Chapter 3

Milk Production and Dairy Sector Profiles

Pictures on this and previous double page: Kids on farms (Pictures by: Amit Saha, Asaah Ndambi and Katja Seifert)

Germany

3.1 Summary

Introduction

This chapter contains a country-by-country analysis of the status of, and developments in, national dairy sectors and provides the wider perspective for the detailed farm-level analysis in the following Chapter. Because the availability and quality of data in most developing countries is problematic, the time frame chosen for this analysis, 1996 to 2005, relates to information contained in the IFCN Dairy Reports, 2006 and 2007. The country profiles provide an overview of a number of indicators illustrating the trends and drivers for milk supply and demand, and the dairy chain. The intention is to give each country's dairy sector a 'face'. In all cases, it has been attempted to make the indicators comparable between the countries.

For the purpose of this analysis, ten developing countries were chosen as well as three developed dairy countries (Germany, New Zealand and USA) to put the developing countries analysed into a global context. The developing countries are Bangladesh, Cameroon, the People's Republic of China (henceforth China), India, Morocco, Pakistan, Peru, Thailand, Uganda and Viet Nam. Comparable data were available because the IFCN is well established there.

India

With an annual production of 108 million tons of ECM, 65 percent of which is produced by buffaloes, and a national herd of 113 million head of cattle/buffaloes, India is the world's largest milk-producing country. Some 75 million dairy farming households, with an average of 1.5 adult female cows or buffaloes per farm, are engaged in the sector each producing about 4 litres of milk per farm/day. During the period under review, production rose by 3 to 4 percent per annum or approximately 4 million tons, thanks to higher milk yields and more cows and buffaloes.

The predominant dairy production systems may be classified as low-input/low-yield systems (956 litres/cow/year). Feeding is based mainly on crop residues such as straw and green fodder, supplemented by small quantities of low-cost compound feed. Milking is done by hand and the milk transported to village collection centres or collected by local milkmen. About 45 percent of the milk is used by the farming households and only 15 to 20 percent is delivered to formal milk processors.

Annual per capita milk consumption increased by 1.5 to 2.4 percent per annum from 1990, reaching 98 kg in 2005. Previously, rising demand for milk was mainly driven by population growth whereas increases in per capita consumption have now become an additional driver. India has always been 100 percent self-sufficient in milk, with total imports/exports of only 0.3 million tons per annum; it may thus be considered as almost unconnected with the world dairy market.

Pakistan

With a production of 34.4 million tons of ECM, Pakistan was the world's third largest producer of milk in 2005, with buffaloes accounting for 75 percent of production. Milk is produced by approximately 15 million dairy farming households with an average of 1.8 adult cows or buffaloes per farm producing approximately 6.4 litres of milk per farm/day. Between 2000 and 2005, production grew by 2.9 percent per annum, thanks more to increased numbers of milking animals than to higher milk yields.

Dairy production systems in Pakistan are similar to those in India. Most (50 percent) of the milk is consumed by the farming households or sold on the informal market (40 percent); less than 10 percent is delivered to formal milk processors.

By 2005, yearly milk consumption in Pakistan had reached 230 kg per capita, significantly higher than in India. Increased demand for milk was mainly driven by population growth (from 2.0 to 2.2 percent per annum). Like India, Pakistan has always been completely self-sufficient in milk, with imports/exports of only 0.22 million tons per annum.

Bangladesh

Dairy production systems in Bangladesh are similar to those in India and Pakistan. However, milk production and yields (2.8 million tons ECM from cows and buffaloes, and 711 kg of ECM per cow/per day, respectively) are significantly lower than in India and Pakistan.

Most of the milk is consumed by farming households or sold on the informal market, and less than 20 percent is delivered to formal milk processors. In 2005, per capita milk

consumption stood at only 32 kg/year. Bangladesh is 85 percent self-sufficient in milk and imports 0.4 million tons per annum.

Thailand

In 2005, Thailand produced 0.8 million tons of ECM, less than 1 percent of that produced by India. Nevertheless, with an annual increase of 8.4 percent, production has increased rapidly since 2000, mainly thanks to greater numbers of cows.

With an average of 20 cows per farm, Thailand's dairy herds are significantly larger than those in Bangladesh, India and Pakistan. Moreover, the country's dairy farming systems are more intensive than in other parts of South Asia owing to its development policy and high milk prices (about 30 to 40 percent above those in India). Dairy production relies mostly on Holstein cows that have higher milk yields than the buffaloes or local cows used in Bangladesh, India and Pakistan. Milking is mainly done by machine and about 95 percent of the milk is delivered to formal milk processors.

In 2005, yearly milk consumption stood at 21 kg per capita. Thanks to its substantially increased production, the country's milk self-sufficiency increased from 33 percent in 1996 to 47 percent in 2005. Nevertheless, Thailand's annual milk deficit stands at approximately 1 million tons.

Viet Nam

With a production level of 0.23 million tons of ECM in 2005, Viet Nam is the smallest milk producer of the Asian countries covered by the analysis. However, during the period under review, milk production grew by more than 20 percent per annum, mainly driven by increasing milk yields that had reached 1.73 tons per cow/year by 2005.

On average, dairy farms in Viet Nam have 6.9 cows producing 32 litres of milk per farm/day. Production is mainly based on imported dairy cattle or crossbreds with local cattle. As in Thailand, about 95 percent of Viet Nam's milk is delivered to formal milk processors.

Per capita milk consumption increased from 4 litres in 1996 to 10 litres in 2005. Viet Nam is currently 25 percent self-sufficient in milk, and imports about 0.6 to 0.8 million tons per year.

China

In 2005, China was the world's fifth largest producer of milk, accounting for 24.5 million tons of ECM from cows and (to a lesser degree) buffaloes. Based on yearly increases of 27.2 percent in the production of cow's milk over the period 2000 to 2005, China should rapidly become the world's third largest milk producer. Moreover, as most of the milk is sent to formal processors, China will soon rank second in terms of milk processing volumes. Production growth has been driven mainly by increased numbers of cows rather than increased milk yields.

With an average of 3.7 tons per cow/annum, China's milk yields are the highest of all the Asian countries covered by the analysis. While the average herd size stands at 6.7 cows, Chinese dairy farms fall into two categories: small farms with 1 to 40 cows; and large farms with more than 200 cows. The small farms usually deliver their milk to a local collection point, take their cows to village milking centres or belong to a 'dairy garden' for which investors have provided the basic dairy infrastructure. The larger farms are either operated by the state (mainly in the southeast) or by private investors with close ties to the major dairy companies. As most dairy farms in China have insufficient land, farmers are obliged to purchase compound feed and roughage, the latter mainly in the form of corn silage.

Annual per capita milk consumption increased from 8 litres in 2000 to 22 litres in 2005 and to an estimated 28 litres in 2007. Of all the milk consumed in China, 86 percent is produced within the country.

Uganda

In 2005, Uganda's 0.8 million dairy farmers, with an average of 2 cows/farm yielding 3.6 litres of milk per farm/day, produced 1.4 million tons of ECM. Annual milk production has risen by 13.1 percent since 2000, mainly thanks to increased milk yields

3.1 Summary

(from 510 kg/cow/year in 2000 to 800 kg/cow/year in 2005). Milk supply in Uganda is very seasonal, peaking in April with 125 percent of the yearly average and at its lowest in June/July with only 65 percent of the yearly average.

Uganda's dairy farming systems may be classified as low-input/low-yield. Feeding is based mainly on grazing supplemented by small quantities of low-cost compound feed. Milking is done by hand and the milk transported to milk collection centres in villages or collected by local milkmen. About 30 percent is consumed on-farm.

In 2005, annual per capita milk consumption stood at 50 kg, increasing by 4 to 6 percent per annum. As yearly population growth is in excess of 3 percent, it follows that national milk demand is increasing by 8 to 10 percent per annum. Uganda is currently self-sufficient in milk and neither imports nor exports significant volumes. Only 2 percent is delivered to milk formal processors.

Cameroon

With 0.13 million tons of ECM produced in 1996-2005 by approximately 4 000 dairy farmers, milk production and yields in Cameroon are lower than in Uganda. According to official statistics, production in Cameroon remained stable between 1996 and 2005, contrary to claims of increases on the part of local dairy experts.

As a general rule, milk production in Cameroon is a secondary activity of larger cattle herds that are kept for beef production. Feeding is mainly based on grazing and no use is made of compound feed. Milking is done by hand, and only 2 percent of the milk is delivered to formal milk processors.

In 2005, yearly per capita milk consumption stood at 14 kg but, according to official statistics, is declining. In the same year, Cameron imported about 23 percent of its milk needs.

Morocco

The country's dairy sector is very similar to that of Uganda. In the period under review, some 1.4 million tons of milk were produced by about 0.8 million dairy farmers with an average of 2 cows/farm. Milk production estimated to be growing at about 4.2 percent per annum.

Milk production in Morocco is usually a side activity of crop farmers cultivating around 2 ha of land. The feeding system is similar to that in India/Pakistan and is mainly based on compound feed and green fodder. Milking is mostly done by hand and, in 2005, about 63 percent of the milk was delivered to formal milk processors.

In 2005, per capita milk consumption stood at 62 kg. Morocco is a net importer of dairy products (0.4 million tons ME), and is 80 percent self-sufficient in milk.

Peru

In 2005, Peru produced 1.27 million tons of ECM on 108 000 dairy farms, with an average of 6.4 dairy cows/farm producing about 32 litres of milk per farm/day. This shows a yearly growth of 4.5 percent, of which the main determinant was a 6.5 percent increase in the number of cows in 2000 to 2005. Over the same period, however, yearly milk yields per cow decreased from 2 000 kg to 1 850 kg.

Dairy farming systems may be classified as low-input/low-yield. Feeding is based mainly on grazing supplemented by small quantities of low-cost compound feed. Some milk is produced on intensive dairy farms, mainly in the coastal region. Milking is done by hand and the milk transported to milk collection centres in villages or collected by local milkmen; about 94 percent is delivered to formal milk processors.

In 2005, annual per capita milk consumption stood at 51 kg. Between 2000 and 2005, increased demand for milk was mainly driven by population growth (1.5 percent/year). Peru is approximately 93 percent self-sufficient in milk.

Germany

Germany was the world's fourth largest producer of milk in 2005, accounting for 29.5 million tons of ECM, and the second largest milk processor (behind the USA). Milk is produced by 110 000 dairy farmers with average herds of 37.6 cows producing 732 kg of milk/day (19.5 kg/cow). National milk production has been stable since 1990 because of the milk quota system. Yields increased by 2 percent per annum in 2000 to 2005, although the number of dairy cows decreased by 2 percent per annum over the same period.

The country's dairy production systems may be classified as high-input/high-output (7 100 litres per cow/year). Feeding is based mainly on grass/corn silage and compound feed. Milking is done by machine, after which the milk is stored on-farm in cooling tanks and collected by local milk processors every two days. About 95 percent is delivered to milk processors; the remainder is either used on the farms (for home consumption or for feeding calves) or is sold directly to consumers.

Having remained stable since 1996, the country's annual per capita consumption stood at 309 kg of ECM in 2005. As a member of the EU, Germany exports about 40 percent of its milk and imports some 30 percent of its consumption needs. The country is 116 to 127 percent self-sufficient in milk, which translates into a surplus of 4 to 6 million tons per annum.

United States of America

The USA produces 76 million tons of ECM/year, generated by 78 000 dairy farms with average dairy herds of 115 cows producing 2 643 litres/day (or 23 litres/cow). Since 1975, national milk production has grown steadily by 1.1 percent per annum, driven by yield increases of 1.5 percent and a 0.3 percent reduction in the number of dairy cows.

The country's dairy production systems may be classified as high-input/high-output (8 400 litres per cow/year). As in Germany, feeding is based mainly on grass/corn silage and compound feed. The cows are milked by machine, mainly in milking parlours, and the milk is stored on-farm in cooling tanks before being sent to formal processors. About 99 percent is delivered to processors.

Since 2000, annual per capita milk consumption has remained stable at around 250 kg of ECM. In 2005, the USA exported about 3.4 percent of its milk and imported 2.8 percent of its internal demand. Self-sufficiency stood at around 104 percent in 2000 to 2005, translating into an annual milk surplus of 3 to 5 million tons.

New Zealand

In 2005, New Zealand produced 15.8 million tons of ECM,

corresponding to about 20 percent of that in the USA. This was produced by 12 300 dairy farmers with average dairy herds of 315 cows yielding 3 526 kg/day (or 11.2 kg/cow). Production increased by 4.6 percent per annum in 2000 to 2005, mainly driven by increased numbers of cows,

The country's dairy production systems may be defined as intermediate-input/intermediate-output (3 868 litres per cow/year). Feeding is based mainly on grazing. Milk production is therefore seasonal, peaking in November (180 percent of the annual average) and at its lowest in June and July (5 to 10 percent). Milking usually takes place in swing-over parlours or rotary milking systems, after which the milk is stored in cooling tanks on-farm and subsequently collected by local milk processors. Almost 100 percent of the milk is delivered to formal milk processors.

New Zealand exports about 95 percent of its milk production and, with an export volume of about 15 million tons, it is the world's largest exporter of the commodity.

India

3.2 India – Milk production and dairy sector profile

Status and key developments

Status 2004

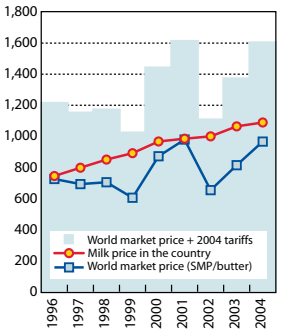
- Tariff bounds (out of quotas): Butter 40 %, SMP 60 %
- Share of farmers' price on consumer price: 77 %
- VAT on consumer price: 0 %
- Milk consumption: 99 kg ME per capita / year
- Self-sufficiency in milk production: 100 %

Key developments 1990 - 2004

- Milk production: +3.88 % per year
- Milk consumption per capita: +2.06 % per year
- Population: +1.77 % per year
- Self-sufficiency: Increased by 0.2 % points

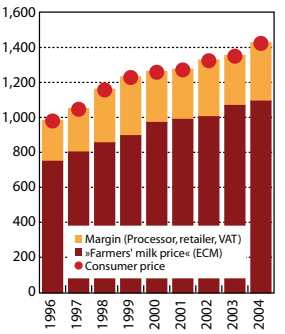
Milk prices and tariffs

in INR / 100 kg milk ECM



The chain for liquid milk

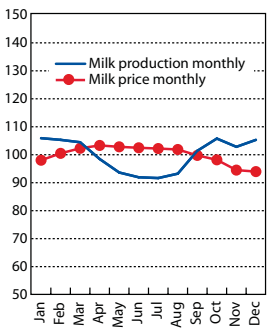
in INR / 100 kg milk



Milk pricing and quality

Seasonality profile 2004

year average = 100



Milk pricing of a »typical« processor

Producer Price (INR / litre)

Region	Milk Types Cow	Buffalo	Mix
Northern	9.31 (4.4/8.2)*	12.51 (6.6/8.6)	11.32 (6.0/8.6)
Southern	10.11 (4.3/8.2)	12.69 (6.9/8.9)	9.35 (4.2/8.5)
Eastern	9.58 (4.3/8.4)	11.55 (6.2/8.88)	10.18 (5.0/8.5)
Western	9.08 (4.0/8.5)	13.43 (7.0/9.1)	-- --
All India	9.59 (4.2/8.4)	12.85 (6.8/8.8)	9.99 (4.8/8.5)

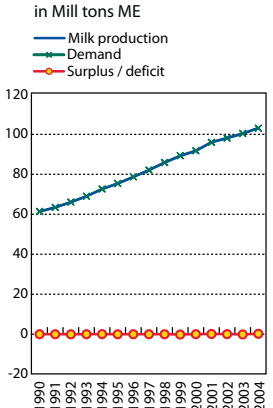
** Figure in brackets refers to fat and SNF in percentage*

Trade ratios

	1990	1992	1994	1996	1998	2000	2001	2002	2003	2004
Self-sufficiency in milk	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
Exports / nat. production	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
Imports / nat. consumption	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %

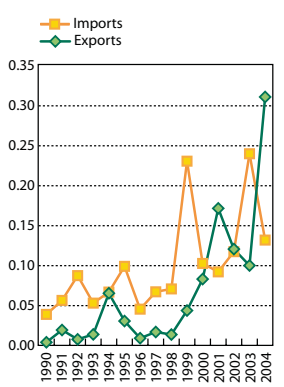
Production vs demand

in Mill tons ME



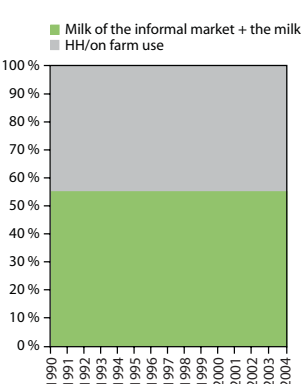
Export / Import profile

in Mill tons ME



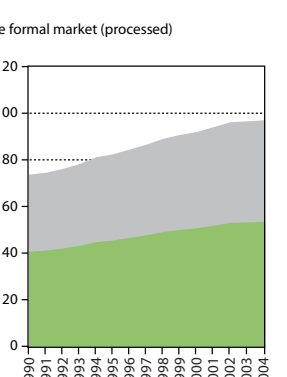
Processing profile

in % of milk produced



Consumption pattern

in kg ME / capita / year



Explanations

Method: *See IFCN Dairy Report 2006, Chapter 3.1 - 3.10 for details.* **** Residual:*** *Fresh milk products.* ***Consumer product:*** *Toned milk with 3 % fat, and 8.5 % solid non fat.*
Sources: *International statistics (FAO, ZMP, USDA, EUROSTAT, FAPRI, AMAD, MAD, UNSTAD-TRAINS) and national statistics.*
Estimates done for: *Fat / protein content (buffalos 6.0 % / 4.2 %; cows 4 % / 3.2 %); HH / on farm use (FAO, PPLPI), seasonality profile, milk pricing & quality.*

Published in IFCN Dairy Report 2006, Chapter 3. Pictures on previous double page by Katja Seifert.

