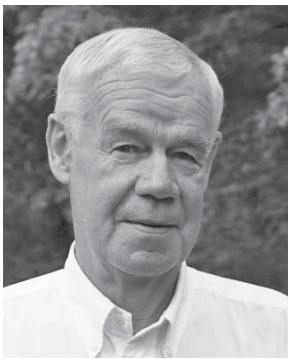
IFCN

Dairy Data · Knowledge · Inspiration

Dairy Report 2014

For a better
understanding of
the dairy world

IFCN
International Farm
Comparison Network



Dear friends,

It is a pleasure for us to summarise the highlights of our research and network activities in 2014.

The IFCN Mission and Logo

With the 15th IFCN Dairy Report we have further developed the IFCN mission and logo:

IFCN mission: We create a better understanding of the dairy world by providing comparable data, knowledge and inspiration

Method work 2014

IFCN method work has focused on

- Comparable feed price analysis in different countries
- Real time farm economic indicators & analyses
- Feeding system classification
- 10 year IFCN global dairy baseline

Seasonality: The seasonality of milk production and milk prices was analysed for 85 countries and allows a deeper insight into the monthly milk production in each country.

Concentration of milk processing: The analysis of the top 10 milk processors permits an overview on the concentration of milk processing per country and also a benchmarking between countries.

Highlights – IFCN events in 2014

IFCN Dairy Economic Workshop – April 2014

This year, for the first time, the IFCN conducted this workshop in order to transmit our thorough knowledge of the background of the dairy market to novices in the field of dairy economics.

IFCN Dairy Conference 2014 – June 2014

It was a great pleasure and honour to be in the mountainous area of Asiago, Italy, and having Brazzale and Interpuls as hosts.

The IFCN Supporter Conference 2014

This conference was held in Oslo, Norway, from September 16 to 18 with TINE acting as host.

IFCN Regional Workshop in China 2014

This event, held in Harbin, from November 5 to 7 has focussed on the question: Who will produce milk to serve the Chinese consumer over the next decade? The following companies acted as hosts:

Status of the research network in 2014

In the dairy sector analysis we have included 100 countries which represent 98% of the world's milk production. This is a new record. In the farm comparison, **172 typical farms** from **64 dairy regions** in 54 countries were analysed. For the first time, Malawi, Sudan and Zimbabwe are included in this analysis.

IFCN Dairy Report 2014

Chapter 1: Cost comparison: This chapter summarises results on costs, returns, profitability and productivity of dairy farms worldwide.

Chapter 2: Global monitoring: This chapter gives a broad monitoring on specific dairy issues such as milk prices, feed prices and milk : feed price ratio.

Chapter 3: Dairy sector and chain profile: This profile, prepared for 100 countries, gives a comparable overview related to:

- Milk supply and demand developments
- Seasonality of milk prices and milk production
- Consumer prices and margins in the chain
- Milk processing profiles per dairy product
- A list of 10 major processors.

Moreover, the key results are summarised at the beginning of the chapter via maps of the world and Europe.

Chapter 4: IFCN Methods & definitions: This year, for the first time, we dedicate one chapter to explaining in detail the methods used in the IFCN work.

A word of thanks

We would like to extend our heartiest thanks to all our scientific partners, agribusiness partners, our institutional partners and also to the people working in the IFCN Dairy Research Center. It was a pleasure to serve the network in 2014 and we are looking forward to our activities in 2015.

Torsten Hemme
Managing Director

Anders Fagerberg
Chairman of the IFCN Board

Participating dairy economists / co-editors of the IFCN Dairy Report

Dairy Expert

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Uganda

Preface

1. Comparison of the typical farms 2013

2. Global monitoring dairy economic indicators

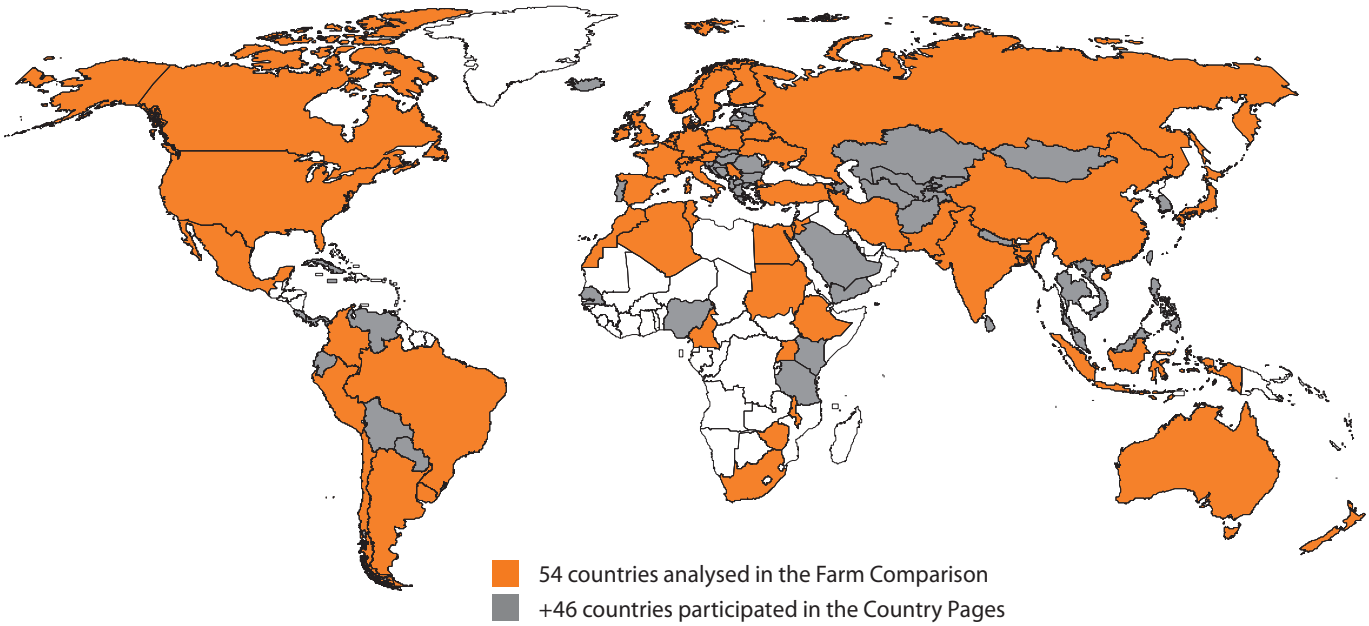
3. Dairy Sector and chain profile

Milk production fact sheets


Brazil

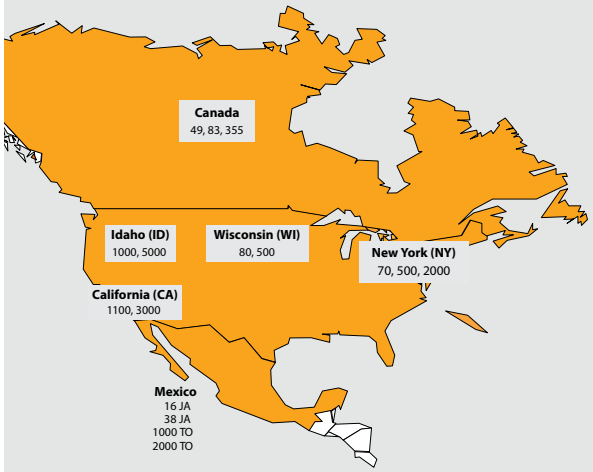
Sudan

Which countries are participating in the IFCN Dairy Report activities in 2014?

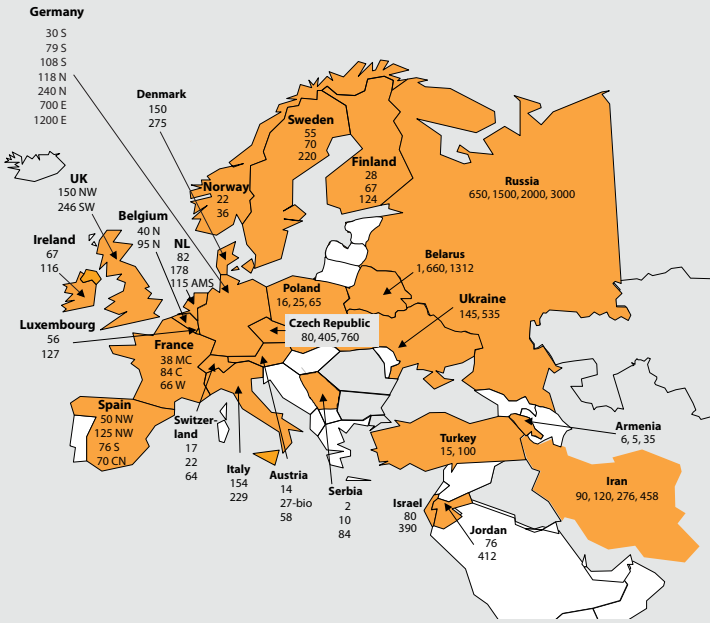


Year	Countries included in		No. of farm types analysed	Topic of Country Report	IFCN Dairy Conferences
	farm comparison	country profile analysis			
2000	8	8	21	Ex-post analysis 1996–2000	Sep-00
2001	20	20	52	Country reports on milk production	Jun-01
2002	24	24	72	Dairy production systems survey	May-02
2003	27	24	76	Farm structure analysis 1990-2001	May-03
2004	31	31	92	Dairy sector profile 1981-2001	Jun-04
2005	33	41	102	Milk production fact sheet 1996-2003	May-05
2006	34	60	103	Dairy sector & chain profile 1990-2004	May-06
2007	38	73	120	Milk production fact sheet 1996-2005	Jun-07
2008	44	78	134	Dairy sector & chain profile 1996-2007	Jun-08
2009	46	80	147	Milk production fact sheet 1996-2008	Jun-09
2010	44	86	143	Dairy sector & chain profile 1996-2009	Jun-10
2011	49	90	157	Milk production fact sheet 1996-2010	Jun-11
2012	51	91	171	Dairy sector & chain profile 1996-2011	Jun-12
2013	51	95	178	Milk production fact sheet 1996-2012	Jun-13
2014	54	100	172	Dairy sector & chain profile 1996-2011	Jun-14

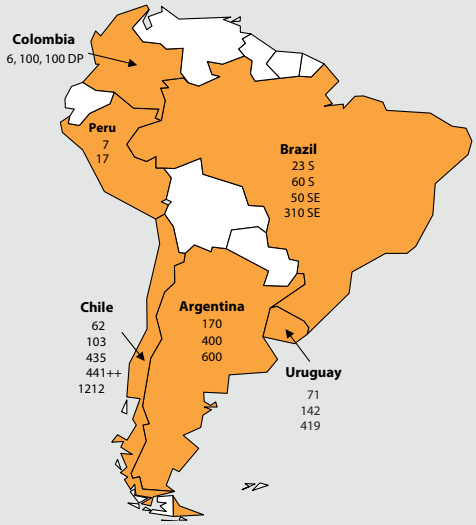
North America



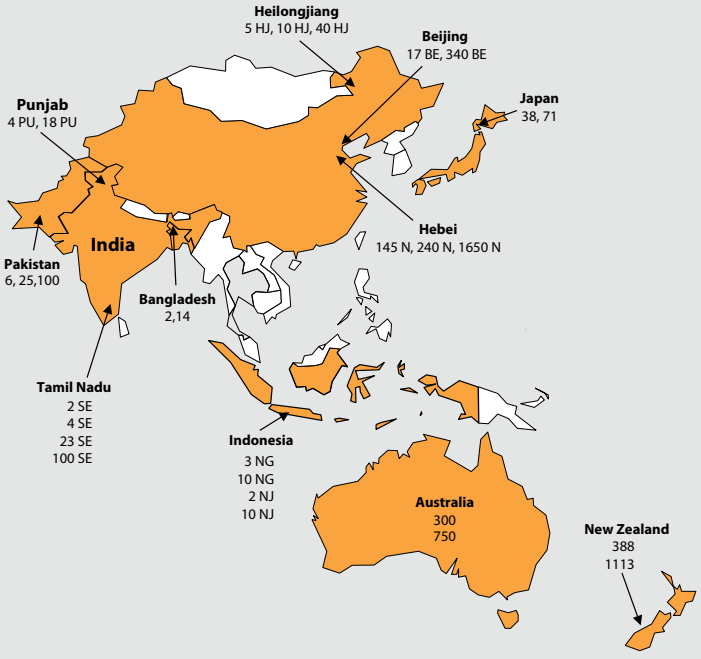
Europe and Middle East



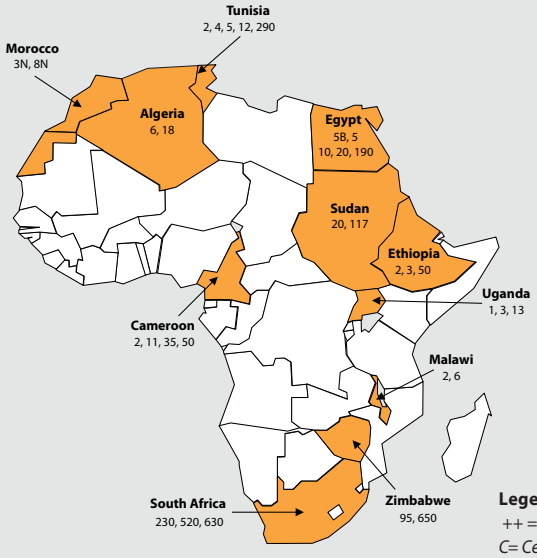
South America



South East Asia and Oceania



Africa



Legend: *Numbers indicate the number of cows in the typical farms.*
++ = future farm, AMS = Automated Milking System (robot), B = Buffalo, BE = Beijing, bio = Organic, C= Central, CA = California, CN = Central North, DP = Dual purpose, E = East, HJ = Heilongjiang, ID= US-Idaho, JA = Jalisco, MC = Massif Central, N = North, NG = Ngantang, NJ = Nongkojaja, NW = North West, NY = New York, PU = Punjab, S = South, SE = South East, SW = South West, TO = Torreon, W = West, WI = Wisconsin

About IFCN

The dairy world today
Today the dairy world is serving over 7 billion consumers and providing livelihoods for approximately 1 billion people living on dairy farms. The key challenges for the dairy stakeholders lie in its complexity and the high rate of change in a globalised world.

Why do we operate IFCN?
We believe that by addressing challenges in the dairy world we can contribute to a more resilient and more sustainable future for all of us.

What do we do?
We provide globally comparable dairy data,
outstanding knowledge and inspiration to widen your imagination.

IFCN vision

We are the leading, global knowledge organisation in milk production, milk prices and related dairy economic topics

IFCN mission

We create a better understanding of the dairy world by providing comparable data, knowledge and inspiration.

IFCN
Dairy Data · Knowledge · Inspiration

Dairy data: IFCN provides globally comparable dairy economic data and forecasts.

Knowledge: We create knowledge out of our data, models and analysis. Our core competence is in the field of milk production, milk prices and related economic topics.

Inspiration: We inspire people in the dairy world to build a better future. We inspire passionate people to develop a successful career in the dairy world.

How do we operate?

We create a better understanding of the global dairy world. We at IFCN - International Farm Comparison Network - started in 2000 with the basics - the cow and the dairy farmer. Step by step we deepen and widen the knowledge base every year.

Knowledge is created via a network of dairy researchers from over 90 countries contributing to our annual processes, managed by the IFCN Dairy Research Center with currently 16 dairy researchers.

Our economic models and standards ensure comparability between countries and provide a global picture.

More than 100 dairy related companies and organisations support the IFCN and use our knowledge to better solve the challenges in the dairy world.

We have innovative ways to share our knowledge with our members and with the dairy world as a whole. Our IFCN events are a key element in developing the network spirit.

IFCN values: Trust – Independence – Truth
Trust among the IFCN members is vital for open sharing, cooperation and a network that really works. The IFCN is independent from third parties and is committed to truth, science and reliability of results. To us Truth means that we show the dairy world as it is and as accurately as we can measure it. We describe realities without having any hidden agendas.

What IFCN offers stakeholders in the dairy chain:

1. **Farmers:** We give you a voice to reach other players in the dairy world. On the IFCN website you will find the latest global milk price trends and helpful IFCN publications. The farm comparison work allows you to judge the competitive position of milk production in your region.
2. **Researchers and advisors:** We make you part of the leading global dairy network. We support you to better serve your dairy stakeholders and to develop your professional career in the dairy world - to become a leading dairy economist in your country.
3. **Companies:** We provide you, as dairy related companies such as milk processors and farm input companies, a holistic and continuously updated picture of the dairy world. We help you develop your business.
4. **Global and national organisations involved in policy making for agriculture, environment and food supply:** We provide our holistic dairy knowledge to be used for your policy decisions and conferences.
5. **Consumers:** We plan to illustrate milk-production, its fascinating culture and how this creates value in rural areas.
6. **People in the IFCN Center:** You are invited to build a life time career in the IFCN center to operate globally and enjoy a stable local life. You are also welcome to use IFCN as the ideal stepping stone for further developments in the dairy world.

For further information please contact us: **info@ifcndairy.org**

Organisational setup

The IFCN has a **Dairy Research Center** (DRC) with 18 employees, coordinating the network process and running dairy research activities.


Torsten Hemme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Eva Asmussen


Ulrike Bayer


Franziska Goergens


Katja Horten


Judit Kühl


Rebecca Kühl


Asaah Ndambi


Maria Schmeer


Karen Schröder


Eva Schröer-Merker


Barbara Siwirska


Christoph Sommer


Helga Weber


Karin Wesseling


Lukasz Wyrzykowski


Elgin Giffhorn


IFCN Dairy Research Center


IFCN Board

The **IFCN Board** has the mandate to support the IFCN management in the strategic development and guarantee transparency in the operation to the members of the network.

The IFCN Board is composed of the following members: Anders Fagerberg (chairman), Luc Morelon (nominated by the supporters), Ernesto Reyes (nominated by the researchers), Uwe Latacz-Lohmann (Kiel University), Olaf Rosenbaum (legal and fiscal expertise) and Torsten Hemme (Managing Director IFCN).


Anders Fagerberg
Chairman


Luc Morelon


Ernesto Reyes


Uwe Latacz-Lohmann


Olaf Rosenbaum


Torsten Hemme

15th IFCN Dairy Conference – June 16 to 18, 2014 in Asiago, Italy

Title: Development of a sustainable dairy sector: Country approaches, challenges & future perspectives

IFCN Dairy Conference 2014 – 65 participants, representing 39 countries

The 15th IFCN Dairy Conference was held in Asiago, Italy. 65 participants representing 39 countries attended the conference which was hosted by the companies Brazzale and Interpuls

Monday, 16th June **OPENING**	Tuesday, 17th June **CONFERENCE TOPIC DAY**	Wednesday, 18th June **IFCN OUTLOOK**
IFCN Strategy – Mission & Vision and IFCN Partnering **Record high milk prices in 2013 – what is their impact?** 1. Who was happy and why? Macro perspective 2. Did high milk prices directly translate to high farm profitability? Micro perspective **STATUS, challenges & future perspectives for the Italian dairy sector** 1. Italy milk production – Status, opportunities and challenges *(A. Menghi, Italy)* 2. Processor perspective: Italy PDO (product designation of origin) cheese production – advantages and challenges *(R. Brazzale, Brazzale)* 3. The internet of things – Farm supply perspective: The technological challenge (and opportunities) *(G. Nicolini, InterPuls)* 4. Future perspectives of Italian milk production (Discussion in panel style)	**A Sustainable growth of milk production: Is bigger really better?** **B Adding value to milk – tradition a means to add value** Weaknessess and strenghts in farming practise on tipical small family and large corporate CZ farms *(I. Bošková, Czech Republic)* **C Impact of policy – Influencing the dairy market** *(O. Niskanen, Finland)* **D Changing demand patterns – Impact on the dairy market** Case of South Africa *(K. Coetzee, South Africa)* Case of China (*S. Shi, China)* ***Discussion*** **E Growth under limiting conditions** Case of Armenia *(A. Yeritsyan, Armenia)* Strategies to uplifting smallholder dairy farming in Malawi *(M. Banda, Malawi)* **Workshop session** on the five topics discussed before. **Reporting session**	**Future perspectives – IFCN global dairy outlook** · Where can we be in 2 years? IFCN Outlook · Outlook for US milk production *(M. Stephenson, USA)* · Indian dairy vision 2030 *(P. Tripathi, India)* · Challenges and opportunities for future dairy production *(H. Quattrochi, Argentina)* · „Where can we be in 10 years? How and where will we grow despite challenges? · IFCN Baseline 2024 update **Summing up and closing**

Title: Empowering the ability to look into the future


IFCN Supporter Conference 2013

The 11th IFCN Supporter Conference was held in Oxford, UK. 126 participants from 90 dairy related companies attended the conference which was proudly hosted by the Arla UK.

Monday, 16th September **THE DAIRY WORLD – STATUS, TRENDS & DRIVERS**	Tuesday, 17th September **IFCN OUTLOOK SESSION**	Wednesday, 18th September **FUTURE CHALLENGES**
PRE CONFERENCE **Adding value from IFCN products** · How to retrieve the maximum advantage out of the IFCN data? · Which way forward with the IFCN services in the future? **Official start of the conference** Reception and mingle **The dairy world – status, trends & drivers** 1. Status of the dairy world 2. Trends and drivers of dairy markets 3. Trends and drivers of dairy farm economics **Welcome evening** Dinner, guided city walk & pub experience	**IFCN OUTLOOK** 1. Short term view 2013 - 2014 – What are the dairy market perspectives in 15 months? 2. Long term view 2013 – 2013 – How does the dairy world look like in 2023? **Country portrait UK and field trip** 1. Welcome to the UK dairy chain *(J. Allan – Kite Consulting)* 2. Retailing dairy products - insights into UK specifics *(C. Philpott – Arla UK, P. Clarey, Tesco, J. Lakeland – ASDA)* 3. Panel discussion "Prospects of the dairy chain" 4. Fieldtrip to Kingston Hill Farm 5. Arla strategy 2017 *(N. Larsen)* **Networking evening** Dinner at Heritage Motor Centre	**FUTURE CHALLENGES** 1. Consumer behaviour in a changing world: A consumer perspective – How British shoppers are adapting *(A. Bandini – Kantar)* 2. Dairy sustainability: What have we learned in the UK since 2008? *(J. Allan – Kite Consulting)* 3. Dairy financing in emerging markets: IFC's experience & creative financing solution for resource efficiency in the dairy value chain *(T. Bauer – IFC)* 4. Closing session

2nd IFCN Regional Workshop – November 19 to 21, 2013 in Ludhiana, India

Title: How to sustainably grow milk production in India at a price consumers can afford?

IFCN Regional Workshop 2013

India's still growing importance in the global milk market is undeniable. Two third of the world's dairy farmers produce with one third of the world's cows (adult cows/buffalos) a fifths of the milk world-wide.

To contribute to a long-term dairy development in India, the IFCN organised this regional workshop bringing together 57 participants of various stakeholders in the dairy chain to drive India's dairy development forward.

The workshop was proudly sponsored by: DeLaval, Nestlé, CLAAS, Cargill, Elanco, IFC International Finance Corporation, Genus ABS India

Tuesday, 19th November **THE DAIRY WORLD**	Wednesday, 20th November **THE INDIAN DAY**	Thursday, 21st November **INTERACTIVE SESSION**
The dairy world 1. IFCN concepts and methods 2. Global dairy developments 3. Trends and drivers of dairy farm economics **Welcome evening**	**The Indian Day: Dairy India – status, trends, drivers & perspectives –** 1. IFCN view 2. Farm development in India *(V. Vashisht – DeLaval)* 3. Dairy financing in an emerging market – a perspective from IFC *(P. Gopalan – IFC)* 4. Panel discussion "How to sustainably grow milk production in India at a price consumers can afford?" **Field trip** **Networking Event "An Indian Experience"**	**Interactive session on India's dairy development** 1. Case study Punjab *(F. Ermis – Nestlé)* 2. Working groups „What is the next development step for the three different farm size categories?" 3. Presentation of results and closing

Title: There is more about milk production than just the milk price.

IFCN Dairy Economic Workshop 2014

In April 2014, the IFCN conducted its first Dairy Economic Workshop to help understand the backgrounds and key drivers of the dairy market and its dynamics. The goal of this workshop was to transmit our profound knowledge to novices on the field of dairy economics.

Monday, 28th April

PRINCIPLES OF THE DAIRY MARKET

Principles of the dairy market

1. Milk supply – Production patters and trends
2. Milk price – From a global to the national level
3. Feed price – How to understand the global impact?
4. IFCN indicators – An interpretation help to farmers' reaction
5. Farm structure – What's behind the segments?

Workshop session

Social dinner

Tuesday, 29th April

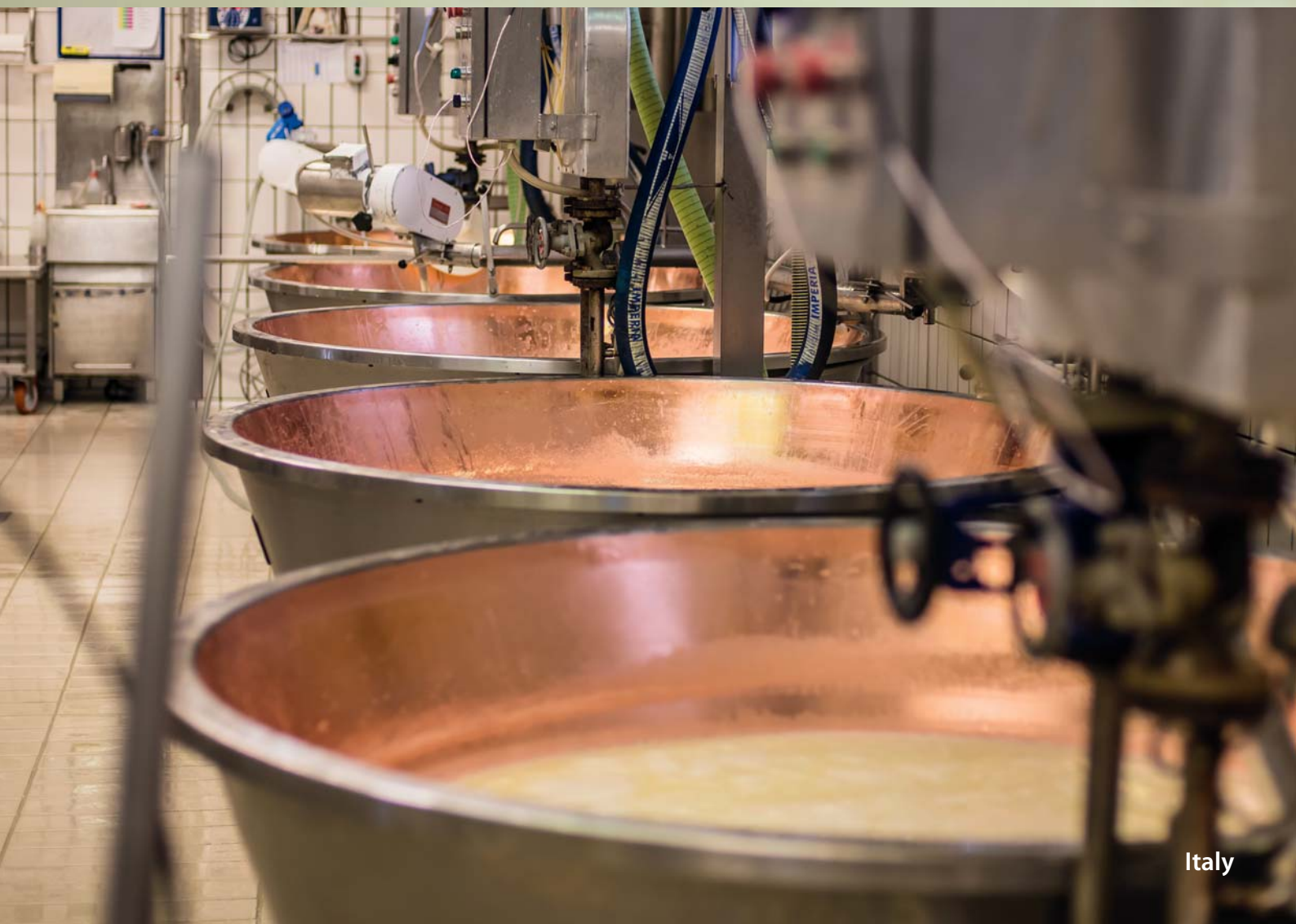
FARM ECONOMICS: WHAT INFLUENCES MILK PRODUCTION ON THE FARM LEVEL?

Farm Economics: What influences milk production on the farm level?

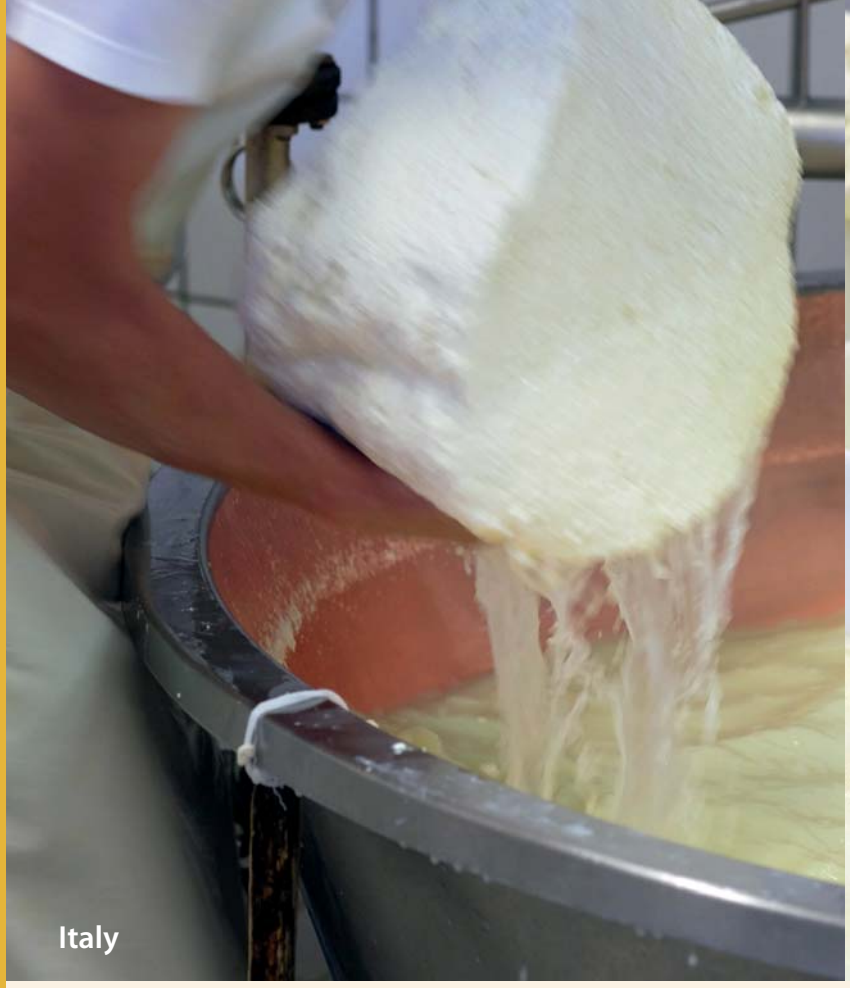
1. Milk production systems across the globe
2. The Typical Farm Approach (TFA)
3. Cost of milk production only
4. Total costs and returns of the dairy enterprise
5. Activity based costing

Workshop session

Case study: Development of the European milk production



Italy



Italy

Chapter 1 – Comparison of the typical farms 2013

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with the contribution from researchers mentioned on page 2-3 of this report

Introduction

The **IFCN** aims to *create a better understanding of the dairy world by providing comparable data, knowledge and inspiration*. In this report, 172 farms in 64 dairy regions and 54 countries took part in the analysis of dairy farm economics for the year 2013. They represent 91% of the total world milk production.

The key advantage of the IFCN methods is to simplify the complexity of global dairy farm economics. This makes it possible to obtain a comprehensive overview in order to generate information at farm level.

The following analyses – Chapters 1.2 to 1.12 – are based on the information of 128 typical farms, one average sized and one larger typical farm for every region. Chapter 1.13 includes the data of all typical farms of the IFCN Farm Economic Database. For the year 2013 it comprises 172 typical farms.

IFCN Methods

The Typical Farm Approach: a unique tool for global dairy farm data acquisition

IFCN applies the Typical Farm Approach (TFA) as a base for standardised global data collection. This approach, which represents the most common farm type, at the same time producing a large proportion of the total milk in a region, unites six key advantages: Representativeness, feasibility of data collection, method consistency, data confidentiality, uniqueness and reliability for international farm comparison. For more details see Chapter 4.1.

The TIPI-CAL model: unique analysis of dairy farm economics worldwide

The TIPI-CAL model creates standardised and comparable outputs for an international farm comparison. The model version TIPI-CAL 5.4 was used. More details on the methodology are given in Chapter 4.3.

Data comparability

In order to be able to compare farm information, most of the results are presented in US-$. Therefore the annual average exchange rate of each country was used. Regarding this point it is very important to note that the exchange rates affect the information provided in the following analysis. More details are given in Annex A4.

Year 2013 – farm economics at a glance

There was a slight decrease in the average cost level analysed for 2013

The average *Cost of milk production only* for the128 farms analysed in Chapter 1.7 was on a level of 46.5US-$/100 kg ECM. Compared to the previous year the average cost level has decreased by 0.7 US-$. When grouping the analysed countries into clusters, it was observed that the cost level of farms in Africa, CEEC, South America, Asia and Oceania was at the same level, or below the analysed average cost level, whereas the average cost level of farms in Western Europe, North America and the Mid-East was, at 57.5 US-$/100 kg ECM, clearly above the analysed average cost level. A detailed analysis on cost of milk production is given in the following Chapters.

High profitability of dairy farms in 2013

The profitability of all analysed typical farms with a positive entrepreneur´s profit, was on average 11.5 US-$/100kg ECM. Compared to 2012 the share of profitable farms reached a new high level of 69% of all typical farms analysed. The year before the share was on a level of 56%.The improvement in profitability in 2013 was especially noticeable in farms in Mid-East, Africa and CEEC. For more details see Chapters 1.2 and 1.11.

Cost coverage by record high milk prices in 2013

The Combined **IFCN** world milk price indicator increased by 38% in 2013. Due to the high level of the world market milk price, 55% of farms analysed were able to produce at world market conditions.

At farm level, 60% of the farms analysed were able to cover their cost of milk production only (excluding quota cost) by the farm gate milk price. Even in a year with a generally high milk price level, the majority of farms in Western Europe were not able to cover their cost. More details are given in the following analysis.

There is an overall narrowing down of the share of feed cost

Feed costs and feed management have a high influence on the total cost structure and play a significant role in cost competitiveness. Grouping the analysed farms into clusters, the average proportion of feed cost varied between 28% and 93% of the total costs.

Compared to 2012 a significant increase of the share of feed cost on total cost was seen in the low cost production systems of Africa, CEEC, and Asia. Considering the individual information of the128 farms analysed, it is interesting to observe that the share of feed cost on total cost has narrowed down among the farms. For more details see Chapter 1.2.

Managing price volatility becomes more and more important

Dealing with volatile prices is part of the daily business of the dairy farmer. This leads to increasing management requirements throughout the year. Temporary price developments require a continuous and professional cost management in order to ensure a profitable, sustainable operation of the dairy business. It will be interesting to see if the advantage obtained from favourable prices in 2013 will be used to build up financial reserves, in order to be prepared for periods of less favourable prices.

Dual purpose: adaptable to volatile prices

Dual purpose systems are characterised as farms with both milk and beef production, so milk production is not the main source for generating income. In these cases the beef enterprise contributes a major share to the total farm income. Depending on the level of milk and beef price the farm shifts the production focus allowing a flexible reaction to price volatility. Dual purpose farms usually use crossbreds between milk and beef breeds.

This is quite common in African and Latin American countries, but also in specialised European dairy regions, such as Switzerland, Norway and Austria, dual purpose cattle represent a sustainable production system.

EU quota abolition - skyrocketing milk production?

Farm economics in the past years and especially in 2013 represented a strong growth in farm size in the EU indicating an ongoing structural change. Therefore, an exceptional growth at the time of the quota abolition is not expected to take place, and the future growth of the dairy industry will probably be at farm level. Thus, the structural change will continue by a stronger increase in herd sizes and milk yield per cow, resulting in a rise of milk produced per farm and accompanied with a decrease of the total number of dairy farms in the member states. However, the overall EU milk output is foreseen to increase only slightly from 2015 on.

1.2 Regional overview of costs and returns of the dairy enterprise

Introduction

There is a great diversity in dairy farming worldwide due to geographical and cultural variations and political circumstances. In order to obtain an easy overview national typical farm data were clustered into world regions. The results of the analysis of six key performance indicators may be seen below.

Method

The following results reflect the analysis of typical farm data of average and larger farms of the 54 countries contributing to this report. The results cannot be used to make general conclusions about the respective regions. Thus, this information should be treated with care.

Clustering of farms

For this analysis, 128 typical dairy farms from 64 dairy regions and 54 countries were clustered into eight different world regions. The world regions were arranged by the assumption of low cost and high cost regions. The first three clusters were considered as high cost regions separated via gap from the five low cost regions. A list of clustered countries is given in the footnote.

Key performance indicators

The six chosen indicators are differentiated in three subgroups: General farm description, Farm costs and Farm profitability.

General farm description: Information about herd size and milk yield is shown. The herd size is given in number of cows per farms, while the milk yield is presented in tons of energy corrected milk (ECM, 4% fat, 3.3% protein) per cow and year. The graphs show the average values within the world regions as well as the min-max range.

Farm costs: Information about Cost of milk production only and the Share of feed cost on total cost are shown in US-$ per 100kg ECM. The graphs show the average values within the world regions as well as the min-max range. The method explanation of these two indicators and the ECM standardisation are provided in Chapter 4.3.

Farm profitability: The information regarding the returns of the dairy enterprise are standardised to US-$ per 100kg ECM and are shown as a simple average. The share of farms with entrepreneur´s profits are divided into three categories according to the farm´s profitability.

General farm description

Herd size: On average, the largest farms among those analysed, are in North America, followed by Oceania, while the smallest are located in Africa and Asia.

Milk yield: Cows with a high milk yield are observed in: Western Europe, North America and the Mid-East. In Oceania, CEEC and South America the production systems generate a medium milk yield. The high fibre ration usually fed in Africa and Asia, together with other regional circumstances (e.g. climate conditions, management level, breed) combined to produce a low milk yield.

The highest variation in milk yield was observed in CEEC, Africa, Asia and South America due to diverse dairy production systems together with different business orientations. Homogenous dairy production systems such as those in North America and Oceania, create a lower diversity in the milk yield, which is reflected in the min-max range.

Farm costs–the cost of milk production

The simple average of Cost of milk production only for 128 farms analysed in this chapter was on a level of 46.5 US-$/100 kg ECM. Compared to the previous year the average cost level decreased by 0.7 US-$. Africa, CEEC, South America, Asia and Oceania were able to produce on average at the same level, or below the analysed average cost level, whereas, the average cost level of typical farms in Western Europe, North America and Mid-East was, at 57.5 US-$/100 kg ECM, significantly above the analysed average cost level of all farms. These results further support the assumption of low and high cost regions. In comparison to the previous year it is interesting to note that the average cost level of the typical farms analysed in Western Europe increased significantly. However, a cost reduction was observed on farms in the Mid-East, CEEC and Asia. Furthermore the min-max ranges of the individual figures of all typical farms included in one cluster that of CEEC, South America and Asia, became considerably narrower.

Share of feed cost as a percentage of total cost

Feed is the highest single cost component of the dairy farm. Grouping the analysed countries into clusters, the average proportion of feed cost varied between 28% (AM-5) and 93% (SD-20) of the total costs.

Compared to 2012 the low cost production systems of Africa, CEEC, and Asia showed a significant increase of the share of feed cost on total cost. Besides, when considering all clusters, the min-max range narrowed. The share of feed cost varied most in Africa due to a great variety in farming systems in combination with different business orientations. On the other hand, Oceania showed the lowest variation in the share of feed cost on total cost as a result of a low range in production systems and homogeneous business orientation.

Feed costs and feed management have a high influence on the total cost structure and play a significant role in cost competitiveness.

The method explanation of this indicator is provided in Chapter 4.3.

Returns of the dairy enterprise

Compared to 2012, an overall increase of milk prices was analysed in all the clusters. The strongest price increase was recorded in Oceania and Western Europe, whereas the milk price on farms in South America and Asia rose only slightly.

The highest farm gate milk prices were received by farmers in the Mid-East. Comparatively low milk prices were realised on farms in CEEC, South America and Oceania.

The highest direct subsidies were paid to farmers in Western Europe in order to compensate higher production costs. However, farmers in the CEEC also received comparatively high direct payments in US-$ per 100kg ECM. For more details on subsidy payments, see Chapter 1.9 and 1.10.

Share of farms with entrepreneur's profit

The profitability of all analysed typical farms with a positive entrepreneur´s profit was, on average, 11.5 US-$/100kg ECM. Compared to 2012, this represented an increase of 1.6 US-$. In addition the share of profitable farms reached a new high level of 69% of 128 typical farms analysed for this chapter. In 2012 the share was on a level of 56%. An improved profitability was especially realised on farms in the Mid-East, Africa and CEEC, South America and Asia.

Explanation:

Indicators: *All indicators represent a simple average for all farms in a cluster.*

Data: *128 typical farms analysed in Chapter 1.6-1.12 are included. Classification of the typical farms is documented in Annex A2. Year: 2013; Uruguay, Australia, New Zealand = season 2012/2013, India, Southern Germany = financial year 2012/2013.*

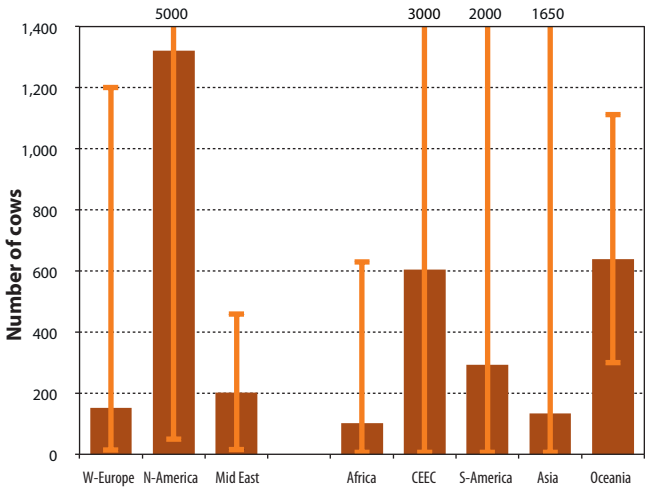
Regions: *Western Europe (34 farms in 17 countries): NO, CH, FI, AT, DE, NL, BE, LU, FR, ES, IT, UK, IE, DK, SE. North America (10 farms in 2 countries): CA, US. Mid-East (8 farms in 4 countries): IL, JO, TR and IR. Africa (22 farms in 11 countries): TN, DZ, MA, EG, SD, UG, CM, ET, ZA, ZW, MW. CEEC (14 farms in 7 countries): PL, CZ, RS, UA, BY, RU, AM. South America (18 farms in 7 countries): MX, CO, AR, UY, CL, BR, PE. Asia (18 farms in 6 countries): IN, PK, BD, ID, JP, CN. Oceania (4 farms in 2 countries): AU, NZ.*

Result variables: *The variables are similar to those described in Chapters 1.7 and 1.9.* ***Cost of milk production only:*** *Costs from P&L account minus non-milk returns + opportunity costs + quota costs.* ***ECM:*** *Energy corrected milk (4% fat, 3.3% protein).* ***Entrepreneur's profit:*** *Milk price – cost of milk production only (for details see Chapter 1.11)*

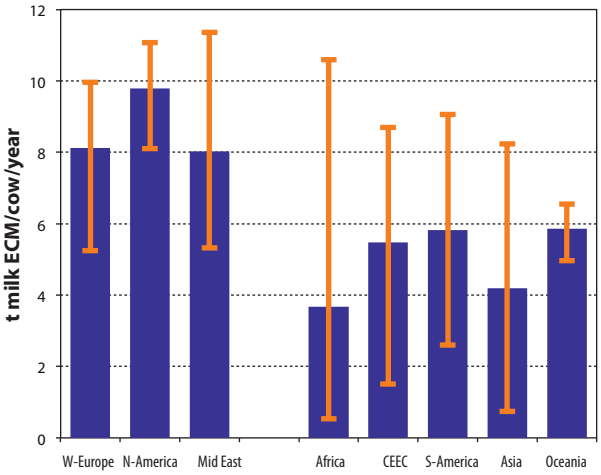
1.2 Regional overview of costs and returns of the dairy enterprise

General farm description

Herd size

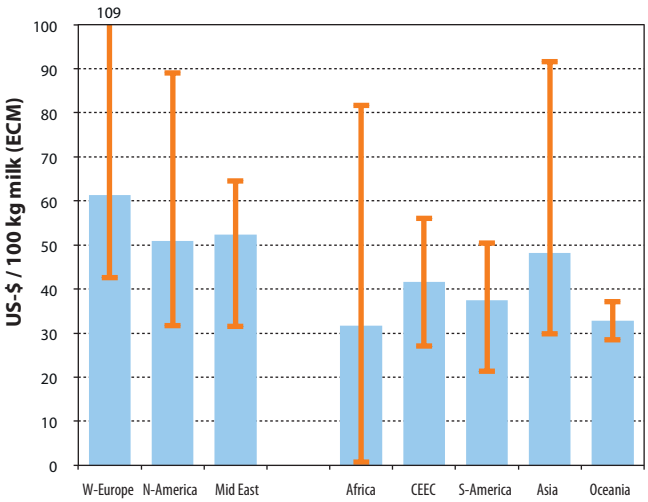


Milk yield

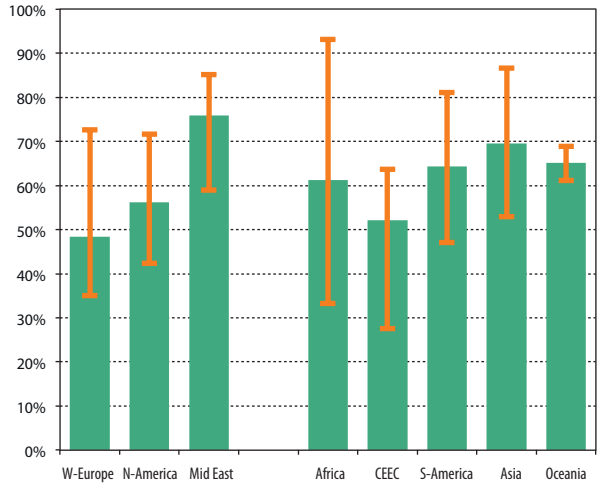


Farm costs

Cost of milk production only

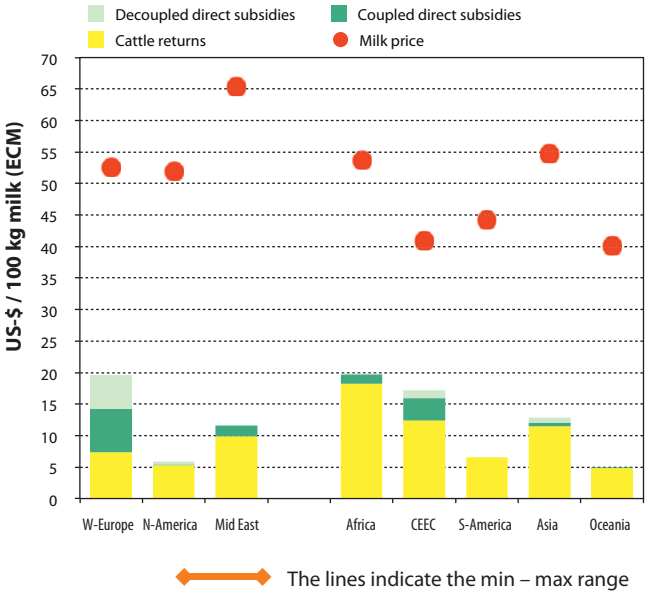


Share of feed cost on total cost

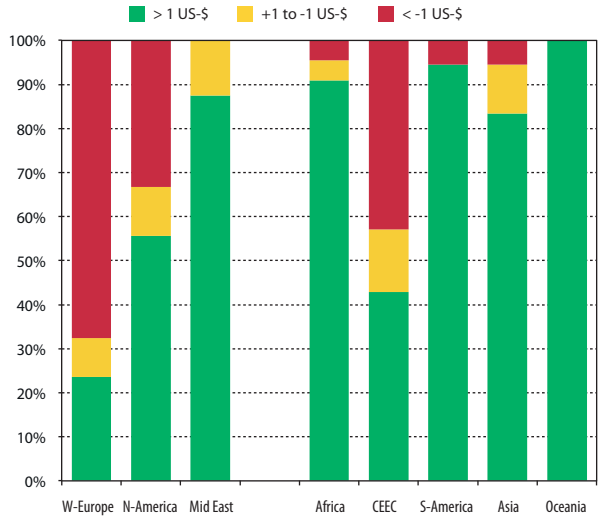


Farm profitability

Returns of the dairy enterprise



Share of farms with entrepreneur's profit



1.3 Milk supply curves 2013

Introduction

The aim of this analysis is to present an overview of the global differentiation of cost of milk production only according to the share of milk produced by each country, on the total milk production of all the countries analysed. The results are presented as Milk supply curves. The 54 countries analysed represented 91% of the world milk production

The milk supply curves show the cost of milk production only for each country ranked by the cost level (from low to high). The surface of a single bar represents the share of milk on the total milk for each country. The milk supply curves reflect a simplified approach, thus the results should be treated with care.

Method

For this study 128 typical farms were analysed. To provide differentiated information, the farms were grouped by their herd size into average and larger farms. In addition, the milk supply curves were calculated for the share of milk produced and the share of milk delivered. The results are presented in US-$ per 100kg ECM on the following page. Besides the costs analysis, the average world milk price for 2013 is included in the charts showing a level of 50.16 US-$ per 100kg ECM. Based on this, the share of milk produced at world market conditions can be derived (equals the surface below the world milk price).

Milk supply curves average sized farms

This supply curve is based on the cost of average sized typical farms considering the volume of national milk production and delivery. On farms in 52% of the analysed countries, the farmers were able to produce milk at world market conditions in 2013.

Milk supply curves larger farms

This supply curve is based on the cost of larger sized typical farms considering the volume of national milk production and delivery. On farms in 75% of the analysed countries, the farmers were able to produce milk at world market conditions in 2013.

In comparison to 2012, a significantly higher share of farms was able to produce milk at world market conditions mainly due to a high world milk price level.

Milk produced vs. milk delivered in 2013

The supply curves are calculated for milk produced as well as for milk delivered, as the share of milk delivered of total milk produced varies greatly in certain countries. In Western Europe 96% of the milk produced is delivered to processors, whereas in other countries, such as India, Pakistan, Brazil and a number of CEECs, a large share of milk is not delivered to processors but either consumed in the household or sold informally. The supply curve representing milk delivered was therefore introduced a few years ago, in order to provide additional information. That is the reason behind the change in the country order as well as the individual surfaces for the milk supply curves showing milk deliveries.

Sudan

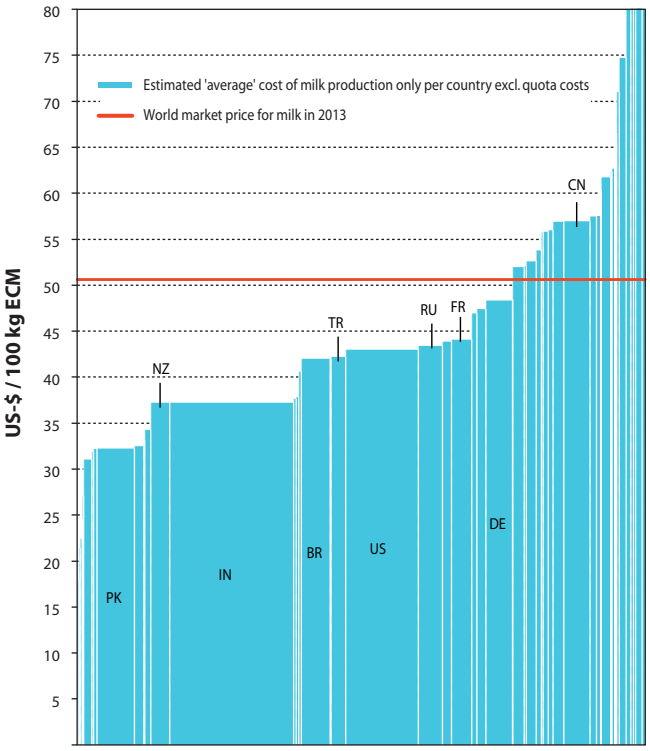
Explanation:

Selection of average sized dairy farms: *See Chapter 1.4.* ***Selection of larger typical dairy farms:*** *See Chapter 1.5.*
Milk production data: *Figures are in ECM and represent the year 2013, for more details on this method see Chapter 4.3.*

Milk delivered: *Figures are based on the share of milk delivered estimated for this Dairy Report.*

Milk produced: supply curve for average sized farms 2013

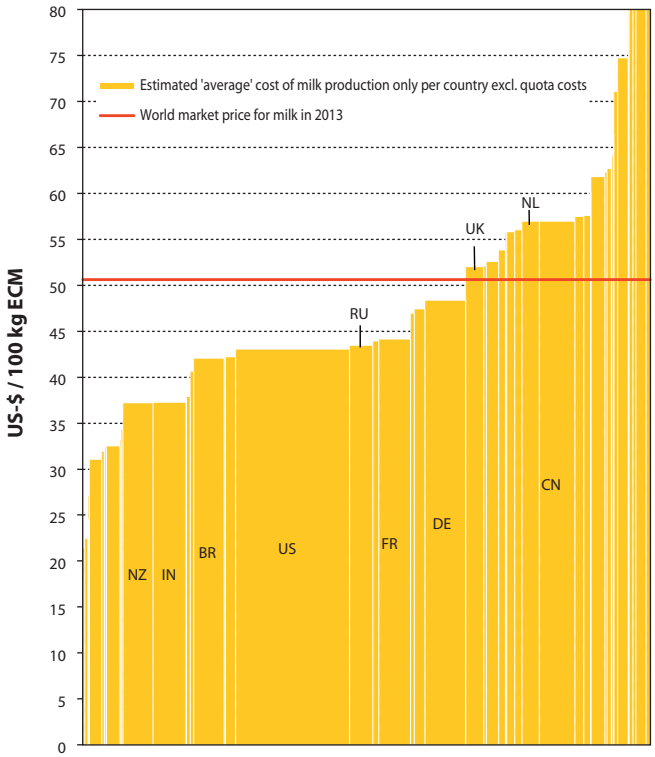
Based on the average sized dairy farms analysed and milk produced



Milk production per country (sorted and accumulated)

Milk delivered: supply curve for average sized farms 2013

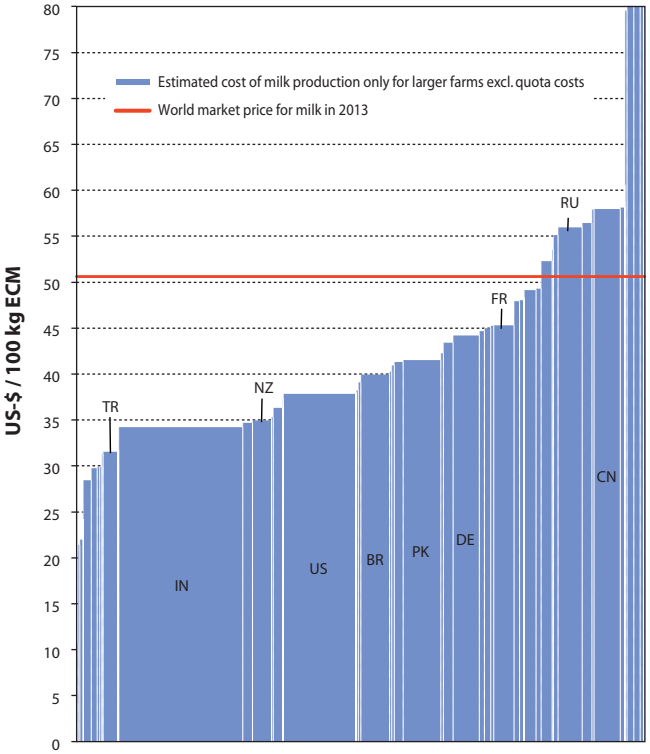
Based on average sized dairy farms analysed and milk delivered



Milk delivered to processors per country (sorted and accumulated)

Milk produced: supply curve for larger sized farms 2013

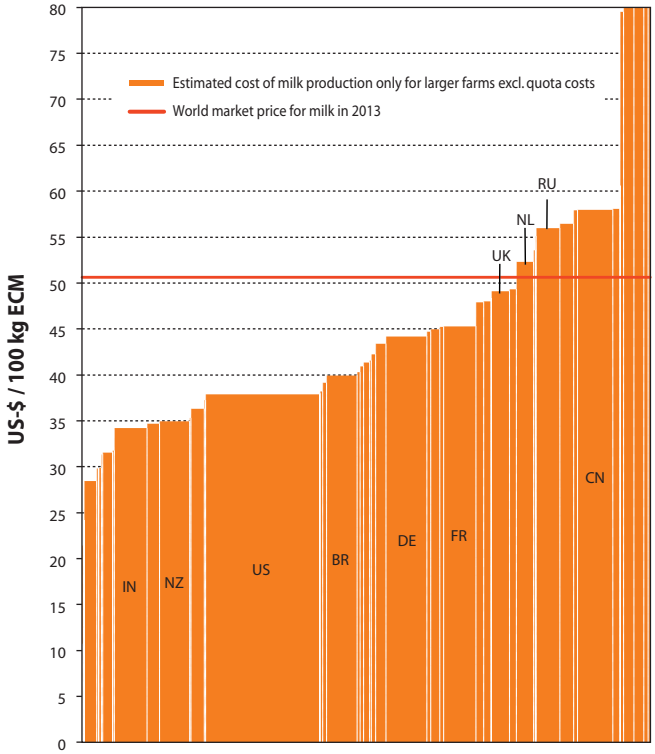
Based on the larger typical dairy farms analysed and milk produced



Milk production per country (sorted and accumulated)

Milk delivered: supply curve for larger sized farms 2013

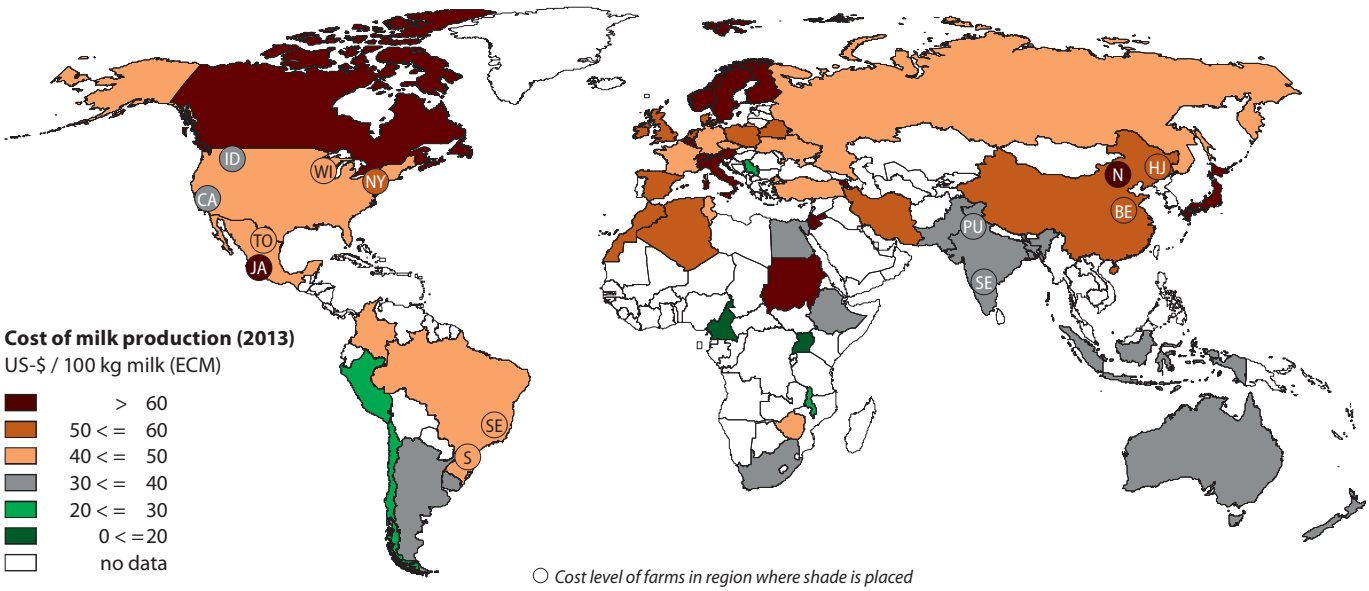
Based on the larger typical dairy farms analysed and milk delivered



Milk delivered to processors per country (sorted and accumulated)

1.4 Cost of milk production in average sized farms in 2013

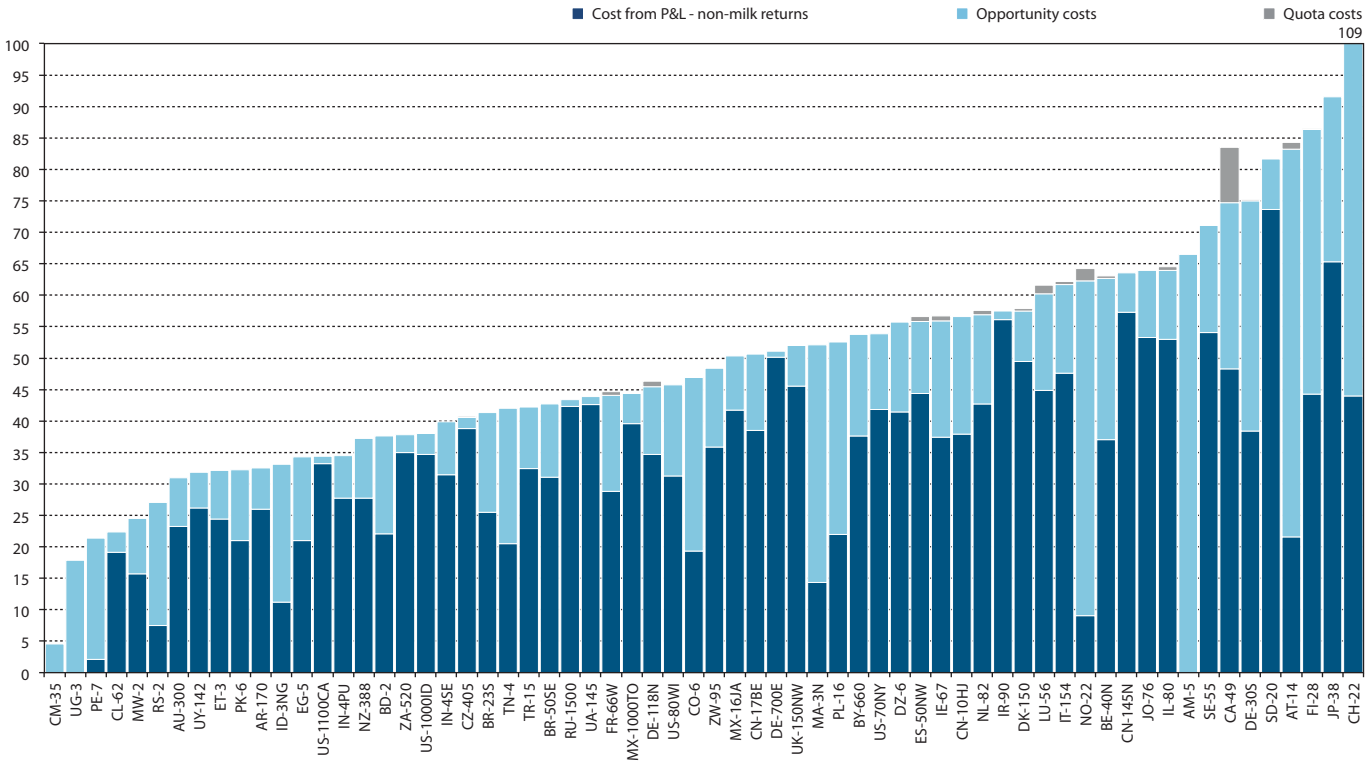
Cost of milk production in average sized farms in 2013



Indicator: *Cost of milk production (excluding quota cost) of the "average sized" typical farms analysed in the countries.*

Cost of milk production on average sized typical farms per dairy region in 2013

US-$ / 100 kg milk (ECM)



Explanation of variables

Farm code: Example: *CM-35=35-cow farm in Cameroon (details see Chapter 4.2 and Annex A.2)*

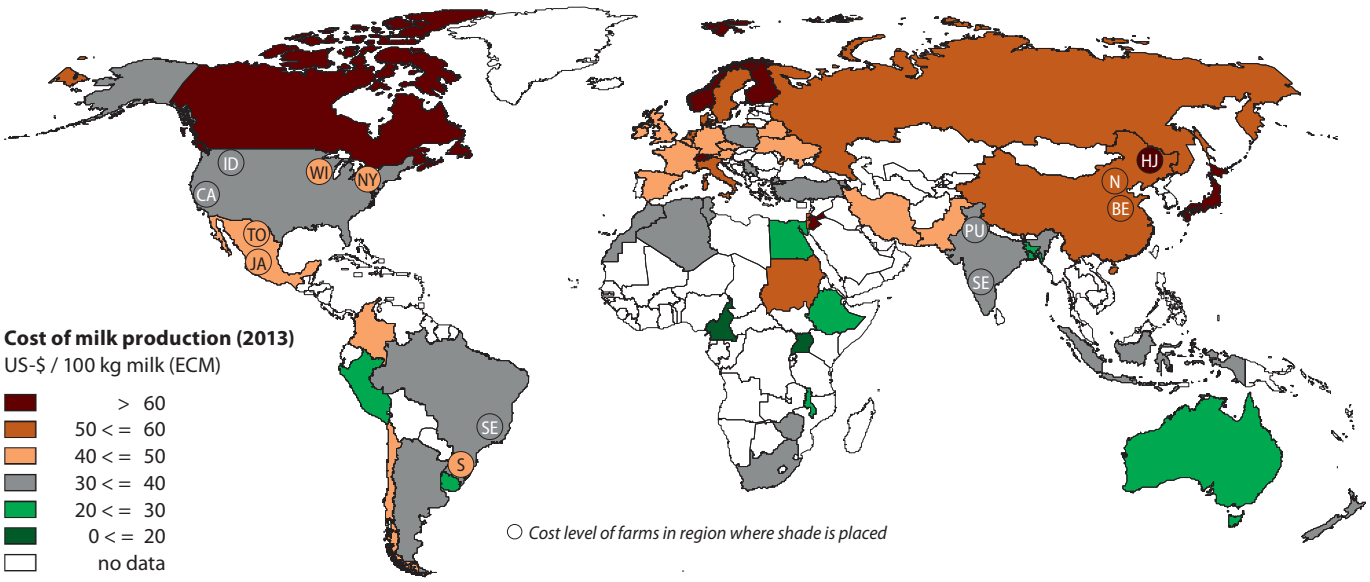
Indicator on the map: *Cost of milk production only (excluding quota costs) of the "average sized" typical farms analysed in the countries. For details see Chapter 1.7. This indicator was also used for farm sorting in the cost chart and for the milk supply curves in Chapter 1.3.*

Selection of average sized farms: *In most cases the farm type closer in size to the country's average was chosen (see Chapter 1.6).*

Special cases: *In countries where different regions or farming systems were analysed, the average sized typical farm from each region was used in the cost ranking.*
For the cost maps, an average cost calculated from all average sized farms (from the different regions) was used for the whole country. This was the case in Brazil, China, India, Germany (excluding DE-S), MX and the US. In addition, the regional cost levels have been indicated by the colour of the circles positioned in the respective regions.

1.5 Cost of milk production on larger typical farms per dairy region in 2013

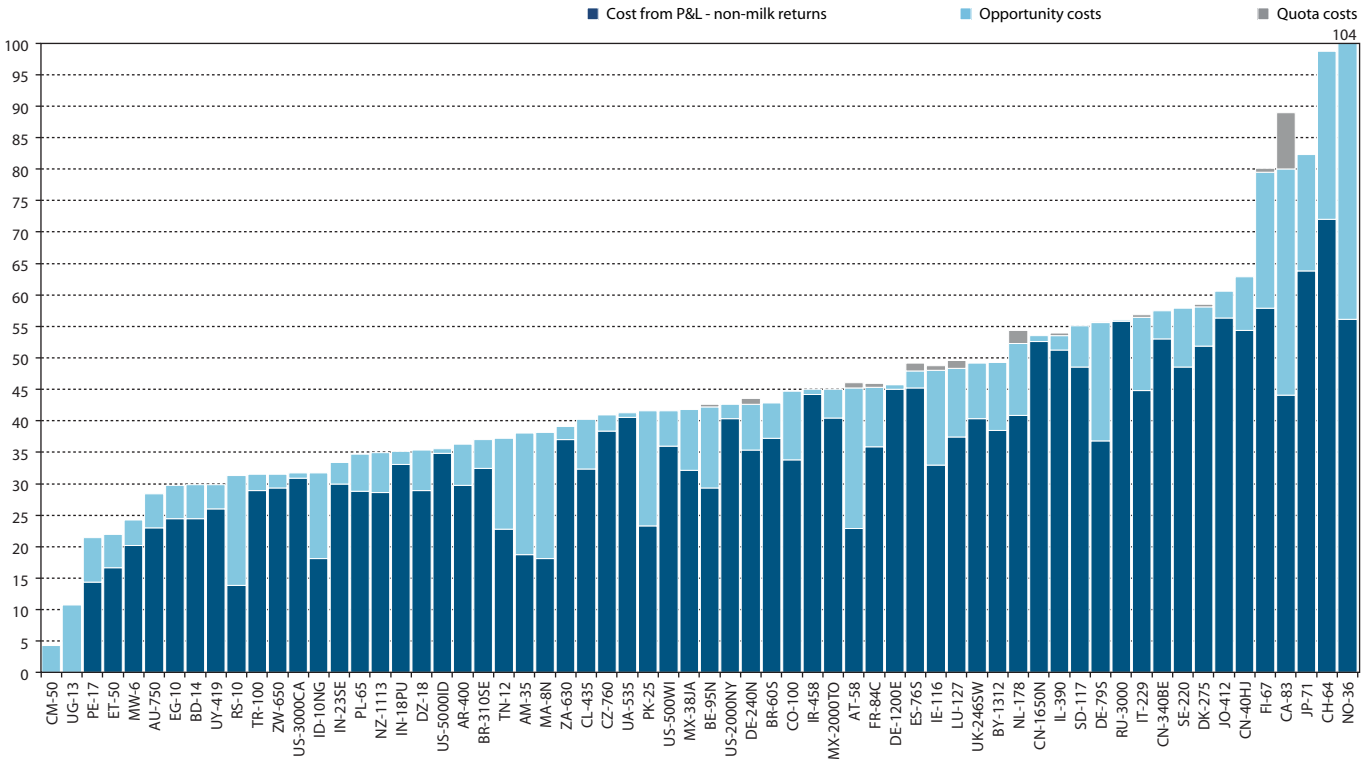
Cost of milk production in larger farm types in 2013



Indicator: *Cost of milk production (excluding quota cost) of the "larger" typical farms analysed in the countries.*

Cost of milk production on larger typical farms per dairy region in 2013

US-$ / 100 kg milk (ECM)



Explanation of variables

Farm code: Example: *CM-50 = 50-cow farm in Cameroon (details see Chapter 4.2 and Annex A.2).*

Indicator on the map: *Cost of milk production only (excluding quota costs) of the "larger" typical farms analysed in the countries. For details see Chapter 1.7. This indicator was also used for farm sorting in the cost chart and for the milk supply curves in Chapter 1.3.*

Selection of larger farms: *In most cases the second farm type was chosen (see Chapter 1.6).*

Special cases: *In countries where different regions or farming systems were analysed, the larger typical farm from each region was used in the cost ranking.*
For the cost maps, an average cost calculated from all larger farms (from the different regions) was used for the whole country. This was the case in Brazil, China, India, Germany (excluding DE-S), MX and the US. In addition, the regional cost levels have been indicated by the colour of the circles positioned in the respective regions.

1.6 Description of the dairy farms analysed

Background

The aim of this chapter is to provide general background information on the farms analysed and to give a brief introduction regarding the methods applied, in order to create *a better understanding of the dairy world by providing comparable data, knowledge and inspiration*. The detailed analysis in Chapters 1.6 – 1.12 covers128 typical dairy farms with herd sizes ranging from 1 cow to 5000 cows from 64 dairy regions and 54 countries from all over the world, which represent 91% of the total world milk production. Since large countries usually also show a high regional variation in production, a distinction between country and dairy region was made. Therefore, large countries, such as Brazil, China and the United States are split up into different regions. For each region two farms, one average sized typical farm and one larger typical farm, was analysed. For more details on this method see Chapter 4.1.

Special case of China-Beijing: The CN-340BE is a "cooperative" farm where an investor set up the farm infrastructure (barn, parlour, feed storage, roads, electricity, etc.). Small farmers (with 3 to 40 cows) rent these facilities, as well as services, such as milking, veterinary and insemination, by supplying milk to the investor at a lower price. CN-17BE represents the small farms in this unit, whereas CN-340BE represents the whole "cooperative" unit (20 farmers with 17 cows each on average, plus the investor as farm owner).

Method

Farm size: The farm size reflects the average number of dairy cows (dry and lactating) per farm per year, presented in the first chart. The statistical average of dairy farms shows the country average in 2013.

Business orientation: Household farms, family farms, and family partnerships are defined as family/household farms, while corporate farming systems, cooperatives, and any other legal set-up are termed as business farms.

Milk yield: The milk yield reflects the total volume of milk per cow and year in energy corrected milk (ECM; 4% fat, 3.3% protein). Therefore the milk yield in natural content per cow and year is converted via the ECM formula, see Chapter 4.3.

Dairy cow breeds: The second chart in Chapter 1.6 shows the milk yield of the farms differentiated by genetics. Farms which exclusively keep Holstein Friesian (HF) are coloured blue. Red coloured bars represent dairy enterprises which keep other breeds, for example dual purpose breeds (Norway, Switzerland), local cattle breeds (Brazil, Cameroon), and buffaloes (Egypt, India, Pakistan). In quite a few countries it is common to keep HF crossbreeds, in order to improve the qualities of local breeds or to adapt HF cows to the local conditions. The red and blue striped bars in the second chart represent farms keeping crossbreeds (New Zealand, Sweden, Poland, most of the African countries).

Comparison of Farm size and business orientation

Countries regulated by a quota system have a high proportion of medium sized family farms: Such farms are found in Western Europe, Canada and Israel. Average and larger farms of this category are generally family owned. Average sized typical farms usually have a farm size between 35 and 50 cows, whereas larger farms keep up to 200 cows. Exception: In Norway, Finland and Austria geographical conditions and land tenure systems limit dairy business growth.

Eastern European countries have large farms and/or very small farms: Before 1990, the agricultural policy of Eastern European countries aimed at developing large farms. After 1990 different trends were noticed **a)** large farms were maintained (Belarus, the Czech Republic) **b)** large scale farms were reorganised. In addition, subsistence agriculture was an important part of agricultural production and a high proportion of the cows were kept in smaller household farms with less than 10 cows (Ukraine, Russia) **c)** after the year 2000, extra-large farms, "agro holdings", with more than 2000 cows were set up (Ukraine, Russia) **d)** the family farm culture became stronger in Poland, where 80% of the dairy farms kept less than 20 cows.

Developing and transition countries have small farms with less than 15 cows: Most farms in Africa and Asia, and a few farms in Latin America (Peru and Colombia) generally have a farm size of less than 15 cows. These farms can be sorted into two groups: **1. Subsistence farms** having 1-5cows or buffaloes (average sized farms in Bangladesh, India and Pakistan). **2. Small-scale market-oriented farms** with 5-15 cows (larger farms in Algeria, Bangladesh, Egypt, India, Indonesia and Pakistan). Another group of farms, the business farms, with more than 100 cows (Egypt, Pakistan) are shown in Chapter 1.13 of this report.

In regions with no quota regulation, such as North and South America as well as Oceania, large family and business farms arose in the past: Due to economies of scale in these farms family labour only provides a share of the total labour input. This could be observed, for example, in the United States, Argentina, Uruguay, Australia and New Zealand.

The highest statistical average farm size of the world is registered in Oceania: Both Australia and New Zealand have a statistical average of more than 250 cows per farm. Only South Africa currently reaches a similar level. These countries run pastoral systems with comperatively low production cost enabeling milk production to world market conditions. In addition a continuous increase in herd sizes in recent years, has allowed economies of scale to be realised.

High milk yield: Dairy herds with HF cows in intensive feeding systems together with a high management level, showed an average milk yield per cow and year of more than 7,000 kg up to 11,000 kg. This is the case in the majority of the EU countries, North America, Israel, Iran, and South Africa, as well as on the larger farms in Russia, North Mexico, Chile and China. About 61% of the farms analysed keep solely Holstein Friesian cows.

Medium milk yield: This is usually the case of pasture based farms with less intensive feeding and/or management system, as well as farms with breeds other than Holstein Friesian, such as dual purpose dairy breeds. These farms generally have a milk yield of 4,000 to 7,000 kg and are located mainly in the CEEC, Latin America, China, and Oceania.

Low milk yield: Dairy herds with local breeds, buffaloes or crossbreeds receiving a feed ration with high fibre content (low energy and protein content) produce a milk yield of less than 4,000 kg. They were mainly found in Africa, South and South East Asia.

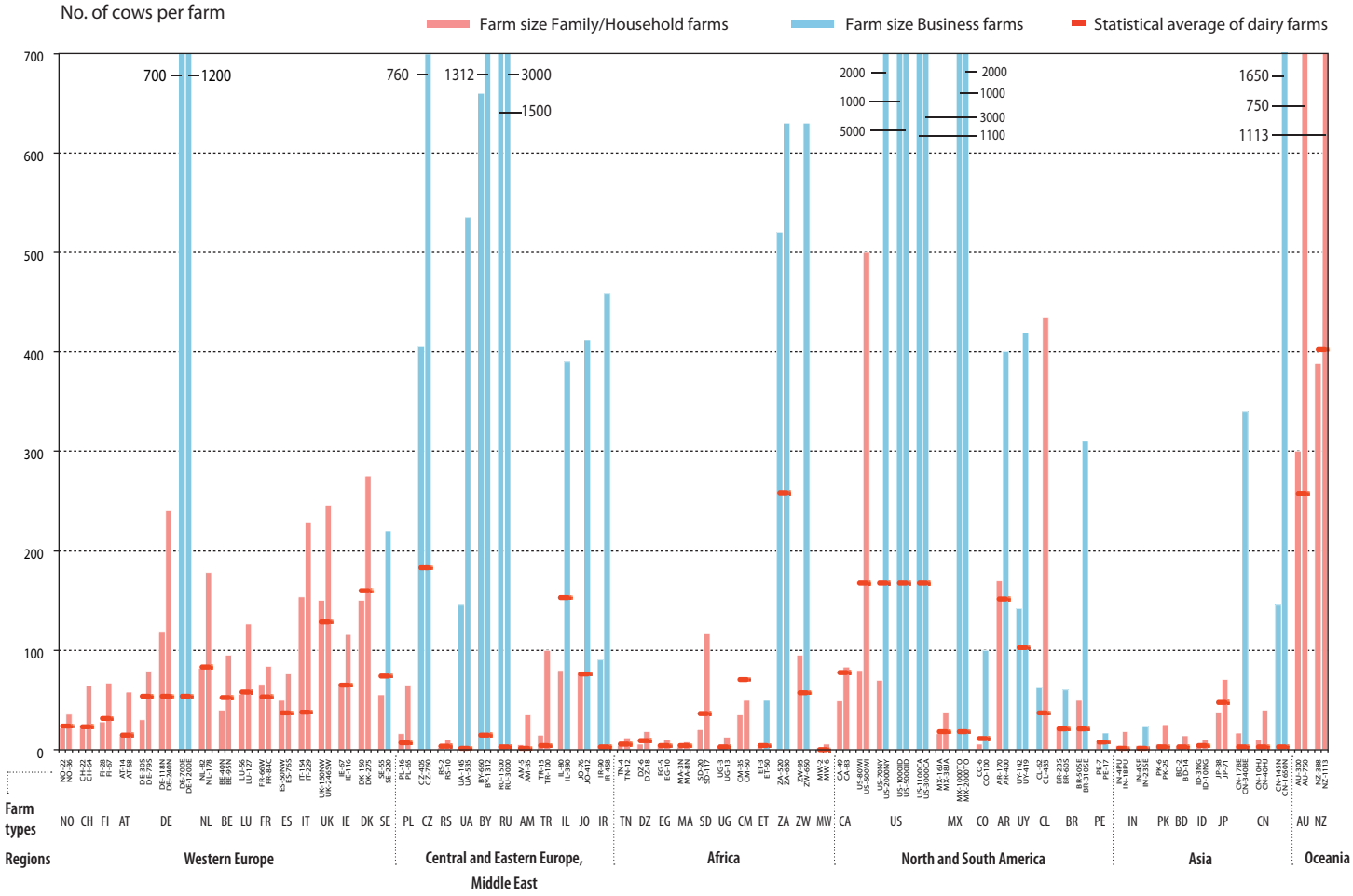
Natural content vs. ECM: The ECM standardisation leads to higher milk outputs if the milk has high natural contents, e.g. buffalo farms in Egypt, India and Pakistan, as well as the farms in Finland and New Zealand, and some other countries having fat and protein content of>4% and >3.3%, respectively. On the other hand, most farms in the Mid-East, North America and Latin America have lower natural fat and protein contents, giving them a disadvantage in milk yield due to the ECM conversion.

