Status of Milk Production and Market in Italy

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SUMMARY

Aim of this review was to describe the milk production and market in Italy evidencing crucial points both in terms of weakness and strength. The weight of Italian dairy sector in terms of agriculture gross domestic product (GDP) is around the 10%. The cow milk production in Italy is 10.5 million of tons (52% of self- sufficient) and this quota is about the 9% of total amount of milk of EU-15. The Italian dairy herds structure radically change in the last decades and the most important aspects of this change were the progressive concentration and specialization of dairy herds. The number of dairy cows, from 1988 to 2002, are reduced more than 65% and in the same period the average herd size is almost tripled (28.84 cows/herds in 2002). Average milk yield production per cow is 6,010 kg in 2001/02 and it is comparable with other EU countries, but above the levels of other Mediterranean countries. The peculiarity to Italian milk production is the high quota of fluid milk used for cheese making (68% of total domestic milk yield). The 80% of cheese manufacture is of varieties that are exclusive to the localities from they come and that cannot therefore be made outside those areas (e.g. Parmigiano Reggiano and Grana Padano). A weakness point for Italian dairy industry is due to the structure extremely fragmented with almost 70% of Italian cheese output produced by enterprise handling less than 4,000 tonnes of milk per year. This high fragmentation can be transformed in a competitive element if Italian dairy industries will invest on typical and local dairy products.

KEY WORDS

milk production, cheese, market

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INTRODUCTION

Italy is a country with a diversified industrial economy with roughly the same total and per capita output as other european countries. The Italian capitalistic economy remains divided into a developed industrial north, dominated by private companies, and a less developed agricultural south, with about 20% unemployment. Most raw materials needed by industry and agriculture are imported. In the 2002, the gross domestic product (GDP) of Italy is in term of purchasing power parity equal to 1.70 trillion of Euro with a real growth rate of 0.4% and a GDP per capita in term of purchasing power parity equal to 29,600 Euro. The GDP composition by sector is: agriculture 2% (37% from animals production), industry 30% and services 68%. The official inflation rate (consumer prices) is 2.4%, in the 2002, and the unemployment rate is 9.1% with large differences among regions (low rate in the north part and high rate in south part). The labour force is 23.6 million, in the 2001, with the following composition in the three main sectors: services 63%, industry 32% and agriculture 5%. The main agriculture products are fruits, vegetables, grapes, potatoes, sugar beets, soybeans, grain, olives, beef, dairy products and fish. In Table 1 are reported the trends of total and active Italian population, from 1860 to 2000 year, and the incidence, on active population, of agriculture sector. The decreasing of active population involved in the agriculture is very sensible and equal to -4% per decade.

The economic importance of Italian dairy sector can be estimated as the incidence of Italian dairy sector on agriculture GDP that is about the 10% with an overall milk production of 11.5 million of tons by 91.1% cattle, 6.6% sheep, 1.2 buffalo and 1.1% goat.

Table 1. Trend of total and active population and percentage of active population involved in the agriculture sector in Italy

Year	Total (,000)	Active (,000)	Agriculture (% on active)
1861	21,733	14,358	59,6
1871	26,801	15,028	57,9
1881	28,460	16,115	53,4
1901	32,475	16,272	59,4
1911	34,671	16,370	55,5
1921	37,974	18,067	54,5
1931	41,043	18,212	54,7
1936	42,919	18,345	47,7
1951	47,159	19,659	41,1
1961	49,904	19,592	29,0
1971	53,124	19,295	20,0
1981	56,292	20,751	13,3
1991	57,114	21,592	8,4
2000*	57,000	22,000	5,5

Source: Istat; * Bonsembiante et all., 2000

Table 2. Trend of animals reared for milk production in Italy

Year	Cattle and buffaloes (,000)	Sheep and Goat (,000)
1870	3608	8705
1880	4506	10415
1890	5014	8700
1900	5415	9760
1910	6337	14527
1920	6193	14824
1930	7149	12888
1940	8215	11670
1945	5885	8256
1950	8331	12784
1960	9845	9611
1970	9563	9169
1980	8836	10376
1990	8235	12145
2000*	7100	12300