3.2 India – Milk production and dairy sector profile

Status and key developments

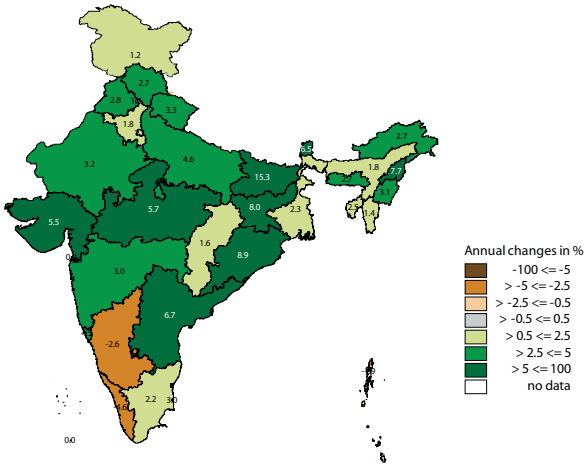
Status 2005

- No. of dairy farms: 75 mill
- Average farm size: 1.5 cows per farm
- Milk / feed price ratio: 1.5

Key developments 2000 - 2005

- Milk price: + 2.1 % per year
- Feed prices: - 1.4 % per year
- Milk / feed price ratio: stable
- Land prices: + 2.1 % per year
- Cull cow prices: + 2.8 % per year

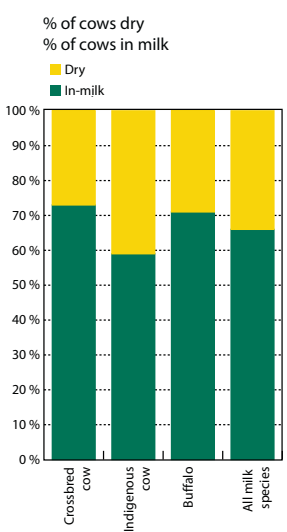
Change in milk production (% per year)



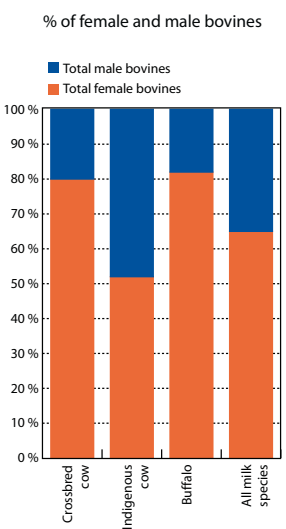
Key variables

	1996	1998	2000	2001	2002	2003	2004	2005	Annual growth rates 2000 - 2005
Milk production in ECM									
Production (mill t)		83	90	94	96	98	103	108	3.8%
Cows and buffaloes (in mill)		103	104	105	106	105	110	113	1.7%
Yield (t/cow/year)		0.8	0.9	0.9	0.9	0.9	0.9	1.0	2.1%
Farm structure									
No. of dairy farms (in mill)		IFCN estimate: increasing number of dairy farms						75	
Average farm size (cows/farm)		decreasing average farm size						1.5	
Milk per farm (t milk/farm/year)								1.4	
Prices in national currency									
Cull cow price (INR / kg live weight)	10.5	11.0	11.5	12.0	12.3	12.5	13.0	13.2	2.8%
Land price – buy (INR / ha)	700,000	715,000	750,000	785,000	800,000	810,000	850,000	833,333	2.1%

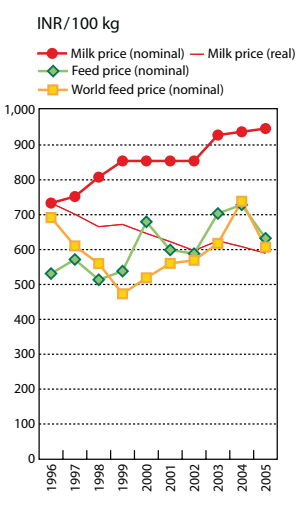
Herd composition



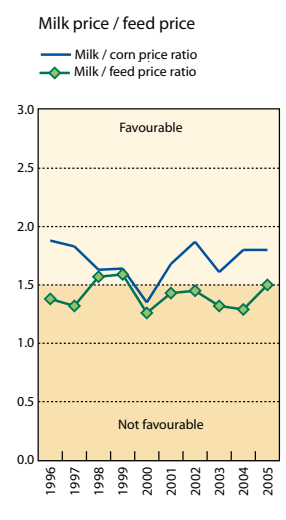
Herd composition



Milk and feed price



Milk / feed price ratio



Explanations

Milk map details: *Data base 2000 - 2005.*

Remark: *Milk price is based on cows milk with 4.5% fat and 3.5% protein. Please note: 1996 refers to 1996 - 97 (April to March) and so on. Cull cow price: Selling price of unprodutive buffalo. Cull cow and land price: Average prices based on the states Punjab, Maharashtra, West Bengal and Kanataka.*

Estimate: *Fat and protein content to calculate the national milk production into ECM.*

Source: *National statistics, FAO, Eurostat, USDA, ZMP, IDF and estimations. Milk / feed price ratio: Method see Chapter 2. Milk prices are shown in ECM.*

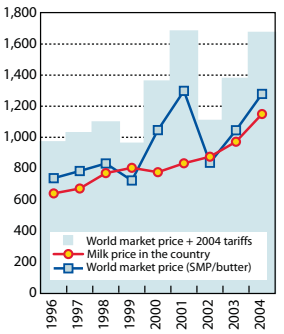
Published in IFCN Dairy Report 2007, Chapter 3.

Pakistan

3.3 Pakistan – Milk production and dairy sector profile

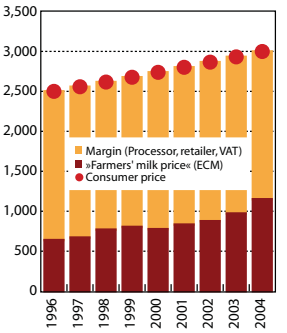
Milk prices and tariffs

in PKR / 100 kg milk ECM



The chain for liquid milk

in PKR / 100 kg milk



Status and key developments

Status 2004

- Tariff bounds (out of quotas): Butter 25 %, SMP 25 %
- Share of farmers' price on consumer price: 38 %
- VAT on consumer price: 0 %
- Milk consumption: 217 kg ME per capita / year
- Self-sufficiency in milk production: 100 %

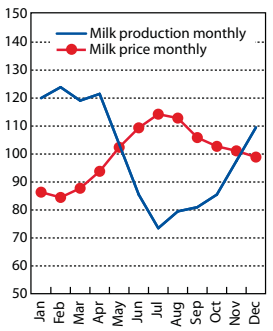
Key developments 1990 - 2004

- Milk production: +4.72 % per year
- Milk consumption per capita: +2.1 % per year
- Population: +2.53 % per year
- Self-sufficiency: Increased by 0.5 % points

Milk pricing and quality

Seasonality profile 2004

year average = 100



Milk pricing of a »typical« processor

Base:
- Buffalo: Fat basis mean volume * Fat-%/6
- Cow: Total solids (fat+snf) mean volume * (fat+snf)/15

Volume bonus: None
Quality bonus: None

Transport costs: None
Promotion fee: None
Year end payment: None

Milk quality standards

Maximum level (target level)
no data

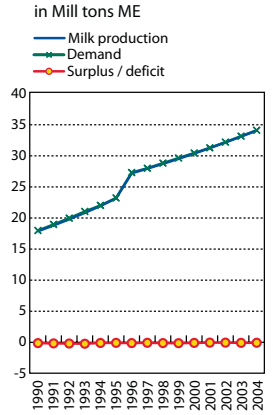
Penalties
There is no mechanism to check bacterial and somatic cell counts on the individual farms. Only the processors are able to test on main milk collection centers. The only tests which are done on the farm are: Fat and LR (simple method of testing).

Trade ratios

	1990	1992	1994	1996	1998	2000	2001	2002	2003	2004
Self-sufficiency in milk	99 %	99 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
Exports / nat. production	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
Imports / nat. consumption	1 %	1 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %

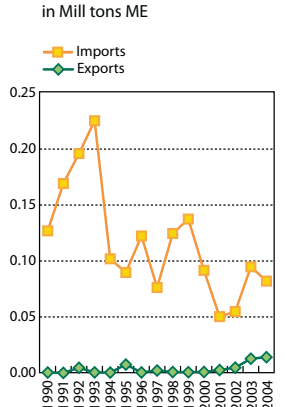
Production vs demand

in Mill tons ME



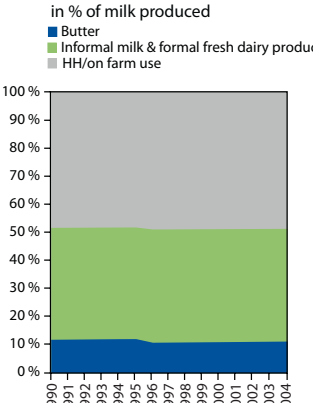
Export / Import profile

in Mill tons ME



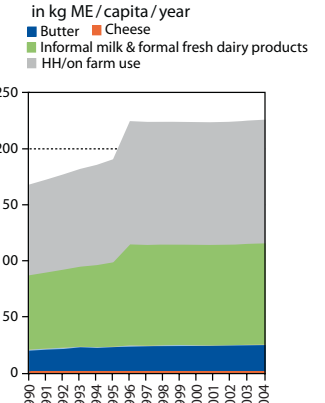
Processing profile

in % of milk produced



Consumption pattern

in kg ME / capita / year



Explanations
Method: *See IFCN Dairy Report 2006, Chapter 3.1 - 3.10 for details.* **** Residual:*** *Fresh milk products.* ***Consumer product:*** *UHT milk with 3.5 % fat.*
Sources: *International statistics (FAO, ZMP, USDA, EUROSTAT, FAPRI, AMAD, MAD, UNSTAD-TRAINS) and national statistics.* ***Estimates done for:*** *Fat / protein content (6 % / 3.5 %), share milk used on farms, seasonality profile.* ***Note:*** *Prices shall be treated with care as each market has different milk prices. We took the country average. Snf= Solids non-fat.*

Published in IFCN Dairy Report 2006, Chapter 3. Pictures on previous double page by Torsten Hemme and Saadia Hanif.

3.3 Pakistan – Milk production and dairy sector profile

Status and key developments

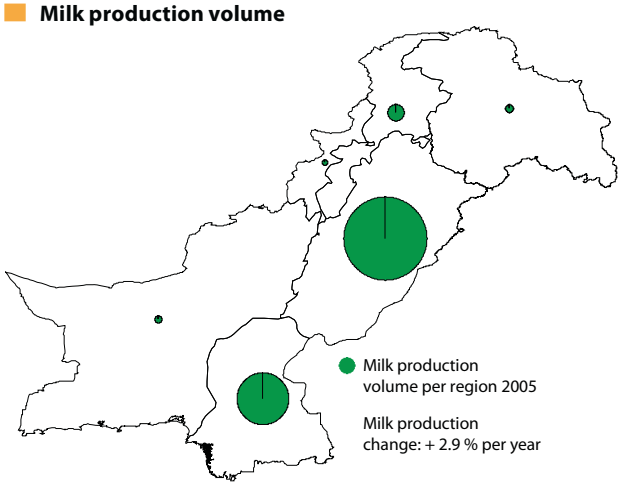
Status 2005

- No. of dairy farms: 14,663,750
- Average farm size: 1.8 per farm
- Main size class: 1 - 2 cows
- Milk / feed price ratio: 1.5

Key developments 2000 - 2005

- Farm growth: Nearly stable
- Milk price: + 7.9 % per year
- Feed prices: - 5.5 % per year
- Milk / feed price ratio: Upward trend
- Land prices: + 6.4 % per year
- Cull cow prices: + 6.5 % per year

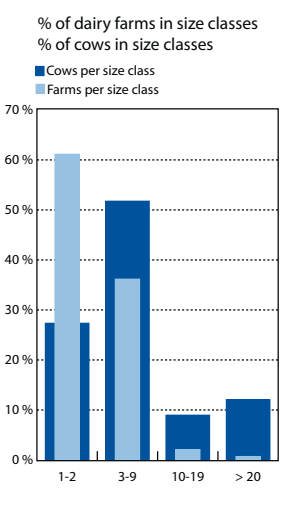
Milk production volume



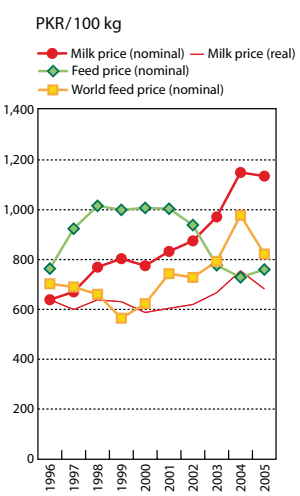
Key variables

	1996	1998	2000	2001	2002	2003	2004	2005	Annual growth rates 2000 - 2005
Milk production in ECM									
Production (mill t)	26.6	28.1	29.7	30.6	31.5	32.4	33.4	34.4	2.9 %
Cows and buffaloes (in mill)	20.9	22.0	23.3	23.8	24.5	25.1	25.7	26.4	2.5 %
Yield (t / cow / year)	1.27	1.28	1.28	1.28	1.29	1.29	1.30	1.30	0.4 %
Farm structure									
No. of dairy farms (in mill)	11.3	11.9	12.7	13.0	13.4	13.8	14.2	14.7	3.0 %
Average farm size (cows / farm)	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	- 0.4 %
Milk per farm (t milk / farm / year)	2.37	2.36	2.35	2.35	2.34	2.34	2.34	2.34	- 0.1 %
Prices in national currency									
Cull cow price (PKR / kg live weight)	21.0	23.2	25.5	26.8	28.1	29.5	31.0	35.0	6.5 %
Land price – buy (1,000 PKR / ha)	371	448	542	597	656	692	729	741	6.4 %

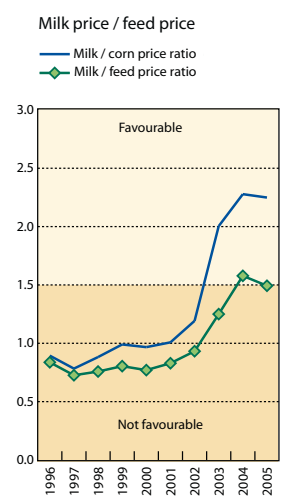
Farm structure 2006



Milk and feed price



Milk / feed price ratio



Explanations
Milk map details: *Data base 2000 - 2005; regional breakdown of growth rates not possible.*
Estimates: *Cull cow and land prices: Own data collection.* ***Source:*** *National statistics, FAO, Eurostat, USDA, ZMP, IDF and estimations.*
Milk / feed price ratio: Method see Chapter 2. Milk prices are shown in ECM.

Published in IFCN Dairy Report 2007, Chapter 3.

Bangladesh

3.4 Bangladesh – Milk production and dairy sector profile

Status and key developments

Status 2004

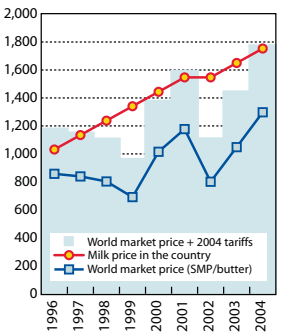
- Tariffs: Butter 30 %, SMP 30 %
- Share of farmers' price on consumer price: 61 %
- VAT on consumer price: 15 %
- Milk consumption: 18 kg ME per capita / year
- Self-sufficiency in milk production: 85 %

Key developments 1990 - 2004

- Milk production: +2.55 % per year
- Milk consumption per capita: +0.35 % per year
- Population: +2.26 % per year
- Self-sufficiency: Decreased by -0.9 % points

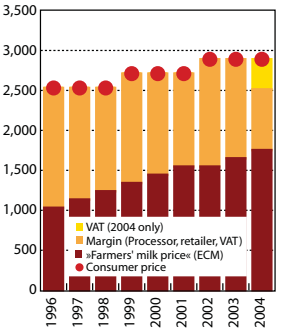
Milk prices and tariffs

in BDT / 100 kg milk (ECM)



The chain for liquid milk

in BDT / 100 kg milk

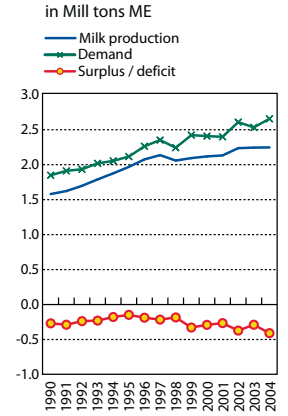


Trade ratios

	1990	1992	1994	1996	1998	2000	2001	2002	2003	2004
Self-sufficiency in milk	92%	94%	96%	97%	96%	94%	95%	93%	95%	93%
Exports / nat. production	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Imports / nat. consumption	8%	6%	4%	3%	4%	6%	5%	7%	5%	7%

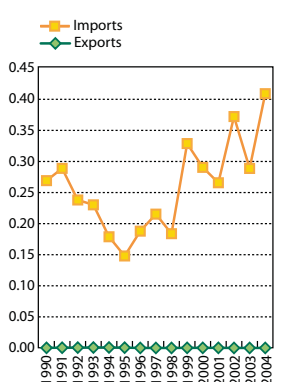
Production vs demand

in Mill tons ME



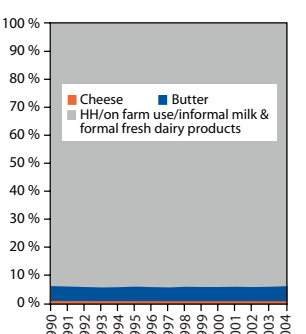
Export / Import profile

in Mill tons ME



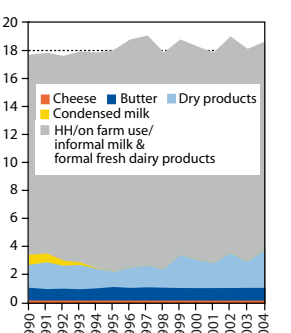
Processing profile

in % of milk produced



Consumption pattern

in kg ME / capita / year



Explanations
Method: *See IFCN Dairy Report 2006, Chapter 3.1 - 3.10 for details.* **** Residual:*** *Fresh milk products.* ***Consumer product:*** *Pasteurised liquid milk, per litre*
Sources: *International statistics (FAO, ZMP, USDA, EUROSTAT, FAPRI, IDF, EU Commission, OECD, AMAD, MAD, UNSTAD-TRAINS) and national statistics.*
Estimates done for: *Fat / protein content of milk produced.*
Comments: *Milk companies impose indirect tax which was taken as VAT.*

Published in IFCN Dairy Report 2006, Chapter 3. Pictures on previous double page by Mohammad Mohi Uddin.