Explanation of variables

Farm codes: *Example BR-23S = Brazilian 23-cow farm in Southern Brazil (details see Annex A2 and Chapter 4.2).* ***Year of data collection:*** *2013; Uruguay, Australia, New Zealand = season 2012/2013, India, Southern Germany = financial year 2012/2013. The farms from Malawi, Zimbabwe, Sudan, Mexico-Jalisco were analysed for the first time; their results should be treated with care. Due to uncertainties the data of the following countries must also be treated with care: Egypt, Ethiopia, Tunisia, Ukraine, Japan.* ***No. of cows:*** *Average number of dairy cows (dry and lactating) per year. Statistical average of dairy farms: Country average 2013.* ***Milk yield:*** *Milk yield per cow and year (energy-corrected milk (ECM), 4% fat, 3.3% protein).*

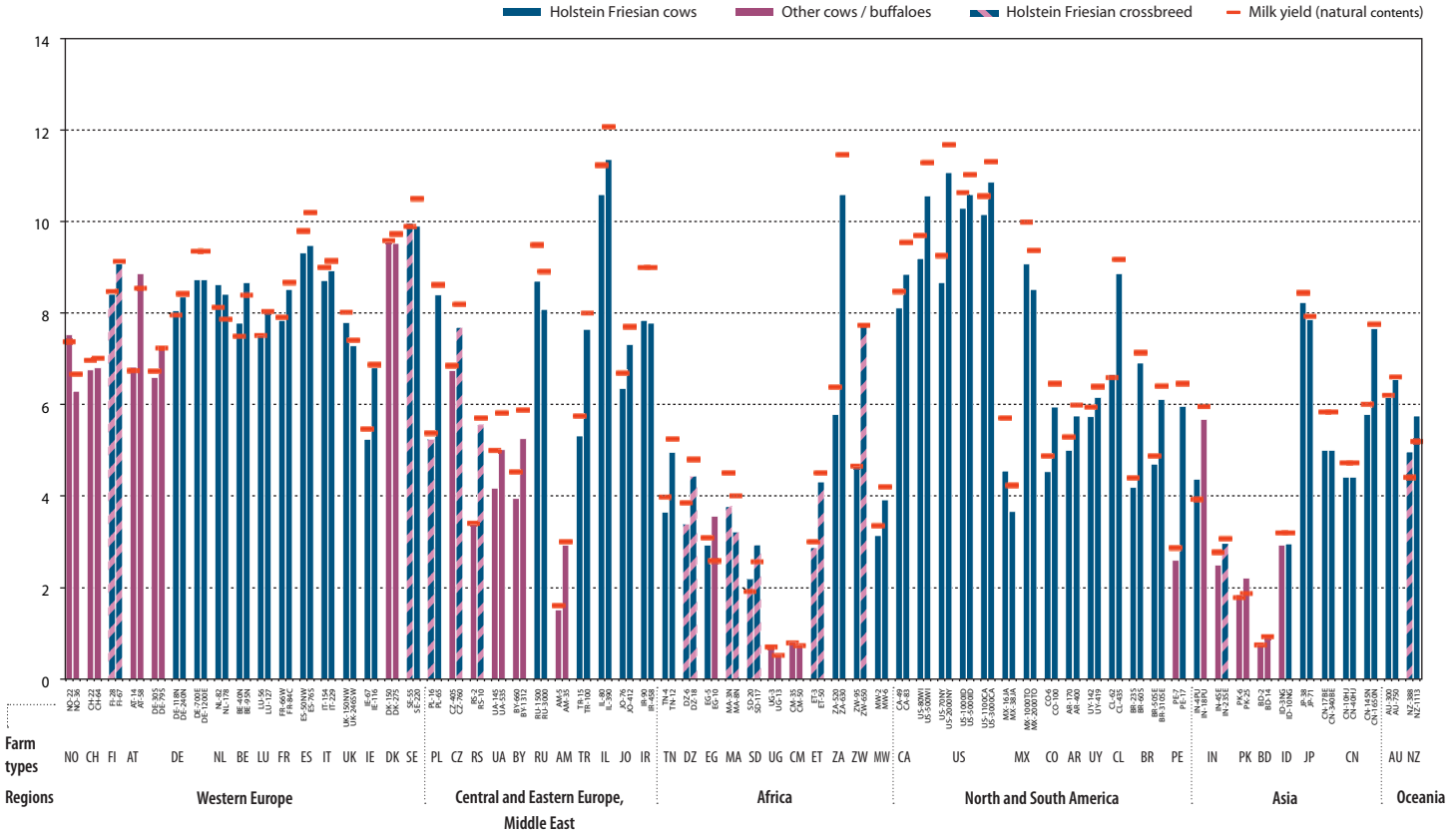
Farm size

No. of cows per farm



Milk yield

1,000 kg milk (ECM) / cow / year



1.7 Cost of milk production only

Background

The cost of milk production is the key cost component of the dairy chain. It indicates the competitiveness of milk production of a region when compared to that of other countries. In addition, a comparison of the cost of milk production only to the farm gate milk price provides information on the farm´s profitability.

Method

The IFCN method cost of milk production only assumes that the returns of the dairy enterprise correspond to production costs. In order to be able to create a figure that can be directly compared to the milk price of a farm, the non-milk returns (cattle returns and coupled direct payments) are subtracted from the total costs of the P&L account (residual value method). The calculated value is shown separately from the other costs (quota and opportunity costs) in order to better indicate the effect of the opportunity costs. In some cases, the non-milk returns are higher than the cash cost of the dairy enterprise. In these cases (CM, UG, AM), the bars on the charts only show the opportunity cost. For more details on the IFCN cost method, see Chapter 4.5.

Key findings on cost of milk production only

Low cost regions: Three low cost regions can be clearly observed based on the average sized farms. a) Peru, Argentina, Uruguay, and Chile (CL-62) b) Central and Eastern Africa c) Small scale farms in the CEEC as well as countries in Asia.

16% of the farms analysed in this chapter have cost of milk production only above 60 US-$.

16% of the farms analysed in this chapter have cost of milk production only below 30 US-$.

Lowest and highest cost countries in the world

Top 5 lowest cost countries	Top 5 highest cost countries
1. Cameroon	1. Switzerland
2. Uganda	2. Japan
3. Peru	3. Finland
4. Chile	4. Austria
5. Malawi	5. Canada

Western Europe: The cost of well-run farms in Western Europe was in the range of 44-58 US-$. Compared to the previous year, cost increased throughout Europe (see 1.2).

The US: The cost of large farms in New York, Idaho and California was between 32 and 43 US-$. Except US-2000NY, all large US farms could reduce their cost by 1 US-$/100kg ECM.

Cost of the larger farms in Brazil, Mexico and North Africa varied between 37 and 45 US-$: These farms were still performing slightly above the cost level of the larger US farms; but the cost could be reduced by 3 US-$/100 kg ECM on average compared to the year 2012.

Oceania: The cost of milk production only was on average at a level of 33 US-$/100 kg ECM, and decreased by 1 US-$/100kg ECM compared to the year 2012. It must be noted that in Australia farmers reduced their costs strongly, while the costs of typical farms in New Zealand have increased in the past year.

Non-milk returns: Returns from beef fattening and coupled direct subsidies largely determine the level of the non-milk returns, which in turn affect the amount of the cost of milk production only according to the IFCN approach. High cattle returns were observed in Armenia, Cameroon, Uganda and Sudan, while coupled direct subsidies were paid particularly in Western Europe (Norway, Switzerland and Finland).

Quota costs: The analysis of quota cost shows that farmers must endure additional costs for the provision of quota in countries that have a milk quota regulation. Facing the EU quota abolition in 2015, no clear trend concerning the quota cost was observed. An increase of quota cost at farm level was noted in France, Spain and Italy, whereas, farm data of Germany, the Netherlands, Denmark and Poland clearly showed lower quota cost compared to 2012. In Israel and Canada quota cost decreased slightly in 2013.

Structural and operational effects influencing the costs of the dairy enterprise

The level of opportunity cost varies greatly among the farms. There are two main reasons: **a) Farm size and regional disadvantages:** On small farms or farms in less favoured areas, the share of family labour input is comparatively high. Economies of scale cannot be achieved in those cases. **b) Homegrown feed production vs. feedlot:** Dairy enterprises with own feed production have much higher opportunity cost for own land than dairy farms with a high intake of purchased feed, such as feedlot systems. On the other hand, feedlot systems reflect much higher feed costs on the P&L account compared to farms with homegrown feed production. In some cases the **non-milk returns** are higher than the cash cost of the dairy enterprise. This could be observed especially in enterprises that used beef breeds or dual purpose breeds. Those farms realized a higher share from beef sales than from milk sales (e.g. CM, UG, AM). In these cases, the bars only reflect the opportunity cost.

Feed costs: In 2013 a slight decrease was recorded, yet the indicator remained at a high level of 32 US-$/100kg corresponding to high feed cost on the profit and loss account. Furthermore, a continued rising demand for concentrates will have an influence on land prices in the long run and therefore indirectly increase the opportunity costs for land used for own feed production.

Explanation of variables

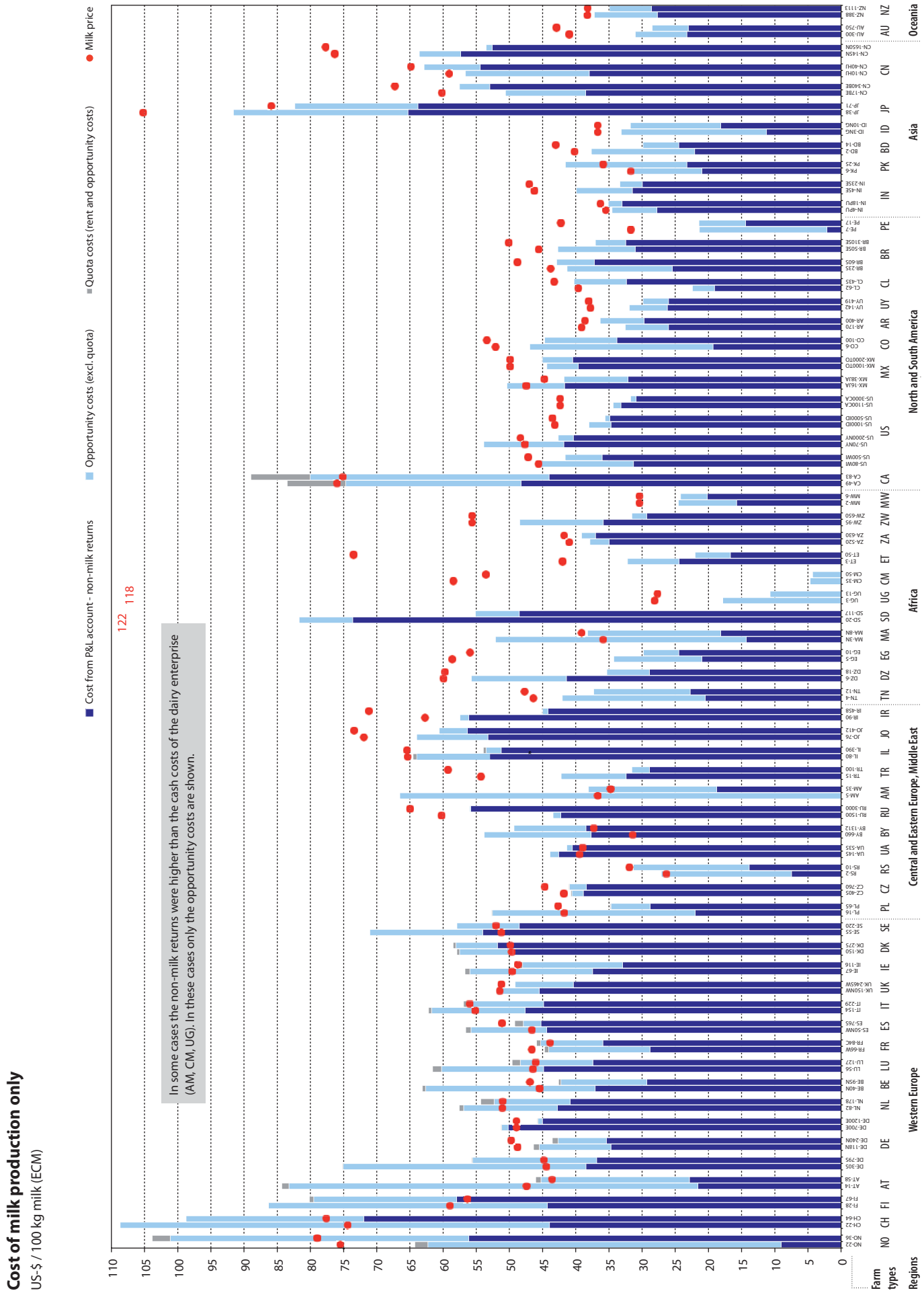
Farm codes: *Example BR-23S = Brazilian 23-cow farm in Southern Brazil (details see Chapter 4.2 and Annex A2).* ***Year of data collection:*** *2013; Uruguay, Australia, New Zealand = season 2012/2013, India, Southern Germany = financial year 2012/2013. The farms from Malawi, Zimbabwe, Sudan, Mexico-Jalisco were analysed for the first time; their results should be treated with care. Due to uncertainties the data of the following countries must also be treated with care: Egypt, Ethiopia, Tunisia, Ukraine, Japan.* ***Costs from P&L account:*** *Costs as calculated in the Profit and Loss account.*

Non-milk returns: *Cattle returns (calves, heifers, cull cow receipts, excluding VAT) and coupled direct subsidies (including VAT surplus). Note: Decoupled subsidies are excluded in this analysis.*

Opportunity costs: *Costs for using own production factors (land owned, family labour input, and equity including quota).*

Quota costs: *Quota rents paid + opportunity cost for quota owned (3% interest on quota value).*

Milk price: *Average milk prices (excluding VAT) adjusted to energy corrected milk (ECM, 4% fat, 3.3% protein).*


Cost of milk production only
US-$ / 100 kg milk (ECM)
Cost from P&L account - non-milk returns
Opportunity costs (excl. quota)
Quota costs (rent and opportunity costs)
Milk price
122
118
In some cases the non-milk returns were higher than the cash costs of the dairy enterprise (AM, CM, UG). In these cases only the opportunity costs are shown.
110
105
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
Farm types
Regions
NO CH FI AT DE NL BE LU FR ES IT UK IE DK SE PL CZ RS UA BY RU AM TR IL JO IR TN DZ EG MA SD UG CM ET ZA ZW MW CA US MX CO AR UY CL BR PE IN PK BD ID JP CN AU NZ
Western Europe
Central and Eastern Europe, Middle East
Africa
North and South America
Asia
Oceania

1.8 Total costs and returns of the dairy enterprise

Background

The graph in this chapter shows the total costs of the dairy enterprise per 100 kg ECM compared to four different return levels making it easier to understand how dependent the farms are on the different side returns (non-milk returns).

Method

The graph considers the following four return levels: **Level 1: Milk price:** The average milk price (excluding VAT) adjusted to energy corrected milk (ECM, 4% fat, 3.3% protein) reflects the situation where the farmer only has returns from milk sales. **Level 2: Milk price + non-milk returns:** Milk price + cull cows, calves, heifer returns + changes in livestock inventory + other returns such as selling manure. This is the case, if the farmer does not receive any direct subsidies. **Level 3: Milk price + non-milk returns + coupled subsidies:** This represents the return structure of the farm without considering decoupled subsidies. **Level 4: Milk price + non-milk returns + all subsidies:** This represents the total returns of the farm including all direct subsidies (coupled and decoupled). For details on direct subsidy approaches see Chapter 1.10.

Which farms were only slightly affected by changes in non-milk returns?

Non-milk returns were low and only had little impact on incomes of farms in South Africa, Canada, USA, Uruguay, Chile, Argentina, India and New Zealand. These low non-milk returns could be due to low cattle and beef returns per 100 kg milk (ECM) and/or high milk yield and also to the absence of direct subsidies for the countries in South America, Asia, and Oceania.

Which farms would be affected by changing beef / cattle prices?

If the beef and cattle prices decreased significantly as during the BSE crisis (ceteris paribus), some farms would be affected significantly. These would be mainly farms in the CEEC and Africa as well as in Norway, Switzerland, Austria, Bangladesh, Japan, and Indonesia.

Which farms would make a loss without direct subsidies or if all subsidies were decoupled?

If direct subsidies were not made, or were completely decoupled, some farms would no longer be able to cover their costs from the profit and loss account (ceteris paribus) and would generate a negative farm income (without decoupled subsidies). Finland (FI-67), Denmark, Sweden (SE-55), Ukraine, Belarus (BY-660).

Which farms received additional (decoupled) subsidies?

This chart permits comparisons between countries which had already decoupled most of the direct subsidies, with those which still had coupled subsidies.

Method comparison: Difference in cost per 100 kg ECM

The methods applied in Chapter 1.7 and 1.8 are based on different approaches. The IFCN method **Cost of milk production only** (Chapter 1.7) reflects whether the milk price covers the net cost of milk production only, i.e. the full economic costs minus the non-milk returns (coupled direct subsidies and cattle prices). The IFCN method **Total costs and returns of the dairy enterprise** (Chapter 1.8) shows the full economic costs for the dairy enterprise (including the costs of rearing the dairy herd and direct payments).

Example: The Spanish farm ES-50NW shows cost of milk production only, which is about 10 US-$ higher than that of the Austrian farm AT-58. This is due to the higher non-milk returns, which were deducted from the total costs of the dairy enterprise. By focussing on the method Total costs and returns of the dairy enterprise, the costs of the farms are almost the same, see below.

Cost difference in US-$/100 ECM of a Spanish farm (ES-50NW) and an Austrian farm (AT-58) using two methods

	Cost method 1 Cost of milk Production only	**Non-milk returns**	**Cost method 2** Total cost and returns of the dairy enterprise
Farm: ES-50NW	56.6	4.9	61.4
Farm: AT-58	46.0	17.7	63.7
Difference ES vs. AT	+10	-12.8	-2.3

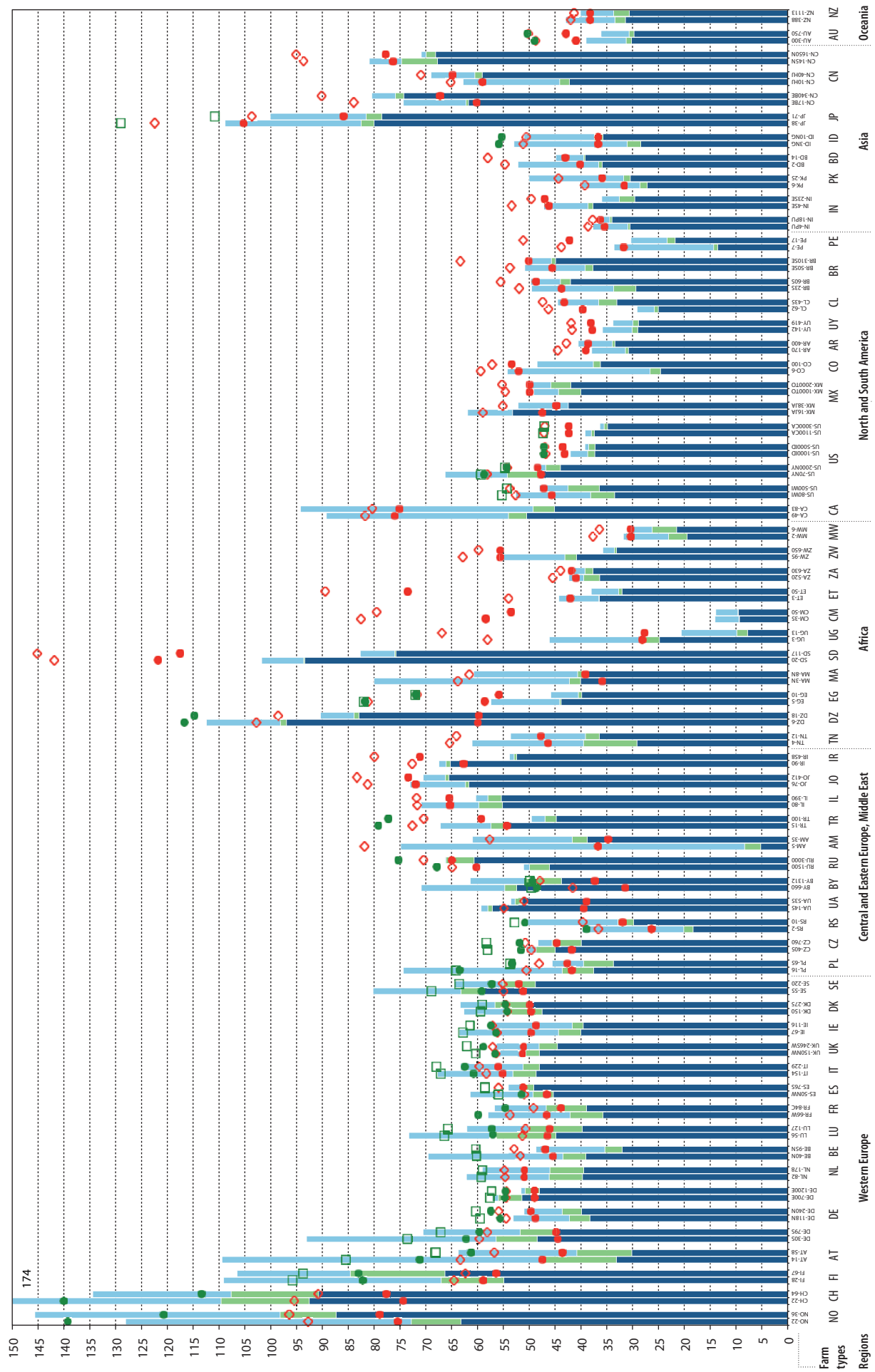
Explanation of variables

Farm codes: *Example BR-23S = Brazilian 23-cow farm in Southern Brazil (details see Chapter 4.2 and Annex A2).* ***Year of data collection:*** *2013; Uruguay, Australia, New Zealand = season 2012/2013, India, Southern Germany = financial year 2012/2013. The farms from Malawi, Zimbabwe, Sudan, Mexico-Jalisco were analysed for the first time; their results should be treated with care. Due to uncertainties the data of the following countries must also be treated with care: Egypt, Ethiopia, Tunisia, Ukraine, Japan.* ***Cash costs:*** *Cash costs for purchased feed, fertiliser, seeds, fuel, maintenance, land rents, interest on liabilities, wages paid, vet + medicine, water, insurance, accounting, etc. (excluding VAT).* ***Depreciation:*** *Depreciation on purchase prices for buildings, machinery (excluding VAT). The interest rate on liabilities is set at 6% for all countries.*

Opportunity costs: *Costs for using own production factors (land owned, family labour input, and equity excluding quota). The interest rate on equity is set at 3% for all countries.*

Total costs and returns of the dairy enterprise

US-$ / 100 kg milk (ECM)



1.9 Returns: Milk price, non-milk returns and decoupled subsidies

Background

A dairy farm usually has several income sources from which it generates revenues. Sales revenues are mainly from milk and cattle sales. In some cases a small proportion of dairy revenues is generated by selling manure or surplus feed. A substantial part of the farm income is represented by the direct (decoupled) subsidies and other subsidies (coupled with fuel, fertiliser, insemination, etc.). This chapter presents a detailed view of the components of farm returns and a general idea on milk sourcing potentials.

Method

The IFCN world milk price is calculated from the average world market prices for butter and SMP (skim milk powder) (35%), cheese and whey (45%), and WMP (whole milk powder) (20%) in 2013. For details, see Chapter 2.2. **The national average milk price** is based on national statistics and converted to ECM (4% fat and 3.3% protein). **Farm specific milk price:** Farm gate milk price converted to ECM. **Weighted milk price of the EU-28** is the average national milk price for all EU countries, weighted by the share of their milk production volumes as compared to the total EU milk production.

Cattle returns: Returns from selling cull cows, calves and surplus heifers + /- livestock inventory changes. Coupled and decoupled direct subsidies: For details see Chapter 1.10. **VAT balance:** For farms that do not balance the VAT with the tax department, an incurred surplus is included in the bar of the coupled direct subsidies. A VAT deficit, if incurred, is included in the cost of milk production.

Milk prices in 2013 – Overview

The year 2013 was characterized by a strong rise in milk prices worldwide. Foremost, the world milk price rose sharply in the first quarter and remained on a high level throughout the year resulting in an average annual price of 50.6 US-$/100kg ECM. The price increase was largely transmitted at country-level. However, the national milk prices did not reach the high world price level. Farm specific milk prices ranged from 26.3 US-$/100 kg ECM in Serbia to 122 US-$ in Sudan; while, the national average milk prices ranged from 20.1 US-$ in Uganda to 91.0 US-$ in Egypt, 96.1 US-$ in Japan and 154 US-$ in Sudan.

Grouping of countries according to their farm specific milk price level

Milk prices below 40 US-$/100 kg ECM: These were RS, UA, BY, AM, MA, UG, MW, AR, UY, CL (CL-62), PE (PE-7), IN-N, PK, ID, NZ (season: 2012/13). In Uganda most of the milk is produced in rural areas where no market for milk exists. Middlemen purchase milk from farmers at very low prices and then sell directly to consumers in the urban areas.

Milk prices between 40 and 50 US-$/100 kg ECM: These were AT, BE, LU, FR, ES (ES-50NW), IE, DK, PL, CZ, TN, ET (ET-3), ZA, US, MX, CL (CL-435), BR, PE (PE-17), IN-SE, BD, AU.

Milk prices above 50 US-$/100 kg ECM: These were NO, CH, FI, NL, ES (ES-76S), IT, UK, SE, RU, TR, IL, JO, IR, DZ, EG, SD, CM, ET (ET-50), ZW, CA, CO, BR (BR-310SE), JP, CN.

EU: In the majority of the EU countries analysed the milk prices were below the level of the world milk price in 2013. The EU-28 average weighted farm gate milk price was 48.34 US-$ which was 2.27 US-$ below the annual average world milk price but 16% above the level of the previous year.

Finland had a significantly higher milk price, whereas the milk prices of Poland and the Czech Republic were far below the EU weighted level.

Austria, Belgium, Luxembourg, France and Spain almost had the same annual average milk price in 2013, which ranged from 47.85 to 48.3 US-$.

Price differences at farm level: Milk pricing systems vary between the countries, and are a reason for price differences at farm level within a country.

Large price differences can be observed at farm level in:

Spain: Farm prices depend on (a) payments of different quality schemes between industries, (b) regional differences according to the processing industry type and (c) market access.

Peru: The larger farm participates in a school milk programme offering a higher milk price.

The Czech Republic: Domestic prices vary depending on the milk quality (via milk quality payment schemes) and on the dairy company processing (product assortment, capacity utilization and market access). This variation could lead to a difference within a range of about 15 % of the milk price.

Larger dairy enterprises generally realise higher milk prices in comparison to smaller dairy farms, especially in less developed dairy chains. The reason for this lies in the ability of these farms to comply with higher quality standards using adequate production equipment, and the possibility of processors collecting milk from these farms at lower transaction costs, compared to collecting small volumes from many smaller enterprises at different locations.

Non-milk returns and decoupled subsidies

Milk yield versus non-milk returns: Farms with a low milk yield have relatively higher non-milk returns, when these returns are expressed per 100kg of milk (Africa, Asia).

Beef oriented and dual purpose farms have high beef returns due to high beef prices (Norway, Switzerland, Armenia, Africa and Southeast Asia).

Herd management: Calving interval, culling rate, and breed highly influence the cattle returns, which in turn affect the amount of the cost of milk production only. This influence is particularly significant in small scale farms, as small changes may have a large impact.

Beef /heifer markets affected cattle returns: For example in Africa, there was a high demand leading to very high beef and heifer prices, hence higher cattle returns.

Highest non-milk returns >25 US-$/100 kg milk: Norway, Switzerland, Finland, Austria and Germany (DE-S), as well as Armenia, Algeria, Uganda, Cameroon and Sudan.

Lowest non-milk returns: New Zealand, Uruguay, Argentina, South Africa, and United States. In these countries the main production focus lies on milk production. Therefore there is less focus on generating income through cattle returns. Furthermore, prices for cull cows and calves for beef fattening from pure dairy breeds, are relatively lower than for beef-crossbreeds or dual purpose breeds.

India: Due to the standing of cows in society there is no slaughtering of cows in India. This influences the production system and, thus, the non-milk returns severely.

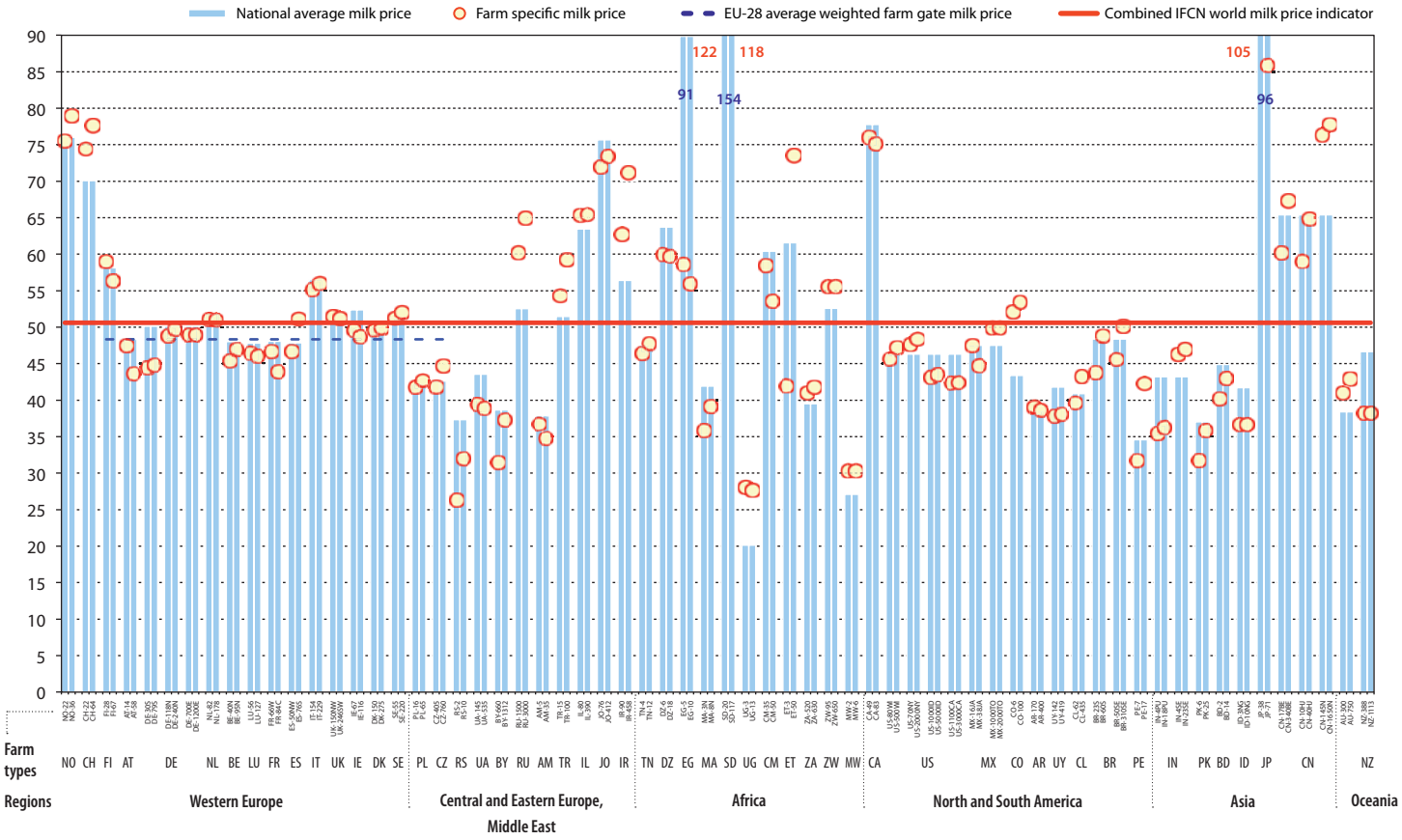
Explanation of variables

Farm codes: *Example BR-23S = Brazilian 23-cow farm in Southern Brazil (details see Annex 4).* ***Year of data collection:*** *2013; South Germany, Uruguay, Australia, New Zealand = season 2012/2013, India = financial year 2012/2013. The farms from Malawi, Zimbabwe, Sudan, Mexico-Jalisco were analysed for the first time; their results should be treated with care. Due to uncertainties the data of the following countries must also be treated with care Egypt, Ethiopia, Tunisia, Ukraine, Japan.*

Milk prices: *Average milk prices (excluding VAT) adjusted to energy corrected milk (ECM 4% fat, 3.3% protein).*

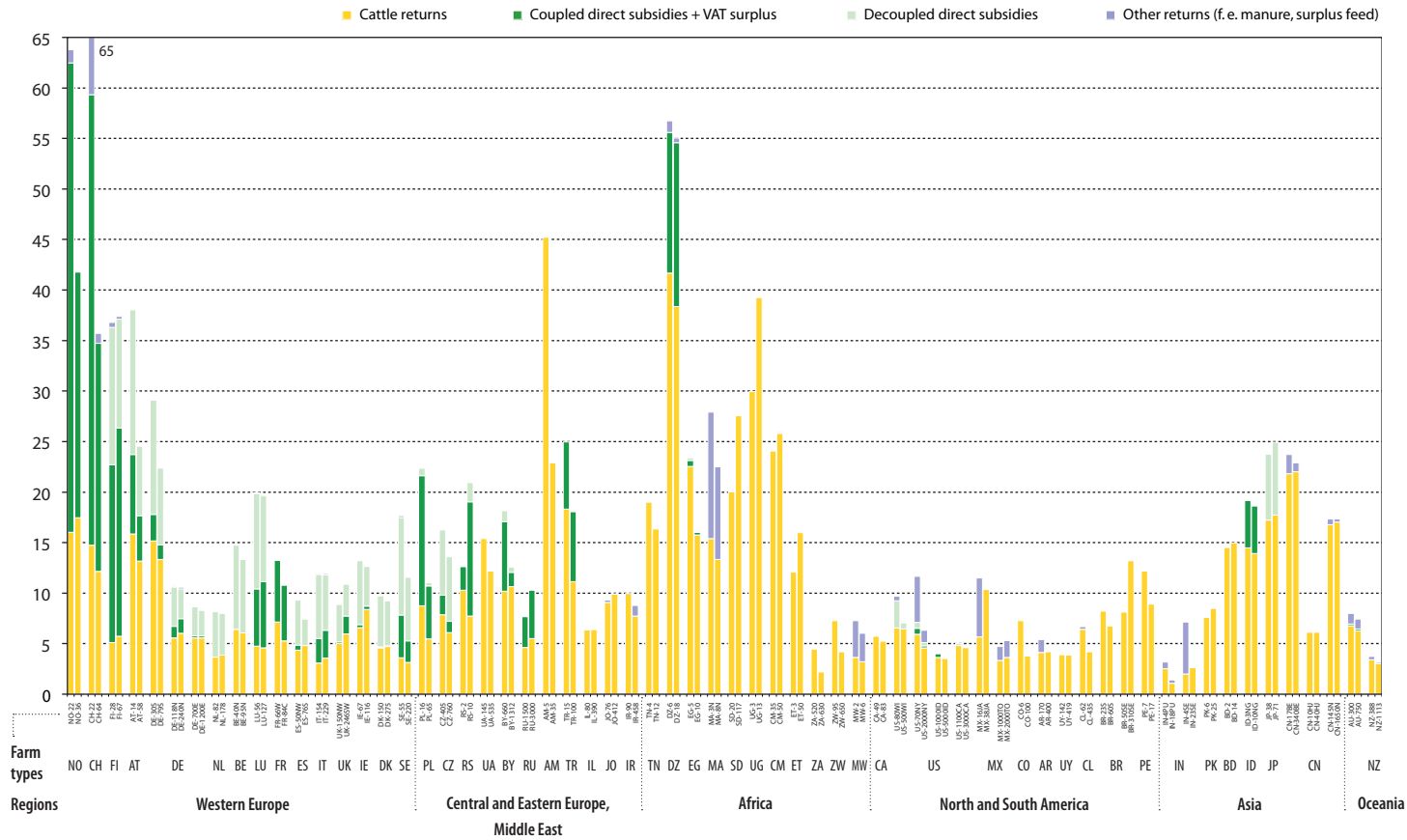
Milk prices in 2013

US-$ / 100 kg milk (ECM)



Non-milk returns and decoupled subsidies

US-$ / 100 kg milk (ECM)



1.10 Description of direct subsidies and policies

Background

The cash income of dairy farmers in the EU and in some other regions of the world is strongly influenced by different types of subsidies and payments. This chapter shows the different levels of these subsidies on typical farms. Furthermore, as the handling of direct subsidies varies greatly from country to country, additional information about the subsidies is given. One must take into account that policies are very complex and only a short overview can be given in this chapter.

Policies and subsidies in different countries in 2013

Subsidies include all cash transfers from the government to the dairy farm such as direct payments (e.g. in the EU) and other forms of subsidies such as acreage payments, payments per kg milk and payments per cow, fuel subsidy, social payments and special regional programmes. In most cases, investment aid and interest subsidies were not yet taken into account, as the data collection does not allow quantification at this stage.

Coupled direct subsidies vs. decoupled direct subsidies

All subsidies which are linked to the milk production are considered as coupled subsidies. Decoupled subsidies exist in the EU, Serbia, Belarus, EG, some parts of the USA and Japan. These are transfers per ha as a direct aid to the farmer and not linked to the product. From this definition, decoupled subsidies cannot be directly allocated to dairy and are therefore not considered in the graphs in Chapter 1.7. Since they influence the income of farmers, they are shown here and in Chapter 1.8 and in the farm income in Chapter 1.11. To be able to specify decoupled subsidies per kg milk on the charts, decoupled subsidies are allocated to the dairy enterprise based on the hectares of land the dairy enterprise used.

EU Situation 2013

In the EU, farmers received three major types of public support: a) Coupled direct payments, b) decoupled direct payments of the first pillar), and c) special decoupled subsidies for sustainable farming (payments of the second pillar). Regarding the decoupled direct payments of the first pillar (entitlements), farmers received money based on the amount of cultivated land and payment claims per ha. If land was rented, the payment rights usually belonged to the farmer, but might also be negotiated between the farmer and the landowner.

Regarding special subsidies for sustainable farming, farmers could join programmes for sustainable land management, consumer safety and animal welfare. Via these programmes, farmers were paid for special operations in their fields which protected the environment. In addition, there were programmes for less favoured areas. Farmers had to abide by several EU-regulations and a list of rules called "cross compliance" on order to obtain all these subsidies of the first and second pillar.

By 2013, the coupled direct payments of the first pillar had been reduced to 10 – 15 % of the national envelope. The strategy of transformation was different in each country of the EU. Some countries, such as Germany, the Netherlands, Belgium, Luxembourg, Denmark, and Spain, had already decoupled most of their direct payments, whereas other countries, for example Austria and Finland, still have a high share of coupled payments. The coupled subsidies in Luxembourg were subsidies of the second pillar or national aids, e.g. investment aids, electricity subvention, or aids for paying a replacement in the case of the farmer´s illness or vacations.

EU Situation in the years to come

The milk quota is scheduled to be abolished in 2015. Therefore, the EU decided in the 2009 'Health Check' reform that national quotas shall be increased by 1% every year so that their value is slowly eroded, in order to prepare for a soft landing in 2015 when production will be liberalised without a quota. In 2013/14 the total EU deliveries, which were 151 million tonnes, remained 6% below the quota (preliminary information). Austria (3.4%), Germany (1.9%), Poland (1.7%), Ireland (1.6%) and Luxembourg (1%) exceeded their milk quotas.

Besides the abolishment of the quota, a greening element will be introduced in 2015; 30% of direct payments will depend on three measures: preservation of permanent pasture, increased crop diversification, and 5% of the arable land has to be provided as ecological compensation land base. Besides greening payments three other payments may be received: for areas with natural constraints, sustainable land management and for young farmers.

Levels of coupled direct subsidies

>15 US-$/100 kg milk (ECM): The highest coupled subsidies were received in the non-EU countries Norway and Switzerland where there were no decoupled subsidies. In the EU country, Finland, a major part of all subsidies were coupled payments which were higher than17US-$/100 kg milk ECM. In Algeria, the direct subsidies for milk production were also quite high (15 US-$/100 kg ECM).

5-10 US-$/100 kg milk (ECM): Coupled subsidies were found in the EU-countries Austria, Luxembourg, France, Poland, and, outside the EU, in Serbia, Turkey and Belarus.

<5US-$/100 kg milk (ECM): the rest of the European countries were in this range, as well as farms in Russia, Egypt, the United States, Indonesia and Australia.

Details on direct subsidies:

Norway: Area subsidies differ according to the region, the rate being highest for the first 25 hectares of grassland. Livestock and vacation subsidies (refund for actual expenses to farm workers) are highest for the first animals. Structural income support for milk production: a subsidy per dairy cow up to the first five cows; subsidies for grazing livestock.

Switzerland: All direct subsidies are coupled to the agricultural use of land and to roughage- consuming livestock units. Subsidies are connected to special requirements called »proof of ecological performance« (cross-compliance) and differ according to the region. Special programmes exist for animal-friendly housing, organic farming and ecological compensation areas.

EU: The following programmes are common: "organic farming" (AT, DK, DE, FI, IT), "renunciation of means of production" (AT), "farming in less favoured areas" (AT, DE, ES, LU, SE, FR, CZ, PL, IT, NL), "grassland farming" (SE, FR, IT, DE), "nature protection" (LU, PL, CZ, DE, NL), "regional milk quality" programmes (ES), "slaughter payments" (ES).

Germany: Since 2009, a payment is made for each litre of Diesel used on the farm. In 2013, 0.215 EUR per litre Diesel could be requested.

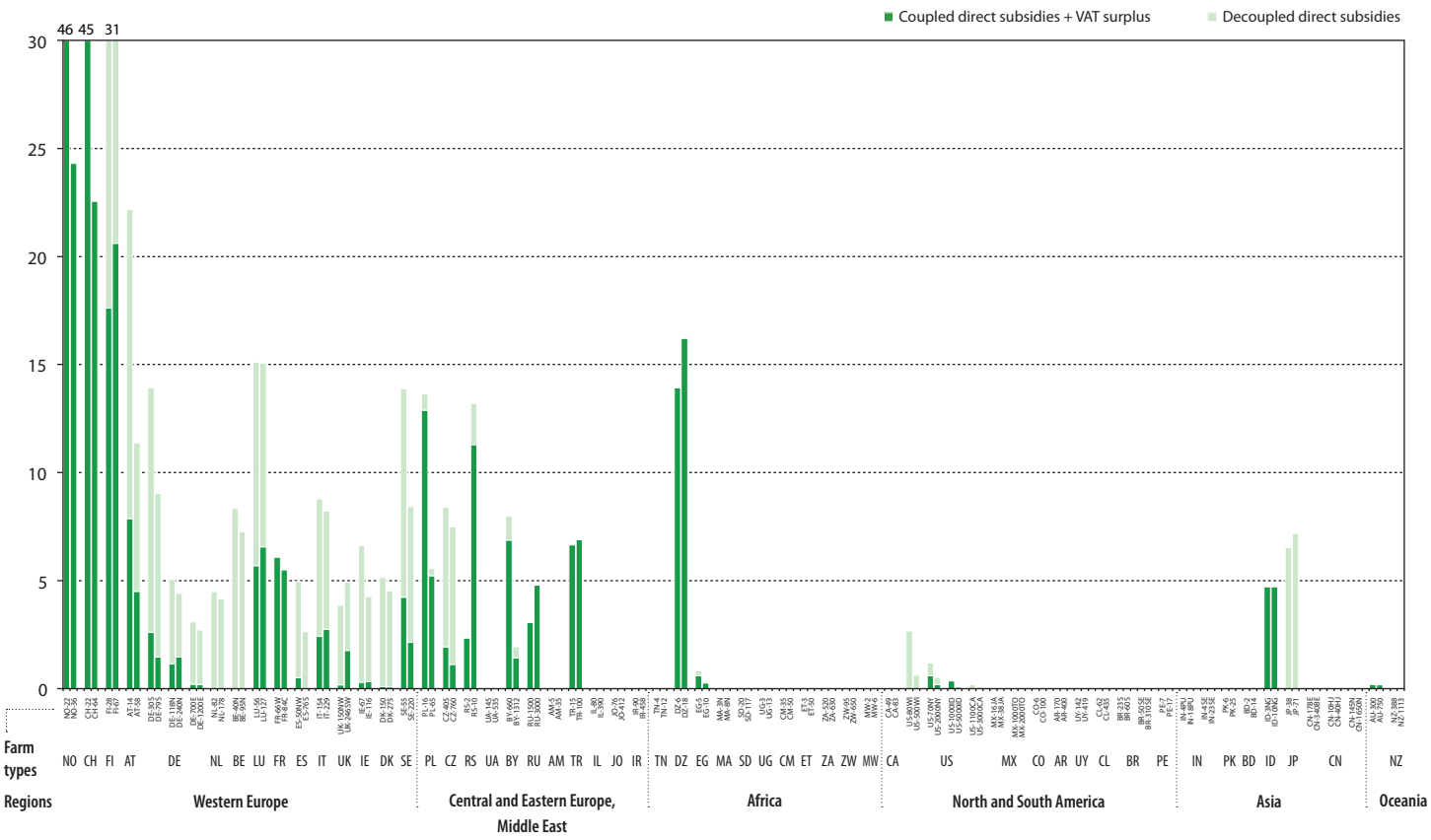
Serbia: Farmers, who are registered, receive subsidies for potential genetic improvement in cattle (payments per cow). For quality milk that is

Explanation of variables

Farm codes: *Example BR-23S = Brazilian 23-cow farm in Southern Brazil (details see Annex 4).* ***Year of data collection:*** *2013; South Germany, Uruguay, Australia, New Zealand = season 2012/2013, India = financial year 2012/2013. The farms from Malawi, Zimbabwe, Sudan, Mexico-Jalisco were analysed for the first time; their results should be treated with care. Due to uncertainties the data of the following countries must also be treated with care: Egypt, Ethiopia, Tunisia, Ukraine, Japan.* ***Exchange rate to US-$:*** *Average value for analysed time period.*
VAT balance: *Farms that do not balance the VAT with the tax department have either a positive or a negative balance, which is income relevant. The surplus of the VAT is shown in one bar together with the coupled direct subsidies.* ***Source for subsidy policy information:*** *European Commission, national data.*

Direct subsidies

US-$ / 100 kg milk (ECM)



delivered to processors a premium per litre of milk is paid to the farmers. In order to receive this subsidy, farmers have to deliver a minimum of 3,000 litres of milk quarterly, in less favourable regions the minimum is at 1,500 litres. Insurance costs for cows are subsidised by 40%. In addition farmers receive decoupled acreage subsidies for up to 100 ha per farm.

Belarus: Milk producers receive subsidies for feed, fuel and fertiliser, which adds up to about 0.5-1.5 US-$ per 100 kg ECM direct subsidies for the milk delivered to a dairy processor.

USA: A new agricultural policy in the USA has changed the support that is available to dairy farmers in times of low milk prices. The previous Milk Income Loss Contracts (MILC) and the Dairy Product Price Support Program (DPPSP) will no longer be in place after the end of August 2014.In their place, dairy farmers will be able to sign up for the Margin Protection Plan (MPP) to protect producers against a significant fall in milk prices or an increase in feed prices. This new programme is an insurance product with varying premiums up to coverage levels of $8 per 100 pounds of milk (45 kg). If the margin (national milk price minus ration cost) falls below $4, the US Department of Agriculture is instructed to purchase dairy products from the market to help raise milk prices. These product purchases must be given away through domestic feeding programmes.

Morocco: The government has initiated a programme called Plan MarocVert 2009-2020 in order to increase national milk production. Farmers receive access to subsidies of major inputs such as purebred heifers, forage seeds, milking equipment, harvesting machinery, building investments and so on.

Algeria: Farmers receive a subsidy of 12 DZD /litre (0.15 US-$) of milk from the government. Milk collection is supported by a subsidy of 5 DZD/litre (0.06 US-$). When processing fresh milk, processors receive a subsidy of 6 DZD/litre (0.08 US-$), and when using fresh milk and reconstituted milk the processors receive 4 DZD / litre (0.05 US-$) from the government.

Chile: The government began a system of incentives for sustainability of "agro-environmental" agricultural land (ex-SIRSD) in 2010. It was established for a period of 12 years with focus on small farms. It consists of non-refundable financial aid, to co-finance activities and practices to restore degraded agricultural soils and/or to maintain the agricultural land which has already been recovered.

Support for modernisation and investments in dairy farming

In some countries, the government supports the dairy sector with investment aid or subsidised interest rates (in the cases of NO, CH, FI, AT, DE, NL, LU, ES, UK, IE, SE, PL, CZ, RS, BY, RU, IL, CA, US, DZ, MA). However, there is a large variation in the type and level of support from country to country. In the new EU member countries, there are several programmes for investment subsidies.

VAT system for dairy farms can have positive, but also negative effects on farm incomes

In Austria, Germany, the Netherlands, Luxembourg, Italy, Ireland, and Poland, farmers can choose between keeping all VAT receipts as income and considering VAT expenses as costs or doing financial bookkeeping without VAT. In Switzerland, the farmers pay VAT for their inputs but do not receive VAT for their outputs. The VAT balance adds up to between -3 and +3 US-$ per 100 kg milk.

1.11 Dairy enterprise: Profits and return to labour

Background

This chapter reflects different profit levels for the farms. The advantage of this approach is that one may obtain an idea of the regions where farmers can be motivated through a higher profit margin from the dairy business. **The farm income** indicator describes the income based on the Profit and Loss Account, which is generated by the farm. On family farms, this income is the basis for covering the family livelihood and capital growth. Farm income is shown including and excluding decoupled subsidies, since in some countries decoupled subsidies are a strong determinant of farm profitability. **The entrepreneur's profit** shows whether the farms are able to cover their full economic cost without taking decoupled subsidies into account. This means that all costs from the Profit and Loss Account can be covered and the family owned production factors (labour, land, capital and quota) can be paid at a market price (opportunity costs). A positive entrepreneur's profit indicates that a farming system does not depend on government support and is financially sustainable. In addition, the **return to labour** shows how much entrepreneur's profit an employee, or the farmer, generates per hour's work on the farm. The ability to pay labour on the farm is shown by comparing the return to labour to the average wage level per farm. If the return to labour is lower than the average wage level, the farm may stay in business until a generation change takes place or as long as the farmer is satisfied with the wage level they generate.

Method

Farm income (without decoupled subsidies): Returns (excluding decoupled subsidies) minus costs from profit and loss account of the dairy enterprise.

Farm income (including decoupled subsidies): Returns (including decoupled subsidies) minus costs from profit and loss account of the dairy enterprise.

Entrepreneur's profit: Total returns (excl. decoupled payments) minus full economic costs (costs from P&L account + opportunity costs) of the dairy enterprise.

Return to labour: Entrepreneur's profit plus labour costs divided by total labour input. To show the impact of decoupling, the decoupled subsidies per hour are shown in the graph above the return to labour.

Average wages on the farm: This figure represents the gross salary plus social fees (insurance, taxes, etc.) the employer has to cover. See calculation details below. Decoupled subsidies per hour: total decoupled subsidies of the dairy enterprise divided by total labour input.

Farm profit results

Europe: The European farms are mainly family farms which are influenced by the quota system. In addition, due to high input costs, the European farms had the lowest entrepreneur's profits (without decoupled payments). The farms in Northern Germany, the average sized farms in France and Norway as well as the larger farms in Eastern Germany, Belgium, Spain, United Kingdom, Poland and the Czech Republic were able to make a positive entrepreneur's profit (without decoupled payments). All farms analysed had a positive farm income when all direct subsidies (coupled and decoupled) were considered. Decoupled payments accounted for more than half of the farm´s income on the farms in Finland (FI-67), Germany (DE-30S, DE-700E), Belgium (BE-40N), Luxembourg, Spain (ES-50NW), Denmark, Sweden and the Czech Republic. The graph shows that in most of the countries analysed the larger farm had a better financial performance, which was not the case in Norway and France.

The farms with the highest profitability were from Africa: Sudan, Uganda, Cameroon, and Ethiopia were the top countries in terms of entrepreneur's profit. These are mainly countries with grazing farms having very low input cost and/or high beef prices and therefore high returns from beef per 100 kg ECM. Due to the fact that most of the farms in Central and Eastern Africa are usually in rural areas with limited infrastructure, milk marketing is often a problem. In addition, due to the low milk yields of these animals (<3,000 kg/cow/year) and the small farm size (<30 cows), the total farm income per year is not very high. In order to ameliorate these problems initiatives like supervised dairy cooperative development have been taken.

Return to labour

Average wages on the farm

The average wages on the farm (in US-$/hour) have been sorted into three main levels:

>20 US-$/h: These were the farms in Norway, Switzerland, Finland (FI-28), Germany (DE-E), the Netherlands, Denmark, Sweden, Canada and Oceania.

Between 10-20 US-$/h: This category included most farms in Western Europe, Israel, the United States and Japan.

<10 US-$/h: This was the average wage on typical farms in Spain, Poland, CEEC, Mid-East, Africa, Latin America and Asia. In these countries labour was much cheaper compared to the rest of the world.

Which farms were competitive on the local labour market?

These were the farms for which the return to labour exceeded the wage level calculated for this farm type. This applied to most of the farms in the CEEC, Mid-East, Africa, the USA, Latin America, Asia and Oceania, and also a few European farms, e.g. in Norway, Northern and Eastern Germany, and the UK.

Top performing dairy farms in their regions based on return to labour input:

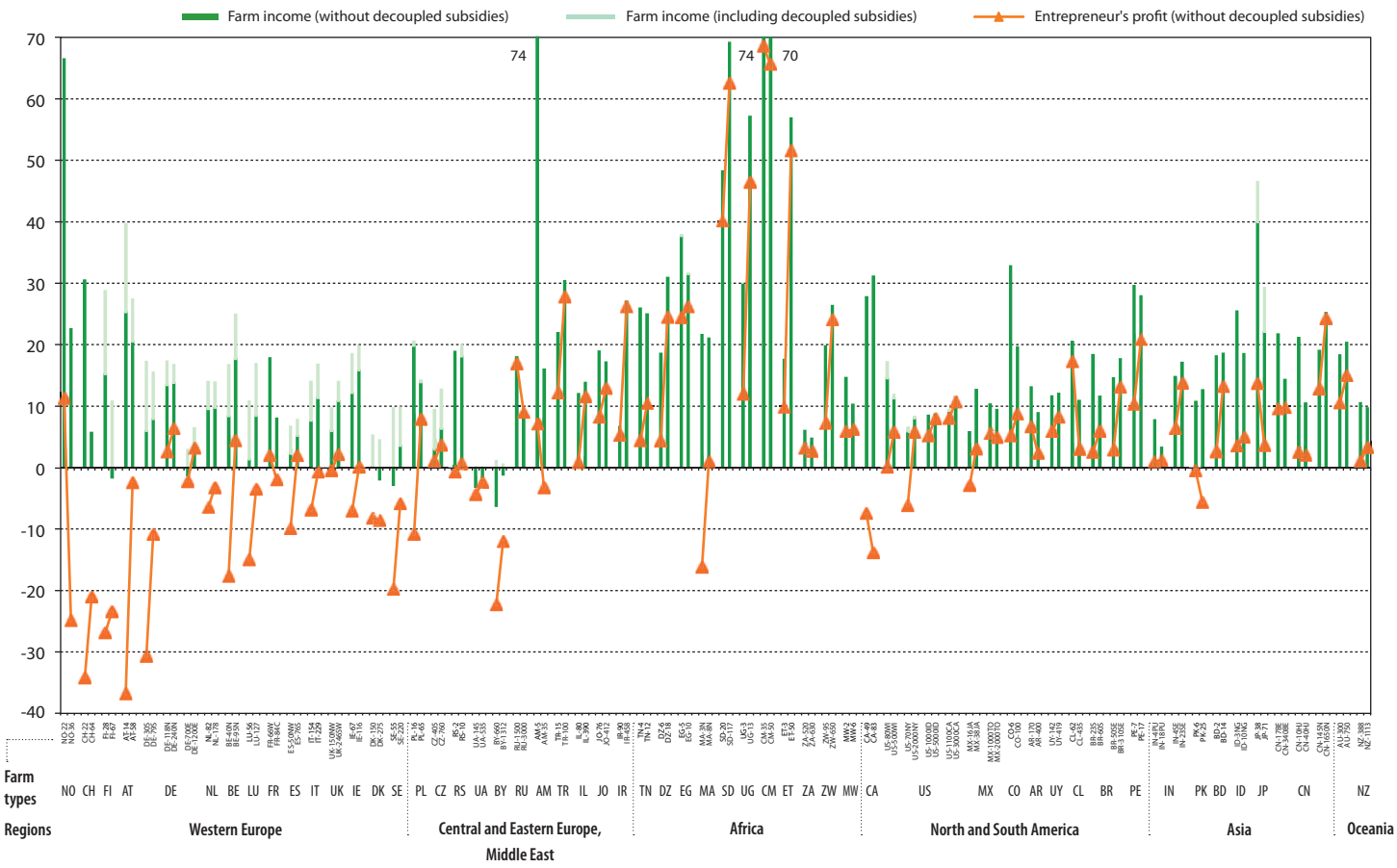
Western Europe:	NO-22	36 US-$/h
CEEC:	RU-1500	37 US-$/h
Mid- East:	IL-390	40 US-$/h
Africa:	ZW-650	13 US-$/h
North America:	US-3000CA	62 US-$/h
South America:	BR-310SE	23 US-$/h
Asia:	JP-36	28 US-$/h
Oceania:	AU-750	81 US-$/h

Explanation of variables

Farm codes: Example BR-23S = Brazilian 23-cow farm in Southern Brazil (details see Chapter 4.2 and Annex A2).Year of data collection: 2013; Uruguay, Australia, New Zealand = season 2012/2013, India, Southern Germany = financial year 2012/2013. The farms from Malawi, Zimbabwe, Sudan, Mexico-Jalisco were analysed for the first time; their results should be treated with care. Due to uncertainties the data of the following countries must also be treated with care: Egypt, Ethiopia, Tunisia, Ukraine, Japan. Exchange rate to US-$: Average value for analysed time period. Calculation of average wages on the farm: Total labour costs (wages paid plus opportunity costs) divided by the total hours worked. For this calculation the number of hours worked by the employees and the family has been estimated by experts. Opportunity costs for labour: time a skilled worker would need to do the job which is done by the different family members, multiplied by the salary for a skilled worker in the country/region. Alternative option is to take the hours the family worked multiplied by the weighted average salary of the family members.

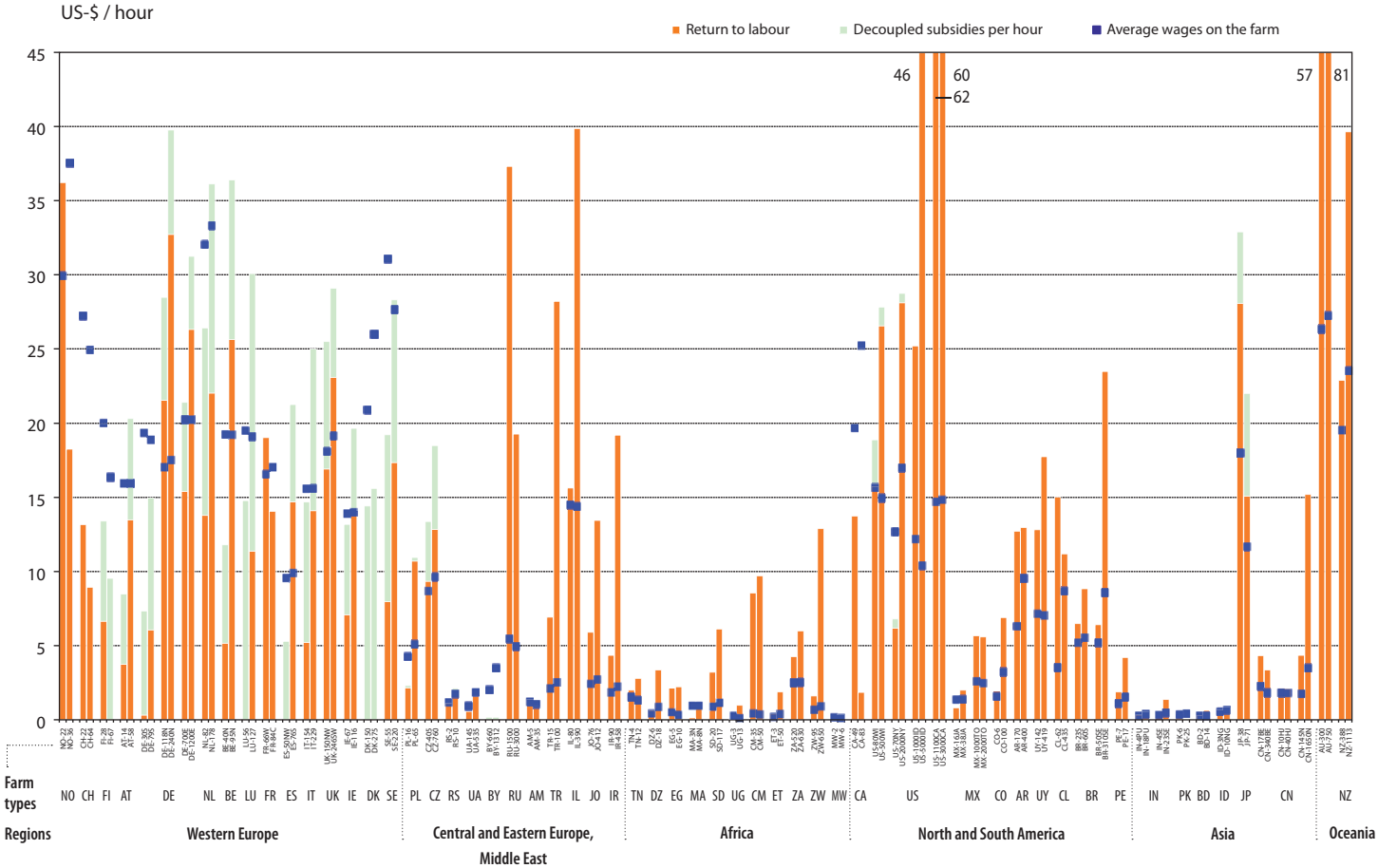
Returns and profits

US-$ / 100 kg milk (ECM)



Return to labour

US-$ / hour



1.12 Asset structure and return on investment

Background

The capital stock reflects the level of investments taken on a typical farm (per 100 kg ECM), whereas the return on investment measures the return on the business activity as a percentage. Both indicators provide information on the profitability of an investment in dairy farming in a global comparison. For this report, data from the previous year was analysed. This cannot be used to determine where to invest in the future, but it does determine where the best investments were made.

Method

Calculation of farm assets: Land, livestock, cooperative shares and quota by market price, machinery and buildings by book values.

Return on investment - operating (operating ROI): (Entrepreneur's profit without decoupled subsidies + estimated interests (on non-land, non-quota assets) + interests on quota + opportunity costs for land (by land rents)) / all farm assets.

Return on investment - assets (ROI of assets): Changes in asset values (from price changes for land, buildings, machinery, livestock, quota and shares in a cooperative) / all farm assets. This is a new indicator and the results should be treated with care.

Inflation rate: Obtained from the International Monetary Fund (2014).

Results on asset structure

An investment of 100 US-$ is needed for production of every 100 kg of milk: This was the case in the CEEC, Mid-East, most African countries, USA and Mexico (MX-N).

Composition of assets

High share of land: Land assets represented an important part of the total assets and contributed to more than 40% of total assets in Oceania, United States (US-WI, US-NY) and most of the farms in Western Europe, Latin America, Asia and African countries (EG-5, MW, UG, ZW-95). Since rented land is not considered as a farm asset, the farms which had a higher proportion of rented land also had a lower proportion of land assets. This was the case with the farms in the CEEC, Eastern Germany, France and Cameroon. Moreover, feed lot farms, e.g. in China, USA, Jordan or Iran, operated without any agricultural land and thus had a low proportion of land assets.

High share of livestock: Livestock values played an important role on farms which operated without any, or very little, owned land as seen in CEEC, Africa, Indonesia and China.

»Other« assets: In most farms this was circulating capital which can barely be seen in the graph. In New Zealand "other assets" mainly represented shares in the dairy cooperative Fonterra which accounted for about 10% of the farm assets.

High share of quota: Found in Norway, the Netherlands and Canada. This was mainly due to the high quota value and the quota transfer systems in these countries.

Differences within one country

Germany: Farms are located in different regions with diverse production systems and divergent land prices.

Israel: Since 2008, cooperative farms have been allowed to buy or sell milk quota. For this reason, the milk quota value in IL-390 decreased to zero.

Tunisia: The land assets were much higher in TN-4 compared to TN-12 due to the higher market value in the surrounding area of Tunis where TN-4 is based, as well as a higher demand for land in the region.

India: The difference in asset input was driven by the production systems (with/without land)

China (CN-17): This farm had hardly any machinery or building assets of its own, as it was part of the cooperative CN-340, from whose owner the dairy barn was hired, and who also provided the milking machine and the labour for milking the cows of CN-17.

Return on investment (ROI)

The *ROI* operating as well as the ROI assets are shown on one chart reflecting the return on the business activity of a particular farming system.

Highest ROI: Africa and Mid- East, Asian countries (ID, CN-BE, CN-N, IN-SE), Latin America, CEEC (RS, RU), United States (US-CA, US-ID): These were regions with a very high return on investment (generally above 20%).

Moderate ROI: North America, Oceania, Germany, and Asian countries (PK, JP): Almost all these countries had a return on investment within the range of 10-20%.

Low ROI: European countries: In these regions the ROI was close to/or below zero since the calculation excluded decoupled payments.

Explanation of variables

Farm codes: *Example BR-23S = Brazilian 23-cow farm in Southern Brazil (details see Annex 2). Year of data collection: 2013; Uruguay, New Zealand = season 2012/2013, India (not farms in SE-India) = financial year 2012/2013. The farms from JP were analysed for the first time; their results should be treated with care.*

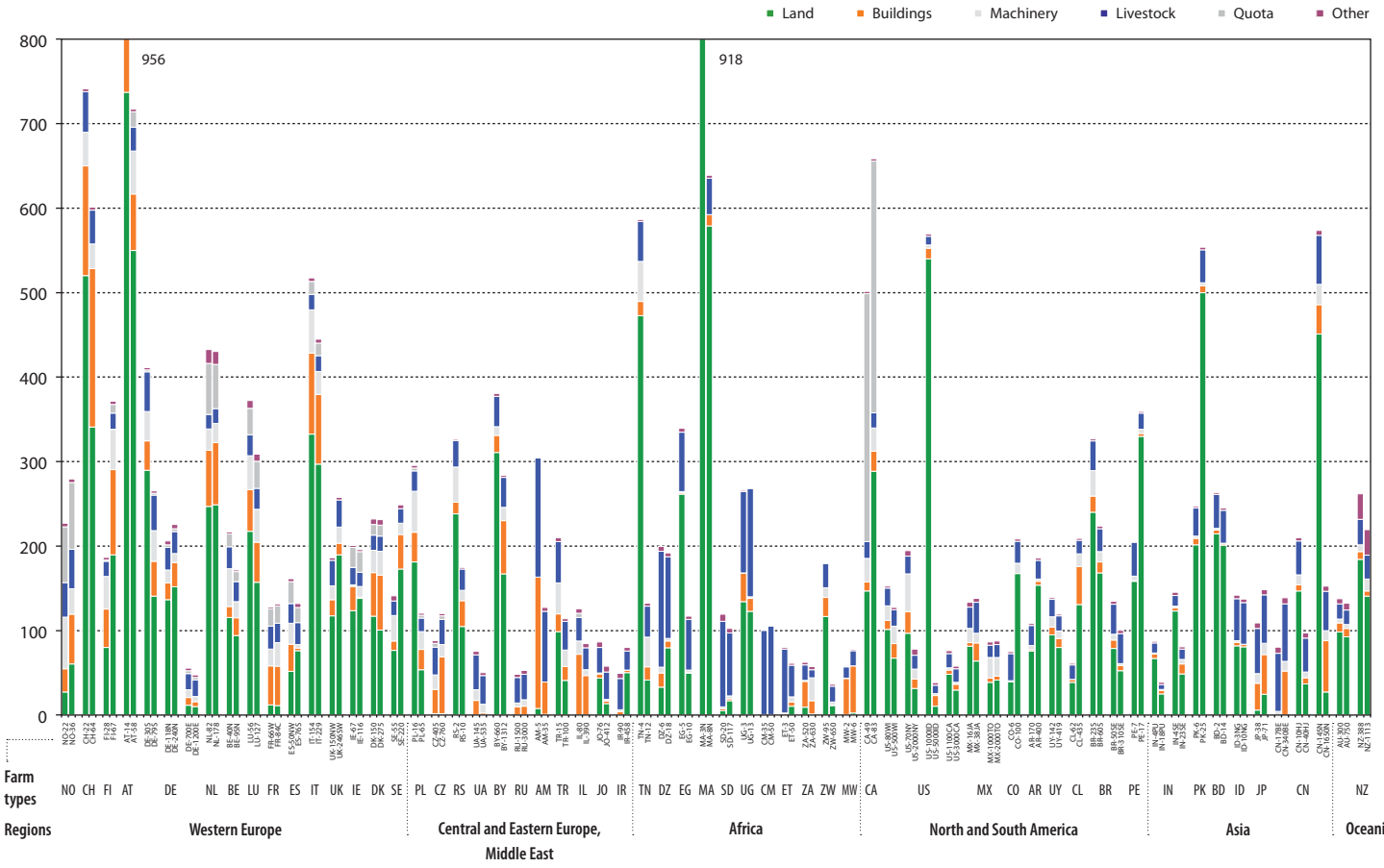
Exchange rate to US-$: *Average value for analysed time period.*

Method challenge 1 ROI: *In farms with decoupled subsidies, the ROI calculated can be overestimated as these payments keep land prices at a high level.*

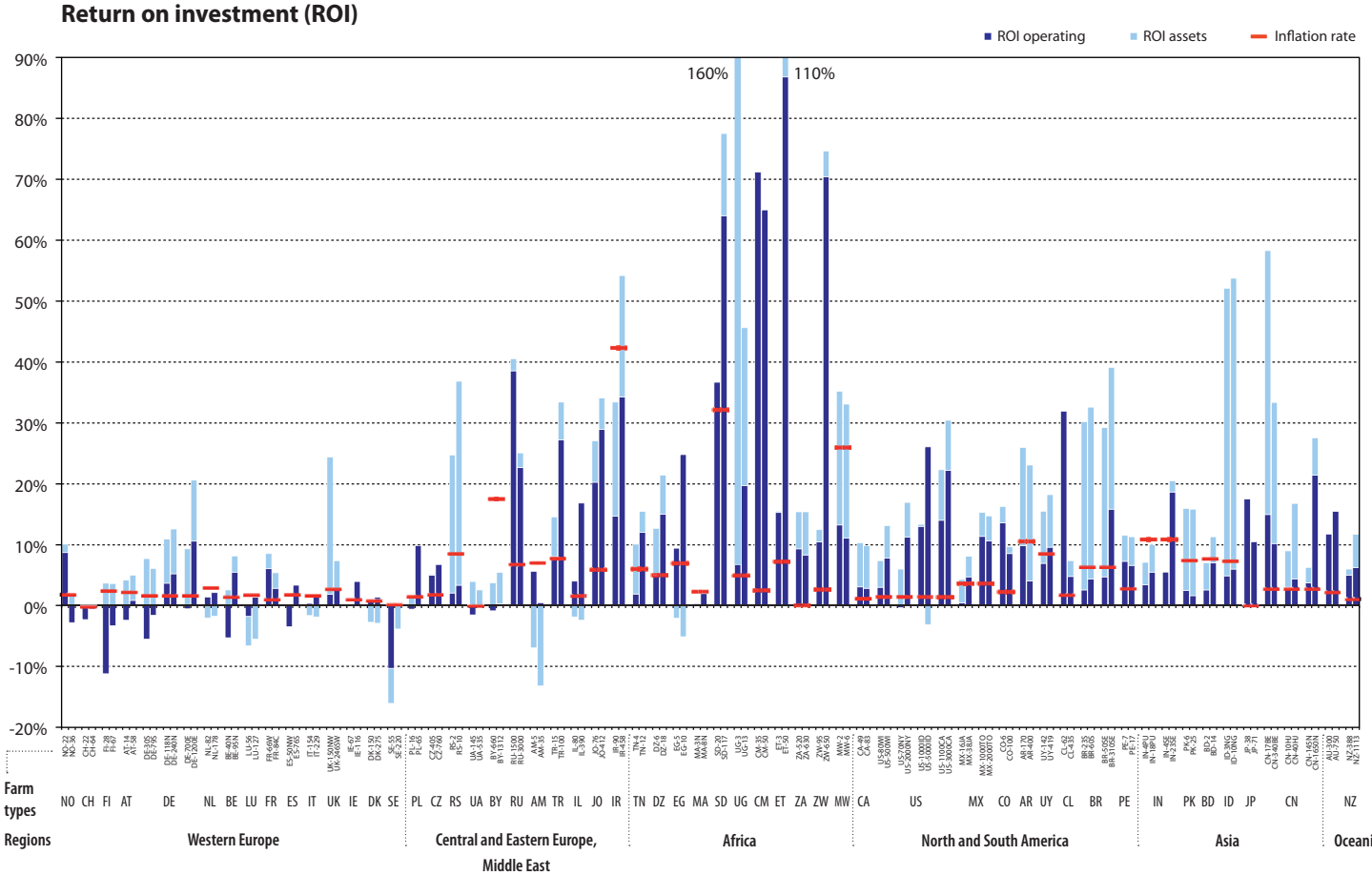
Method challenge 2 Return to labour: *Calculation of return to labour for farms with a negative entrepreneur's profit: the calculations in these farms result in a negative return to labour and so far, only the decoupled subsidies per hour have been shown.*

Asset structure of the dairy enterprise

US-$ / 100 kg milk (ECM)



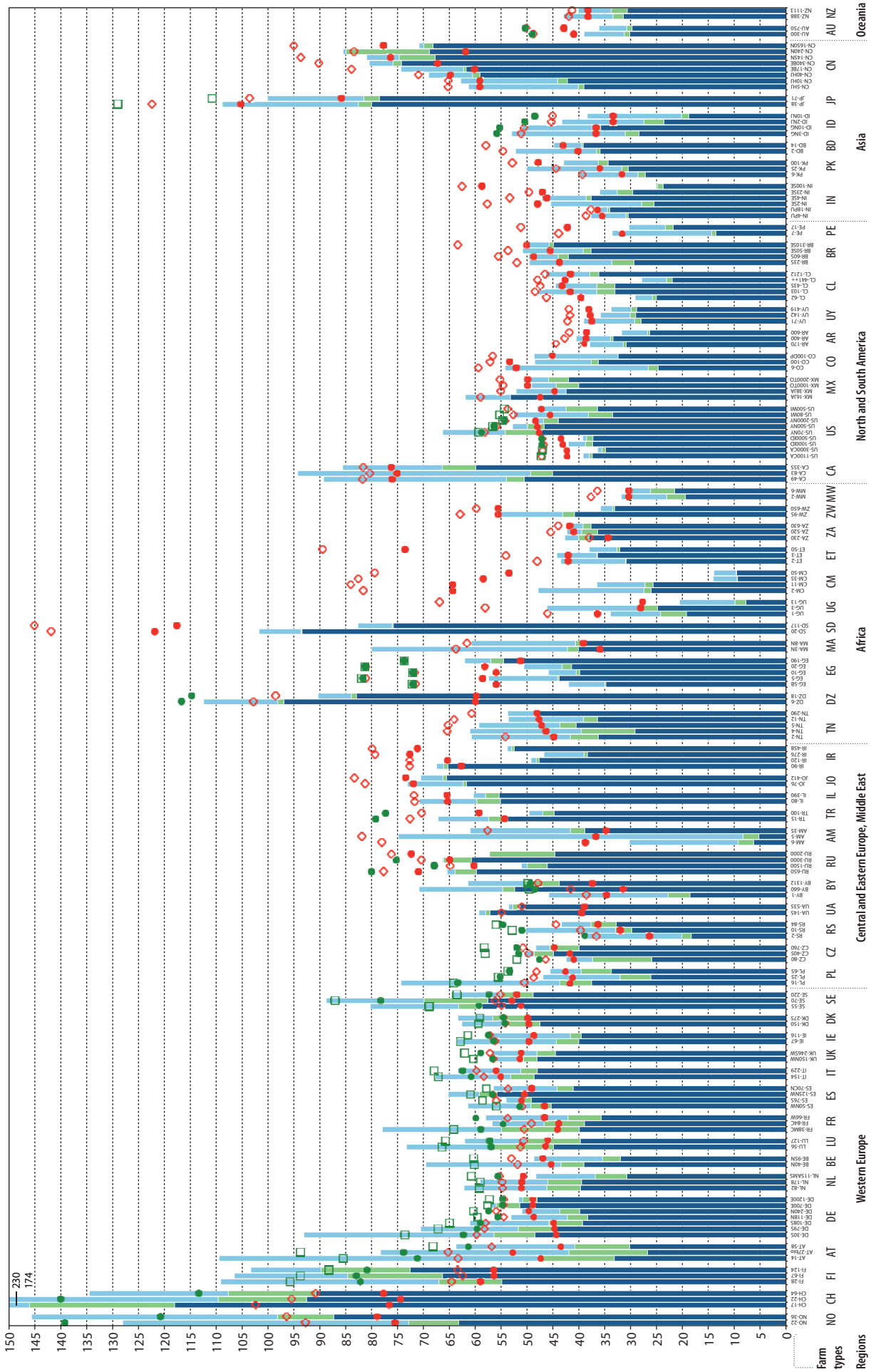
Return on investment (ROI)



1.13 Overview of all typical farms analysed – costs and returns

Total costs and returns of the dairy enterprise

US-$ / 100 kg milk (ECM)



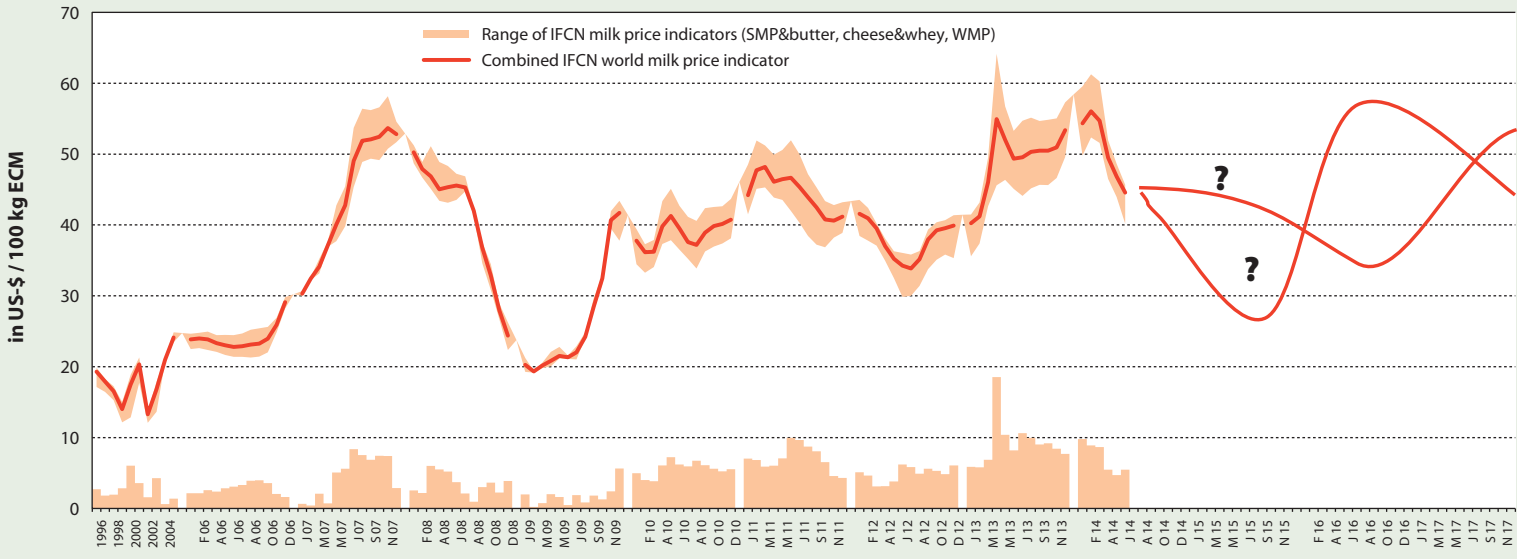
15th IFCN Dairy Conference in Asiago, Italy, hosted by

IFCN Dairy Conference 2014

Chapter 2 – Global monitoring dairy economic indicators 1996 – 2013

Authors: Łukasz Wyrzykowski, Eva Schröer-Merker, Barbara Siwirska, Karin Wesseling, Helga Weber
with the contribution from researchers mentioned on page 2 – 3 of this report

Combined IFCN world milk price indicator



Combined IFCN world milk price indicator: weighted average of 3 IFCN world milk price indicators: 1. SMP & butter (35%), 2. Cheese & whey (45%), 3. WMP (20%)

2.1 Summary – Monitoring dairy economic indicators

Introduction

The aim of this chapter is to monitor the development of the dairy chains, and define trends and drivers. Changes in historical world milk price data, as compared to those which appear in former IFCN Dairy Reports, are due to improvements in the methods used to obtain this price indicator.

17-year history (1996 – 2013): World market prices

The period of 1996 - 2006 is represented by low, stable world prices. From 1996 to 2006 the world milk price was quite stable in the range of 13 to 24 US-$/100 kg milk . The feed price was between 11 and 20 US-$/100 kg feed with even lower annual changes. Since 2007 the fluctuation increased heavily and resulted in milk prices between 19 and 55 US-$/100 kg milk and feed prices between 20 and 41 US-$/100 kg feed. As well oil prices showed a wide range between 40 and 133 US-$/ barrel on the monthly basis in the years 2007 to 2013. Shocks in prices and high fluctuations lead to great uncertainty on the world market and affected mainly dairy farms based on intensive compound feed production systems. Due to a deficit of milk in 2013 and an unfavourable year 2012, in 2013 the milk price increased strongly by about 38% compared. During the same period the world feed price decreased more than 7% and the oil price stayed on a stable level above 100 US-$/barrel.

World milk price development and its drivers

The basis for a better understanding of changes in the dairy sector is to identify the development of the prices. The period between 2010 and 2013 was characterised by price fluctuation. An increase of approximately 5.5 US-$/100 kg in 2011, a decrease of 7.3 US-$/100 kg in 2012 and a new increase of about 13.9 US-$/100 kg in 2013, show that the milk market has become more and more unstable in recent years.

