liters (index 127.8%).

In the 2001 the total production was 634. Mil.liters out of which 592.3 Mil.liters were produced on the family farms (93.35%), and on the commercial farms production was 42.2 Mil.liters. Average production of milk in 2001. per dairy cow was:

- total 2.495 lit/per cow
- family farms 2.410 lit/per cow
- commercial farms 4.966 lit/per cow

The share of sale in the total production of milk in the EU is around 94,1% (5600 liters is sold per cow). Croatia does not stand so good (around 64,1% and 1600 liters per cow). Organization, buyout system and a milk transport in Croatia are all adapted to undeveloped production structure and a big number of cooperates with very small daily amounts of milk produced and delivered.

Buyout of milk in Croatia is performing through three different systems:

1. Dairies or other milk facilities are organizing direct buyout and transport of milk to the processing facility
2. Other legal persons that are organizing buyout of milk through contracts and then delivering it to the dairy plants.
3. Special position in the milk business have companies that are owners of milk farms and selling that produced milk directly to the buyers

The complete buyout of milk is organized through 44 organizations and their share in total buyout is around 80% (355.48 Mil. lit). Other 32 buyers have a share of only 12.51% from the yearly production (around 55.89 Mil. lit) and that makes their average 1.75 Mil.liters per buyer. Companies have a total of 16 milk farms, which sold 32.98 Mil. lit. of milk in the 2002 or 7.49% of the total buyout.

The competitiveness of the primary milk production and dairy industry as well, is determined with other factors with quality of fresh milk as well. In the end of year 2000. legal directives in this matter have been adjusted with EU regulations on fresh milk quality standards. The newly formed Central laboratory in city of Krizevci is responsible for controlling those standards, although there are still some problems with analyzing all the quality factors (milk fat, proteins, body cells, microorganisms) so the milk could be classified.

Annual production of milk that is satisfying international criteria is around 30% of the total production, so the dairy industry is not really able to be competitive on the international market.

The consumption of milk and processed products shown as milk in total was around 200-215 liters per capita before the war. Today the analysis is showing that the per capita consumption of milk is around 170 liters, and also that the domestic production is insufficient. It satisfies domestic needs with cca. 80%.

In the process of stabilization and association to the EU, Croatia should develop its milk production in order to ensure a yearly production quota of 1,100 billions of liters. These milk quantities together with small imports are ensuring average domestic consumption over 200 lit. per capita and also consumption of milk by the tourists. This aimed production would be realized through ten year

Table 1. Structure and size of average farm in Croatia

Surface in ha	< 1,0	1,0 -5,0	5,0 – 10,0	> 10,0	Average ha
Share %	34,8	49,7	13,0	2,5	2,7

Source: Strategy of agriculture and fisheries in the Republic of Croatia

Table 2. Cattle production in Croatia

	Number			Milk	Production	Buyout of milk		
	Total	Cows and heifers	Milking cows	product. (000 lit.)	lit/cow	Total (000 lit.)	liters per cow	Sale/production of milk(%)
1990.	830.000	492.000	460.000	889.000	1.932	342.273	743	38,49
2000.	438.422	287.000	254.702	587.634	2.307	380.000	1.491	64,62
2001.	417.113	277.668	254.293	634.519	2.495	409.329	1.609	64,51
2002.	444.000	280.000		674.767		444.350		65,85

Source: Croatian Bureau of Statistics

Table 3. Production consumption balance sheet in Croatia

		2001	2002
Production of milk (000 lit.)	Cow	635.000	660.000**
	Sheep, goat	18.183	20.000
	Total	653.183	680.000
Animal feed (3%)		19.596	20.400
Losses (4%)		26.127	27.200
Availabal milk 000 lit.		607.460	632.400
Import-export (milk equivalent).	Import (lit.)	196.600	203.001
	Export (lit.)	75.100	63.486
	Balance (lit.)	121.500	139.515
Total availabal milk (000 lit.)		712.050	753.315
Total population in Croatia		4.437.460	4.437.460
Conditional citizens (foreign tourists)		104.109	104.109
Industrial processing of milk (%)		70,29	67,07
Sale/production of milk (%)		65,45	68,28
Self sufficiency (%)		83,33	81,92
Consumption lit/capita	Domestic production	137,52	139,28
	Imports	26,75	30,72
	Total	164,27	170,00

Source: Croatian Bureau of Statistics, ** Estimated production of milk in 2002.

period in which the annual production growth rate would be around 6%.