3.4 Bangladesh – Milk production and dairy sector profile

Status and key developments

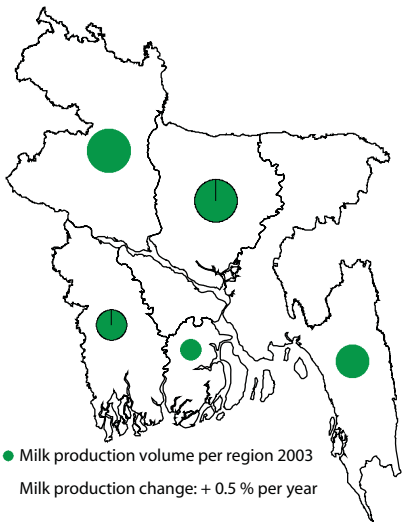
Status 2005

- Milk / feed price ratio: 1.8

Key developments 2000 - 2005

- Milk price: + 6.3 % per year
- Feed prices: + 5.3 % per year
- Milk / feed price ratio: Stable
- Cull cow prices: + 12.9 % per year

Milk production volume



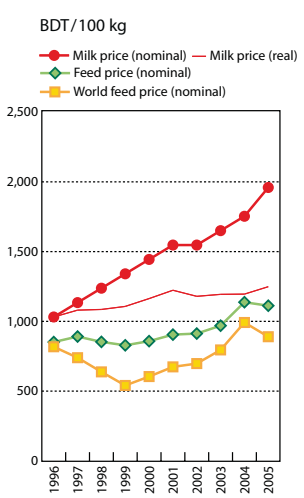
● Milk production volume per region 2003

Milk production change: + 0.5 % per year

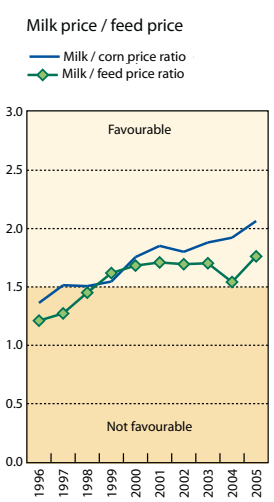
Key variables

	1996	1998	2000	2001	2002	2003	2004	2005	Annual growth rates 2000 - 2005
Milk production in ECM									
Production (mill t)	2.7	2.7	2.7	2.8	2.8	2.8	2.8	2.8	0.5 %
Cows and buffaloes (in 1,000's)	3,785	3,705	3,835	3,866	3,896	3,926	3,926	3,926	0.5 %
Yield (t / cow / year)	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.1 %
Farm structure									
No. of dairy farms (in 1,000's)				no statistics available					
Average farm size (cows / farm)				no statistics available					
Milk per farm (t milk / farm / year)				no statistics available					
Prices in national currency									
Cull cow price (BDT / kg live weight)	50	55	60	60	60	80	90	110	12.9 %
Land price – buy (BDT / ha)				no statistics available					

Milk and feed price



Milk / feed price ratio



Explanations
Milk map details: *Data base 2003; regional breakdown of growth rates not possible; production estimate based on cow numbers.*
Milk/feed price: *Corn price 2004 - 2005: Trend based on world market prices.* ***Estimates:*** *Fat and protein content to calculate milk production into ECM.*
Source: *National statistics, FAO, Eurostat, USDA, ZMP, IDF and estimations. Milk / feed price ratio: Method see Chapter 2. Milk prices are shown in ECM.*
Photos: *Milk production in Bangladesh (A.R. Khan).*

Published in IFCN Dairy Report 2007, Chapter 3.

Thailand

3.5 Thailand – Milk production and dairy sector profile

Status and key developments

Status 2004

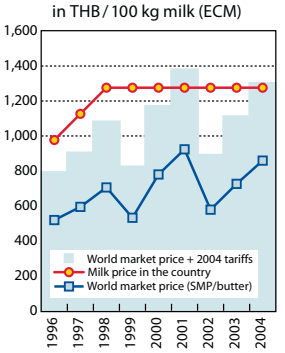
- Tariffs: Butter 42 %, SMP 42 %
- VAT on consumer price: 0 %
- Milk consumption: 28 kg ME per capita / year
- Self-sufficiency in milk production: 47 %

Key developments 1990 - 2004

- Milk production: +14.26 % per year
- Milk consumption per capita: +5.12 % per year
- Population: +1.11 % per year
- Self-sufficiency: Increased by 30 % points

Milk prices and tariffs

in THB / 100 kg milk (ECM)

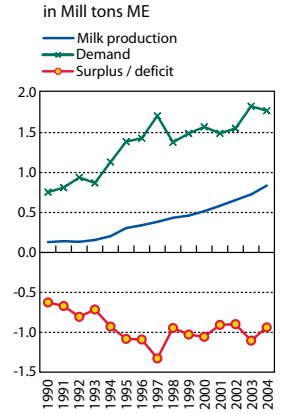


Trade ratios

	1990	1992	1994	1996	1998	2000	2001	2002	2003	2004
Self-sufficiency in milk	22%	18%	22%	30%	39%	42%	54%	64%	55%	63%
Exports / nat. production	20%	30%	46%	22%	22%	21%	49%	78%	37%	46%
Imports / nat. consumption	83%	88%	88%	76%	70%	67%	73%	86%	65%	66%

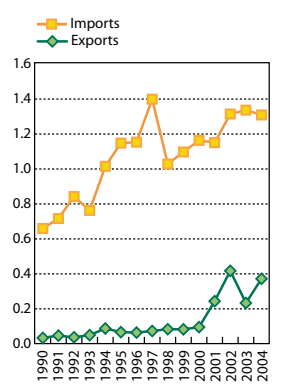
Production vs demand

in Mill tons ME



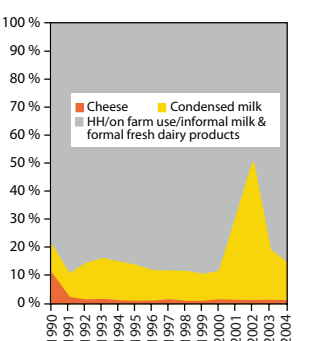
Export / Import profile

in Mill tons ME



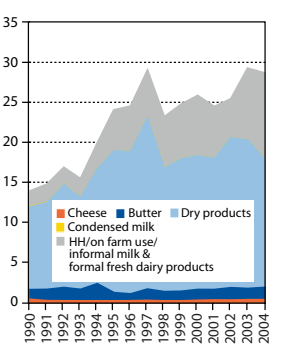
Processing profile

in % of milk produced



Consumption pattern

in kg ME / capita / year



Explanations
Method: *See IFCN Dairy Report 2006, Chapter 3.1 - 3.10 for details.* **** Residual:*** *Fresh milk products.*
Sources: *International statistics (FAO, ZMP, USDA, EUROSTAT, FAPRI, IDF, EU Commission, OECD, AMAD, MAD, UNSTAD-TRAINS) and national statistics.*

Published in IFCN Dairy Report 2006, Chapter 3. Pictures on previous double page by Torsten Hemme.

3.5 Thailand – Milk production and dairy sector profile

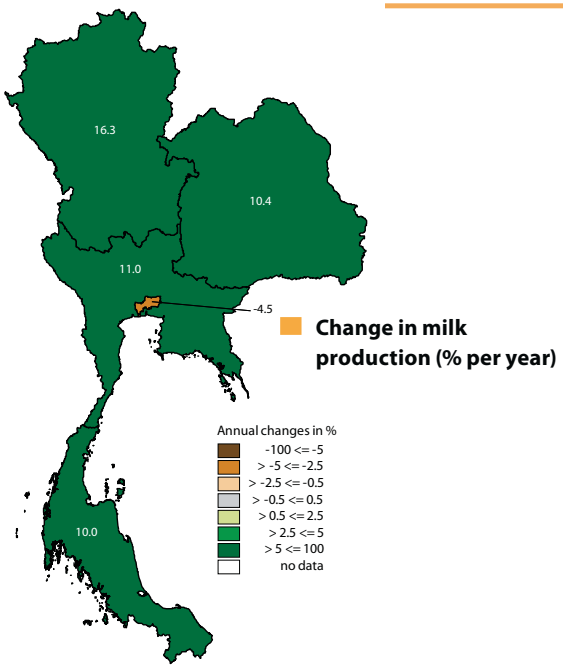
Status and key developments

Status 2005

- No. of dairy farms: 23,390
- Average farm size: 20.4 cows per farm
- Main size class: 0 - 10 cows
- Milk / feed price ratio: 1.5

Key developments 2000 - 2005

- Farm growth: + 2.3 % milk per farm and year
- Milk price: + 0.5 % per year
- Feed prices: + 4.5 % per year
- Milk / feed price ratio: Downward trend

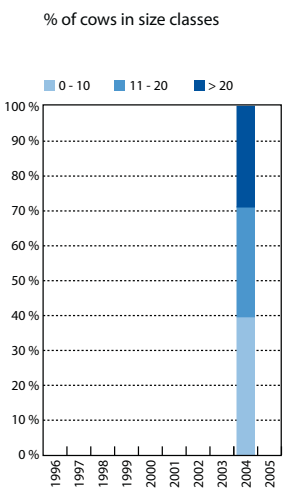


Change in milk production (% per year)

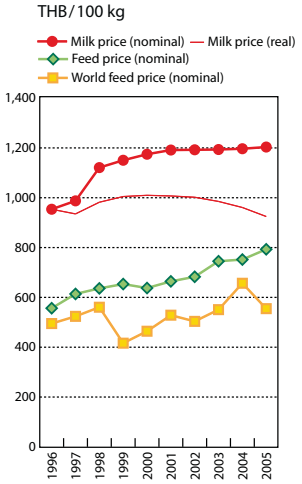
Key variables

	1996	1998	2000	2001	2002	2003	2004	2005	Annual growth rates 2000 - 2005
Milk production in ECM									
Production (mill t)		0.43	0.52	0.58	0.65	0.73	0.74	0.77	8.4 %
Cows (in 1,000's)		295	307	343	358	380	408	478	9.3 %
Yield (t / cow / year)		1.47	1.68	1.70	1.83	1.91	1.81	1.62	- 0.8 %
Farm structure									
No. of dairy farms (in 1,000's)			17.5	17.7	17.9	20.1	23.4	23.4	6.0 %
Average farm size (cows / farm)			17.5	19.4	20.0	18.9	17.4	20.4	3.1 %
Milk per farm (t milk / farm / year)			29.5	32.9	36.6	36.1	31.6	33.0	2.3 %
Prices in national currency									
Cull cow price (THB / kg live weight)							27.0	30.0	
Land price – buy (1,000 THB / ha)							1,300	1,300	

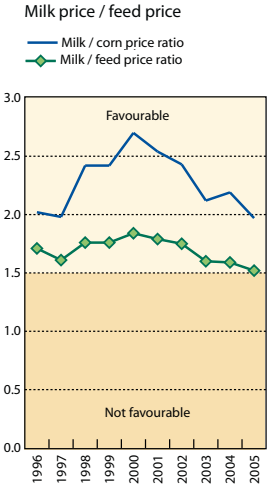
Farm structure



Milk and feed price



Milk / feed price ratio



Explanations
Milk map details: *Data base 2000 - 2005.*
Source: *National statistics, FAO, Eurostat, USDA, ZMP, IDF and estimations. Milk / feed price ratio: Method see Chapter 2. Milk prices are shown in ECM.*

Published in IFCN Dairy Report 2007, Chapter 3.

Viet Nam

3.6 Viet Nam – Milk production and dairy sector profile

Status and key developments

Status 2004

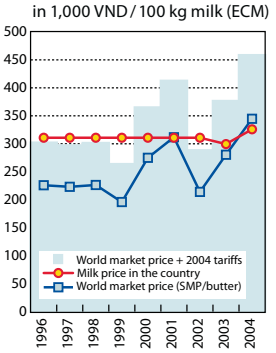
- Tariffs: Butter 20 %, SMP 30 %
- VAT on consumer price: 0 %
- Milk consumption: 10 kg ME per capita / year
- Self-sufficiency in milk production: 23 %

Key developments 1990 - 2004

- Milk production: +7.54 % per year
- Milk consumption per capita: +14.34 % per year
- Population: +1.6 % per year
- Self-sufficiency: Decreased from 68 % to 23 %

Milk prices and tariffs

in 1,000 VND / 100 kg milk (ECM)

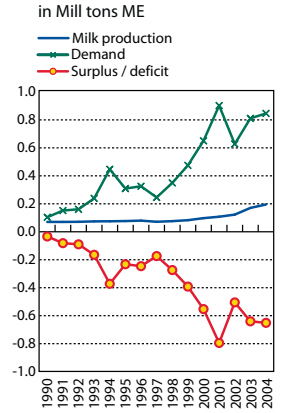


Trade ratios

	1990	1992	1994	1996	1998	2000	2001	2002	2003	2004
Self-sufficiency in milk	69%	48%	21%	26%	23%	17%	12%	22%	24%	27%
Exports / nat. production	1%	0%	0%	0%	3%	4%	2%	3%	1%	3%
Imports / nat. consumption	32%	52%	79%	74%	78%	84%	88%	79%	77%	73%

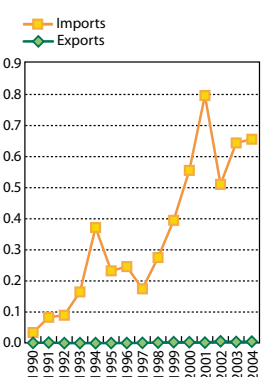
Production vs demand

in Mill tons ME



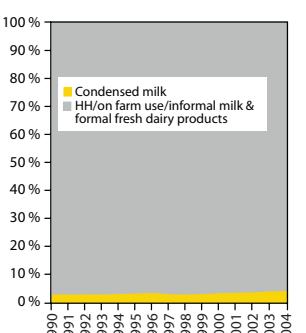
Export / Import profile

in Mill tons ME



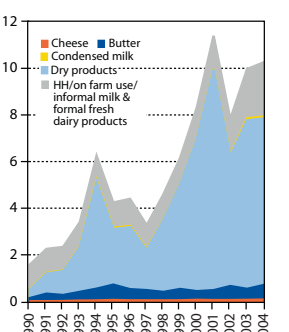
Processing profile

in % of milk produced



Consumption pattern

in kg ME / capita / year



Explanations
Method: *See IFCN Dairy Report 2006, Chapter 3.1 - 3.10 for details.* **** Residual:*** *Fresh milk products.*
Sources: *International statistics (FAO, ZMP, USDA, EUROSTAT, FAPRI, IDF, EU Commission, OECD, AMAD, MAD, UNSTAD-TRAINS) and national statistics.*

Published in IFCN Dairy Report 2006, Chapter 3. Pictures on previous double page by Tieu Duc Viet and Raf Somers, Viet Nam.