High supply drove the price decrease in 2012 and strong demand supported the high price level until the end of 2013: A positive development of the world milk price and a favourable milk : feed price ratio in 2011 caused an overproduction of milk. Milk demand was higher than the supply. This led to a decrease of the milk price to 36.7 in 2012 from a level of 44.1 US-$/100 kg in 2011. In 2013, due to weather anomalies, high compound feed prices from season 2012/2013 and a lower milk price in 2012, the market was not able to cover the milk demand by approximately 4 mill t ECM of milk. This was one of the reasons for a significant milk price increase to a level of 50.6 US-$/100 kg, which was 27 % higher than the price of the previous year.

The main drivers for milk and feed prices: The main drivers for the milk price are connected with the production process and the world dairy trade. The production process depends heavily on the volume and quality of the crops harvested, which are redirected for the feeding of milking animals. This is the reason why weather anomalies are one of the factors that strongly influence costs of milk production and have an influence on farm economics. Another factor, in some countries, is related to the structural changes of farms, which are dictated by the agricultural policy or market itself, via milk price, consolidation of the milk processors, costs of transportation, land availability or access to technology and infrastructure. Those and other factors define whether a country in particular is able to cover national milk demand or not and, at the same time, if the country will become an importer or exporter of dairy products. Even though the global dairy trade increases every year; only 14.3% of all milk delivered to dairy processors and 20% of tradable dairy products were internationally traded in 2013. The world milk price is being dictated by an international pool of dairy products and national price developments by net exporting countries. One external factor for the milk price on a global scale is the development of dairy consumption, especially in developing countries. This is a market where the dairy products are driven by an elasticity of demand and depend heavily on the market price.

National milk price trends

Farm gate prices increased in 2013 in over 79% of the countries monitored and the national milk prices reflected the increasing world milk price trend (for details, see chapters 2.3 and 2.4). This is a completely opposite trend to that of last year, when the milk price decreased in 71% of the IFCN monitored countries. A difference in the degree and timing of the price transmission from world to national markets was observed.
EU-28: The average milk price in EU-28 increased from 42 to 48 US-$/100 kg ECM. The highest price was in Cyprus with 70 US-$/100 kg ECM and the lowest in Romania with 32 US-$/100 kg ECM. **CIS countries:** An increase in milk price was observed in most of the CIS countries, except in Belarus where the milk price decreased by about 1 US-$ from 39 to 38 US-$/100 kg ECM. **USA and South America:** The milk price increased in almost all the countries. A milk price increase between 6-11% was noticed in the main producers, such as Brazil, Argentina and USA. **Asia:** Prices in China increased by about 12% and in India by about 10%. The milk price in Pakistan did not follow the world trend and a slight decrease of 1% was observed. The highest decrease in milk price was observed in Japan, 16% since last year, but the milk still remains on a high level of 96 US-$/100 kg ECM. **Oceania:** Australia showed a decrease of 8%, continuing with the negative trend from last year. The milk price in New Zealand increased by about 30% from 36 to 47 US-$/100 kg ECM. **Africa:** In most of the countries the price increased. A negative trend was observed in South Africa where the milk price dropped from 43 to 40 US-$/100 kg ECM, as well as in Malawi (from 36 to 27 US-$/100 kg ECM) and in Egypt (from 93 to 91 US-$/100 kg ECM).

National feed price trends and milk: feed price ratios

In 2013 the world milk : feed price ratio increased by 49% to 1.56. This was due to the increase in world milk prices outweighing the balance in world feed prices, which occurred in nearly 80% of the IFCN monitored countries at a national level. The reason of this was a highly unsatisfactory dairy demand at world level. Farms were therefore able to increase milk production and recover after the bad year of 2012.

Monthly developments and key facts

Monthly developments are of increasing importance in a highly dynamic world. The graphs in chapter 2.5 illustrate the monthly change in milk production in combination with price transmission from world to national markets, the absolute distance of national milk prices in relation to the world market price and key facts. The degree of connection to the world market as well as the price patterns varied greatly from country to country. Furthermore, milk production developments show a high diversity, impacted, among others, by production systems, climatic conditions, price developments and policy impacts. In the Country Pages of chapter 3, monthly price developments for 95 countries are shown.

Latest developments in monthly world market prices for oil, feed and milk

The analysis in chapter 2.2 shows the monthly price developments for oil, feed, and milk for the time frame 2002 to June 2014. Milk prices increased by 25% from January to December 2013, but in the first six months of 2014 the world milk price dropped by about 22%, while feed prices increased by 6% in the same period. This led to a world milk : feed price ratio at a level of 1.5 in June 2014. The oil price increased by 3.5% in the six months prior to June 2014 and the oil price returned to a level above 110 US-$/Barrel.

2.2 Global trends in oil, milk and feed prices 1981 – 2014

Introduction

This chapter aims to illustrate the long term price trends relevant to milk production in the world.

Annual world market prices in US-$

Oil price

In the first six months of 2013 the oil price was 107.5 US-$/barrel and was lower on average to that of the second half of the year, when the price reached 109.7 US-$/barrel. In comparison to 2012, the oil price remained on a high level with only a small decrease of 2.8%. Another slight decrease to the level of 108.1 US-$/barrel was observed at the beginning of 2014, while, however, remaining on a high level.

Feed price

From 1981 to 2006 the world feed price was on average 13.8 US-$/100 kg feed, but with strong fluctuations ranging from 10.8 to 19.5 US-$/100 kg feed. From this level the price increased by 86% in two years, from 14.3 US-$ in 2006 to 26.7 US-$ in 2008. In 2009 the price fell 16% to 22.4 US-$/100 kg feed. In 2010 it increased only slightly by 3% to 23.0 US-$/100 kg feed. However, in 2011 it increased again strongly by 39% to 31.8 US-$/100 kg feed, above the historical high of 2008 (26.7 US-$/100 kg). For 2012, the price was 9.5% higher than the 2011 level, at 35.1 US-$/100 kg feed. In 2013 the feed price decreased, reaching a level of 32.8 which was7.8% lower than 2012. This indicated a negative trend in the feed price. This was confirmed in the first six months of 2014, when the feed price continued to decrease to the level of 30.4 US-$/100 kg feed on average. The calculation of the IFCN feed price indicator is based on 70% corn (energy feed) and 30% soybean meal (protein feed).

Milk price

The world milk price has shown strong fluctuations over the years. It ranged from 8.0 to 44.5 US-$/100 kg milk in the period analysed of 1981-2012. The historical peak in 2007, which showed a 100% increase in one year, was followed by a strong decrease to 26.2 US-$ in 2009. In 2010, the milk price increased from 32.5% to 38.8 US-$/100 kg milk. In 2011 the milk price was 44.5 US-$/100 kg milk, and, in the same way as oil and feed, was above the historical highs of 2007/08. During 2012, the price, at 37 US-$/100 kg milk, was on average 17% below the 2011 level. For 2013 the milk price was 50.6 US-$/100 kg milk due to a sharp increase of about 38%, that brought the milk price to a higher level than in 2007. The first half of 2014 was represented by high milk prices of 51 US-$/100 kg milk on average, decreasing in the second quarter to 44.6 US-$/100kg in June. The world milk prices are based on the weighted average of 3 IFCN world price indicators: skim milk powder & butter (35%); cheese & whey (45%) and whole milk powder (20%).

In the period 1981-2012 a number of fluctuations were observed.

Lower price levels were observed in: 1986, 1990, 1999, 2002 and 2009

Higher price levels were found for: 1989, 1995, 2001, 2007, 2011 and 2013

Monthly world market prices: trends in 2014 – oil, feed, milk

Oil prices were stable in 2013 and continue to be stable in 2014

The monthly **oil price** development was characterised by a strong price increase as from 2010 with greater stabilization during the second half of 2012. From 2013 to mid-2014 the price followed a stable trend, remaining at 111.8 US-$ in June 2014. The average oil price in 2013 was 108.6 US-$ which is exactly the same value as in the first six months of 2014.

Feed prices increased slightly, but then remained stable on the level of 30 US-$/100 kg during the first six months of 2014

The year 2014 will be characterised by a slightly negative **feed price** trend. At the beginning of 2013 the feed price was 34.9 US-$/100 kg and reached a peak of 35.9 US-$/100 kg in June. Then the trend became strongly negative due to low prices of corn and barley on the stock markets (27.8 US-$/100kg in November). The high prices of soybean meal on the world stage brought feed prices up to a level of 28.1 in January and 31 US-$/100 kg in June 2014. IFCN foresees that on average the feed price for 2014 could be around 30 US-$/100 kg.

Milk prices decreased by 21% in the first six months of 2014

A decreasing trend of **milk prices** started in mid-2011, declining by 26.5% in the 12 months prior to June 2012. An important increase was observed in the Q1-2013 when the milk price reached 54.9 US-$/100kg milk in April. In June 2013 the milk price was 49.3 US-$ and was higher by 44% than the previous year. The year ended with a value of 53.4 US-$/100kg and the result was a 25% price increase over the year. January 2014 started with a very high price of 54.4 US-$/100 kg but then a strong decrease brought the price down to a level of 44.6 US-$/100 kg in June. IFCN foresees that on average the milk price for 2014 could be around 47.5 US-$/100 kg.

Summary of global price developments

The three commodities observed have similar price development patterns which are characterised by strong fluctuations especially in recent years. In 2011 prices were on a high level even exceeding the historical highs of 2007/08. In 2012 the milk price decreased, feed price became stable and oil prices went up. In 2013 the milk price followed the oil price and presented a significant increase in relation to the feed price which remained stable. In the first six months of 2014 the milk price strongly decreased but the oil and feed price recovered and a positive, but stable, trend in prices is visible.

Global milk : feed price ratio at a high level of 1.9 between November 2013 and March 2014

The milk : feed price ratio indicates how much feed a dairy farmer receiving global milk prices and paying global feed prices can buy, after selling one kg milk. The ratio is considered as favourable, when it is 1.5 and usually one can conclude that the higher the ratio, the more favourable is intensive feeding. High milk prices in 2013 increased the annual average of the ratio to 1.5 and maintained an even higher level of 1.7 until June 2014. The highest ratio was observed in the period between November 2013 and March 2014 (between 1.8-1.9 for the world).

Favourable periods were observed in: 1995, 2000-2001, 2005-2007, 2010-2011 and 2013.

Explanation of variables

2014*: *January-June 2014.*

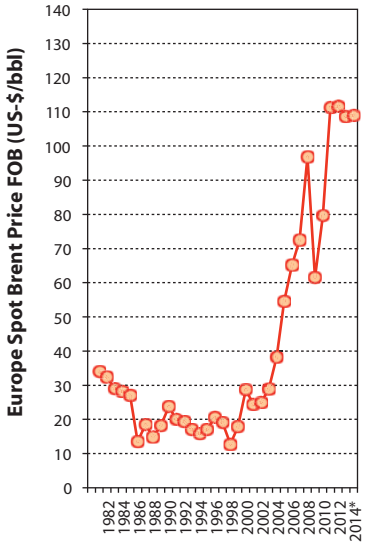
Oil prices: *Energy Information Administration and Association of the German Petroleum Industry. Prices: Europe Brent spot price, FOB, in US-$/bbl (US-Dollars per oil barrel).*
IFCN world feed price indicator: Source: International Monetary Fund. Specification: Soybean meal: CME futures first contract forward, Corn: FOB US Gulf.
Calculation: 0.3 kg soybean meal price + 0.7 kg corn price.

Combined IFCN world milk price indicator: *Based on the weighted average of 3 IFCN world milk price indicators: 1. SMP & butter (35%), 2. Cheese & whey (45%), 3. WMP (20%), based on shares of the related commodities traded on the world market. For more details, see: www.ifcndairy.org/en/output/prices/milk_indicator2013.php*

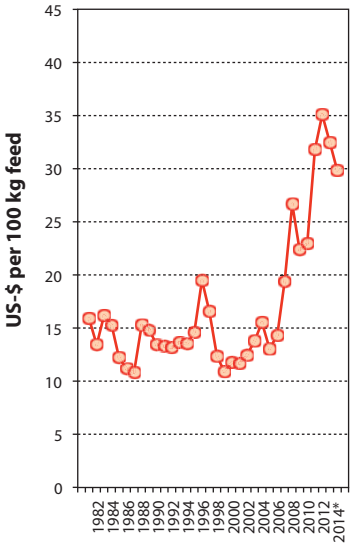
Exchange rates: *Oanda.*

World oil, feed and milk prices in US-$ – yearly 1981 – 2014

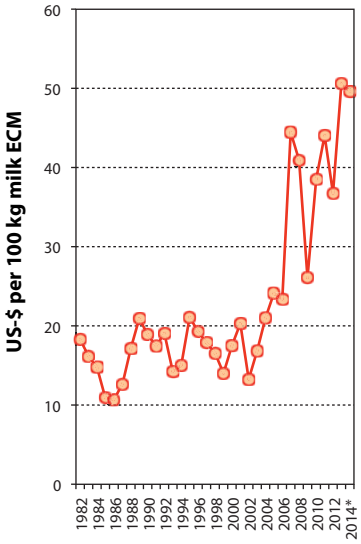
World oil price



World feed price

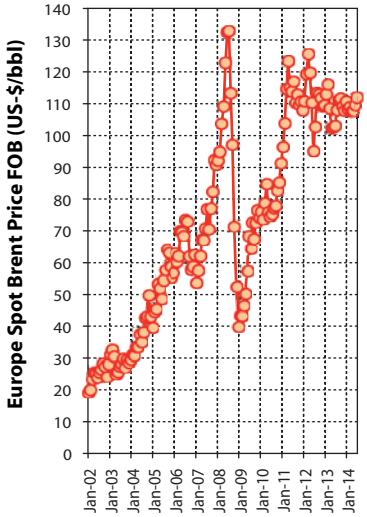


Combined IFCN world milk price indicator

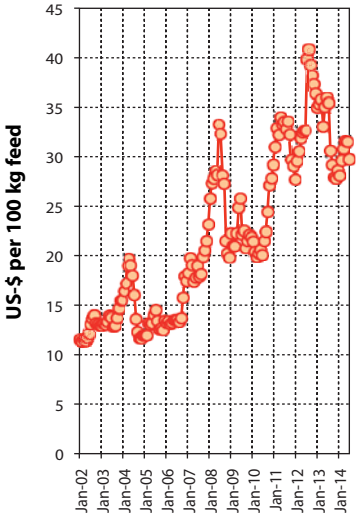


World oil, feed and milk prices in US-$ – monthly from January 2002 until June 2014

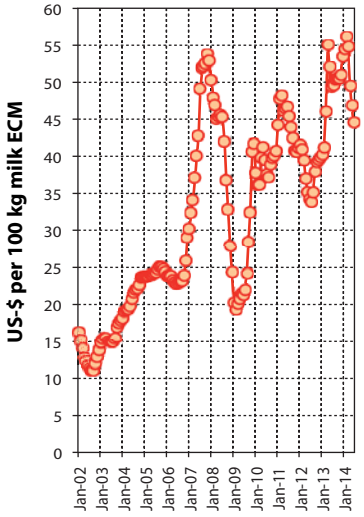
World oil price



World feed price

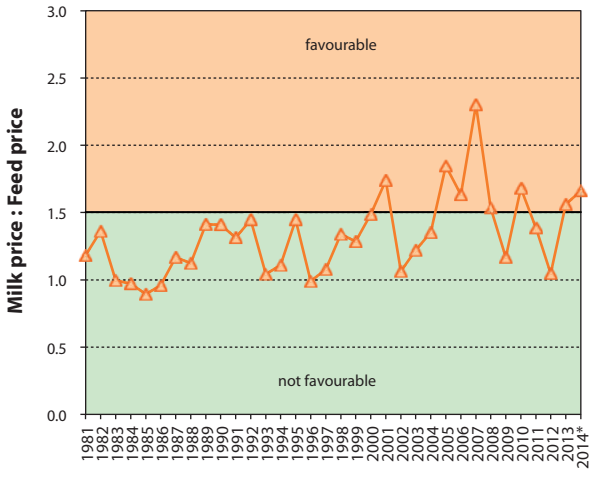


Combined IFCN world milk price indicator

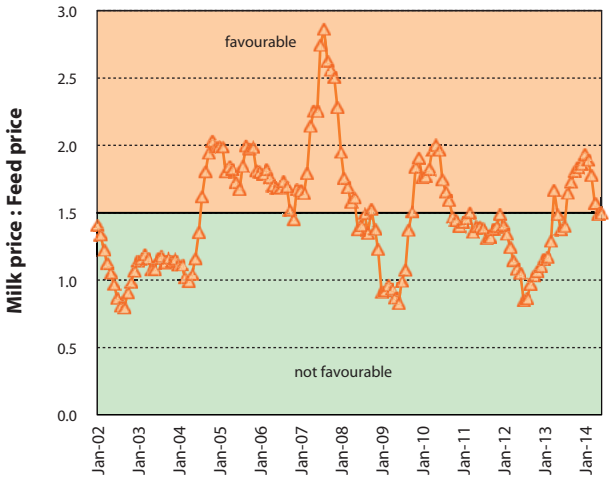


World market: Milk : feed price ratio

Yearly data 1981-2014



Monthly data January 2002-June 2014



2.3 Milk prices in 2013 in US-$

General remarks

Chapter 2.3 and 2.4 illustrate the status of milk price in US-$ in 2013 for 100 countries and the changes observed from 2013 (in the world maps more countries are included). Detailed milk price developments 1996 to 2013 per country are shown in chapter 2.4. It is important to note that exchange rate trends have effects on price developments when considered in US-$ or national currency.

Milk prices in 2013 in US-$

In 2013 the world market price of milk was 51 US-$/100 kg ECM, which is 14 US-$ or 38% higher than that of 2012. In the maps the milk prices for 120 countries are shown. Out of the 100 countries shown in the Country Pages (Chapters 3.10 to 3.109) milk prices ranged from 23 US-$/100 kg ECM in Cuba to 136 US-$/100 kg ECM in Yemen and can be grouped into the following categories:

< 20 US-$: None

> = 20 < 30 US-$: Cuba, Kenya, Malawi, Tanzania, Uganda

> = 30 < 40 US-$: Afghanistan, Argentina, Armenia, Australia, Belarus, Lithuania, Nepal, Pakistan, Peru, Romania, Serbia, South Africa, Sri Lanka, Tajikistan, Venezuela

> = 40 < 50 US-$: Albania, Austria, Bangladesh, Belgium, Bolivia, Bosnia and Herzegovina, Brazil, Bulgaria, Chile, Colombia, Croatia, the Czech Republic, Denmark, Estonia, France, Hungary, India, Indonesia, Kyrgyzstan, Latvia, Luxembourg, Macedonia, Mexico, Morocco, New Zealand, Nigeria, Poland, Portugal, Senegal, Slovakia, Slovenia, Spain, Tunisia, Turkmenistan, Ukraine, USA, Uruguay

> = 50 < 60 US-$: Germany, Costa Rica, Ecuador, Finland, Greece, Iran, Ireland, Italy, Jamaica, Kazakhstan, Mongolia, the Netherlands, Panama, Paraguay, Russian Federation, Sweden, Thailand, Turkey, United Kingdom, Zimbabwe

> = 60 US-$: Algeria, Azerbaijan, Cameroon, Canada, China, Cyprus, Egypt, Ethiopia, Iceland, Israel, Japan, Jordan, Korea, Malaysia, Norway, the Philippines, Saudi Arabia, Sudan, Switzerland, Taiwan, Uzbekistan, Vietnam, Yemen

Milk price trends in world regions from 1996 – 2013 in US-$ (see Chapter 2.4)

General

In 2013, over 79% of the countries reflected the world market trend by increasing national farm gate prices. Here it is important to recognize, that the world milk price is based on the weighted average of 3 IFCN world price indicators based on their shares in world dairy trade: skim milk powder & butter (35%); cheese & whey (45%) and whole milk powder (20%). The change from the milk price indicator based only on butter and SMP allows for a better reflection of the real world milk price.

EU-15

After the milk prices rose in the years 2011 and 2012, the price in 2013 was even better. All EU-15 member states reflected the world market trend. The lowest milk price in 2013 was again found in Portugal (46 US-$/100 kg ECM), the highest milk price at 58.9 US-$/100 kg ECM, in Greece, followed by Finland (58.1 US-$/100 kg ECM) and Italy (56.5 US-$/100 kg ECM). The price range in EU-15 decreased from 19 US-$ in 2012 to 12.92 US-$ in 2013.

EU-13 and other European countries

All the countries showed an increase in prices from 2012 to 2013 with 4% in Cyprus up to 26% in Lithuania. In 2013 Romania showed the lowest price level (31.7 US-$/100 kg ECM), followed by Serbia (37.3 US-$/100 kg ECM) and Lithuania (38.5 US-$/100 kg ECM). Prices higher than the EU-15 average (51.1 US-$/100 kg ECM) were observed in Cyprus with a difference of +19.3 US-$/100 kg ECM, as well as Malta with a price level of 63.7 US-$ and Turkey 51.5 US-$.

CIS countries: In 2013 these countries had a wide price range from 38.0 US-$/100 kg ECM in Armenia, Belarus and Tajikistan to 74 US-$/100 kg ECM in Uzbekistan. The milk prices in Uzbekistan, Kazakhstan, Azerbaijan and Russia were above the EU-15 average.

Mid-East: The national prices showed a mixed development pattern with decreasing and increasing prices. In Israel, Yemen, Saudi Arabia and Jordan an increase in milk prices was observed from during 2013, while in Syria and Iran a significant decrease was observed. The current political situation in Syria and Iran makes data collection and validation challenging.

USA, Canada, Central and South America: Most countries reflected the world market price with an increase in the milk prices. Decreases were observed in: Canada, Venezuela and Colombia. Increases were observed in: Uruguay, USA, Argentina, Nicaragua, Mexico, El Salvador, Costa Rica, Uruguay, Paraguay, Ecuador, Chile and Brazil. The highest price was seen in Canada with 78 US-$/100 kg and the lowest in Peru with 35 US-$/100 kg.

Asia: The milk price increased in most Asian countries. Thus, the Asian milk price status can be categorised in different price levels:

30-40 US-$/100 kg: Afghanistan, Pakistan, Sri Lanka, Nepal

>40-50 US-$/100 kg ECM: Bangladesh, Indonesia, India;

> 50-60 US-$/100 kg ECM: Mongolia, Thailand.

There is an increasing number of high-price countries in Asia, with the highest prices found in China, Republic of Korea, Taiwan, Vietnam, Japan, The Philippines and Malaysia (62-101 US-$/100 kg ECM).

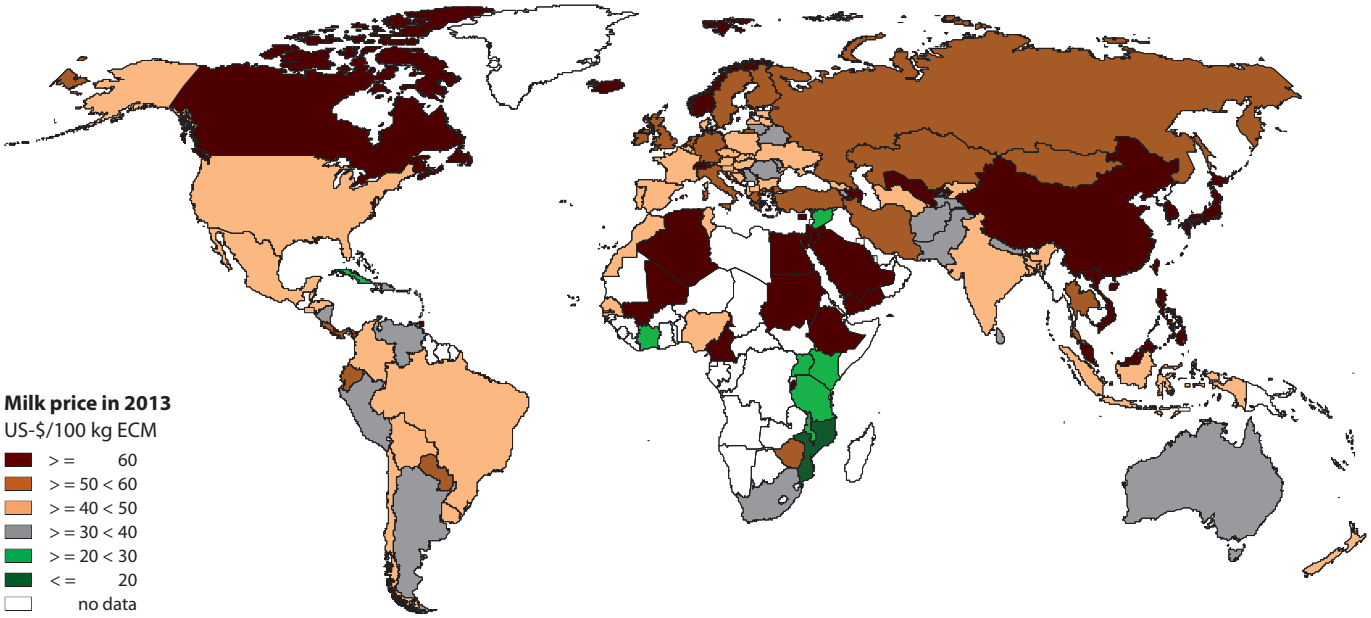
Africa: The general trend for Africa in 2013 was characterised by an increase in almost all the countries, except South Africa where the milk price decreased from 43 to 40 US-$/100 kg. The highest increase in prices was in Uganda (around 20%) and in Ethiopia (around 33%).

Oceania: The milk price in Australia decreased for the second year in a row by 8% for this year. New Zealand followed the world market trend increasing the national milk price about 30% from a level of 36 to 47 US-$/100 kg.

Explanation of variables

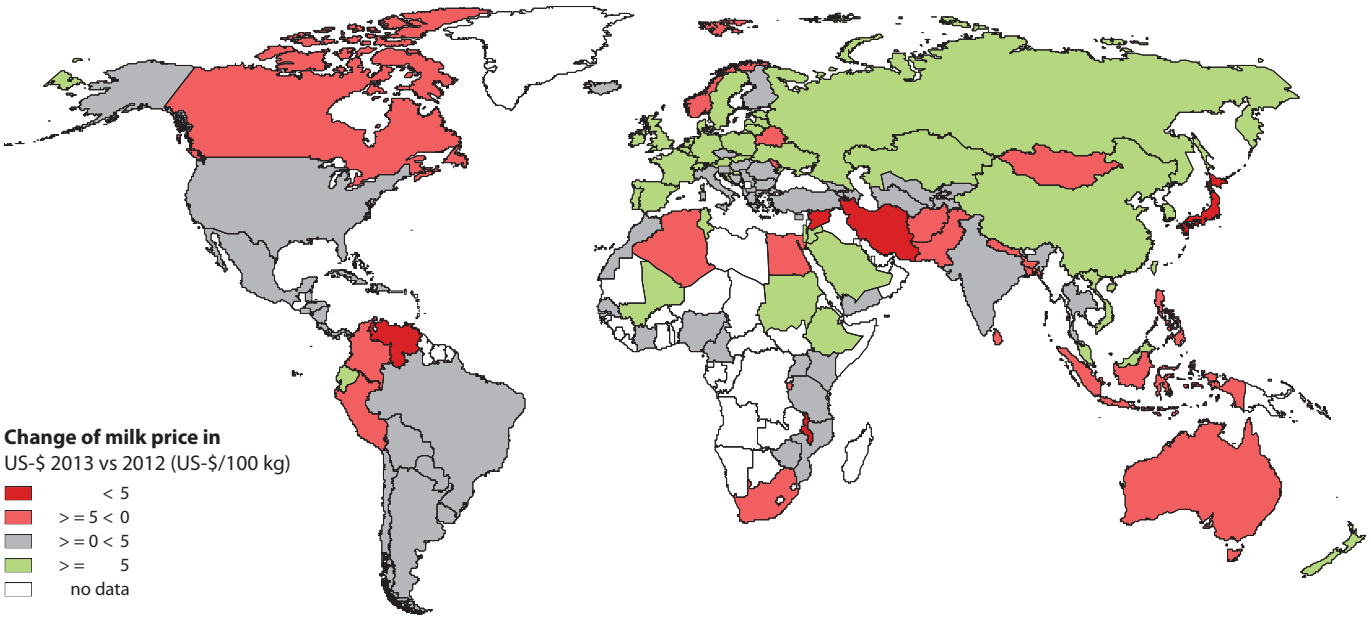
Remarks: *2013 milk price estimated for some countries, based on trend and expert knowledge. ECM: Energy corrected milk, standardised to 3.3% protein and 4% fat (see Chapter 4.1 for details).*

Milk prices in US-$ per 100 kg 2013



Source: *National statistics/surveys, in some cases estimations.*

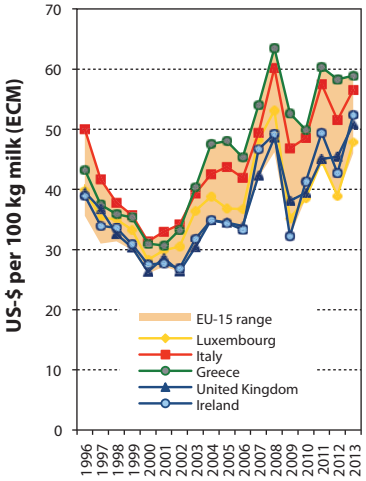
Change of milk price in US-$ 2013 vs 2012

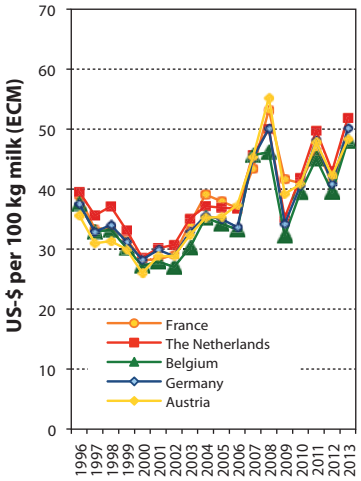


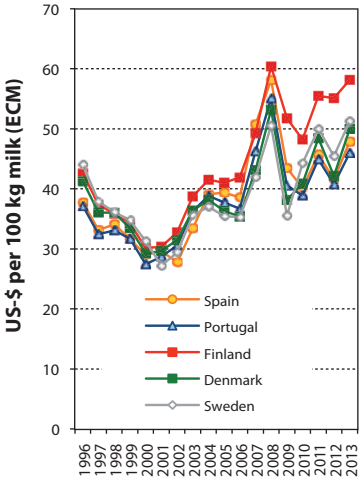
Source: *National statistics/surveys, in some cases estimations.*

2.4 Monitoring milk prices 1996 – 2013

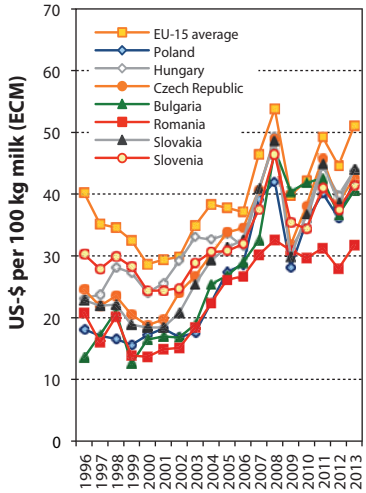
EU-15

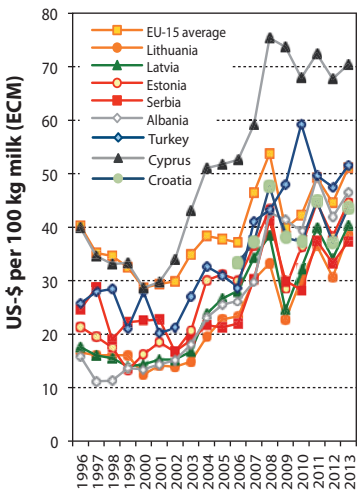


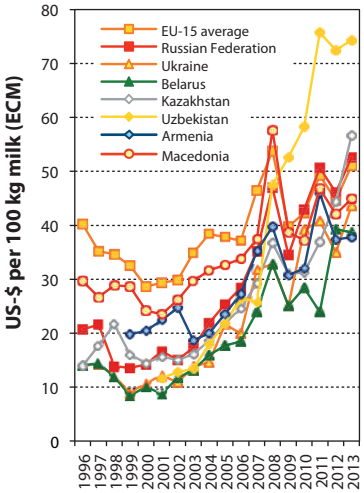




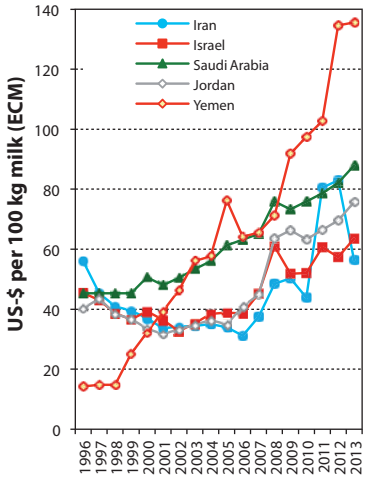
EU-new member states, Eastern Europe and CIS countries



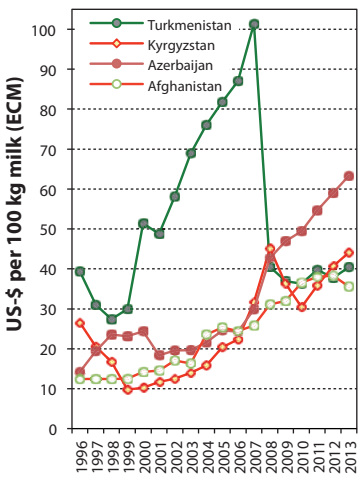


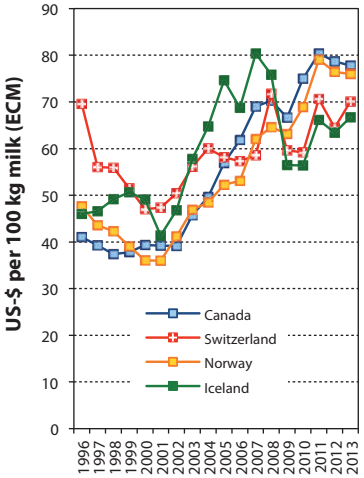


Middle East



Other countries



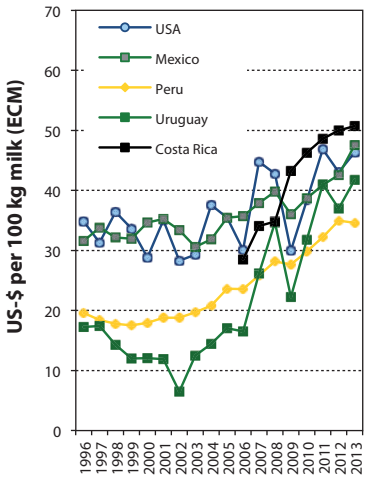


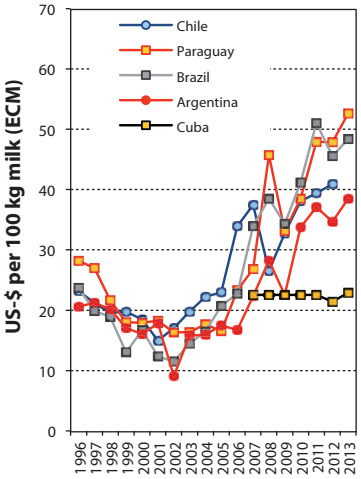
Explanation

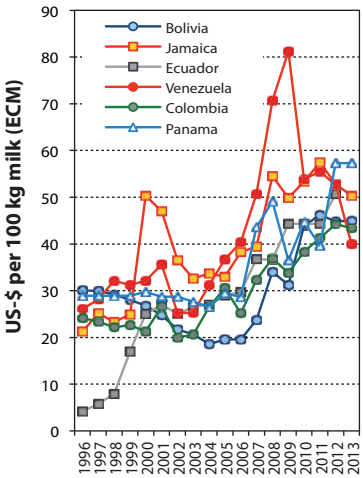
Source: *National statistics/surveys, in some cases estimations. Data in ECM: Energy corrected milk, standardised to 3.3% protein and 4% fat (see Chapter 4.1 for details).*

World market: *Combined IFCN world milk price indicator: Based on the weighted average of 3 IFCN world milk price indicators: 1. SMP & butter (35%), 2. Cheese & whey (45%), 3. WMP (20%), based on shares of the related commodities traded on the world market. For more details, see: www.ifcndairy.org/en/output/prices/milk_indicator2013.php*

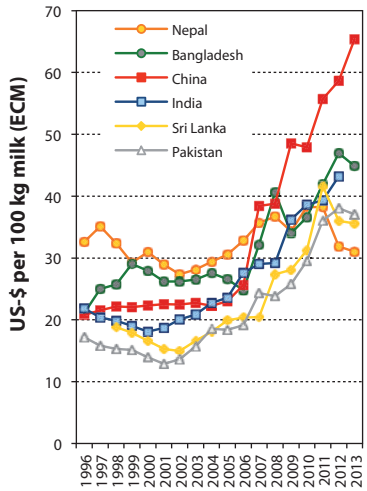
USA, Central & South America

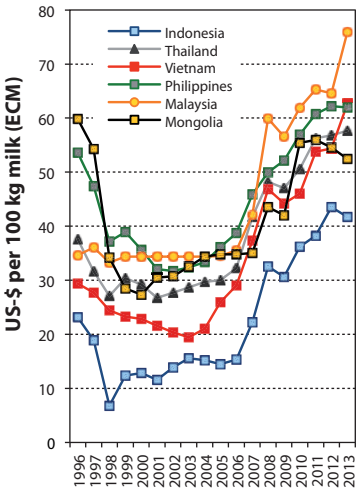


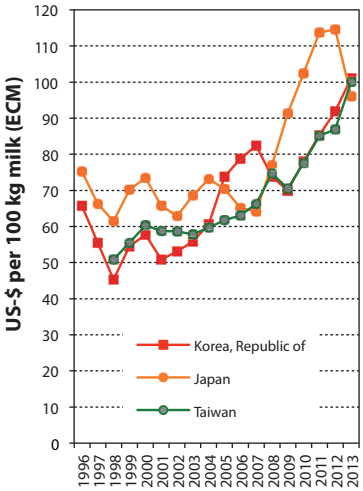




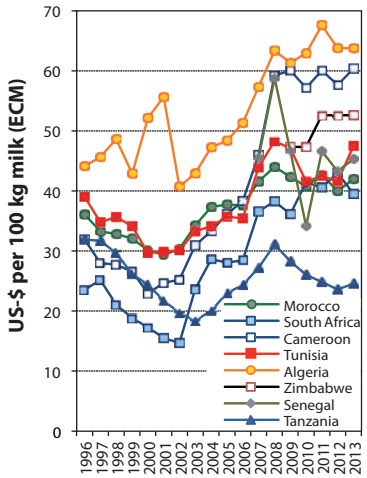
Asia

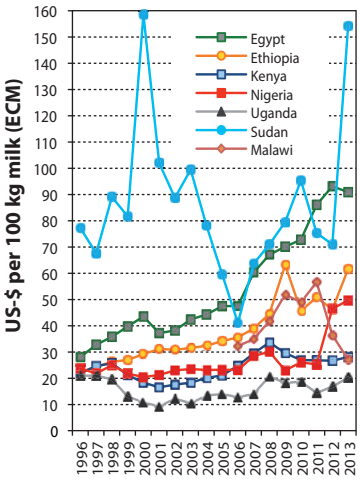




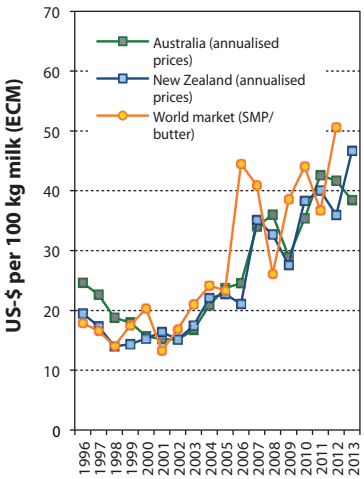


Africa





Oceania



Explanation

Source: *National statistics/surveys, in some cases estimations. Data in ECM: Energy corrected milk, standardised to 3.3% protein and 4% fat (see Chapter 4.1 for details).*

World market: *Combined IFCN world milk price indicator: Based on the weighted average of 3 IFCN world milk price indicators: 1. SMP & butter (35%), 2. Cheese & whey (45%), 3. WMP (20%), based on shares of the related commodities traded on the world market. For more details, see: www.ifcndairy.org/en/output/prices/milk_indicator2013.php*

2.5 Monthly milk price transmission and key facts

What is shown?

The first chart shows milk production or delivery growth on a monthly basis and with annual averages, including leap year adjustment (February 2008 and 2012 adjusted to 28 days). The second chart shows the national and world milk prices in US-$/100 kg ECM, while the third chart illustrates the distance of the national from the world market price.

Fluctuation of milk supply

A high degree of fluctuation can be observed in the monthly growth rates of milk production, with variations of +/-10% being not uncommon. These disruptions, which are observable in all countries, are triggered mainly by external causes, such as the world and national milk prices or climatic conditions. To which degree the milk supply is affected by these external causes highly depends on the production system and political environment of the country in question.

Price transmission

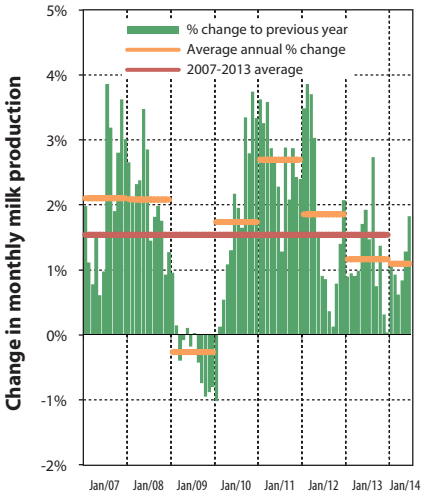
The transmission of world milk prices to national prices shows different patterns which are mainly characterised by the following points: generally the degree of connection of the two, the time lag with which national prices react to world price developments and the average distance of the national price towards the world price.

Some national prices follow the world price closely, reflecting the high price periods, but not fully mirroring the lows. The USA and the EU-member states show such developments. They trade on the world market, but political measures are (still) in place, triggering support in low price periods. The opposite trend can be observed in countries like Argentina, where the high price periods are not fully reflected, while the low price periods are. Being one of the main exporting countries, seasonal milk prices are closely connected to the world market trends.

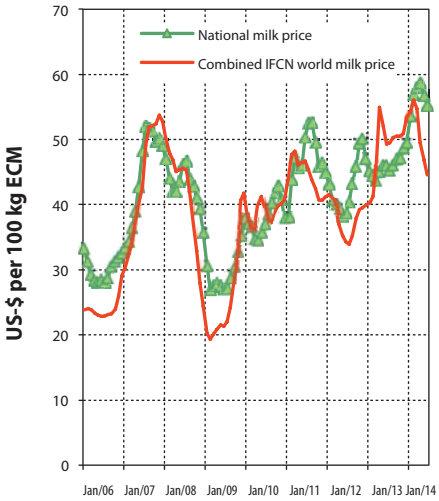
New Zealand has a milk price that is the result of world market prices for its range of products. Being one of the largest exporters, providing a third of the milk traded in the world, it is evident that the milk prices in New Zealand are influenced by both global demand and supply and their impact on world prices.
Israel is highly detached from the world market price with national fresh milk supplies and prices which are largely driven by costs.

United States of America

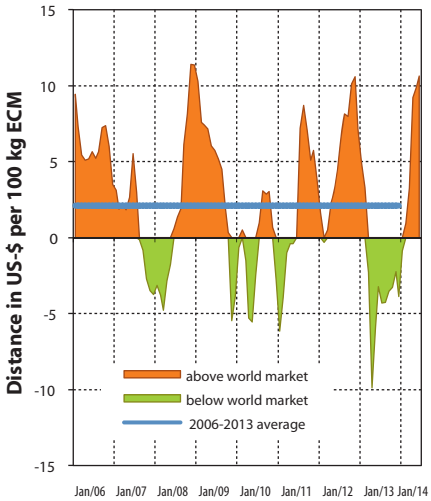
Change in milk production



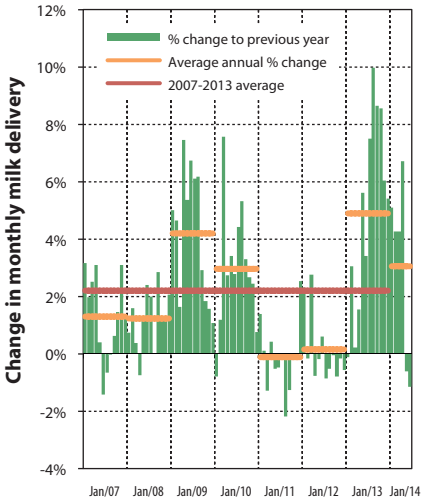
Milk price

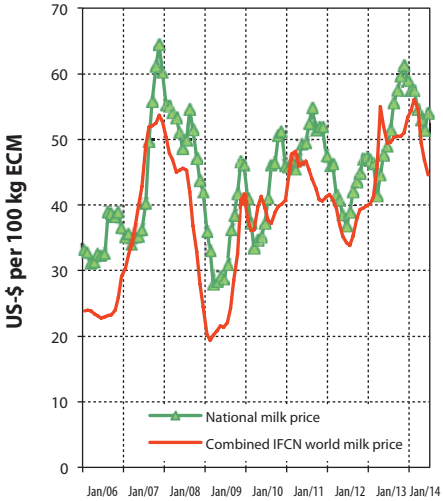


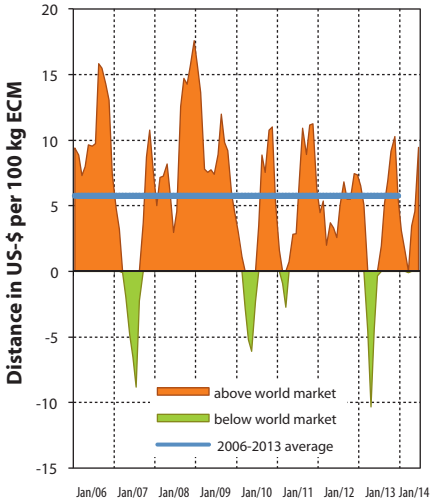
Distance to world market price



The Netherlands





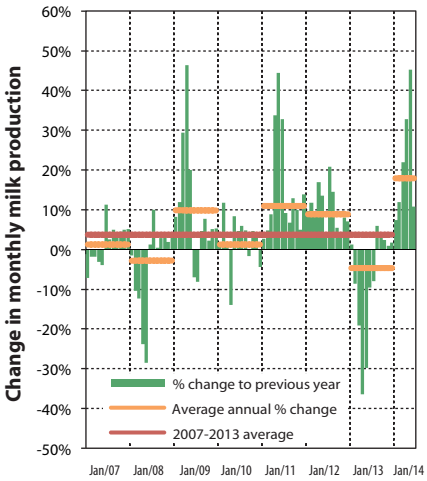


Explanations:

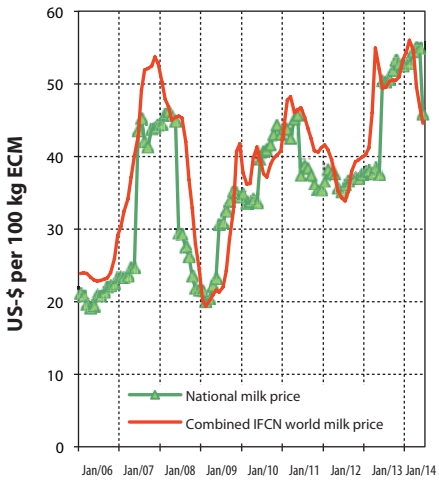
Source: *National statistics/surveys, in some cases estimations. USA: Monthly milk production. Netherlands: Monthly milk production, June price and May-June production estimated. Data in ECM: Energy corrected milk, standardised to 3.3% protein and 4% fat (see Chapter 4.1 for details). World market: Combined IFCN world milk price indicator: Based on the weighted average of 3 IFCN world milk price indicators: 1. SMP & butter (35%), 2. Cheese & whey (45%), 3. WMP (20%), based on shares of the related commodities traded on the world market. For more details, see: www.ifcndairy.org/en/output/prices/milk_indicator2013.php*

New Zealand

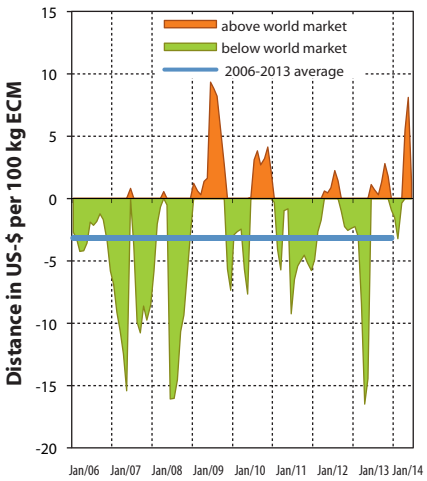
Change in milk production



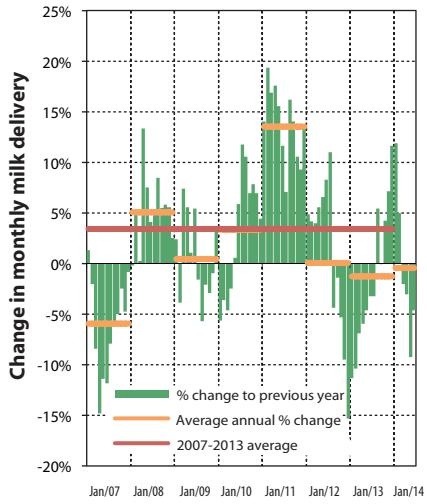
Milk price

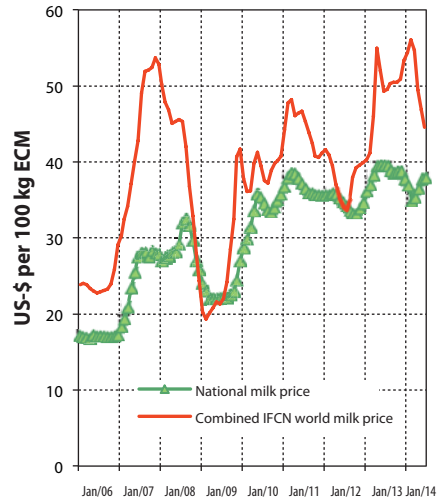


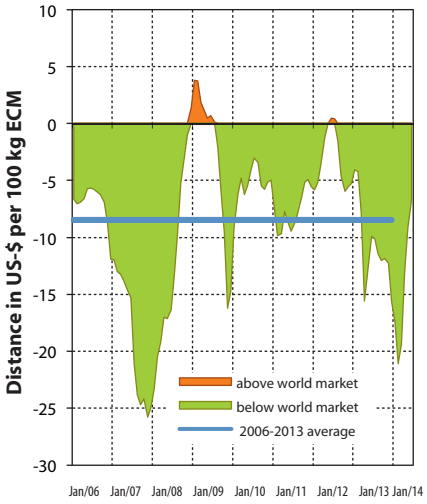
Distance to world market price



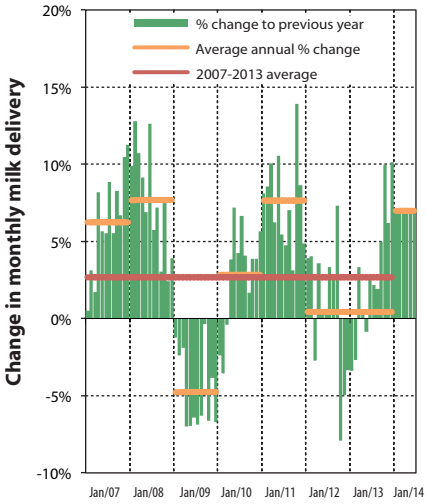
Argentina

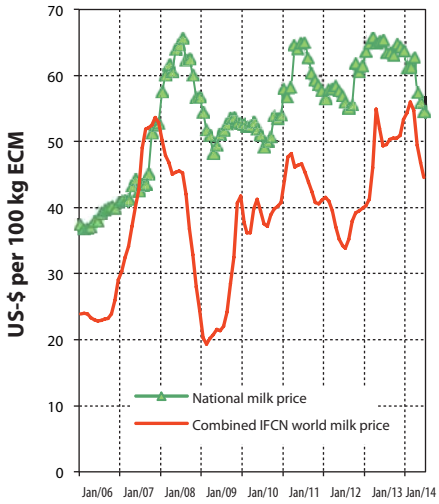


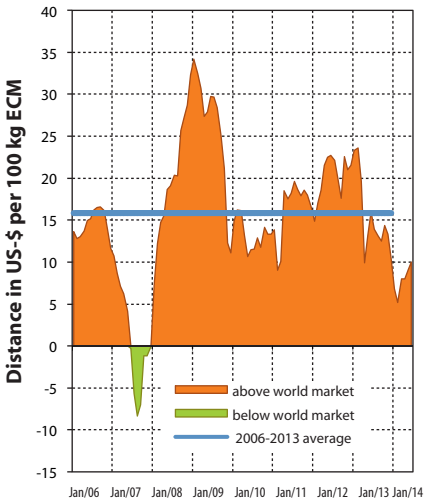




Israel







Explanations:

Source: *National statistics/surveys, in some cases estimations. New Zealand: Monthly milk production, May-June production estimated. Argentina: Monthly milk deliveries, Feb-June deliveries and May-June price estimated. Israel: Monthly milk production, April-June price and Jan-June production estimated. Data in ECM: Energy corrected milk, standardised to 3.3% protein and 4% fat (see Chapter 4.1 for details).. World market: Combined IFCN world milk price indicator: Based on the weighted average of 3 IFCN world milk price indicators: 1. SMP & butter (35%), 2. Cheese & whey (45%), 3. WMP (20%), based on shares of the related commodities traded on the world market. For more details, see: www.ifcndairy.org/en/output/prices/milk_indicator2013.php*

2.6 Monitoring feed prices 1996 – 2013

General remarks

In over 57% of the countries the feed price decreased in 2013, the majority thus closely following the world market as in previous years. Feed is the main driver for production costs on farms. The aim of this chapter is to compare the feed price situation in 2013 in 100 countries and to illustrate price trends of selected countries.

Method

The comparison of concentrate feed prices is extremely difficult as it is impossible to compare the contents (e.g. energy, protein). The analysis therefore is based on comparable feed which, in this case, is soybean meal and corn or barley. The calculation equals that of the IFCN feed price indicator (0.3 kg soybean meal price + 0.7 kg corn or barley price). Advantages: This indicator gives a preliminary idea of regions with high/low feed prices and trends. Limitations: The given prices and % modifications are calculated based on US-$. This creates a difference in the prices and % changes due to an exchange rate factor (Example: Brazil´s feed price is 32 % lower than the world feed price in US-$, but only 7% lower in national currency due to currency appreciation). In a number of countries dairy compound feed is based on other commodities. In that case feed prices are probably overestimated.

Data

The data are based on national statistics. In selected countries the prices are based on IFCN estimates (national versus world market price trends in the past). In countries where no national data were available, the world market price was used. Need for validation: The uncertainties in the data collection require an on-going validation and improvement procedure. Therefore feedback and comments to the IFCN are very welcome.

Feed prices in 2013 on US-$

In 2013 the world market price of feed, based on corn and soybean meal, was 32.4US-$/100 kg, which represents a decrease of 8% compared to 2012. The price ranged between 15.5 US-$/100 kg (Malawi) and 69.4 US-$/100 kg (Iceland) in all the countries, which can be grouped into five categories:

< 20: Malawi, Belarus

> = 20 < 30: Argentina, Australia, Austria, Azerbaijan, Brazil, Cuba, Estonia, Kazakhstan, Kenya, Kyrgyzstan, Mongolia, Nigeria, Paraguay, Russian Federation, Senegal, Tajikistan, Turkmenistan, Ukraine, Uzbekistan, Zimbabwe

> = 30 < 40: Afghanistan, Algeria, Bangladesh, Bolivia, Bulgaria, Canada, Chile, Costa Rica, Croatia, the Czech Republic, Denmark, Ethiopia, Finland, France, Germany, Hungary, India, Indonesia, Iran, Jamaica, Korea, Latvia, Lithuania, Luxembourg, Macedonia, Malaysia, Mexico, Nepal, the Netherlands, New Zealand, Pakistan, Panama, Poland, Portugal, Romania, Saudi Arabia, Slovakia, Spain, Sudan, Tanzania, Thailand, United Kingdom, USA, Uruguay, Venezuela

> = 40 < 50: Albania, Armenia, Belgium, Cameroon, China, Colombia, Cyprus, Ecuador, Egypt, Greece, Ireland, Israel, Italy, Jordan, Morocco, Peru, the Philippines, Serbia, Slovenia, South Africa, Sri Lanka, Sweden, Taiwan, Tunisia, Turkey

> = 50: Iceland, Japan, Norway, Switzerland, Uganda, Vietnam, Yemen

Feed price developments 1996-2013 in US-$

Germany: The German feed price for 2013 was 37.7 US-$/100 kg, showing an increase of about 26.7% when compared to 2012. The feed price was 16% higher than the world milk price.

Poland: The feed price was always above the world price level, but during the period of 2010-2012 it remained on average 3.1 % below the world market price. In 2013 the feed price increased about 8% above world price to the level of 35 US-$/100 kg.

Ukraine: The national feed price remained on average about 20% below the world market price level (2013: -23%). In 2013 the price declined 4.5% to 24.9, from 26.0 US-$/100 kg in 2012.

USA: US feed prices rose in the last few years, due to weather anomalies observed in the crop regions. In 2012 the price was 31.5 US-$/100 kg. This was an increase of 14% compared to 2011. In 2013 the feed price was almost 1 to 1 with the world feed price on the level of 32.1 US-$/100 kg.

Argentina: The Argentinean feed price was on average 20 % lower than the world market price for feed, (1996-2012). In 2013 it fell 32% below world price to a level of 22.1 US-$/100 kg which also represented a 9.6% decrease in the national feed price.

Brazil: In 2013 the price was 24.4 US-$/100 kg, a decrease of 15.6%. A significant decrease of the national feed price brought the price 32% below world feed price.

New Zealand: The price followed the world market trend, but remained on average about 22% above the world market in the period 1996-2013. In 2012 the price was 23.5% above the world market price (31.8 US-$/100 kg) and in 2013 about 22% above the world market price (39.6 US-$/100 kg).

China: The Chinese feed price is only roughly connected to the world market price, being about 50% above it in 2013. In 2012/2013, national feed price developments deviated from the world market trends. In 2012 the price increased 10% in US-$ terms to 45.7 US-$/100 kg and in 2013 the price increased another 6.5% to 48.6 US-$/100 kg. The Chinese feed price showed a strong positive trend, which constantly increased costs of milk production.

India: In 2013 the feed price was 34.4US-$/100 kg, an increase of 6.5% from 2012. The Indian feed price is on average very close to the world market level (+2.5%). In 2013 it did not follow the world price trend and there was a gap of 6 % between feed price and world feed price.

Explanation of variables

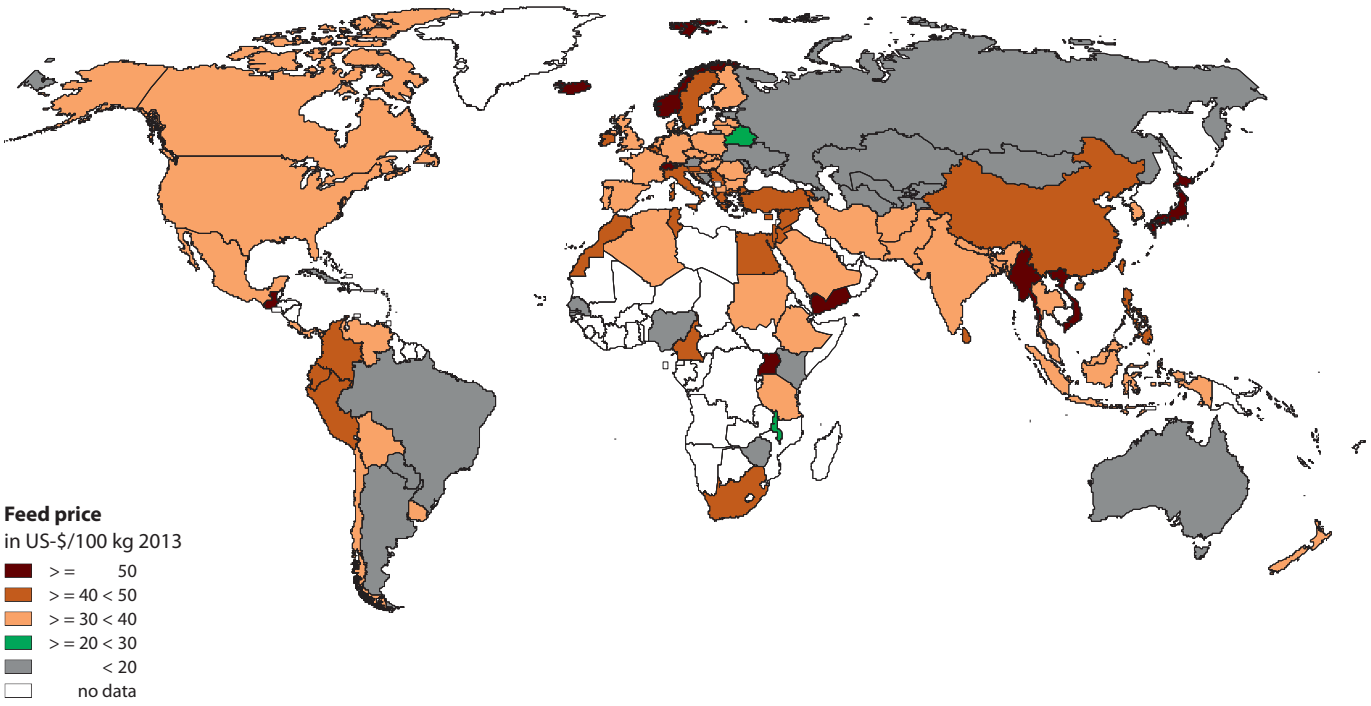
IFCN world feed price indicator (World market): *Calculation: 0.3 kg soybean meal price + 0.7 kg corn price. The annual price is calculated as the arithmetic mean from monthly data. Data source: International Monetary Fund. Specification: Soybean meal: CME futures first contract forward, Corn: FOB US Gulf.*

National feed prices: *National statistics. Based on the soybean meal price in combination with barley or corn price, country specific. Calculation: 0.3 kg soybean meal price + 0.7 kg corn or barley price.*

Exchange rates: *Oanda.*

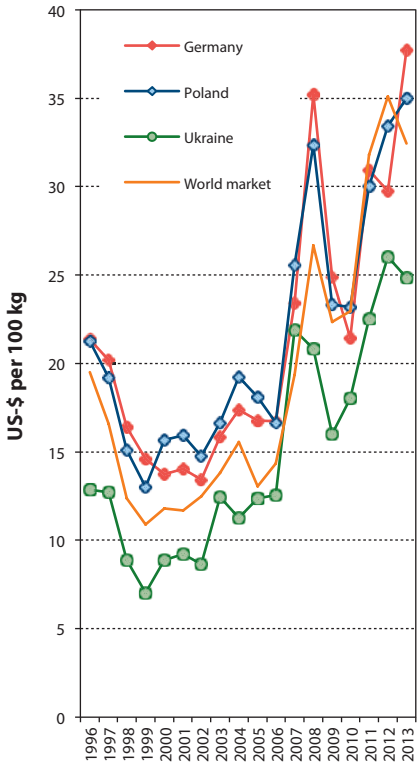
Note: *The IFCN feed price indicator is an indicator for the cost of compound feed. It does not reflect the degree to which local farmers, e.g. in extensive feeding systems, are affected.*

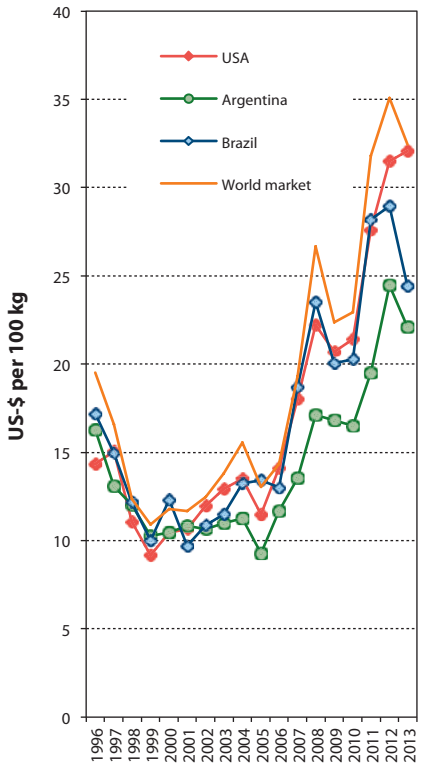
Feed prices in US-$ 2013

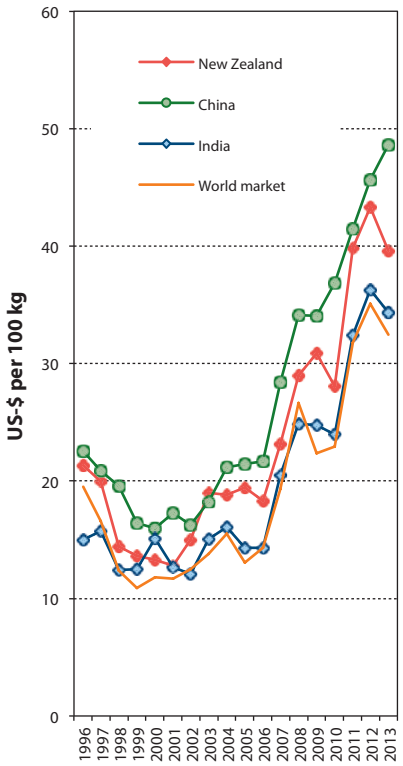


Source: *National statistics/surveys, in some cases estimations.*

Feed price developments 1996-2013 in selected countries







2.7 Monitoring milk : feed price ratio 1996 – 2013

Introduction

This chapter shows the milk : feed price ratio, which is an indicator for the price developments of milk as the main output and feed as the most important input. The aims of this chapter are to compare the milk : feed price ratio world-wide and to illustrate the milk : feed price ratio trends in selected countries.

Milk : feed price ratio – A definition

The milk: feed price ratio is defined as milk price divided by the price of purchased feed. In a simplified form it shows how much feed (kg concentrates) a farmer can buy after selling one kg of milk.

The milk : feed price ratio has been defined as favourable if it is higher than 1.5. If this is the case, high yield (high input) systems can be used or the higher the ratio is, the more economical it is to use concentrates. In extensive feeding systems, it represents a theoretical figure which indicates how advantageous the input of compound feed would be, if it were used.

Milk : feed price ratio – A world-wide comparison

From 2012 to 2013 over 81% of the countries showed an increase in the milk : feed price ratio. The reason for this trend was a combination of high milk prices in most of the countries and stable or decreasing feed prices. In 2013, there was a decrease in the share of countries with an »unfavourable« ratio of <1.5. Due to a high fluctuation of prices, and changes in cost structures on the farms, the share of ''unfavourable'' milk: feed price ratio could decrease in the next few years.

High milk : feed price ratio > 2.0

The milk : feed ratio was very favourable in: Azerbaijan, Canada, Egypt, Kazakhstan, Korea, Malaysia, Nigeria, Saudi Arabia, Sudan, Taiwan, Uzbekistan, Yemen, Zimbabwe

Moderate milk : feed price ratio 1.5 to 2.0

Algeria, Argentina, Australia, Austria, Belarus, Brazil, Costa Rica, Cyprus, Estonia, Ethiopia, Finland, Iran, Jamaica, Japan, Jordan, Kyrgyzstan, Malawi, Mongolia, Paraguay, Russian Federation, Senegal, Ukraine

Low milk : feed price ratio < 1.5

The milk : feed price ratio was between 1-1.5 in many countries: Afghanistan, Bangladesh, Belgium, Bolivia, Bulgaria, Cameroon, Chile, China, Croatia, the Czech Republic, Denmark, Ecuador, France, Germany, Greece, Hungary, India, Indonesia, Ireland, Israel, Italy, Kenya, Latvia, Lithuania, Luxembourg, Macedonia, Mexico, Morocco, the Netherlands, New Zealand, Norway, Pakistan, Panama, the Philippines, Poland, Portugal, Slovakia, Spain, Sweden, Switzerland, Tajikistan, Thailand, Tunisia, Turkey, Turkmenistan, United Kingdom, USA, Uruguay, Venezuela, Vietnam

A very unfavourable milk : feed price ratio (<1)

This was found in: Albania, Armenia, Colombia, Cuba, Iceland, Nepal, Peru, Romania, Serbia, Slovenia, South Africa, Sri Lanka, Tanzania, Uganda

Milk : feed price ratio trends in 1996 – 2013

World market: The world milk : feed price ratio increased by 49% from 2012 to 2013, going up to 1.56 after being 1.05 the year before. It was the first time in 3 years that the ratio became favourable again.

Germany: From 1998 to 2007, the ratio was stable at a favourable level of 2.0-2.2. Since 2009, the German milk : feed price ratio remained almost the same , but in 2013 it fell by 15% to a level of 1.33. This negative trend is continuing due to a high concentrate intake on farm level.

Poland: The Polish milk : feed price ratio was close to, or below, the world market level in the past. The ratio decreased in 2012 by 19.2%to 1.08 and increased about 12% in 2013 to a level of 1.2. However, it still remained disconnected from the world ratio in 2013 by 22 %.

Ukraine: From 2005 to 2009 the ratio was on average at a favourable level of 1.7. In 2011and 2012 the ratio decreased on average about 22% to a level of 1.34. In 2013, due to good price relationships, the ratio increased about 30% to a level of 1.75 and was about 12% higher than the world ratio.

USA: The US milk : feed price ratio is characterised by a strongly volatile development on a high level. Since 2006 it seems to have been more closely connected to the world market developments. In 2013 it increased about 5.7% to a level of 1.44.

Argentina: In the past (1996-2010), the ratio ranged between 1.3 and 2.0. In 2011 the ratio was still favourable at 1.9 and in 2012 it decreased to 1.4 (25%). In 2013 the ratio increased about 22% to a level of 1.74, which was 11% higher than the world ratio.

Brazil: Since 2005 the milk: feed ratio remained above 1.5. In 2011 it was1.8, but in 2012 it decreased once more to 1.57 (about 13%).In 2013 a significant increase established the ratio at 1.98.

New Zealand: The ratio, during the timeline observed, was on average at 1.1 and in 2012 it moved even below 1 to a level of 0.8 (Due to their use of pastoral systems this level remains lower than other systems). In 2013 the ratio increased to 1.2 which was still 30% below world average.

China: On average the Chinese ratio is marginally better than that of New Zealand (1.2 versus 1.1). In the last 3 years, it has been oscillating between 1.28 and 1.43. In 2013 the ratio increased from 1.28 in 2012 to 1.34 following the positive world trend.

India: The Indian milk : feed price ratio fluctuated around the 1.5 level, usually remaining below it (average: 1.4). In 2013 it was 1.26, which is still around 19% below the world level.

Conclusions: Many countries reflected the trend of the world market developments in 2013, with increasing milk : feed price ratios. Intensive feeding systems became increasingly favourable. Only in years like 2013, when the milk price was high could an increase in the ratio be seen. Farmers' ability to adapt quickly to changing circumstances will be a key driver for future success considering that feed is the major cost component in milk production and that the market is highly volatile.

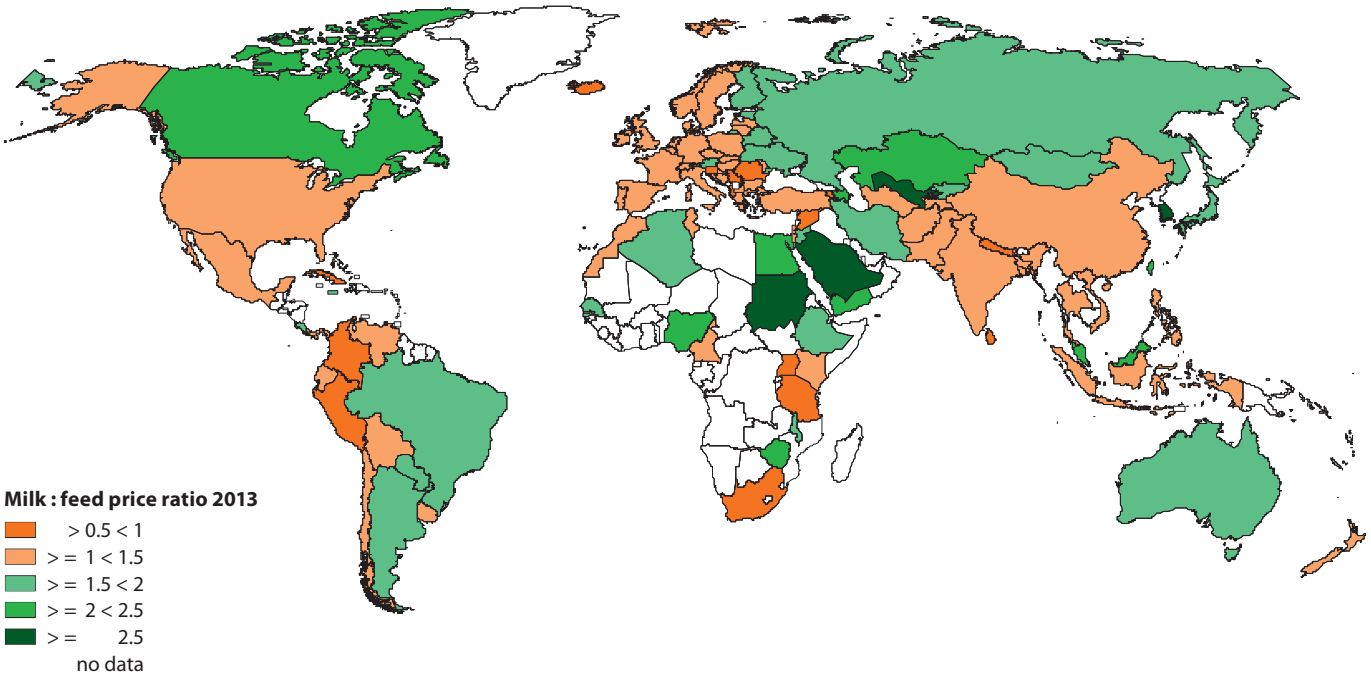
Explanation of variables

Milk : feed price ratio: *Milk price divided by the calculated feed price.*

National milk : feed price ratio: *Data source: Milk and feed prices from national statistics. Feed: Based on the soybean meal price in combination with barley or corn price, country specific. Calculation: 0.3 kg soybean meal price + 0.7 kg corn or barley price.*

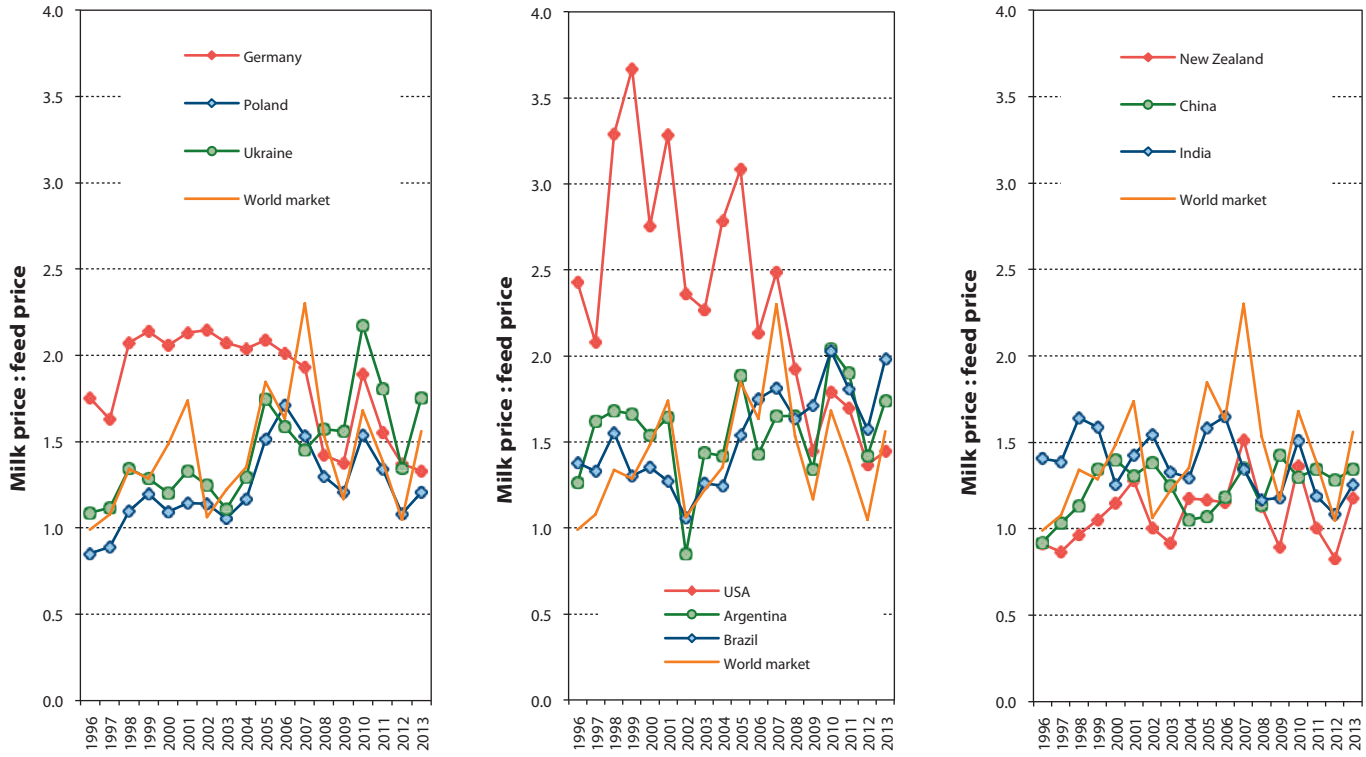
World market: *Calculation: IFCN combined world milk price indicator divided by IFCN world feed price indicator. IFCN feed price indicator: Data source: International Monetary Fund. Specification: Soybean meal: CME futures first contract forward, Corn: FOB US Gulf. Calculation: 0.3 kg soybean meal price + 0.7 kg corn price. The annual price is calculated as the arithmetic mean from monthly data.* ***IFCN combined world milk price indicator:*** *Based on the weighted average of 3 IFCN world milk price indicators: 1. SMP & butter (35%), 2. Cheese & whey (45%), 3. WMP (20%), based on shares of the related commodities traded on the world market. For more details, see: www.ifcndairy.org/en/output/prices/milk_indicator2013.php*

Milk : feed price ratio 2013



Comment: *IFCN calculation, see text Chapter 2.7*
Source: *National statistics/surveys, in some cases based on estimations.*

Milk : feed price ratio developments 1996 – 2013 in selected countries



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Chapter 3 – Dairy sector and chain profile

Authors: Łukasz Wyrzykowski, Karin Wesseling, Barbara Siwirska, Helga Weber, Eva Schröer-Merker
with the contribution from researchers mentioned on page 2-3 of this report

3.1 Summary – Status and trends in the dairy sector

Introduction

This chapter summarises key findings of world maps and tables shown in chapters 3.2 – 3.8.

Description of the dairy world in 2013

The IFCN estimates the world milk production of cow and buffalo milk at 755 mill t ECM in 2013, which is 94% of the total world milk production (incl. sheep, goat, camel). The Top 5 largest world dairy producers are: India, USA, Pakistan, Brazil and Germany in the range of 149 to 31.9 mill t ECM (chapter 3.3). In 2013, about 62% of the world production of cow and buffalo milk reached a milk processing plant, the share being stable over the years. Increases in annual milk production of the main world dairy producers were observed in: India - 4.1%, Pakistan - 3.2%, Brazil - 2.6%, Germany - 1.5% and USA - 0.9%. Decreases were noticed in: China - 9.8%, New Zealand - 4.7%, Russia - 3.8% and France - 0.5%. In order to understand the trend in milk production, it is necessary to review several years previously and not simply one annual increase or decrease, which, in many cases, is caused by external factors such as: weather anomalies, agricultural policies or feed prices. During the last 3 years nearly all the most important dairy producers showed an increase in production. An exception is the case of the Russian Federation where, due to structural changes and the condition of small dairy farms, the milk production has decreased over the last few years. Another exception is the Chinese milk production, which is influenced by strong fluctuations and high costs. This is the result of high investments in big dairy farms, which are not able to cover the milk gap that is created by smaller farms withdrawing from the dairy business.

What drives milk production all over the world?

In order to draw conclusions regarding the major production drivers worldwide, it is important to remember that the statistical average milk yield for cows and buffalos, feed costs and milk price are the direct drivers of milk production. However, even these are related to many internal and external factors which influence milk production and self-sufficiency in milk all over the world (chapters 3.2 and 3.4). **North America:** Weather anomalies highly influenced the crop production over the last few years and forced farmers to work on the margins. It decreased the investment rate on the farms and caused only a low increase in annual milk production at country level. **South America:** One of the important factors for this region is the overall economic and political stabilisation. To sustain stabilisation, strong national currencies are needed. Rising dairy export with favourable dairy prices on the world market is a positive signal for South America, but often weather anomalies such as floods occurred, causing significant problems for many countries based on a grazing system. **Europe:** High dependence on export and the world dairy market, increased the competition among dairy processors. Taking into consideration the removal of the milk quota and the environmental restrictions in EU next year, farms were forced to increase their herds, and dairy processors to increase the rate of investment. The high milk prices in 2013 allowed farmers to improve their farm economics, which is crucial in regions based mainly on compound feed. **CIS:** Structural farm changes and fragile farm economics in countries like Russia are driving the milk production trends in the region. In addition, the political stabilisation, trade bans and a currency fluctuation in countries such as Belarus or Ukraine, have an impact on the dairy situation. **Asia:** The milk production is strongly driven by the national demand and agricultural policies in countries such as China or India. A great number of very small dairy farms and their fragile farm economics, in combination with weather anomalies are producing an impact on the milk self-sufficiency of these countries. High costs of production and structural changes in countries such as China are drivers that could have a positive influence on the dairy markets in the long run. **Mid-East:** A key point for this region is feed for dairy cows, which, in many cases, must be imported, and which is why the world feed price is one of the most important drivers here. Another very important factor is the oil price, which allows many countries to subsidise the rural areas and support milk production at state level. **Africa:** The rising local demand for dairy products and the favourable milk price are the main drivers of the dairy production in Africa. In addition, the low costs of resources allow for faster structural developments in dairy farms. **Oceania:** The seasonality in milk production and weather anomalies like El Nino, are the key drivers for milk production in Oceania. The high connection of New Zealand´s milk prices with the world milk prices makes New Zealand´s dairy export highly dependent on the dairy world market.