Selling price of fresh milk are formed on the basis of quality criteria from the Directive on quality of fresh milk and Directive on aimed price of fresh raw milk. Both of these regulative are in force from the January, 2003. In the conditions of undeveloped production, the lack of milk on the market, and the social problems of farmers there is constant pressure of producers for increasing the prices of milk.

The existing average production prices including subsidies are high when compared to the countries of Central and Eastern Europe and EU. In the EU the average production price of milk fco. Dairy plant for milk of Extra class is 2.35 kn/kg, and in Croatia this same price is 3.03 kn/kg.

DAIRY INDUSTRY IN CROATIA

In the year 2002 industrial processing of milk is increased for 11% if compared to 2000, and in absolute figures that means that production rose from 447,6 thousand tons to 496,5 thousand tons. This increasing trend is the result of increased buyout of milk, milk imports and the growth of milk consumption.

Despite the fact that the industrial processing of milk and is increased, the structure of processing is still not adequate in relation to developed countries. The quantity relations between main product groups are judging the efficiency of milk processing. In the year 2002 in Croatia the most processed product was milk with 65.6%, fermented products had 11,4%, cheese had share of 4,5% and the other products 13,58%. The

Table 4. Producers selling price of milk in Croatia (March, 2003; 4,10% milk fat and 3,35% proteins)

Elements - price		Class E	Class I	Class II	Class III
Basic price (kn)		1,937	1,937	1,937	1,937
Class bonus (kn)		+0,2697	0	-0,0899	-0,1798
Dairy plant premium (kn)		0,12	0,12	0,12	0,12
Dairy plant buyout price	(kn)	2,3254	2,0557	1,9658	1,8759
	%	74,48	74,60	74,64	74,72
State subsidy	(kn)	0,7968	0,6998	0,6678	0,6348
	%	25,52	25,40	25,36	25,28
Producer price total	(kn)	3,1222	2,7555	2,6336	2,5107
	index %	100,00	100,00	100,00	100,00
Producer price €		0,4060	0.3583	0,3424	0,3264

Source: competent authority: 1€ = 7,69kn

Table 5. Industrial processing of milk (2000–2002)

(in tons)

	Fresh milk 000 lit	Ferm. products	Cream	Butter	Spreads	Dehidrated condensed milk	Cheese	Other products	Total
2000	284.788	55.070	14.871	2.285	2.020	7.821	21.156	59.559	447.570
2001	302.212	56.307	14.751	2.640	1.934	10.926	22.686	62.517	473.973
2002	325.710	56.328	15.730	2.530	1.913	4.395	22.395	67.448	496.449

Source: Croatian Bureau of Statistics

Table 6. Import-export of milk and milk products (2000–2002)