3.6 Viet Nam – Milk production and dairy sector profile

Status and key developments

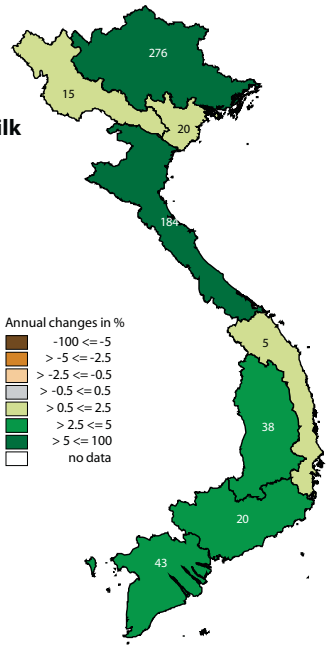
Status 2005

- No. of dairy farms: 19,600
- Average farm size: 6.9 cows per farm
- Main size class: 3 - 5 cows
- Milk / feed price ratio: 1.9

Key developments 2000 - 2005

- Farm growth: + 12.0 % milk per farm and year
- Milk price: + 5.0 % per year
- Feed prices: + 6.1 % per year
- Milk / feed price ratio: Up in 2005

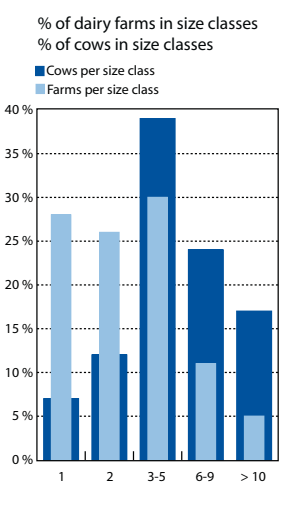
Change in milk production (% per year)



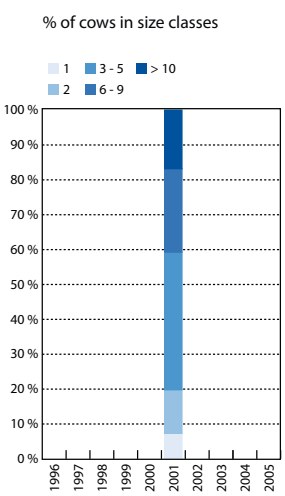
Key variables

	1996	1998	2000	2001	2002	2003	2004	2005	Annual growth rates 2000 - 2005
Milk production in ECM									
Production (mill t)	0.07	0.07	0.09	0.10	0.12	0.16	0.19	0.23	20.9 %
Cows and buffaloes (in 1,000's)	79	71	98	105	87	110	127	135	6.6 %
Yield (t / cow / year)	0.93	0.97	0.92	0.96	1.33	1.48	1.48	1.73	13.4 %
Farm structure									**200 - 2005**
No. of dairy farms (in 1,000's)				13.3	14.9	16.5	18.0	19.6	10.2 %
Average farm size (cows / farm)				7.9	5.8	6.7	7.0	6.9	-3.3 %
Milk per farm (t milk / farm / year)				7.6	7.8	9.9	10.4	11.9	12.0 %
Prices in national currency									
Cull cow price (VND / kg live weight)			no statistical information available						
Land price – buy (VND / ha)			no statistical information available						

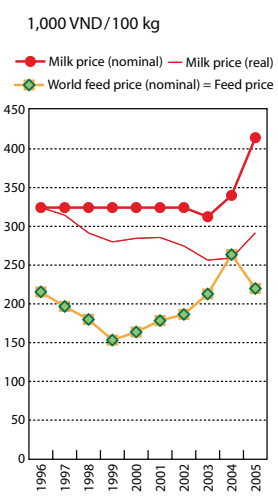
Farm structure 2001



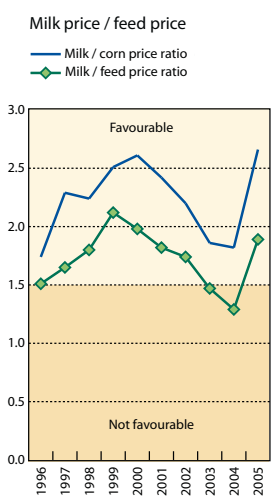
Farm structure



Milk and feed price



Milk / feed price ratio



Explanations
Milk map details: *Data base 2000 - 2005.*
Milk/feed price: *Since no statistical information on feed prices are available the world market prices are only used.*
Source: *National statistics, FAO, Eurostat, USDA, ZMP, IDF and estimations. Milk / feed price ratio: Method see Chapter 2. Milk prices are shown in ECM.*

Published in IFCN Dairy Report 2007, Chapter 3.

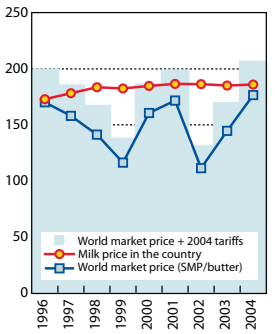
China

3.7 China – Milk production and dairy sector profile

Status and key developments

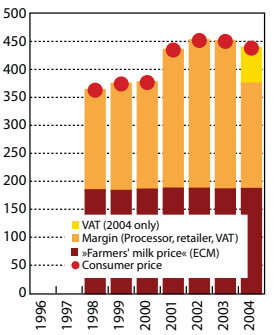
Milk prices and tariffs

in CNY / 100 kg milk (ECM)



The chain for liquid milk

in CNY / 100 kg milk



Status 2004

- Tariffs: Butter 19 %, SMP 11 %
- Share of farmers' price on consumer price: 42 %
- VAT on consumer price: 17 %
- Milk consumption: 21 kg ME per capita / year
- Self-sufficiency in milk production: 87 %

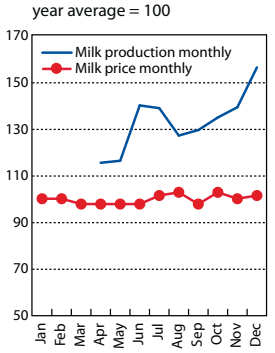
Key developments 1990 - 2004

- Milk production: +8.47 % per year
- Milk consumption per capita: +7.41 % per year
- Population: +0.92 % per year
- Self-sufficiency: Increased by 0.8 % points

Milk pricing and quality

Seasonality profile 2004

year average = 100



Milk pricing of a »typical« processor

Base: 3.1 % fat, 2.9 % protein, per kg
Fat: No data
Protein: No data

Volume bonus: + 5 - 10 % for milk sold more than contract
Quality bonus: + 0.04 CNY / kg if bact. cell count is lower than 100,000 cells / ml

Transport costs: None
Promotion fee: None
Year end payment: None

Other:
Fresh milk is the main product therefore milk price is 20 % lower in Jul - Aug (milk consumption decrease)

Milk quality standards

Maximum level (target level)
Bacterial cell count: < 400,000 cells / ml
Somatic cell count: < 500,000 cells / ml
Antibiotics: Not allowed

Penalties
Bacterial cell count: Grading system (up to -0.08 CNY / kg)
Somatic cell count: Grading system
Antibiotics: Rejected milk after finding antibiotics

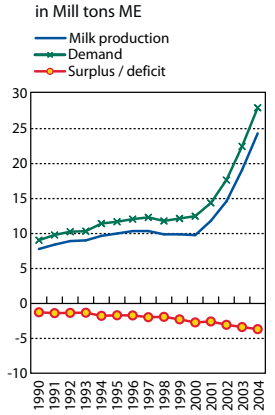
Other
Standard freezing point: - 0.546 to - 0.508 °C
Standard nitrite: < 0.2 mg / kg milk

Trade ratios

	1990	1992	1994	1996	1998	2000	2001	2002	2003	2004
Self-sufficiency in milk	86 %	87 %	85 %	86 %	84 %	78 %	82 %	83 %	85 %	87 %
Exports / nat. production	2 %	3 %	6 %	6 %	6 %	4 %	3 %	2 %	1 %	1 %
Imports / nat. consumption	15 %	15 %	21 %	19 %	21 %	25 %	20 %	19 %	16 %	14 %

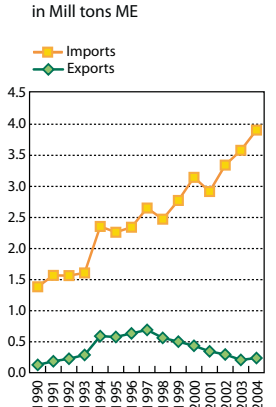
Production vs demand

in Mill tons ME



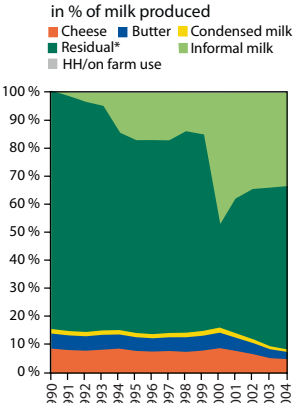
Export / Import profile

in Mill tons ME



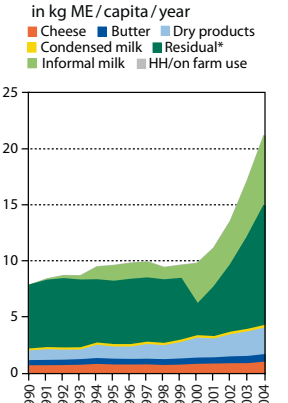
Processing profile

in % of milk produced



Consumption pattern

in kg ME / capita / year



Explanations
Method: *See IFCN Dairy Report 2006, Chapter 3.1 - 3.10 for details.* **** Residual:*** *Fresh milk products.* ***Consumer product:*** *1 kg fresh milk.*
Sources: *International statistics (FAO, ZMP, USDA, EUROSTAT, FAPRI, IDF, EU Commission, OECD, AMAD, MAD, UNSTAD-TRAINS) and national statistics.*
Estimates done for: *Household consumption according to calve weaning on one typical farm (CN-9) (by S. Shi).*

Published in IFCN Dairy Report 2006, Chapter 3. Pictures on previous double page by Katja Seifert.

3.7 China – Milk production and dairy sector profile

Status and key developments

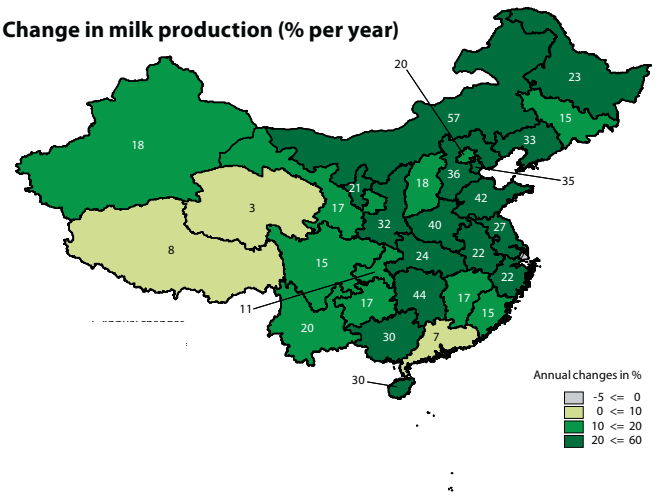
Status 2005

- No. of dairy farms: 0.98 mill
- Average farm size: 6.7 cows per farm
- Main size class: 1-20 cows
- Milk/feed price ratio: 1.1

Key developments 2000-2005

- Farm growth: 1.4% milk per farm and year
- Milk price: +0.4% per year
- Feed prices: +5.9% per year
- Milk/feed price ratio: Downward trend
- Land prices: +6.9% per year
- Cull cow prices: +6.6% per year

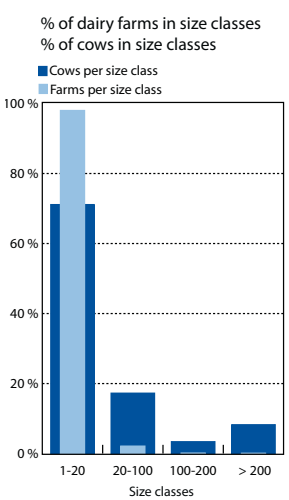
Change in milk production (% per year)



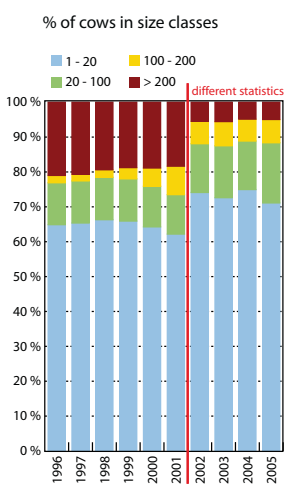
Key variables

	1996	1998	2000	2001	2002	2003	2004	2005	Annual growth rates 2000-2005
Milk production in ECM									
Production (mill t)	5.6	5.9	7.4	9.1	11.6	15.6	20.1	24.5	27.2%
Cows (in 1,000's)	2,414	2,303	2,639	3,057	3,711	4,823	5,983	6,567	20.0%
Yield (t/cow/year)	2.3	2.6	2.8	3.0	3.1	3.2	3.4	3.7	6.0%
Farm structure									
No. of dairy farms (in 1,000's)	370	373	404	506	600	690	868	980	19.4%
Average farm size (cows/farm)	6.5	6.2	6.5	6.0	6.2	7.0	6.9	6.7	0.5%
Milk per farm (t milk/farm/year)	23.3	24.6	26.9	25.0	25.2	27.8	27.4	28.7	1.4%
Prices in national currency									
Cull cow price(CNY / kg live weight)			5.8	6.0	6.5	7.0	7.6	8.0	6.6%
Land price – buy (1,000 CNY / ha)			359	400	428	446	471	503	6.9%

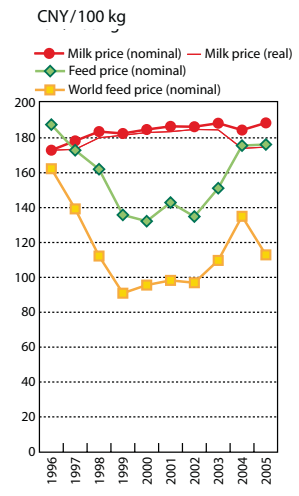
Farm structure 2005



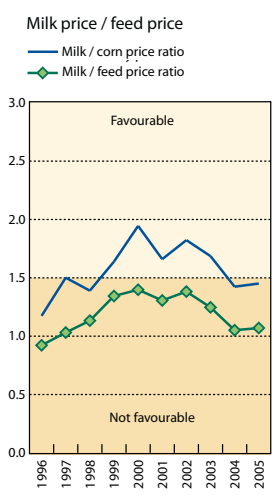
Farm structure



Milk and feed price



Milk/feed price ratio



Explanations

China has about 3.6 mill t buffalo milk (ECM) and about 5.3 buffaloes (Source FAO).

Milk map details: *Data base 2000-2005.*

Estimates: *Cow number, farm number and farm structure data. Fat and protein content for calculating the milk production into ECM.*
*Land prices: Estimated on land rent contracts running 80 years. Price estimate 2000: 300 CNY / Mu * 80 years = 359,000 CNY / ha.*
2000-2005 estimates based on land price index »other« representing non construction land.

Source: *National statistics, FAO, Eurostat, USDA, ZMP, IDF and estimations. Milk / feed price ratio: Method see Chapter 2. Milk prices are shown in ECM.*

Published in IFCN Dairy Report 2007, Chapter 3.

Uganda

3.8 Uganda – Milk production and dairy sector profile

Status and key developments

Status 2004

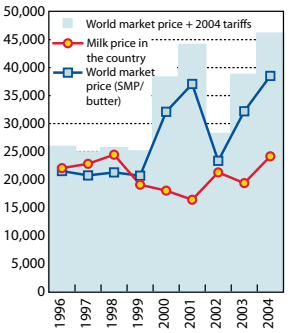
- Tariffs: Butter 16 %, SMP 16 %
- Share of farmers' price on consumer price: 23 %
- VAT on consumer price: 0 %
- Milk consumption: 49 kg ME per capita / year
- Self-sufficiency in milk production: 100 %

Key developments 1990 - 2004

- Milk production: +6.75 % per year
- Milk consumption per capita: +3.34 % per year
- Population: +3.11 % per year
- Self-sufficiency: Increased by 2.5 % points

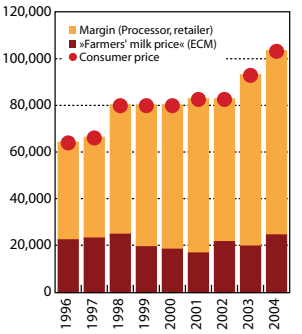
Milk prices and tariffs

in UGX / 100 kg milk (ECM)



The chain for liquid milk

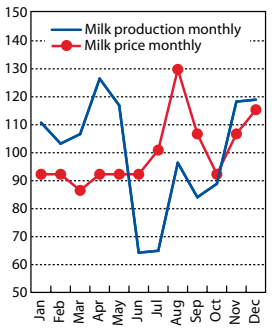
in UGX / 100 kg milk



Milk pricing and quality

Seasonality profile 2004

year average = 100



Milk pricing of a »typical« processor

Base: Volume of whole milk (Litres)
Fat: None
Protein: None

Volume bonus: None
Quality bonus: None
Contribution to dairy cooperative: UGX 70 (US$ 0.039) / l

Transport costs: 50 UGX (0.028 USD) / litre of milk delivered
Promotion fee: None
Year end payment: None

Milk quality standards

Maximum level (target level)
No checking for antibiotics, bact. and som. cell counts. Farmers deliver milk to a collection centre where simple platform tests are carried out. If quality is acceptable, the volume is measured in litres.

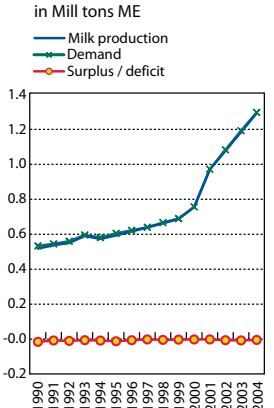
Penalties
Only lactometer reading 28-32 and alchol test (68-80 %) are used in the field. Total rejection of milk which does not conform to these tests.

Trade ratios

	1990	1992	1994	1996	1998	2000	2001	2002	2003	2004
Self-sufficiency in milk	97 %	98 %	99 %	99 %	99 %	100 %	100 %	99 %	99 %	100 %
Exports / nat. production	0 %	0 %	0 %	0 %	1 %	0 %	0 %	0 %	0 %	0 %
Imports / nat. consumption	3 %	2 %	2 %	1 %	1 %	0 %	0 %	1 %	1 %	0 %

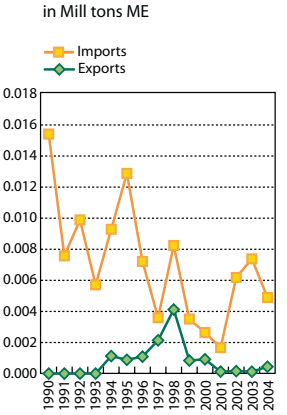
Production vs demand

in Mill tons ME



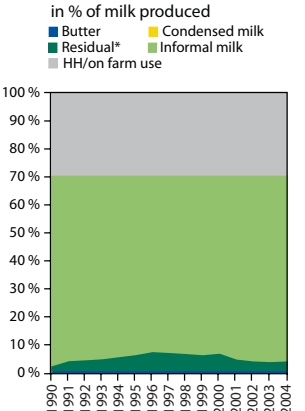
Export / Import profile

in Mill tons ME



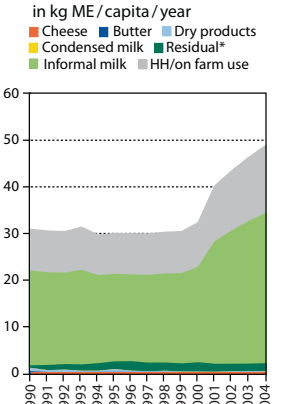
Processing profile

in % of milk produced



Consumption pattern

in kg ME / capita / year



Explanations
Method: *See IFCN Dairy Report 2006, Chapter 3.1 - 3.10 for details.* **** Residual:*** *Fresh milk products.* ***Consumer product:*** *Milk with fat: 3.2 %, protein: 3.3 %.*
Sources: *International statistics (FAO, ZMP, USDA, EUROSTAT, FAPRI, IDF, EU Commission, OECD, AMAD, MAD, UNSTAD-TRAINS) and national statistics.*
Estimates done for: *Household / on farm use and milk delivered.*

Published in IFCN Dairy Report 2006, Chapter 3. Pictures on previous double page by Ndambi Asaah.