Top dairy collectors and traders in 2013

It is not sufficient to consider regions or the main dairy producers in order to understand the world milk production. It is important to view the dairy world market, where the dairy products are traded, as a whole structure. An increasing world population demand for dairy products over time, should be covered by milk self-sufficiency in every country (Chapter 3.4). As, for many reasons, the national dairy industries cannot fulfil this, the milk demand must be covered by importation. Therefore it is important to monitor the main dairy collectors and traders, because if there were disturbances on their national markets, it would produce a significant impact on the world milk balance and the world milk price. These changes would later be transmitted to other countries, which are net importers and to those that use a free market scheme for dairy industry and are not regulated by the state.

Milk delivery: USA and New Zealand were the leaders regarding the amount of milk delivered, while India and Pakistan had a low share of milk delivery, as most of the milk was used on farms or sold informally on local markets (Chapter 3.3). Only cow and buffalo milk is included in milk delivery statistics and it is influenced by the ECM correction. **Milk content – fat and protein:** Milk production and delivery are shown also in natural fat and protein content, facilitating the comparison to ECM figures. The ECM adjustment led to an energy-corrected milk production of e.g. -4.2 mill t in the USA and +17.7 mill t in India.

Dairy exporters (net trade surplus): The largest dairy exporting country was New Zealand, followed by EU-28 and USA. The top ten countries accounted for over 99% of world milk surplus volumes.

Dairy importers (net trade deficit): The greatest importing countries world-wide were China, and the Russian Federation, followed by Mexico, Japan, Algeria and Saudi Arabia.

How is milk processed at world level?

Self-sufficiency and dairy trade alone are not enough to create a world picture. Another aspect of the puzzle is the processing profile of the individual countries. Chapter 3.5 presents the processing profile via tradable dairy goods on the world maps. The data are presented as milk equivalents in order to make the comparison of results easier. The Top 5 countries per each of the tradable goods are: **Cheese (all kinds):** EU-28 - 65.8 mill t ME; USA - 36.4 mill t ME; Brazil - 5.2 mill t ME; Argentina - 4.2 mill t ME and Russia - 3.3 mill t ME. **Butter, ghee and butter oil:** India - 40.5 mill t ME; EU-28 - 22.2 mill t ME; USA - 9.5 mill t ME; Pakistan - 7.9 mill t ME and New Zealand - 5.8 mill t ME. **Condensed milk:** EU-28 - 3.7 mill t ME; USA - 1.7 mill t ME; Peru - 1.1 mill t ME; Russia - 0.7 mill t ME and Singapore - 0.7 mill t ME. **Dry products (SMP, WMP, whey, casein):** EU-28 - 15 mill t ME; China - 10 mill t ME; New Zealand - 9.1 mill t ME; USA - 5.9 mill t ME and Brazil - 4.8 mill t ME. Based on the results presented, it is clearly visible that the greatest amount of cheeses and dry products are processed mainly by net exporting countries, such as EU-28, USA or New Zealand and countries with a high population that are not able to cover their national demand such as Russia or China.

The dairy chain – Who ''gets'' what?

After the overview of world milk production, dairy processing, trade and structures, the next point to check is the dairy chain structure, which can show a great deal about the processes at national level and brings more transparency into the matter of dairy production in the world.

Please note that this type of analysis made by the IFCN, aims at generating questions and hypotheses, rather than benchmarking dairy chains or the sector organisation model behind them.

Method improvement: Chapter 3.6 is based on the concept of a typical dairy product: "milk" (for details on the typical dairy product "milk" see Country Pages in chapters 3.10 – 3.109). That is to say, the consumer price is the price of specific typical milk in the respective country. This method has the advantage of being built on solid data generation although it also presents limitations. More precisely, the main limitation is that the dairy products chosen are not comparable among countries, since different product specifications are typical for different countries. The **ECM method**, applied for the farm gate price, has also been applied for the consumer milk price, in order to have a higher standardisation and to facilitate the comparison with the national farm gate price. ECM standardisation of consumer prices led to a higher ECM price, originated from the widespread consumer preference for low fat products.

From the results presented in chapter 3.6, it may be seen that the countries which are self-sufficient in milk and are net exporters, have a lower consumer price, below <1.2 US-$/100 kg milk. In these countries the farmers' share on consumer price is also higher >= 40% and the consolidation of dairy processors is much lower, the share the Top 3 dairy processors being below <40% (USA, Germany, Poland). The exceptions are countries which are also net exporters, but their high consolidation of dairy processors or higher share of processing and retailing, or both, leads to higher consumer prices (New Zealand, Brazil). Net importers are mainly countries with high development rates due to farm structure changes, high production costs and high national demand. In these countries the farmers' share on the consumer price is below <60%; the share of the Top 3 processors on the whole market is below <30%; the share for processing and retailing is moderate and the consumer price is moderate or high in order to cover the costs from the dairy chain modernisation process (China, Russia, Brazil). There are also some other countries which import and export some of the goods but, due to high consolidation of the farming system, processing and retail, the consumers´ price is above 1.5 US-$/100 kg milk and the farmers' share on the milk price is low (Norway, Australia, Canada).

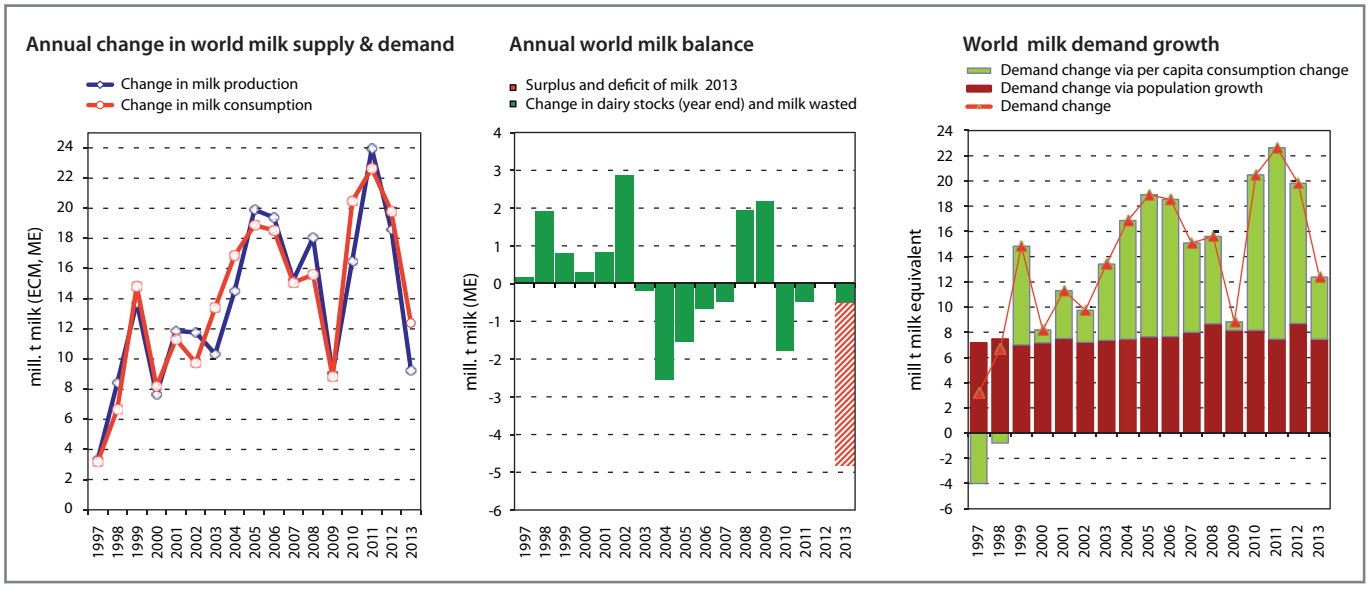
World milk balance

The average world milk consumption per capita was approx. 111.5 kg ME/year in 2013 (including cow, buffalo, goat, sheep and camel milk). In chapter 3.7 the results at national levels are presented. In general, the consumption is higher in countries with developed economies (120 to >300 kg) and tends to be lower in developing countries (<70 kg). Milk consumption per capita is comparatively low especially in countries in Africa, Asia and parts of Latin America – but, in many, shows a growing trend. Countries which already present a high level of per capita consumption can be considered as saturated markets; here the trend is not an increase but rather a change of consumption patterns (e.g. value added products).

As visible in the graphs below, the over production of milk in 2011 was one of the causes of lower milk prices in 2012. In 2013 the world milk supply was not able to catch up with the rate of change of the milk demand. The milk supply in 2013 was equal to 755 mill ton ECM and was about 4 mill ton below the milk demand. It was the reason for higher milk prices at world level (see Chapter 2). In most of the monitored countries, the annual change in dairy consumption per capita was lower than in 2012, but even so, milk production was not able to cover the demand. The world population is constantly increasing in most of the world regions. The highest increases in 2013 were: India +16.1 mill; China +6.7; Pakistan +3.7 mill, USA +2.2 mill and Brazil +1.8 mill. It is important to notice that world milk demand is driven more by population increase than by per capita consumption. Strong population increases in countries such as China, India and Pakistan are causing higher dependence on dairy imports in these countries. Demand is one of the most significant factors for milk production on the dairy world market.

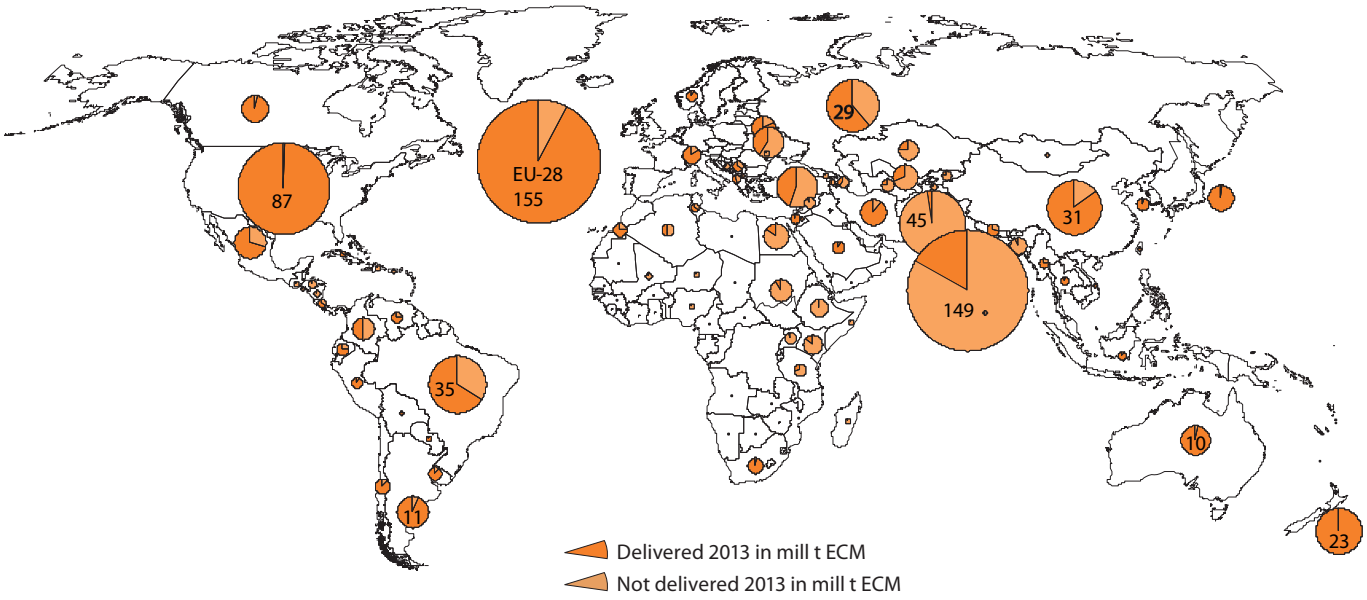
Summary

The main factors that influence milk production are: dairy demand, weather anomalies, world milk and feed price, farm economics and structure of the dairy chains by net exporters and importers. An important point to remember is that the dairy situation of all countries is closely interlinked with the dairy world market. The key message is: The demand will continue to grow due to market recoveries and possibly will not be satisfied by the milk supply. Therefore there will be no extra milk on the world market thus reducing the world dairy stock levels and keeping the milk and feed prices at relatively high levels.



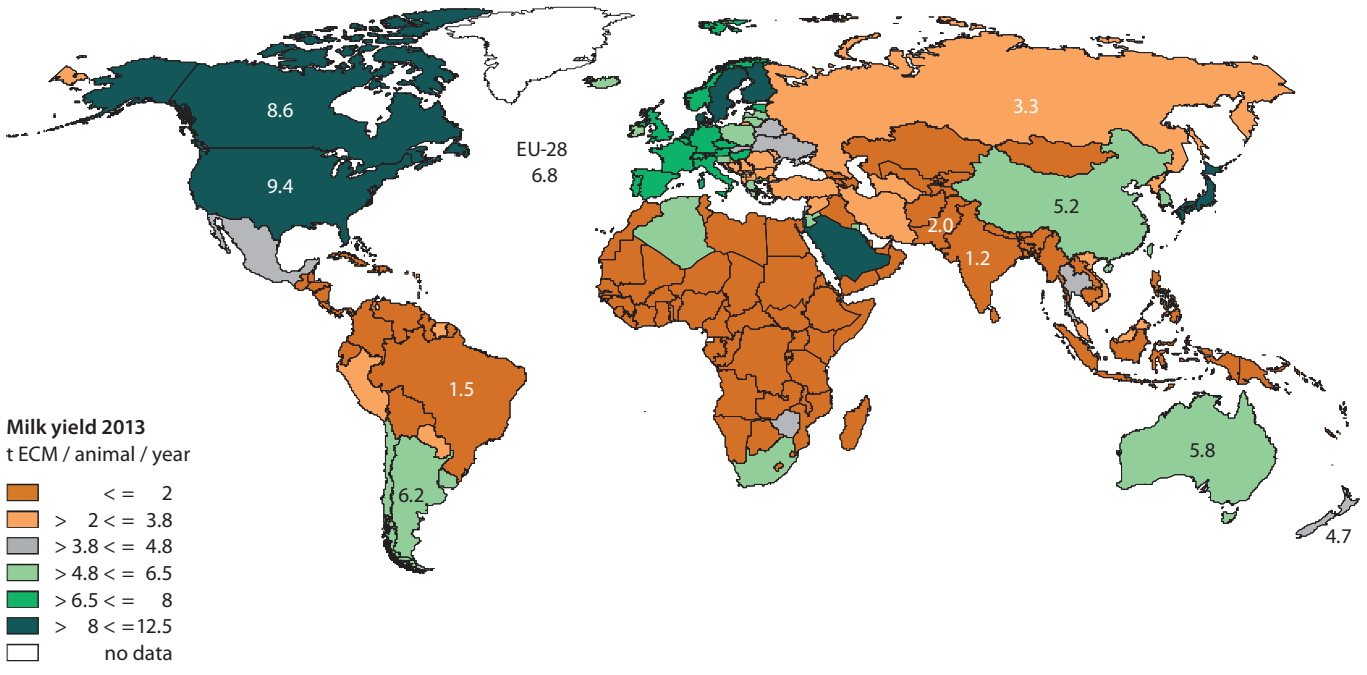
3.2 Status and development of milk production

Milk production and share of milk delivered in 2013



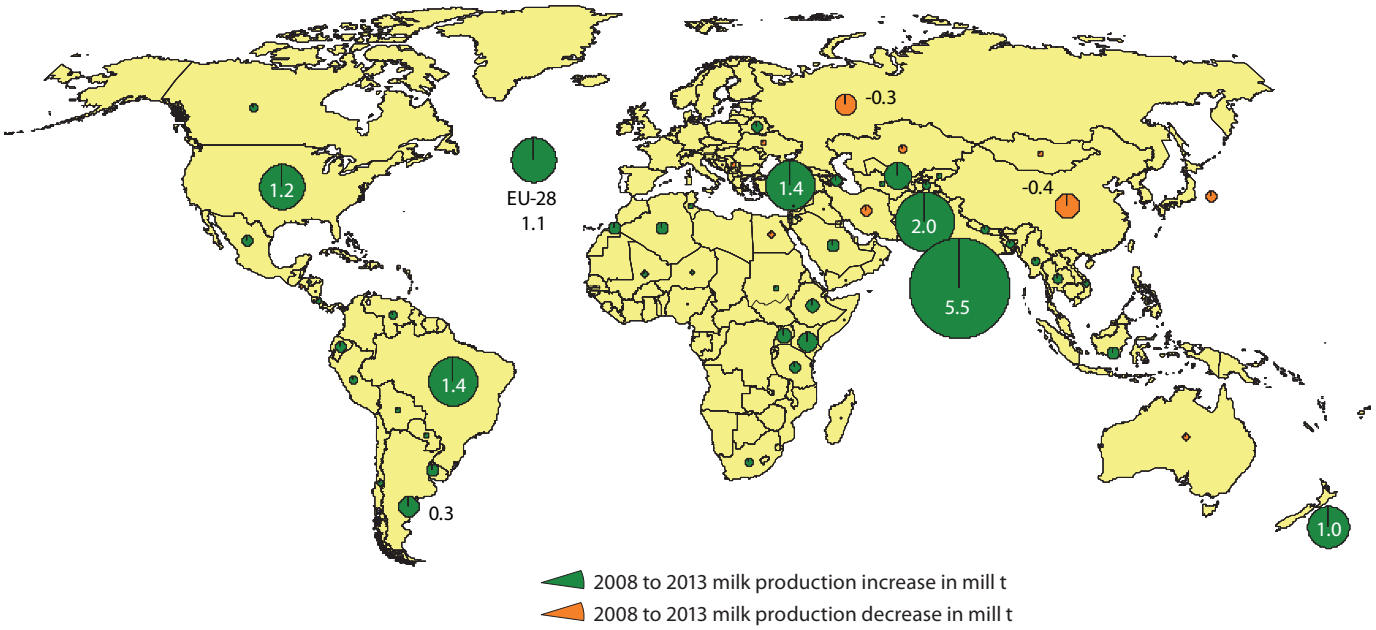
Data: *Cow and buffalo milk production and milk delivered 2013 in mill t ECM.*
Source of data: *National statistics, AMI, FAO, estimates for some countries. Share of milk delivered estimated for Venezuela, Jamaica, Kyrgyzstan, Tajikistan, Turkmenistan, Tanzania.*
Comment: *NZ, AU, IN annualised milk production.*

Average milk yield in 2013



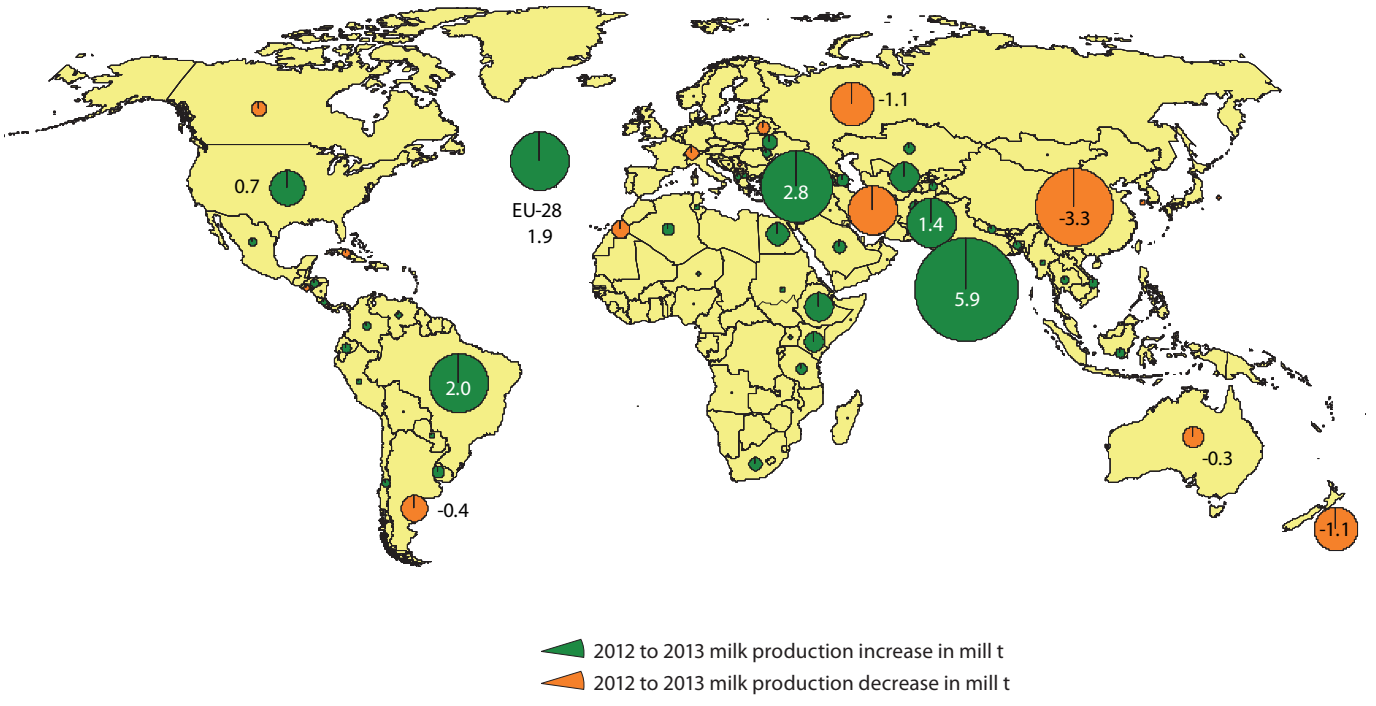
Data: *Average milk yield for cows and buffalos. 2013 in t ECM per animal per year or if not available 2012 data was taken.*
Source of data: *National statistics, AMI, FAO, estimates for some countries.*
Calculation: *Milk production of cows and buffalos divided by number of milking animals.*
Comment: *Saudi Arabia – database is including only specialised dairy farms.*

Annual absolute change of milk production volume 2008-2013



Data: *Cow and buffalo milk production 2013 and 2008 in mill t ECM per year.*
Source of data: *National statistics, AMI, FAO, estimates for some countries.*
Calculation: *(Milk production 2013 minus milk production 2008) divided by 5.*
Comment: *NZ, AU, IN annualised milk production.*

Annual absolute change of milk production volume 2012 to 2013



Data: *Cow and buffalo milk production 2013 and 2012 in mill t ECM.*
Source of data: *National statistics, AMI, FAO, estimates for some countries.*
Calculation: *Milk production 2013 minus milk production 2012.*
Comment: *NZ, AU, IN annualised milk production.*

3.3 Top dairy countries in 2013

Cow and buffalo milk production: Top 20 dairy countries in 2013 – with EU-28 as single countries

No.	Country	Milk production in mill t ECM	Milk production in mill t natural content	Milk delivered in mill t ECM	Milk delivered in mill t natural content
1	India	149.0	131.3	25.1	22.3
2	USA	87.0	91.2	86.5	90.7
3	Pakistan	45.2	38.6	1.4	1.2
4	Brazil	34.8	35.4	23.1	23.5
5	Germany	31.9	31.2	31.0	30.3
6	China	31.4	34.6	27.0	30.3
7	Russian Federation	29.1	30.7	17.9	18.9
8	France	24.8	25.0	24.3	24.5
9	New Zealand	22.7	20.2	22.7	20.2
10	Turkey	17.8	18.3	7.7	7.9
11	United Kingdom	14.0	14.0	13.7	13.7
12	The Netherlands	13.2	12.4	13.0	12.2
13	Poland	12.0	12.2	9.4	9.6
14	Italy	11.4	11.7	10.4	10.7
15	Mexico	11.3	11.3	7.9	7.9
16	Argentina	11.1	11.7	10.4	10.9
17	Ukraine	10.7	11.5	4.3	4.6
18	Australia	9.6	9.5	9.3	9.2
19	Canada	8.2	8.3	7.9	8.1
20	Iran	7.7	7.6	6.9	7.0
	World	**749.9**	**733.7**	**462.7**	**467.5**

Data: *Cow and buffalo milk production and milk delivered.*
Source of data: *National statistics, estimates for some countries.*
Method: *ECM correction: Milk in natural content adjusted to 4% fat, 3.3% protein. More details please see Chapter 4.1*
Delivered: *Cow and buffalo milk in mill t ECM (4% fat, 3.3% protein) and as raw data (natural fat and protein content).*

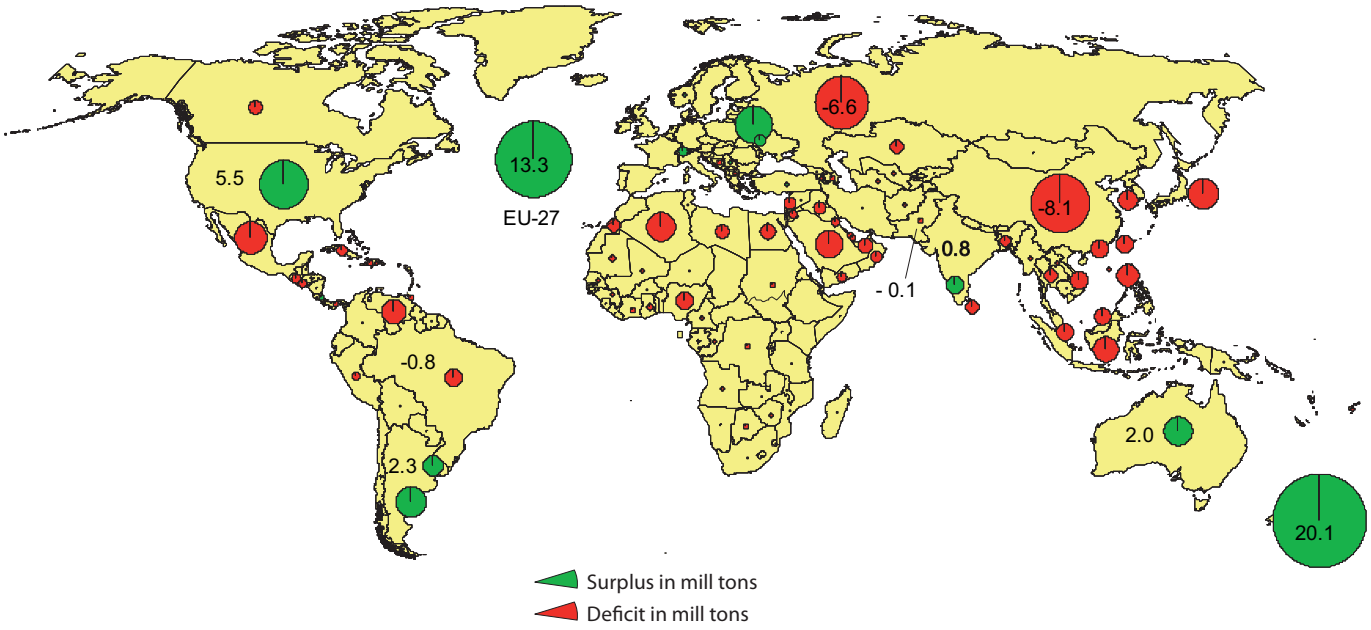
Dairy trade: Top 20 net export and import countries in 2013 – with EU-28 as aggregate

No.	Country	Net trade surplus in mill t ECM
1	New Zealand	20.1
2	EU-28	13.1
3	USA	5.2
4	Belarus	3.4
5	Argentina	2.3
6	Australia	2.0
7	Uruguay	1.1
8	India	0.8
9	Ukraine	0.4
10	Switzerland	0.3
11	Costa Rica	0.1
12	Turkey	0.1
13	Serbia	0.1
14	Norway	0.1
15	Chile	0.1
16		
17		
18		
19		
20		

No.	Country	Net trade deficit in mill t ECM
1	China	-8.1
2	Russian Federation	-6.6
3	Mexico	-2.6
4	Japan	-2.3
5	Algeria	-2.1
6	Saudi Arabia	-1.9
7	Indonesia	-1.6
8	Venezuela	-1.5
9	Philippines	-1.3
10	Korea, Republic of	-1.0
11	Hong Kong	-0.9
12	Vietnam	-0.9
13	Nigeria	-0.8
14	Brazil	-0.8
15	Taiwan	-0.8
16	Singapore	-0.8
17	Malaysia	-0.8
18	Egypt	-0.7
19	United Arab Emirates	-0.7
20	Canada	-0.6

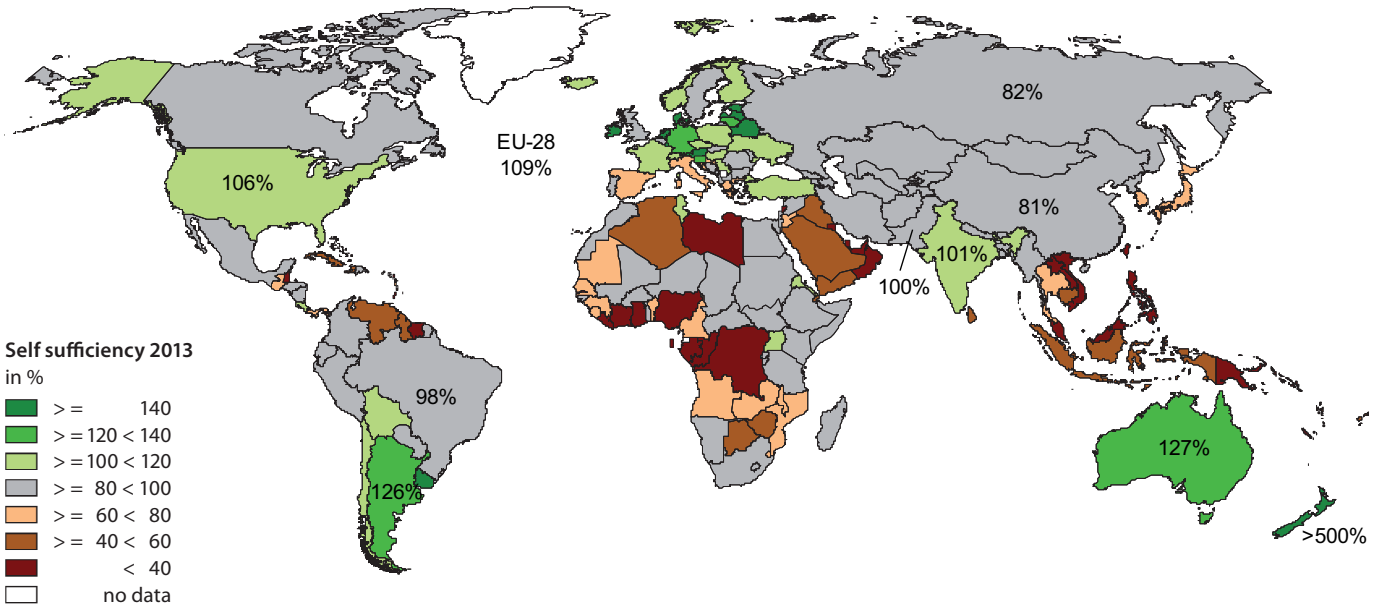
Data: *Net trade calculated from exports and imports.*
Source of data: *Trade data from FAO and national statistics, other sources or estimates in some cases for the years 2012/2013.*
Calculation: *Net trade: Exports minus imports in mill t milk equivalents (ME, for details see chapter 3.9).*
Comment: *EU-28 as aggregate. The intra-trade of the EU-28 countries might be not fully documented. Trade data for butter, dry products, cheese and curd, condensed and evaporated products and fresh products calculated in ME.*

Milk surplus and deficit world-wide



Data: *2013 on country level in ECM.*
Source of data: *National statistics, FAO, other sources or for some countries estimates and IFCN calculations.*
Calculation of surplus or deficit per country: *Imports minus exports plus or minus stock changes.*

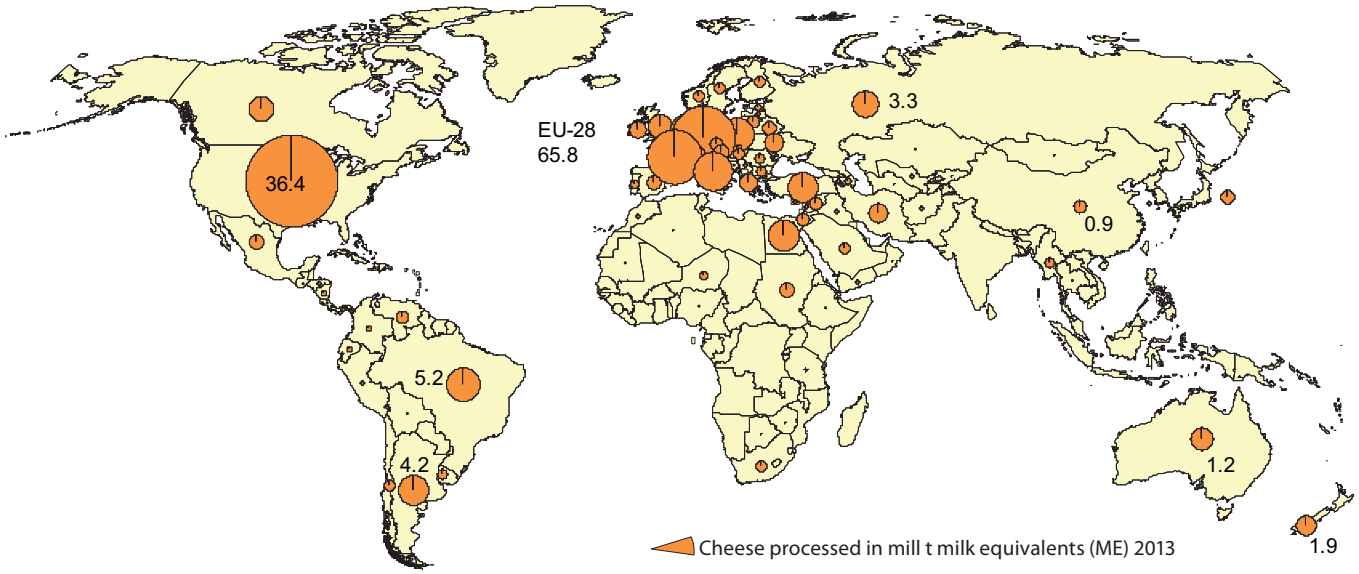
Status of self-sufficiency in 2013



Data: *Data for 2013 in %.*
Source of data: *Milk production (cow, buffalo, goat, sheep, camel): National statistics, AMI, FAO, estimates for some countries. Import, export: FAO and national statistics, other sources or estimates in some cases for the years 2012/2013.*
Calculation: *Self-sufficiency in milk = milk production of all milk animals (cow, buffalo, goat, sheep, camel) / dairy consumption in the country. Dairy consumption = milk production of all milk animals plus import minus export volumes plus or minus stock changes.*

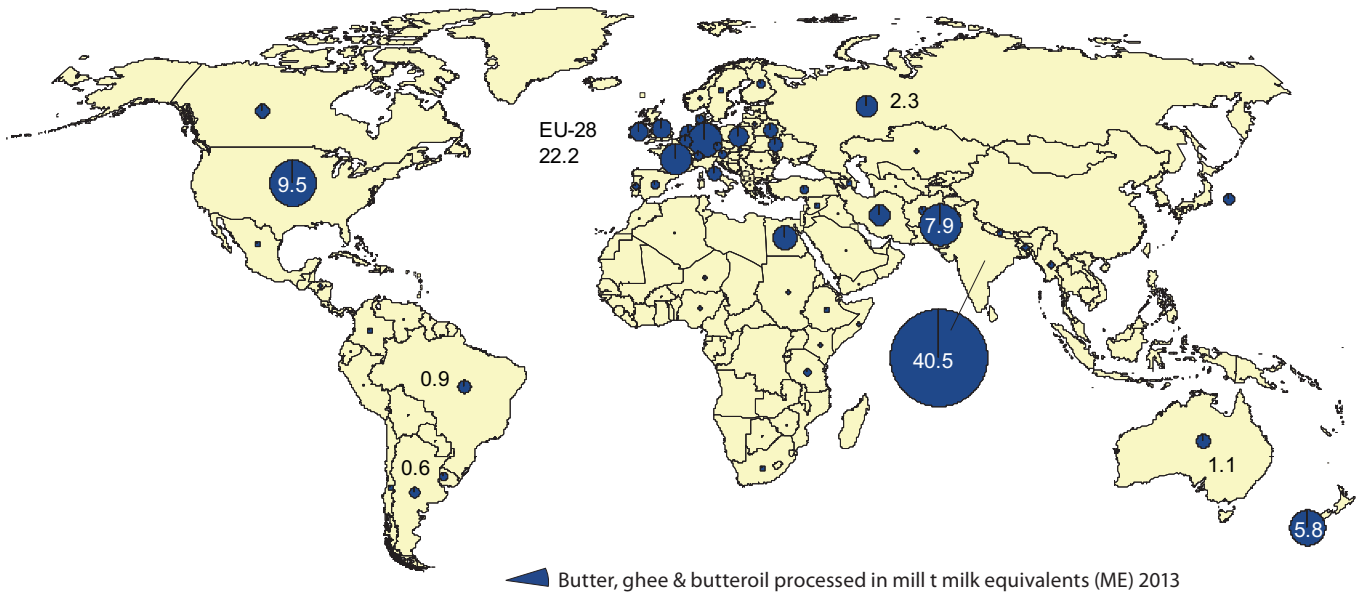
3.5 Importance of dairy processing

Cheese (all kinds) processing in milk equivalents (ME) in 2013



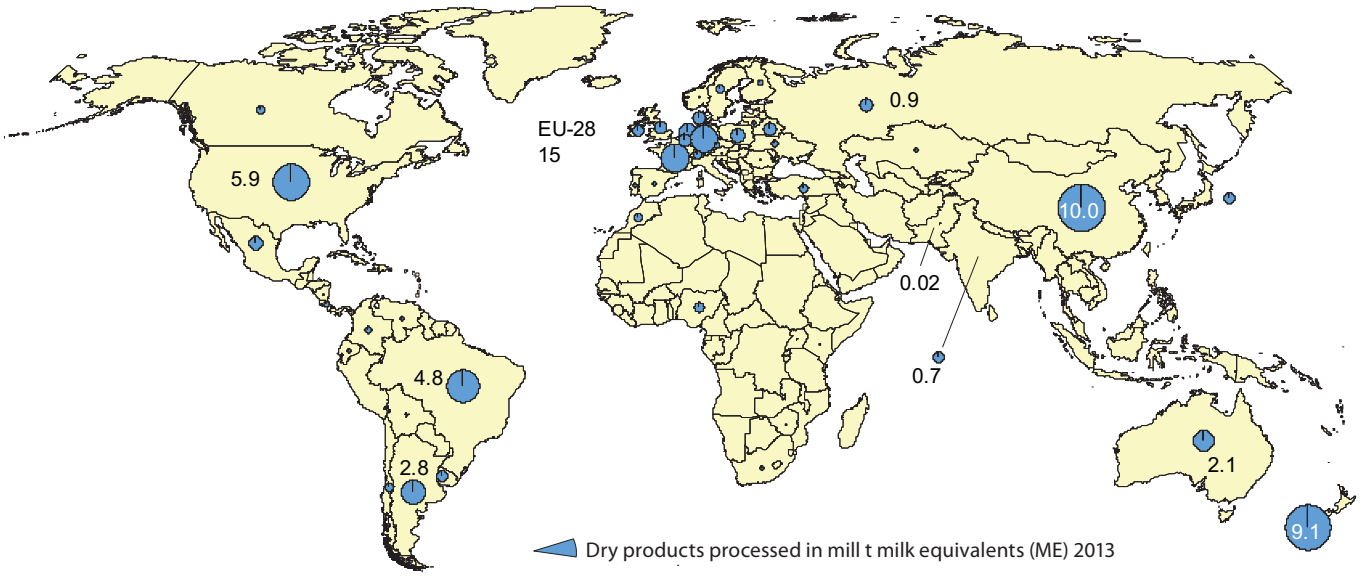
Data: *Amount of cheese processed (all kinds) in milk equivalents (ME), 2013.*
Source of data: *Processing data from national statistics, FAO, estimates in some cases for the year 2013.*
Calculation: *Processing data converted into milk equivalents (ME). The ME factor used: cheeses (all kinds): 7.2 ME.*
Comment: *The scale of bullets is adjusted to allow direct comparability between cheese, butter and dry product processing.*
Due to low absolute production values, the scale for the condensed milk map is adjusted for better visibility. Processing data calculated in ME via "fat and protein only" method.

Butter, ghee and butteroil processing in milk equivalents (ME) in 2013



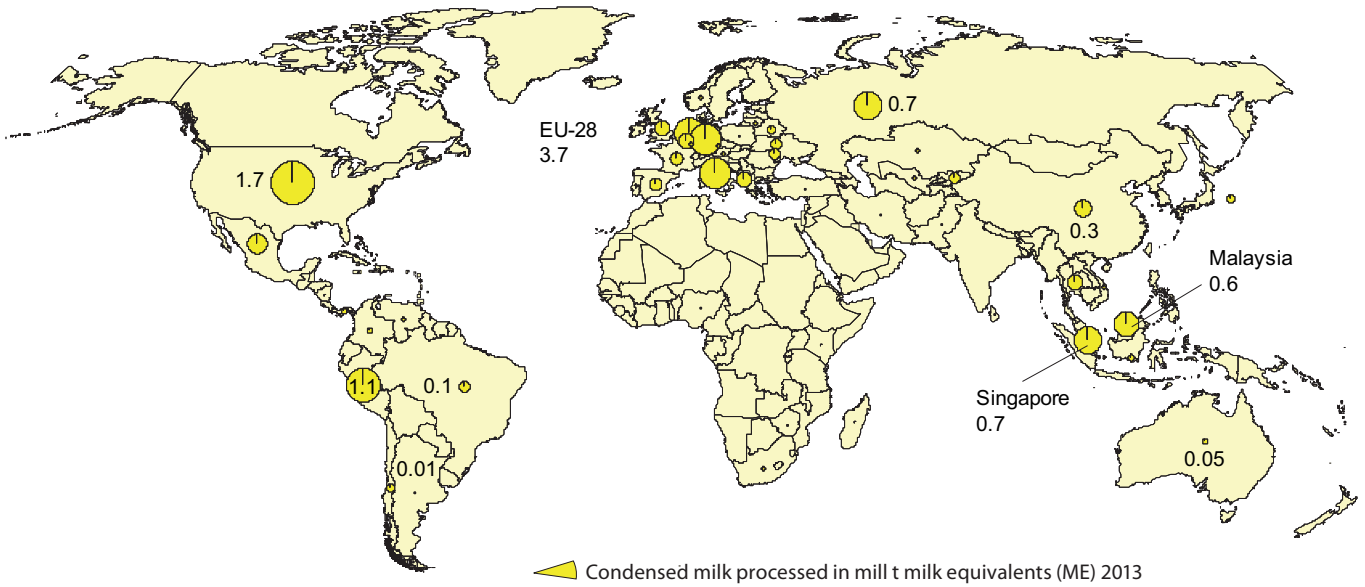
Data: *Amount of butter, ghee and butteroil processing in milk equivalents (ME), 2013.*
Source of data: *Processing data from national statistics, FAO, estimates in some cases for the year 2013.*
Calculation: *Processing data converted into milk equivalents (ME). The ME factor used: Butter: 11.2 ME.*
Comment: *The scale of bullets is adjusted to allow direct comparability between cheese, butter and dry product processing.*
Due to low absolute production values, the scale for the condensed milk map is adjusted for better visibility. Processing data calculated in ME via "fat and protein only" method.

Dry products processing in milk equivalents (ME) in 2013



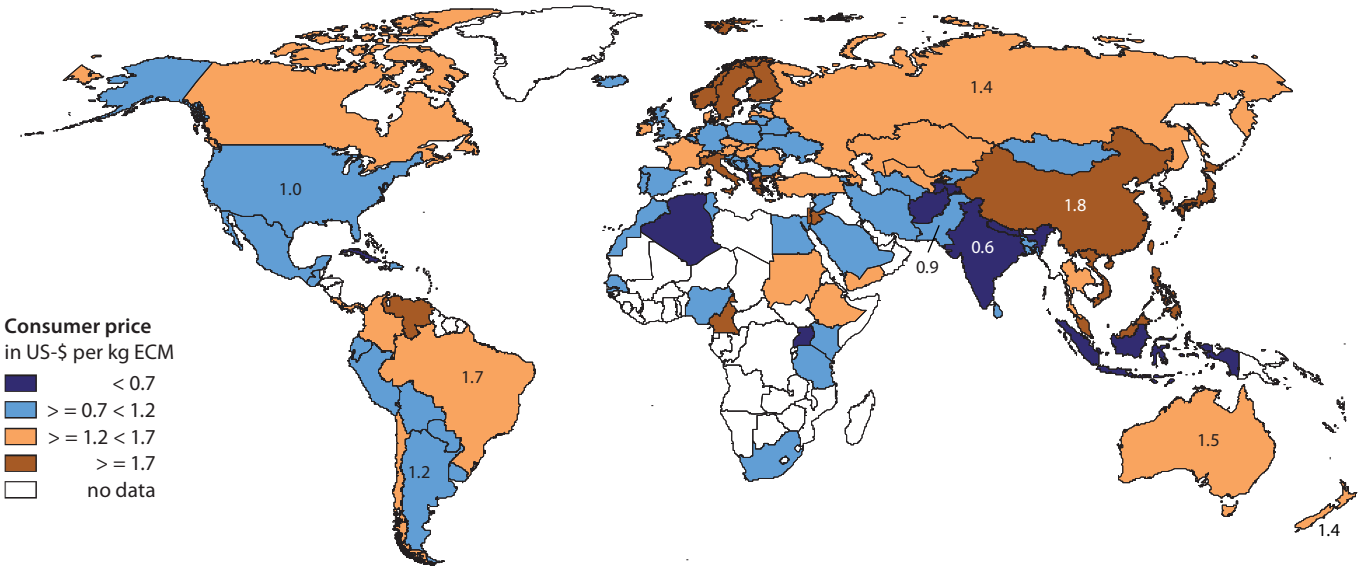
Data: *Amount of dry products processing (SMP, WMP, casein, dry whey) in milk equivalents (ME), 2013.*
Source of data: *Processing data from national statistics, FAO, estimates in some cases for the year 2013.*
Calculation: *Processing data converted into milk equivalents (ME). The ME factors used: Skim milk powder: 5.0 ME; whole milk powder 7.4 ME; casein 12.7 ME; dry whey 1.9.*
Comment: *The scale of bullets is adjusted to allow direct comparability between cheese, butter and dry product processing.*
Due to low absolute production values, the scale for the condensed milk map is adjusted for better visibility. Processing data calculated in ME via "fat and protein only" method.

Condensed milk processing in milk equivalents (ME) in 2013



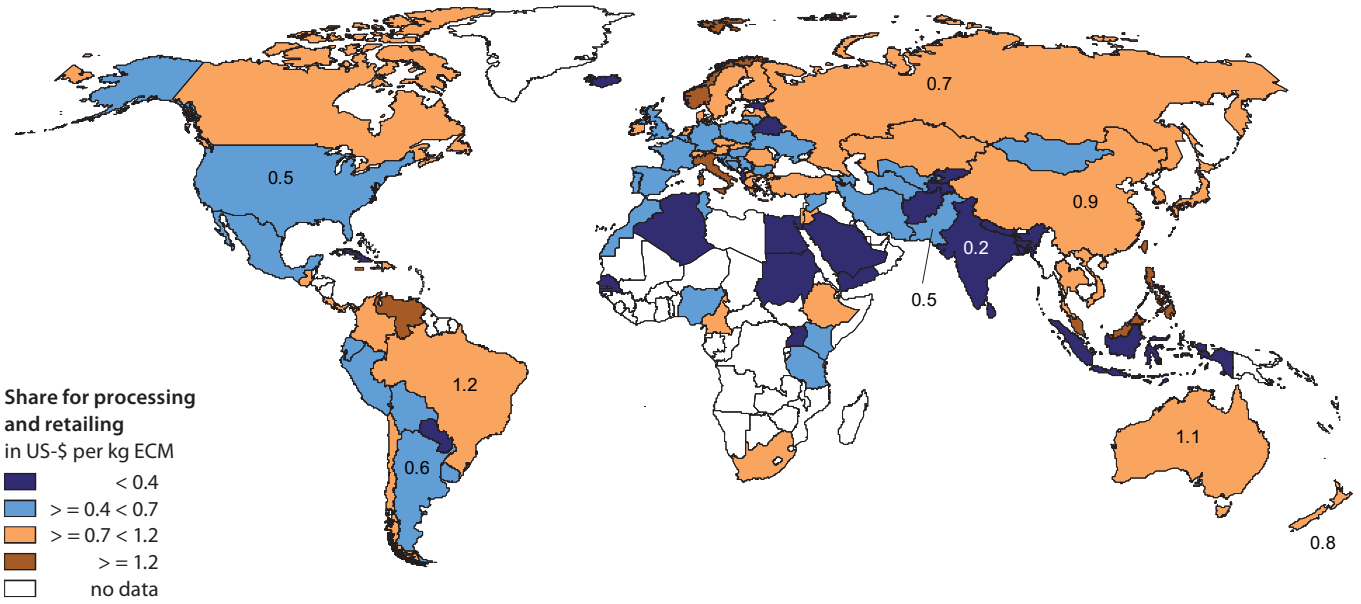
Data: *Amount of condensed milk processing in milk equivalents (ME), 2013.*
Source of data: *Processing data from national statistics, FAO, estimates in some cases for the year 2013.*
Calculation: *Processing data converted into milk equivalents (ME). The ME factor used: Condensed milk: 2.3 ME.*
Comment: *The scale of bullets is adjusted to allow direct comparability between cheese, butter and dry product processing.*
Due to low absolute production values, the scale for the condensed milk map is adjusted for better visibility. Processing data calculated in ME via "fat and protein only" method.

Consumer price in US-$ per kg ECM in 2013



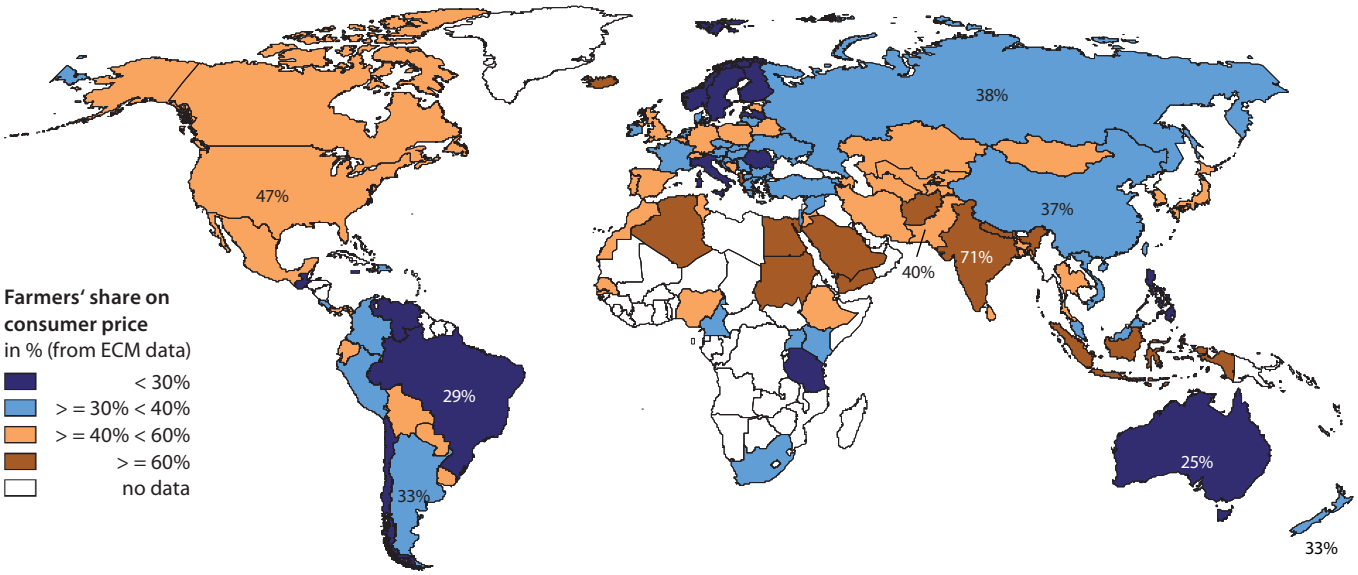
Data: *Consumer price adjusted to ECM (4% fat, 3.3% protein).*
Source of data: *The consumer price is taken for a typical dairy product „milk" found in national statistics, estimates for some countries.*
For country details please see chapters 3.10-3.109.

Share for processing and retailing in US-$ per kg ECM in 2013



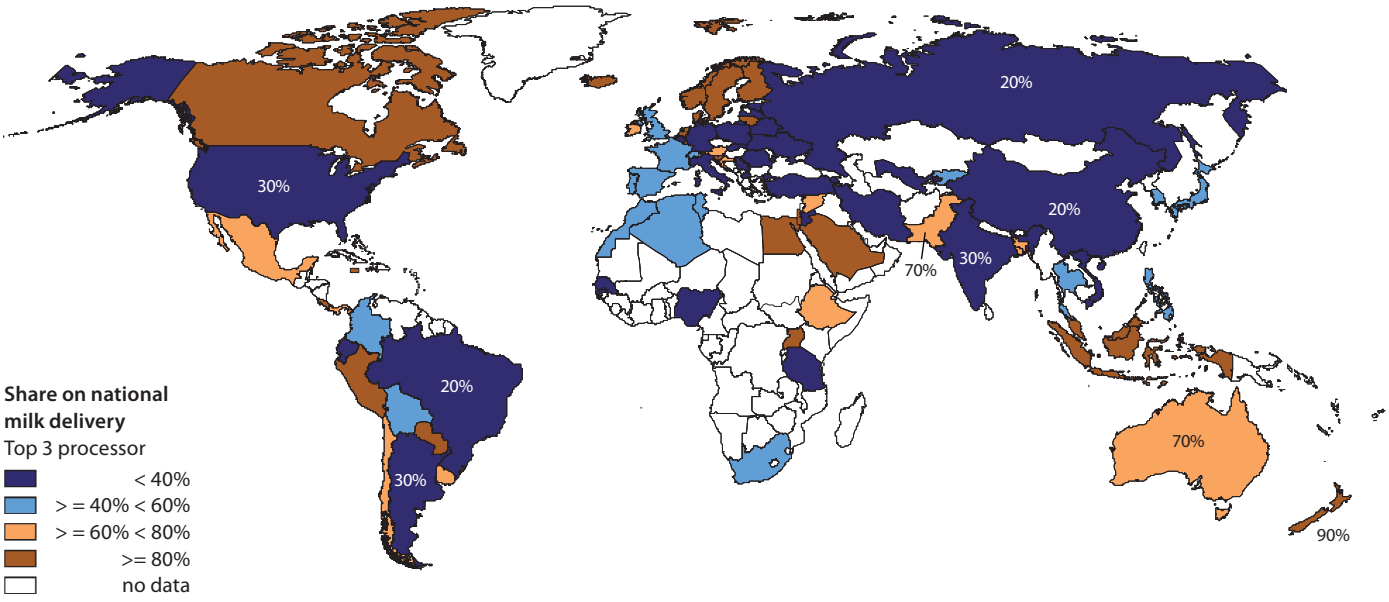
Source of data: *Results of the country page work 2013. For country details please see chapters 3.10-3.109.*
Calculation: *The share for processing and retailing is calculated as a residual. Share for processing and retailing: Consumer price (ECM) minus VAT minus farmers' milk price.*
Comment: *The values shown do only reflect the ratio between farmers' and consumer prices (excl. VAT) and not an average profit generated within the dairy chain. Also, processors shares can be different for different products. For this reason average processor and retailer shares in the country can differ from those presented on the chart which only uses one product, "milk".*

Farmers' share on consumer price in 2013



Source of data: *Farm gate milk prices: National statistics. Consumer price: A typical dairy product „milk" found in national statistics, estimates for some countries. For country details please see chapters 3.10-3.109.*

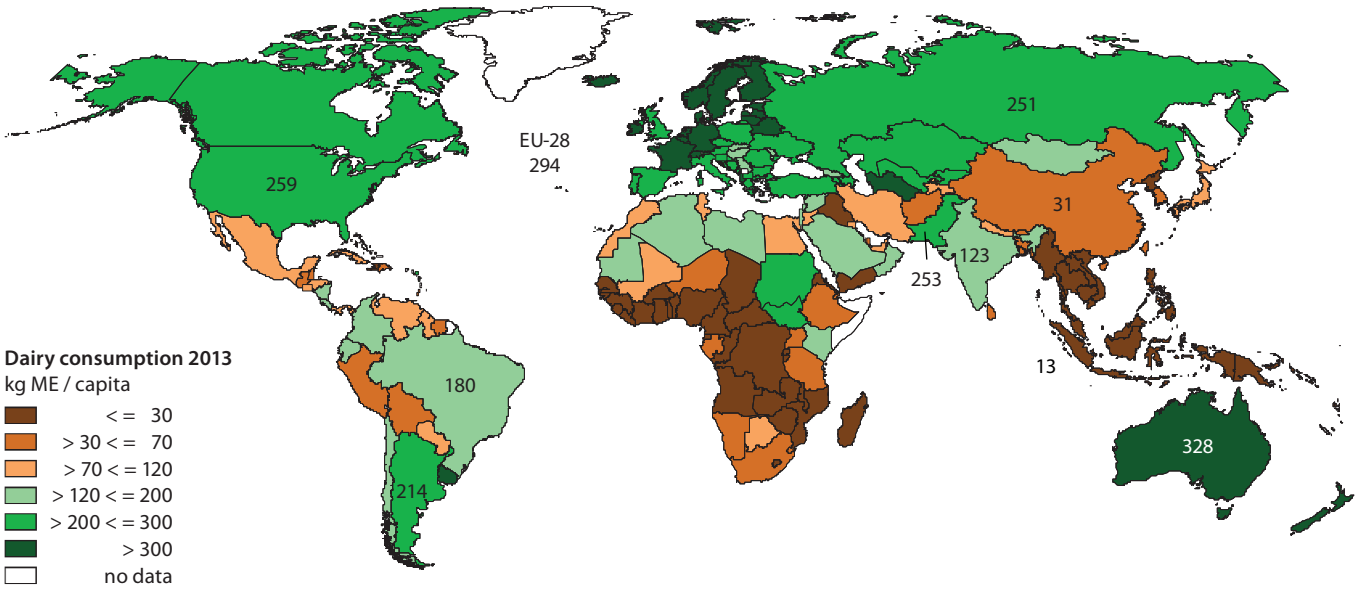
Processor top 3 share on milk delivery 2013



Data: *Milk intake of top 3 processors per country, not standardised, data for different years. For country details please see chapters 3.10-3.109. Milk delivery, not standardised, data for the same year as processor intake data.*
Source of data: *National statistics, company reports and websites, in some cases estimations (Austria: NÖM estimated, Canada estimate 2012, China 2010 data, Germany 2010 data, Lithuania SC Rokiskio suris estimated, Romania estimate 2012, Saudi Arabia estimate 2012, USA 2012 data, South Africa 2012 data).*
Calculation: *Milk intake of top 3 processors divided by national milk delivery.*

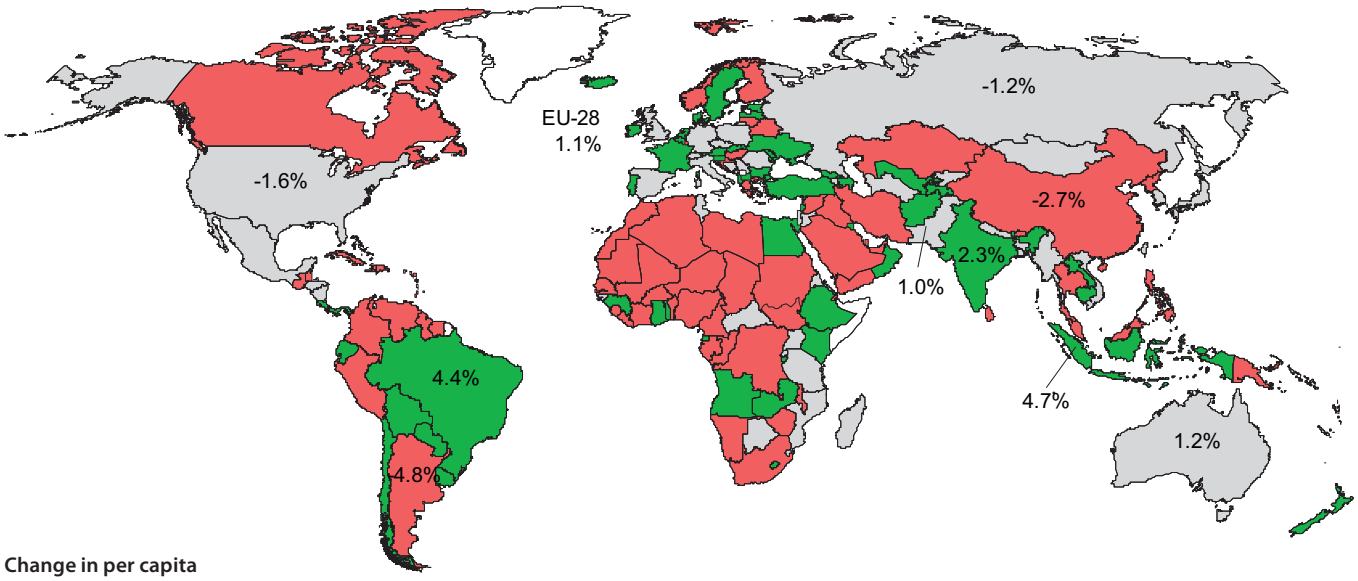
3.7 Milk consumption

Per capita dairy consumption in kg milk equivalents (ME) in 2013



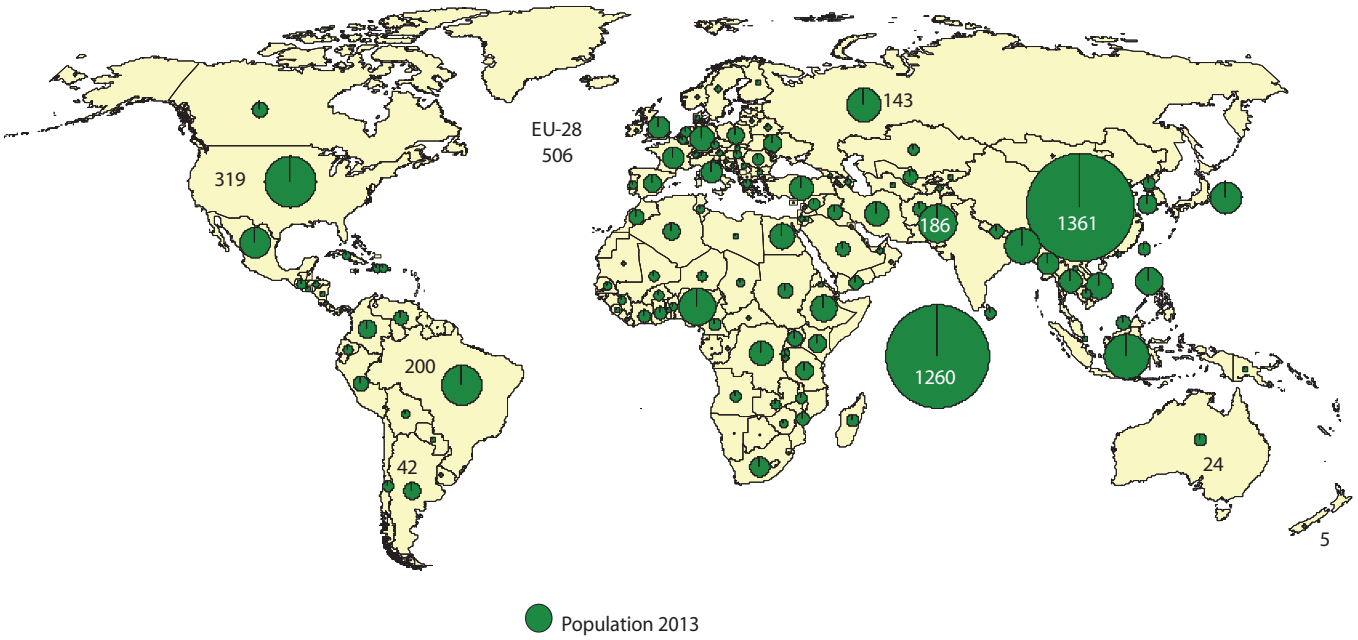
Source of data: *National statistics, FAO, IMF.*
Calculation: *Dairy consumption = milk production of all milk animals plus import minus export volumes plus or minus stock changes. Per capita consumption = dairy consumption in the country divided by population.*

Annual change in dairy consumption per capita 2012-2013



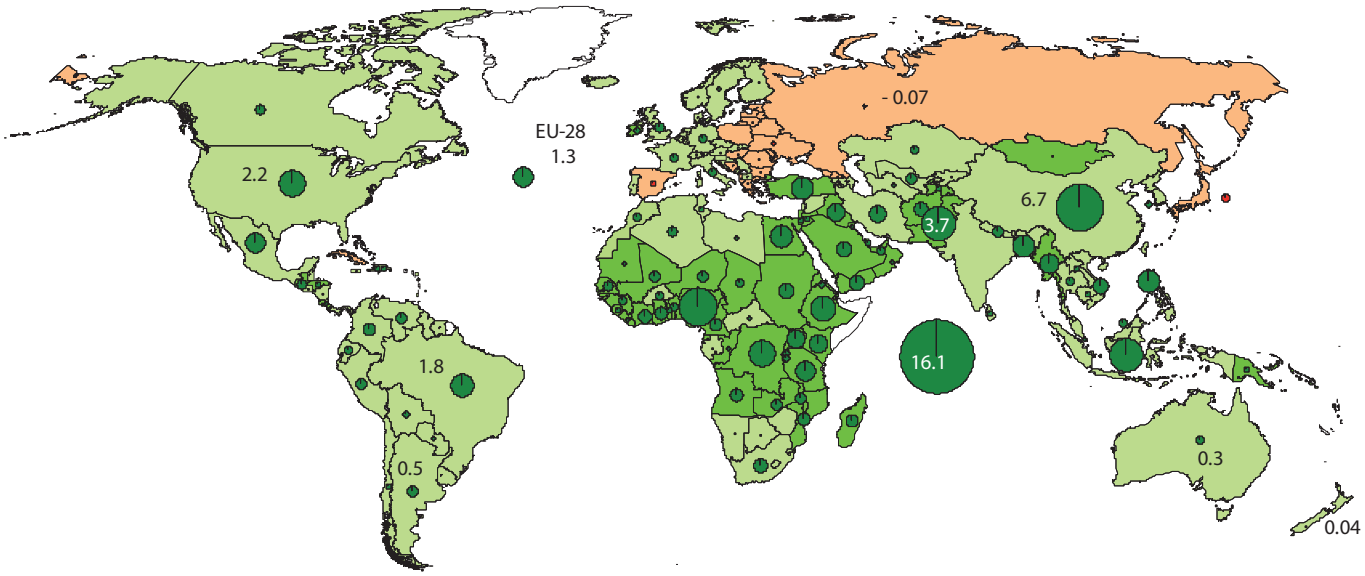
Source of data: *National statistics, FAO, IMF.*

World population 2013



Source of data: *IMF.*

Change in population 2012-2013



Annual change in population in %

- decrease
- slow increase (< 2% per year)
- stronger increase (> 2% per year)
- no data

- Population increase in million people
- Population decrease in million people

Source of data: *IMF.*

3.9 Method explanation of the Country Page 2014

Introduction

The focus of this year's Country Page analysis is on status and trends in the dairy chain (chapters 3.10-3.109). The aim is the creation of a profile that is comparable among the countries. In this chapter a method description is given of the different analyses made (for more details, see Chapter 4.1 and 4.6).

Dairy sector and chain profile (see text box)

Goal: To summarise the key results. As additional information the rank within the world's top milk producing countries is mentioned.

Results for Afghanistan: With a 1.5 mill t ECM cow milk production, Afghanistan is No. 55 on the world's top list of milk producing countries and presented a self sufficiency of 96 % in 2013. Although 72% of the milk is delivered to processors, a relatively large share of milk does not enter the formal sector. Over the past 5 years, cow milk production and per capita consumption have decreased to a similar extent, while country consumption increased due to rising population numbers.

Key variables of the dairy sector

Milk production (see table and graphs)

Goal: To illustrate milk production trends and its drivers: milk yield and number of cows. The annual milk balance and the seasonality profile based on monthly trends are also shown.

Method: The annual milk balance graph shows the total milk production (including that of cow, buffalo, goat, sheep, and camel) of a country. In addition, the national dairy consumption and the surplus or deficit in milk, are illustrated. The seasonal index graph is based on monthly values (2008–2012), derived via the method of a centred moving average to extract the seasonal component. It shows the seasonal milk production or milk deliveries, in comparison to the seasonal milk price index. In order to do this, monthly production / delivery values have been adjusted to 30-day-values to allow for comparison. The values in the table are based on cow's milk and, in selected countries, also on buffalo's milk. The quantities have been converted to million metric tons ECM (energy corrected milk with 4.0% fat and 3.3% protein, see Chapter 4.1 and 4.6). The number of cows shown includes the lactating and dry adult dairy cows and, if mentioned, buffalos. The milk yield is calculated based on milk quantities and number of cows and therefore also shown in ECM.

Results for Afghanistan: The milk balance in Afghanistan reflects a developing deficit in recent years, while historically, production and consumption were very much in line. The seasonality profile cannot be shown as no monthly data are available. Cow milk production increased by 3.7% per year in the period 2003–2008, while the trend turned negative in the following 5 years (-1.1% per year in 2008–2013). It is interesting to note that the overall number of cows increased, while the milk yield declined in this period.

Dairy consumption (see table)

Goal: The aim is to generate comparable, standardised figures, such as per capita consumption for each country.

Method: The first step is to convert different dairy products into milk equivalents (ME, see Chapter 4.1).

Data: Trade data were taken from FAO, national statistics and other sources; in some cases, estimates were made for the years 2012/2013. The intra-trade of the EU–28 countries might not be fully documented.

Key result parameters: Dairy consumption = milk production of all dairy animals + import – export volumes + or – stock changes. Per capita consumption = dairy consumption in the country / population.

Results for Afghanistan: The milk demand of Afghanistan as a country has been growing over the observed time period, and has been driven by the growth of population alone. Per capita consumption is relatively low at 68 kg ME per capita and year.

The dairy chain (see table and graphs)

Goal: To show the development of prices, shares and VAT in national currency, as well as the development of milk delivery and self-sufficiency. To illustrate the processing profile and its development.

Method: The dairy chain analysis is based on the concept of a typical dairy product, "milk", which is specified in national statistics. For countries where no national surveys were available, the IFCN research partners specified a typical dairy product, "milk", and obtained the price at a local supermarket. The standardisation to 4% fat and 3.3% protein leads to increased consumer prices in many cases, since the typical dairy product "milk" is often low in fat content, influenced by consumer preference. The farmers' ECM price was taken from the IFCN milk price comparison (see chapters 2.3, 2.4). The VAT charge was calculated based on the VAT for milk and the consumer price in ECM. The share for processing and retailing was calculated as a residual, thus only reflecting the ratio between farmers' and consumer prices (excl. VAT) and not an average profit generated within the dairy chain, as processors´ shares can be different for different products. Average processor and retailer shares in the country can differ from those presented on the chart, where only one product, "milk" is used. Data for the milk of cows and, if applicable, buffalos, are included in "milk delivered to dairies", thus milk produced by other dairy species appear in "milk not delivered to dairies and milk from other animals". The processing profile shows the production-shares of key dairy commodities over time, based on milk equivalent values (see above).

Key result parameters: Self-sufficiency = milk production of all dairy animals (cow, buffalo, goat, sheep, camel) divided by dairy consumption in the country.

Results for Afghanistan: The consumer price steadily increased, while the farmers' share on consumers' expenditure decreased, especially in recent years. Shares of milk deliveries on total production increased until 2004. Since then they have decreased with stable periods. The processing profile shows stable shares for cheese and butter, while those for fresh products rose at the beginning of the 2000's and now constitute the major share of the formal processing sector.

Farm gate milk prices (see graph)

Goal: To illustrate the relation of the world market price for milk in national currency to the national milk price on a monthly basis.

Method: The world market price is based on the Combined IFCN World Milk Price Indicator (see Chapter 2.2 for details). The national price is taken from national statistics and is standardised to ECM (4% fat and 3.3% protein). National currencies and exchange rates are shown in Annex 4.

Results for Afghanistan: The milk price in Afghanistan increased over time and seems to be disconnected from world market developments.

Processing Profile

List of milk processors (see table and pie chart)

Goal: To identify the largest private and cooperative milk processors in the country, and to show the concentration of the dairy chain by quantifying the share of milk they process.

Method: The results are based on national statistics, internet resources or expert knowledge. The milk intake is not standardised to ECM. Where no milk intake data were available, company turnover or only company names are shown. The importance of cooperatives is illustrated by their share of milk intake shown on the list. The concentration of the processing sector is shown by the share of the top 1 and top 2-10 processors on national milk delivery, calculated on the specific year corresponding to the list.

Results for Afghanistan: The list of milk processors shows the names of the top eight companies in the year 2013.In contrast to most other countries, there is no pie chart due to unavailability of data.

Freelancer

Shakir Ullah Akhtar

Dairy sector and chain profile

Status 2013

- No. 55 in the world (cow's) milk production: 1.5 mill t ECM, of which delivered: 72%
- Country dairy consumption: 2.1 mill t ME
- Self-sufficiency in milk: 96%

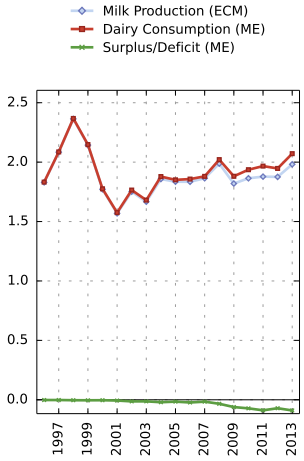
Key developments 2008-2013

- Milk production (cow's): -1.1% per year
- Country dairy consumption: +0.5% per year
- Dairy consumption per capita: -1.9% per year

Milk equivalent (ME) calculation based on fat and protein only

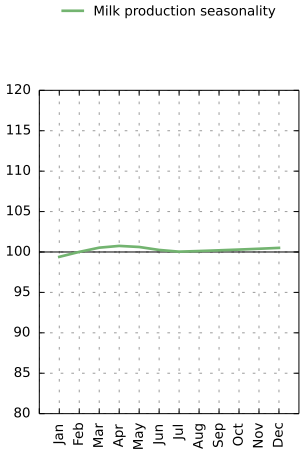
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)

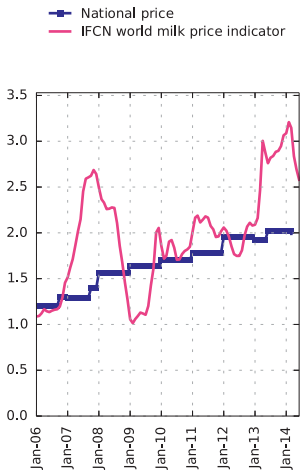


Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	1.41	1.85	1.30	1.41	1.50	1.50	1.61	1.43	1.42	1.42	1.53	+3.7%	-1.1%
Cows (in 1,000s)	2,641	3,008	2,249	3,715	3,494	3,835	4,068	4,407	4,774	5,524	5,244	+1.2%	+5.2%
Milk yield (t/cow/year)	0.53	0.62	0.58	0.38	0.43	0.39	0.40	0.32	0.30	0.26	0.29	+2.4%	-6.0%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	1.83	2.37	1.78	1.76	1.88	1.86	2.02	1.94	1.97	1.95	2.07	+3.8%	+0.5%
Population (mill people)	17.12	18.65	20.32	22.14	24.02	25.63	27.03	28.40	29.11	29.82	30.55	+3.2%	+2.5%
Consumption (kg ME/capita)	107	127	87	80	78	72	75	68	68	65	68	+0.6%	-1.9%
The dairy chain													
Milk delivered (cow's)%	51%	51%	51%	55%	72%	72%	72%	72%	72%	72%	72%	0.0%	0.0%
Self-sufficiency in milk in%	100%	100%	100%	99%	99%	99%	98%	96%	96%	96%	96%	-0.2%	-0.5%
Farmers' share of consumer price	74%	74%	77%	81%	84%	75%	71%	68%	69%	69%	66%	-2.9%	-1.5%

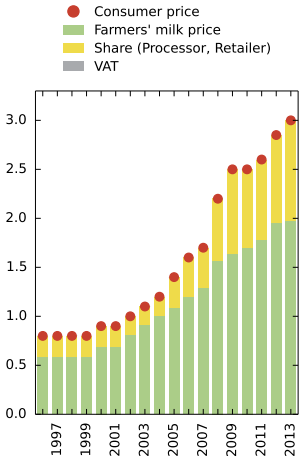
Farm gate milk prices

1,000 AFN / 100 kg milk (ECM)



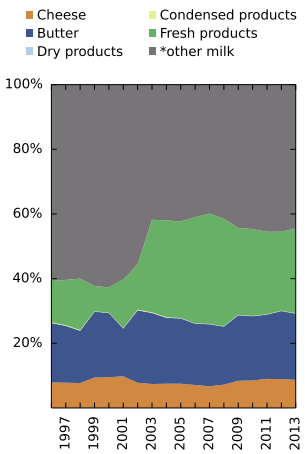
Consumer & farmers' prices

1,000 AFN / 100 kg milk (ECM)



Processing profile

% of all milk produced



Milk processors list 2013

Company Names

Kabul Dairy Union
Kunduz Dairy Union
Herat Dairy Union
Mazar Dairy Union
Mashal Dairy
Watani
Pakeeza Raheemi
Pakeeza

Explanations

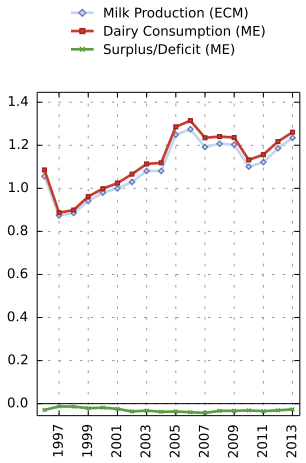
Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated.*
Consumer price (raw data) for: *1 kg pack.*
Remarks: *Milk processors list: More than 80% of big cities in Afghanistan are consuming imported dairy products. Monthly milk production 2006-2011: Annual averages. Monthly milk prices 2008-2011: Annual averages.*
Estimates done for: *Milk cow number 2010-2013.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

3.11 Albania

Ilir Kapaj

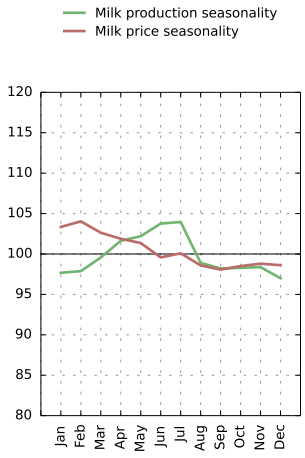
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)



Dairy sector and chain profile

Status 2013

- No. 71 in the world (cow's) milk production: 1.0 mill t ECM, of which delivered: 53%
- Country dairy consumption: 1.3 mill t ME
- Self-sufficiency in milk: 98%

Key developments 2008-2013

- Milk production (cow's): +0.3% per year
- Country dairy consumption: +0.3% per year
- Dairy consumption per capita: +1.3% per year

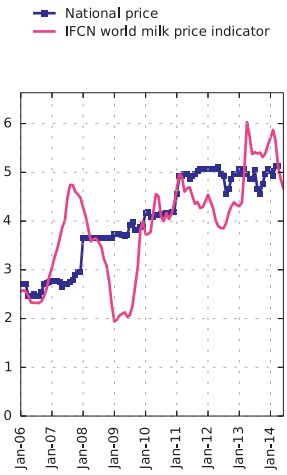
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	0.87	0.71	0.80	0.86	0.89	1.09	1.02	0.92	0.93	0.99	1.03	+2.9%	+0.3%
Cows (in 1,000s)	483	423	448	435	439	420	360	355	358	361	358	-3.7%	-0.1%
Milk yield (t/cow/year)	11.80	1.67	1.78	1.97	2.03	2.58	2.83	2.58	2.60	2.75	2.89	+6.8%	+0.4%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	1.09	0.90	1.00	1.07	1.12	1.31	1.24	1.13	1.16	1.22	1.26	+2.2%	+0.3%
Population (mill people)	3.06	3.06	3.06	3.06	3.02	2.98	2.93	2.87	2.84	2.82	2.79	-0.8%	-1.0%
Consumption (kg ME/capita)	354	294	326	348	370	441	424	394	407	432	452	+3.0%	+1.3%
The dairy chain													
Milk delivered (cow's)%	26%	40%	30%	45%	44%	45%	51%	52%	51%	49%	53%	+3.2%	+0.8%
Self-sufficiency in milk in%	97%	98%	98%	97%	97%	97%	97%	97%	97%	97%	98%	0.0%	+0.1%
Farmers' share of consumer price	55%	37%	39%	44%	48%	52%	59%	63%	75%	67%	72%	+5.3%	+4.2%

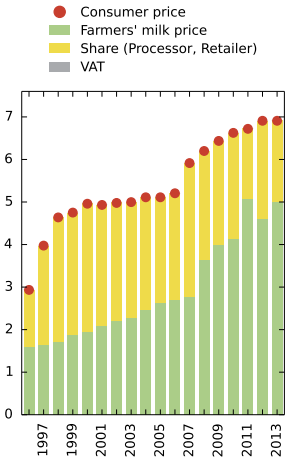
Farm gate milk prices

1,000 ALL / 100 kg milk (ECM)



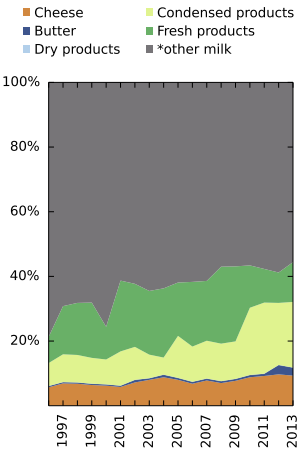
Consumer & farmers' prices

1,000 ALL / 100 kg milk (ECM)



Processing profile

% of all milk produced



Milk processors list 2013

Company Names

Arbi
Fast milk
Deltadon
Erzeni
Gjirofarma
Ajka
Mirel
Ferlat
Lufra
Greal

Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated.*
Consumer price (raw data) for: *Fresh milk which is sold directly to the consumer, approx. 3.8% protein and 3.9% fat.*
Remarks: *Monthly milk production 2006-2007 and 2011: annual averages.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

Dairy Expert

Abderrazak Djellali

Dairy sector and chain profile

Status 2013

- No. 42 in the world (cow's) milk production: 1.9 mill t ECM, of which delivered: 46%
- Country dairy consumption: 4.9 mill t ME
- Self-sufficiency in milk: 57%

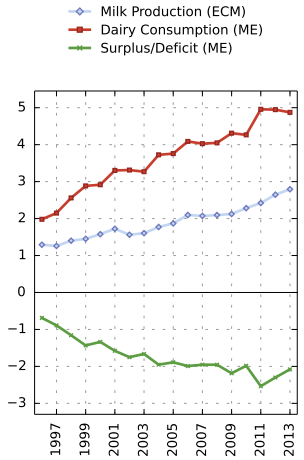
Key developments 2008-2013

- Milk production (cow's): +5.9% per year
- Country dairy consumption: +3.8% per year
- Dairy consumption per capita: +1.9% per year

Milk equivalent (ME) calculation based on fat and protein only

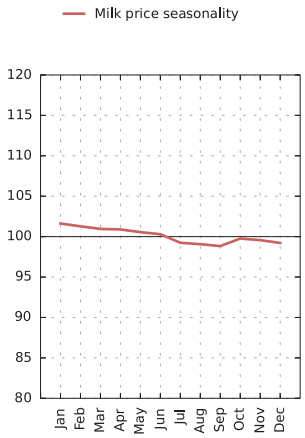
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)

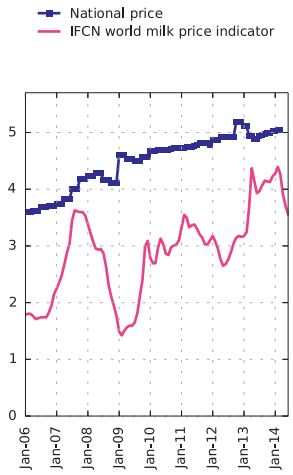


Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	0.87	0.95	1.13	1.10	1.26	1.50	1.45	1.55	1.64	1.84	1.94	+5.3%	+5.9%
Cows (in 1,000s)	212	212	214	230	234	234	246	269	280	300	300	+1.2%	+4.0%
Milk yield (t/cow/year)	4.10	4.49	5.29	4.78	5.38	6.40	5.90	5.76	5.87	6.13	6.45	+4.0%	+1.8%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	1.98	2.56	2.92	3.31	3.72	4.09	4.05	4.27	4.96	4.95	4.87	+4.4%	+3.8%
Population (mill people)	28.57	29.51	30.51	31.41	32.37	33.35	34.59	35.98	36.72	37.49	37.90	+1.6%	+1.8%
Consumption (kg ME/capita)	69	87	96	105	115	123	117	119	135	132	129	+2.7%	+1.9%
The dairy chain													
Milk delivered (cow's)%	11%	10%	10%	10%	10%	7%	21%	25%	34%	37%	46%	+16.4%	+16.4%
Self-sufficiency in milk in%	65%	55%	54%	47%	48%	51%	52%	54%	49%	53%	57%	+1.0%	+2.1%
Farmers' share of consumer price			169%	113%	119%	130%	141%	160%	168%	174%	178%	+4.0%	+4.8%

Farm gate milk prices

1,000 DZD / 100 kg milk (ECM)

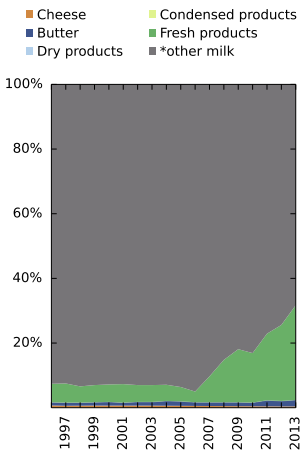


Consumer & farmers' prices

Milk is sold at local markets in various types of products. Pasteurised reconstituted milk in one liter bags with 24 hours shelf-life at government controlled (fixed) prices (25 DZD per liter); fresh milk sold directly from the farms at much higher prices and UHT in Tetra Pak boxes produced by private processors. With a government policy of having fixed prices for pasteurised fluid milk, the private sector processors are mainly focused on producing other more profitable dairy products (Source: USDA - Gains Report 2008).