Fonte: Istat; * Bonsembiante et all., 2000

The cow milk production in Italy is 10.5 million of tons (AIA et al., 2003) with an european union (EU) quota guaranteed of 10.095 million of tons (an over production of 399 million of tons). In Figure 1 is shown the trend of cattle milk production commercialised from 1988/89 to 2001/02. In comparison with the other European countries, Italy produce the 9% of total amount of milk of EU-15, with a percentage of self-sufficient of 52% (Zucchi, 2001). This means that Italy is one of the largest milk-deficit areas in the EU, consuming more milk and milk products than it produces. This situation is the main reason why there is in Italy a big controversy on application of the EU milk quota policy. In EU community terms, the Italian dairy industry with its annual production

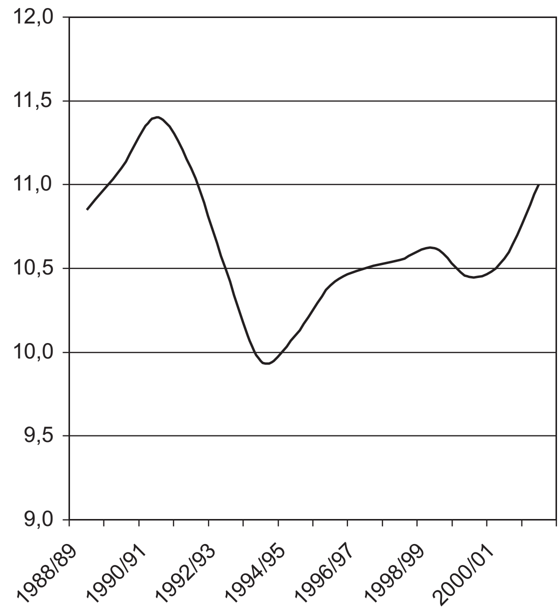

Figure 1.
Trend of cattle milk production in Italy. Source: AIA, ISMEA and OSSERVATORIO DEL LATTE, 2003

Table 3. Trend of number of dairy herds and average milk production per herd in Italy

Year	Dairy herds (number)	Average milk yield (AMY)/herd (,000 tons)	% change per year		% of total farms with animals
			Dairy herds	AMY /herd	
1988/89	181,771	60.0	–	–	8.9
1991/92	143,341	76.2	–8.9	7.1	7.1
1993/94	112,001	88.6	–14.0	7.0	5.8
1994/95	105,347	96.5	–6.3	8.2	5.2
1995/96	97,046	107.2	–8.5	10.0	4.6
1996/97	94,809	110.6	–2.4	3.1	4.3
1997/98	89,938	117.0	–6.4	5.5	4.4
1998/99	81,555	129.6	–10.3	9.7	4.4
1999/00	74,820	139.5	–9.0	7.1	4.3
2000/01	67,615	157.9	–10.7	11.7	4.2
2001/02	63,666	172.3	–6.2	8.4	4.1

Source: AIA, ISMEA and OSSERVATORIO DEL LATTE, 2003

Table 4. Distribution of dairy herds, cows and milk yield in different areas of Italy (2001/02)

Area	Dairy herds (%)	Dairy Cows (%)	Total milk yield (%)	Milk yield per cow (kg)
Mountain	45	24	17	4.417
Other disadvantage areas	10	7	6	4.711
Plain	45	69	77	6.693

Source: Pieri, 2002

Table 5. Producer milk prices in the EU countries (3.7 percent fat, exclude Vat per 100 Kg).

Country	2000 (national value)	Change (%) 2000/1995	Change (%) 2000/1999
Belgium	1,135	+5.5	+2.0
Denmark	233	+1.7	+2.5
Germany	58.68	+5.4	+5.2
Greece	11,428	+3.9	+10.3
Spain	4,500	–3.2	+2.0
France	190	+2.7	+1.8
Ireland	22	+2.1	–2.8
Italy	66,000	–0.3	–2.5
Luxemburg	1,200	+1.7	+5.6
The Netherland	66.80	+6.0	+2.9
Portugal	5,620	+0.0	–3.2
U.K.	17.60	–1.1	–26.4
Austria	383	+0.3	+5.5
Finland	181.20	+1.4	+3.8
Sweden	282	–0.4	–5.1

Source: Pieri, 2002

is less than half the size of the French or German, comparable to the Dutch and smaller than the British (which is about 14 million tonnes).