3.8 Uganda – Milk production and dairy sector profile

Status and key developments

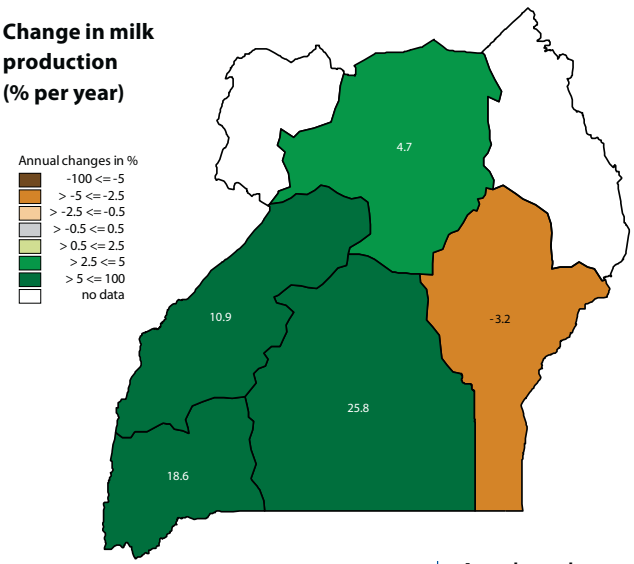
Status 2005

- No. of dairy farms: 801,000 (2002)
- Milk / feed price ratio: 0.8

Key developments 2000 - 2005

- Milk price: + 6.6 % per year
- Feed prices: + 6.7 % per year
- Milk / feed price ratio: Stable
- Land prices: + 24.3 % per year
- Cull cow prices: + 4.0 % per year

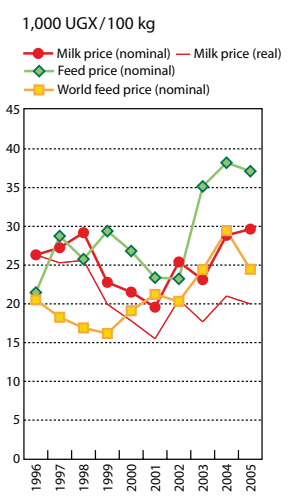
Change in milk production (% per year)



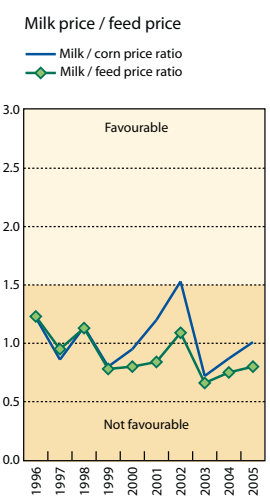
Key variables

	1996	1998	2000	2001	2002	2003	2004	2005	Annual growth rates 2000 - 2005
Milk production in ECM									
Production (mill t)	0.62	0.66	0.76	0.97	1.08	1.18	1.29	1.40	13.1 %
Cows (in 1,000's)	1,325	1,413	1,492	1,536	1,582	1,640	1,700	1,750	3.2 %
Yield (t / cow / year)	0.46	0.47	0.51	0.63	0.68	0.72	0.76	0.80	9.6 %
Farm structure									
No. of dairy farms (in 1,000's)					801				
Average farm size (cows / farm)					2.0				
Milk per farm (t milk / farm / year)					1.3				
Prices in national currency									
Cull cow price (UGX / kg live weight)	700	750	780	800	800	850	900	950	4.0 %
Land price – buy (1,000 UGX / ha)	300	400	500	620	750	1,000	1,235	1,482	24.3 %

Milk and feed price



Milk / feed price ratio



Explanations
Milk map details: *Data base 2000 - 2005.*
Remark: *Dairy farm number = total number of households keeping cattle. 77,000 households keeping improved breeds of dairy cattle.*
Estimates: *Land prices extremely vary by location and over time. The above figures are only estimates based on actual prices in different locations. Cull cow prices based on price of live animals. Actually records not obtained.* ***Source:*** *National statistics, FAO, Eurostat, USDA, ZMP, IDF and estimations. Milk / feed price ratio: Method see Chapter 2. Milk prices are shown in ECM.* ***Pictures:*** *Milk production in Uganda (David Balikowa).*

Published in IFCN Dairy Report 2007, Chapter 3.

Cameroon

3.9 Cameroon – Milk production and dairy sector profile

Status and key developments

Status 2004

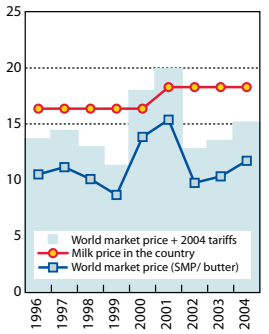
- Tariffs: Butter 10 %, SMP 30 %
- Share of farmers' price on consumer price: 12 %
- VAT on consumer price: 0 %
- Milk consumption: 16 kg ME per capita / year
- Self-sufficiency in milk production: 76 %

Key developments 1990 - 2004

- Milk production: +0.44 % per year
- Milk consumption per capita: -1.29 % per year
- Population: +2.42 % per year
- Self-sufficiency: Decreased by -7.3 % points

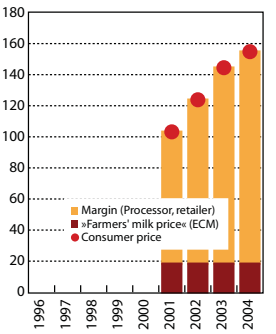
Milk prices and tariffs

in 1,000 XAF / 100 kg milk (ECM)



The chain for liquid milk

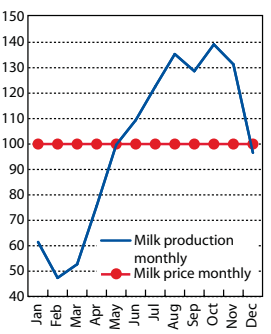
in 1,000 XAF / 100 kg milk



Milk pricing and quality

Seasonality profile 2004

year average = 100



Milk pricing of a »typical« processor

Base:
Milk is paid by volume.
Milk is measured in litres.

Milk quality assessed by colour and odour.

Payment is done upon delivery or every second week if the milk is going to the processing unit.

Milk quality standards

Maximum level (target level)
- No quality standards as of now.
- No tests for fat, protein and antibiotics.

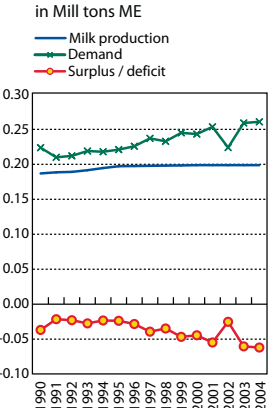
Penalties
- Milk is rejected after sensory tests (smell, colour, taste, etc.).

Trade ratios

	1990	1992	1994	1996	1998	2000	2001	2002	2003	2004
Self-sufficiency in milk	84 %	89 %	89 %	87 %	85 %	82 %	78 %	89 %	77 %	76 %
Exports / nat. production	0 %	0 %	0 %	0 %	2 %	2 %	1 %	1 %	1 %	1 %
Imports / nat. consumption	16 %	11 %	11 %	13 %	17 %	20 %	22 %	12 %	24 %	24 %

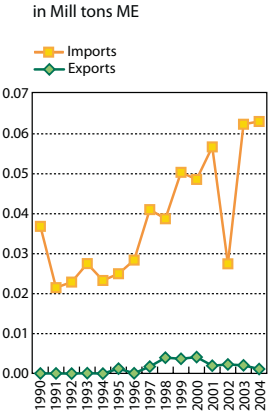
Production vs demand

in Mill tons ME



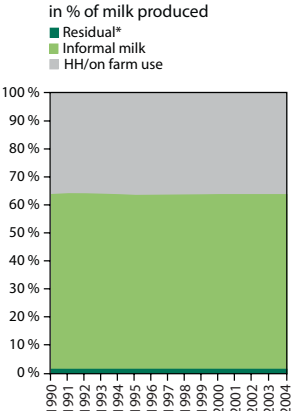
Export / Import profile

in Mill tons ME



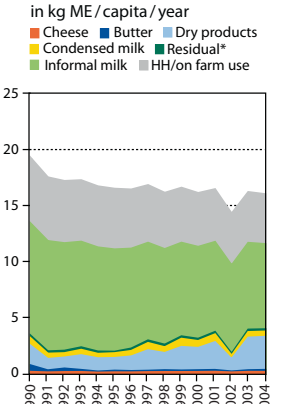
Processing profile

in % of milk produced



Consumption pattern

in kg ME / capita / year



Explanations
Method: *See IFCN Dairy Report 2006, Chapter 3.1 - 3.10 for details.* **** Residual:*** *Fresh milk products.* ***Consumer product:*** *Yogurt, prepared at small scale processing units .*
Sources: *International statistics (FAO, ZMP, USDA, EUROSTAT, FAPRI, IDF, EU Commission, OECD, AMAD, MAD, UNSTAD-TRAINS) and national statistics.*
Estimates done for: *Household / on farm use and milk delivered, fat / protein content of milk produced.*

Published in IFCN Dairy Report 2006, Chapter 3. Pictures on previous double page by Marianne Kurzweil.

3.9 Cameroon – Milk production and dairy sector profile

Status and key developments

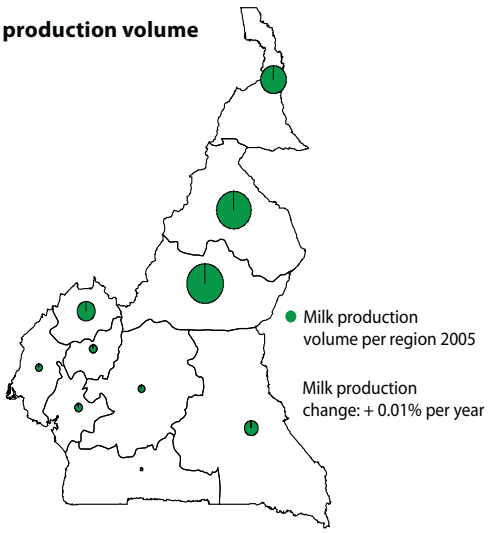
Status 2005

- No. of dairy farms: 3,960
- Average farm size: 59.3 cows per farm
- Main size class: 50 - 99 cows
- Milk / feed price ratio: 1.2

Key developments 2000 - 2005

- Farm growth: - 1 % milk per farm and year
- Milk price: + 3.3 % per year
- Feed prices: + 4.1 % per year
- Milk / feed price ratio: Downward trend
- Land prices: + 5.9 % per year
- Cull cow prices: + 5.9 % per year

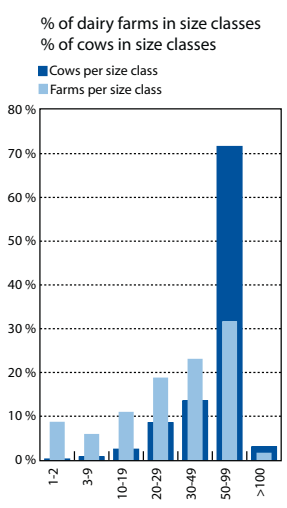
Milk production volume



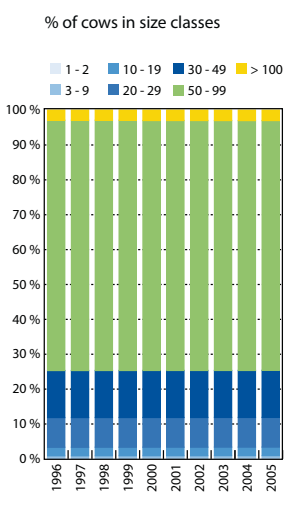
Key variables

	1996	1998	2000	2001	2002	2003	2004	2005	Annual growth rates 2000 - 2005
Milk production in ECM									
Production (mill t)	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.0 %
Cows (in 1,000's)	235	235	235	235	235	235	235	235	0.0 %
Yield (t / cow / year)	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.0 %
Farm structure									
No. of dairy farms (in 1,000's)	3.7	3.7	3.8	3.8	3.8	3.9	3.9	4.0	1.0 %
Average farm size (cows / farm)	63.0	63.0	62.3	62.0	61.6	60.6	60.5	59.3	- 1.0 %
Milk per farm (t milk / farm / year)	34.8	34.8	34.4	34.3	34.1	33.5	33.4	32.8	- 1.0 %
Prices in national currency									
Cull cow price (XAF / kg live weight)	300	300	300	300	350	350	350	400	5.9 %
Land price – buy (1,000 XAF / ha)	700	700	750	750	750	800	800	1,000	5.9 %

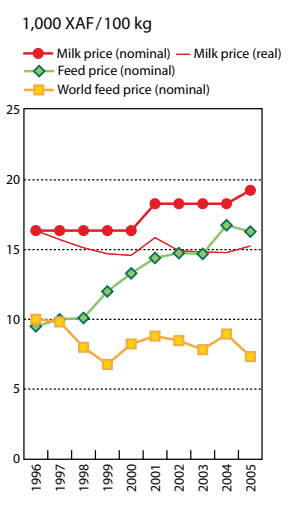
Farm structure 2005



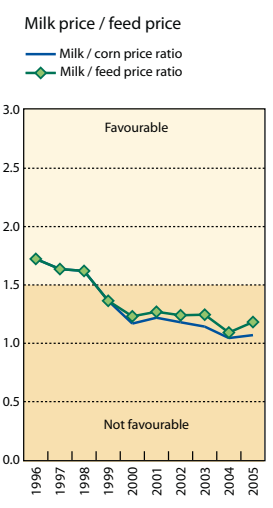
Farm structure



Milk and feed price



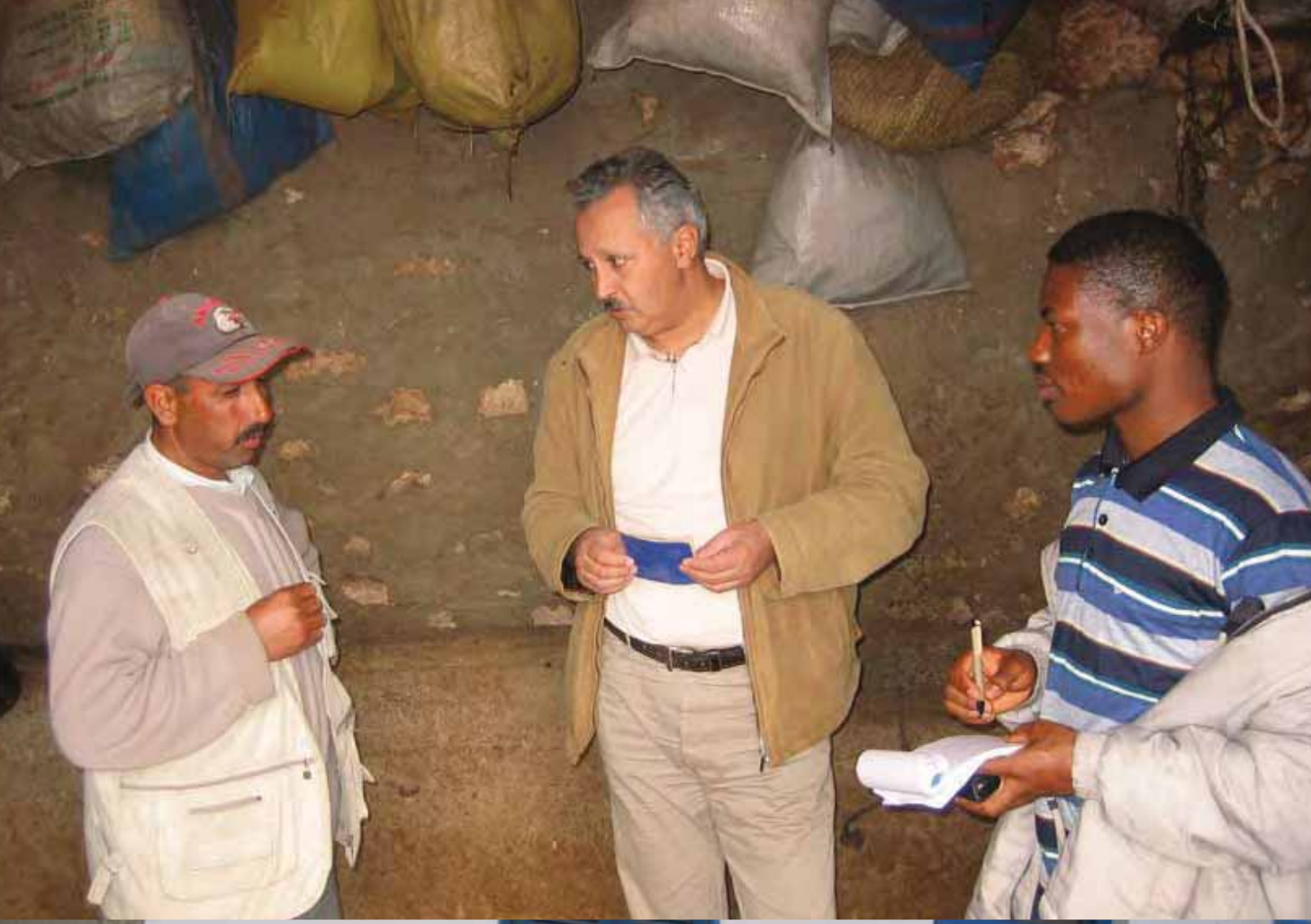
Milk / feed price ratio



Explanations
Milk map details: *Data base 2000 - 2005; regional breakdown of growth rates not possible.*
Milk/feed price: *Soya bean meal price: 1996 - 2002 estimated; 2003 - 2005 world market price transfered one to one. Corn price: Estimates from 1999 on.* ***Estimates:*** *Milk prices: This price represents a price of milk sold farm gate in Western Highlands. Cull cow prices, land prices and farm structure information.* ***Source:*** *National statistics, FAO, Eurostat, USDA, ZMP, IDF and estimations. Milk / feed price ratio: Method see Chapter 2. Milk prices are shown in ECM.*

Published in IFCN Dairy Report 2007, Chapter 3.