Processing profile

% of all milk produced



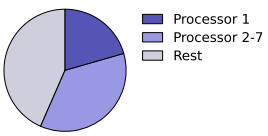
Milk processors list 2013

Milk intake in 1,000 tons (natural content)

Groupe Giplait	188
Sarl Laiterie Soummam	157
Sarl Hodna Lait	49
Sarl Lait Essafir Freres Ziane	37
Danone Djurdjura Algerie	36
Sarl Halib Ennadjah Maghnia	25.0
Coopssel Laiterie El Anfel	24.8

Cooperatives: 5% of milk intake shown

Share on national milk delivery:



Explanations

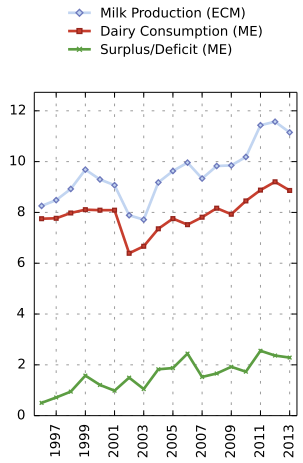
Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *Pasteurised reconstituted milk, one liter bag, government controlled price, 2.8% fat, 3.2% protein.*
Remarks: *Milk processors: Milk intake based on partner info.*
Estimates done for: *Farmer's milk price.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

3.13 Argentina

Hugo Quattrochi

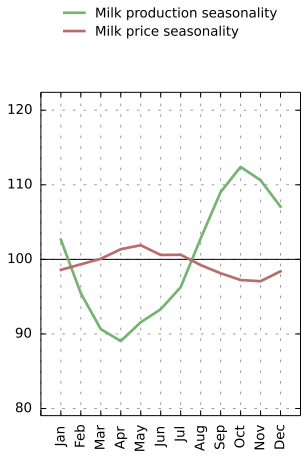
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)



Dairy sector and chain profile

Status 2013

- No. 16 in the world (cow's) milk production: 11.1 mill t ECM, of which delivered: 93%
- Country dairy consumption: 8.9 mill t ME
- Self-sufficiency in milk: 126%

Key developments 2008-2013

- Milk production (cow's): +2.6% per year
- Country dairy consumption: +1.7% per year
- Dairy consumption per capita: +0.5% per year

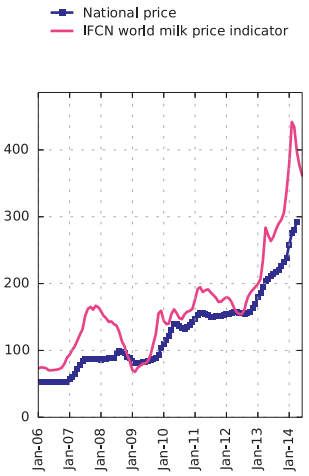
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

												annual change	
	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	'03-'08	'08-'13
Milk production (cow's)													
Production (mill t ECM)	8.26	8.92	9.30	7.89	9.18	9.96	9.83	10.18	11.43	11.57	11.15	+5.0%	+2.6%
Cows (in 1,000s)	2,000	1,993	2,150	2,005	2,050	2,091	1,841	1,749	1,691	1,748	1,801	-1.7%	-0.4%
Milk yield (t/cow/year)	4.13	4.48	4.32	3.93	4.48	4.76	5.34	5.82	6.76	6.62	6.19	+6.8%	+3.0%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	7.75	7.98	8.09	6.39	7.36	7.52	8.17	8.45	8.88	9.21	8.86	+4.1%	+1.7%
Population (mill people)	34.61	35.26	35.92	36.67	37.50	38.35	39.23	40.12	40.57	41.03	41.49	+1.1%	+1.1%
Consumption (kg ME/capita)	224	226	225	174	196	196	208	211	219	224	214	+3.0%	+0.5%
The dairy chain													
Milk delivered (cow's)%	93%	93%	93%	93%	93%	93%	93%	92%	93%	92%	93%	0.0%	0.0%
Self-sufficiency in milk in%	106%	112%	115%	123%	125%	132%	120%	120%	129%	126%	126%	+0.8%	+0.9%
Farmers' share of consumer price	26%	22%	18%	22%	31%	30%	43%	36%	34%	32%	33%	+6.7%	-4.8%

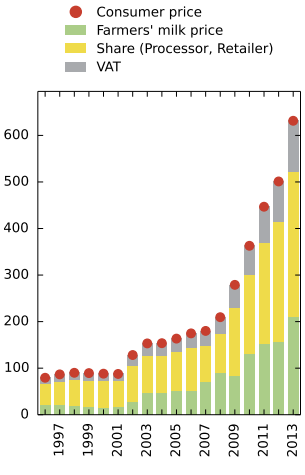
Farm gate milk prices

ARS / 100 kg milk (ECM)



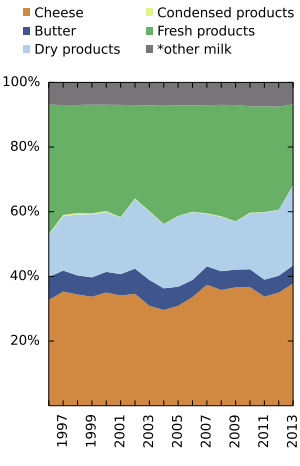
Consumer & farmers' prices

ARS / 100 kg milk (ECM)



Processing profile

% of all milk produced



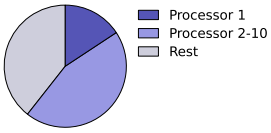
Milk processors list 2012

Milk intake in 1,000 tons (natural content)

Mastellone Hnos	1752
Sancor Coop Unidas LTDA	1460
Danone Argentina	219
Saputo	620
Suc de Alfredo Williner SA	584
Milkaut	766
Verónica	365
Nestle	402
Manfrey	292
Corlasa	292

Cooperatives: 37% of milk intake shown

Share on national milk delivery:



Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *Fresh milk, plastic sachet, 1 litre, 3.0% fat, 3.0% protein.*
Estimates done for: *Consumer price 2012-13. Milk not delivered: 1996-2010 (7%), 2011-12 (7.5%), 2013 (6.8%). Milk processing 2013.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

Vardan Urutyan

Dairy sector and chain profile

Status 2013

- No. 83 in the world (cow's) milk production: 0.6 mill t ECM, of which delivered: 52%
- Country dairy consumption: 0.8 mill t ME
- Self-sufficiency in milk: 92%

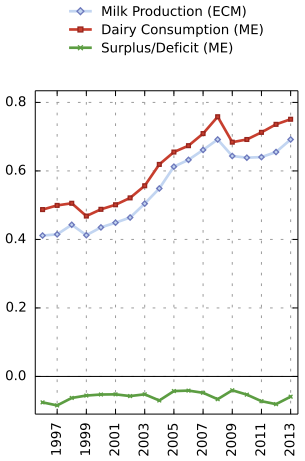
Key developments 2008-2013

- Milk production (cow's): -0.1% per year
- Country dairy consumption: -0.2% per year
- Dairy consumption per capita: -0.5% per year

Milk equivalent (ME) calculation based on fat and protein only

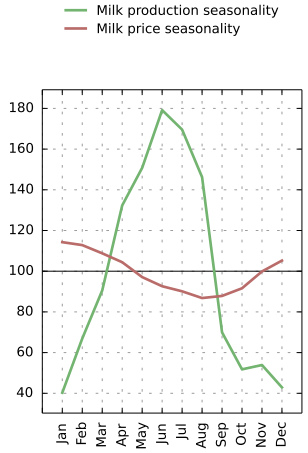
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)

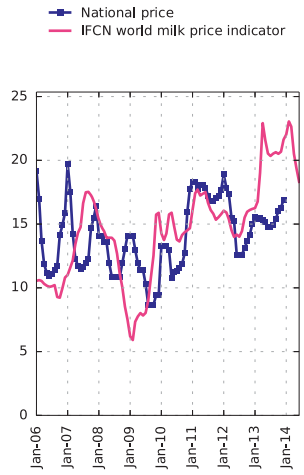


Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	0.40	0.42	0.42	0.44	0.52	0.57	0.63	0.57	0.57	0.59	0.62	+5.4%	-0.1%
Cows (in 1,000s)	277	256	262	281	290	307	283	273	283	303	310	-0.6%	+1.8%
Milk yield (t/cow/year)	1.43	1.65	1.59	1.58	1.79	1.87	2.21	2.09	2.03	1.94	2.02	+6.0%	-1.9%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	0.49	0.51	0.49	0.52	0.62	0.67	0.76	0.69	0.71	0.74	0.75	+6.4%	-0.2%
Population (mill people)	3.59	3.43	3.22	3.21	3.21	3.22	3.23	3.26	3.27	3.28	3.29	+0.1%	+0.3%
Consumption (kg ME/capita)	136	147	151	162	193	209	234	212	218	224	228	+6.2%	-0.5%
The dairy chain													
Milk delivered (cow's)%	19%	30%	41%	45%	50%	48%	47%	37%	40%	52%	52%	-1.3%	+2.0%
Self-sufficiency in milk in%	84%	88%	89%	89%	89%	94%	91%	92%	90%	89%	92%	+0.1%	+0.2%
Farmers' share of consumer price	34%	37%	43%	48%	33%	35%	34%	31%	43%	37%	34%	+0.4%	0.0%

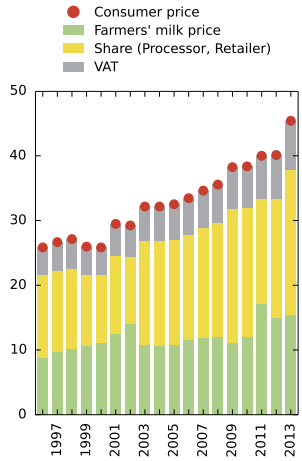
Farm gate milk prices

1,000 AMD / 100 kg milk (ECM)



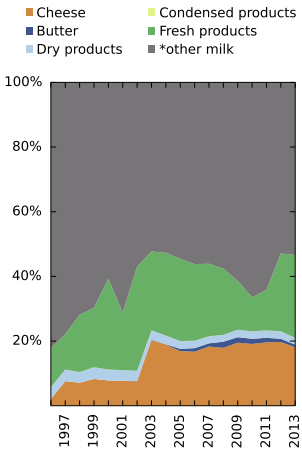
Consumer & farmers' prices

1,000 AMD / 100 kg milk (ECM)



Processing profile

% of all milk produced



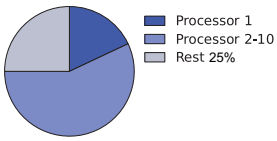
Milk processors list 2013

Market share in%

Ashtarak-Kat CJSC	18.0%
Dustr Marianna LLC	11.0%
Dustr Melanya LLC	8.0%
Tamara yev Ani LLC	8.0%
Chanakh LLC	7.0%
Biokat Plus LLC	6.0%
Bonilat LLC	5.0%
Krystal Kat LLC	4.0%
Multi Agro LLC	4.0%
Arzni Kat	4.0%

Cooperatives: 0% of milk intake shown

Share on national milk delivery:



Explanations

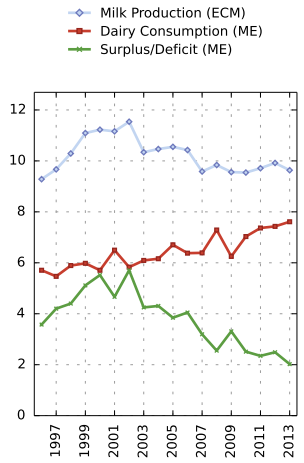
Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *Pasteurised milk, 3.2% fat, 2.7% protein.*
Remarks: *Milk processors: Milk intake is presented as a% market share calculated from total milk delivered.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

3.15 Australia

Andrew Weinert, Jon Hauser

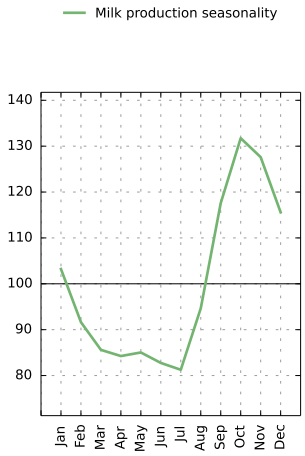
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)



Dairy sector and chain profile

Status 2013

- No. 18 in the world (cow's) milk production: 9.6 mill t ECM, of which delivered: 97%
- Country dairy consumption: 7.6 mill t ME
- Self-sufficiency in milk: 127%

Key developments 2008-2013

- Milk production (cow's): -0.4% per year
- Country dairy consumption: +0.9% per year
- Dairy consumption per capita: -0.7% per year

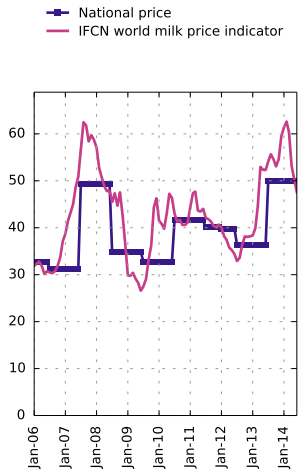
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	9.28	10.29	11.23	11.54	10.47	10.43	9.84	9.54	9.71	9.92	9.63	-1.0%	-0.4%
Cows (in 1,000s)	1,884	2,060	2,171	2,123	2,038	1,880	1,641	1,596	1,589	1,670	1,650	-4.4%	+0.1%
Milk yield (t/cow/year)	4.93	5.00	5.17	5.43	5.14	5.55	6.00	5.98	6.11	5.94	5.84	+3.5%	-0.5%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	5.71	5.89	5.71	5.83	6.16	6.38	7.29	7.03	7.37	7.43	7.61	+3.6%	+0.9%
Population (mill people)	18.33	18.71	19.14	19.61	20.05	20.63	21.48	22.17	22.52	22.92	23.21	+1.6%	+1.6%
Consumption (kg ME/capita)	311	315	298	297	307	309	339	317	327	324	328	+2.0%	-0.7%
The dairy chain													
Milk delivered (cow's)%	97%	97%	97%	97%	97%	97%	97%	97%	97%	96%	97%	0.0%	0.0%
Self-sufficiency in milk in%	163%	175%	197%	198%	170%	163%	135%	136%	132%	134%	127%	-4.5%	-1.3%
Farmers' share of consumer price				20%	19%	22%	24%	22%	26%	24%	27%	+6.8%	+2.5%

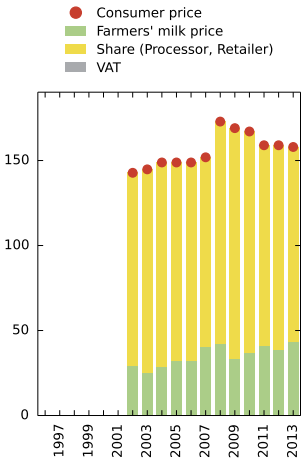
Farm gate milk prices

AUD / 100 kg milk (ECM)



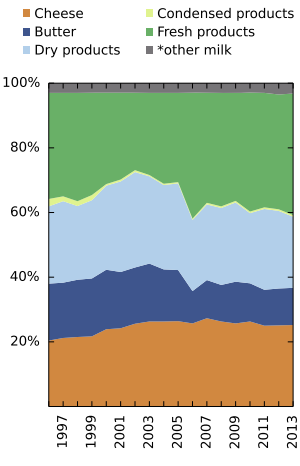
Consumer & farmers' prices

AUD / 100 kg milk (ECM)



Processing profile

% of all milk produced



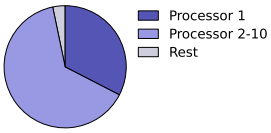
Milk processors list season 2012/2013

Milk intake in 1,000 tons (natural content)

Murray Goulburn	2996
Fonterra Brands Australia	1756
Lion Dairy and Drinks	1240
Warrnambool	888
Parmalat	516
Bega	671
United Dairy Power	263
Burra Foods	258
Norco	155
Brownes	155

Cooperatives: 35% of milk intake shown

Share on national milk delivery:



Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *Fresh whole milk, branded, 3.8% fat, 3.05% protein.*
Remarks: *Annualised production and price data is shown.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

Leopold Kirner

Dairy sector and chain profile

Status 2013

- No. 36 in the world (cow's) milk production: 3.5 mill t ECM, of which delivered: 86%
- Country dairy consumption: 2.5 mill t ME
- Self-sufficiency in milk: 141%

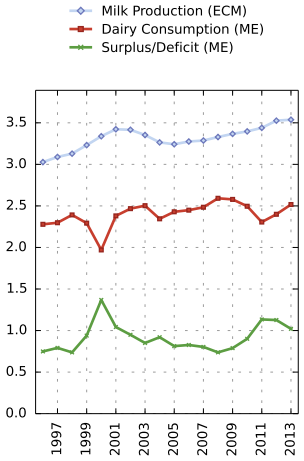
Key developments 2008-2013

- Milk production (cow's): +1.2% per year
- Country dairy consumption: -0.6% per year
- Dairy consumption per capita: -0.9% per year

Milk equivalent (ME) calculation based on fat and protein only

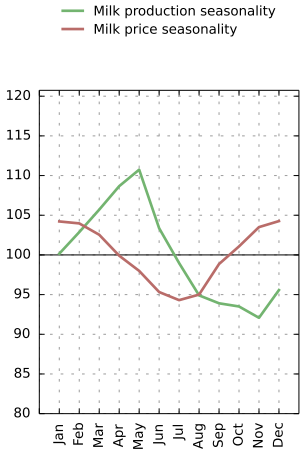
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)

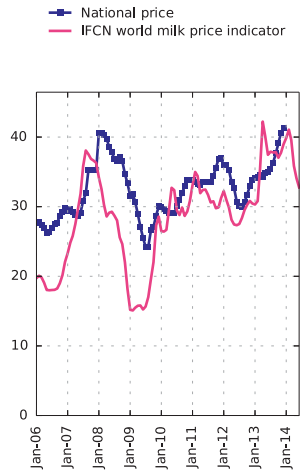


Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	3.00	3.10	3.31	3.39	3.24	3.25	3.30	3.36	3.40	3.49	3.50	-0.2%	+1.2%
Cows (in 1,000s)	698	729	621	589	538	527	530	530	531	527	525	-1.0%	-0.2%
Milk yield (t/cow/year)	4.30	4.26	5.33	5.75	6.02	6.16	6.22	6.35	6.41	6.62	6.66	+0.9%	+1.4%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	2.28	2.39	1.97	2.47	2.34	2.45	2.59	2.50	2.31	2.40	2.52	+0.7%	-0.6%
Population (mill people)	7.96	7.98	8.01	8.08	8.17	8.27	8.34	8.39	8.42	8.47	8.48	+0.5%	+0.4%
Consumption (kg ME/capita)	286	300	246	305	287	296	311	298	274	283	297	+0.2%	-0.9%
The dairy chain													
Milk delivered (cow's)%	79%	80%	82%	80%	83%	85%	85%	85%	88%	88%	86%	+0.8%	+0.3%
Self-sufficiency in milk in%	133%	131%	169%	138%	139%	134%	128%	136%	149%	147%	141%	-0.8%	+1.8%
Farmers' share of consumer price				39%	35%	35%	36%	32%	34%	34%	35%	-0.9%	-0.3%

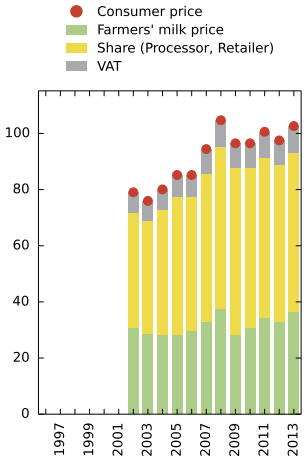
Farm gate milk prices

EUR / 100 kg milk (ECM)



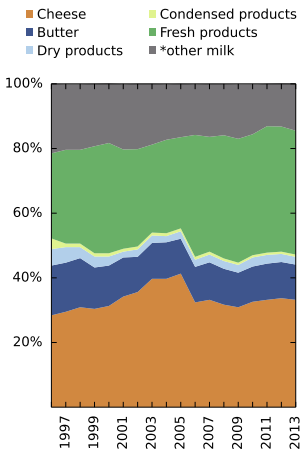
Consumer & farmers' prices

EUR / 100 kg milk (ECM)



Processing profile

% of all milk produced



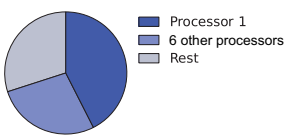
Milk processors list 2013

Milk intake in 1,000 tons (natural content)

Berglandmilch	1247
NÖM AG	n/a
Gmundner Milch	314
Alpenmilch Salzburg	214
Privatkäserei Rupp	n/a
Kärntnermilch	113
Ennstal Milch	75
Obersteirische Molkerei	n/a
Pinzgau Milch	60
Gebrüder Wörle	31

Cooperatives: 94% of milk intake shown

Share on national milk delivery:



Explanations

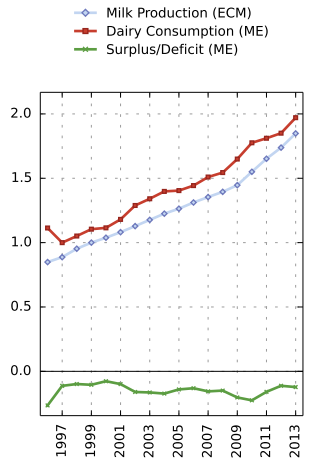
Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA, Eurostat, AMI.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *Fresh milk with 3.6% fat and 3.2% protein, conventional milk.*
Remarks: *Processed condensed milk: Due to data protection (only two processors on the market) no values available.*
Estimates done for: *Condensed milk 2012-2014.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

3.17 **Azerbaijan**

IFCN Dairy Research Center

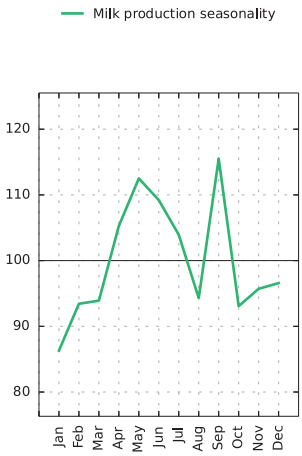
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)



Dairy sector and chain profile

Status 2013

- No. 58 in the world (cow's) milk production: 1.8 mill t ECM, of which delivered: 36%
- Country dairy consumption: 2.0 mill t ME
- Self-sufficiency in milk: 94%

Key developments 2008-2013

- Milk production (cow's): +5.7% per year
- Country dairy consumption: +5.0% per year
- Dairy consumption per capita: +3.8% per year

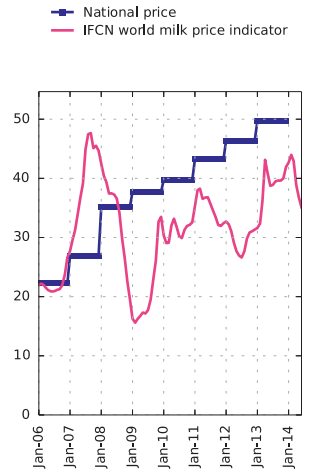
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	0.83	0.93	1.01	1.10	1.19	1.27	1.35	1.51	1.57	1.68	1.79	+3.4%	+5.7%
Cows (in 1,000s)	772	863	926	1,002	1,076	1,151	1,217	1,264	1,276	1,288	1,306	+3.1%	+1.4%
Milk yield (t/cow/year)	1.08	1.08	1.09	1.10	1.11	1.10	1.11	1.19	1.23	1.30	1.37	+0.2%	+4.2%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	1.11	1.05	1.11	1.29	1.40	1.44	1.54	1.78	1.81	1.85	1.97	+2.9%	+5.0%
Population (mill people)	7.66	7.81	8.03	8.19	8.35	8.55	8.78	9.00	9.11	9.23	9.31	+1.2%	+1.2%
Consumption (kg ME/capita)	145	135	139	157	167	169	176	197	199	200	212	+1.6%	+3.8%
The dairy chain													
Milk delivered (cow's)%	37%	37%	37%	36%	36%	35%	35%	35%	35%	36%	36%	-0.6%	+0.5%
Self-sufficiency in milk in%	76%	91%	93%	88%	88%	91%	90%	87%	91%	94%	94%	+0.6%	+0.8%
Farmers' share of consumer price							29%	33%	35%	38%	41%		+7.2%

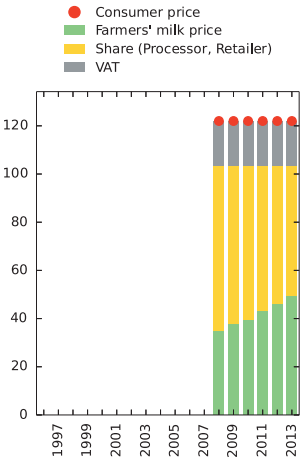
Farm gate milk prices

AZN / 100 kg milk (ECM)



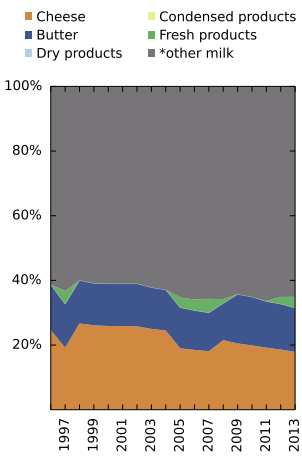
Consumer & farmers' prices

AZN / 100 kg milk (ECM)



Processing profile

% of all milk produced



Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated.*
Consumer price (raw data) for: *Milk (regular), 1 liter.*
** other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

IFCN Dairy Research Center

Mohammad Mohi Uddin

Dairy sector and chain profile

Status 2013

- No. 27 in the world (cow's and buffalo's) milk production: 3.3 mill t ECM, of which delivered: 10%
- Country dairy consumption: 6.4 mill t ME
- Self-sufficiency in milk: 94%

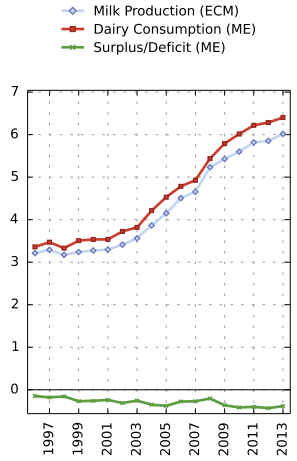
Key developments 2008-2013

- Milk production (cow's and buffalo's): +1.5% per year
- Country dairy consumption: +3.3% per year
- Dairy consumption per capita: +2.2% per year

Milk equivalent (ME) calculation based on fat and protein only

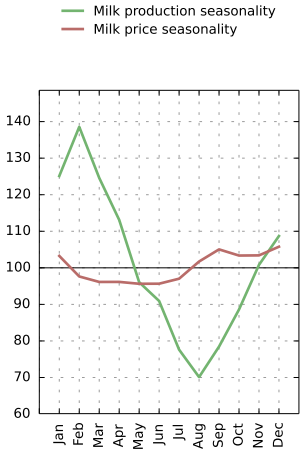
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)

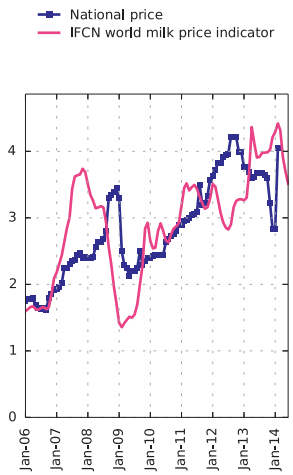


Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's and buffalo's)													
Production (mill t ECM)	1.91	1.87	1.94	1.97	2.20	2.59	3.03	3.06	3.19	3.21	3.27	+8.5%	+1.5%
Cows and buffalos (in 1,000s)	3,995	4,022	4,061	4,100	4,140	4,180	4,204	4,187	4,216	4,243	4,267	+0.4%	+0.3%
Milk yield (t/cow/year)	0.48	0.46	0.48	0.48	0.53	0.62	0.72	0.73	0.76	0.76	0.77	+8.1%	+1.2%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	3.36	3.33	3.53	3.72	4.21	4.78	5.44	6.01	6.22	6.28	6.40	+7.3%	+3.3%
Population (mill people)	122	127	132	137	141	145	148	151	153	155	156	+1.2%	+1.1%
Consumption (kg ME/capita)	27	26	27	27	30	33	37	40	41	41	41	+6.0%	+2.2%
The dairy chain													
Milk delivered (cow's and buffalo's)%	6%	6%	7%	7%	8%	8%	9%	9%	9%	10%	10%	+2.2%	+2.5%
Self-sufficiency in milk in%	96%	95%	93%	92%	92%	94%	96%	93%	94%	93%	94%	+0.6%	-0.5%
Farmers' share of consumer price	36%	49%	55%	54%	58%	53%	69%	48%	55%	63%	56%	+4.5%	-4.1%

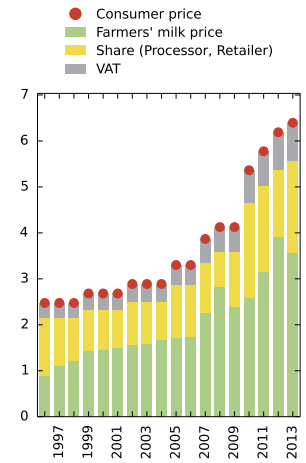
Farm gate milk prices

1,000 BDT / 100 kg milk (ECM)



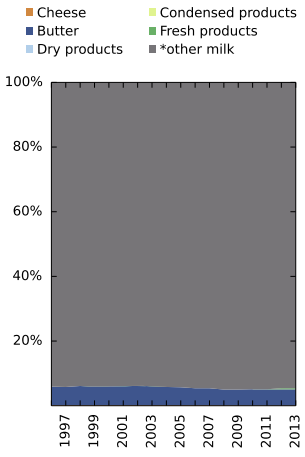
Consumer & farmers' prices

1,000 BDT / 100 kg milk (ECM)



Processing profile

% of all milk produced



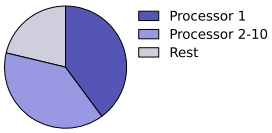
Milk processors list 2013

Milk intake in 1,000 tons (natural content)

Milk Vita	119
BRAC Dairy Ltd.(Arong)	49
Pran Dairy Ltd.	38
Ammo Milk	15
Aftab Milk and Milk Products Ltd.	4
Bikrampur Milk	3
Rangpur Dairy	2
Akij Group	2
Ultra-Shelaidah Dairy	2
Grammen/CLDDP	1

Cooperatives: 51% of milk intake shown

Share on national milk delivery:



Explanations

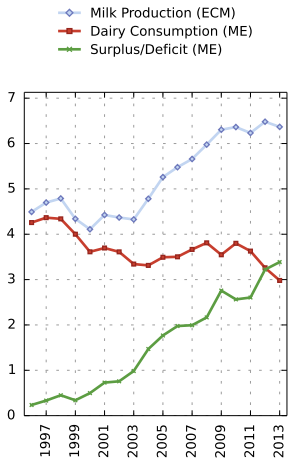
Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *Pasteurised liquid milk, 3.5% fat, 3.3% protein.*
Remarks: *It is assumed that 3% of total milk production is produced from buffalos.*
Estimates done for: *Number of milking cows & buffalos. Milk delivered to the processors.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

3.19 Belarus

Anatoli Takun

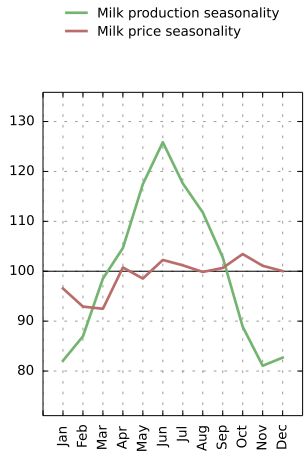
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)



Dairy sector and chain profile

Status 2013

- No. 26 in the world (cow's) milk production: 6.4 mill t ECM, of which delivered: 83%
- Country dairy consumption: 3.0 mill t ME
- Self-sufficiency in milk: 214%

Key developments 2008-2013

- Milk production (cow's): +1.3% per year
- Country dairy consumption: -4.8% per year
- Dairy consumption per capita: -4.6% per year

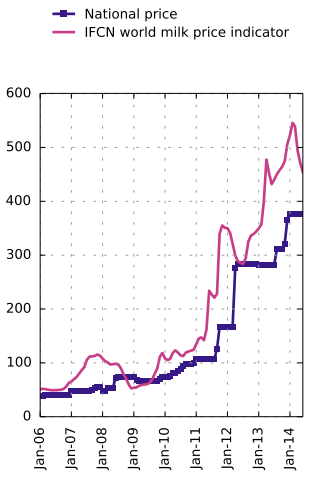
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	4.49	4.79	4.11	4.37	4.76	5.45	5.95	6.33	6.22	6.47	6.36	+6.6%	+1.3%
Cows (in 1,000s)	2,043	1,946	1,845	1,716	1,613	1,506	1,452	1,478	1,477	1,521	1,525	-2.6%	+1.0%
Milk yield (t/cow/year)	2.20	2.46	2.23	2.55	2.95	3.62	4.10	4.28	4.21	4.25	4.17	+9.4%	+0.4%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	4.26	4.34	3.61	3.61	3.31	3.50	3.81	3.80	3.63	3.26	2.98	+2.7%	-4.8%
Population (mill people)	10.14	10.04	9.99	9.90	9.76	9.63	9.54	9.50	9.48	9.46	9.46	-0.6%	-0.2%
Consumption (kg ME/capita)	420	432	362	365	339	364	399	400	383	344	315	+3.3%	-4.6%
The dairy chain													
Milk delivered (cow's)%	51%	58%	47%	54%	64%	68%	76%	76%	81%	83%	83%	+5.0%	+1.7%
Self-sufficiency in milk in%	106%	110%	114%	121%	144%	156%	157%	167%	172%	199%	214%	+3.9%	+6.4%
Farmers' share of consumer price			36%	39%	44%	43%	54%	49%	48%	48%	50%	+6.7%	-1.7%

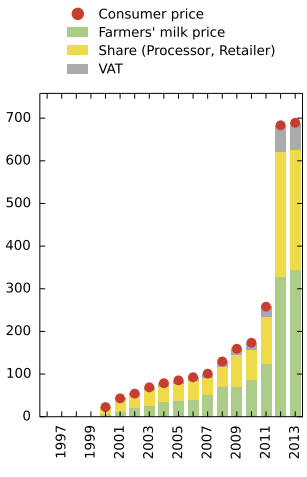
Farm gate milk prices

1,000 BYR / 100 kg milk (ECM)



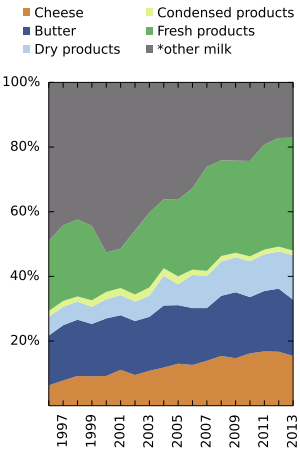
Consumer & farmers' prices

1,000 BYR / 100 kg milk (ECM)



Processing profile

% of all milk produced



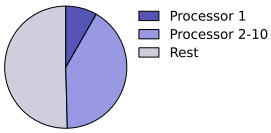
Milk processors list 2013

Milk intake in 1,000 tons (natural content)

Savushkin product	457
Babushkina krynka	469
Slutski SK	283
Molochnye producty - Gomel	221
Gormolzavod № 1, Minsk	235
Beresovski SK	238
Rogachevski MKK	261
Molochny mir - Grodno	194
Zdravushka-Milk	193
Bellakt	184

Cooperatives: 0% of milk intake shown

Share on national milk delivery:



Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *Milk, 1 litre plastic bag, 3.2% fat, 2.8% protein.*
Remarks: *Milk processors: Milk intake based on partner data.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

ILVO

Erwin Wauters

Dairy sector and chain profile

Status 2013

- No. 37 in the world (cow's) milk production: 3.2 mill t ECM, of which delivered: 99%
- Country dairy consumption: 3.5 mill t ME
- Self-sufficiency in milk: 93%

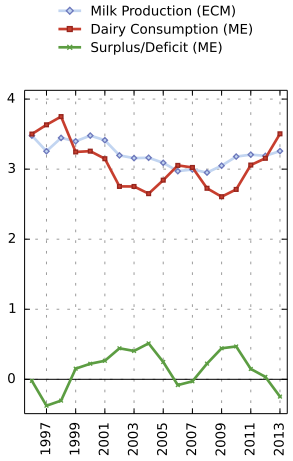
Key developments 2008-2013

- Milk production (cow's): +2.0% per year
- Country dairy consumption: +5.1% per year
- Dairy consumption per capita: +4.2% per year

Milk equivalent (ME) calculation based on fat and protein only

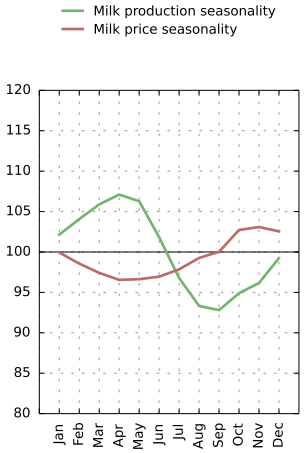
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)

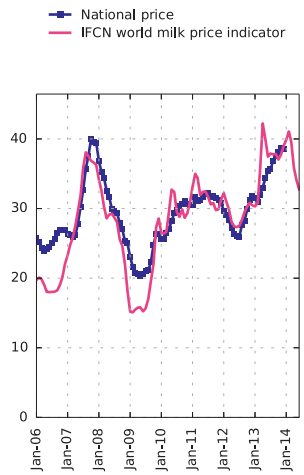


Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	3.48	3.45	3.48	3.19	3.16	2.96	2.94	3.17	3.20	3.18	3.25	-1.4%	+2.0%
Cows (in 1,000s)	650	632	594	577	543	507	495	500	488	485	487	-2.4%	-0.3%
Milk yield (t/cow/year)	5.35	5.46	5.86	5.53	5.82	5.84	5.94	6.34	6.56	6.56	6.67	+1.1%	+2.3%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	3.50	3.75	3.26	2.75	2.65	3.05	2.73	2.71	3.06	3.16	3.50	-0.2%	+5.1%
Population (mill people)	10.14	10.19	10.24	10.31	10.40	10.51	10.67	10.84	11.00	11.10	11.16	+0.6%	+0.9%
Consumption (kg ME/capita)	345	368	318	267	255	290	256	250	278	284	314	-0.8%	+4.2%
The dairy chain													
Milk delivered (cow's)%	88%	96%	91%	92%	91%	97%	99%	99%	98%	99%	99%	+1.7%	+0.1%
Self-sufficiency in milk in%	99%	92%	107%	116%	119%	97%	108%	117%	105%	101%	93%	-1.2%	-3.0%
Farmers' share of consumer price	44%	47%	45%	40%	40%	37%	35%	36%	39%	38%	42%	-1.1%	+3.4%

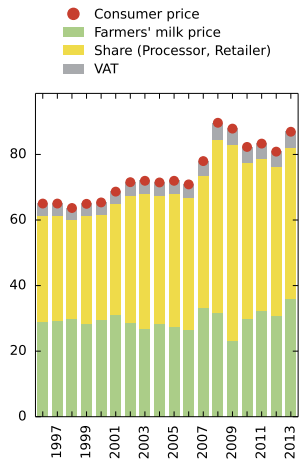
Farm gate milk prices

EUR / 100 kg milk (ECM)



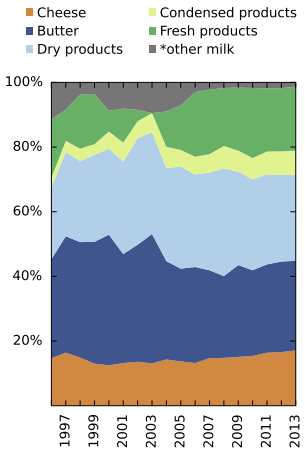
Consumer & farmers' prices

EUR / 100 kg milk (ECM)



Processing profile

% of all milk produced



Milk processors list 2010

Turn over in mill EUR

Milcobel	880
FrieslandCampina	775
Bongrain	453
Lactalis	375
Danone	372
LDA-Solarec	251
Inex	150
Bel Belgium	128
Incopack	97
Olympia	72

Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA, Eurostat, AMI.*
Data: *2014 data preliminary and partly estimated.*
Consumer price (raw data) for: *Full milk, 3.56% fat, 3.39% protein.*
Remarks: *High export and import figures since Belgium is a trade transit country. Dairy consumption: Figures can be overestimated. Processing profile: statistical change 2003.*
Estimates done for: *Milk production 2013. Milk delivered 2013. Milk price 2013. Milk processing 1996-1999, 2013.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

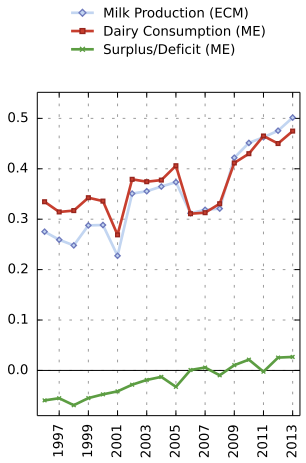
3.21 Bolivia

Felix Menzel

Dairy Farmer

Milk balance

in mill t, from all dairy species



Dairy sector and chain profile

Status 2013

- No. 92 in the world (cow's) milk production: 0.4 mill t ECM, of which delivered: 77%
- Country dairy consumption: 0.5 mill t ME
- Self-sufficiency in milk: 106%

Key developments 2008-2013

- Milk production (cow's): +9.1% per year
- Country dairy consumption: +7.5% per year
- Dairy consumption per capita: +5.5% per year

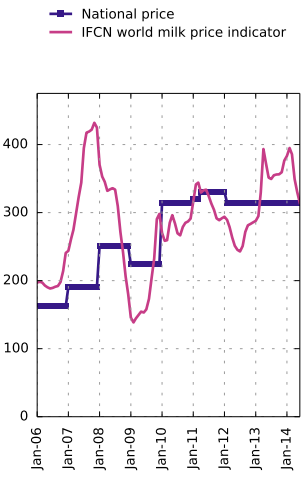
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

												annual change	
	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	'03-'08	'08-'13
Milk production (cow's)													
Production (mill t ECM)	0.20	0.19	0.23	0.29	0.30	0.25	0.26	0.37	0.38	0.39	0.40	-2.7%	+9.1%
Cows (in 1,000s)	140	146	137	182	190	198	198	198	198	198	198	+1.4%	0.0%
Milk yield (t/cow/year)	1.39	1.31	1.69	1.60	1.61	1.28	1.31	1.88	1.93	1.98	2.03	-4.0%	+9.1%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	0.33	0.32	0.34	0.38	0.38	0.31	0.33	0.43	0.47	0.45	0.47	-2.5%	+7.5%
Population (mill people)	7.60	8.04	8.43	8.82	9.23	9.63	10.03	10.43	10.63	10.83	11.04	+2.1%	+1.9%
Consumption (kg ME/capita)	44	39	40	43	41	32	33	41	44	42	43	-4.5%	+5.5%
The dairy chain													
Milk delivered (cow's)%	77%	77%	77%	77%	77%	77%	77%	77%	77%	77%	77%	0.0%	0.0%
Self-sufficiency in milk in%	82%	78%	86%	93%	97%	100%	97%	105%	99%	106%	106%	+0.4%	+1.7%
Farmers' share of consumer price								49%	52%	50%	50%		

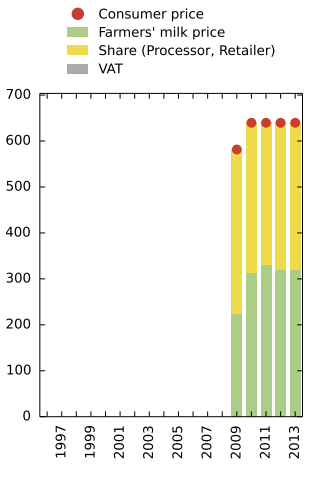
Farm gate milk prices

BOB / 100 kg milk (ECM)



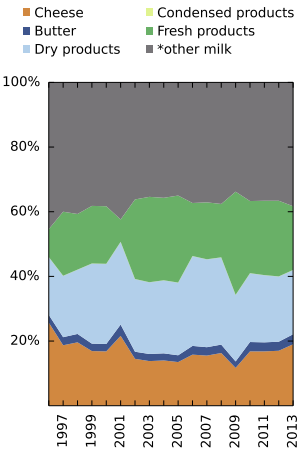
Consumer & farmers' prices

BOB / 100 kg milk (ECM)



Processing profile

% of all milk produced

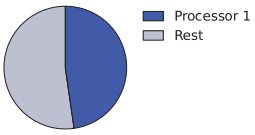


Milk processors list 2011

Milk intake in 1,000 tons (natural content)

PIL Andina SA (Gloria group)	140
Del Campo	n/a
La Campina	n/a
La Purita	n/a
Peq Clarabella	n/a

Share on national milk delivery:



Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *1 liter fresh milk, 2.7% fat, 3.2% protein.*
Remarks: *Milk price: Assured fixed price for specific milk amount; overproduction will be paid extra and lies at the world market price level.*
Estimates done for: *Cow numbers 2006-2013 left constant. Monthly milk price 2006-2010: Annual averages. Milk delivered IFCN estimate 77%. Milk processing 2013.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

Dairy sector and chain profile

Status 2013

- No. 82 in the world (cow's) milk production: 0.7 mill t ECM, of which delivered: 31%
- Country dairy consumption: 0.8 mill t ME
- Self-sufficiency in milk: 87%

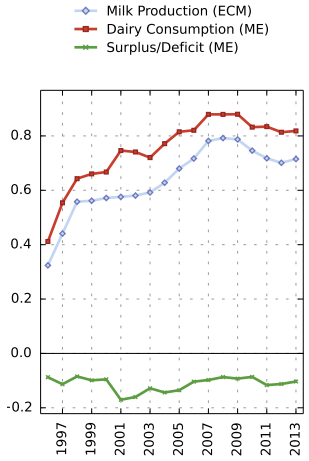
Key developments 2008-2013

- Milk production (cow's): -2.0% per year
- Country dairy consumption: -1.4% per year
- Dairy consumption per capita: -1.3% per year

Milk equivalent (ME) calculation based on fat and protein only

Milk balance

in mill t, from all dairy species

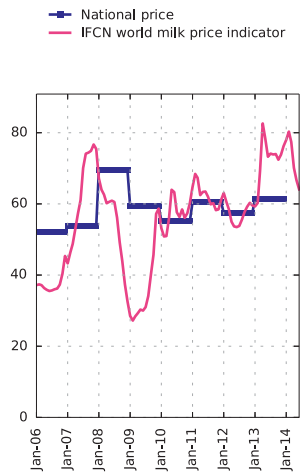


Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	0.31	0.53	0.55	0.55	0.60	0.68	0.76	0.72	0.69	0.67	0.69	+6.2%	-2.0%
Cows (in 1,000s)	215	277	297	244	291	313	297	277	263	250	237	+1.2%	-4.4%
Milk yield (t/cow/year)	1.42	1.93	1.84	2.26	2.07	2.19	2.57	2.58	2.62	2.70	2.91	+4.9%	+2.5%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	0.41	0.64	0.67	0.74	0.77	0.82	0.88	0.83	0.83	0.81	0.82	+4.1%	-1.4%
Population (mill people)	3.52	3.65	3.78	3.83	3.89	3.92	3.91	3.90	3.89	3.88	3.88	+0.3%	-0.2%
Consumption (kg ME/capita)	117	176	176	194	198	209	225	214	214	209	211	+3.8%	-1.3%
The dairy chain													
Milk delivered (cow's)%	30%	30%	30%	30%	30%	27%	32%	30%	30%	32%	31%	+1.3%	-0.4%
Self-sufficiency in milk in%	79%	87%	86%	78%	81%	87%	90%	90%	86%	86%	87%	+1.9%	-0.6%
Farmers' share of consumer price								40%	43%	40%	42%		

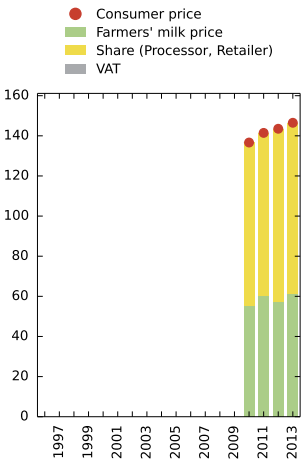
Farm gate milk prices

BAM / 100 kg milk (ECM)



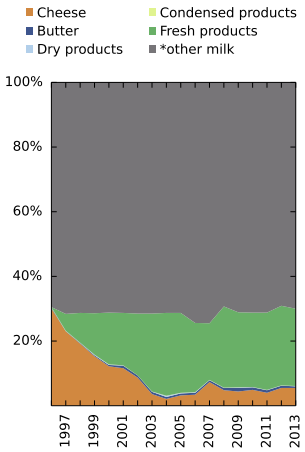
Consumer & farmers' prices

BAM / 100 kg milk (ECM)



Processing profile

% of all milk produced



Milk processors list 2008

Company names

Meggle
Inmer
PPM Tuzala
Milkos
Mljekara Livno
East Milk
ZIM
Tippas
Poljorad

Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated.*
Consumer price (raw data) for: *Milk (regular), 1 liter, Tetrapak.*
Remarks: *Monthly milk price: Annual averages.*
Estimates done for: *Cow number: 2013. Milk price: 2013.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

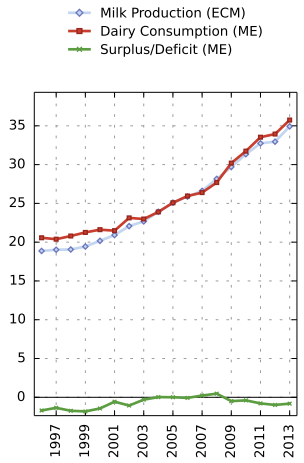
3.23 Brazil

Lorildo A. Stock

Embrapa

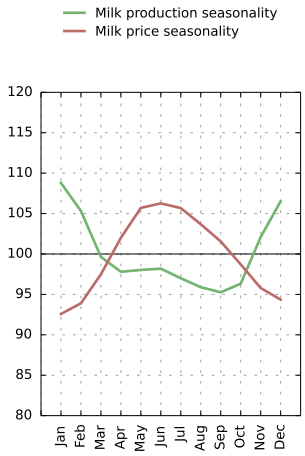
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)



Dairy sector and chain profile

Status 2013

- No. 4 in the world (cow's) milk production: 34.8 mill t ECM, of which delivered: 66%
- Country dairy consumption: 36 mill t ME
- Self-sufficiency in milk: 98%

Key developments 2008-2013

- Milk production (cow's): +4.4% per year
- Country dairy consumption: +5.2% per year
- Dairy consumption per capita: +4.3% per year

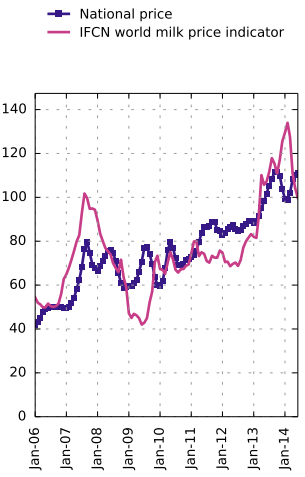
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	18.76	18.94	20.02	21.92	23.78	25.73	28.01	31.19	32.60	32.81	34.77	+4.4%	+4.4%
Cows (in 1,000s)	16,274	17,281	17,885	18,793	20,023	20,943	21,585	22,925	23,229	22,804	22,914	+2.3%	+1.2%
Milk yield (t/cow/year)	1.15	1.10	1.12	1.17	1.19	1.23	1.30	1.36	1.40	1.44	1.52	+2.1%	+3.2%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	20.57	20.79	21.61	23.13	23.90	25.95	27.68	31.74	33.53	33.94	35.74	+3.8%	+5.2%
Population (mill people)	161	166	171	176	181	186	190	193	195	197	198	+1.2%	+0.9%
Consumption (kg ME/capita)	127	125	126	131	132	140	146	164	172	173	180	+2.6%	+4.3%
The dairy chain													
Milk delivered (cow's)%	55%	59%	61%	61%	61%	65%	70%	68%	65%	67%	66%	+2.7%	-1.0%
Self-sufficiency in milk in%	92%	92%	93%	95%	100%	100%	102%	99%	98%	97%	98%	+0.6%	-0.8%
Farmers' share of consumer price	27%	22%	25%	23%	28%	27%	31%	27%	29%	28%	29%	+1.9%	-1.0%

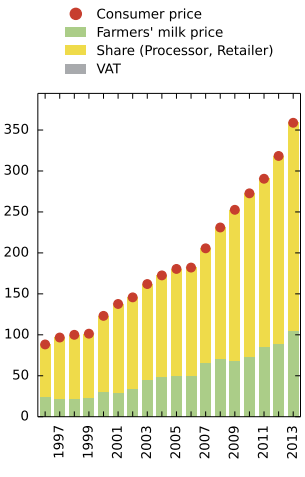
Farm gate milk prices

BRL / 100 kg milk (ECM)



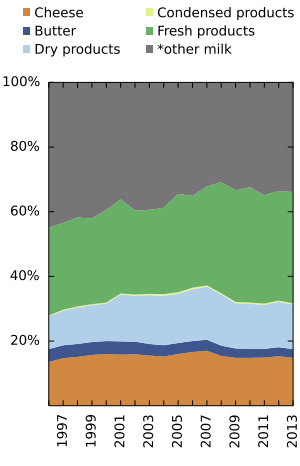
Consumer & farmers' prices

BRL / 100 kg milk (ECM)



Processing profile

% of all milk produced



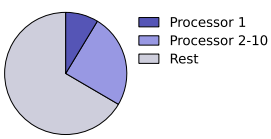
Milk processors list 2013

Milk intake in 1,000 tons (natural content)

Dpa	2033
BRF	1377
Itambe	1056
Laticinios Bela Vista	829
Coops Castrolanda and Batavo	549
Embare	528
Danone	449
Confepar	411
Jussara	330
Vigor	280

Cooperatives: 26% of milk intake shown

Share on national milk delivery:



Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *Milk type B - milk sold in plastic pack, fresh pasteurized, 3% fat and 3.32% protein.*
Remarks: *Farmers' milk price: Gross prices, including transport costs and INSS (2.3%).*
Estimates done for: *Milk production, cow number 2013. Condensed milk 2012-2013.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

Konstantin Stankov

Dairy sector and chain profile

Status 2013

- No. 72 in the world (cow's and buffalo's) milk production: 1.0 mill t ECM, of which delivered: 73%
- Country dairy consumption: 1.5 mill t ME
- Self-sufficiency in milk: 83%

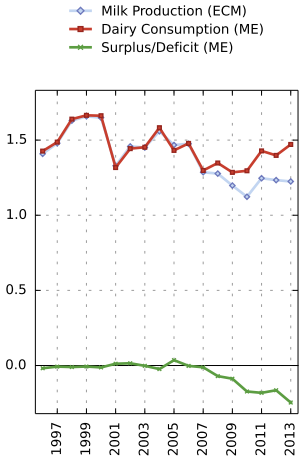
Key developments 2008-2013

- Milk production (cow's and buffalo's): -0.5% per year
- Country dairy consumption: +1.8% per year
- Dairy consumption per capita: +2.8% per year

Milk equivalent (ME) calculation based on fat and protein only

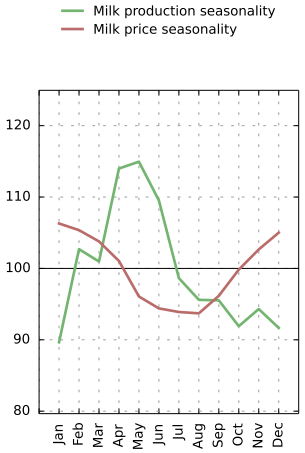
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)

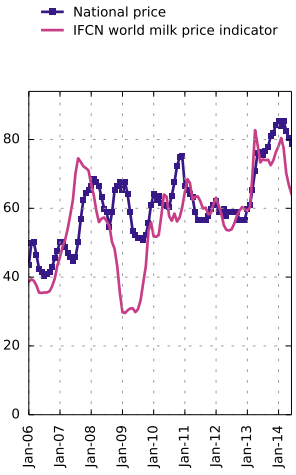


Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's and buffalo's)													
Production (mill t ECM)	1.09	1.27	1.31	1.21	1.24	1.20	1.06	0.93	1.04	1.04	1.04	-2.6%	-0.5%
Cows and buffalos (in 1,000s)	369	434	321	384	383	355	320	313	312	311	313	-3.6%	-0.4%
Milk yield (t/cow/year)	2.94	2.92	4.07	3.15	3.24	3.38	3.31	2.97	3.33	3.34	3.32	+1.0%	0.0%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	1.43	1.64	1.66	1.44	1.58	1.48	1.35	1.30	1.43	1.40	1.47	-1.5%	+1.8%
Population (mill people)	8.22	8.11	8.15	7.85	7.76	7.68	7.61	7.50	7.33	7.28	7.24	-0.5%	-1.0%
Consumption (kg ME/capita)	173	202	204	184	204	192	177	173	195	192	203	-1.0%	+2.8%
The dairy chain													
Milk delivered (cow's and buffalo's)%	38%	57%	53%	61%	62%	67%	73%	73%	73%	73%	73%	+2.1%	0.0%
Self-sufficiency in milk in%	99%	99%	99%	101%	98%	100%	95%	87%	87%	88%	83%	-1.0%	-2.6%
Farmers' share of consumer price			34%	33%	39%	40%	48%	42%	39%	36%	38%	+8.4%	-4.2%

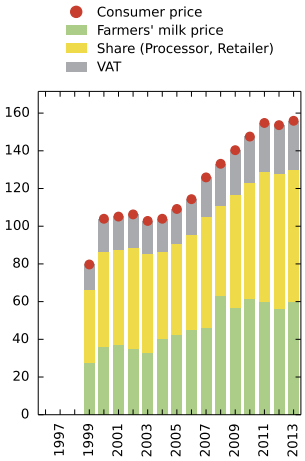
Farm gate milk prices

BGN / 100 kg milk (ECM)



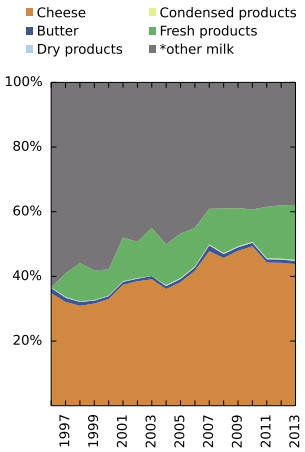
Consumer & farmers' prices

BGN / 100 kg milk (ECM)



Processing profile

% of all milk produced



Milk processors list 2013

Company Names

Serdika Bulgaria
Danone Serdika
United Milk Company AD
Zorov 97 Ltd Parshevica
Elit95 Ltd Plovdiv
Dimitar Madjarov Ltd Plovdiv
Bor-Chvor Ltd Plovdiv
Meggle Bulgaria Ltd.
Yotovi Ltd. Sliven
Gospodinovi Ltd. Stara Zagora

Explanations

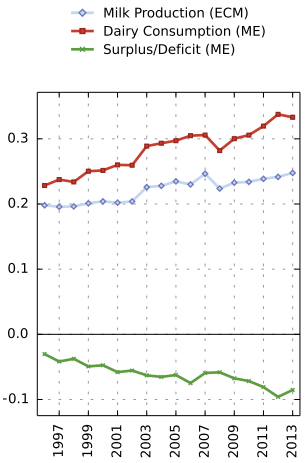
Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated.*
Consumer price (raw data) for: *1 litre milk, 3% fat, 2.8% protein.*
Estimates done for: *Milk processing: 2013.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

3.25 Cameroon

Henri Bayemi, Asaah Ndambi

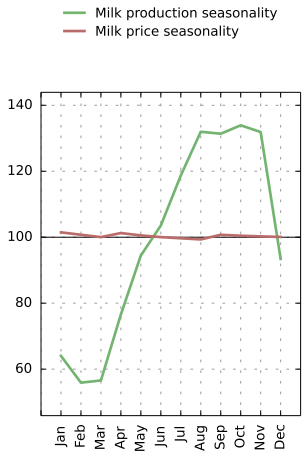
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)



Dairy sector and chain profile

Status 2013

- No. 110 in the world (cow's) milk production: 0.2 mill t ECM, of which delivered: 3%
- Country dairy consumption: 0.3 mill t ME
- Self-sufficiency in milk: 74%

Key developments 2008-2013

- Milk production (cow's): +2.1% per year
- Country dairy consumption: +3.4% per year
- Dairy consumption per capita: +0.8% per year

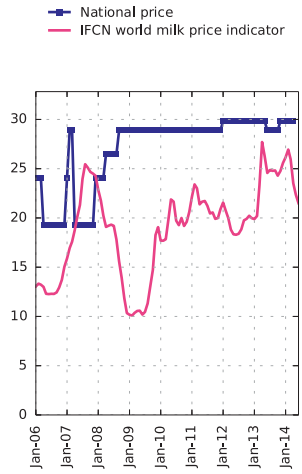
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	0.13	0.13	0.14	0.13	0.14	0.16	0.15	0.16	0.16	0.16	0.17	+2.2%	+2.1%
Cows (in 1,000s)	251	246	260	255	265	267	290	310	318	322	332	+2.2%	+2.7%
Milk yield (t/cow/year)	0.52	0.53	0.54	0.51	0.53	0.60	0.52	0.52	0.50	0.50	0.51	0.0%	-0.6%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	0.23	0.23	0.25	0.26	0.29	0.30	0.28	0.31	0.32	0.34	0.33	-0.5%	+3.4%
Population (mill people)	13.92	14.71	15.54	16.42	17.36	18.34	19.38	20.42	20.93	21.46	21.99	+2.8%	+2.6%
Consumption (kg ME/capita)	16	16	16	16	17	17	15	15	15	16	15	-3.2%	+0.8%
The dairy chain													
Milk delivered (cow's)%	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	3%	+2.3%	+2.0%
Self-sufficiency in milk in%	87%	84%	81%	79%	78%	75%	79%	77%	75%	72%	74%	+0.3%	-1.3%
Farmers' share of consumer price				39%	39%	37%	36%	34%	33%	33%	32%	-1.5%	-2.5%

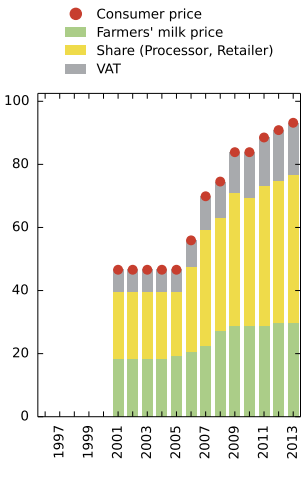
Farm gate milk prices

1,000 XAF / 100 kg milk (ECM)



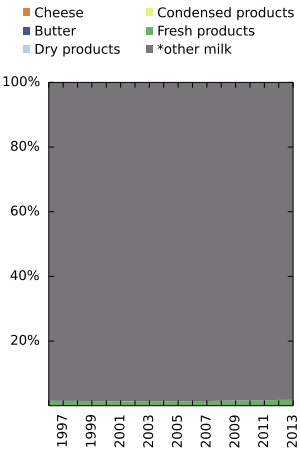
Consumer & farmers' prices

1,000 XAF / 100 kg milk (ECM)



Processing profile

% of all milk produced



Milk processors list 2013

Company Names

Camlait
Jem
Yoplait
Nutritia
Tadu Dairy
Cameroon Dairy Industry
Dolait
Cocojem

Statistics are always confidential. Companies deal mostly with reconstituted powdered milk.

Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated.*
Consumer price (raw data) for: *Pasteurised whole milk, 4% fat, 3.8% protein.*
Remarks: *Milk prices represent a price sold at farm gate in Western Highland. No fixed pricing system and prices paid to individual farmers have been relatively stable for the past years, though the same farmer could sell his milk to different buyers at different prices.*
Estimates done for: *Household / on farm use and milk delivered. 1996-2000 consumer price.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

Dairy Farmers of Canada

Steve Couture

Dairy sector and chain profile

Status 2013

- No. 20 in the world (cow's) milk production: 8.2 mill t ECM, of which delivered: 97%
- Country dairy consumption: 8.7 mill t ME
- Self-sufficiency in milk: 94%

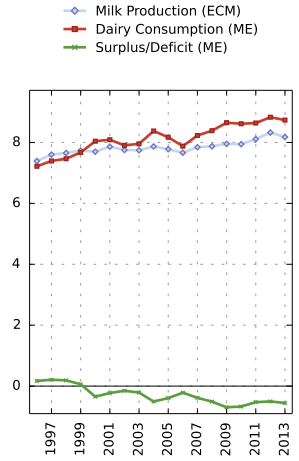
Key developments 2008-2013

- Milk production (cow's): +0.8% per year
- Country dairy consumption: +0.8% per year
- Dairy consumption per capita: -0.3% per year

Milk equivalent (ME) calculation based on fat and protein only

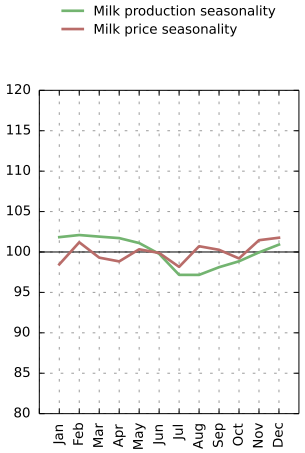
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)

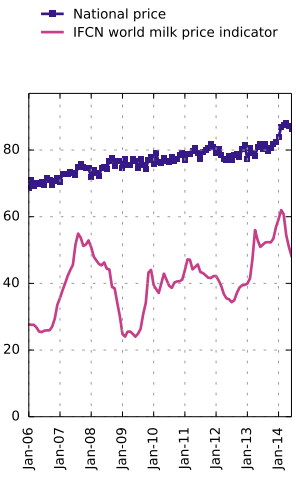


Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	7.39	7.65	7.70	7.75	7.87	7.66	7.88	7.94	8.11	8.33	8.18	+0.3%	+0.8%
Cows (in 1,000s)	1,237	1,184	1,103	1,084	1,055	1,019	985	966	966	959	953	-1.6%	-0.7%
Milk yield (t/cow/year)	5.97	6.46	6.98	7.15	7.46	7.52	8.00	8.22	8.40	8.69	8.58	+1.9%	+1.4%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	7.22	7.47	8.04	7.90	8.38	7.88	8.39	8.61	8.64	8.83	8.73	+1.1%	+0.8%
Population (mill people)	29.57	30.12	30.65	31.31	31.90	32.53	33.20	33.96	34.30	34.70	35.10	+1.0%	+1.1%
Consumption (kg ME/capita)	244	248	262	252	263	242	253	254	252	254	249	+0.1%	-0.3%
The dairy chain													
Milk delivered (cow's)%	97%	97%	97%	97%	97%	97%	97%	97%	97%	97%	97%	0.0%	0.0%
Self-sufficiency in milk in%	102%	103%	96%	98%	94%	97%	94%	92%	94%	94%	94%	-0.7%	-0.1%
Farmers' share of consumer price	49%	46%	47%	47%	47%	48%	47%	47%	47%	46%	48%	-0.3%	+0.6%

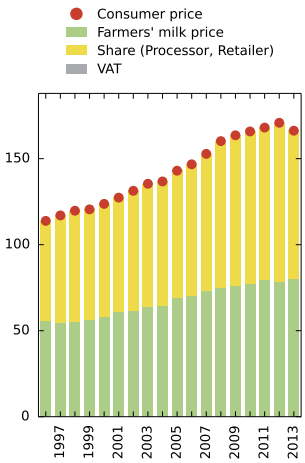
Farm gate milk prices

CAD / 100 kg milk (ECM)



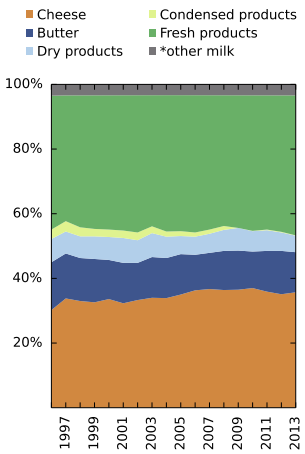
Consumer & farmers' prices

CAD / 100 kg milk (ECM)



Processing profile

% of all milk produced



Milk processors list 2012

Turn over in mill CAD

Kraft Canada Inc.	7500
Saputo Inc.	6900
Agropur Co-operative	3700
Parmalat Canada Inc. (Lactalis Group)	2200
Nestlé Canada Inc.	2200
Unilever Canada Inc.	600
Gay Lea Foods Co-operative Ltd.	500
Scotsburn Co-operative Services Ltd.	300
Hershey Canada Inc.	200
Amalgamated Dairies Ltd.	100

Explanations

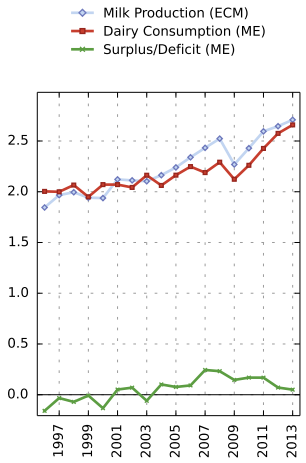
Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated.*
Consumer price (raw data) for: *Milk in four litre plastic bag, 1.7% fat, 3.29% protein.*
Remarks: *Assumption on milk consumed on the farm: 3.5% of milk production.*
Estimates done for: *Milk processors: Turnover based on estimates.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

3.27 Chile

Mario E. Olivares

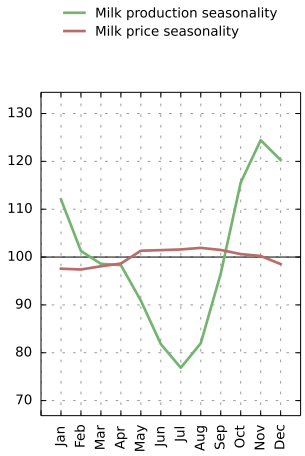
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)



Dairy sector and chain profile

Status 2013

- No. 44 in the world (cow's) milk production: 2.7 mill t ECM, of which delivered: 91%
- Country dairy consumption: 2.7 mill t ME
- Self-sufficiency in milk: 102%

Key developments 2008-2013

- Milk production (cow's): +1.4% per year
- Country dairy consumption: +3.0% per year
- Dairy consumption per capita: +2.1% per year

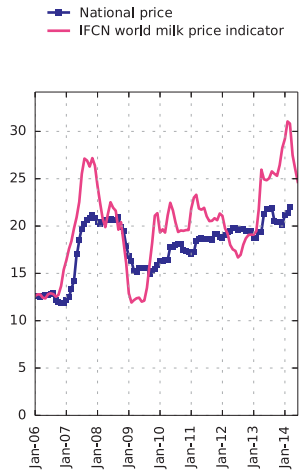
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	1.83	1.98	1.93	2.10	2.15	2.33	2.51	2.42	2.59	2.64	2.70	+3.7%	+1.4%
Cows (in 1,000s)	605	627	648	671	656	561	503	536	533	542	551	-6.0%	+1.8%
Milk yield (t/cow/year)	3.02	3.16	2.98	3.13	3.28	4.15	4.99	4.51	4.86	4.87	4.90	+10.3%	-0.4%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	2.00	2.07	2.07	2.04	2.06	2.25	2.29	2.26	2.43	2.58	2.66	+1.2%	+3.0%
Population (mill people)	14.60	15.00	15.40	15.75	16.09	16.43	16.76	17.09	17.25	17.40	17.56	+1.0%	+0.9%
Consumption (kg ME/capita)	137	138	134	130	128	137	137	132	141	148	151	+0.1%	+2.1%
The dairy chain													
Milk delivered (cow's)%	73%	74%	83%	84%	86%	88%	87%	91%	91%	91%	91%	+1.2%	+0.8%
Self-sufficiency in milk in%	92%	97%	94%	103%	105%	104%	110%	107%	107%	103%	102%	+2.5%	-1.5%
Farmers' share of consumer price	33%	32%	31%	30%	31%	30%	32%	26%	26%	26%	28%	+1.3%	-2.9%

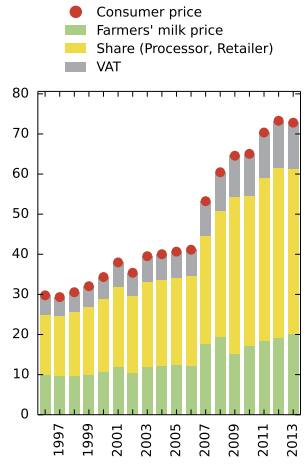
Farm gate milk prices

1,000 CLP / 100 kg milk (ECM)



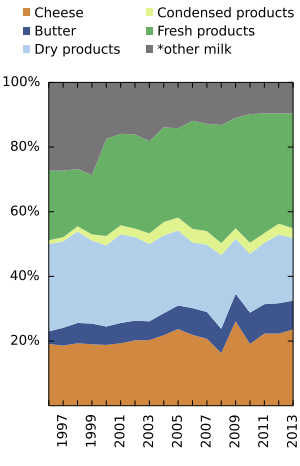
Consumer & farmers' prices

1,000 CLP / 100 kg milk (ECM)



Processing profile

% of all milk produced



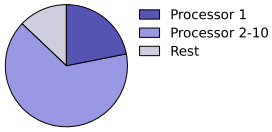
Milk processors list 2013

Milk intake in 1,000 tons (natural content)

Colun	550
Soprole	502
Nestle	488
Watt's S.A.	276
Surlat	140
Valle Verde	59
Quillayes	60
Lácteos del Sur	42
Danone Chile S.A.	54
Lácteos Valdivia	16

Cooperatives: 25% of milk intake shown

Share on national milk delivery:



Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *UHT milk, 1 litre, 3.0% fat, 1996-2006: 3.4% protein, 2007-2013: 3.0% protein.*
Remarks: *Monthly milk delivered shows the milk delivered to major processors. Milk Processors: Other dairy processors collect 367 thousand tons. Milk processors: Other dairy processors collect 367 thousand tons milk.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

Dou Ming, Sam Shi

Dairy sector and chain profile

Status 2013

- No. 5 in the world (cow's) milk production: 30.0 mill t ECM, of which delivered: 90%
- Country dairy consumption: 42 mill t ME
- Self-sufficiency in milk: 81%

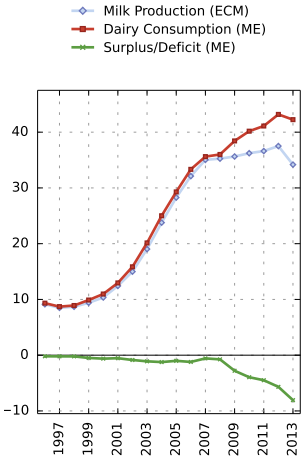
Key developments 2008-2013

- Milk production (cow's): -1.1% per year
- Country dairy consumption: +3.2% per year
- Dairy consumption per capita: +2.7% per year

Milk equivalent (ME) calculation based on fat and protein only

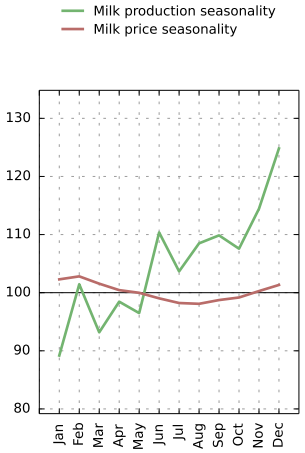
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)

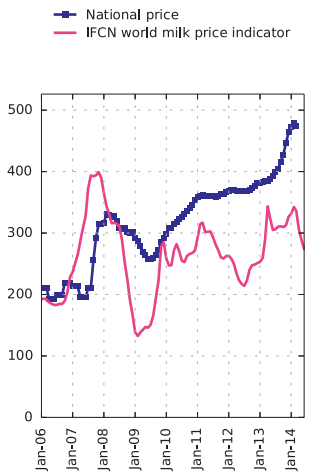


Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	5.61	5.90	7.37	11.58	20.13	28.44	31.67	31.79	32.56	33.31	29.98	+15.3%	-1.1%
Cows (in 1,000s)	2,414	2,303	2,639	3,713	5,983	5,772	6,661	6,750	6,695	7,488	6,000	+6.7%	-2.1%
Milk yield (t/cow/year)	2.32	2.56	2.79	3.12	3.36	4.93	4.75	4.71	4.86	4.45	5.00	+8.1%	+1.0%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	9.33	8.91	10.97	15.85	25.01	33.33	36.00	40.18	41.11	43.19	42.25	+12.3%	+3.2%
Population (mill people)	1,223	1,247	1,267	1,284	1,299	1,314	1,328	1,340	1,347	1,354	1,360	+0.5%	+0.5%
Consumption (kg ME/capita)	8	7	9	12	19	25	27	30	31	32	31	+11.7%	+2.7%
The dairy chain													
Milk delivered (cow's)%	59%	56%	61%	73%	83%	90%	90%	90%	90%	90%	90%	+2.9%	0.0%
Self-sufficiency in milk in%	98%	98%	94%	95%	95%	96%	98%	90%	89%	87%	81%	+0.7%	-3.7%
Farmers' share of consumer price	43%	45%	46%	40%	35%	41%	38%	39%	38%	36%	37%	-0.9%	-0.4%

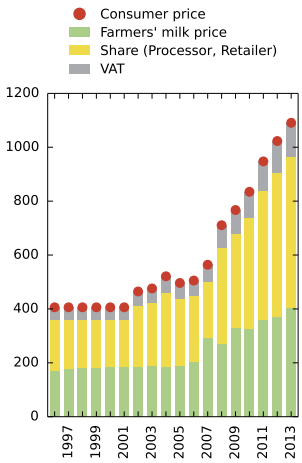
Farm gate milk prices

CNY / 100 kg milk (ECM)



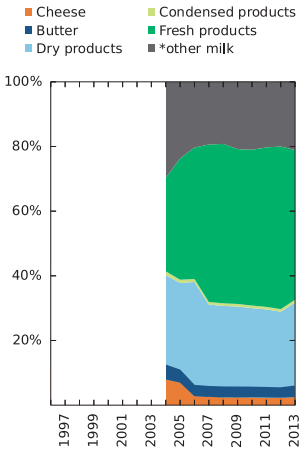
Consumer & farmers' prices

CNY / 100 kg milk (ECM)



Processing profile

% of all milk produced



Milk processors list 2013

Turn over in mill CNY

Yili group	478
Mengniu	434
Shanghai Bright Dairy	163
Beingmate	57
Wondersun Dairy Company	55
Shuangcheng Nestlé	40
Yashili	39
Sanyuan	38
Junlebao	36
New Hope	31

Explanations

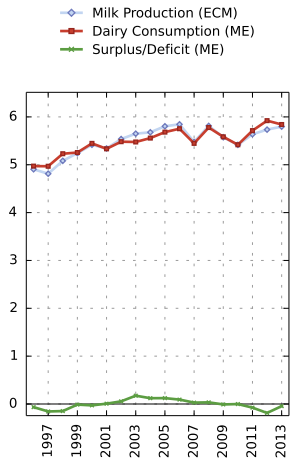
Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated.*
Consumer price (raw data) for: *1 kg fresh milk, 3.1% fat, 2.9% protein.*
Remarks: *FAO shows that China has about 4.48 mill t buffalo milk (ECM) and about 5.7 mill buffalos. Monthly production: Shows products production (fresh milk, yoghourt, milk powder, UHT). 2013 cows number: -20% due to small farms going out of business, high beef prices, Foot and Mouth Disease. Dairy consumption: National Statistic of China is providing consumption per capita of 33kg (year 2013), difference appearing from different method in used.*
Estimates done for: *Milk production 2013 due to uncertainty of data.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

3.29 Colombia

René A. Pérez R., Enrique Ortega,
Federico Pérez García,

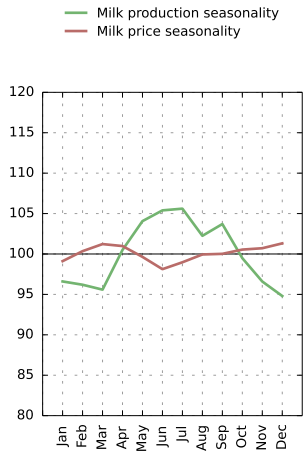
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)



Dairy sector and chain profile

Status 2013

- No. 28 in the world (cow's) milk production: 5.8 mill t ECM, of which delivered: 51%
- Country dairy consumption: 5.8 mill t ME
- Self-sufficiency in milk: 99%

Key developments 2008-2013

- Milk production (cow's): -0.1% per year
- Country dairy consumption: +0.2% per year
- Dairy consumption per capita: -1.0% per year

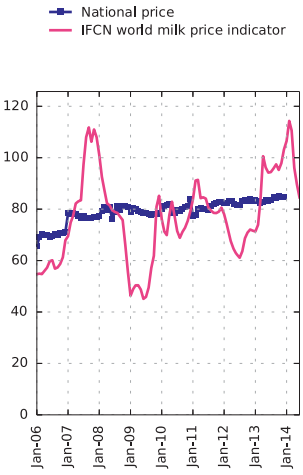
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	4.91	5.08	5.42	5.54	5.68	5.85	5.81	5.42	5.64	5.73	5.80	+0.6%	-0.1%
Cows (in 1,000s)	3,861	3,939	4,018	4,099	4,181	4,265	4,338	3,337	3,370	3,352	3,396	+0.9%	-4.8%
Milk yield (t/cow/year)	1.27	1.29	1.35	1.35	1.36	1.37	1.34	1.62	1.67	1.71	1.71	-0.4%	+5.0%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	4.97	5.23	5.45	5.48	5.56	5.75	5.78	5.42	5.71	5.92	5.84	+1.1%	+0.2%
Population (mill people)	38.10	39.20	40.28	41.33	42.37	43.41	44.45	45.51	46.05	46.60	47.15	+1.2%	+1.2%
Consumption (kg ME/capita)	130	133	135	133	131	133	130	119	124	127	124	-0.1%	-1.0%
The dairy chain													
Milk delivered (cow's)%	51%	53%	39%	41%	41%	41%	44%	48%	48%	48%	51%	+1.8%	+2.8%
Self-sufficiency in milk in%	99%	97%	99%	101%	102%	102%	101%	100%	99%	97%	99%	-0.5%	-0.3%
Farmers' share of consumer price				36%	44%	36%	45%	38%	37%	39%	36%	+3.0%	-4.4%

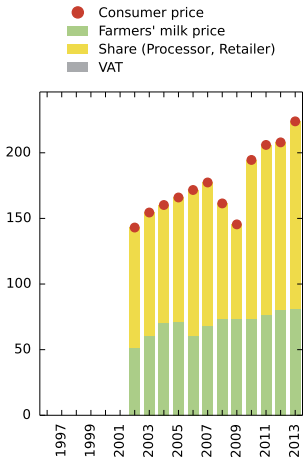
Farm gate milk prices

1,000 COP / 100 kg milk (ECM)



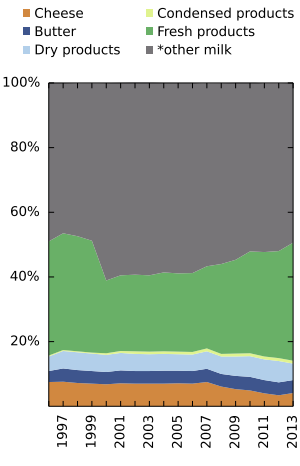
Consumer & farmers' prices

1,000 COP / 100 kg milk (ECM)



Processing profile

% of all milk produced



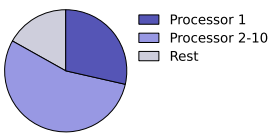
Milk processors list 2012

Milk intake in 1,000 tons (natural content)

Colanta	834
Alpina	400
Alqueria	300
Parmalat Proleche	250
Nestle	240
Inducolsa	170
Gloria Algarra	70
Frescaleche	55
Coolechera	70
Colacteos	40

Cooperatives: 37% of milk intake shown

Share on national milk delivery:



Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *Fresh milk, 1 litre plastic bag, 3% fat, 2.9% protein, vitamins added.*
Estimates done for: *Milk processing 2013.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

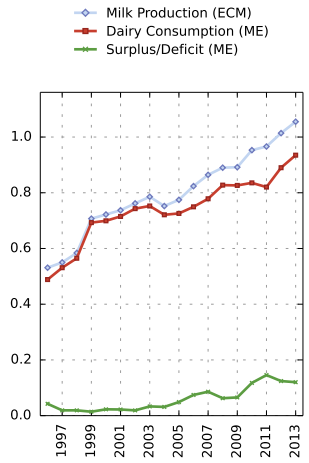
Colombia

3.30 Costa Rica

Francisco José Arias Cordero, Dos Pinos ...siempre con algo mejor.