		Import 2000.	Import 2001.	Import 2002.	Export 2000.	Export 2001.	Export 2002
Milk and cream fresh, without sugar	tons	89.910	70.726	39.796	11.436	9.826	12.007
	$ 000	21.698	19.000	11.793	4.858	3.869	5.332
Milk and cream, concentrated, added sugar	tons	17.264	14.069	13.594	444	3888	518
	$ 000	11.039	12.141	11.891	540	555	738
Jogurt,sour milk,kefir, other	tons	3.850	4.729	4.953	6.660	6.773	8.982
	$ 000	2.818	3.844	4.245	4.674	4.480	6.557
Products from natural milk parts	tons	458	606	510	6.362	10.573	4.299
	$ 000	932	1.178	916	466	669	649
Butter and other fats and oils from milk	tons	774	421	690	645	1.192	1.065
	$ 000	900	744	1.218	1.831	3.144	2.938
Cheese	tons	4.258	7.130	9.750	2.251	2.168	2.085
	$ 000	10.985	18.960	24.702	6.445	6.261	6.590
Total	tons	107.514	97.231	69.273	27.798	30.920	28.956
	$ 000	48.372	55.867	54.765	18.824	18.978	22.804
Export- import balance sheet	2000.	38,92 % (deficit - 29.548.000 $)					
	2001.	33,97 % (deficit - 36.889.000 $)					
	2002.	41,64 % (deficit - 31.961.000 $)					

Source: Croatian Bureau of Statistics

main reason for this structure is lack of milk from the domestic production and the very low buying power of the citizens.

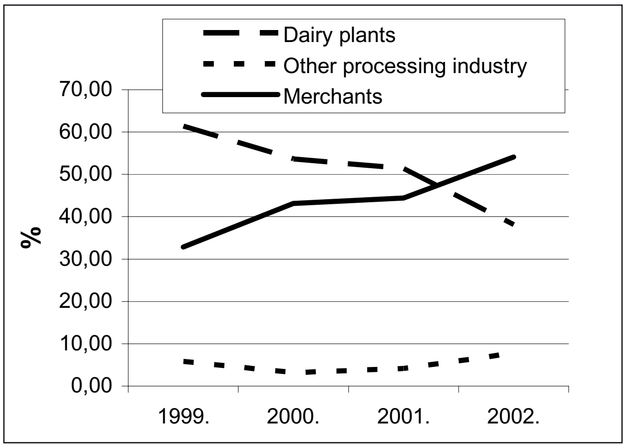
Besides that, domestic producers of milk are in much worse position then the European dairies which have smaller costs in the buying of milk. Another kind of problems in Croatia are very high costs of buyout organization and transport of milk (0.38 kn/lit of milk), so the average buying price of fresh raw cow milk fco. dairy plant are following:

- E class milk 2,7054 kn/lit
- I class milk 2,4357 kn/lit
- II class milk 2,3458 kn/lit
- III class milk 2,2559 kn/lit

According to the production-consumption balance sheet for milk in 2002 from the total quantities of milk 67.07% was processed. Around 20% of milk is consummated in households and on the local markets.

IMPORT-EXPORT OF MILK AND MILK PRODUCTS

The share of milk and milk products in imports of agriculture products is 5.4%. In the year 2002 total imports of all milk products were 69.293 tons in the amount of 54,8 million $. In the same time



Graph 1. Structure of milk and milk products importers

amount of exported milk and milk products was 22.8 million$.

Structural relations in imports of milk products were disturbed in the last year, which affects on lower productivity of dairy plants and on the financial results as well. During the year 2001 imports were 84.795 tons of milk and cream for processing, and in the last year the total imports were only 53.390 tons.

The structure of imports is changing. The amount of imported processed milk products is higher, and in the last year there is significant raise in cheese imports from 4.258 tons in 2000. to 9.750 tons in the last year.

In the year 1999 share of dairy industry in the total imports was 61,37%, bit this share is decreasing, and in 2002. it was 38,11%.

CONCLUSION

Unpleasant macroeconomic conditions, damages in cattle production during the war, restructuring and privatization, relations with private sector within former Yugoslavia are some reasons for decreasing the total number of cattle, cows and heifers. Production of milk in the 1990 was cca. 900 Mil.liters, and in the last ten years it is on average of 690 Mil. lit. That is sufficient for around 80% of total domestic consumption. Buyout of milk is stabilized and it is slightly growing, but the buyout system and the transport of milk are adapted to undeveloped production structure and very big number of cooperates which are producing low quantities of milk.

The increase of imports, the deficit in export - import balance sheets, and the structure of imports are negatively influencing on the domestic industry.

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