Morocco



Morocco

3.10 Morocco – Milk production and dairy sector profile

Status and key developments

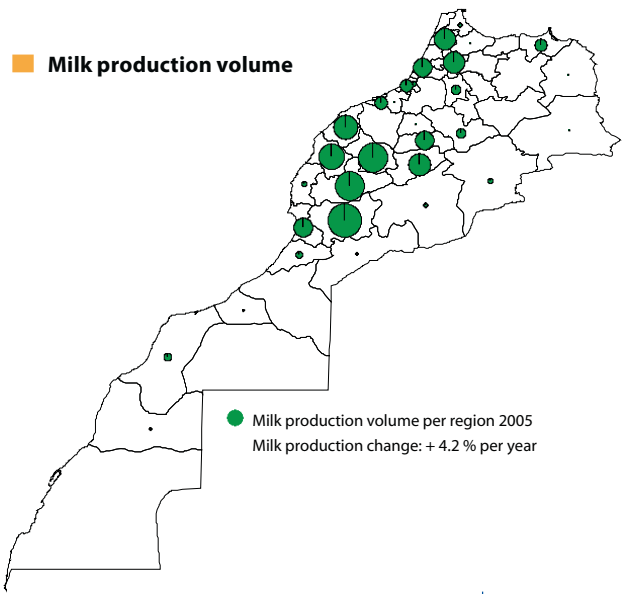
Status 2005

- No. of dairy farms: 768,900 (1996)
- Main size class: 1 - 2 cows
- Milk / feed price ratio: 1.7

Key developments 2000 - 2005

- Milk price: + 0.7 % per year
- Feed prices: - 1.7 % per year
- Milk / feed price ratio: Stable
- Land prices: + 5.9 % per year
- Cull cow prices: Stable

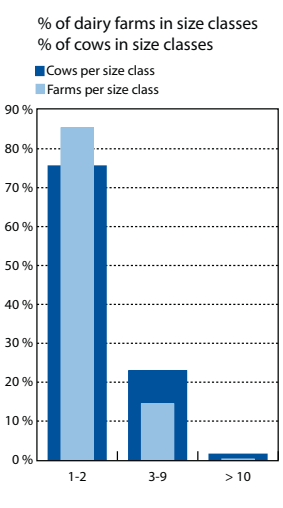
Milk production volume



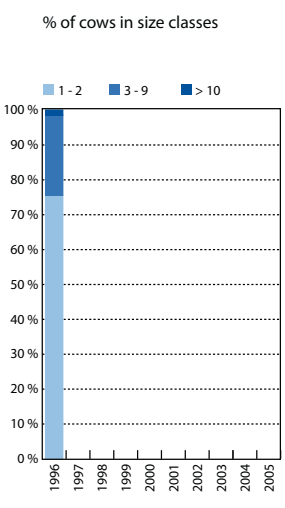
Key variables

	1996	1998	2000	2001	2002	2003	2004	2005	Annual growth rates 2000 - 2005
Milk production in ECM									
Production (mill t)	0.84	1.01	1.14	1.09	1.19	1.19	1.34	1.40	4.2 %
Cows (in 1,000's)	1,500	1,300	1,308	1,250	1,350	1,370	1,380	1,500	2.8 %
Yield (t / cow / year)	0.56	0.78	0.87	0.87	0.88	0.87	0.97	0.93	1.3 %
Farm structure									
No. of dairy farms (in 1,000's)	769								
Average farm size (cows / farm)	2.0								
Milk per farm (t milk / farm / year)	1.1								
Prices in national currency									
Cull cow price (MAD / kg live weight)	25	25	25	25	25	25	25	25	0.0 %
Land price – buy (1,000 MAD / ha)	80	80	90	100	100	100	120	120	5.9 %

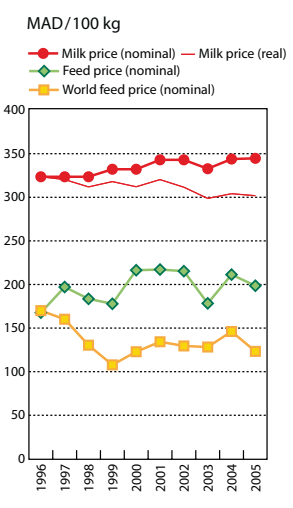
Farm structure 1996



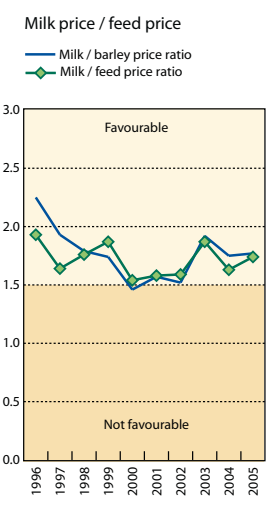
Farm structure



Milk and feed price



Milk / feed price ratio



Explanations
Milk map details: *Data base 2005; regional breakdown of growth rates not possible.*
Milk/feed price: *Since no statistical information on soya bean meal prices are available the world market price is used.*
Estimates: *Cull cow prices based on 360 kg live weight at 25 MAD / kg live weight.*
Land prices: Own observations based on »irrigated land« and sub-urban areas with own »ground water« irrigation installations.
Source: *National statistics, FAO, Eurostat, USDA, ZMP, IDF and estimations. Milk / feed price ratio: Method see Chapter 2. Milk prices are shown in ECM.*

Published in IFCN Dairy Report 2007, Chapter 3. Pictures on previous pages by Otto Garcia.

Peru

3.11 Peru – Milk production and dairy sector profile

Status and key developments

Status 2004

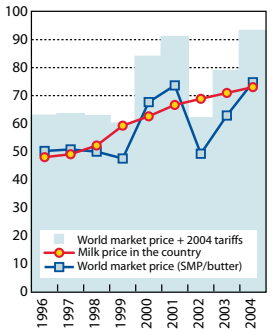
- Tariffs: Butter 20 %, SMP 20 %
- Share of farmers' price on consumer price: 29 %
- VAT on consumer price: 18 %
- Milk consumption: 49 kg ME per capita / year
- Self-sufficiency in milk production: 91 %

Key developments 1990 - 2004

- Milk production: +3.48 % per year
- Milk consumption per capita: +0.97 % per year
- Population: +1.71 % per year
- Self-sufficiency: Increased by 9.3 % points

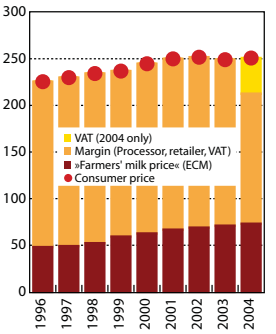
Milk prices and tariffs

in PEN / 100 kg milk (ECM)



The chain for liquid milk

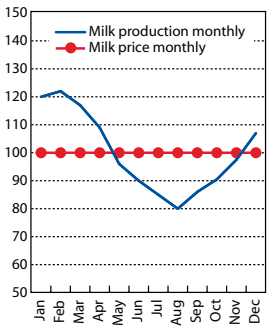
in PEN / 100 kg milk



Milk pricing and quality

Seasonality profile 2004

year average = 100



Milk pricing of a »typical« processor

Base: Total solids,
Fat: + / - 0.07 PEN per + / - 1 % point fat
Protein: None

Bonfication is variable between 0.02 - 0.1 PEN.
It considers bonus for free of tuberculosis and brucellosis
+ bonus for volume + bonus for cold storage of milk.

Transport costs: None
Promotion fee: None
Year end payment: None

Milk quality standards

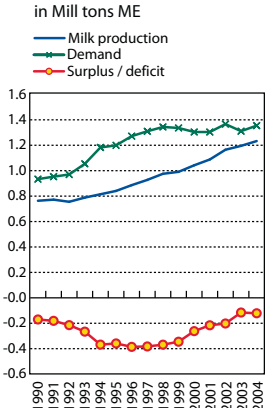
Maximum level (target level)
No bacterial cell count is considered neither somatic celll count or antibiotics for pricing.

Trade ratios

	1990	1992	1994	1996	1998	2000	2001	2002	2003	2004
Self-sufficiency in milk	82 %	78 %	69 %	70 %	73 %	80 %	83 %	85 %	91 %	91 %
Exports / nat. production	0 %	0 %	0 %	0 %	0 %	1 %	1 %	2 %	3 %	6 %
Imports / nat. consumption	18 %	22 %	31 %	30 %	28 %	21 %	18 %	17 %	12 %	14 %

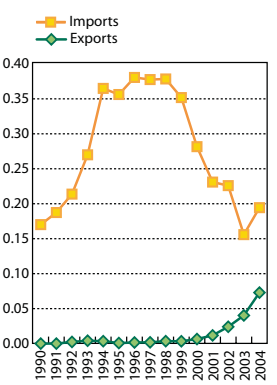
Production vs demand

in Mill tons ME



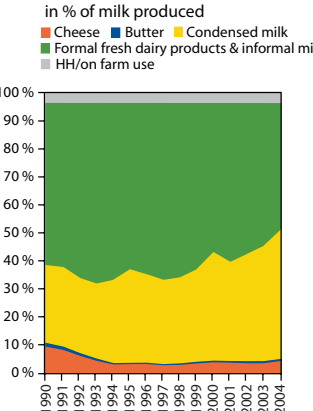
Export / Import profile

in Mill tons ME



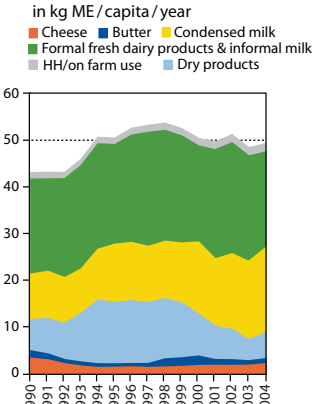
Processing profile

in % of milk produced



Consumption pattern

in kg ME / capita / year



Explanations
Method: *See IFCN Dairy Report 2006, Chapter 3.1 - 3.10 for details.* **** Residual:*** *Fresh milk products.* ***Consumer product:*** *Fresh milk with 3.6 % fat and 3.4 % protein.*
Sources: *International statistics (FAO, ZMP, USDA, EUROSTAT, FAPRI, IDF, EU Commission, OECD, AMAD, MAD, UNSTAD-TRAINS) and national statistics.*
Estimates done for: *Milk delivered and household / on farm use are estimated values (by C. Gomez and M. Fernandez).*

Published in IFCN Dairy Report 2006, Chapter 3. Pictures on previous double page by Otto Garcia and Carlos A. Gomez.

3.11 Peru – Milk production and dairy sector profile

Status and key developments

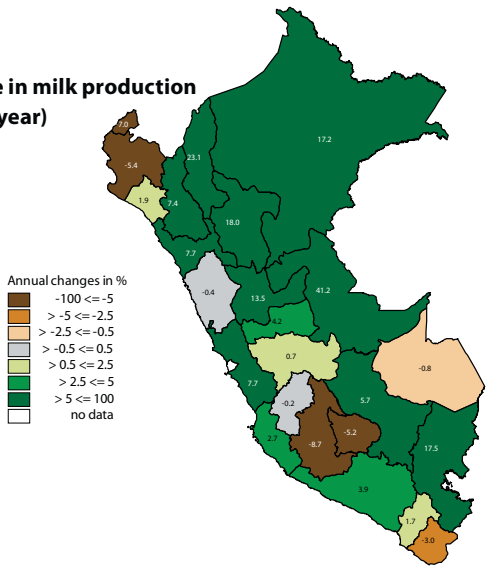
Status 2005

- No. of dairy farms: 108,000
- Average farm size: 6.4 cows per farm
- Main size class: < 20 cows
- Milk/feed price ratio: 1.1

Key developments 2000-2005

- Farm growth: - 0.8 % milk per farm and year
- Milk price: + 4.6 % per year
- Feed prices: + 1 % per year
- Milk/feed price ratio: Upward trend
- Land prices: + 1.4 % per year
- Cull cow prices: stable

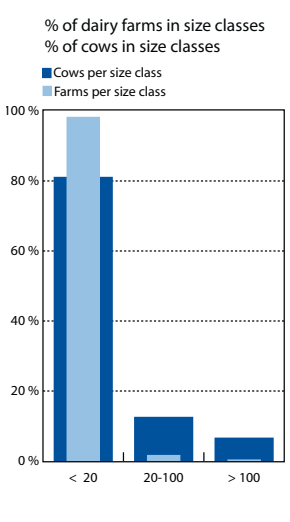
Change in milk production (% per year)



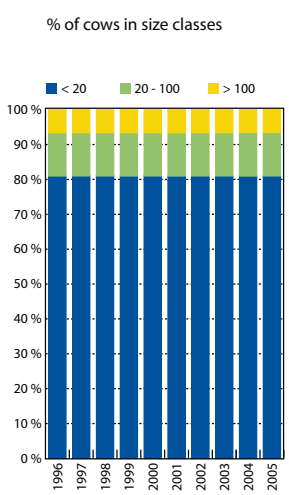
Key variables

	1996	1998	2000	2001	2002	2003	2004	2005	Annual growth rates 2000-2005
Milk production in ECM									
Production (mill t)	0.87	0.96	1.02	1.07	1.14	1.18	1.21	1.27	4.5 %
Cows (in 1,000's)	553	520	504	538	628	635	657	690	6.5 %
Yield (t/cow/year)	1.57	1.84	2.03	1.99	1.82	1.85	1.85	1.85	-1.8 %
Farm structure									
No. of dairy farms (in 1,000's)	91	86	83	89	104	105	106	108	5.4 %
Average farm size (cows/farm)	6.1	6.1	6.1	6.1	6.1	6.1	6.2	6.4	1.0 %
Milk per farm (t milk/farm/year)	9.5	11.2	12.3	12.1	11.1	11.2	11.4	11.8	-0.8 %
Prices in national currency									
Cull cow price (PEN / kg live weight)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	0.0 %
Land price – buy (PEN / ha)	24,950	26,223	27,693	27,963	28,230	28,630	29,133	29,700	1.4 %

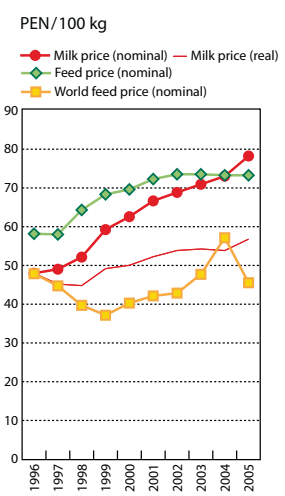
Farm structure 2005



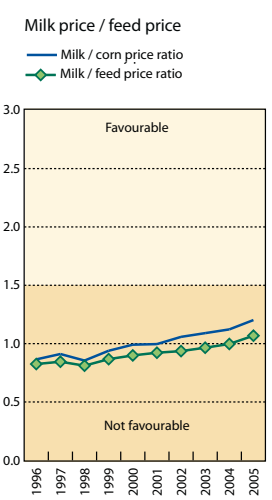
Farm structure



Milk and feed price



Milk/feed price ratio



Explanations
Milk map details: *Data base 2000 - 2005.*
Estimates: *No. of cows per size class is estimated based on average farm size: 5; 50; 150 cows per farm.*
Source: *National statistics, FAO, Eurostat, USDA, ZMP, IDF and estimations. Milk / feed price ratio: Method see Chapter 2. Milk prices are shown in ECM.*

Published in IFCN Dairy Report 2007, Chapter 3.

Germany

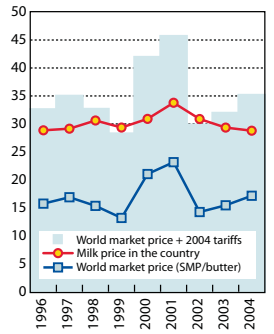

Hemme
Milch

3.12 Germany – Milk production and dairy sector profile

Status and key developments

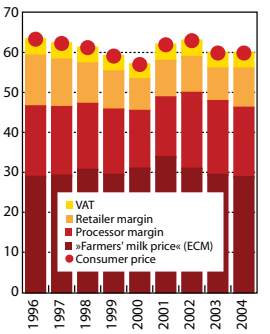
Milk prices and tariffs

in EUR / 100 kg milk (ECM)



The chain for liquid milk

in EUR / 100 kg milk



Status 2004

- Tariffs: Butter 116 %, SMP 72 %
- Share of farmers' price on consumer price: 48 %
- VAT on consumer price: 7 %
- Milk consumption: 285 kg ME per capita / year
- Self-sufficiency in milk production: 124 %

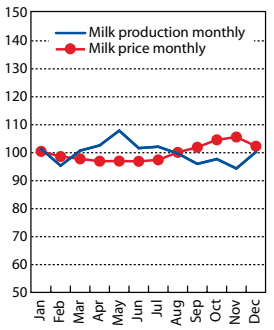
Key developments 1990 - 2004

- Milk production: -0.52 % per year
- Milk consumption per capita: -1.09 % per year
- Population: +0.27 % per year
- Self-sufficiency: Increased by 5.1 % points

Milk pricing and quality

Seasonality profile 2004

year average = 100



Milk pricing of a »typical« processor

Base: 3.7 % fat, 3.4 % protein, per kg
Fat: +/- 2.2 EUR ct / 1 % point
Protein: +/- 5.0 EUR ct / 1 % point

Volume bonus: > 400 tons / year (0.5 EUR ct / kg)
Quality bonus: + 0.5 EUR ct / kg if < 10,000 bacterial and < 250,000 somatic cell count

Transport costs: Charge of 120 EUR / month / farm
Promotion fee: 0.122 EUR / 100 kg
Year end payment: 1.6 % of total milk return

Other: 28 EUR ct / kg over quota levy in 2004 / 2005
Volume bonus depends on dairy, some have a »stop - fee«.