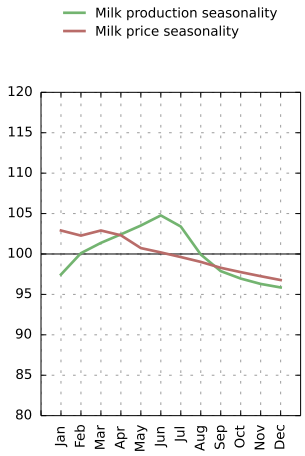
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)



Dairy sector and chain profile

Status 2013

- No. 75 in the world (cow's) milk production: 1.1 mill t ECM, of which delivered: 65%
- Country dairy consumption: 0.9 mill t ME
- Self-sufficiency in milk: 113%

Key developments 2008-2013

- Milk production (cow's): +3.5% per year
- Country dairy consumption: +2.5% per year
- Dairy consumption per capita: +0.9% per year

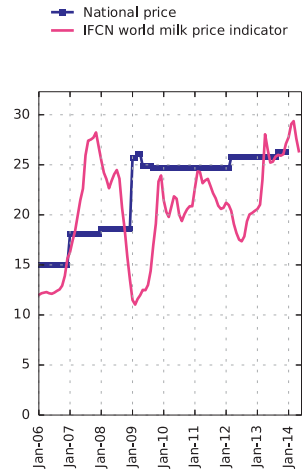
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	0.53	0.58	0.72	0.76	0.75	0.82	0.89	0.95	0.97	1.01	1.06	+2.5%	+3.5%
Cows (in 1,000s)	410	490	525	557	572	600	643	702	736	736	787	+2.4%	+4.1%
Milk yield (t/cow/year)	1.30	1.19	1.38	1.37	1.32	1.37	1.38	1.36	1.31	1.38	1.34	+0.1%	-0.6%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	0.49	0.56	0.70	0.74	0.72	0.75	0.83	0.84	0.82	0.89	0.93	+1.9%	+2.5%
Population (mill people)	3.29	3.54	3.81	4.02	4.15	4.28	4.40	4.53	4.59	4.65	4.76	+1.5%	+1.5%
Consumption (kg ME/capita)	149	160	184	185	174	175	188	184	179	191	197	+0.4%	+0.9%
The dairy chain													
Milk delivered (cow's)%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	0.0%	0.0%
Self-sufficiency in milk in%	109%	103%	103%	103%	104%	110%	108%	114%	118%	114%	113%	+0.6%	+1.0%
Farmers' share of consumer price						45%	37%	39%	38%	39%	39%		+1.0%

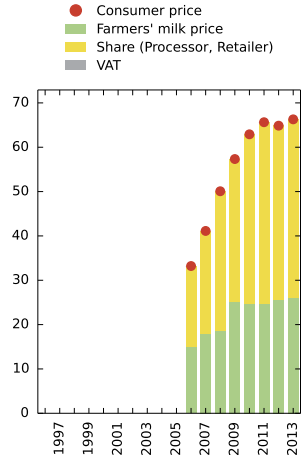
Farm gate milk prices

1,000 CRC / 100 kg milk (ECM)



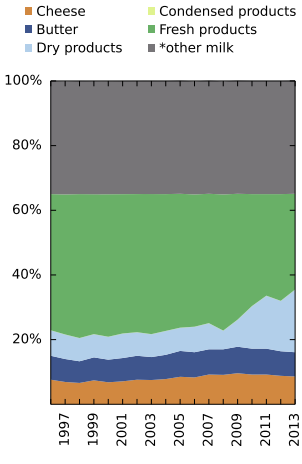
Consumer & farmers' prices

1,000 CRC / 100 kg milk (ECM)



Processing profile

% of all milk produced



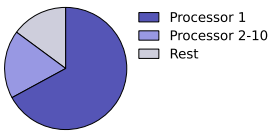
Milk processors list 2013

Milk intake in 1,000 tons (natural content)

Dos pinos	460
Sigma Alimentos	67
Productores de Monteverde	25
Coopeleche	13
Coopebrisas	8
Coprolac	8
Quesos de Calidad Holanda	1
Productos Lácteos los Alpes	1
Casuña	0.4
NUTRILAC	0.4

Cooperatives: 82% of milk intake shown

Share on national milk delivery:



Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *Fresh milk, pasteurised, 2% fat, 3.2% protein.*
Remarks: *Monthly milk delivered: Only milk delivered to Dos Pinos is shown. 2006-2008 annual averages for monthly milk price.*
Estimates done for: *Milk delivery: partner estimate 65%. Milk processing 2013.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

Jasmina Havranek, Darija Bendelja Ljoljić

Dairy sector and chain profile

Status 2013

- No. 86 in the world (cow's) milk production: 0.6 mill t ECM, of which delivered: 87%
- Country dairy consumption: 0.9 mill t ME
- Self-sufficiency in milk: 64%

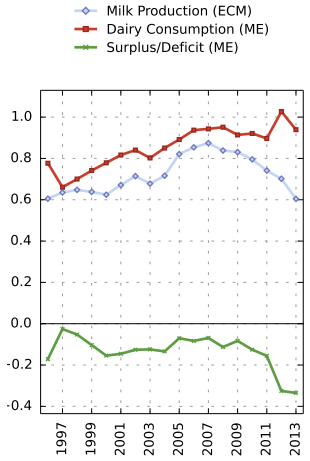
Key developments 2008-2013

- Milk production (cow's): -6.4% per year
- Country dairy consumption: -0.3% per year
- Dairy consumption per capita: -0.1% per year

Milk equivalent (ME) calculation based on fat and protein only

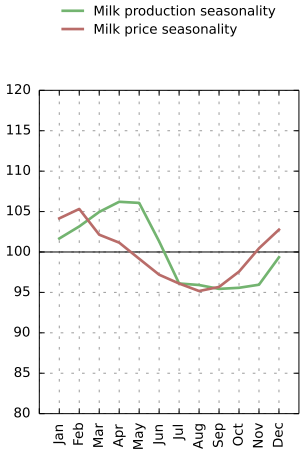
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)

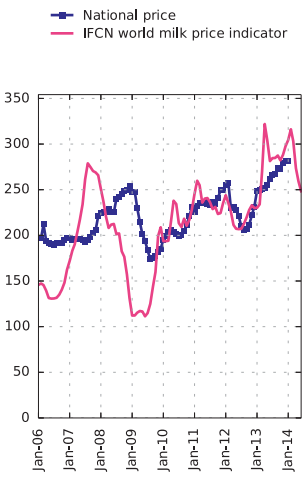


Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	0.60	0.64	0.61	0.70	0.69	0.83	0.81	0.78	0.71	0.68	0.58	+4.0%	-6.4%
Cows (in 1,000s)	233	231	215	224	229	241	226	219	195	178	166	+0.2%	-6.0%
Milk yield (t/cow/year)	2.56	2.77	2.85	3.12	3.01	3.44	3.59	3.54	3.66	3.82	3.52	+3.8%	-0.4%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	0.78	0.70	0.78	0.84	0.85	0.94	0.95	0.92	0.90	1.03	0.94	+3.5%	-0.3%
Population (mill people)	4.49	4.50	4.38	4.30	4.31	4.31	4.31	4.29	4.28	4.28	4.28	0.0%	-0.1%
Consumption (kg ME/capita)	173	156	178	195	197	217	221	215	209	240	219	+3.4%	-0.1%
The dairy chain													
Milk delivered (cow's)%	73%	70%	69%	73%	80%	79%	82%	81%	89%	89%	87%	+3.7%	+1.2%
Self-sufficiency in milk in%	78%	93%	80%	85%	84%	91%	88%	86%	83%	68%	64%	+0.8%	-6.1%
Farmers' share of consumer price						28%	33%	38%	40%	39%	37%		+2.4%

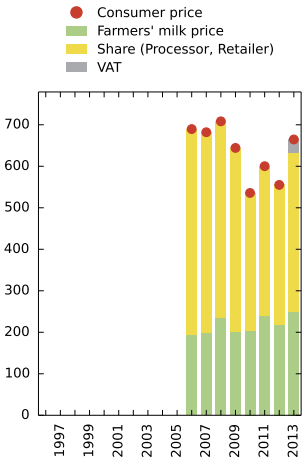
Farm gate milk prices

HRK / 100 kg milk (ECM)



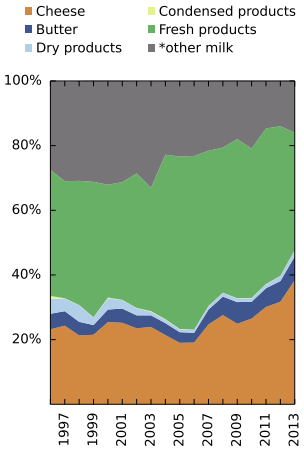
Consumer & farmers' prices

HRK / 100 kg milk (ECM)



Processing profile

% of all milk produced



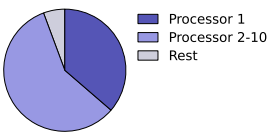
Milk processors list 2013

Milk intake in 1,000 tons (natural content)

Dukat	183
Vindija	139
Belje	66
Meggle	32
Zdenka-mliječni proizvodi d.o.o.	12
KIM	11
PIK Rijeka	10
Mini Mlijekara Veronika	8
Ludbreška mljekara	7
Euro Milk d.o.o.	7

Cooperatives: 0% of milk intake shown

Share on national milk delivery:



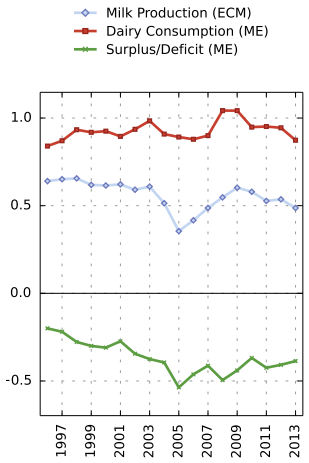
Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *Milk (regular), 1 litre, 3.2% fat, 3.3% protein.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

3.32 Cuba

Milk balance

in mill t, from all dairy species



Dairy sector and chain profile

Status 2013

- No. 93 in the world (cow's) milk production: 0.5 mill t ECM, of which delivered: 67%
- Country dairy consumption: 0.9 mill t ME
- Self-sufficiency in milk: 56%

Key developments 2008-2013

- Milk production (cow's): -2.4% per year
- Country dairy consumption: -3.5% per year
- Dairy consumption per capita: -3.4% per year

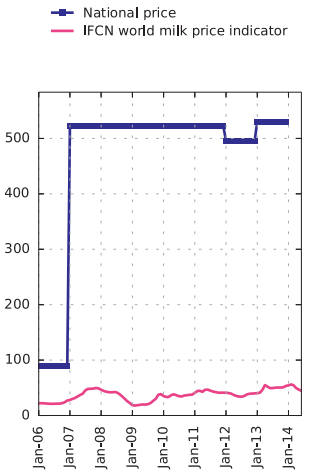
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	0.64	0.66	0.61	0.59	0.51	0.42	0.55	0.58	0.52	0.53	0.48	-2.1%	-2.4%
Cows (in 1,000s)	511	549	528	519	446	345	375	392	379	386	402	-6.5%	+1.4%
Milk yield (t/cow/year)	1.25	1.20	1.16	1.14	1.14	1.22	1.47	1.48	1.37	1.37	1.19	+4.6%	-3.7%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	0.84	0.93	0.93	0.94	0.91	0.88	1.04	0.95	0.95	0.94	0.87	+1.2%	-3.5%
Population (mill people)	10.98	11.06	11.14	11.21	11.27	11.30	11.30	11.28	11.28	11.27	11.27	+0.1%	-0.1%
Consumption (kg ME/capita)	77	84	83	83	81	78	92	84	84	84	78	+1.1%	-3.4%
The dairy chain													
Milk delivered (cow's)%	50%	50%	50%	50%	50%	50%	50%	54%	55%	58%	67%	0.0%	+6.0%
Self-sufficiency in milk in%	76%	70%	66%	63%	57%	47%	53%	61%	55%	57%	56%	-3.2%	+1.2%
Farmers' share of consumer price											317%		

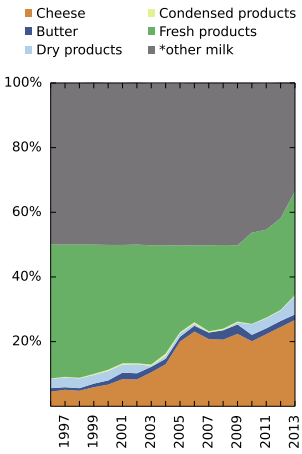
Farm gate milk prices

CUC / 100 kg milk (ECM)



Processing profile

% of all milk produced



Milk processors list 2013

Company Names

Ingelco SA
Camagüey Dairy Company
Bayamo Dairy Company
Escambray Dairy Company
The Combined Dairy and Confectionery of Pinar del Río

Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated.*
Consumer price (raw data) for: *Milk regular, 1 litre.*
Remarks: *Milk processors: companies list by IFCN.*
Estimates done for: *Monthly milk prices 1996-2013: Annual averages. Milk delivered 1996-2009. Milk processing 2013.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

IFCN Dairy Research Center

Dairy sector and chain profile

Status 2013

- No. 115 in the world (cow's) milk production: 0.2 mill t ECM, of which delivered: 100%
- Country dairy consumption: 0.2 mill t ME
- Self-sufficiency in milk: 91%

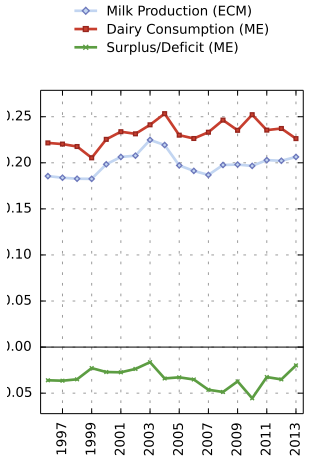
Key developments 2008-2013

- Milk production (cow's): +1.1% per year
- Country dairy consumption: -1.7% per year
- Dairy consumption per capita: -3.6% per year

Milk equivalent (ME) calculation based on fat and protein only

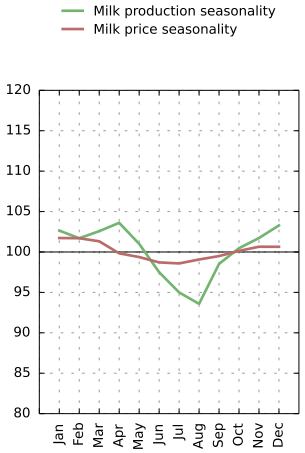
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)

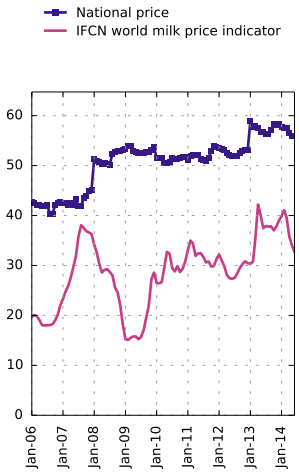


Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	0.13	0.13	0.14	0.14	0.15	0.14	0.14	0.15	0.15	0.15	0.15	-1.5%	+1.1%
Cows (in 1,000s)	25.00	25.00	24.00	26.00	26.00	24.00	24.00	23.00	24.00	24.00	25.00	-2.4%	+0.8%
Milk yield (t/cow/year)	5.31	5.15	6.00	5.19	5.57	5.99	6.13	6.21	6.18	6.16	6.23	+0.9%	+0.3%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	0.22	0.22	0.23	0.23	0.25	0.23	0.25	0.25	0.24	0.24	0.23	+0.4%	-1.7%
Population (mill people)	0.66	0.68	0.70	0.71	0.73	0.76	0.80	0.84	0.86	0.87	0.88	+2.0%	+2.0%
Consumption (kg ME/capita)	334	319	323	324	346	299	309	300	273	272	257	-1.5%	-3.6%
The dairy chain													
Milk delivered (cow's)%	97%	94%	92%	98%	91%	93%	99%	100%	100%	100%	100%	+2.0%	+0.2%
Self-sufficiency in milk in%	84%	84%	88%	90%	87%	84%	80%	78%	86%	85%	91%	-3.0%	+2.6%
Farmers' share of consumer price						33%	39%	41%	42%	40%	39%		+0.1%

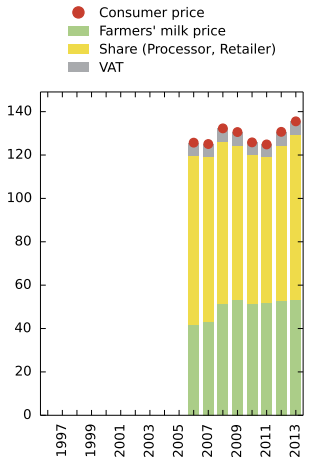
Farm gate milk prices

EUR / 100 kg milk (ECM)



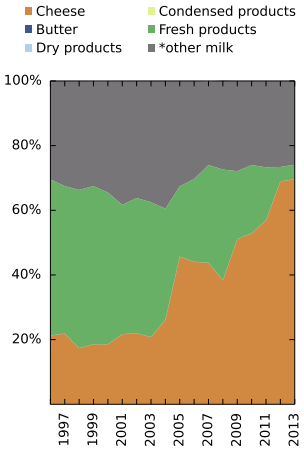
Consumer & farmers' prices

EUR / 100 kg milk (ECM)



Processing profile

% of all milk produced



Milk processors list 2013

Company Names

Pittas Dairies Limited
Petrous Bros Dairy Products Ltd
Papouis Daries Limited
Charalambides Kristis Ltd
G.I. Kesses Dairy Products Ltd
K.G. Souroulas & Sons Ltd
Pittas Dairies Industries Ltd
Pantziarou Bros Ltd
Philippos Trikomitis & Sons Ltd
Lanitis Bros Ltd

Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA, Eurostat, AMI.*
Data: *2014 data preliminary and partly estimated.*
Consumer price (raw data) for: *UHT milk with 3.74% fat, 3.3% protein.*
Estimates done for: *Milk processors: Companies list by IFCN.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

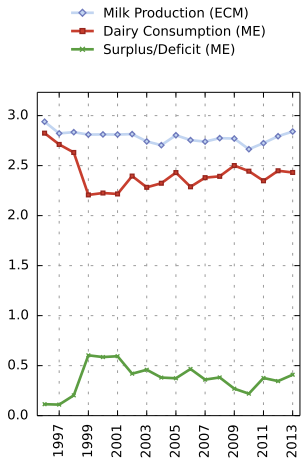
3.34 Czech Republic

Iveta Bošková

ÚZEI

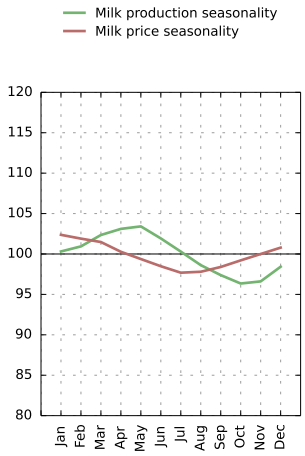
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)



Dairy sector and chain profile

Status 2013

- No. 41 in the world (cow's) milk production: 2.8 mill t ECM, of which delivered: 96%
- Country dairy consumption: 2.4 mill t ME
- Self-sufficiency in milk: 117%

Key developments 2008-2013

- Milk production (cow's): +0.5% per year
- Country dairy consumption: +0.3% per year
- Dairy consumption per capita: 0.0% per year

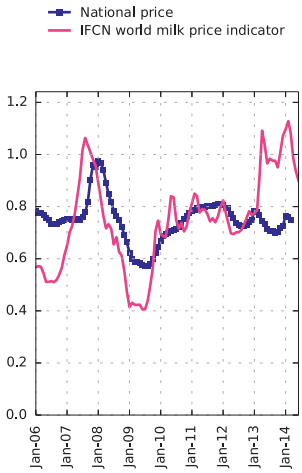
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	2.92	2.82	2.80	2.80	2.70	2.75	2.76	2.65	2.71	2.78	2.83	+0.3%	+0.5%
Cows (in 1,000s)	722	598	515	477	433	423	403	378	374	369	373	-2.6%	-1.5%
Milk yield (t/cow/year)	4.04	4.71	5.42	5.88	6.22	6.49	6.87	7.01	7.26	7.55	7.59	+2.9%	+2.0%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	2.82	2.63	2.23	2.40	2.32	2.29	2.39	2.44	2.35	2.45	2.43	+0.9%	+0.3%
Population (mill people)	10.32	10.30	10.28	10.20	10.20	10.22	10.34	10.46	10.49	10.51	10.52	+0.3%	+0.3%
Consumption (kg ME/capita)	274	256	217	235	228	224	231	234	224	233	231	+0.6%	0.0%
The dairy chain													
Milk delivered (cow's)%	89%	90%	92%	93%	96%	97%	97%	96%	96%	96%	96%	+0.3%	-0.2%
Self-sufficiency in milk in%	104%	108%	126%	118%	116%	120%	116%	109%	116%	114%	117%	-0.7%	+0.1%
Farmers' share of consumer price	31%	34%	33%	38%	39%	40%	34%	34%	34%	28%	30%	-3.2%	-2.5%

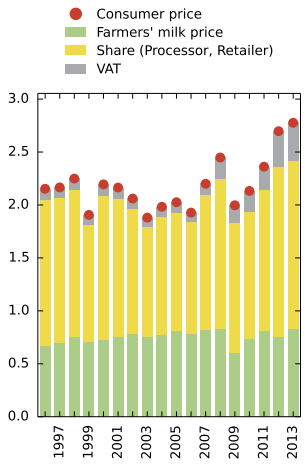
Farm gate milk prices

1,000 CZK / 100 kg milk (ECM)



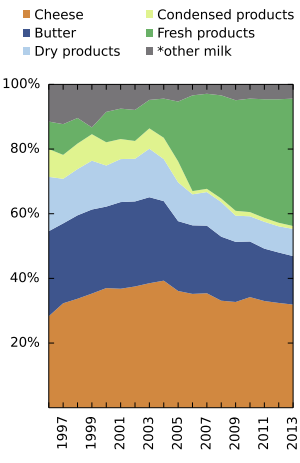
Consumer & farmers' prices

1,000 CZK / 100 kg milk (ECM)



Processing profile

% of all milk produced



Milk processors list 2011

Company Names

MADETA a.s.
Mlékárna Pragolaktos a.s
OLMA a.s.
Mlékárna Hlinsko s.r.o
Mlékárna Klatovy a.s.
Mlékárna Kunín a.s
Orrero a.s.
NET Kralovice s.r.o.
Moravia Lacto a.s
Mlékárna Čejetičky

Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA, Eurostat, AMI.*
Data: *2014 data preliminary and partly estimated.*
Consumer price (raw data) for: *UHT milk, 1 litre pack, 1.5% fat, 3.04% protein.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

Susanne Clausen

3.35 Denmark

Dairy sector and chain profile

Status 2013

- No. 32 in the world (cow's) milk production: 5.3 mill t ECM, of which delivered: 98%
- Country dairy consumption: 3.1 mill t ME
- Self-sufficiency in milk: 172%

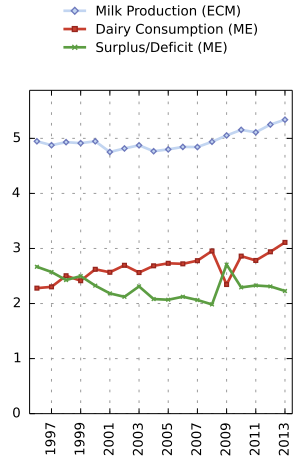
Key developments 2008-2013

- Milk production (cow's): +1.6% per year
- Country dairy consumption: +1.0% per year
- Dairy consumption per capita: +0.6% per year

Milk equivalent (ME) calculation based on fat and protein only

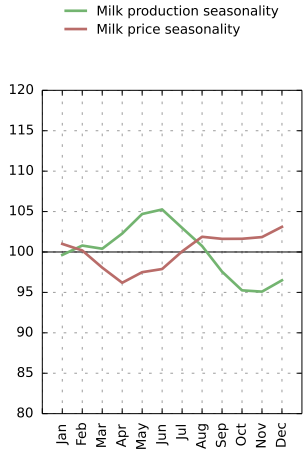
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)

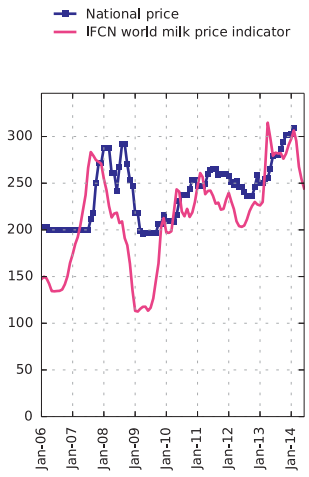


Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	4.95	4.93	4.95	4.82	4.77	4.84	4.94	5.15	5.11	5.25	5.34	+0.3%	+1.6%
Cows (in 1,000s)	697	680	636	610	563	550	558	574	572	570	578	-1.3%	+0.7%
Milk yield (t/cow/year)	7.10	7.25	7.78	7.90	8.46	8.81	8.85	8.98	8.93	9.21	9.24	+1.6%	+0.9%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	2.28	2.50	2.62	2.69	2.69	2.72	2.95	2.86	2.78	2.94	3.11	+2.9%	+1.0%
Population (mill people)	5.25	5.29	5.33	5.37	5.40	5.43	5.48	5.54	5.56	5.58	5.59	+0.3%	+0.4%
Consumption (kg ME/capita)	434	473	492	502	497	501	540	517	500	527	556	+2.5%	+0.6%
The dairy chain													
Milk delivered (cow's)%	96%	96%	96%	97%	97%	97%	97%	98%	98%	98%	98%	0.0%	+0.3%
Self-sufficiency in milk in%	217%	197%	189%	179%	178%	178%	167%	180%	184%	179%	172%	-2.6%	+0.5%
Farmers' share of consumer price	40%	38%	38%	36%	33%	30%	33%	29%	30%	29%	31%	-0.4%	-1.4%

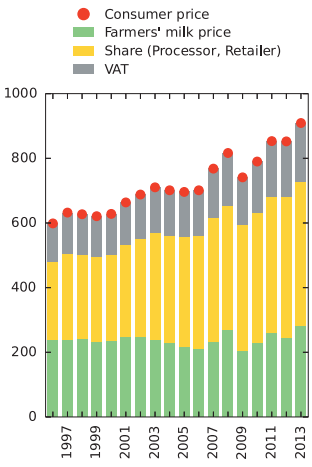
Farm gate milk prices

DKK / 100 kg milk (ECM)



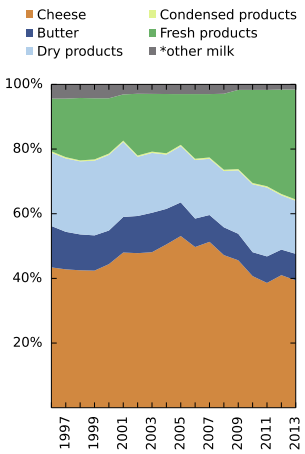
Consumer & farmers' prices

DKK / 100 kg milk (ECM)



Processing profile

% of all milk produced

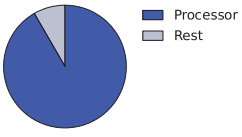


Milk processors list 2013

Milk intake in 1,000 tons (natural content)

Arla foods	4605
Thise Mejeri	n/a
Mammen Mejeri	n/a
Them Andelsmejeri	n/a
Bornholm Andelmejeri	n/a

Share on national milk delivery:



Explanations

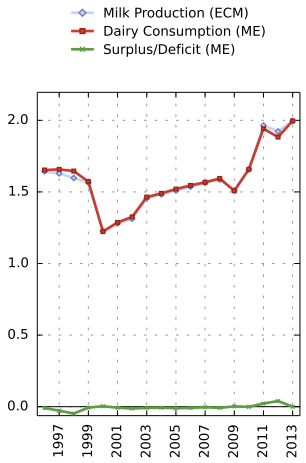
Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA, Eurostat, AMI.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *Fresh milk with 3.5 gram fat and 3.5 gram protein, 1 litre packaging.*
Remarks: *Dairy consumption per capita is distorted for all years. A big amount of re-exported dairy products can influence the share of milk exports on production.*
Estimates done for: *Milk intake for Arla foods.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

3.36 Ecuador

Rafael Vizcarra

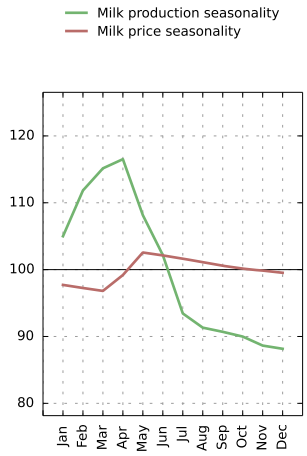
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)



Dairy sector and chain profile

Status 2013

- No. 53 in the world (cow's) milk production: 2.0 mill t ECM, of which delivered: 78%
- Country dairy consumption: 2.0 mill t ME
- Self-sufficiency in milk: 100%

Key developments 2008-2013

- Milk production (cow's): +4.7% per year
- Country dairy consumption: +4.6% per year
- Dairy consumption per capita: +2.8% per year

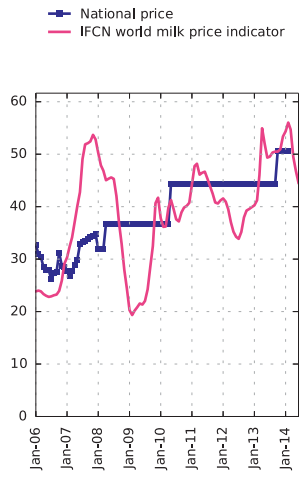
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	1.63	1.59	1.21	1.30	1.47	1.52	1.57	1.64	1.95	1.91	1.98	+1.7%	+4.7%
Cows (in 1,000s)	825	988	1,117	1,179	1,260	1,371	1,467	1,484	1,590	1,513	1,589	+3.7%	+1.6%
Milk yield (t/cow/year)	1.98	1.61	1.09	1.10	1.17	1.11	1.07	1.11	1.23	1.26	1.25	-1.9%	+3.1%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	1.65	1.65	1.22	1.33	1.49	1.55	1.59	1.66	1.94	1.88	2.00	+1.7%	+4.6%
Population (mill people)	11.97	12.35	12.71	13.09	13.55	13.96	14.47	15.01	15.27	15.52	15.78	+1.7%	+1.7%
Consumption (kg ME/capita)	138	133	96	101	110	111	110	110	127	121	127	0.0%	+2.8%
The dairy chain													
Milk delivered (cow's)%	77%	77%	77%	77%	77%	77%	77%	78%	78%	78%	78%	0.0%	+0.4%
Self-sufficiency in milk in%	99%	97%	100%	99%	100%	99%	99%	100%	101%	102%	100%	0.0%	+0.1%
Farmers' share of consumer price	49%	47%	45%	46%	44%	42%	54%	65%	65%	52%	55%	+5.0%	+0.6%

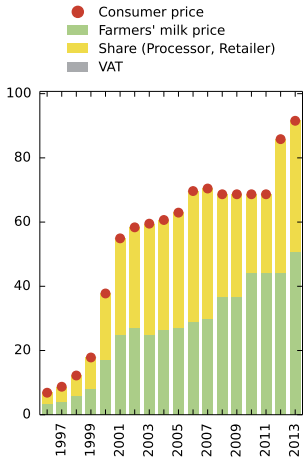
Farm gate milk prices

USD / 100 kg milk (ECM)



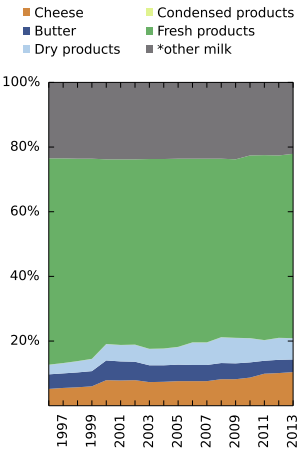
Consumer & farmers' prices

USD / 100 kg milk (ECM)



Processing profile

% of all milk produced



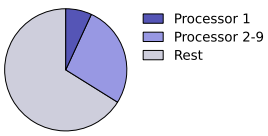
Milk processors list 2013

Milk intake in 1,000 tons (natural content)

DPA/Nestlé SA	113
Lácteos San Antonio SA	110
Reybanpac CA	72
Toni SA	57
Alpina Ecuador SA	55
Pasteurizadora Quito SA	43
Floralp SA	45
Lechera Andina SA	35
FUNCONQUERUCOM / Coop. El Salinerito	26

Cooperatives: 5% of milk intake shown

Share on national milk delivery:



Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *Pasteurised fresh milk, 1 litre, 3.0% fat, 2.9% protein.*
Estimates done for: *Milk processing: Butter, cheese and dry products 1996 - 2005 based on the trend 2006-2013.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

Adel Khattab

Dairy sector and chain profile

Status 2013

- No. 24 in the world (cow's and buffalo's) milk production: 7.3 mill t ECM, of which delivered: 16%
- Country dairy consumption: 8.2 mill t ME
- Self-sufficiency in milk: 92%

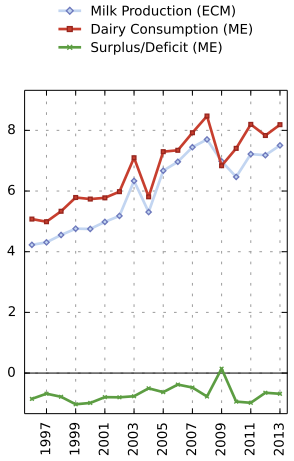
Key developments 2008-2013

- Milk production (cow's and buffalo's): -0.6% per year
- Country dairy consumption: -0.7% per year
- Dairy consumption per capita: -2.9% per year

Milk equivalent (ME) calculation based on fat and protein only

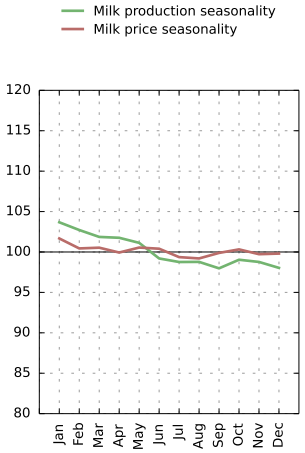
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)

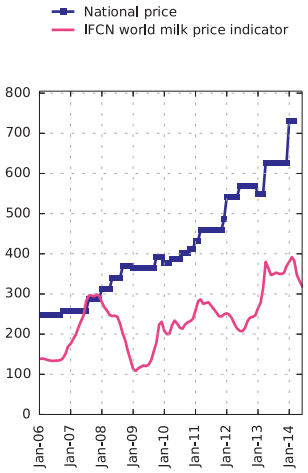


Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's and buffalo's)													
Production (mill t ECM)	4.07	4.39	4.59	5.02	5.14	6.80	7.54	6.30	7.05	7.01	7.33	+4.1%	-0.6%
Cows and buffalos (in 1,000s)	2,513	2,756	2,887	3,094	3,254	3,366	3,554	3,600	4,036	4,130	4,200	+2.3%	+3.4%
Milk yield (t/cow/year)	1.62	1.59	1.59	1.62	1.58	2.02	2.12	1.75	1.75	1.70	1.74	+1.7%	-3.8%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	5.08	5.33	5.74	5.98	5.81	7.34	8.47	7.41	8.20	7.83	8.19	+3.6%	-0.7%
Population (mill people)	58.20	60.70	63.30	66.00	68.60	71.30	75.20	78.70	80.40	82.50	84.15	+2.2%	+2.3%
Consumption (kg ME/capita)	87	88	91	91	85	103	113	94	102	95	97	+1.3%	-2.9%
The dairy chain													
Milk delivered (cow's and buffalo's)%	10%	9%	9%	11%	11%	12%	12%	12%	14%	17%	16%	+6.2%	+6.6%
Self-sufficiency in milk in%	83%	85%	83%	87%	91%	95%	91%	87%	88%	92%	92%	+0.4%	+0.2%
Farmers' share of consumer price	72%	75%	73%	82%	93%	89%	120%	136%	146%	131%	127%	+6.1%	+1.1%

Farm gate milk prices

EGP / 100 kg milk (ECM)



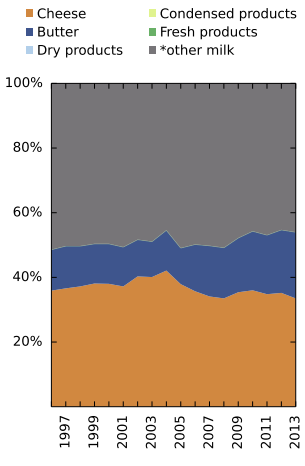
Consumer & farmers' prices

In Egypt, cheap milk powder is imported, reconstituted and sold as milk without proper labelling, so the consumer price is lower than the average farm gate price.

Share on national milk deliveries: Some companies buy amounts of milk from farmers and industry, which leads to double counting. For this reason, milk intake of the list is higher than deliveries.

Processing profile

% of all milk produced



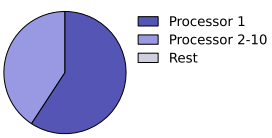
Milk processors list 2013

Milk intake in 1,000 tons (natural content)

Gohayna	800
El - Sheikh	140
Labaneta	150
Nesla	90
Misr Dairy company at Alex	60
El Kelany	40
El - Sarkaey, Garbia	30
Misr Dairy at Kafr El Sheikh	30
Khattab Khattab	6
Abou Kataya	5

Cooperatives: 94% of milk intake shown

Share on national milk delivery:



Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *Fresh milk; 3.39% fat, 2.78% protein. In Egypt cheap milk powder is imported, reconstituted without proper labelling and sold as milk, so consumer price is lower than farm gate price.*
Remarks: *Monthly milk production shows cow milk production from small private dairy farms. Milk processors: Differences between milk intake and milk production due to trade of milk inside and outside of the country. Milk intake based on partner info.*
Estimates done for: *Cow's and buffalo's milk: Fat and protein contents.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

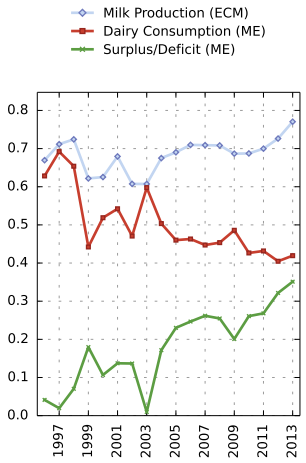
3.38 Estonia

Katri Kall

Eesti Maaülikool
Estonian University of Life Sciences
Majandus- ja sotsiaalinstituut
Institute of Economics and Social Sciences

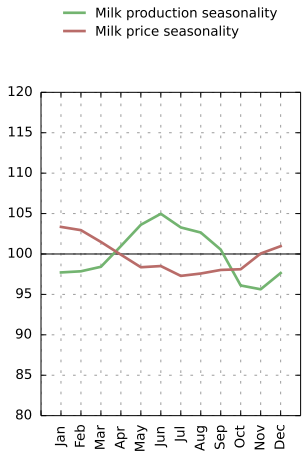
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)



Dairy sector and chain profile

Status 2013

- No. 80 in the world (cow's) milk production: 0.8 mill t ECM, of which delivered: 93%
- Country dairy consumption: 0.4 mill t ME
- Self-sufficiency in milk: 184%

Key developments 2008-2013

- Milk production (cow's): +1.7% per year
- Country dairy consumption: -1.6% per year
- Dairy consumption per capita: -0.7% per year

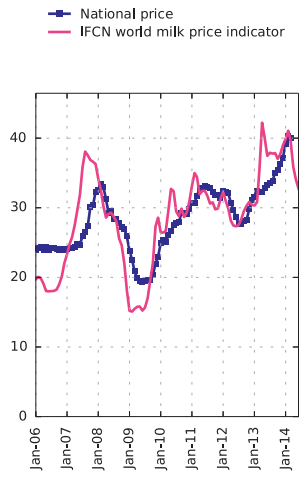
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	0.67	0.72	0.62	0.61	0.67	0.71	0.71	0.69	0.70	0.73	0.77	+3.1%	+1.7%
Cows (in 1,000s)	172	159	131	116	117	108	100	97	96	97	97	-3.0%	-0.7%
Milk yield (t/cow/year)	3.90	4.56	4.77	5.25	5.79	6.54	7.05	7.12	7.27	7.50	7.93	+6.3%	+2.4%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	0.63	0.65	0.52	0.47	0.50	0.46	0.45	0.43	0.43	0.40	0.42	-5.4%	-1.6%
Population (mill people)	1.43	1.39	1.37	1.36	1.35	1.34	1.34	1.34	1.34	1.29	1.29	-0.2%	-0.8%
Consumption (kg ME/capita)	441	469	378	346	373	344	338	318	322	313	326	-5.2%	-0.7%
The dairy chain													
Milk delivered (cow's)%	73%	73%	65%	81%	82%	88%	87%	92%	93%	92%	93%	+1.9%	+1.2%
Self-sufficiency in milk in%	107%	111%	121%	129%	134%	153%	156%	161%	162%	179%	184%	+9.0%	+3.3%
Farmers' share of consumer price					48%	48%	40%	43%	41%	39%	46%		+3.2%

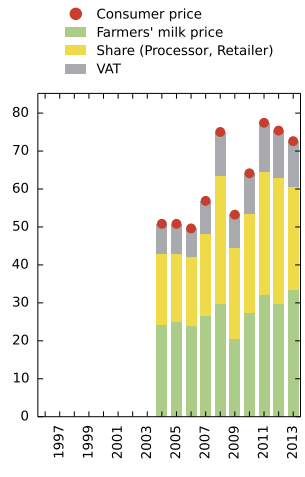
Farm gate milk prices

EUR / 100 kg milk (ECM)



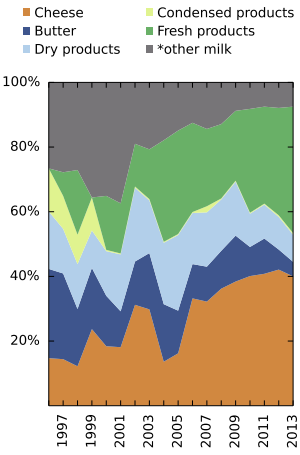
Consumer & farmers' prices

EUR / 100 kg milk (ECM)



Processing profile

% of all milk produced



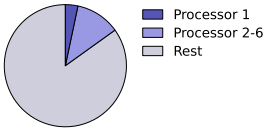
Milk processors list 2012

Milk intake in 1,000 tons (natural content)

Valio Eesti	22
TERE AS	15
E-Piim	13
Maag Piimatööstus	8
Saaremaa Piimatööstus	6
Other processors	36

Cooperatives: 13% of milk intake shown

Share on national milk delivery:



Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA, Eurostat, AMI.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *Liquid milk in plastic bag, 1 litre, 2.5% fat, 3.1% protein.*
Remarks: *Milk Processors: 2012 forecast by www.piimaliit.ee.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

Biruk Hailu

Dairy sector and chain profile

Status 2013

- No. 34 in the world (cow's) milk production: 3.9 mill t ECM, of which delivered: 1%
- Country dairy consumption: 4.2 mill t ME
- Self-sufficiency in milk: 100%

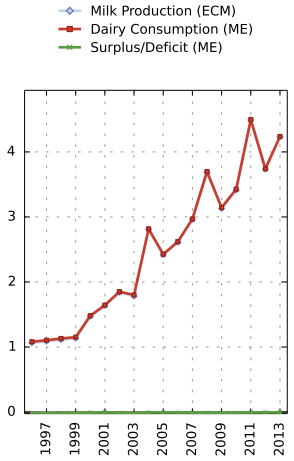
Key developments 2008-2013

- Milk production (cow's): +3.4% per year
- Country dairy consumption: +2.8% per year
- Dairy consumption per capita: +0.5% per year

Milk equivalent (ME) calculation based on fat and protein only

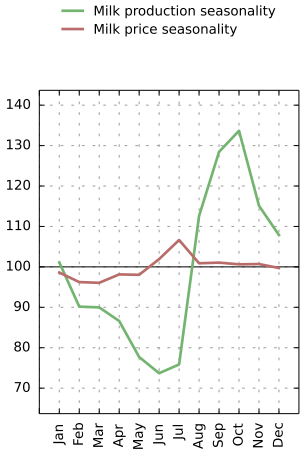
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)

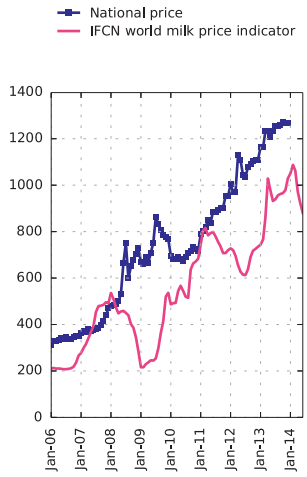


Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	0.96	0.98	1.34	1.66	2.52	2.40	3.33	3.04	4.19	3.44	3.93	+16.5%	+3.4%
Cows (in 1,000s)	8,809	10,894	10,360	9,307	8,713	8,194	9,923	9,628	10,677	10,578	10,711	+4.8%	+1.5%
Milk yield (t/cow/year)	0.11	0.09	0.13	0.18	0.29	0.29	0.34	0.32	0.39	0.33	0.37	+11.2%	+1.8%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	1.08	1.13	1.48	1.85	2.82	2.62	3.70	3.43	4.50	3.74	4.24	+15.5%	+2.8%
Population (mill people)	58.76	62.15	65.58	69.04	72.53	75.99	79.45	82.95	84.73	86.77	88.85	+2.3%	+2.3%
Consumption (kg ME/capita)	18	18	23	27	39	34	47	41	53	43	48	+12.9%	+0.5%
The dairy chain													
Milk delivered (cow's)%	3%	3%	3%	3%	2%	2%	3%	3%	1%	1%	1%	+0.1%	-10.9%
Self-sufficiency in milk in%	98%	98%	100%	99%	100%	100%	100%	100%	100%	100%	100%	+0.1%	0.0%
Farmers' share of consumer price	39%	46%	51%	57%	58%	62%	48%	47%	47%	38%	47%	-3.3%	-0.6%

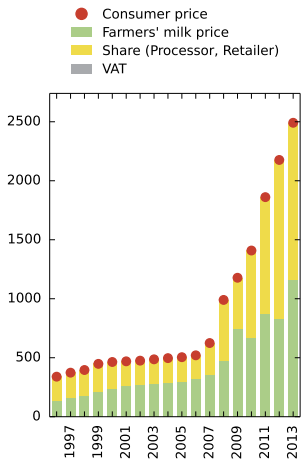
Farm gate milk prices

ETB / 100 kg milk (ECM)



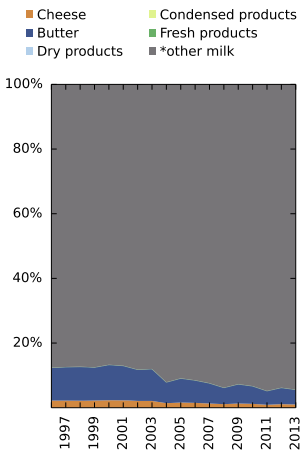
Consumer & farmers' prices

ETB / 100 kg milk (ECM)



Processing profile

% of all milk produced



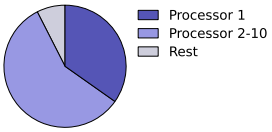
Milk processors list 2011

Milk intake in 1,000 tons (natural content)

Sebeta Agro Industry (Mama Dairy)	15
Lame Dairy Processing (former DDE)	11
MB PLC (Family Milk)	2.6
Yadeni Dairy Farm (Bora Milk)	2.6
Berta and Family plc	2.2
Ada'a Dairy Cooperative	1.8
Genesis Farm	1.5
Holland Dairy	1.5
Lema Dairy	1.1
Almi Fresh Milk	1.1

Cooperatives: 9% of milk intake shown

Share on national milk delivery:



Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *Pasteurised cows milk, distributed in supermarkets / kiosks, 2.7% fat, 3.5% protein.*
Remarks: *2011: strong milk production growth due to high feed availability, good climatic conditions and continuously increasing cows numbers (artificial insemination).*
Estimates done for: *Milk delivered: based on national surveys. Consumer prices.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

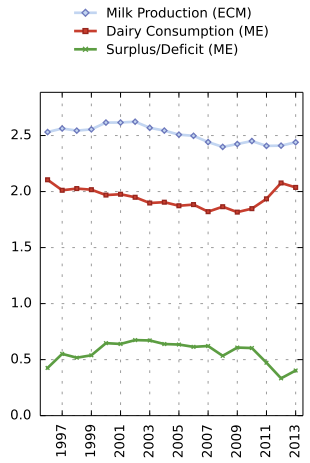
3.40 Finland

Sami Ovaska, Jukka Tauriainen, Anna-Maija Heikkilä, Matti Ryhänen

MTT Agrifood Research Finland

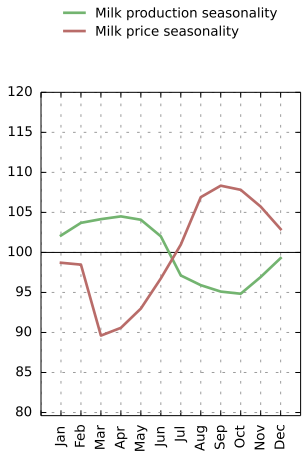
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)



Dairy sector and chain profile

Status 2013

- No. 46 in the world (cow's) milk production: 2.4 mill t ECM, of which delivered: 98%
- Country dairy consumption: 2.0 mill t ME
- Self-sufficiency in milk: 120%

Key developments 2008-2013

- Milk production (cow's): +0.3% per year
- Country dairy consumption: +1.8% per year
- Dairy consumption per capita: +1.3% per year

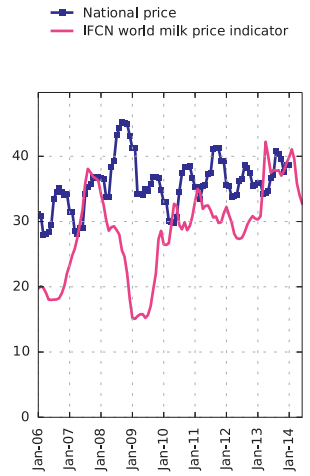
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	2.53	2.54	2.62	2.62	2.54	2.50	2.40	2.45	2.41	2.41	2.44	-1.4%	+0.3%
Cows (in 1,000s)	392	383	364	348	324	309	289	289	286	284	283	-2.8%	-0.4%
Milk yield (t/cow/year)	6.45	6.64	7.18	7.54	7.84	8.07	8.29	8.47	8.43	8.50	8.62	+1.5%	+0.8%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	2.11	2.03	1.97	1.95	1.91	1.88	1.86	1.85	1.94	2.08	2.04	-0.4%	+1.8%
Population (mill people)	5.13	5.16	5.18	5.21	5.24	5.28	5.33	5.38	5.40	5.43	5.45	+0.4%	+0.5%
Consumption (kg ME/capita)	410	393	380	374	364	357	350	344	358	383	374	-0.8%	+1.3%
The dairy chain													
Milk delivered (cow's)%	96%	97%	97%	97%	97%	97%	98%	98%	98%	98%	98%	+0.1%	+0.1%
Self-sufficiency in milk in%	120%	126%	133%	135%	134%	133%	129%	133%	124%	116%	120%	-1.0%	-1.4%
Farmers' share of consumer price	50%	50%	49%	47%	44%	43%	44%	43%	33%	34%	29%	-0.6%	-8.3%

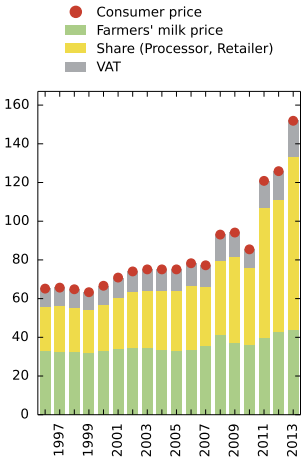
Farm gate milk prices

EUR / 100 kg milk (ECM)



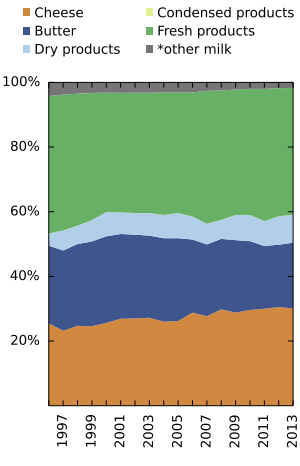
Consumer & farmers' prices

EUR / 100 kg milk (ECM)



Processing profile

% of all milk produced



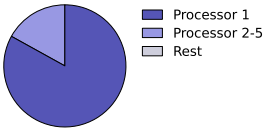
Milk processors list 2013

Milk intake in 1,000 tons (natural content)

Valio Oy	1950
Arla Ingman Oy Ab	289
Osuuskunta Satamaito	45
Osuuskunta Maitokolmio	34
Juustoportti Oy	30

Cooperatives: 3% of milk intake shown

Share on national milk delivery:



Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA, Eurostat, AMI.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *Milk regular, 1996-1999: 3.9% fat, 2000-2010: 3.5% fat, 2011-13: Milk low fat: 1.5% fat; 1996-2013: 3.0% protein.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

Jean-Luc Reuillon

Dairy sector and chain profile

Status 2013

- No. 8 in the world (cow's) milk production: 24.8 mill t ECM, of which delivered: 98%
- Country dairy consumption: 22 mill t ME
- Self-sufficiency in milk: 116%

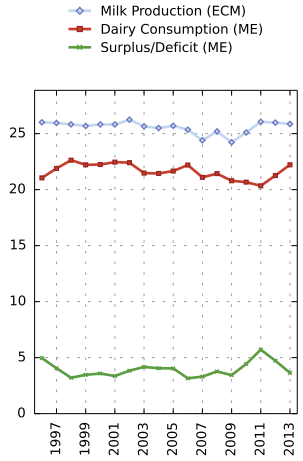
Key developments 2008-2013

- Milk production (cow's): +0.4% per year
- Country dairy consumption: +0.7% per year
- Dairy consumption per capita: +0.2% per year

Milk equivalent (ME) calculation based on fat and protein only

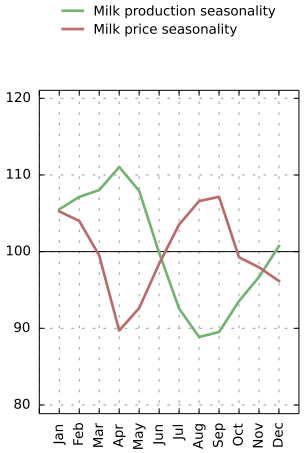
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)

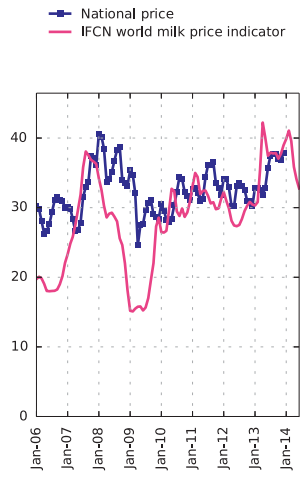


Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	25.17	24.96	24.94	25.31	24.53	24.36	24.25	24.04	24.97	24.93	24.79	-0.4%	+0.4%
Cows (in 1,000s)	4,566	4,432	4,153	4,134	3,947	3,799	3,794	3,718	3,664	3,643	3,699	-1.2%	-0.5%
Milk yield (t/cow/year)	5.51	5.63	6.01	6.12	6.21	6.41	6.39	6.47	6.82	6.84	6.70	+0.8%	+1.0%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	21.05	22.63	22.24	22.41	21.45	22.20	21.43	20.67	20.34	21.26	22.22	0.0%	+0.7%
Population (mill people)	57.94	58.30	58.86	59.69	60.51	61.40	62.13	62.77	63.07	63.38	63.66	+0.7%	+0.5%
Consumption (kg ME/capita)	363	388	378	375	354	362	345	329	323	335	349	-0.7%	+0.2%
The dairy chain													
Milk delivered (cow's)%	92%	93%	93%	92%	97%	94%	98%	97%	98%	98%	98%	+0.8%	0.0%
Self-sufficiency in milk in%	124%	114%	116%	117%	119%	114%	118%	121%	128%	122%	116%	-0.3%	-0.2%
Farmers' share of consumer price				41%	40%	37%	39%	36%	37%	35%	39%	+0.4%	

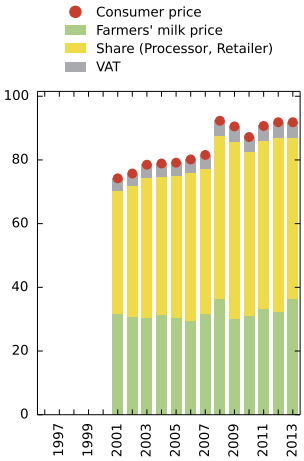
Farm gate milk prices

EUR / 100 kg milk (ECM)



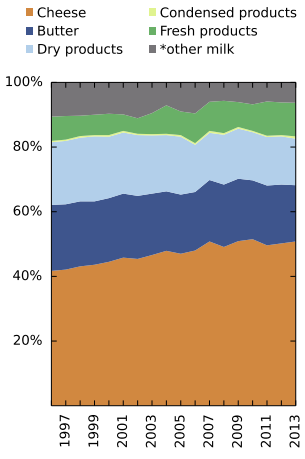
Consumer & farmers' prices

EUR / 100 kg milk (ECM)



Processing profile

% of all milk produced



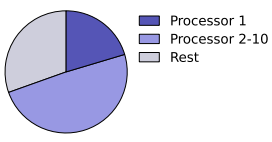
Milk processors list 2012

Milk intake in 1,000 tons (natural content)

Lactalis	5000
Sodiaal	4100
Bongrain	2000
Laïta	1345
Danone (Lait France)	1000
Eurial	1000
Terra Lacta	980
Fromageries Bel	700
Prospérité fermière	500
Groupe Ermitage	440

Cooperatives: 49% of milk intake shown

Share on national milk delivery:



Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA, Eurostat, AMI.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *Semi-skimmed UHT milk, 1 litre pack, 3.2% fat, 1.6% protein.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

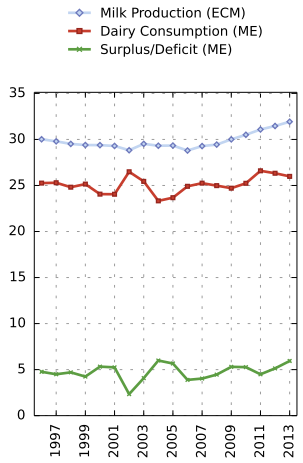
3.42 Germany

Eva Schröer-Merker

IFCN Dairy Research Center

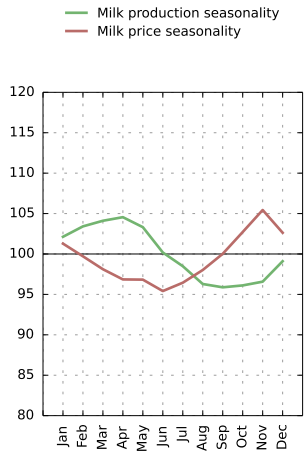
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)



Dairy sector and chain profile

Status 2013

- No. 6 in the world (cow's) milk production: 31.9 mill t ECM, of which delivered: 97%
- Country dairy consumption: 26 mill t ME
- Self-sufficiency in milk: 123%

Key developments 2008-2013

- Milk production (cow's): +1.6% per year
- Country dairy consumption: +0.8% per year
- Dairy consumption per capita: +1.1% per year

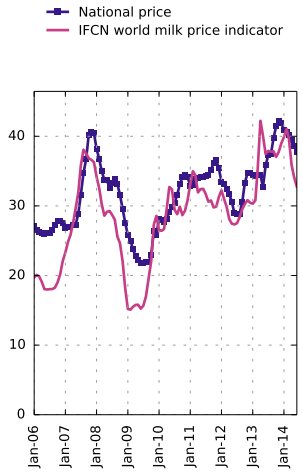
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	30.00	29.49	29.36	28.80	29.28	28.76	29.42	30.49	31.07	31.45	31.91	0.0%	+1.6%
Cows (in 1,000s)	5,195	4,833	4,564	4,373	4,287	4,054	4,229	4,182	4,190	4,190	4,268	-0.5%	+0.2%
Milk yield (t/cow/year)	5.77	6.10	6.43	6.59	6.83	7.09	6.96	7.29	7.42	7.50	7.48	+0.5%	+1.5%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	25.26	24.81	24.06	26.49	23.33	24.91	24.98	25.24	26.59	26.33	25.99	-0.4%	+0.8%
Population (mill people)	82.01	82.04	82.26	82.54	82.50	82.31	82.00	81.75	80.33	80.52	80.80	-0.1%	-0.3%
Consumption (kg ME/capita)	308	302	292	321	283	303	305	309	331	327	322	-0.2%	+1.1%
The dairy chain													
Milk delivered (cow's)%	94%	94%	95%	96%	96%	96%	96%	97%	97%	97%	97%	0.0%	+0.3%
Self-sufficiency in milk in%	119%	119%	122%	109%	126%	116%	118%	121%	117%	119%	123%	+0.3%	+0.8%
Farmers' share of consumer price	45%	50%	53%	48%	49%	44%	47%	47%	51%	49%	52%	-0.5%	+2.0%

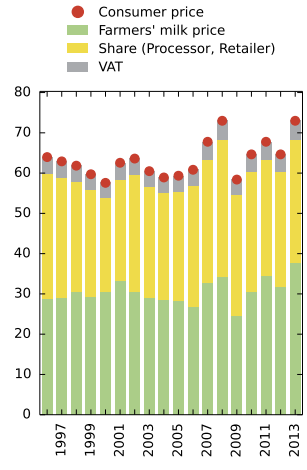
Farm gate milk prices

EUR / 100 kg milk (ECM)



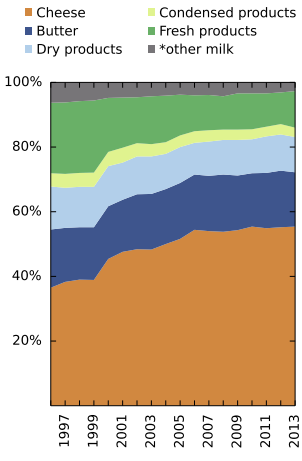
Consumer & farmers' prices

EUR / 100 kg milk (ECM)



Processing profile

% of all milk produced



Milk processors list 2013

Turn over in mill EUR

DMK Deutsches Milchkontor Unternehmensgruppe	2968
Theo Müller	1489
FrieslandCampina	1445
Hochwald Foods	985
Bayernland Gruppe	725
Hochland	552
Meggle	400
Zott	380
Bongrain	311
Arla Foods	145

Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA, Eurostat, AMI.*
Data: *2014 data preliminary and partly estimated.*
Consumer price (raw data) for: *Fresh milk, 1 litre packing with 3.5% fat, 3.17% protein.*
Estimates done for: *Retailer price 2012-2013. Household/on farm use 2013. Processed cheese 2013.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

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Arthur Grigorian

Dairy sector and chain profile

Status 2013

- No. 49 in the world (cow's) milk production: 0.7 mill t ECM, of which delivered: 81%
- Country dairy consumption: 3.2 mill t ME
- Self-sufficiency in milk: 69%

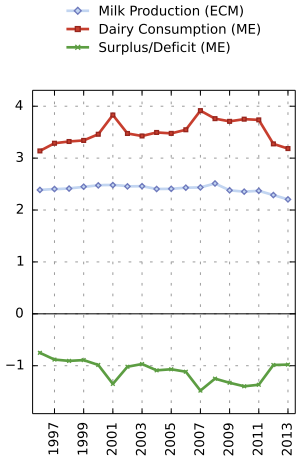
Key developments 2008-2013

- Milk production (cow's): -1.3% per year
- Country dairy consumption: -3.3% per year
- Dairy consumption per capita: -3.1% per year

Milk equivalent (ME) calculation based on fat and protein only

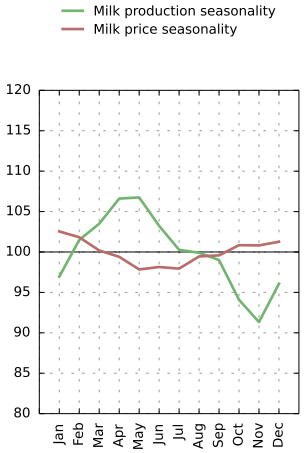
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)

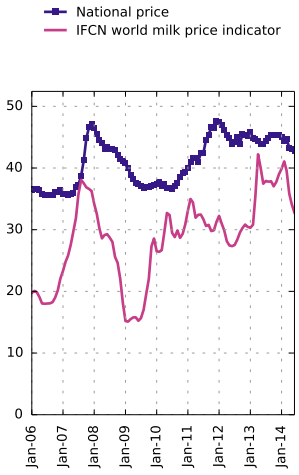


Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	0.74	0.74	0.78	0.75	0.71	0.74	0.78	0.73	0.75	0.78	0.73	+0.6%	-1.3%
Cows (in 1,000s)	185	172	180	152	150	168	154	131	130	130	127	+0.7%	-3.8%
Milk yield (t/cow/year)	3.98	4.32	4.35	4.95	4.75	4.40	5.09	5.60	5.76	5.99	5.77	-0.1%	+2.5%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	3.14	3.32	3.46	3.47	3.49	3.55	3.76	3.75	3.74	3.27	3.18	+1.9%	-3.3%
Population (mill people)	10.76	10.81	10.90	10.97	11.04	11.11	11.18	11.18	11.12	11.12	11.06	+0.3%	-0.2%
Consumption (kg ME/capita)	292	307	317	317	317	319	336	335	336	294	288	+1.5%	-3.1%
The dairy chain													
Milk delivered (cow's)%	82%	87%	85%	89%	94%	96%	88%	93%	84%	81%	81%	-0.1%	-1.5%
Self-sufficiency in milk in%	76%	73%	72%	71%	69%	69%	67%	63%	63%	70%	69%	-1.4%	+0.7%
Farmers' share of consumer price	46%	43%	42%	38%	38%	30%	33%	29%	33%	35%	33%	-1.7%	+0.2%

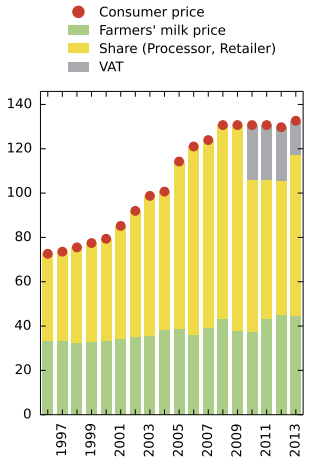
Farm gate milk prices

EUR / 100 kg milk (ECM)



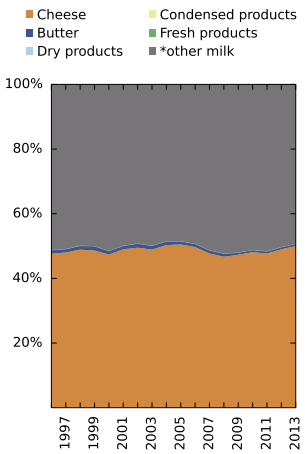
Consumer & farmers' prices

EUR / 100 kg milk (ECM)



Processing profile

% of all milk produced



Milk processors list 2011

Turn over in mill EUR

Vivartia SA	600
Fage Industry of Milk SA	385
Mevgal SA	186
Olympus Larisa Dairy Industry SA	141
Dodoni SA	97
Agno Industry of Milk SA	66
Kolios	n/a
Neogal SA	n/a

Explanations

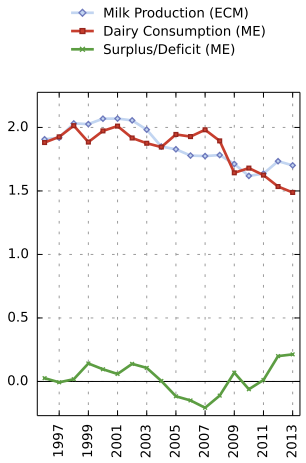
Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA, Eurostat, AMI.*
Data: *2014 data preliminary and partly estimated.*
Consumer price (raw data) for: *Not specified.*
Remarks: *Processors list: From Mevgal now 58% of shares belong to Vivartia. Processing profile: High share of goat and sheep milk leads to high share of "other milk".*
Estimates done for: *Consumer price 2009-2013.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

3.44 Hungary

Daniel Mándi-Nagy

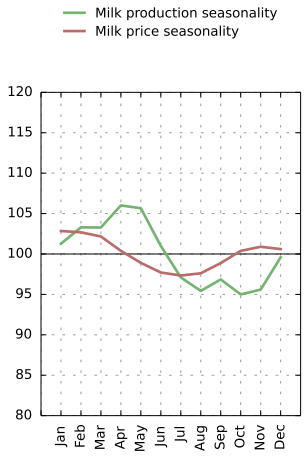
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)



Dairy sector and chain profile

Status 2013

- No. 64 in the world (cow's) milk production: 1.7 mill t ECM, of which delivered: 77%
- Country dairy consumption: 1.5 mill t ME
- Self-sufficiency in milk: 114%

Key developments 2008-2013

- Milk production (cow's): -0.9% per year
- Country dairy consumption: -4.7% per year
- Dairy consumption per capita: -4.4% per year

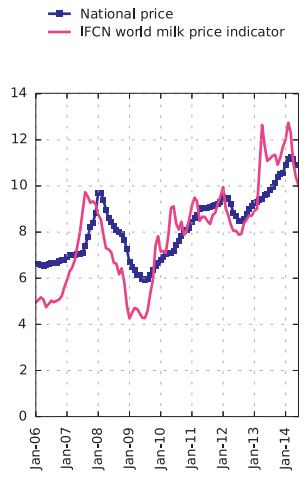
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	1.89	2.02	2.05	2.04	1.84	1.77	1.78	1.61	1.63	1.73	1.69	-2.1%	-0.9%
Cows (in 1,000s)	386	384	355	338	304	268	263	239	252	255	244	-3.2%	-1.5%
Milk yield (t/cow/year)	4.90	5.26	5.78	6.04	6.05	6.60	6.75	6.74	6.47	6.78	6.94	+1.2%	+0.6%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	1.88	2.01	1.97	1.92	1.85	1.93	1.89	1.68	1.62	1.53	1.49	+0.2%	-4.7%
Population (mill people)	10.32	10.28	10.22	10.18	10.12	10.08	10.04	10.01	9.99	9.93	9.88	-0.2%	-0.3%
Consumption (kg ME/capita)	182	196	193	188	182	191	189	168	163	155	151	+0.4%	-4.4%
The dairy chain													
Milk delivered (cow's)%	82%	84%	85%	89%	81%	78%	77%	78%	76%	77%	77%	-1.7%	-0.1%
Self-sufficiency in milk in%	101%	101%	105%	107%	100%	92%	94%	96%	101%	113%	114%	-2.3%	+4.0%
Farmers' share of consumer price	46%	57%	51%	42%	36%	34%	33%	32%	34%	33%	36%	-3.5%	+1.5%

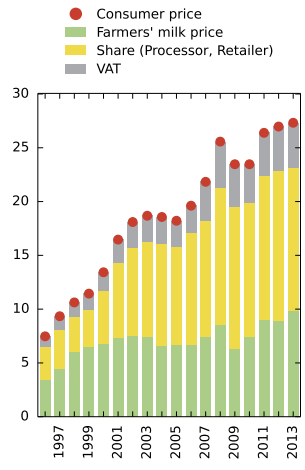
Farm gate milk prices

1,000 HUF / 100 kg milk (ECM)



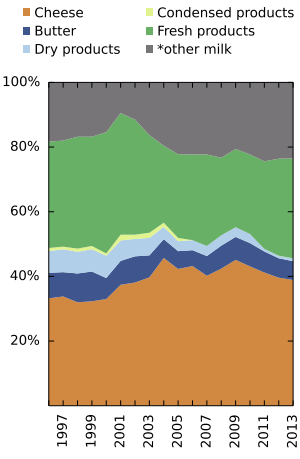
Consumer & farmers' prices

1,000 HUF / 100 kg milk (ECM)



Processing profile

% of all milk produced



Milk processors list 2013

Turn over in bn HUF

Sole-Mizo Zrt.	42
Alföldi tej Kft.	35
Tolnatej Zrt.	27
FrieslandCampina Zrt.	25
Danone Kft.	24
Pannontej Zrt.	19
Kőröstej Kft.	17
Fino-Food Kft.	11
Naszálytej Zrt.	11
Magyar Sajt Kft.	7

Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA, Eurostat, AMI.*
Data: *2014 data preliminary and partly estimated.*
Consumer price (raw data) for: *Milk, 1 litre, 2.8% fat, 3.0% protein.*
Estimates done for: *Milk processing 2013.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

Baldur H. Benjamínsson

Dairy sector and chain profile

Status 2013

- No. 124 in the world (cow's) milk production: 0.1 mill t ECM, of which delivered: 94%
- Country dairy consumption: 0.1 mill t ME
- Self-sufficiency in milk: 104%

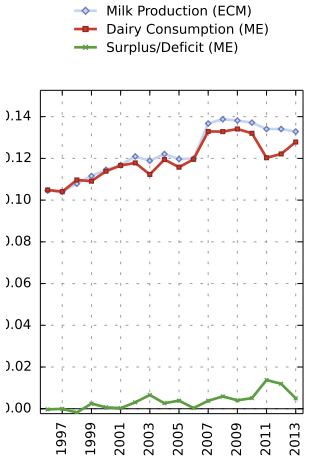
Key developments 2008-2013

- Milk production (cow's): -0.9% per year
- Country dairy consumption: -0.8% per year
- Dairy consumption per capita: -1.2% per year

Milk equivalent (ME) calculation based on fat and protein only

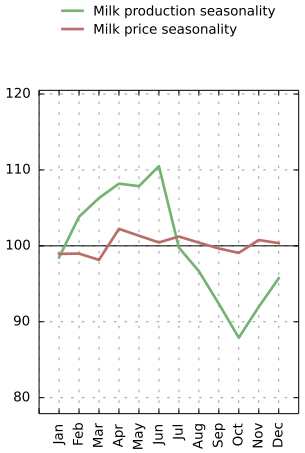
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)

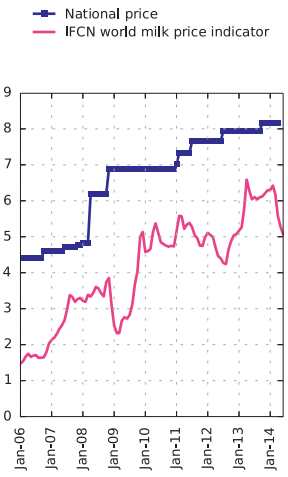


Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	0.10	0.11	0.11	0.12	0.12	0.12	0.14	0.14	0.13	0.13	0.13	+3.1%	-0.9%
Cows (in 1,000s)	30.00	29.00	28.00	26.00	25.00	24.00	26.00	26.00	26.00	26.00	26.00	0.0%	0.0%
Milk yield (t/cow/year)	3.49	3.72	4.09	4.65	4.88	5.00	5.34	5.27	5.16	5.16	5.11	+3.1%	-0.9%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	0.10	0.11	0.11	0.12	0.12	0.12	0.13	0.13	0.12	0.12	0.13	+3.4%	-0.8%
Population (mill people)	0.27	0.27	0.28	0.29	0.29	0.30	0.32	0.32	0.32	0.32	0.32	+1.8%	+0.4%
Consumption (kg ME/capita)	391	403	408	411	410	399	422	415	378	382	397	+1.6%	-1.2%
The dairy chain													
Milk delivered (cow's)%	94%	94%	93%	94%	95%	95%	96%	93%	94%	95%	94%	+0.4%	-0.4%
Self-sufficiency in milk in%	100%	98%	101%	103%	102%	100%	104%	104%	111%	110%	104%	-0.3%	-0.1%
Farmers' share of consumer price			58%	60%	62%	64%	74%	70%	69%	68%	69%	+4.3%	-1.4%