STATUS OF MILK PRODUCTION IN ITALY

Trend of animals species reared in Italy for milk production are reported in Table 2. A reduction of cattle number (buffaloes were stable) is evident in the last twenty years (-20%) as, at the contrary, the high increment of the number of sheep and goats (+18%). The Italian dairy herds structure radically changed in the same period (Table 3). The most important aspects of this change are the progressive concentration and specialization of dairy herds (Pretolani, 2000). The herds of dairy cows, from 1988 to 2002, are reduced more than 65% and in the same period the average herd size is almost tripled arriving to 28.84 dairy cows per herd (AIA et al., 2003). The concentration of milk production activity, measured as percentage of farms with animals on the total agriculture farms, was very high in the last years changing from 8.9% in the 1988/89 to 4.1% in the 2001/02 (Pretolani, 2000).

With specific regard to dairy cows, in Table 4 are reported the number of dairy herds and cows and the production per cows in the three main different area of Italy (mountain, other disadvantage areas, and plain). Yield per cow in Italy was 6,010 kg in 2001/02 (AIA et al., 2003) and it is comparable with other EU countries, but above the levels of other Mediterranean countries. Yields are rising for genetic and management improvements, and this situation is similar in all member states.

The peculiarity to Italian milk production is the destination of fluid milk for cheese making, as Grana Padano and Parmigiano Reggiano, in regions within the main milk-producing provinces. The Italian dairy industry is thinly spread in the rest of the country with very small cow herds, a high level of direct farm sales and very small processing units.

STATUS OF DAIRY MARKET IN ITALY

The largest usage of both whole and skimmed milk in Italy is for cheese making. The market structure of milk in Italy shows that very little milk is used for butter making and Italy has never made significant quantities of skim powder. In terms of total butterfat, Italy has an overall self-sufficiency coefficient of 71%, and in terms of solids-not-fat, of 67%, these ratios not having shifted much over the years. Of the intra-Community trade in liquid milk, more than half is accounted for by Italian imports. With a major part of this coming from Bavaria, indeed, Italy is a significant market for German milk producers. Italian imports of cheese (the majority from other EU countries) are also very substantial and around 370,000 tonnes (1,030 million of Euro), a level that is exceeded only by German imports from other EU states. In Figure 2 is shown the composition in percentage of the imports in values of dairy products by Italy in the September 2002 (AIA et al., 2003).

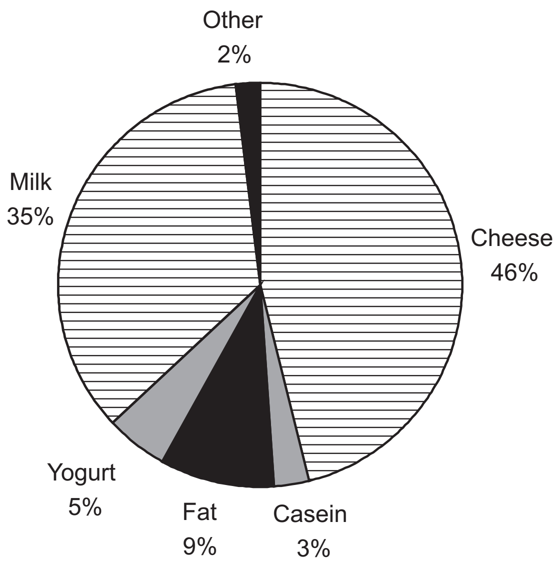

Figure 2.
Composition of imports value for dairy products in Italy.
Source: AIA, ISMEA and OSSERVATORIO DEL LATTE, 2003

Italian export of cheese is 146,000 tonnes with a economic value equal to 711 millions of Euro.

The cheese industry in Italy is unique. More than half of the available milk supply (including imports) is manufactured into cheese and more than 68% of indigenously produced milk delivered to dairies is used for cheese making. The significance of this figure lies in the fact that 80 percent of cheese manufacture is of varieties that are exclusive to the localities from which they come and that cannot therefore be made outside those areas. This applies, for example, to the two largest varieties, Parmigiano Reggiano and Grana Padano. These two cheeses utilised 39 percent of manufacturing milk in Italy. Italy has many other varieties of cheese that are exclusive to their areas of origin (e.g. Pecorino, Asiago, Taleggio, Gorgonzola, Fontina, Ragusano, Provolone, Montasio, Caciocavallo, etc.).