Milk quality standards

Maximum level (target level)
- Bacterial cell count: < 100,000 cells / ml
- Somatic cell count: < 400,000 cells / ml
- Antibiotics: Not allowed

Penalties
- Bacterial cell count: - 2 EUR ct / kg if > 100,000 cells / ml
- Somatic cell count: - 1 EUR ct / kg if > 400,000 cells / ml
- Antibiotics: - 5 EUR ct / month if found

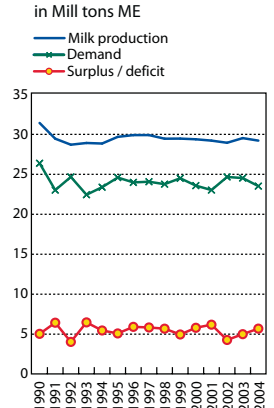
Other
- Standard freezing point: < - 0.515 °C

Trade ratios

	1990	1992	1994	1996	1998	2000	2001	2002	2003	2004
Self-sufficiency in milk	119 %	116 %	123 %	125 %	124 %	125 %	127 %	117 %	120 %	124 %
Exports / nat. production	25 %	34 %	34 %	34 %	34 %	36 %	37 %	30 %	38 %	42 %
Imports / nat. consumption	15 %	18 %	19 %	19 %	19 %	21 %	21 %	21 %	26 %	27 %

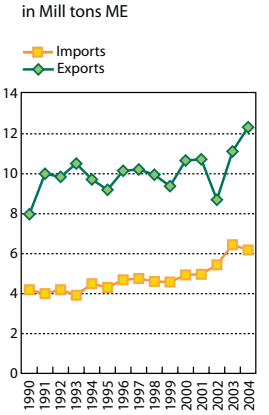
Production vs demand

in Mill tons ME



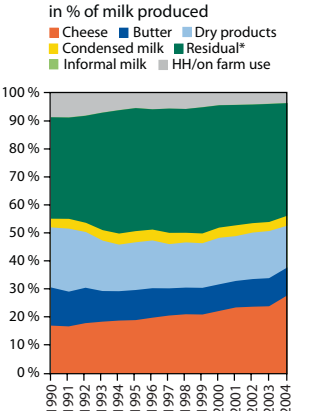
Export / Import profile

in Mill tons ME



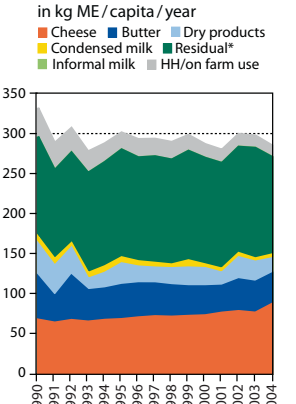
Processing profile

in % of milk produced



Consumption pattern

in kg ME / capita / year



Explanations
Method: *See IFCN Dairy Report 2006, Chapter 3.1 - 3.10 for details.* **** Residual:*** *Fresh milk products.* ***Consumer product:*** *Fresh milk; 1 litre packing with 3.5 % fat*
Sources: *International statistics (FAO, ZMP, USDA, EUROSTAT, FAPRI, IDF, EU Commission, OECD, AMAD, MAD, UNSTAD-TRAINS) and national statistics.*
Comments: *ZMP shows a self-sufficiency rate of 101 % in 2004 for Germany.*

Published in IFCN Dairy Report 2006, Chapter 3. Pictures on previous double page by Torsten Hemme.

3.12 Germany – Milk production and dairy sector profile

Status and key developments

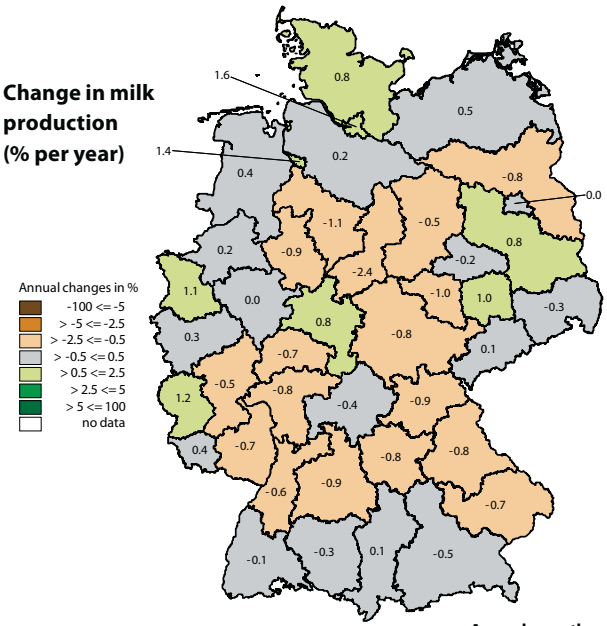
Status 2005

- No. of dairy farms: 110,400
- Average farm size: 37.6 cows per farm
- Main size class: 50 - 99 cows
- Milk / feed price ratio: 2.2

Key developments 2000 - 2005

- Farm growth: + 5.3 % milk per farm and year
- Milk price: - 1.7 % per year
- Feed prices: - 2.7 % per year
- Milk / feed price ratio: Stable
- Land prices: - 0.6 % per year
- Cull cow prices: + 1.4 % per year
- Quota prices: - 5.3 % per year

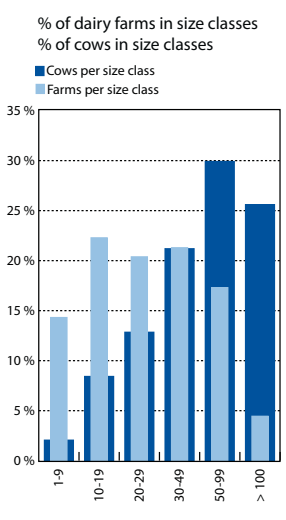
Change in milk production (% per year)



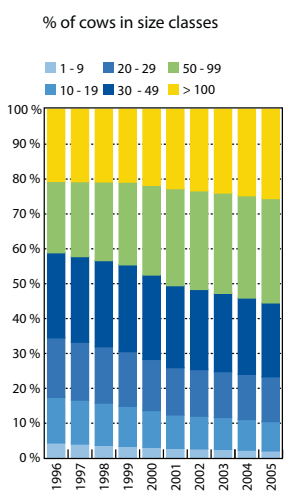
Key variables

	1996	1998	2000	2001	2002	2003	2004	2005	Annual growth rates 2000 - 2005
Milk production in ECM									
Production (mill t)	29.9	29.4	29.4	29.2	28.9	29.5	29.2	29.5	0.1 %
Cows (in 1,000's)	5,195	4,833	4,564	4,475	4,373	4,338	4,287	4,150	- 1.9 %
Yield (t / cow / year)	5.8	6.1	6.4	6.5	6.6	6.8	6.8	7.1	2.0 %
Farm structure									
No. of dairy farms (in 1,000's)	185.9	163.8	142.3	131.8	126.7	121.6	116.0	110.4	- 4.9 %
Average farm size (cows / farm)	27.9	29.5	32.1	34.0	34.5	35.7	37.0	37.6	3.2 %
Milk per farm (t milk / farm / year)	160.8	179.7	206.4	221.5	228.3	242.6	251.6	267.3	5.3 %
Prices in national currency									
Cull cow price (EUR / kg live weight)	1.11	1.18	1.17	0.85	0.94	0.98	1.06	1.25	1.4 %
Land price – buy (EUR / ha)	10,880	9,908	8,939	9,081	9,416	9,604	9,148	8,692	- 0.6 %
Quota price (EUR / kg milk)	0.82	0.85	0.57	0.72	0.72	0.47	0.43	0.43	- 5.3 %

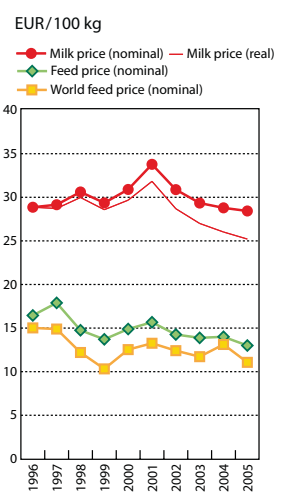
Farm structure 2005



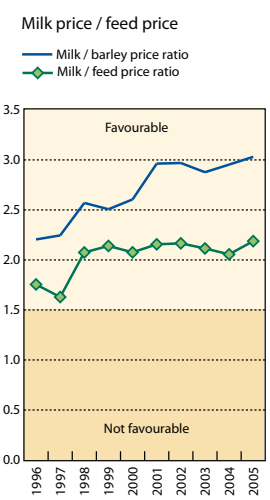
Farm structure



Milk and feed price



Milk / feed price ratio



Explanations
Milk map details: *Data base 2000 - 2005.*
Estimates: *Quota price 1996 - 2000: based on typical farms.*
Source: *National statistics, FAO, Eurostat, USDA, ZMP, IDF and estimations. Milk / feed price ratio: Method see Chapter 2. Milk prices are shown in ECM.*

Published in IFCN Dairy Report 2007, Chapter 3.

United States


EMERGENCY
PULL STOP

3.13 United States – Milk production and dairy sector profile

Status and key developments

Status 2004

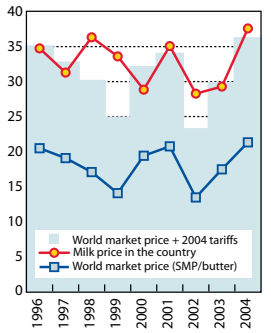
- Tariffs: Butter 86 %, SMP 44 %
- Share of farmers' price on consumer price: 45 %
- VAT on consumer price: 0 %
- Milk consumption: 236 kg ME per capita / year
- Self-sufficiency in milk production: 104 %

Key developments 1990 - 2004

- Milk production: +1.06 % per year
- Milk consumption per capita: -0.31 % per year
- Population: +1.08 % per year
- Self-sufficiency: Increased by 4.2 % points

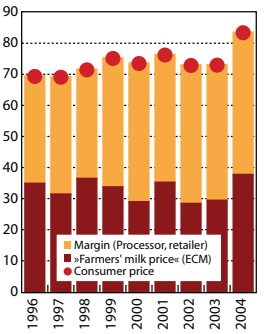
Milk prices and tariffs

in USD / 100 kg milk (ECM)



The chain for liquid milk

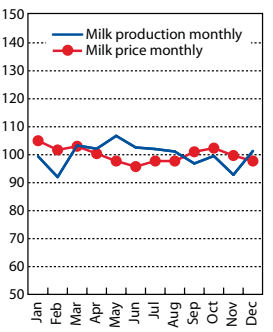
in USD / 100 kg milk



Milk pricing and quality

Seasonality profile 2004

year average = 100



Milk pricing of a »typical« processor

Base: Milk components (fat, protein, other solids) and marginal value of fluid milk sales (Producer Price Differential).
The dairy pays for components at min FMMO price.
(FMMO = Federal Milk Marketing Orders)

Wisconsin data:
Volume bonus: 0.5 USD / cwt for monthly deliveries > 500,000 lbs
Quality bonus: 0.25 USD / cwt for somatic cells <100,000
Transport costs: 0.2 USD / cwt
Promotion fee: 0.15 USD / cwt
Year end payment: 2 - 5 %

Ø transport costs in the U.S. are about 0.65 USD / cwt.
Volume bonuses are not common outside Wisconsin.

Milk quality standards

Maximum level (target level)
- Bacterial cell count: < 100,000 cells / ml
- Somatic cell count: < 750,000 cells / ml
- Antibiotics: Not allowed

Penalties
- Bacterial cell count: None - downgrade
- Somatic cell count: Penalty based on 350,000 cells / ml
- Antibiotics: Farmer pays contaminated milk

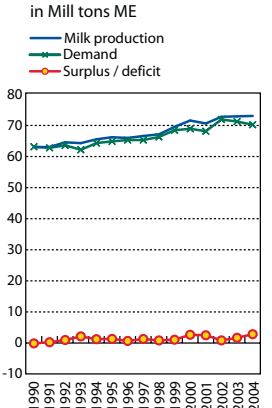
Other
Reject if added water.

Trade ratios

	1990	1992	1994	1996	1998	2000	2001	2002	2003	2004
Self-sufficiency in milk	100 %	102 %	102 %	101 %	101 %	104 %	104 %	101 %	102 %	104 %
Exports / nat. production	2 %	4 %	3 %	3 %	4 %	5 %	5 %	5 %	5 %	7 %
Imports / nat. consumption	2 %	2 %	2 %	2 %	3 %	3 %	3 %	3 %	3 %	3 %

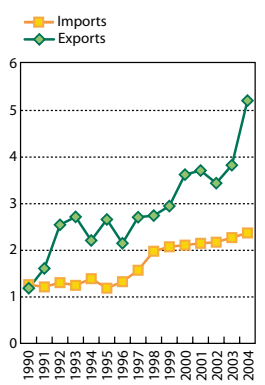
Production vs demand

in Mill tons ME



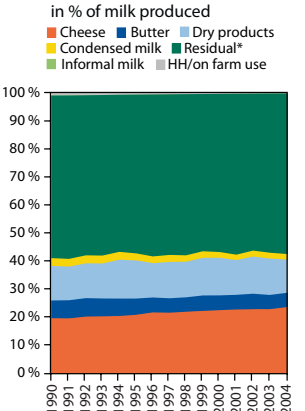
Export / Import profile

in Mill tons ME



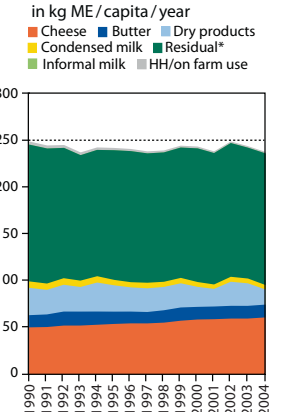
Processing profile

in % of milk produced



Consumption pattern

in kg ME / capita / year



Explanations
Method: *See IFCN Dairy Report 2006, Chapter 3.1 - 3.10 for details.* **** Residual:*** *Fresh milk products.* ***Consumer product:*** *U.S. Average retail price, whole milk (min 3.25 % butterfat).*
Sources: *International statistics (FAO, ZMP, USDA, EUROSTAT, FAPRI, IDF, EU Commission, OECD, AMAD, MAD, UNSTAD-TRAINS) and national statistics.*
Comments: *1 lb (pound) = 0.4536 kg; cwt = hundredweight = 100 lbs = 45.36 kg. Farmers' milk price equals mailbox price, not Class I price. Details see IFCN Dairy Report 2006, Chapter 4.14.*

Published in IFCN Dairy Report 2006, Chapter 3. Pictures on previous double page by Torsten Hemme.