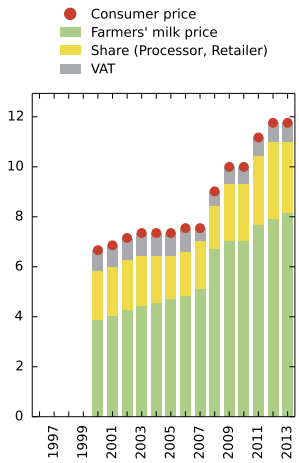
Farm gate milk prices

1,000 ISK / 100 kg milk (ECM)



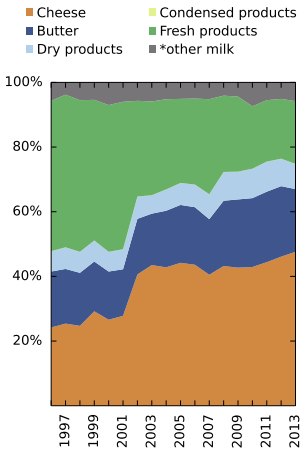
Consumer & farmers' prices

1,000 ISK / 100 kg milk (ECM)



Processing profile

% of all milk produced



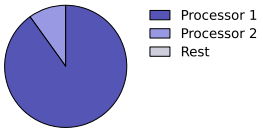
Milk processors list 2013

Milk intake in 1,000 tons (natural content)

Auðhumla svf	111
Mjólkursamlag KS	12

Cooperatives: 100% of milk intake shown

Share on national milk delivery:



Explanations

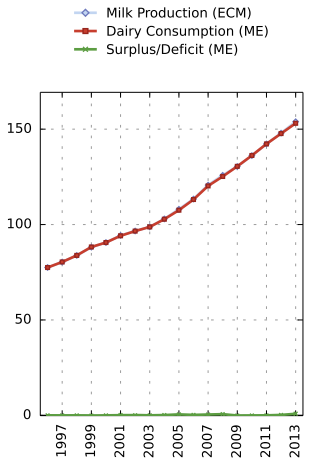
Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA, Eurostat, AMI.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *Whole milk with 3.9% fat, 3.3% protein.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

3.46 India

Dr. A. K. Srivastava, Smita Sirohi
IFCN Dairy Research Center

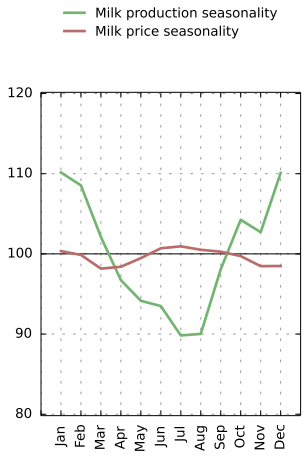
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)



Dairy sector and chain profile

Status 2013

- No. 1 in the world (cow's and buffalo's) milk production: 149.0 mill t ECM, of which delivered: 17%
- Country dairy consumption: 153 mill t ME
- Self-sufficiency in milk: 101%

Key developments 2008-2013

- Milk production (cow's and buffalo's): +4.2% per year
- Country dairy consumption: +4.1% per year
- Dairy consumption per capita: +2.7% per year

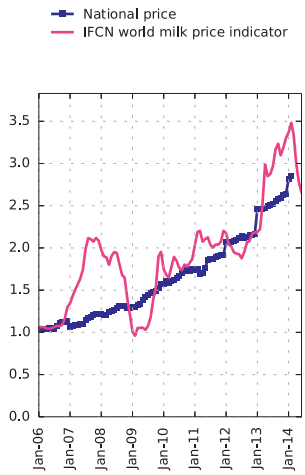
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's and buffalo's)													
Production (mill t ECM)	74.62	80.61	87.34	93.01	99.45	110	121	132	138	143	149	+5.0%	+4.2%
Cows and buffalos (in 1,000s)	100,962	102,767	103,768	106,296	106,722	109,611	112,592	115,667	117,240	118,838	121,668	+1.3%	+1.6%
Milk yield (t/cow/year)	0.74	0.78	0.84	0.88	0.93	1.00	1.08	1.14	1.18	1.20	1.22	+3.6%	+2.6%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	77.48	83.83	90.58	96.58	103	113	125	136	142	148	153	+4.9%	+4.1%
Population (mill people)	955	992	1,029	1,064	1,097	1,130	1,162	1,194	1,210	1,227	1,243	+1.5%	+1.4%
Consumption (kg ME/capita)	81	85	88	91	94	100	108	114	117	120	123	+3.3%	+2.7%
The dairy chain													
Milk delivered (cow's and buffalo's)%	15%	15%	15%	15%	15%	17%	17%	17%	17%	17%	17%	+2.7%	+0.2%
Self-sufficiency in milk in%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	101%	+0.1%	0.0%
Farmers' share of consumer price	70%	67%	62%	63%	61%	56%	56%	59%	60%	62%	71%	-2.6%	+5.1%

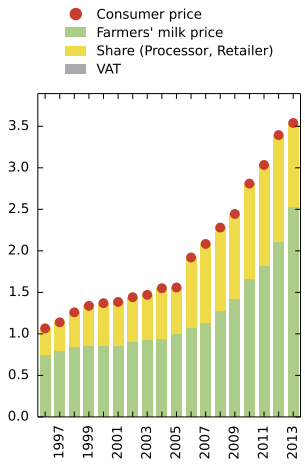
Farm gate milk prices

1,000 INR / 100 kg milk (ECM)



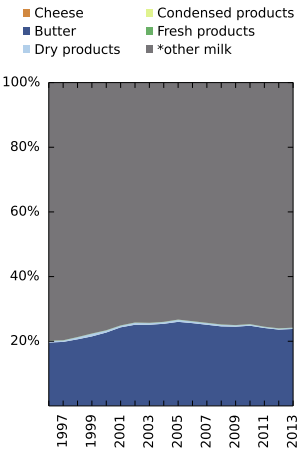
Consumer & farmers' prices

1,000 INR / 100 kg milk (ECM)



Processing profile

% of all milk produced



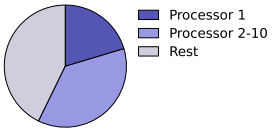
Milk processors list 2013

Milk intake in 1,000 tons (natural content)

Gujarat Cooperative Milk Marketing Fedn. Ltd. (Amul)	4542
Karnataka Cooperative Milk Producers' Federation Ltd. (Nandini)	1791
Maharashtra Rajya Sahakari Dugdh Maha-sangh Maryadit	1211
Mother Dairy	1131
Tamil Nadu Cooperative Milk Producers' Federation Ltd. (Aavin Illam)	909
Sterling Agro Indusries Ltd. (Nova)	905
Punjab State Cooperative Milk Producers' Federation Ltd (Verka)	449
Paras (VRS Foods Ltd)	900
Hatsun Agro Product LtD.	754
Pradeshik Cooperative Dairy Federation Ltd. - Uttrapradesh	177

Cooperatives: 89% of milk intake shown

Share on national milk delivery:



Explanations

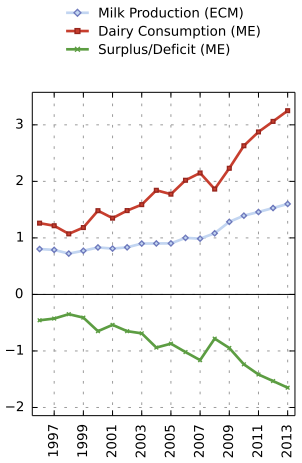
Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *1996-2005: Toned milk with 3% fat, and 8.5% solid non fat; 2006-13: All India average retail prices for milk.*
Remarks: *Annualised production and price data is shown. Milk processors list: In most cases milk volumes show milk processing capacity. Amul, Mother Dairy, Verka, Vijaya: Figures show fresh milk intake.*
Estimates done for: *Milk delivered 1996-2004 IFCN estimates. Monthly milk production: Recalculated from seasonal pattern of milk production. Monthly milk price: IFCN estimation based on consumer milk price index, local processor payout prices and expert knowledge.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

India

3.47 Indonesia

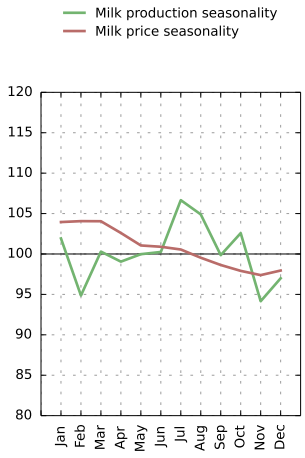
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)



Dairy sector and chain profile

Status 2013

- No. 65 in the world (cow's) milk production: 1.1 mill t ECM, of which delivered: 90%
- Country dairy consumption: 3.3 mill t ME
- Self-sufficiency in milk: 49%

Key developments 2008-2013

- Milk production (cow's): +11.8% per year
- Country dairy consumption: +11.8% per year
- Dairy consumption per capita: +10.2% per year

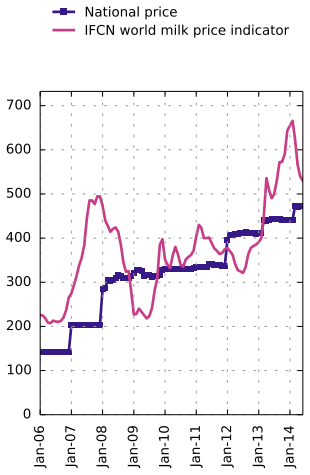
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	0.44	0.37	0.49	0.49	0.55	0.61	0.64	0.92	0.99	1.05	1.12	+3.2%	+11.8%
Cows (in 1,000s)	334	322	354	358	364	369	458	495	516	538	560	+4.1%	+4.1%
Milk yield (t/cow/year)	1.31	1.16	1.39	1.37	1.50	1.66	1.40	1.86	1.91	1.96	2.00	-0.9%	+7.4%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	1.26	1.07	1.48	1.48	1.84	2.02	1.86	2.63	2.87	3.06	3.25	+3.2%	+11.8%
Population (mill people)	197	202	206	212	218	225	231	238	241	244	248	+1.4%	+1.4%
Consumption (kg ME/capita)	6	5	7	7	8	9	8	11	12	13	13	+1.8%	+10.2%
The dairy chain													
Milk delivered (cow's)%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	0.0%	0.0%
Self-sufficiency in milk in%	64%	67%	56%	56%	49%	50%	58%	53%	51%	50%	49%	+0.5%	-3.2%
Farmers' share of consumer price	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	0.0%	-0.1%

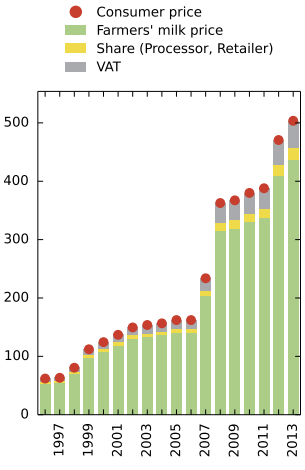
Farm gate milk prices

1,000 IDR / 100 kg milk (ECM)



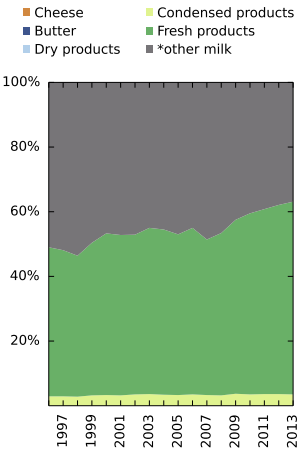
Consumer & farmers' prices

1,000 IDR / 100 kg milk (ECM)



Processing profile

% of all milk produced

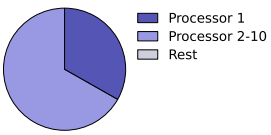


Milk processors list 2009

Milk intake in 1,000 tons (natural content)

Frisian Flag	277
Indolakto	217
Nestlé	116
Ultra Jaya	99
Sari Husada	41
Greenfields	40
Sekar Tanjung	16
Danone Dairy	14
Nutricia	7
Kalbe	6

Share on national milk delivery:



Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *1 litre liquid milk, 4% fat, 3.23% protein.*
Remarks: *Monthly milk production recalculated out of the average seasonal pattern from West Java.*
Estimates done for: *Milk production and cow numbers: 2011-13. Farmers' share on consumer milk. Monthly milk price: April 2013 - June 2014.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

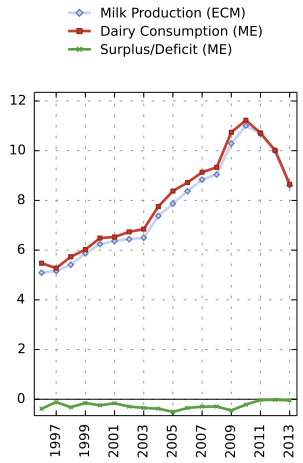
Indonesia

3.48 Iran

Farhad Mirzaei

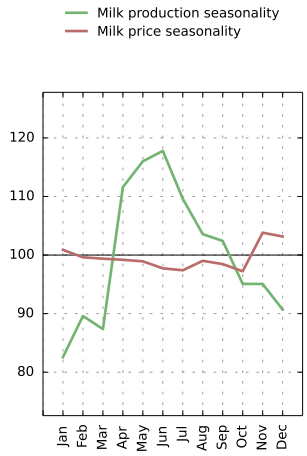
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)



Dairy sector and chain profile

Status 2013

- No. 19 in the world (cow's and buffalo's) milk production: 7.7 mill t ECM, of which delivered: 90%
- Country dairy consumption: 8.6 mill t ME
- Self-sufficiency in milk: 99%

Key developments 2008-2013

- Milk production (cow's and buffalo's): -1.0% per year
- Country dairy consumption: -1.5% per year
- Dairy consumption per capita: -2.8% per year

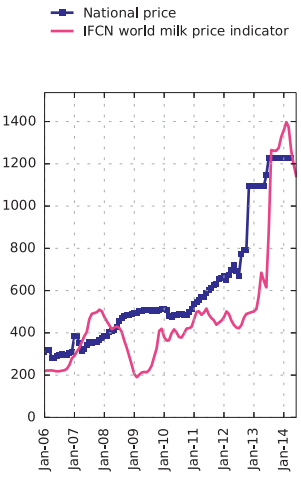
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's and buffalo's)													
Production (mill t ECM)	3.99	4.29	5.01	5.23	6.11	7.10	8.07	10.04	9.75	9.04	7.66	+9.9%	-1.0%
Cows and buffalos (in 1,000s)	3,366	3,547	3,830	3,650	3,707	3,830	3,730	3,730	3,730	3,730	3,205	+0.7%	-3.0%
Milk yield (t/cow/year)	1.19	1.21	1.31	1.43	1.65	1.85	2.16	2.69	2.61	2.42	2.39	+9.1%	+2.0%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	5.47	5.73	6.48	6.74	7.75	8.72	9.33	11.23	10.71	10.02	8.65	+6.4%	-1.5%
Population (mill people)	62.51	61.84	63.86	65.66	68.34	70.50	72.18	74.34	75.15	76.12	77.10	+1.4%	+1.3%
Consumption (kg ME/capita)	88	93	102	103	113	124	129	151	143	132	112	+4.9%	-2.8%
The dairy chain													
Milk delivered (cow's and buffalo's)%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	90%	+0.1%	+4.0%
Self-sufficiency in milk in%	93%	94%	96%	96%	95%	96%	97%	98%	100%	100%	99%	+0.4%	+0.5%
Farmers' share of consumer price					99%	69%	81%	60%	97%	73%	56%		-7.1%

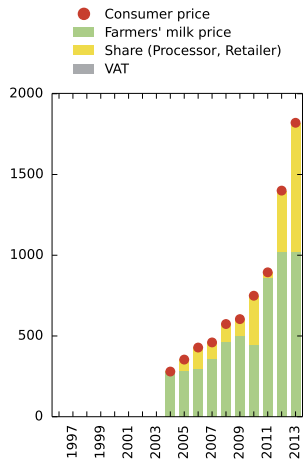
Farm gate milk prices

1,000 IRR / 100 kg milk (ECM)



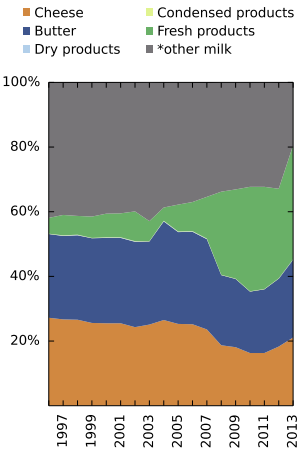
Consumer & farmers' prices

1,000 IRR / 100 kg milk (ECM)



Processing profile

% of all milk produced



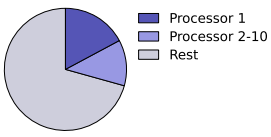
Milk processors list 2013

Milk intake in 1,000 tons (natural content)

Iran Dairy Industrial Company (Pegah)	1200
Pak Dairy Co	800
Ramak Dairy	12
Mihan	8
Bistoon Dairy	5
Choopan	5
Kalleh	5
Mimas	5
Kalber Dairy Co.	5
Damdaran	4

Cooperatives: 60% of milk intake shown

Share on national milk delivery:



Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *1 kg processed milk, not subsidised, 2.5% fat, 3.6% protein.*
Remarks: *Processor list: Milk intake is represented by the milk intake capacity of the dairy companies.*
Estimates done for: *Milk production 2011-2013. Number of cows 2010-2013. Milk price 2013. Consumer price 2010, 2012-2013.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

Teagasc
Agriculture and Food Development Authority

Fiona Thorne

Dairy sector and chain profile

Status 2013

- No. 29 in the world (cow's) milk production: 5.6 mill t ECM, of which delivered: 100%
- Country dairy consumption: 1.7 mill t ME
- Self-sufficiency in milk: 319%

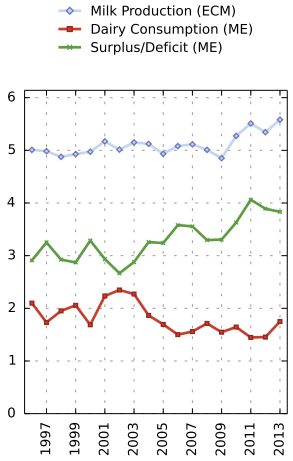
Key developments 2008-2013

- Milk production (cow's): +2.2% per year
- Country dairy consumption: +0.4% per year
- Dairy consumption per capita: -0.8% per year

Milk equivalent (ME) calculation based on fat and protein only

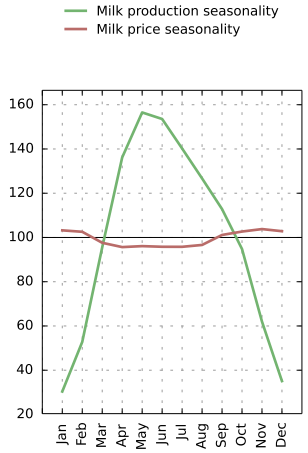
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)

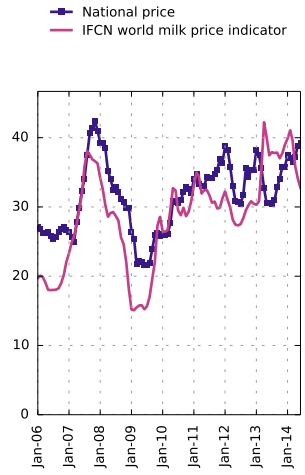


Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	5.01	4.88	4.97	5.01	5.12	5.08	5.01	5.27	5.51	5.34	5.58	-0.6%	+2.2%
Cows (in 1,000s)	1,216	1,199	1,153	1,129	1,122	1,023	1,024	1,027	1,055	1,060	1,065	-2.0%	+0.8%
Milk yield (t/cow/year)	4.12	4.07	4.31	4.44	4.57	4.97	4.89	5.14	5.22	5.04	5.24	+1.5%	+1.4%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	2.10	1.95	1.69	2.35	1.86	1.50	1.71	1.64	1.45	1.45	1.75	-5.5%	+0.4%
Population (mill people)	3.63	3.70	3.79	3.92	4.04	4.23	4.49	4.55	4.58	4.58	4.78	+2.4%	+1.3%
Consumption (kg ME/capita)	579	527	445	599	461	354	382	361	316	317	366	-7.7%	-0.8%
The dairy chain													
Milk delivered (cow's)%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0.0%	0.0%
Self-sufficiency in milk in%	239%	250%	295%	214%	275%	339%	292%	321%	381%	368%	319%	+5.2%	+1.8%
Farmers' share of consumer price	37%	36%	36%	33%	32%	30%	29%	27%	31%	31%	36%	-1.5%	+4.2%

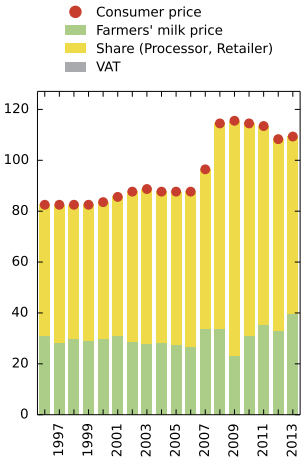
Farm gate milk prices

EUR / 100 kg milk (ECM)



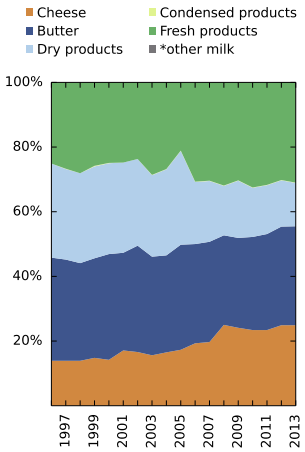
Consumer & farmers' prices

EUR / 100 kg milk (ECM)



Processing profile

% of all milk produced



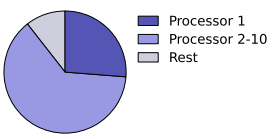
Milk processors list 2011

Milk intake in 1,000 tons (natural content)

Glanbia	1458
Kerry	1030
Dairygold	936
Lakeland	482
Arrabawn	250
Connacht Gold	300
Carbury Group	145
Tipperary	145
Wexford	116
Town of Monaghan	107

Cooperatives: 48% of milk intake shown

Share on national milk delivery:



Explanations

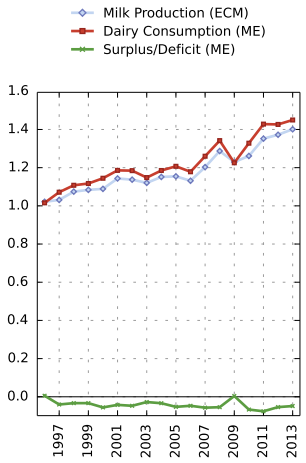
Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA, Eurostat, AMI.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *1 litre pack (average price per litre at retail level; excl. doorstep deliveries), 3.5% fat, 3.3% protein.*
Remarks: *Dairy consumption: Estimated based on 2011 constituents. Monthly milk prices: Manufacturing milk prices (including VAT).*
Estimates done for: *Number of cows 2013. Consumer price 2012-2013.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

3.50 Israel

Liron Tamir

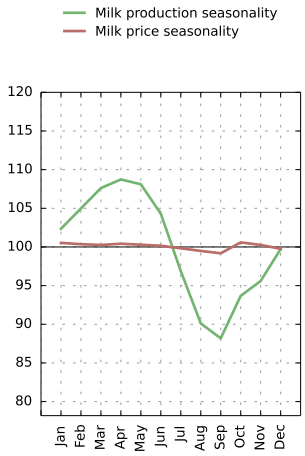
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)



Dairy sector and chain profile

Status 2013

- No. 68 in the world (cow's) milk production: 1.3 mill t ECM, of which delivered: 100%
- Country dairy consumption: 1.4 mill t ME
- Self-sufficiency in milk: 97%

Key developments 2008-2013

- Milk production (cow's): +1.7% per year
- Country dairy consumption: +1.6% per year
- Dairy consumption per capita: -0.6% per year

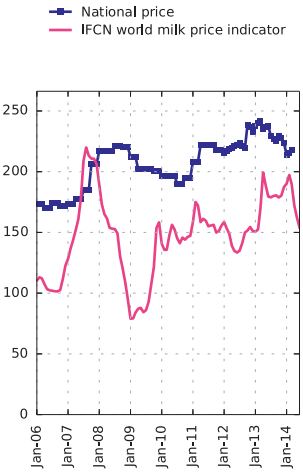
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	0.98	1.03	1.05	1.09	1.10	1.08	1.24	1.21	1.30	1.32	1.35	+2.9%	+1.7%
Cows (in 1,000s)	132	122	120	115	110	106	122	118	124	126	128	+1.2%	+1.0%
Milk yield (t/cow/year)	7.42	8.44	8.75	9.48	10.00	10.19	10.16	10.25	10.48	10.48	10.55	+1.7%	+0.7%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	1.02	1.11	1.14	1.18	1.19	1.18	1.34	1.33	1.43	1.43	1.45	+3.2%	+1.6%
Population (mill people)	5.49	5.76	6.01	6.24	6.47	6.76	7.06	7.37	7.54	7.70	7.87	+2.1%	+2.2%
Consumption (kg ME/capita)	185	192	190	190	183	174	190	180	189	185	184	+1.0%	-0.6%
The dairy chain													
Milk delivered (cow's)%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0.0%	0.0%
Self-sufficiency in milk in%	101%	97%	95%	96%	97%	96%	96%	95%	95%	96%	97%	-0.3%	+0.1%
Farmers' share of consumer price				30%	31%	29%	32%	29%	33%	30%	32%	+1.7%	-0.4%

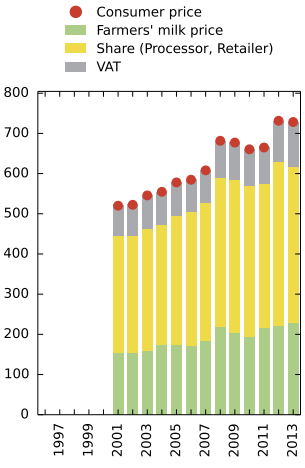
Farm gate milk prices

ILS / 100 kg milk (ECM)



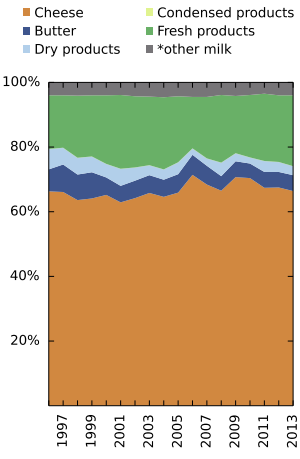
Consumer & farmers' prices

ILS / 100 kg milk (ECM)



Processing profile

% of all milk produced



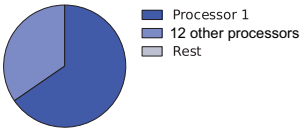
Milk processors list 2013

Milk intake in 1,000 tons (natural content)

Tnuva	924
Milko-Tara	218
Strauss group	204
Gad	36
Golan Dairy	13
8 small dairies	18

Cooperatives: 0% of milk intake shown

Share on national milk delivery:



Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *1 litre milk carton, 3% fat, 3.2% protein.*
Remarks: *Considering milk powder imported by the chocolate industry, animal feed and infant formulas, the share of the import is about 20%.*
Estimates done for: *Milk delivered and consumed on the farm by L. Tamir.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

C.R.P.A.

Alberto Menghi

Dairy sector and chain profile

Status 2013

- No. 13 in the world (cow's) milk production: 11.4 mill t ECM, of which delivered: 91%
- Country dairy consumption: 16 mill t ME
- Self-sufficiency in milk: 75%

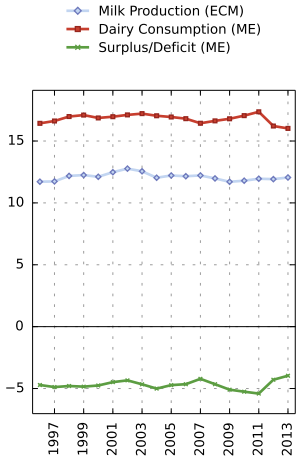
Key developments 2008-2013

- Milk production (cow's): +0.6% per year
- Country dairy consumption: -0.7% per year
- Dairy consumption per capita: -1.1% per year

Milk equivalent (ME) calculation based on fat and protein only

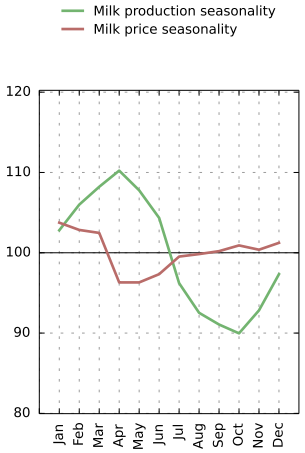
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)

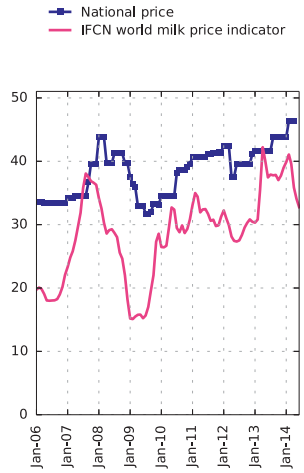


Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	10.28	10.67	10.82	11.37	10.96	11.24	11.04	11.09	11.27	11.25	11.40	-0.4%	+0.6%
Cows (in 1,000s)	2,070	2,116	2,172	1,911	1,838	1,814	1,831	1,746	1,755	1,709	1,599	-0.9%	-2.7%
Milk yield (t/cow/year)	4.97	5.04	4.98	5.95	5.96	6.19	6.03	6.35	6.42	6.58	7.13	+0.5%	+3.4%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	16.43	16.98	16.86	17.11	17.04	16.81	16.63	17.05	17.36	16.21	16.02	-0.7%	-0.7%
Population (mill people)	56.85	56.90	56.92	56.99	57.50	58.06	58.65	59.19	59.37	59.39	59.69	+0.5%	+0.3%
Consumption (kg ME/capita)	289	298	296	300	296	289	284	288	292	273	268	-1.2%	-1.1%
The dairy chain													
Milk delivered (cow's)%	93%	93%	93%	93%	93%	93%	93%	93%	93%	94%	91%	0.0%	-0.5%
Self-sufficiency in milk in%	71%	72%	72%	75%	71%	72%	72%	69%	69%	74%	75%	-0.2%	+0.9%
Farmers' share of consumer price	35%	29%	28%	28%	26%	25%	25%	26%	27%	26%	27%	-0.7%	+1.2%

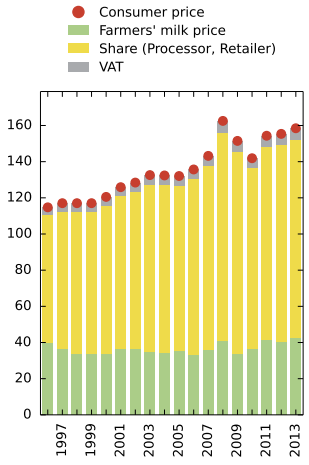
Farm gate milk prices

EUR / 100 kg milk (ECM)



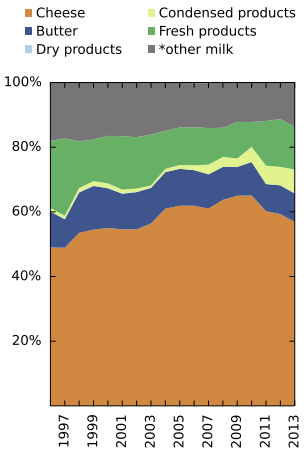
Consumer & farmers' prices

EUR / 100 kg milk (ECM)



Processing profile

% of all milk produced



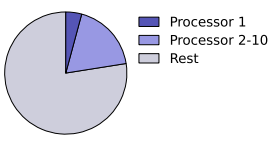
Milk processors list 2013

Milk intake in 1,000 tons (natural content)

Itallatte (Lactalis)	449
Granlatte s.c.a.r.l.	439
Latteria Soresina s.c.a.r.l.	342
Santangiolina	225
Parmalat SPA (Lactalis)	203
Assegnatari Associatia Arborea	193
Consorzio Agri Piacenza Latte	171
Consorzio Produttori Latte Milano	160
Biraghi SPA	139
Mila	86

Cooperatives: 60% of milk intake shown

Share on national milk delivery:



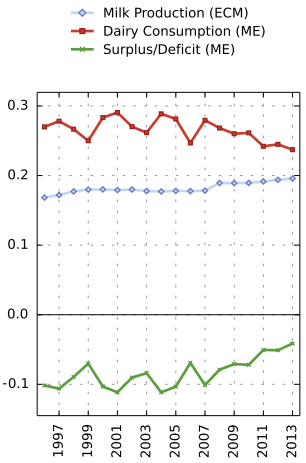
Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA, Eurostat, AMI.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *Whole fresh milk, 1 litre packing on Milano market, 3.5% fat, 3.25% protein.*
Remarks: *Milk production 1996-2011: Due to very different statistical figures the milk production is estimated to be 7% higher than the milk delivered.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

3.52 Jamaica

Milk balance

in mill t, from all dairy species



Dairy sector and chain profile

Status 2013

- No. 118 in the world (cow's) milk production: 0.014 mill t ECM, of which delivered: 70%
- Country dairy consumption: 0.2 mill t ME
- Self-sufficiency in milk: 83%

Key developments 2008-2013

- Milk production (cow's): -1.5% per year
- Country dairy consumption: -2.4% per year
- Dairy consumption per capita: -2.9% per year

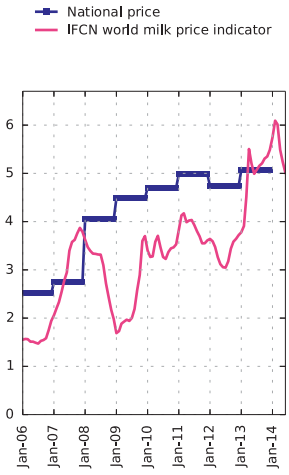
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	0.03	0.03	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	-5.2%	-1.5%
Cows (in 1,000s)	27.00	28.00	27.00	22.00	16.00	15.00	15.00	13.00	13.00	13.00	13.00	-5.6%	-2.7%
Milk yield (t/cow/year)	1.00	1.00	0.99	0.96	1.00	1.01	0.97	0.98	0.98	1.02	1.03	+0.4%	+1.3%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	0.27	0.27	0.28	0.27	0.29	0.25	0.27	0.26	0.24	0.24	0.24	+0.5%	-2.4%
Population (mill people)	2.48	2.53	2.58	2.63	2.67	2.70	2.72	2.74	2.75	2.77	2.78	+0.5%	+0.5%
Consumption (kg ME/capita)	109	105	110	103	108	92	99	95	88	88	85	0.0%	-2.9%
The dairy chain													
Milk delivered (cow's)%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	0.0%	0.0%
Self-sufficiency in milk in%	62%	66%	64%	67%	61%	72%	71%	72%	79%	79%	83%	+0.8%	+3.2%
Farmers' share of consumer price				32%	28%	32%	29%	28%	26%	23%	24%	+1.8%	-3.9%

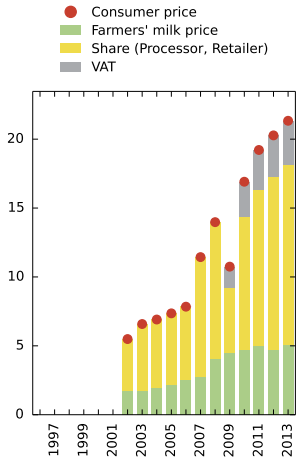
Farm gate milk prices

1,000 JMD / 100 kg milk (ECM)



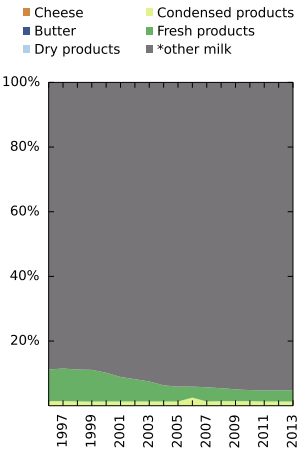
Consumer & farmers' prices

1,000 JMD / 100 kg milk (ECM)



Processing profile

% of all milk produced



Milk processors list 2010

Milk intake in 1,000 tons (natural content)

Nestlé Jamaica Ltd.	10

Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated.*
Consumer price (raw data) for: *1 litre pack.*
Remarks: *Monthly milk price: Annual averages.*
Estimates done for: *Milk cow numbers: 2013. Milk delivered: IFCN estimate 70%.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

東京大学 THE UNIVERSITY OF TOKYO

Hiromi Hosono

Dairy sector and chain profile

Status 2013

- No. 23 in the world (cow's) milk production: 7.5 mill t ECM, of which delivered: 99%
- Country dairy consumption: 9.8 mill t ME
- Self-sufficiency in milk: 77%

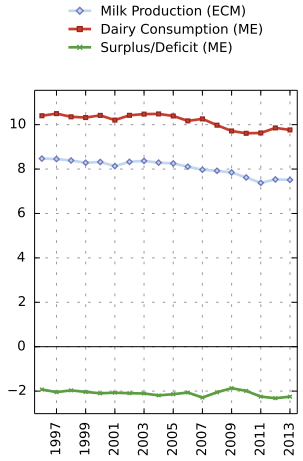
Key developments 2008-2013

- Milk production (cow's): -1.1% per year
- Country dairy consumption: -0.4% per year
- Dairy consumption per capita: -0.3% per year

Milk equivalent (ME) calculation based on fat and protein only

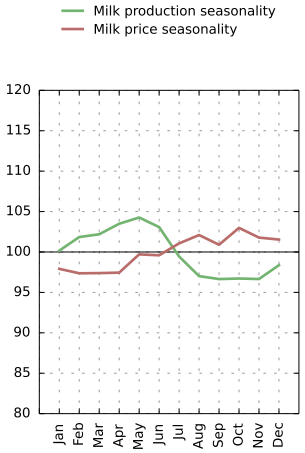
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)

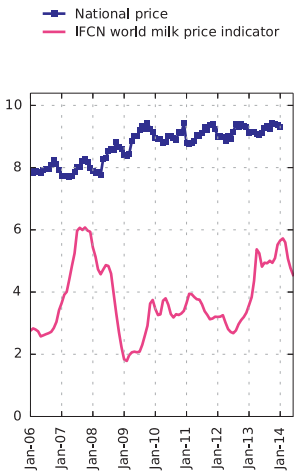


Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	8.47	8.39	8.32	8.33	8.29	8.11	7.92	7.62	7.38	7.53	7.51	-1.1%	-1.1%
Cows (in 1,000s)	1,211	1,190	1,150	1,126	1,088	1,046	998	964	933	943	923	-2.3%	-1.5%
Milk yield (t/cow/year)	7.00	7.05	7.23	7.39	7.62	7.75	7.94	7.91	7.91	7.99	8.14	+1.2%	+0.5%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	10.40	10.35	10.42	10.42	10.48	10.17	9.98	9.61	9.63	9.85	9.76	-1.0%	-0.4%
Population (mill people)	126	126	127	127	128	128	128	128	128	128	127	+0.1%	-0.1%
Consumption (kg ME/capita)	83	82	82	82	82	80	78	75	75	77	77	-1.0%	-0.3%
The dairy chain													
Milk delivered (cow's)%	99%	99%	98%	99%	98%	98%	99%	99%	99%	99%	99%	0.0%	0.0%
Self-sufficiency in milk in%	81%	81%	80%	80%	79%	80%	79%	79%	77%	76%	77%	-0.1%	-0.6%
Farmers' share of consumer price	38%	37%	38%	38%	39%	38%	40%	45%	46%	47%	48%	+0.5%	+3.7%

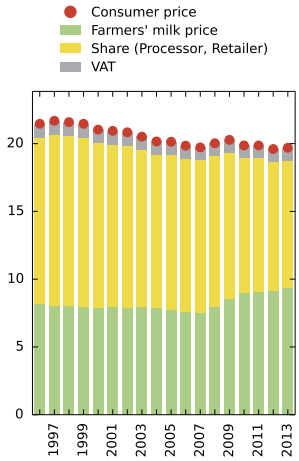
Farm gate milk prices

1,000 JPY / 100 kg milk (ECM)



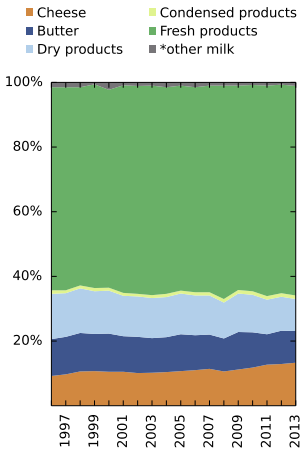
Consumer & farmers' prices

1,000 JPY / 100 kg milk (ECM)



Processing profile

% of all milk produced



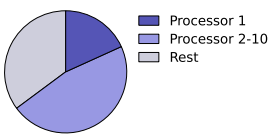
Milk processors list 2012

Milk intake in 1,000 tons (natural content)

Meiji	1380
Megmilk Snow Brand	1129
Morinaga	825
Yotsuba	713
Takanashi	392
Hokkaido-nyugyou	117
Kyodo-nyugyou	115
Urahoro-nyugyou	85
Shikoku-nyugyou	82
Tochigi-meijigyunyu	72

Cooperatives: 28% of milk intake shown

Share on national milk delivery:



Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *Whole milk, 1 litre, in Tokyo incl. consumption tax, 3.5% fat, 3.2% protein.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

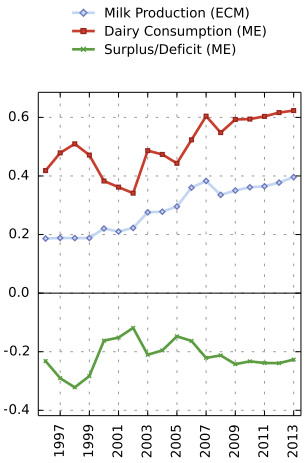
3.54 Jordan

Othman Alqaisi

Dairy Expert

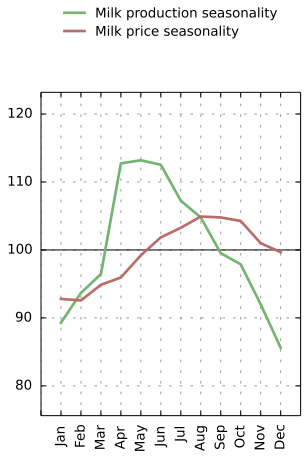
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)



Dairy sector and chain profile

Status 2013

- No. 99 in the world (cow's) milk production: 0.3 mill t ECM, of which delivered: 95%
- Country dairy consumption: 0.6 mill t ME
- Self-sufficiency in milk: 64%

Key developments 2008-2013

- Milk production (cow's): +9.1% per year
- Country dairy consumption: +2.6% per year
- Dairy consumption per capita: +0.3% per year

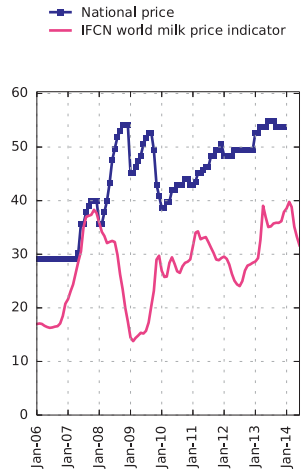
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	0.11	0.12	0.16	0.18	0.17	0.21	0.19	0.25	0.26	0.27	0.29	+2.0%	+9.1%
Cows (in 1,000s)	36.00	38.00	47.00	39.00	43.00	50.00	43.00	47.00	48.00	52.00	55.00	+2.0%	+5.0%
Milk yield (t/cow/year)	2.93	3.21	3.42	4.50	3.90	4.13	4.38	5.38	5.48	5.25	5.30	0.0%	+3.9%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	0.42	0.51	0.38	0.34	0.47	0.52	0.55	0.59	0.60	0.62	0.62	+2.4%	+2.6%
Population (mill people)	4.38	4.62	4.86	5.10	5.35	5.60	5.85	6.11	6.25	6.40	6.54	+2.3%	+2.3%
Consumption (kg ME/capita)	95	110	79	67	89	93	94	97	96	96	95	+0.1%	+0.3%
The dairy chain													
Milk delivered (cow's)%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	0.0%	0.0%
Self-sufficiency in milk in%	45%	37%	58%	65%	59%	69%	61%	61%	60%	61%	64%	+1.5%	+0.8%
Farmers' share of consumer price			44%	40%	35%	33%	41%	39%	40%	41%	44%	+1.9%	+1.5%

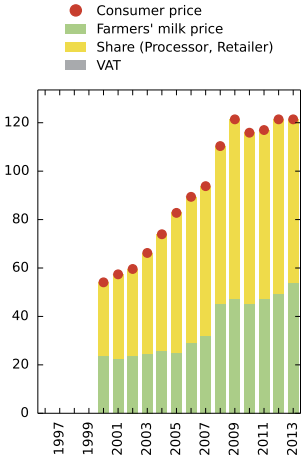
Farm gate milk prices

JOD / 100 kg milk (ECM)



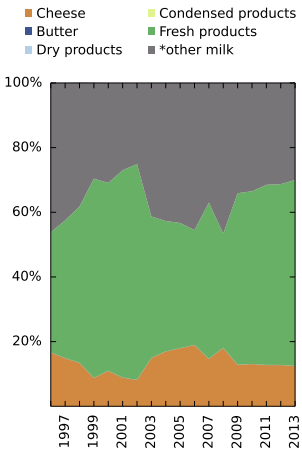
Consumer & farmers' prices

JOD / 100 kg milk (ECM)



Processing profile

% of all milk produced



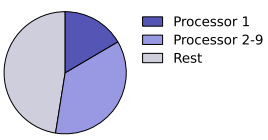
Milk processors list 2012

Milk intake in 1,000 tons (natural content)

Hammodeh Dairy Co.	43
Teeba Dairy Inv. Co.	29
Jordan-Danish Dairy Co.	18
Numann Jneedi Dairy Co.	14
Alarqawi Chees production Co.	11
Alshaikh Cheese Co	9.0
Jordanian Dairy Co.	5.4
Almazraah Dairy Co	4.0
Almorooj Dairy Co	3.6

Cooperatives: 0% of milk intake shown

Share on national milk delivery:



Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *Pasteurised milk, 1 kg, tetrapak, 3.3% fat, 3.2% protein.*
Estimates done for: *IFCN estimates 95% of cow milk production is delivered.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

Galiya Akimbekova

3.55 Kazakhstan

Dairy sector and chain profile

Status 2013

- No. 33 in the world (cow's) milk production: 4.5 mill t ECM, of which delivered: 25%
- Country dairy consumption: 5.1 mill t ME
- Self-sufficiency in milk: 90%

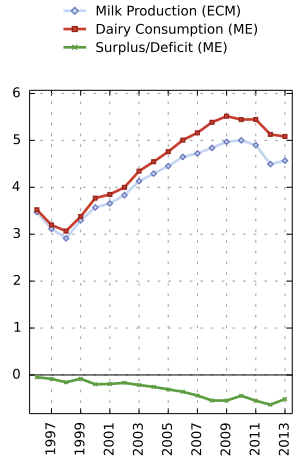
Key developments 2008-2013

- Milk production (cow's): -1.1% per year
- Country dairy consumption: -1.1% per year
- Dairy consumption per capita: -2.8% per year

Milk equivalent (ME) calculation based on fat and protein only

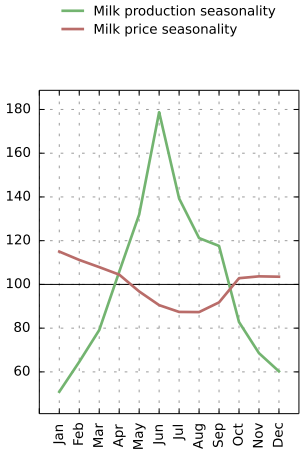
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)

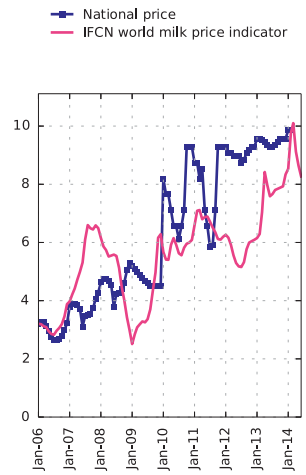


Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	3.41	2.85	3.51	3.76	4.22	4.60	4.79	4.95	4.85	4.46	4.53	+3.4%	-1.1%
Cows (in 1,000s)	2,547	1,953	2,015	2,171	2,399	2,555	2,675	2,751	2,501	2,437	2,493	+3.4%	-1.4%
Milk yield (t/cow/year)	1.34	1.46	1.74	1.73	1.76	1.80	1.79	1.80	1.94	1.83	1.82	0.0%	+0.3%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	3.52	3.07	3.77	4.00	4.55	5.01	5.39	5.44	5.45	5.13	5.08	+4.4%	-1.1%
Population (mill people)	15.48	14.96	14.87	14.87	15.07	15.39	15.78	16.43	16.67	16.91	17.16	+1.1%	+1.7%
Consumption (kg ME/capita)	227	205	254	269	302	325	341	331	327	303	296	+3.3%	-2.8%
The dairy chain													
Milk delivered (cow's)%	18%	20%	23%	15%	14%	18%	21%	24%	21%	24%	25%	+10.3%	+4.1%
Self-sufficiency in milk in%	99%	95%	95%	96%	94%	93%	90%	92%	90%	88%	90%	-1.1%	0.0%
Farmers' share of consumer price			44%	30%	29%	29%	33%	29%	30%	34%	44%	+3.0%	+5.6%

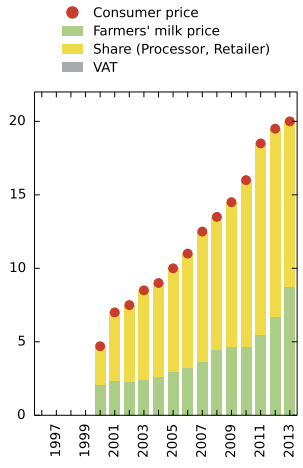
Farm gate milk prices

1,000 KZT / 100 kg milk (ECM)



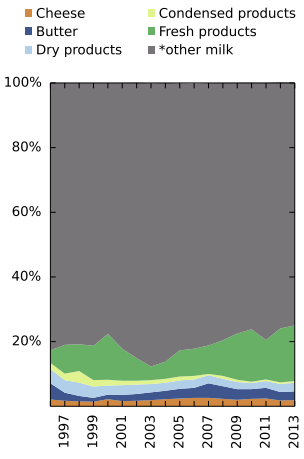
Consumer & farmers' prices

1,000 KZT / 100 kg milk (ECM)



Processing profile

% of all milk produced



Milk processors list 2011

Company Names

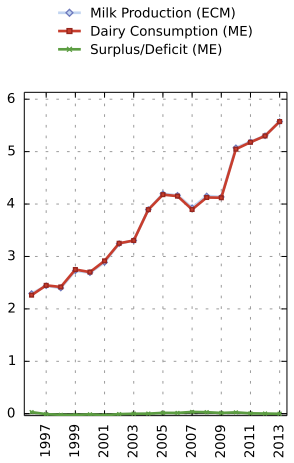
Raimbek agro
Ajs kompani
Food master
Sut
Karaganda dairy combinyt
Vostok moloko
TOO Милк
TOO Молочный союз
TOO Натиже
TOO Ren-Milk

Explanations

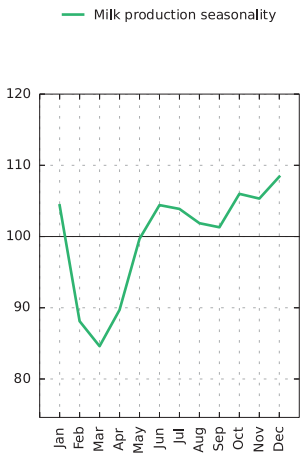
Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated.*
Consumer price (raw data) for: *Liquid milk, 4% fat, 3.3% protein.*
Estimates done for: *Since no official statistics on milk delivered are available the milk delivered is estimated.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

3.56 Kenya

Milk balance
in mill t, from all dairy species



Seasonal index
Based on moving average
(avg = 100, 2008-2012)



Dairy sector and chain profile

Status 2013
- No. 30 in the world (cow's) milk production: 4.4 mill t ECM, of which delivered: 13%
- Country dairy consumption: 5.6 mill t ME
- Self-sufficiency in milk: 100%

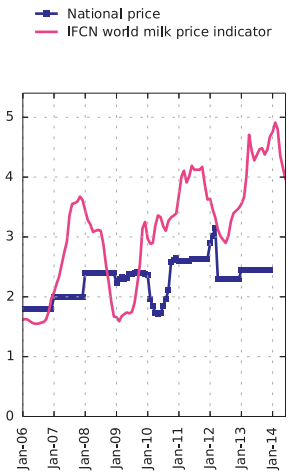
Key developments 2008-2013
- Milk production (cow's): +6.5% per year
- Country dairy consumption: +6.2% per year
- Dairy consumption per capita: +3.4% per year

Milk equivalent (ME) calculation based on fat and protein only

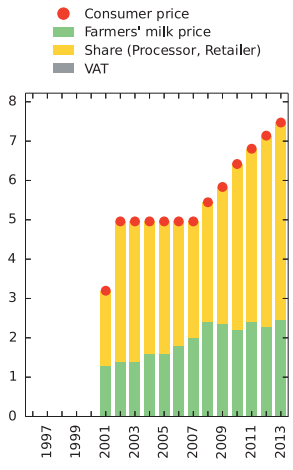
Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	1.91	2.01	2.22	2.89	3.39	3.70	3.21	3.97	4.06	4.15	4.40	+2.1%	+6.5%
Cows (in 1,000s)	4,550	4,420	4,690	4,000	5,500	6,200	5,147	5,002	5,545	5,545	5,711	-0.9%	+2.1%
Milk yield (t/cow/year)	0.42	0.45	0.47	0.72	0.62	0.60	0.62	0.79	0.73	0.75	0.77	+2.9%	+4.3%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	2.26	2.42	2.70	3.25	3.89	4.15	4.13	5.05	5.18	5.30	5.57	+4.5%	+6.2%
Population (mill people)	28.62	29.88	31.29	33.00	34.84	36.76	38.77	40.91	42.03	43.18	44.35	+2.7%	+2.7%
Consumption (kg ME/capita)	79	81	86	99	112	113	106	123	123	123	126	+1.8%	+3.4%
The dairy chain													
Milk delivered (cow's)%	5%	5%	5%	5%	8%	10%	12%	13%	13%	13%	13%	+12.8%	+1.4%
Self-sufficiency in milk in%	101%	99%	100%	100%	100%	100%	101%	101%	100%	100%	100%	+0.1%	-0.1%
Farmers' share of consumer price		90%	98%	28%	32%	36%	44%	34%	35%	32%	33%	+9.3%	-5.7%

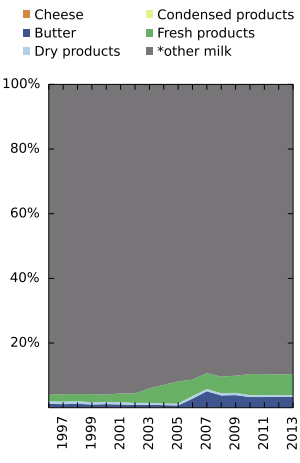
Farm gate milk prices
1,000 KES / 100 kg milk (ECM)



Consumer & farmers' prices
1,000 KES / 100 kg milk (ECM)



Processing profile
% of all milk produced



Milk processors list 2013
Company Names

Brookside Dairy Ltd
New KCC
Sameer Agriculture&Livestock
Githunguri Dairy Cooperative Society
Kinangop Dairy Ltd
Meru Dair Cooperative Society
Kabianga Dairy Ltd
Bio Food Products
Razco Ltd
Raka Cheese

Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated.*
Consumer price (raw data) for: *1 litre pasteurised milk, tetrapak, 3.9% fat, 3.4% protein.*
Remarks: *Milk price monthly 2006-2008, 2013-2014: Annual averages.*
Estimates done for: *Cow numbers: 2013. Consumer price 2012. Monthly milk price 2012. Farm gate milk price 2012-2013.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

IFCN Dairy Research Center

Dairy sector and chain profile

Status 2013

- No. 52 in the world (cow's) milk production: 2.0 mill t ECM, of which delivered: 97%
- Country dairy consumption: 3.0 mill t ME
- Self-sufficiency in milk: 68%

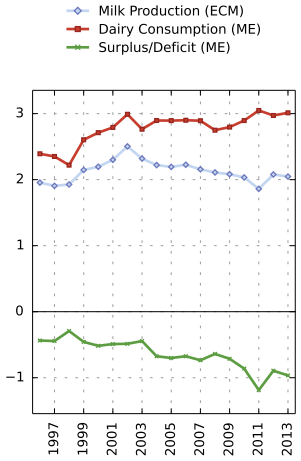
Key developments 2008-2013

- Milk production (cow's): -0.6% per year
- Country dairy consumption: +1.8% per year
- Dairy consumption per capita: +1.3% per year

Milk equivalent (ME) calculation based on fat and protein only

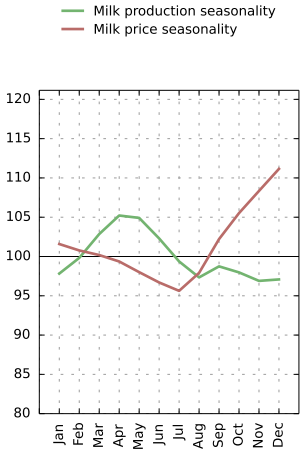
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)

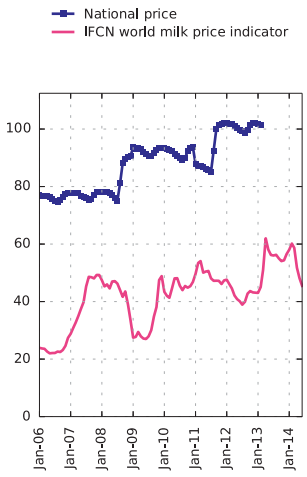


Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	1.95	1.92	2.19	2.50	2.22	2.22	2.10	2.03	1.86	2.07	2.04	-1.9%	-0.6%
Cows (in 1,000s)	551	539	544	544	497	464	446	430	404	380	357	-3.0%	-4.4%
Milk yield (t/cow/year)	3.53	3.57	4.03	4.60	4.46	4.78	4.72	4.72	4.59	5.46	5.73	+1.1%	+3.9%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	2.39	2.22	2.71	2.99	2.90	2.90	2.75	2.90	3.05	2.97	3.01	-0.1%	+1.8%
Population (mill people)	45.52	46.29	47.01	47.62	48.04	48.37	48.95	49.41	49.78	50.00	50.22	+0.5%	+0.5%
Consumption (kg ME/capita)	53	48	58	63	60	60	56	59	61	59	60	-0.6%	+1.3%
The dairy chain													
Milk delivered (cow's)%	96%	96%	96%	96%	96%	96%	95%	97%	97%	97%	97%	-0.1%	+0.4%
Self-sufficiency in milk in%	82%	87%	81%	84%	77%	77%	77%	70%	61%	70%	68%	-1.8%	-2.4%
Farmers' share of consumer price		45%	46%	47%	48%	44%	42%	43%	44%	45%	46%	-2.4%	+1.8%

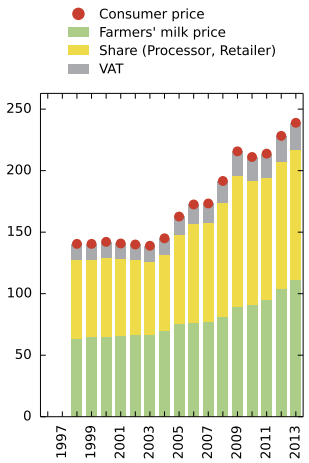
Farm gate milk prices

1,000 KRW / 100 kg milk (ECM)



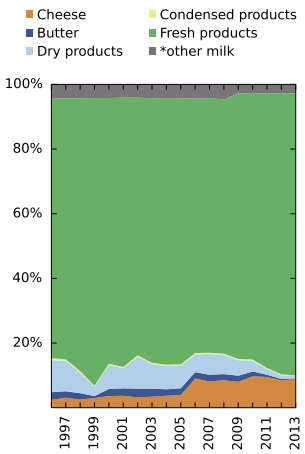
Consumer & farmers' prices

1,000 KRW / 100 kg milk (ECM)



Processing profile

% of all milk produced



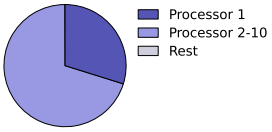
Milk processors list 2010

Milk intake in 1,000 tons (natural content)

Seoul Milk	602
Namyang Dairy Prod. Co.	318
Maeil Dairies Co.	278
Binggrae Co.	202
Dongwon Dairy Food Co.	151
kunkuk Dairy Prod. Co.	123
Busan Milk	90
Vilac Co.	90
Yonsei University Milk	90
Prumil Dairy Prod. Co.	73

Cooperatives: 0% of milk intake shown

Share on national milk delivery:



Explanations

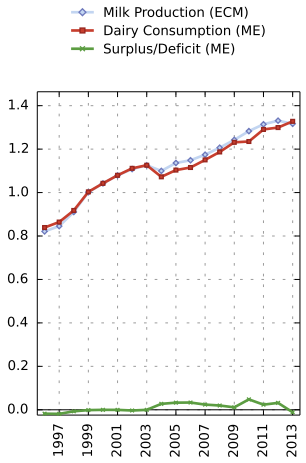
Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *White milk.*
Estimates done for: *Consumer price: 2012-13. Monthly milk price: 2013. Milk price: 2013. Milk delivered: 2010-13. Milk processing: 2012-13.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

3.58 Kyrgyzstan

Azat Mukaliev

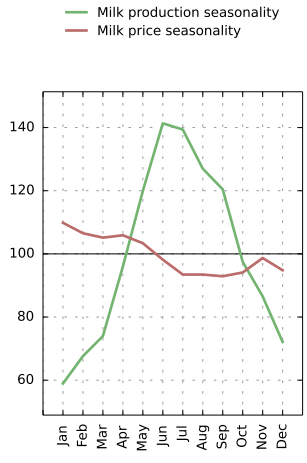
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)



Dairy sector and chain profile

Status 2013

- No. 69 in the world (cow's) milk production: 1.3 mill t ECM, of which delivered: 23%
- Country dairy consumption: 1.3 mill t ME
- Self-sufficiency in milk: 99%

Key developments 2008-2013

- Milk production (cow's): +2.2% per year
- Country dairy consumption: +2.3% per year
- Dairy consumption per capita: +1.2% per year

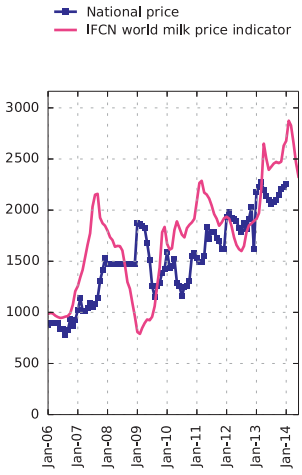
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	0.82	0.89	1.00	1.06	1.05	1.08	1.14	1.23	1.26	1.28	1.27	+1.2%	+2.2%
Cows (in 1,000s)	460	492	524	547	548	585	636	666	684	669	719	+3.5%	+2.5%
Milk yield (t/cow/year)	1.79	1.81	1.91	1.93	1.92	1.85	1.80	1.84	1.84	1.92	1.77	-2.3%	-0.3%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	0.84	0.92	1.04	1.11	1.07	1.12	1.19	1.24	1.29	1.30	1.33	+1.1%	+2.3%
Population (mill people)	4.66	4.81	4.92	5.01	5.14	5.25	5.35	5.48	5.53	5.59	5.64	+1.1%	+1.1%
Consumption (kg ME/capita)	180	191	212	222	209	213	222	225	233	232	235	0.0%	+1.2%
The dairy chain													
Milk delivered (cow's)%	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%	0.0%	0.0%
Self-sufficiency in milk in%	98%	99%	100%	100%	103%	103%	102%	104%	102%	102%	99%	+0.3%	-0.5%
Farmers' share of consumer price						44%	57%	44%	47%	56%	54%		-1.0%

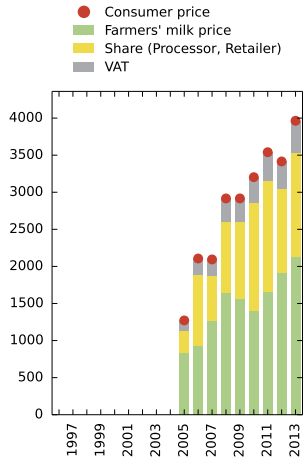
Farm gate milk prices

KGS / 100 kg milk (ECM)



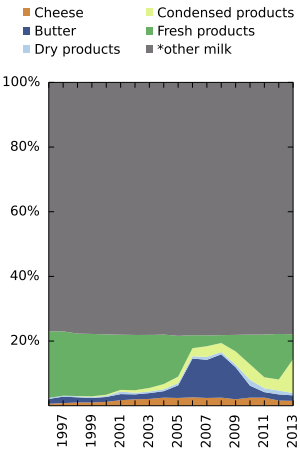
Consumer & farmers' prices

KGS / 100 kg milk (ECM)



Processing profile

% of all milk produced



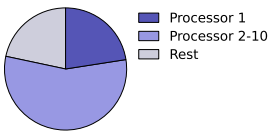
Milk processors list 2013

Milk intake in 1,000 tons (natural content)

Bischkek Syt (Wimbildan)	73
Ak-Sut	37
Sut Bulak	37
Umut Syt	22
Ak Jalga	20
Tuuganbaev PE	18
Emilia	18
Elet Syt	15
Ursus	7
At Bashy	7

Cooperatives: 0% of milk intake shown

Share on national milk delivery:



Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *Liquid milk, in a tube, 2.5% fat, 2.8% protein.*
Remarks: *Milk products, especially butter, are usually exported to Kazakhstan, but in 2010/2011 Kyrgyzstan faced outbreaks with zoonotic diseases and several bans had an impact on national milk processing. Milk processors: Intake calculated on raw milk delivered in tons per day.*
Estimates done for: *Milk delivered: 23% by IFCN.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

Agnese Krievina

Dairy sector and chain profile

Status 2013

- No. 76 in the world (cow's) milk production: 0.9 mill t ECM, of which delivered: 81%
- Country dairy consumption: 0.7 mill t ME
- Self-sufficiency in milk: 146%

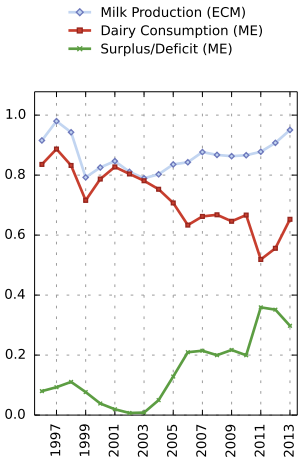
Key developments 2008-2013

- Milk production (cow's): +1.9% per year
- Country dairy consumption: -0.5% per year
- Dairy consumption per capita: +1.0% per year

Milk equivalent (ME) calculation based on fat and protein only

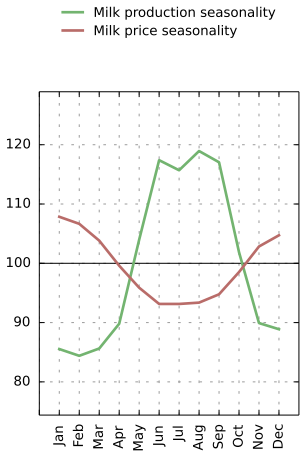
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)

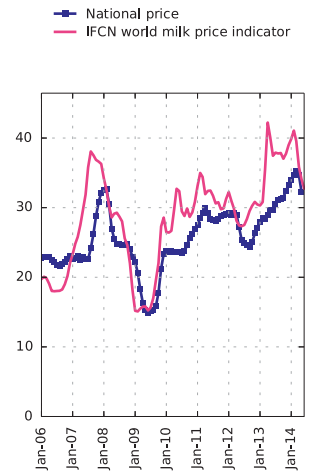


Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	0.91	0.94	0.82	0.81	0.80	0.84	0.86	0.86	0.87	0.90	0.95	+1.9%	+1.9%
Cows (in 1,000s)	275	242	204	205	186	182	170	164	164	165	165	-1.8%	-0.6%
Milk yield (t/cow/year)	3.33	3.89	4.03	3.95	4.30	4.61	5.07	5.26	5.33	5.50	5.74	+3.7%	+2.5%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	0.84	0.83	0.79	0.80	0.75	0.63	0.67	0.67	0.52	0.56	0.65	-3.1%	-0.5%
Population (mill people)	2.47	2.42	2.38	2.32	2.28	2.23	2.19	2.12	2.08	2.04	2.04	-0.9%	-1.5%
Consumption (kg ME/capita)	338	344	330	346	331	284	305	314	250	272	321	-2.2%	+1.0%
The dairy chain													
Milk delivered (cow's)%	39%	49%	48%	47%	59%	73%	76%	75%	79%	83%	81%	+6.5%	+1.2%
Self-sufficiency in milk in%	110%	113%	105%	101%	107%	133%	130%	130%	169%	163%	146%	+5.1%	+2.3%
Farmers' share of consumer price	29%	28%	31%	31%	33%	31%	24%	26%	26%	25%	28%	-4.7%	+2.9%

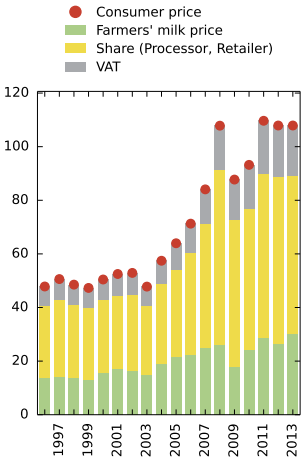
Farm gate milk prices

EUR / 100 kg milk (ECM)



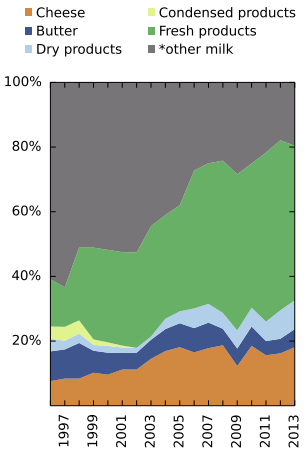
Consumer & farmers' prices

EUR / 100 kg milk (ECM)



Processing profile

% of all milk produced



Milk processors list 2012

Turn over in mill EUR

Rigas piena kombinats	46
Valmieras piens	43
Preilu siers	38
Tukuma piens	43
Rigas Piensaimnieks	31
Smiltenes piens	12
Talsu piensaimnieks	9
Cesvaines piens	9
Jaunpils pienotava	7
Lazdonas piensaimnieks	6

Explanations

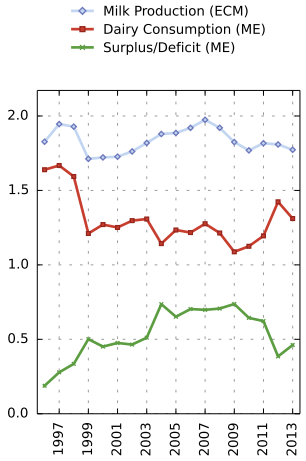
Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA, Eurostat, AMI.*
Data: *2014 data preliminary and partly estimated.*
Consumer price (raw data) for: *Milk, 1 litre packing, 2.3% fat, 2.3% protein.*
Remarks: *Milk processors: Latvian Dairy Committee data.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

3.60 Lithuania

Deiva Mikelionyte

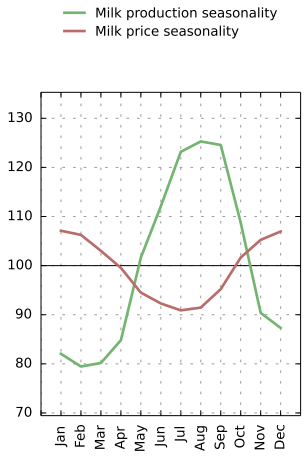
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)



Dairy sector and chain profile

Status 2013

- No. 61 in the world (cow's) milk production: 1.8 mill t ECM, of which delivered: 77%
- Country dairy consumption: 1.3 mill t ME
- Self-sufficiency in milk: 135%

Key developments 2008-2013

- Milk production (cow's): -1.6% per year
- Country dairy consumption: +1.6% per year
- Dairy consumption per capita: +3.1% per year

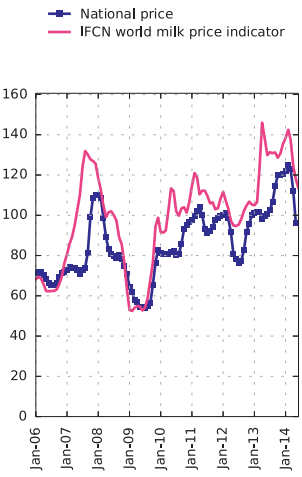
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	1.82	1.91	1.71	1.76	1.87	1.91	1.92	1.76	1.81	1.81	1.77	+1.1%	-1.6%
Cows (in 1,000s)	586	583	494	442	434	399	395	360	350	331	316	-2.5%	-4.4%
Milk yield (t/cow/year)	3.10	3.28	3.46	3.97	4.31	4.80	4.85	4.90	5.18	5.45	5.61	+3.7%	+2.9%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	1.64	1.59	1.27	1.30	1.14	1.22	1.21	1.12	1.19	1.42	1.31	-1.5%	+1.6%
Population (mill people)	3.60	3.55	3.50	3.47	3.44	3.39	3.20	3.10	3.03	2.99	2.97	-1.5%	-1.5%
Consumption (kg ME/capita)	455	449	363	374	333	359	380	363	395	476	441	0.0%	+3.1%
The dairy chain													
Milk delivered (cow's)%	64%	65%	55%	55%	62%	69%	73%	74%	74%	76%	77%	+5.0%	+1.0%
Self-sufficiency in milk in%	111%	121%	136%	136%	164%	158%	158%	157%	152%	127%	135%	+2.6%	-3.1%
Farmers' share of consumer price							29%	31%	30%	29%	34%		+3.2%

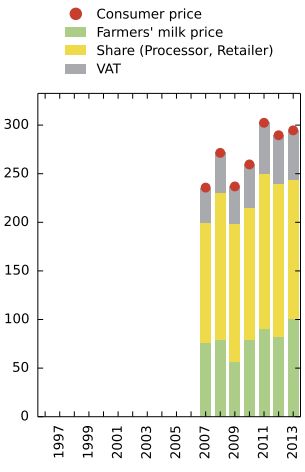
Farm gate milk prices

LTL / 100 kg milk (ECM)



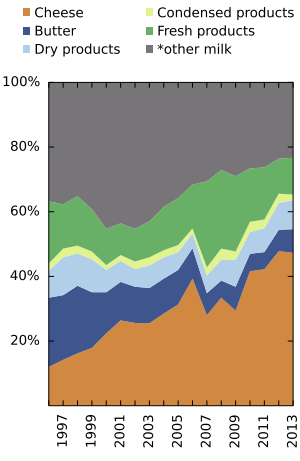
Consumer & farmers' prices

LTL / 100 kg milk (ECM)



Processing profile

% of all milk produced



Milk processors list 2012

Turn over in mill LTL

SC Rokiskio suris	861
SC Pieno zvaigzdes	759
SC Zemaitijos pienas	542
SC Vilkyskiu pienine	364
CSC Marijampoles pieno konservai	n/a

Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA, Eurostat, AMI.*
Data: *2014 data preliminary and partly estimated.*
Consumer price (raw data) for: *Pasteurised milk, 1 litre pack, 2.5% fat, 3.3% protein.*
Remarks: *The dairy consumption is overestimated by the used ME method. A significant share of milk used for feed is included, national statistics show a human consumption of 303 kg/capita in 2012, in general 20-40% lower. 30% of all delivered milk is comming from cooperatives.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*


KAVOS GRIETINĖLĖ "PRESIDENT"
1,49
GRIETINĖLĖ „DVARO"
3,69
RŪGPIENIS „ROKIŠKIO TIKRAS"
1,99
„ROKIŠKIO NAMINIS" 2,5% RIEBUMO KEFYRAS
1,99
NAMINIS PIENAS 2,5% RIEBUMO
1,85
PIENAS „DVARO" 2,5% T-REX PŽ
1,89
„IKI" PIENAS
2,65
NAMINIS 2,5% PIENAS
2,99
4,49
NATŪRALUS PIENAS „MŪ"
3,79
MŪSŲ KEFYRAS, 2,5 % RIEBUMO
2,79
MŪSŲ PIENAS, 2,5 % RIEBUMO
2,99
iki
Mėgstamiausi
UŽ MAŽIAU
PIENO ŽVAIGŽDĖS
ROKIŠKIO
NAMINIS KEFYRAS
2,5%
0,5KG
NAMINIS PIENAS
0,5L
DVARO
Pienas
2,5%
0,5 litro
iki
Pienas
0,9l
NAMINIS KEFYRAS
2,5%
0,9KG
NAMINIS PIENAS
2,5%
0,9L
Mūsų
Pienas
2,5%
1 litras
Pienas
3,5%
1 litras
Mūsų
kefyras
2,5% rieb.
0,9 kg
Mūsų
pienas
2,5% rieb.
0,9 kg
AKCIJA
Bifa
Active
Raugintos
nasikos

Lithuania

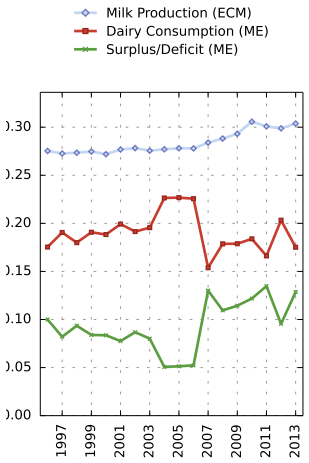
3.61 Luxembourg

Simone Adam

MINISTÈRE DE L'AGRICULTURE, DE LA VITICULTURE ET DU DÉVELOPPEMENT RURAL
Service d'économie rurale

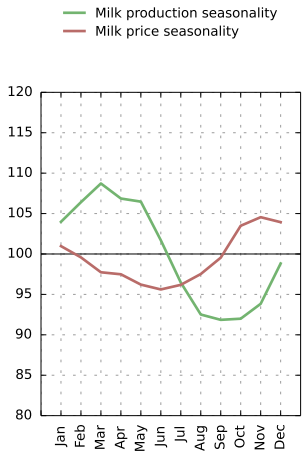
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)



Dairy sector and chain profile

Status 2013

- No. 107 in the world (cow's) milk production: 0.3 mill t ECM, of which delivered: 97%
- Country dairy consumption: 0.2 mill t ME
- Self-sufficiency in milk: 173%

Key developments 2008-2013

- Milk production (cow's): +1.0% per year
- Country dairy consumption: -0.4% per year
- Dairy consumption per capita: -2.5% per year

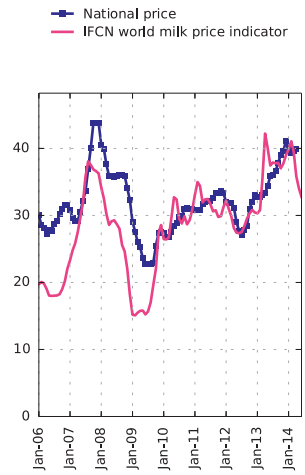
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	0.28	0.27	0.27	0.28	0.28	0.28	0.29	0.30	0.30	0.30	0.30	+0.8%	+1.0%
Cows (in 1,000s)	48.00	46.00	43.00	42.00	40.00	39.00	40.00	41.00	40.00	40.00	42.00	-0.3%	+1.2%
Milk yield (t/cow/year)	5.74	5.95	6.27	6.61	6.95	7.18	7.18	7.37	7.40	7.46	7.13	+1.1%	-0.1%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	0.18	0.18	0.19	0.19	0.23	0.23	0.18	0.18	0.17	0.20	0.18	-1.8%	-0.4%
Population (mill people)	0.42	0.43	0.44	0.44	0.45	0.47	0.48	0.50	0.51	0.52	0.54	+1.5%	+2.1%
Consumption (kg ME/capita)	421	421	429	431	498	481	369	366	324	387	326	-3.3%	-2.5%
The dairy chain													
Milk delivered (cow's)%	96%	97%	97%	97%	96%	95%	95%	95%	96%	96%	97%	-0.2%	+0.3%
Self-sufficiency in milk in%	157%	152%	144%	145%	122%	123%	161%	166%	181%	147%	173%	+2.7%	+1.5%
Farmers' share of consumer price	37%	38%	35%	34%	33%	29%	30%	24%	25%	24%	27%	-2.6%	-1.5%

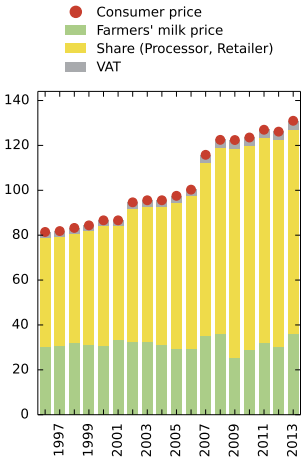
Farm gate milk prices

EUR / 100 kg milk (ECM)



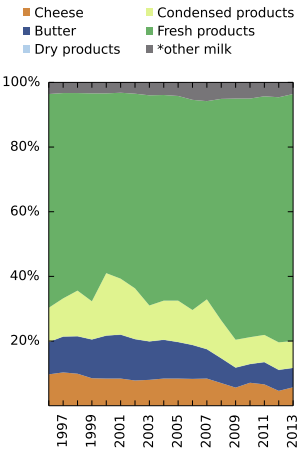
Consumer & farmers' prices

EUR / 100 kg milk (ECM)



Processing profile

% of all milk produced



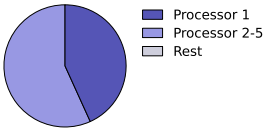
Milk processors list 2013

Milk intake in 1,000 tons (natural content)

Luxlait	124
Procola	111
Ekabe	37
Corelux	13
Fromagerie de Luxembourg	3

Cooperatives: 86% of milk intake shown

Share on national milk delivery:



Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA, Eurostat, AMI.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *1 litre fresh milk with 3.5% fat, 3.3% protein.*
Remarks: *High export and import figures since Luxembourg is a trade transit country. Dairy consumption: Figures can be underestimated for recent years.*
Estimates done for: *Milk processing 1996-1999.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