The Italian dairy industry is, however, very much concentrated in the northern provinces of Lombardia, Piemonte, Veneto and Emilia Romagna which account for over 70 percent of Italian cows' milk output and two-thirds of the cow population.

From the point of view of implementing community policies, Italy has a difficult processing industry structure because it is extremely fragmented. Italy is shown to have about 2,000 dairy enterprises in the last years, compared with about 300 units in Germany and about 900 units in France. More than half of the milk deliveries are to enterprises handling less than 20,000 tonnes of milk in a year, a much higher proportion than in other countries with a major dairy industry. Fragmentation is particularly evident in the Italian cheese industry, with almost 70 percent of Italian cheese output being produced by enterprises producing less than 4,000 tonnes a year. In almost all other member states, over 70 percent of cheese production is in enterprises producing more than 4,000 tonnes annually. The liquid milk and fresh products enterprises are also shown to be relatively small. Stock levels tend to be high in relation to production not because of surplus but because much Italian cheese is of hard varieties that are very long maturing.

Exports of cheese, as have been shown, are of importance to the cheese industry in Italy. Just over one-third of exports go outside the Community and the rest to other Community countries. These figures may be affected by the fact that exports to other Community countries are sometimes for export outside the EU when the export refunds in those countries are paid more quickly than in Italy.

Italy has had by far the highest producer prices in the Community as a result of the unique circumstances above described. In the decade, Italian milk price was around 130 percent of the target price, about 20 percent more than the Danish price, which is the next highest, and almost 40 percent above the Irish.

CONCLUSIONS

At the present, in Italy are active about 63,000 dairy herds with a future trend of reduction of 50% every 7-8 years. In the same period the total production will be stable due to an high increment of milk yield per cow due to genetic and management improvement.

The present and future of milk production and market in Italy can be summarized as follow:

- The 60%-80% of national milk yield id used for cheese making with high add value (Parmigiano Reggiano, Grana Padano etc.).

- The 48% of milk yield produced in Italy is delivered to co-operative society.
- The minimum level of production per herd, to guarantee an acceptable profit, will be about 500-600 tons per year (about 60 dairy cows in lactation).
- Dairy herds will be conducted by family components with an increment of extra-family people involved in specific labour as milking.
- Dairy herds with more robust financial condition will buy milk quota from small and not specialized dairy herds.
- More specialization of farms will be expected in the future with farms dedicated in production of food for large dairy farms specialized in milk yield.
- Dairy farms always less and less close to land production and with more environmental impact.
- Dairy farms, that to guarantee a sufficient profit, will introduce new technology to reduce production costs (e.g. feeding and milking robots).
- The high fragmentation of dairy industries in Italy can be transformed in a competitive element if Italian dairy industries will invest on typical and local dairy products. Small enterprise is more flexible and easy to convert if there is a changing on market requests.
- It is not necessary to have high producers aggregation but common commercial platforms and more attention at the requests of the modern delivery organisation (e.g. co-operative society manage 48% of milk yield in Italy but commercialised only 12% of final products).
- More education on competitive market aspects are needed for people involved in Italian dairy sector.

The economic sustainability of Italian dairy herds will be based in the next future on two levels: 1) dairy herds producing fluid milk and 2) dairy herds producing cheese milk. The first level of dairy herds will increase milk production and will reduce costs production using new management and selection technologies increasing herd size as soon as possible. The second level of dairy herds will increase milk coagulation abilities, in specific true protein and casein yield, with the directly management cheese yield process through union and aggregation of producers for making DOP and IGP consortiums to guarantee more dairy products with high add value.

In conclusion, milk is the symbol of life and for this reason the philosophy of Italian dairy sector will based on the notions of high specialization in vocated areas or multifunction role of dairy farms (environmental protection) on disadvantage areas, with a sustainable development to guarantee food security, more consumer concerns and if possible try to combine the new technologies with protection of the famous Italian typical and local dairy products.

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