3.13 United States – Milk production and dairy sector profile

Status and key developments

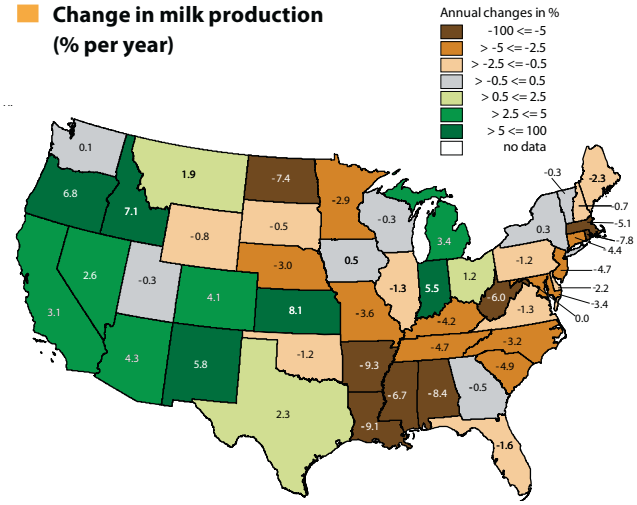
Status 2005

- No. of dairy farms: 78,300
- Average farm size: 115.5 cows per farm
- Main size class: > 2,000 cows
- Milk / feed price ratio: 3.3

Key developments 2000 - 2005

- Farm growth: + 7.2 % milk per farm and year
- Milk price: + 4.2 % per year
- Feed prices: + 1.7 % per year
- Milk / feed price ratio: Fluctuating around 3.0
- Land prices: + 7.6 % per year
- Cull cow prices: + 10.5 % per year

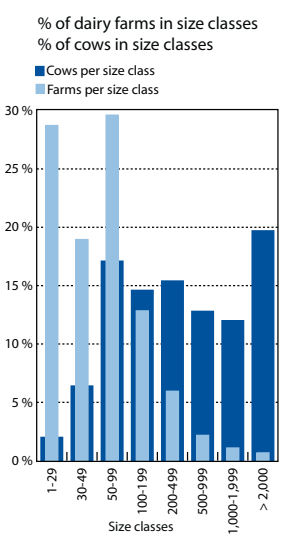
Change in milk production (% per year)



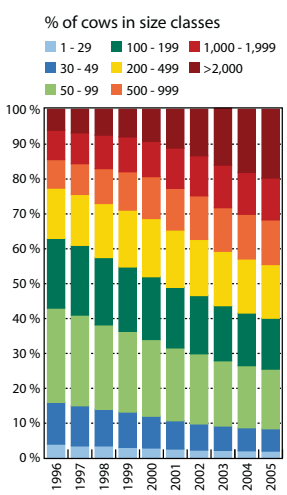
Key variables

	1996	1998	2000	2001	2002	2003	2004	2005	Annual growth rates 2000 - 2005
Milk production in ECM									
Production (mill t)	66	67	72	71	73	73	73	76	1.1 %
Cows (in 1,000's)	9,372	9,151	9,199	9,103	9,139	9,083	9,012	9,041	-0.3 %
Yield (t / cow / year)	7.0	7.3	7.8	7.8	8.0	8.0	8.1	8.4	1.5 %
Farm structure									
No. of dairy farms (in 1,000's)	131	117	105	98	92	86	81	78	-5.7 %
Average farm size (cows / farm)	72	78	87	93	99	105	111	115	5.7 %
Milk per farm (t milk / farm / year)	503	572	680	723	790	844	896	965	7.2 %
Prices in national currency									
Cull cow price (USD / kg live weight)	0.63	0.75	0.74	0.83	0.67	0.82	0.94	1.21	10.5 %
Land price – buy (USD / ha)	2,964	3,310	3,606	3,730	3,927	4,100	4,372	5,212	7.6 %

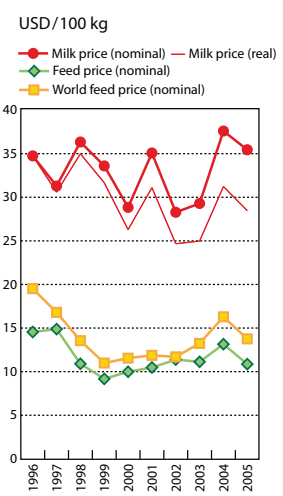
Farm structure 2005



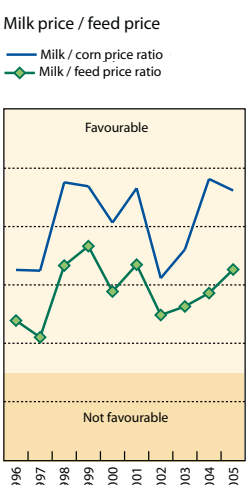
Farm structure



Milk and feed price



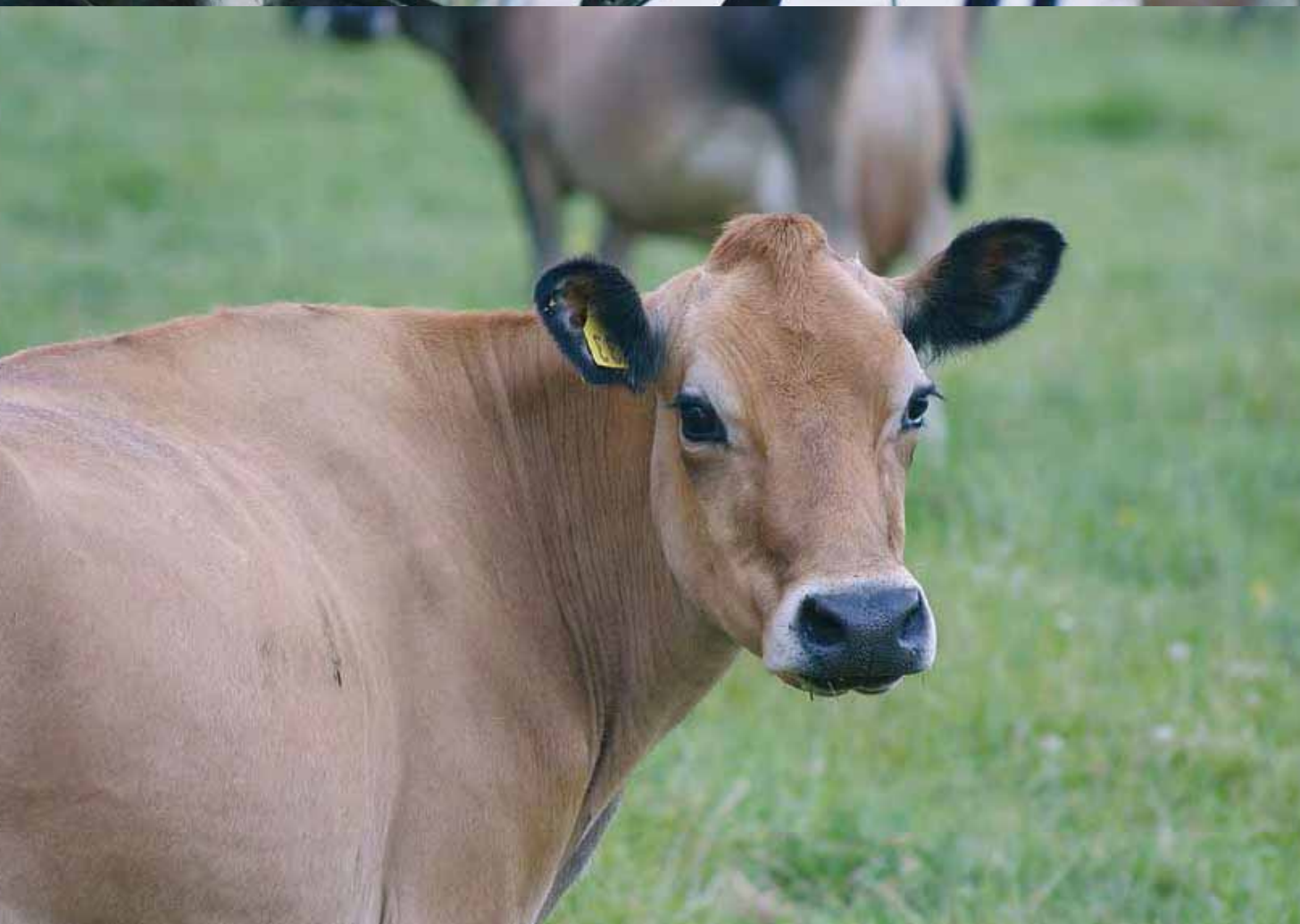
Milk / feed price ratio



Explanations
Milk map details: *Data base 2000 - 2005.*
Estimates: *The cull cow prices are based on Wisconsin typical farms.*
Source: *National statistics, FAO, Eurostat, USDA, ZMP, IDF and estimations. Milk / feed price ratio: Method see Chapter 2. Milk prices are shown in ECM.*

Published in IFCN Dairy Report 2007, Chapter 3.

New Zealand

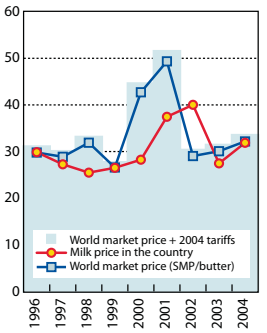


3.14 New Zealand – Milk production and dairy sector profile

Status and key developments

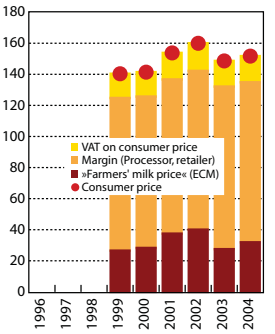
Milk prices and tariffs

in NZD / 100 kg milk



The chain for liquid milk

in NZD / 100 kg milk



Status 2004

- Tariffs: Butter 0 %, SMP 5 %
- Share of farmers' price on consumer price: 21 %
- VAT on consumer price: 12.5 %
- Milk consumption: 171 kg ME per capita / year
- Self-sufficiency in milk production: 2,443 %

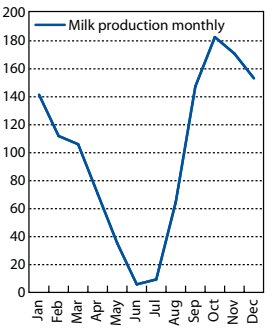
Key developments 1990 - 2004

- Milk production: +4.69 % per year
- Milk consumption per capita decreased
- Population: +1.08 % per year
- Self-sufficiency: Increased significantly

Milk pricing and quality

Seasonality profile 2004

year average = 100



Milk pricing of a »typical« processor

Base: Milk solids;
formula: A + B + / - C
where : »A« = NZD cents per kg of milk fat, »B« = NZD cents per kg of protein and »C« = volume adjustment charge.

If a supplier has a milk solids % equal to the company's average milk solids %, then »C« = 0, otherwise the »C« acts as a bonus or penalty.

The shareholder of the cooperative must hold one share for every kg of milk solids they produce during the season.

Penalties have to be paid if too high milk volume (0.06 NZD / extra litre).

Milk quality standards

Maximum level (target level)
- Maximum level (target level)
- Bacterial cell count: < 50,000 cells / ml
- Somatic cell count: < 400,000 cells / ml
- Antibiotics: <0.003 IU / ml

Penalties
Penalty for poor milk quality.

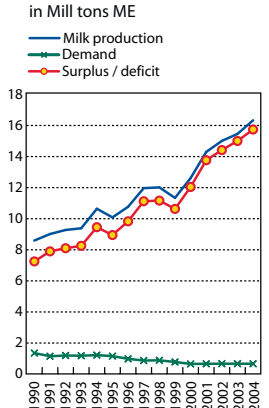
Other
- Bacterial cell count: Follow-up testing until 3 clear
- Somatic cell count: tested daily
- Antibiotics: 12 month daily testing post positive result

Trade ratios

	1990	1992	1994	1996	1998	2000	2001	2002	2003	2004
Self-sufficiency in milk	635 %	774 %	870 %	1,097 %	1,352 %	1,924 %	2,153 %	2,238 %	2,305 %	2,443 %
Exports / nat. production	84 %	87 %	89 %	91 %	93 %	95 %	96 %	96 %	97 %	96 %
Imports / nat. consumption	1 %	2 %	3 %	5 %	4 %	13 %	19 %	12 %	32 %	12 %

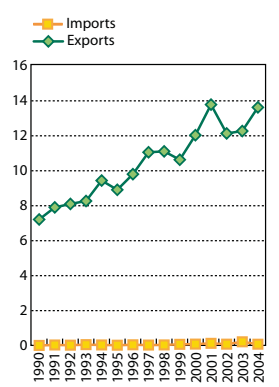
Production vs demand

in Mill tons ME



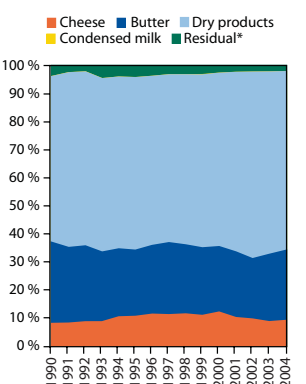
Export / Import profile

in Mill tons ME



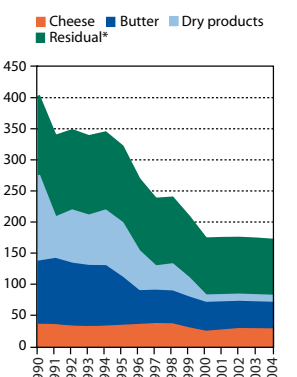
Processing profile

in % of milk produced



Consumption pattern

in kg ME / capita / year



Explanations
Method: *See IFCN Dairy Report 2006, Chapter 3.1 - 3.10 for details.* **** Residual:*** *Fresh milk products.* ***Consumer product:*** *Fresh milk 2 l milk bottle (Statistic New Zealand).*
Sources: *International statistics (FAO, ZMP, USDA, EUROSTAT, FAPRI, IDF, EU Commission, OECD, AMAD, MAD, UNSTAD-TRAINS) and national statistics.*
Comments: *Year 2004: Oceania = Season 2003 / 2004; Usage of milk on farm and informal milk very low; Estimates for informal sector are between 1 - 2 %.*
Modified calculation: *Consumption / capita based on FAPRI data. All other variables adjusted to this modification.*

Published in IFCN Dairy Report 2006, Chapter 3. Pictures on previous double page by Katja Seifert.

3.14 New Zealand – Milk production and dairy sector profile

Status and key developments

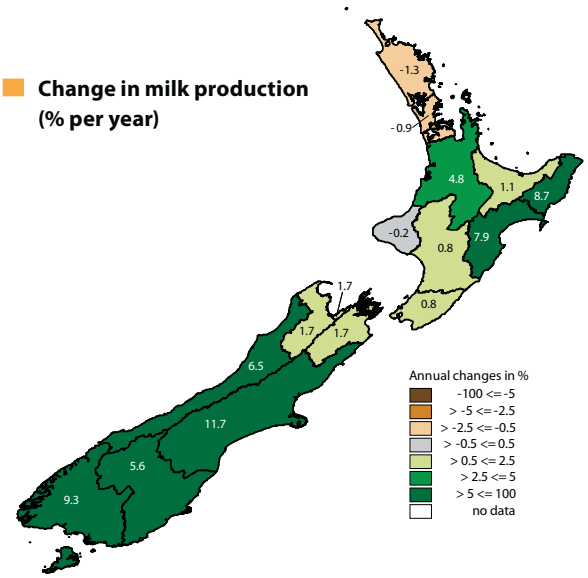
Status 2005

- No. of dairy farms: 12,271
- Average farm size: 315 cows per farm
- Main size class: > 450 cows
- Milk / feed price ratio: 1.4

Key developments 2000 - 2005

- Farm growth: + 7.2 % milk per farm and year
- Milk price: 4 % per year
- Feed prices: - 3.5 % per year
- Milk / feed price ratio: Up since 2003
- Land prices: + 14.4 % per year
- Cull cow prices: - 1.9 % per year
- Share prices: + 12.9 % per year

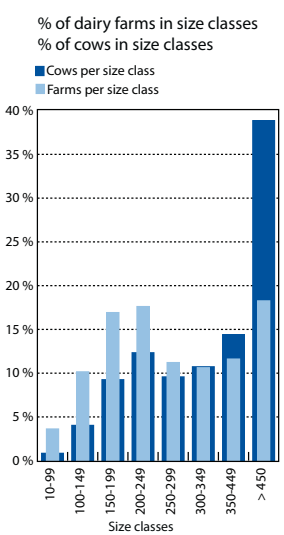
Change in milk production (% per year)



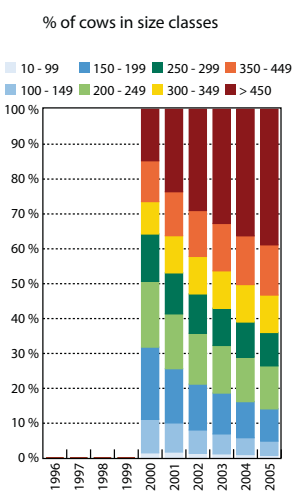
Key variables

	1996	1998	2000	2001	2002	2003	2004	2005	Annual growth rates 2000 - 2005
Milk production in ECM									
Production (mill t)	10.8	12.0	12.6	14.3	15.0	15.5	16.3	15.8	4.6 %
Cows (in 1,000's)	2,936	3,223	3,269	3,486	3,693	3,741	3,851	3,868	3.4 %
Yield (t / cow / year)	3.7	3.7	3.9	4.1	4.1	4.1	4.2	4.1	1.1 %
Farm structure									
No. of dairy farms (in 1,000's)	14.7	14.7	13.9	13.9	13.6	13.2	12.8	12.3	- 2.4 %
Average farm size (cows / farm)	199	220	236	251	271	283	302	315	6.0 %
Milk per farm (t milk / farm / year)	731	819	910	1,029	1,099	1,171	1,281	1,287	7.2 %
Prices in national currency									
Cull cow price (NZD / kg live weight)	0.57	0.82	1.19	1.48	1.42	0.98	0.98	1.08	- 1.9 %
Land price – buy (NZD / ha)	13,187	11,076	10,740	13,959	14,658	16,498	18,287	21,085	14.4 %
Share price (NZD / kg milk)	Share price was not seperated from the land price				0.32	0.37	0.39	0.46	12.9 %

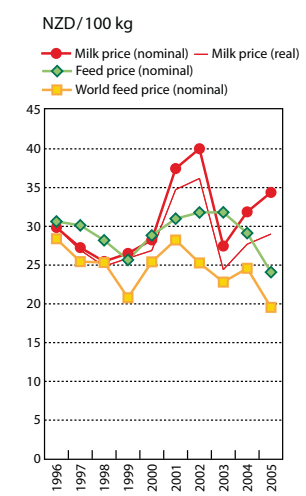
Farm structure 2005



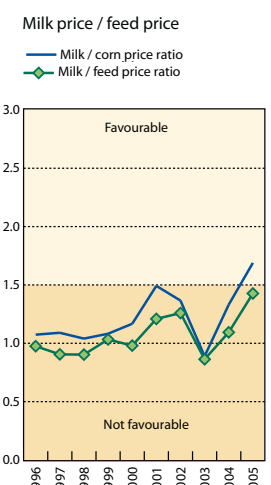
Farm structure



Milk and feed price



Milk / feed price ratio



Explanations
Milk map details: *Data base 2000 - 2005.*
Milk/feed price: *Since no statistical information on soya bean meal prices are available the world market price is used. Trend of world corn price used for the years 2004 - 2005.*
Estimates: *Cull cow price per kg live weight = 45 % of price per carcass weight.*
Source: *National statistics, FAO, Eurostat, USDA, ZMP, IDF and estimations. Milk / feed price ratio: Method see Chapter 2. Milk prices are shown in ECM.*

Published in IFCN Dairy Report 2007, Chapter 3.

Pakistan

Uganda

China

Thailand

China