Blagica Sekovska

Dairy sector and chain profile

Status 2013

- No. 102 in the world (cow's) milk production: 0.3 mill t ECM, of which delivered: 50%
- Country dairy consumption: 0.4 mill t ME
- Self-sufficiency in milk: 86%

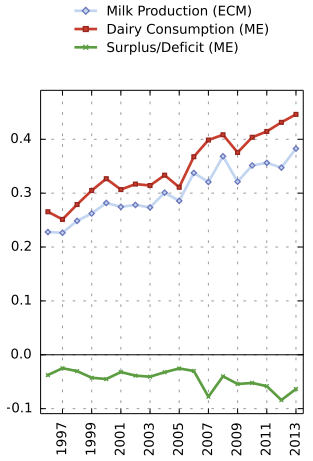
Key developments 2008-2013

- Milk production (cow's): +2.2% per year
- Country dairy consumption: +1.8% per year
- Dairy consumption per capita: +1.6% per year

Milk equivalent (ME) calculation based on fat and protein only

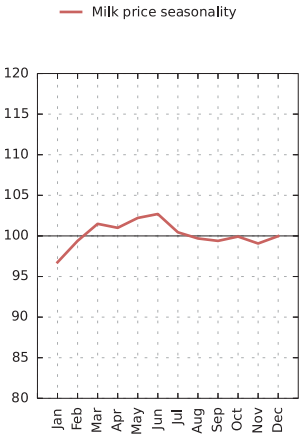
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)

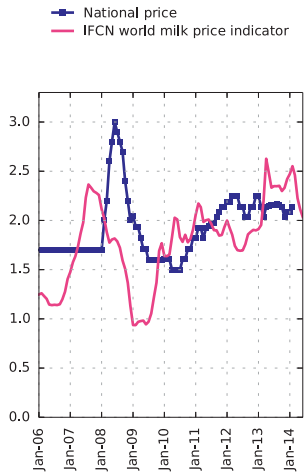


Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	0.13	0.17	0.22	0.20	0.21	0.23	0.27	0.28	0.30	0.27	0.31	+7.6%	+2.2%
Cows (in 1,000s)	95.00	91.00	96.00	95.00	90.00	94.00	91.00	98.00	106	99.00	108	+0.4%	+3.4%
Milk yield (t/cow/year)	1.40	1.90	2.27	2.07	2.34	2.48	3.01	2.86	2.84	2.74	2.83	+7.2%	-1.2%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	0.27	0.28	0.33	0.32	0.33	0.37	0.41	0.40	0.41	0.43	0.45	+5.4%	+1.8%
Population (mill people)	1.98	1.99	2.01	2.02	2.03	2.04	2.05	2.06	2.06	2.07	2.07	+0.2%	+0.2%
Consumption (kg ME/capita)	134	140	163	157	164	180	199	196	201	209	215	+5.1%	+1.6%
The dairy chain													
Milk delivered (cow's)%	30%	30%	30%	30%	30%	30%	30%	52%	50%	55%	50%	0.0%	+10.8%
Self-sufficiency in milk in%	86%	89%	86%	88%	90%	92%	90%	87%	86%	81%	86%	+0.7%	-1.0%
Farmers' share of consumer price					40%	36%	47%	31%	37%	36%	36%	+2.3%	-5.4%

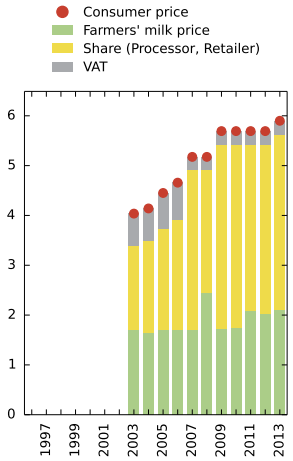
Farm gate milk prices

1,000 MKD / 100 kg milk (ECM)



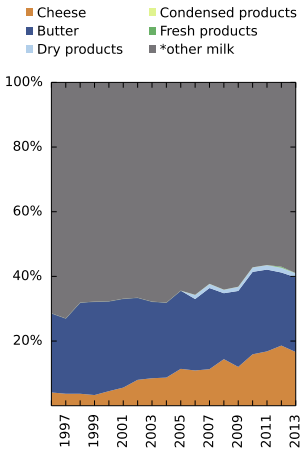
Consumer & farmers' prices

1,000 MKD / 100 kg milk (ECM)



Processing profile

% of all milk produced

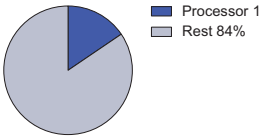


Milk processors list 2013

Milk intake in 1,000 tons (natural content)

Zdravje Radovo	25
BiMilk	n/a
Ideal sipka	n/a
Bucen Kozjak	n/a
HIT73	12
Osogovo milk	n/a
Ekosar	n/a
Joka	n/a
Balkanska mlekara	n/a

Share on national milk delivery:



Explanations

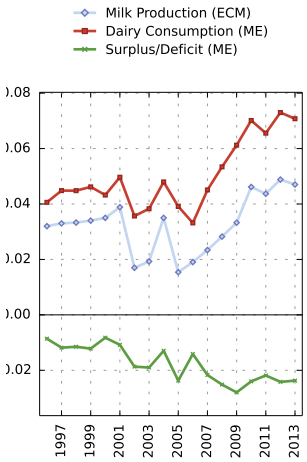
Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *1 litre fresh milk, 3.6% fat, 3.1% protein.*
Remarks: *Monthly milk prices 2006-2007: Annual averages.*
Estimates done for: *Milk delivered: 1996-2009 by IFCN.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

3.63 Malawi

Mc Loyd Banda

Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)

Dairy sector and chain profile

Status 2013

- No. 138 in the world (cow's) milk production: 0.047 mill t ECM, of which delivered: 60%
- Country dairy consumption: 0.1 mill t ME
- Self-sufficiency in milk: 66%

Key developments 2008-2013

- Milk production (cow's): +10.7% per year
- Country dairy consumption: +5.8% per year
- Dairy consumption per capita: +2.8% per year

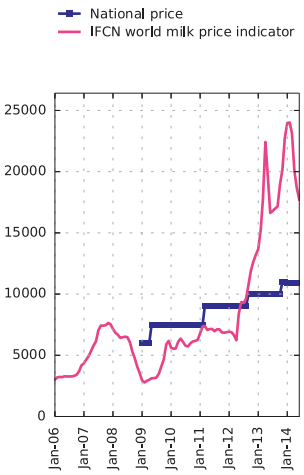
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	0.03	0.03	0.04	0.02	0.04	0.02	0.03	0.05	0.04	0.05	0.05	+7.9%	+10.7%
Cows (in 1,000s)	70.00	74.00	76.00	38.00	79.00	21.00	27.00	38.00	43.00	46.00	47.00	-8.8%	+11.8%
Milk yield (t/cow/year)	0.46	0.45	0.46	0.45	0.44	0.89	1.05	1.22	1.01	1.07	1.00	+18.3%	-0.9%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	0.04	0.04	0.04	0.04	0.05	0.03	0.05	0.07	0.07	0.07	0.07	+6.9%	+5.8%
Population (mill people)	10.88	11.46	12.07	12.81	13.38	14.04	14.85	15.71	16.17	16.63	17.11	+2.5%	+2.9%
Consumption (kg ME/capita)	4	4	4	3	4	2	4	4	4	4	4	+4.2%	+2.8%
The dairy chain													
Milk delivered (cow's)%						60%	60%	60%	60%	60%	60%	0.0%	0.0%
Self-sufficiency in milk in%	79%	74%	81%	48%	73%	57%	53%	66%	67%	67%	66%	+1.0%	+4.7%
Farmers' share of consumer price													

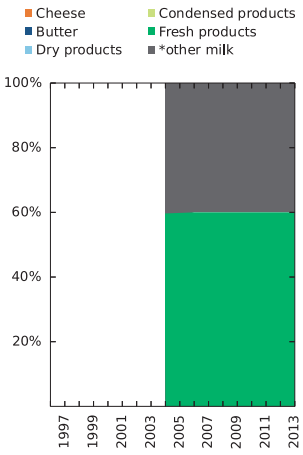
Farm gate milk prices

MWK / 100 kg milk (ECM)



Processing profile

% of all milk produced



Milk processors list 2013

Company Names

Lilongwe Dairy
Dairy board
Suncrest
Katete farm
Sable farms
Malawi Dairy Industries
Mwera mkaka

Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated.*
Remarks: *No. of cows 1996-2004: no values shown due to great differences in statistics.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

Malawi

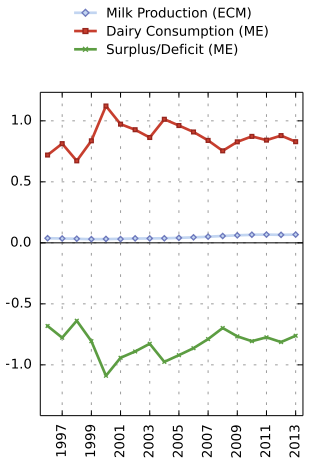
3.64 Malaysia

Zakaria Abd Rahman

Dairy Farmer

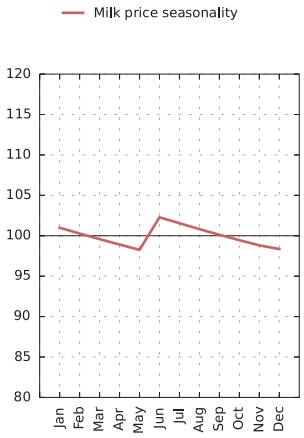
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)



Dairy sector and chain profile

Status 2013

- No. 133 in the world (cow's) milk production: 0.067 mill t ECM, of which delivered: 9%
- Country dairy consumption: 0.8 mill t ME
- Self-sufficiency in milk: 8%

Key developments 2008-2013

- Milk production (cow's): +3.8% per year
- Country dairy consumption: +1.9% per year
- Dairy consumption per capita: +0.5% per year

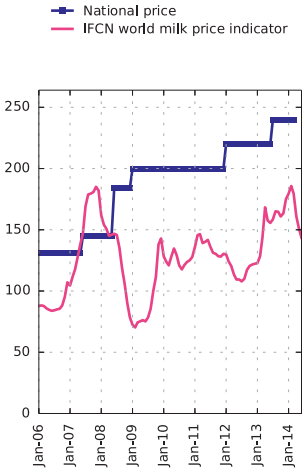
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	0.04	0.03	0.03	0.04	0.04	0.05	0.06	0.07	0.07	0.07	0.07	+9.1%	+3.8%
Cows (in 1,000s)	26.00	28.00	27.00	28.00	28.00	28.00	24.00	35.00	36.00	31.00	31.00	-3.0%	+5.3%
Milk yield (t/cow/year)	1.47	1.20	1.20	1.31	1.33	1.61	2.34	1.90	1.87	2.11	2.18	+12.5%	-1.4%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	0.72	0.67	1.12	0.93	1.01	0.91	0.75	0.87	0.84	0.88	0.83	-2.7%	+1.9%
Population (mill people)	21.22	22.33	23.50	24.73	25.91	26.83	27.60	28.59	28.96	29.34	29.62	+1.7%	+1.4%
Consumption (kg ME/capita)	34	30	48	37	39	34	27	31	29	30	28	-4.3%	+0.5%
The dairy chain													
Milk delivered (cow's)%	19%	22%	23%	20%	15%	11%	8%	10%	8%	8%	9%	-15.5%	+0.8%
Self-sufficiency in milk in%	5%	5%	3%	4%	4%	5%	7%	8%	8%	7%	8%	+12.1%	+1.8%
Farmers' share of consumer price			30%	28%	28%	25%	34%	34%	32%	32%	36%	+4.6%	+1.1%

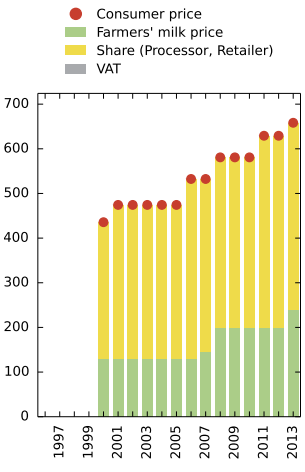
Farm gate milk prices

MYR / 100 kg milk (ECM)



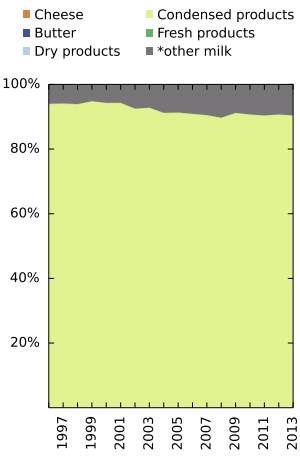
Consumer & farmers' prices

MYR / 100 kg milk (ECM)



Processing profile

% of all milk produced

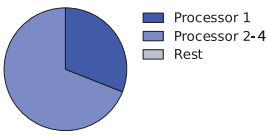


Milk processors list 2013

Milk intake in 1,000 tons (natural content)

Dutch Lady (Friesland Campina sub)	2.1
F&N	1.5
Susu Lembu Asli SB	1.5
Allied Dairy Sdn Bhd	1.5

Share on national milk delivery:



Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *Pure fresh milk, 1 kg pack, 4.1-4.5% fat, 3.25% protein.*
Remarks: *The milk price shown is the price paid by the government. Processing profile: Based on FAO; condensed milk is highly consumed in Malaysia.*
Estimates done for: *Cow number: 2013. Milk delivered: 1996-2000.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

Jaime Jurado Arredondo, Enrique Vázquez Selem, Rigoberto Becerra

Dairy sector and chain profile

Status 2013

- No. 15 in the world (cow's) milk production: 11.3 mill t ECM, of which delivered: 70%
- Country dairy consumption: 14 mill t ME
- Self-sufficiency in milk: 82%

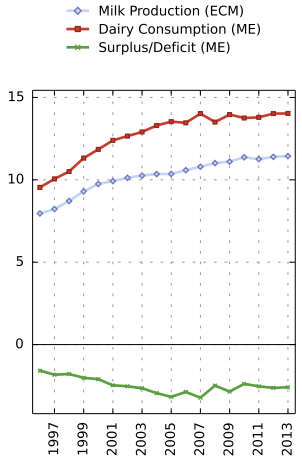
Key developments 2008-2013

- Milk production (cow's): +0.8% per year
- Country dairy consumption: +0.8% per year
- Dairy consumption per capita: -0.6% per year

Milk equivalent (ME) calculation based on fat and protein only

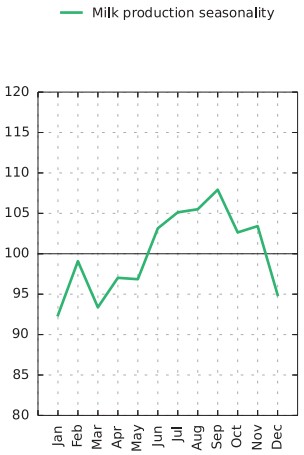
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average (avg = 100, 2008-2012)

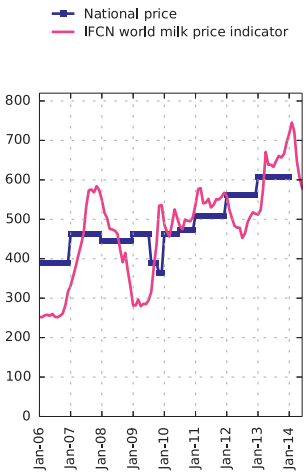


Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	7.84	8.59	9.62	9.98	10.19	10.42	10.85	11.21	11.10	11.24	11.29	+1.4%	+0.8%
Cows (in 1,000s)	1,694	1,814	2,075	2,182	2,234	2,221	2,340	2,348	2,374	2,398	2,422	+1.5%	+0.7%
Milk yield (t/cow/year)	4.63	4.74	4.64	4.57	4.56	4.69	4.63	4.77	4.67	4.69	4.66	-0.1%	+0.1%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	9.54	10.50	11.85	12.65	13.30	13.46	13.50	13.75	13.79	14.02	14.03	+0.9%	+0.8%
Population (mill people)	92.57	95.25	97.97	101	103	107	111	114	116	117	118	+1.7%	+1.3%
Consumption (kg ME/capita)	103	110	121	125	129	125	122	120	119	120	118	-0.7%	-0.6%
The dairy chain													
Milk delivered (cow's)%	64%	68%	68%	68%	68%	68%	68%	68%	69%	70%	70%	0.0%	+0.5%
Self-sufficiency in milk in%	83%	83%	82%	80%	78%	79%	82%	83%	82%	81%	82%	+0.5%	0.0%
Farmers' share of consumer price	63%	53%	48%	47%	43%	36%	38%	37%	37%	40%	42%	-2.4%	+2.2%

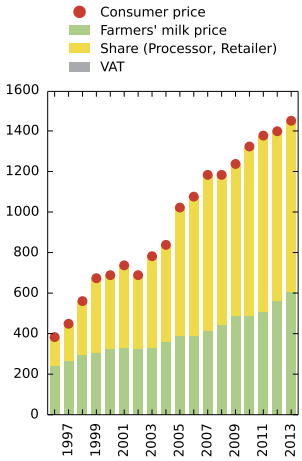
Farm gate milk prices

MXN / 100 kg milk (ECM)



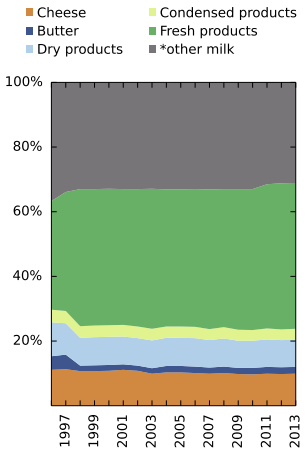
Consumer & farmers' prices

MXN / 100 kg milk (ECM)



Processing profile

% of all milk produced



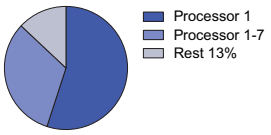
Milk processors list 2012

Milk intake in 1,000 tons (natural content)

Lala	4314
Alpura	1176
Zaragoza	392
Lechera Guadalajara	392
Nestle	235
San Marcos	235
Santa Clara (Coca Cola)	113
Others	1020

Cooperatives: 45% of milk intake shown

Share on national milk delivery:



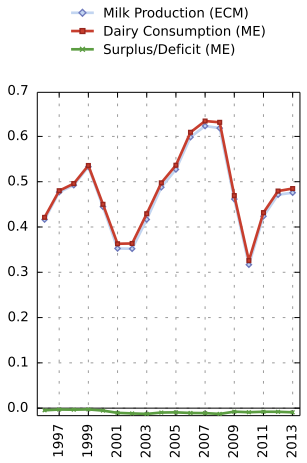
Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *1 litre milk bag, 3.3% fat, 3.12% protein.*
Remarks: *Monthly milk prices 2006-2008: Annual averages.*
Estimates done for: *Cow numbers 2013. Milk delivered 2005-2010. Milk processing 2013.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

3.66 Mongolia

Milk balance

in mill t, from all dairy species



Dairy sector and chain profile

Status 2013

- No. 94 in the world (cow's) milk production: 0.3 mill t ECM, of which delivered: 16%
- Country dairy consumption: 0.5 mill t ME
- Self-sufficiency in milk: 98%

Key developments 2008-2013

- Milk production (cow's): -7.0% per year
- Country dairy consumption: -5.1% per year
- Dairy consumption per capita: -6.8% per year

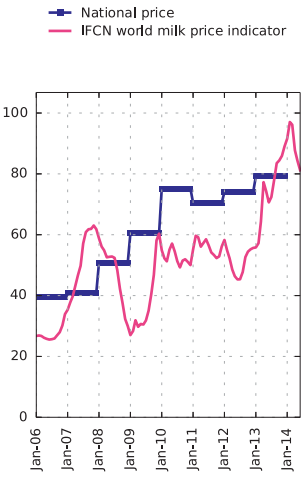
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	0.37	0.43	0.37	0.27	0.40	0.48	0.49	0.24	0.30	0.34	0.34	+7.4%	-7.0%
Cows (in 1,000s)	26.00	28.00	26.00	18.00	21.00	22.00	18.00	21.00	28.00	33.00	36.00	-4.0%	+14.9%
Milk yield (t/cow/year)	14.00	15.28	14.08	15.02	19.57	21.21	27.34	11.26	10.78	10.24	9.46	+11.9%	-19.1%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	0.42	0.50	0.45	0.36	0.50	0.61	0.63	0.33	0.43	0.48	0.48	+8.0%	-5.1%
Population (mill people)	2.27	2.33	2.39	2.46	2.52	2.58	2.66	2.75	2.79	2.84	2.90	+1.3%	+1.8%
Consumption (kg ME/capita)	186	213	188	148	197	236	237	118	155	169	167	+6.6%	-6.8%
The dairy chain													
Milk delivered (cow's)%	8%	8%	8%	8%	8%	8%	8%	14%	14%	16%	16%	0.0%	+14.5%
Self-sufficiency in milk in%	99%	99%	99%	97%	98%	98%	98%	97%	98%	98%	98%	+0.2%	0.0%
Farmers' share of consumer price								78%	61%	54%	51%		

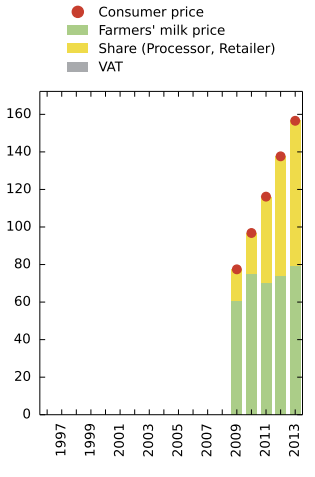
Farm gate milk prices

1,000 MNT / 100 kg milk (ECM)



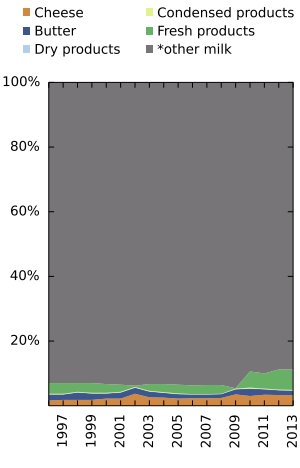
Consumer & farmers' prices

1,000 MNT / 100 kg milk (ECM)



Processing profile

% of all milk produced



Milk processors list 2011

Company Names

Suu Share holding company, Ulaanbaatar
APU Shareholding Company, Ulaanbaatar
Monfresh LLC, Ulaanbaatar
Vitafit LLC, Ulaanbaatar
Teso LLC, Ulaanbaatar

Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated.*
Consumer price (raw data) for: *Milk (regular), 1 litre.*
Remarks: *All milk production: 2009/10 sharp decline due to high losses in small ruminants caused by severe winter. Provided data on number of dairy cows and farms is related only to dairy farms established in centrally located areas and areas close to cities and provincial centres in last 23 years.*
Estimates done for: *Milk production, cow number, milk price and milk processing: 2013. Consumer price: 2009-2013. Monthly milk price 2006-2010: Annual averages.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

Grandir ensemble

Btissam Kessab

Dairy sector and chain profile

Status 2013

- No. 45 in the world (cow's) milk production: 2.4 mill t ECM, of which delivered: 80%
- Country dairy consumption: 3.0 mill t ME
- Self-sufficiency in milk: 83%

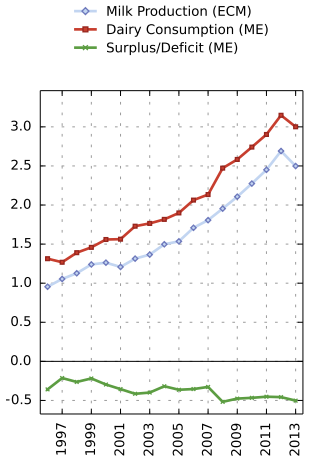
Key developments 2008-2013

- Milk production (cow's): +5.0% per year
- Country dairy consumption: +4.0% per year
- Dairy consumption per capita: +2.9% per year

Milk equivalent (ME) calculation based on fat and protein only

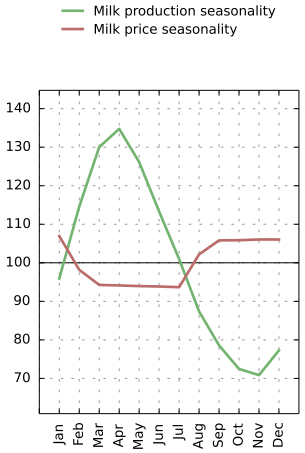
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)

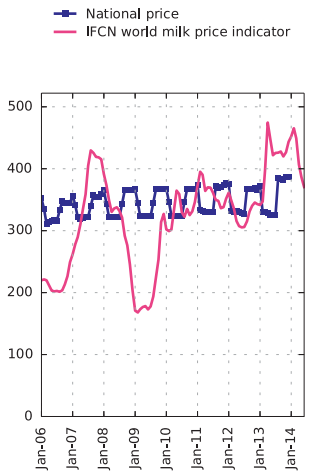


Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	0.87	1.05	1.18	1.23	1.41	1.61	1.84	2.15	2.33	2.56	2.36	+7.6%	+5.0%
Cows (in 1,000s)	1,205	1,324	1,308	1,331	1,350	1,497	1,561	1,592	1,608	1,655	1,702	+3.5%	+1.7%
Milk yield (t/cow/year)	0.72	0.79	0.90	0.92	1.04	1.08	1.18	1.35	1.45	1.55	1.38	+3.9%	+3.2%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	1.31	1.39	1.56	1.73	1.82	2.06	2.47	2.74	2.90	3.15	3.00	+7.0%	+4.0%
Population (mill people)	26.85	27.77	28.47	29.18	29.84	30.51	31.18	31.85	32.19	32.52	32.85	+1.1%	+1.1%
Consumption (kg ME/capita)	49	50	55	59	61	68	79	86	90	97	91	+5.8%	+2.9%
The dairy chain													
Milk delivered (cow's)%	57%	62%	62%	58%	60%	70%	78%	80%	80%	80%	80%	+6.2%	+0.6%
Self-sufficiency in milk in%	73%	81%	81%	76%	82%	83%	79%	83%	84%	85%	83%	+0.4%	+1.0%
Farmers' share of consumer price	52%	53%	53%	50%	50%	50%	45%	45%	46%	45%	45%	-1.9%	-0.1%

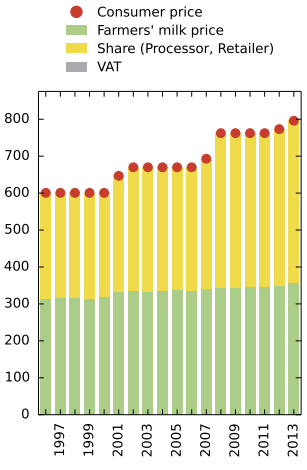
Farm gate milk prices

MAD / 100 kg milk (ECM)



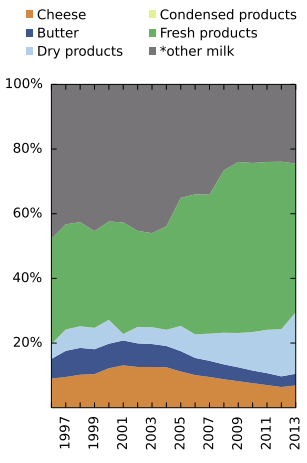
Consumer & farmers' prices

MAD / 100 kg milk (ECM)



Processing profile

% of all milk produced



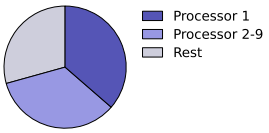
Milk processors list 2011

Milk intake in 1,000 tons (natural content)

Centrale Laitière	683
Copag	258
Colainord	78
Nestlé	75
Safilait	71
Extralait	67
Bon Lait	40
Superlait	37
Saiss lait	17

Cooperatives: 42% of milk intake shown

Share on national milk delivery:



Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *Pasteurised milk, 3% fat, 2.8% protein.*
Estimates done for: *Household / on farm use. Monthly milk production.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

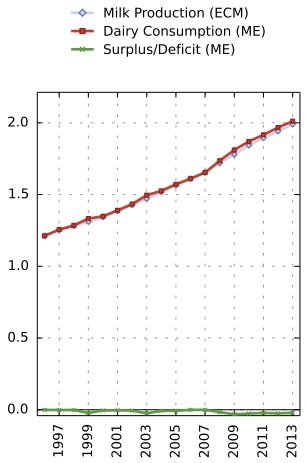
3.68 Nepal

Romy Das

Agriculture Researcher

Milk balance

in mill t, from all dairy species



Dairy sector and chain profile

Status 2013

- No. 54 in the world (cow's and buffalo's) milk production: 1.9 mill t ECM, of which delivered: 71%
- Country dairy consumption: 2.0 mill t ME
- Self-sufficiency in milk: 99%

Key developments 2008-2013

- Milk production (cow's and buffalo's): +3.0% per year
- Country dairy consumption: +3.0% per year
- Dairy consumption per capita: +1.7% per year

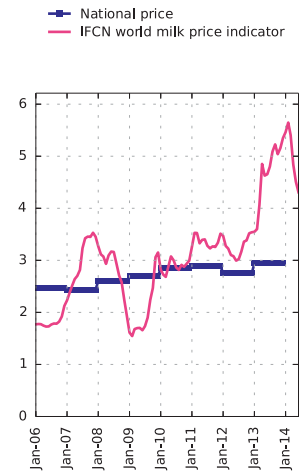
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's and buffalo's)													
Production (mill t ECM)	1.14	1.20	1.26	1.34	1.43	1.52	1.63	1.75	1.80	1.84	1.89	+3.3%	+3.0%
Cows and buffalos (in 1,000s)	1,674	1,725	1,789	1,859	1,953	2,033	2,144	2,270	2,312	2,355	2,395	+2.4%	+2.2%
Milk yield (t/cow/year)	0.68	0.70	0.71	0.72	0.73	0.75	0.76	0.77	0.78	0.78	0.79	+0.9%	+0.8%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	1.21	1.28	1.35	1.43	1.53	1.61	1.74	1.87	1.92	1.97	2.01	+3.0%	+3.0%
Population (mill people)	21.11	22.18	23.18	24.10	24.92	25.63	26.25	26.85	27.16	27.47	27.92	+1.4%	+1.2%
Consumption (kg ME/capita)	57	58	58	59	61	63	66	70	71	72	72	+1.6%	+1.7%
The dairy chain													
Milk delivered (cow's and buffalo's)%	30%	28%	33%	46%	60%	68%	69%	70%	71%	72%	71%	+6.4%	+0.4%
Self-sufficiency in milk in%	100%	100%	100%	100%	100%	100%	99%	99%	99%	99%	99%	+0.1%	0.0%
Farmers' share of consumer price							79%	67%	62%	59%	61%		-5.1%

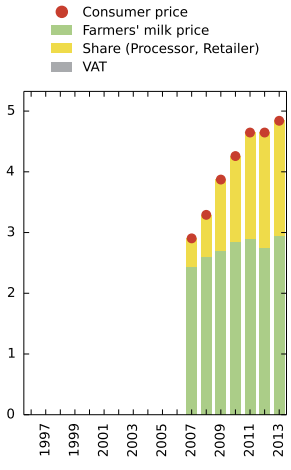
Farm gate milk prices

1,000 NPR / 100 kg milk (ECM)



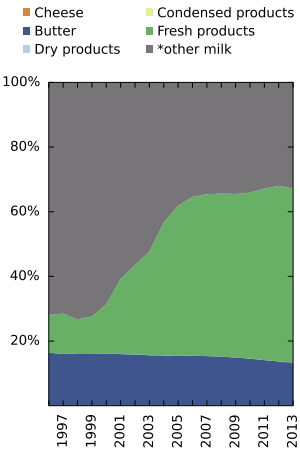
Consumer & farmers' prices

1,000 NPR / 100 kg milk (ECM)



Processing profile

% of all milk produced



Milk processors list 2013

Company Names

Dairy Development Coorporation
Sita ram Gokul
Himalayan Dairy
Nepal Dairy
Sujal Foods and Dairy
Chitwan Milk Company
Kharipati Dairy
Kalika Dairy
Nobel Dairy
Amrit Dairy

Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated.*
Consumer price (raw data) for: *Pasteurised fresh milk, 1 litre.*
Remarks: *Farmers milk price vary based on the location and season. The self-sufficiency might be overestimated since national surveys show that Nepal needs to import huge quantities of milk to meet its domestic demand. Nepal follows Lunar calender.*
Estimates done for: *Monthly milk price: 2006-2013: Annual averages. Milk processing: 2013.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

Michel de Haan

Dairy sector and chain profile

Status 2013

- No. 12 in the world (cow's) milk production: 13.2 mill t ECM, of which delivered: 98%
- Country dairy consumption: 8.4 mill t ME
- Self-sufficiency in milk: 161%

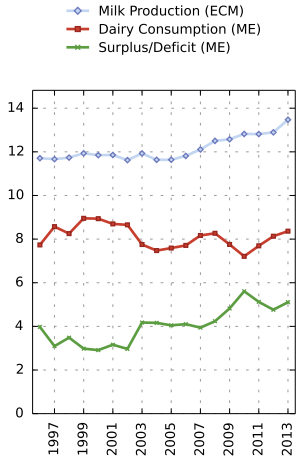
Key developments 2008-2013

- Milk production (cow's): +1.4% per year
- Country dairy consumption: +0.2% per year
- Dairy consumption per capita: -0.2% per year

Milk equivalent (ME) calculation based on fat and protein only

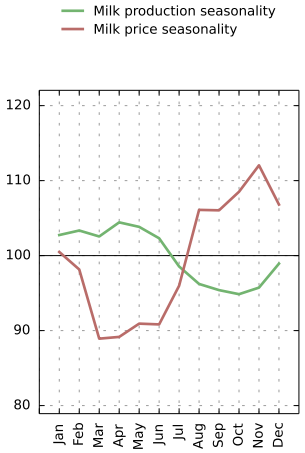
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)

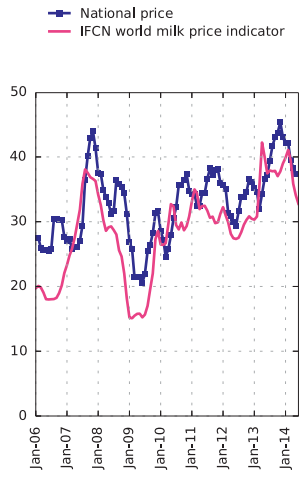


Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	11.71	11.69	11.77	11.50	11.63	11.68	12.33	12.64	12.62	12.68	13.25	+0.9%	+1.4%
Cows (in 1,000s)	1,646	1,600	1,532	1,546	1,502	1,420	1,466	1,479	1,470	1,484	1,553	-1.1%	+1.2%
Milk yield (t/cow/year)	7.11	7.30	7.69	7.44	7.75	8.22	8.41	8.55	8.59	8.54	8.53	+2.0%	+0.3%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	7.73	8.25	8.94	8.65	7.47	7.71	8.27	7.21	7.69	8.13	8.36	+1.3%	+0.2%
Population (mill people)	15.53	15.71	15.93	16.15	16.28	16.35	16.45	16.61	16.69	16.75	16.80	+0.3%	+0.4%
Consumption (kg ME/capita)	498	525	561	536	459	472	503	434	461	485	498	+1.0%	-0.2%
The dairy chain													
Milk delivered (cow's)%	96%	96%	96%	96%	97%	97%	97%	98%	98%	98%	98%	+0.1%	+0.2%
Self-sufficiency in milk in%	151%	142%	133%	134%	156%	153%	151%	178%	167%	159%	161%	-0.3%	+1.3%
Farmers' share of consumer price	57%	60%	44%	39%	36%	36%	36%	36%	39%	34%	36%	-0.5%	+0.1%

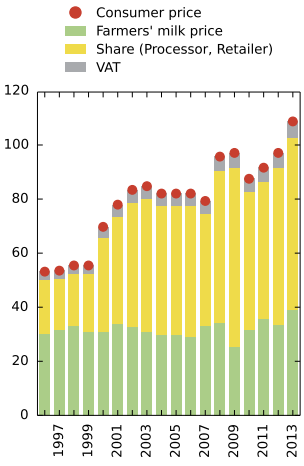
Farm gate milk prices

EUR / 100 kg milk (ECM)



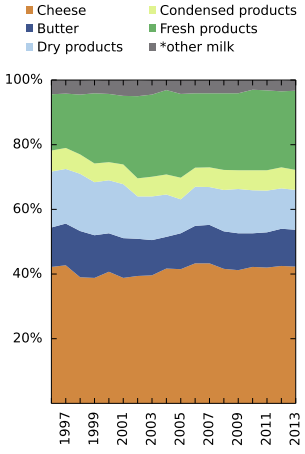
Consumer & farmers' prices

EUR / 100 kg milk (ECM)



Processing profile

% of all milk produced



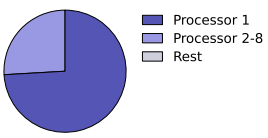
Milk processors list 2012

Milk intake in 1,000 tons (natural content)

Friesland Campina	8860
DOC Kaas	1000
Vreugdenhil	550
Bel Leerdammer	500
Delta Milk	380
Cono Kaasmakers	300
Arla Foods Nederland	220
CZ Rouveen	150

Cooperatives: 91% of milk intake shown

Share on national milk delivery:



Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA, Eurostat, AMI.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *1996-1999: Whole milk, 3.5% fat, 2000-2013: Semi-skimmed milk, 2% fat, 1996-2013: 3.5% protein.*
Remarks: *Heavy use of milk powder in calf fattening, exports of dairy products in non-specified products (special ingredients and convenience food). Dairy consumption: Figures might be overestimated; national statistics show a dairy consumption of 307 kg/capita in 2010. Monthly milk prices March-May 2012: without correction payments. Within correction for seasons (minus 2.3 euro) and without surplus for grazing (plus 0,5 euro).*
Estimates done for: *Consumer price 2012-2013. Milk processors: Estimation done for milk intake by Bel Leerdammer.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

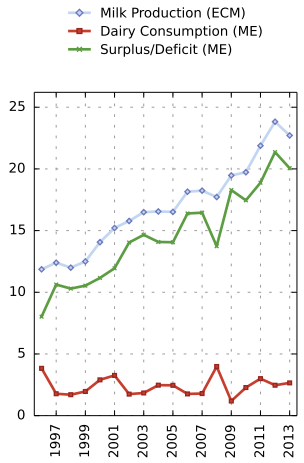
3.70 New Zealand

Nicola Shadbolt

Massey University

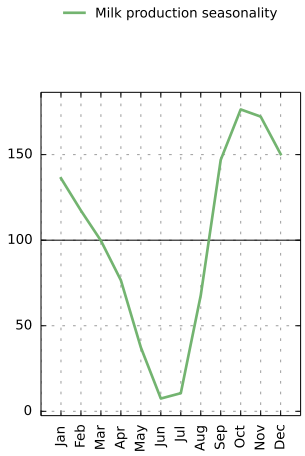
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)



Dairy sector and chain profile

Status 2013

- No. 9 in the world (cow's) milk production: 22.7 mill t ECM, of which delivered: 100%
- Country dairy consumption: 2.7 mill t ME
- Self-sufficiency in milk: 855%

Key developments 2008-2013

- Milk production (cow's): +5.1% per year
- Country dairy consumption: -7.8% per year
- Dairy consumption per capita: -8.7% per year

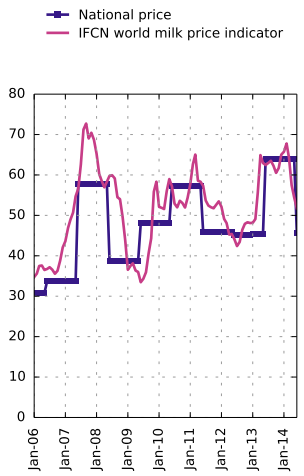
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	11.86	12.00	14.06	15.78	16.55	18.15	17.72	19.73	21.88	23.83	22.71	+1.4%	+5.1%
Cows (in 1,000s)	2,936	3,223	3,269	3,693	3,851	3,832	4,013	4,397	4,529	4,634	4,782	+1.4%	+3.6%
Milk yield (t/cow/year)	4.04	3.72	4.30	4.27	4.30	4.74	4.42	4.49	4.83	5.14	4.75	0.0%	+1.5%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	3.84	1.70	2.90	1.74	2.47	1.76	3.99	2.28	3.00	2.47	2.66	+16.8%	-7.8%
Population (mill people)	3.74	3.82	3.86	3.96	4.09	4.19	4.28	4.38	4.41	4.44	4.48	+1.2%	+0.9%
Consumption (kg ME/capita)	1025	444	751	440	603	420	932	520	680	555	593	+15.4%	-8.7%
The dairy chain													
Milk delivered (cow's)%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0.0%	0.0%
Self-sufficiency in milk in%	309%	707%	485%	905%	670%	1030%	445%	867%	729%	966%	855%	-13.1%	+14.0%
Farmers' share of consumer price			23%	20%	22%	23%	27%	29%	26%	25%	32%	+6.0%	+4.0%

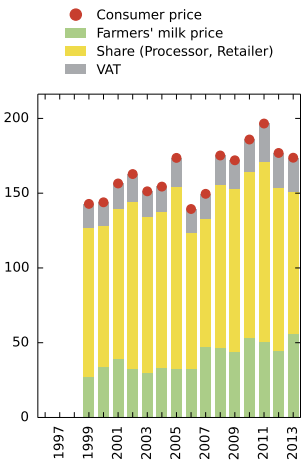
Farm gate milk prices

NZD / 100 kg milk (ECM)



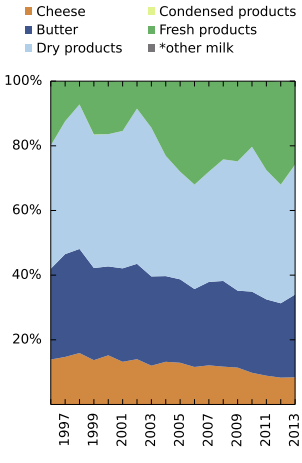
Consumer & farmers' prices

NZD / 100 kg milk (ECM)



Processing profile

% of all milk produced



Milk processors list season 2012/2013

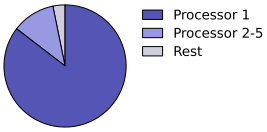
Milk intake in 1,000 tons (natural content)

Fonterra	17212
Open Country	960
Westland*	626
Tatua	157
Synlait	550

Under the Dairy Industry Restructuring Act (DIRA) a stated amount of Fonterra Cooperative milk is supplied to all other processors including other cooperatives on demand. Open Country milk intake shows published processing capability only.

Cooperatives: 92% of milk intake shown

Share on national milk delivery:



Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA, NZ LIC.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *Fresh milk, homogenised, 1996-2004: 1 litre bottle, 3.3% fat, 3.4% protein, 2005-2013: 1 litre bottle, 3.3% fat, 3.2% protein, 2012-2013: 1 litre bottle, 3.3% fat, 3.3% protein*
Remarks: *Annualised production and price data is shown. Dairy consumption is difficult to calculate from the IFCN sector model due to the very high share of dairy trade on milk production. Consumer price: The chart does not reflect overall processor/retailer share since over 90% of product is exported at a lower export price than local consumer price. Milk processors list: *Westland represent data for calendar year 2012. Milk processors: *Westland data for 2012, all others 2012/13.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

IFCN Dairy Research Center

Dairy sector and chain profile

Status 2013

- No. 91 in the world (cow's) milk production: 0.5 mill t ECM, of which delivered: 10%
- Country dairy consumption: 1.4 mill t ME
- Self-sufficiency in milk: 39%

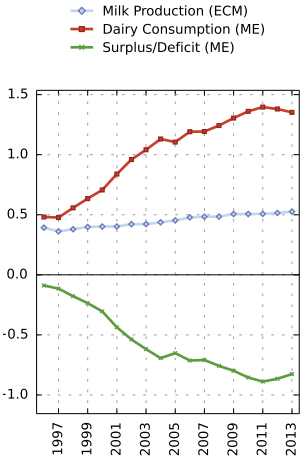
Key developments 2008-2013

- Milk production (cow's): +1.6% per year
- Country dairy consumption: +1.7% per year
- Dairy consumption per capita: -1.0% per year

Milk equivalent (ME) calculation based on fat and protein only

Milk balance

in mill t, from all diary species

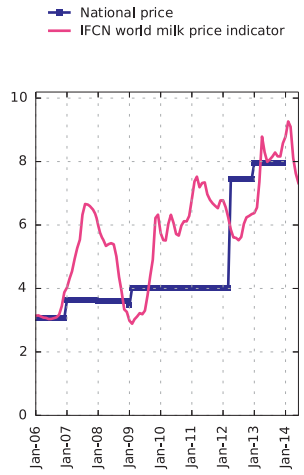


Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	0.39	0.38	0.40	0.42	0.44	0.48	0.48	0.51	0.51	0.51	0.53	+2.8%	+1.6%
Cows (in 1,000s)	3,401	3,002	3,207	3,573	3,864	4,262	4,252	4,252	4,253	4,254	4,255	+2.7%	0.0%
Milk yield (t/cow/year)	0.12	0.13	0.13	0.12	0.11	0.11	0.11	0.12	0.12	0.12	0.12	+0.1%	+1.6%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	0.48	0.56	0.71	0.96	1.13	1.19	1.24	1.36	1.40	1.38	1.35	+3.6%	+1.7%
Population (mill people)	107	113	119	126	133	140	148	156	160	165	169	+2.8%	+2.7%
Consumption (kg ME/capita)	5	5	6	8	9	9	8	9	9	8	8	+0.8%	-1.0%
The dairy chain													
Milk delivered (cow's)%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	0.0%	0.0%
Self-sufficiency in milk in%	82%	68%	57%	44%	39%	40%	39%	37%	36%	37%	39%	-0.8%	-0.1%
Farmers' share of consumer price	33%	37%	32%	30%	32%	32%	37%	41%	41%	50%	47%	+3.0%	+4.8%

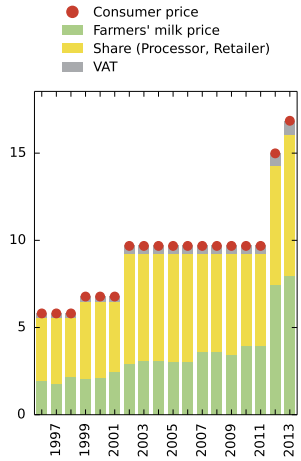
Farm gate milk prices

1000 NGN / 100 kg milk (ECM)



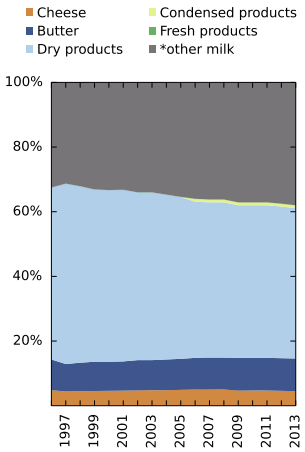
Consumer & farmers prices

1000 NGN / 100 kg milk (ECM)



Processing profile

% of all milk produced



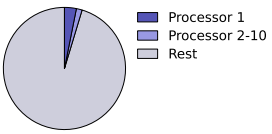
Milk processors list 2006

Milk intake in 1,000 tons (natural content)

Integrated Dairy Farm	2
Maizube Farm	n/a
Fan Milk	n/a
Cowbell	n/a
Niyya Farms	n/a
Nagari Integrated Dairy Farm	n/a
Jamil Farm	n/a
Sebore Farm	n/a
Wamco	n/a
MILCOPAL	0.7

Cooperatives: 0% of milk intake shown

Share on national milk delivery:



Explanations

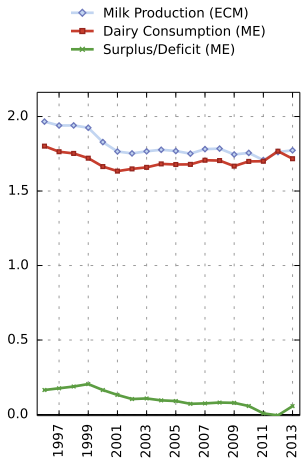
Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *Pasteurised milk, 1 litre packing.*
Remarks: *Monthly milk price 2006-2008: Annual averages.*
Estimates done for: *Milk delivered: 1996-2011 estimated by IFCN.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

3.72 Norway

Ola Flaten, Bjørn Gunnar Hansen

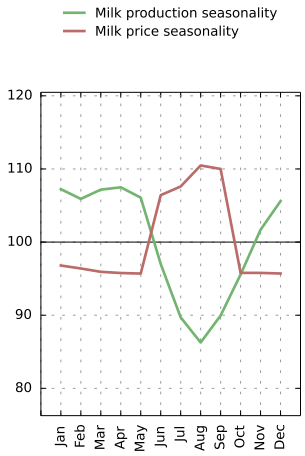
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)



Dairy sector and chain profile

Status 2013

- No. 60 in the world (cow's) milk production: 1.8 mill t ECM, of which delivered: 93%
- Country dairy consumption: 1.7 mill t ME
- Self-sufficiency in milk: 103%

Key developments 2008-2013

- Milk production (cow's): -0.1% per year
- Country dairy consumption: +0.1% per year
- Dairy consumption per capita: -1.1% per year

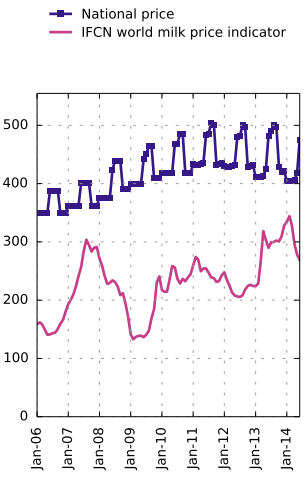
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	1.94	1.92	1.81	1.73	1.76	1.73	1.76	1.73	1.69	1.74	1.75	+0.2%	-0.1%
Cows (in 1,000s)	318	314	298	282	272	259	248	238	233	233	228	-2.2%	-1.7%
Milk yield (t/cow/year)	6.10	6.10	6.07	6.15	6.45	6.68	7.10	7.27	7.23	7.46	7.68	+2.5%	+1.6%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	1.80	1.75	1.66	1.65	1.68	1.68	1.70	1.70	1.70	1.77	1.72	+0.5%	+0.1%
Population (mill people)	4.39	4.44	4.50	4.55	4.60	4.67	4.79	4.91	4.97	5.04	5.10	+0.9%	+1.3%
Consumption (kg ME/capita)	410	395	370	363	366	359	356	346	342	351	337	-0.4%	-1.1%
The dairy chain													
Milk delivered (cow's)%	90%	90%	90%	91%	91%	92%	92%	93%	93%	94%	93%	+0.1%	+0.3%
Self-sufficiency in milk in%	109%	111%	110%	106%	106%	104%	105%	103%	100%	100%	103%	-0.3%	-0.3%
Farmers' share of consumer price				29%	24%	24%	21%	21%	22%	21%	21%	-3.2%	-0.6%

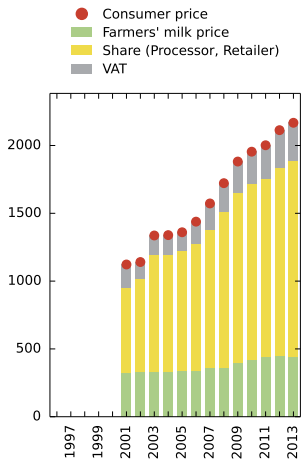
Farm gate milk prices

NOK / 100 kg milk (ECM)



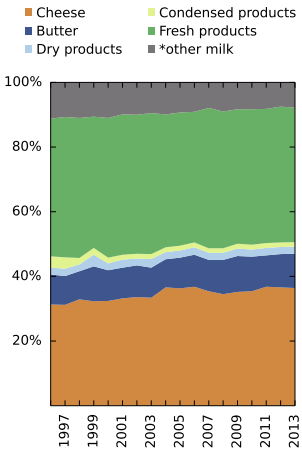
Consumer & farmers' prices

NOK / 100 kg milk (ECM)



Processing profile

% of all milk produced



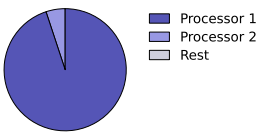
Milk processors list 2013

Milk intake in 1,000 tons (natural content)

TINE SA	1495
Q-meieriene	80

Cooperatives: 95% of milk intake shown

Share on national milk delivery:



Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *Fresh milk, one litre packing volume, tetrapak carton, 1.5% fat, 3.3% protein.*
Remarks: *The monthly milk delivered shows the milk delivered to TINE SA. Margin for processors might be overestimated since the dairy plants also have high value products with less margin on. Processors list: Presented processors collect the milk, other existing rebuy milk from them for further processing.*
Estimates done for: *Consumer price 2013. Feed price 2013.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

Haroon Lodhi, Waseem Shaukat

Dairy sector and chain profile

Status 2013

- No. 3 in the world (cow's and buffalo's) milk production: 45.2 mill t ECM, of which delivered: 3%
- Country dairy consumption: 46 mill t ME
- Self-sufficiency in milk: 100%

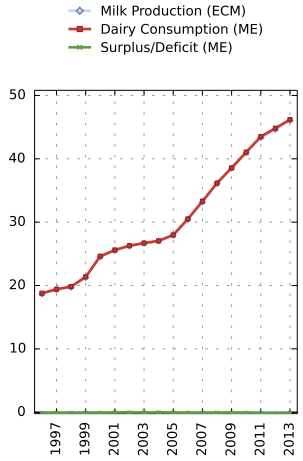
Key developments 2008-2013

- Milk production (cow's and buffalo's): +5.1% per year
- Country dairy consumption: +5.0% per year
- Dairy consumption per capita: +2.9% per year

Milk equivalent (ME) calculation based on fat and protein only

Milk balance

in mill t, from all dairy species



Seasonal index

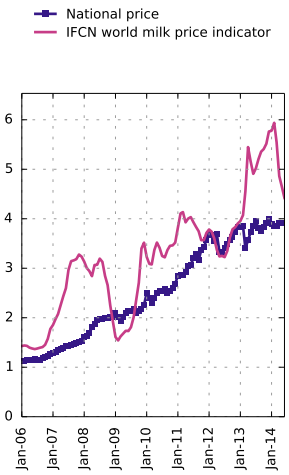
Based on moving average
(avg = 100, 2008-2012)

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's and buffalo's)													
Production (mill t ECM)	18.12	19.14	23.92	25.58	26.31	29.71	35.35	40.17	42.55	43.82	45.23	+6.4%	+5.1%
Cows and buffalos (in 1,000s)	13,064	13,697	14,761	15,416	15,988	17,042	19,236	20,614	21,458	21,959	22,436	+4.1%	+3.1%
Milk yield (t/cow/year)	1.39	1.40	1.62	1.66	1.65	1.74	1.84	1.95	1.98	2.00	2.02	+2.2%	+1.9%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	18.78	19.83	24.62	26.28	27.05	30.50	36.16	41.04	43.50	44.83	46.19	+6.3%	+5.0%
Population (mill people)	126	132	138	143	150	155	165	172	175	179	183	+2.3%	+2.1%
Consumption (kg ME/capita)	149	150	179	184	181	196	220	239	248	251	253	+3.8%	+2.9%
The dairy chain													
Milk delivered (cow's and buffalo's)%	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	+1.9%	+3.4%
Self-sufficiency in milk in%	99%	99%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0.0%	0.0%
Farmers' share of consumer price	24%	28%	27%	25%	31%	31%	30%	35%	38%	38%	40%	+1.2%	+6.2%

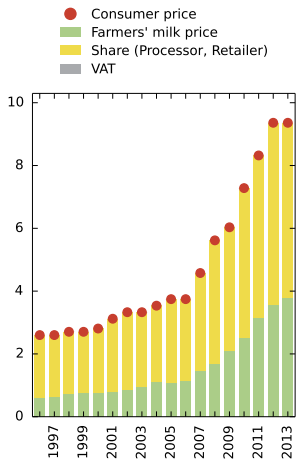
Farm gate milk prices

1,000 PKR / 100 kg milk (ECM)



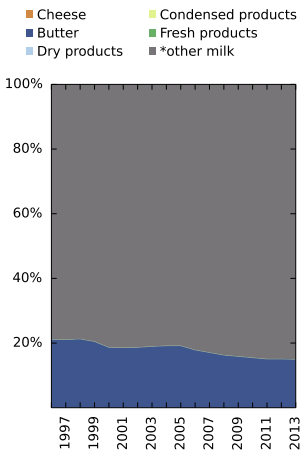
Consumer & farmers' prices

1,000 PKR / 100 kg milk (ECM)



Processing profile

% of all milk produced



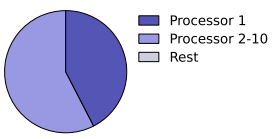
Milk processors list 2013

Milk intake in 1,000 tons (natural content)

Nestlé Pakistan	524
Engro Foods	299
Gourmet Foods	68
Military	66
Haleeb Foods	61
Shakraganj Foods	57
Noon Pakistan	50
Adam	46
Millac Foods	43
Pakola	21

Cooperatives: 0% of milk intake shown

Share on national milk delivery:



Explanations

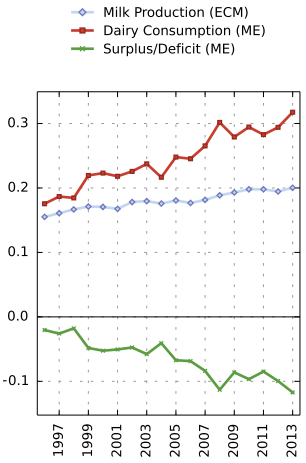
Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *UHT milk, 3.5% fat, 3.2% protein.*
Remarks: *Self-sufficiency in milk2011: 99.8%. National statistics show milk powder imports of 50,000 t, translating to about 0.4 mill t milk, which implies national consumption of 42.0 mill t. cow and buffalo milk production in natural fat and protein content is 34.43 bn litre. Trend in recent years: Ten mega- & corporate dairy farms (>1,000 cows) started operating (2006-2011).*
Estimates done for: *Number of milking cows & buffalos. Milk delivered to the processors. Monthly milk price.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

3.74 Panama

Euclides Diaz

Milk balance

in mill t, from all dairy species



Dairy sector and chain profile

Status 2013

- No. 117 in the world (cow's) milk production: 0.2 mill t ECM, of which delivered: 90%
- Country dairy consumption: 0.3 mill t ME
- Self-sufficiency in milk: 63%

Key developments 2008-2013

- Milk production (cow's): +1.2% per year
- Country dairy consumption: +1.0% per year
- Dairy consumption per capita: -0.8% per year

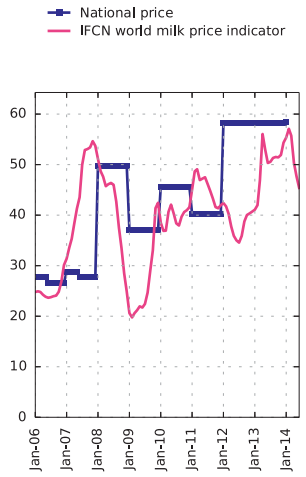
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	0.16	0.17	0.17	0.18	0.18	0.18	0.19	0.20	0.20	0.19	0.20	+1.0%	+1.2%
Cows (in 1,000s)	126	120	140	146	147	147	171	163	163	163	162	+3.0%	-1.1%
Milk yield (t/cow/year)	1.23	1.39	1.22	1.22	1.20	1.21	1.10	1.22	1.22	1.20	1.24	-2.0%	+2.3%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	0.18	0.18	0.22	0.23	0.22	0.25	0.30	0.29	0.28	0.29	0.32	+4.9%	+1.0%
Population (mill people)	2.67	2.77	2.95	3.06	3.17	3.28	3.40	3.53	3.59	3.65	3.72	+1.8%	+1.8%
Consumption (kg ME/capita)	66	67	76	74	68	75	89	84	79	80	85	+3.1%	-0.8%
The dairy chain													
Milk delivered (cow's)%	89%	89%	89%	89%	89%	89%	87%	87%	87%	87%	90%	-0.4%	+0.6%
Self-sufficiency in milk in%	88%	90%	76%	79%	81%	72%	63%	67%	70%	66%	63%	-3.7%	+0.2%
Farmers' share of consumer price	43%	43%	44%	42%	39%	44%	57%	36%	32%	45%	42%	+6.9%	-5.7%

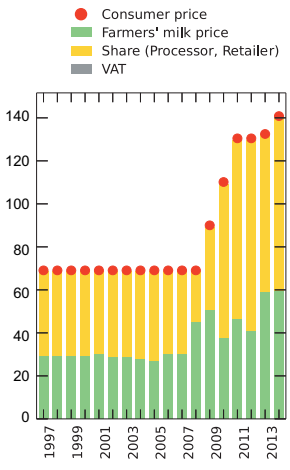
Farm gate milk prices

PAB / 100 kg milk (ECM)



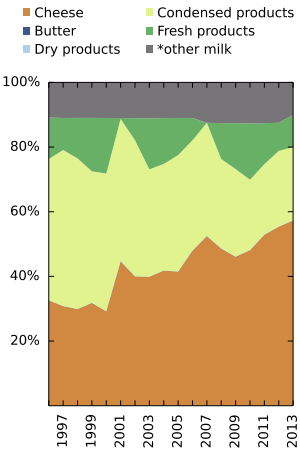
Consumer & farmers' prices

PAB / 100 kg milk (ECM)



Processing profile

% of all milk produced



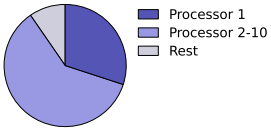
Milk processors list 2013

Milk intake in 1,000 tons (natural content)

Industrias Lacteas	56
Nestle de Panama	33
Dos Pinos	32
Bonlac	17
Prolacsa	13
Domitila	4.4
Moraya	4.1
Corpolac	3.0
Don Camilo	2.8
Vitanova Holding	2.0

Cooperatives: 21% of milk intake shown

Share on national milk delivery:



Explanations

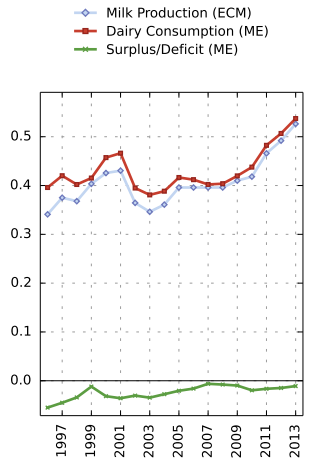
Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *The average price of all brands of fluid milk.*
Remarks: *Feed price 2013: CIF Panama average value of all imports in 2013 plus the cost of internal transport. Butter, WMP, SMP are not processed in Panama. Milk processors: Milk intake based on partner info.*
Estimates done for: *Monthly milk prices from 2008: Annual averages.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

Panama

3.75 Paraguay

Milk balance

in mill t, from all dairy species



Dairy sector and chain profile

Status 2013

- No. 90 in the world (cow's) milk production: 0.5 mill t ECM, of which delivered: 91%
- Country dairy consumption: 0.5 mill t ME
- Self-sufficiency in milk: 98%

Key developments 2008-2013

- Milk production (cow's): +5.9% per year
- Country dairy consumption: +5.9% per year
- Dairy consumption per capita: +4.1% per year

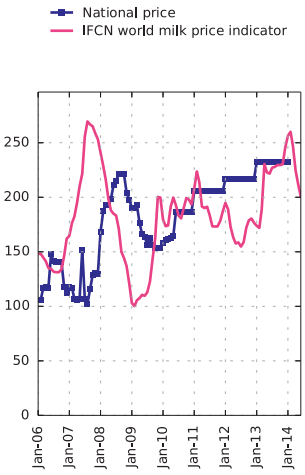
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	0.34	0.37	0.43	0.36	0.36	0.40	0.40	0.42	0.47	0.49	0.53	+2.7%	+5.9%
Cows (in 1,000s)	174	189	138	163	157	165	188	168	168	168	168	+2.8%	-2.3%
Milk yield (t/cow/year)	1.96	1.94	3.10	2.24	2.30	2.40	2.11	2.50	2.78	2.93	3.14	-0.1%	+8.3%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	0.40	0.40	0.46	0.39	0.39	0.41	0.40	0.44	0.48	0.51	0.54	+1.2%	+5.9%
Population (mill people)	4.89	4.89	5.35	5.57	5.79	6.01	6.23	6.45	6.56	6.68	6.79	+1.9%	+1.8%
Consumption (kg ME/capita)	81	82	86	71	67	69	65	68	74	76	79	-0.7%	+4.1%
The dairy chain													
Milk delivered (cow's)%	31%	39%	35%	44%	47%	73%	84%	92%	90%	91%	91%	+12.6%	+1.7%
Self-sufficiency in milk in%	86%	92%	93%	92%	93%	96%	98%	96%	97%	97%	98%	+1.5%	0.0%
Farmers' share of consumer price	45%	38%	39%	48%	50%	52%	61%	55%	57%	55%	55%	+3.8%	-2.3%

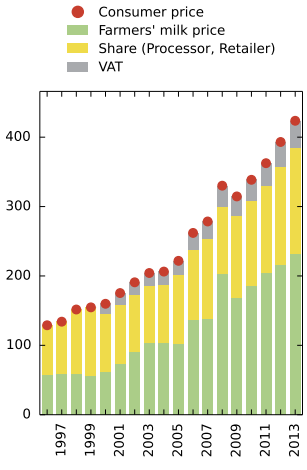
Farm gate milk prices

1,000 PYG / 100 kg milk (ECM)



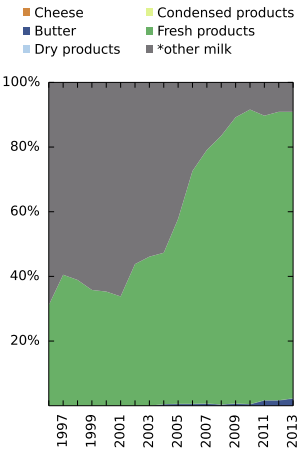
Consumer & farmers' prices

1,000 PYG / 100 kg milk (ECM)



Processing profile

% of all milk produced



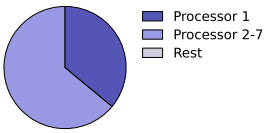
Milk processors list 2011

Milk intake in 1,000 tons (natural content)

Cooperativa La Holanda Ltda.	179
Cooperativa Chortitzer Komitee	164
Cooperativa Colonias Unidas	40
Coop	35
Parmalat	30
La Pradera	25
Dona Angela	25

Cooperatives: 77% of milk intake shown

Share on national milk delivery:



Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *Pasteurised milk, 3.5% fat, 3.3% protein.*
Remarks: *Monthly milk price: from June 2010 annual averages. Milk processors: 7 companies processed 51% of all milk, 14% is processed by small units, 35% informal market.*
Estimates done for: *Consumer price: 2010 and 2012 estimated.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

Carlos A. Gomez

Dairy sector and chain profile

Status 2013

- No. 62 in the world (cow's) milk production: 1.7 mill t ECM, of which delivered: 92%
- Country dairy consumption: 2.0 mill t ME
- Self-sufficiency in milk: 90%

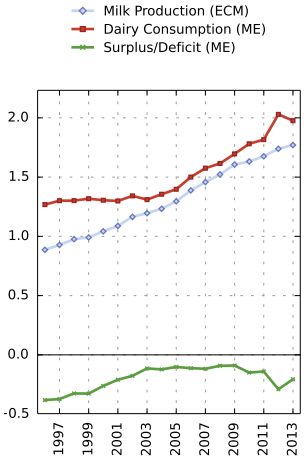
Key developments 2008-2013

- Milk production (cow's): +3.1% per year
- Country dairy consumption: +4.1% per year
- Dairy consumption per capita: +2.5% per year

Milk equivalent (ME) calculation based on fat and protein only

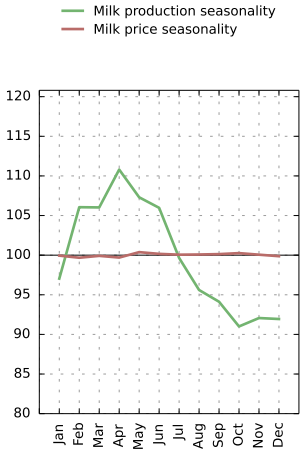
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)

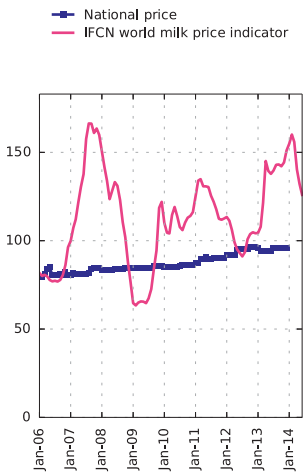


Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	0.87	0.96	1.02	1.14	1.21	1.37	1.50	1.61	1.65	1.72	1.75	+5.0%	+3.1%
Cows (in 1,000s)	553	520	504	628	657	732	769	788	790	815	847	+3.9%	+2.0%
Milk yield (t/cow/year)	1.57	1.84	2.03	1.82	1.85	1.87	1.95	2.04	2.09	2.10	2.06	+1.1%	+1.1%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	1.27	1.30	1.30	1.34	1.36	1.50	1.61	1.78	1.82	2.03	1.98	+4.3%	+4.1%
Population (mill people)	23.71	24.45	25.21	25.99	26.80	27.64	28.66	29.55	30.01	30.47	30.95	+1.7%	+1.5%
Consumption (kg ME/capita)	53	53	52	52	51	54	56	60	61	67	64	+2.6%	+2.5%
The dairy chain													
Milk delivered (cow's)%	79%	83%	85%	88%	88%	90%	91%	91%	91%	92%	92%	+0.4%	+0.2%
Self-sufficiency in milk in%	70%	75%	80%	87%	91%	93%	94%	92%	92%	86%	90%	+0.7%	-1.0%
Farmers' share of consumer price	22%	23%	26%	28%	30%	31%	31%	31%	32%	34%	33%	+1.4%	+1.1%

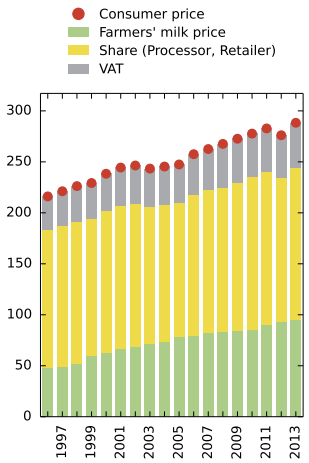
Farm gate milk prices

PEN / 100 kg milk (ECM)



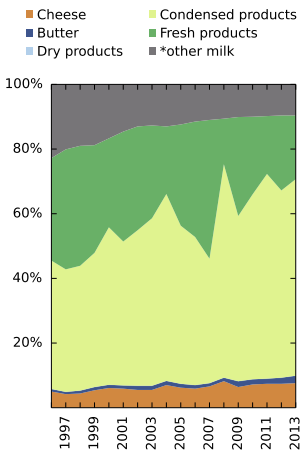
Consumer & farmers' prices

PEN / 100 kg milk (ECM)



Processing profile

% of all milk produced



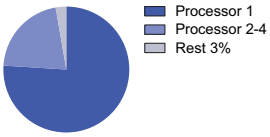
Milk processors list 2013

Milk intake in 1,000 tons (natural content)

Gloria SA	1100
Nestle	180
Laive	65
National program of food assistance	65
Small processors	45

Cooperatives: 0% of milk intake shown

Share on national milk delivery:



Explanations

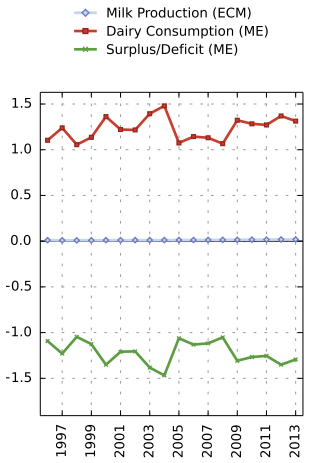
Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *Fresh milk, 3.6% fat, 3.4% protein.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

3.77 Philippines

Naomi K. Torreta

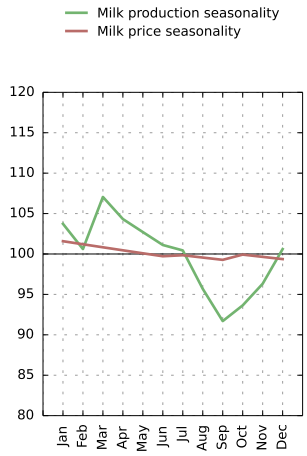
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)



Dairy sector and chain profile

Status 2013

- No. 152 in the world (cow's and buffalo's) milk production: 0.019 mill t ECM, of which delivered: 45%
- Country dairy consumption: 1.3 mill t ME
- Self-sufficiency in milk: 1%

Key developments 2008-2013

- Milk production (cow's and buffalo's): +6.4% per year
- Country dairy consumption: +4.2% per year
- Dairy consumption per capita: +2.7% per year

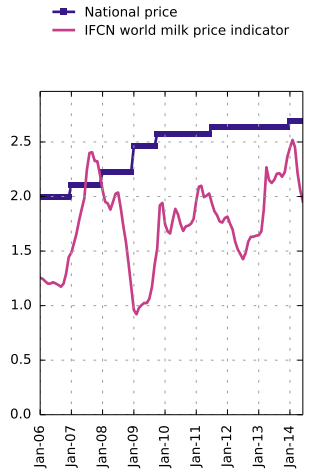
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's and buffalo's)													
Production (mill t ECM)	0.011	0.009	0.011	0.012	0.012	0.013	0.014	0.016	0.017	0.018	0.019	+3.4%	+6.4%
Cows and buffalos (in 1,000s)	5.00	4.00	5.00	6.00	7.00	7.00	8.00	9.00	8.00	10.00	10.00	+3.6%	+5.9%
Milk yield (t/cow/year)	2.22	2.37	1.98	1.88	1.73	1.71	1.77	1.83	1.98	1.90	1.82	-0.1%	+0.5%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	1.10	1.06	1.36	1.22	1.48	1.14	1.07	1.28	1.27	1.37	1.31	-5.2%	+4.2%
Population (mill people)	70.01	75.16	76.79	80.16	83.56	86.97	90.50	92.60	94.20	95.80	97.48	+2.0%	+1.5%
Consumption (kg ME/capita)	16	14	18	15	18	13	12	14	13	14	13	-7.1%	+2.7%
The dairy chain													
Milk delivered (cow's and buffalo's)%	51%	50%	31%	36%	38%	47%	46%	45%	44%	46%	45%	+4.8%	-0.7%
Self-sufficiency in milk in%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	+9.0%	+2.1%
Farmers' share of consumer price	31%	32%	30%	27%	31%	30%	30%	32%	31%	26%	26%	+1.0%	-3.1%

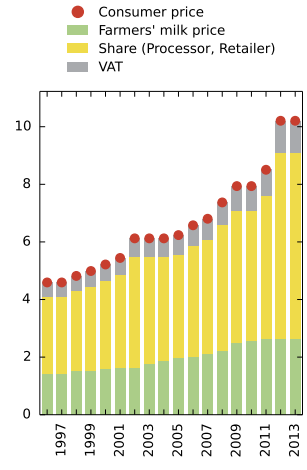
Farm gate milk prices

1,000 PHP / 100 kg milk (ECM)



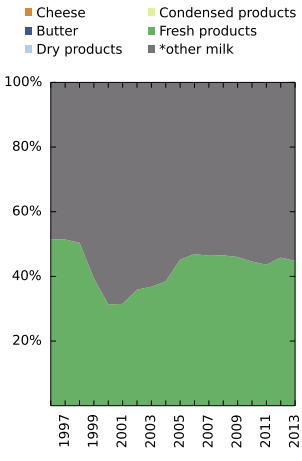
Consumer & farmers' prices

1,000 PHP / 100 kg milk (ECM)



Processing profile

% of all milk produced



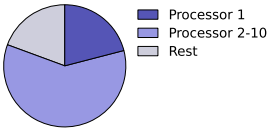
Milk processors list 2013

Milk intake in 1,000 tons (natural content)

Batangas Dairy Coop/Agrib. Center	2
NMFDC	2
KKMI	0.8
Sta. Maria Dairy Farmers Inc.	0.8
Cebu Fed. of Dairy Coop.	0.6
Federation of Davao Farmers Dairy Coop	0.5
Nefedco	0.5
5DPDMPC MPP	0.4
Hacienda Macalauan	0.4
Negros Federation of Dairy Coops	0.4

Cooperatives: 90% of milk intake shown

Share on national milk delivery:



Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *1 litre fresh cow milk, bottle, 3.0% fat, 3.0% protein.*
Remarks: *Milk processors: Dairy processors represents priliminary results for milk intake from 2013.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

Zachodniopomorski Uniwersytet Technologiczny

Michał Świtłyk, Ewa Kołoszycz

Dairy sector and chain profile

Status 2013

- No. 14 in the world (cow's) milk production: 12.0 mill t ECM, of which delivered: 78%
- Country dairy consumption: 10 mill t ME
- Self-sufficiency in milk: 117%

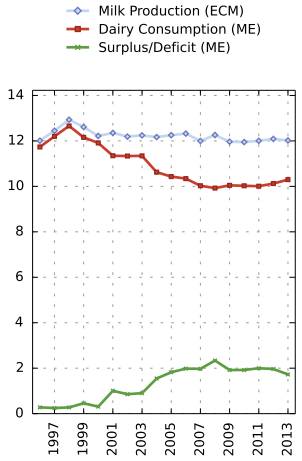
Key developments 2008-2013

- Milk production (cow's): -0.4% per year
- Country dairy consumption: +0.7% per year
- Dairy consumption per capita: +0.5% per year

Milk equivalent (ME) calculation based on fat and protein only

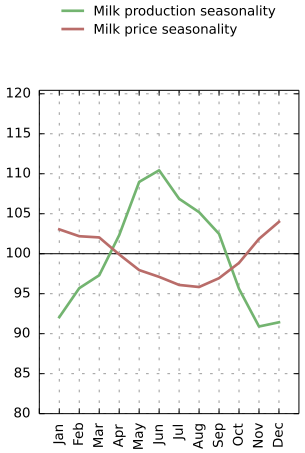
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)

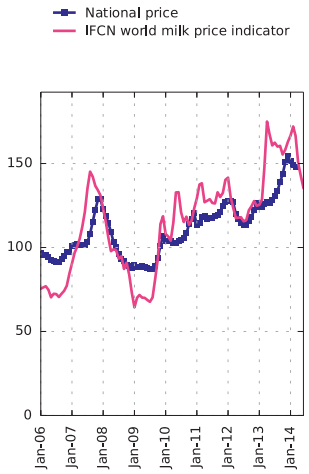


Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	12.01	12.93	12.22	12.19	12.14	12.30	12.24	11.93	11.98	12.07	12.00	+0.1%	-0.4%
Cows (in 1,000s)	3,442	3,471	3,047	2,904	2,730	2,705	2,697	2,529	2,446	2,421	2,299	-0.9%	-3.1%
Milk yield (t/cow/year)	3.49	3.73	4.01	4.20	4.45	4.55	4.54	4.72	4.90	4.99	5.22	+0.9%	+2.8%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	11.73	12.66	11.91	11.33	10.62	10.34	9.92	10.03	10.01	10.12	10.30	-2.6%	+0.7%
Population (mill people)	38.61	38.66	38.26	38.24	38.19	38.16	38.12	38.17	38.53	38.54	38.53	-0.1%	+0.2%
Consumption (kg ME/capita)	304	327	311	296	278	271	260	263	260	263	267	-2.6%	+0.5%
The dairy chain													
Milk delivered (cow's)%	56%	57%	56%	61%	66%	71%	73%	75%	75%	77%	78%	+3.3%	+1.5%
Self-sufficiency in milk in%	102%	102%	103%	108%	115%	119%	124%	119%	120%	119%	117%	+2.7%	-1.1%
Farmers' share of consumer price				28%	32%	34%	34%	37%	41%	40%	44%	+4.1%	+5.7%

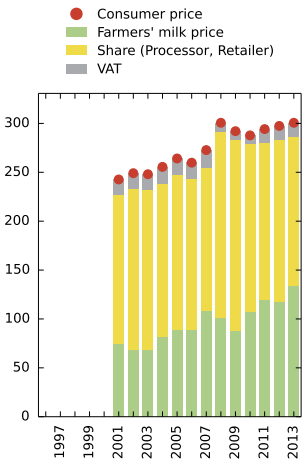
Farm gate milk prices

PLN / 100 kg milk (ECM)



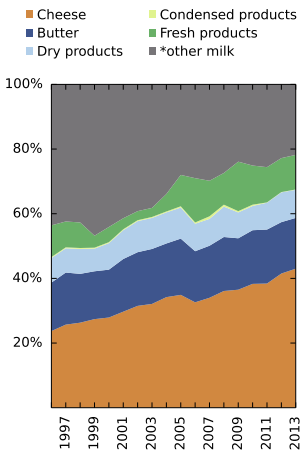
Consumer & farmers' prices

PLN / 100 kg milk (ECM)



Processing profile

% of all milk produced



Milk processors list 2012

Turn over in mill PLN

SM Mlekpol	3209
Mlekovita	3028
Danone Sp. z o.o.	1529
OSM w Łowiczu	1371
OSM w Piątnicy	793
Hochland Polska Sp. z o.o	672
SM Spomlek	564

Explanations

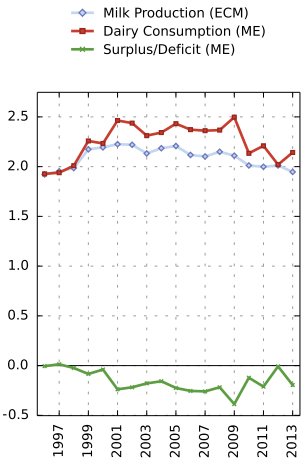
Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA, Eurostat, AMI.*
Data: *2014 data preliminary and partly estimated.*
Consumer price (raw data) for: *Cow's milk, sterilised, 1 litre pack, 3.2% fat, 3.3% protein.*
Estimates done for: *Household/on farm used milk 2008-2009.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

3.79 Portugal

António Moitinho Rodrigues

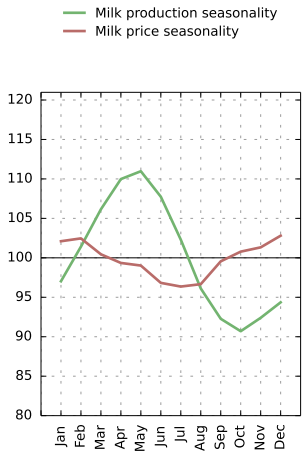
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)



Dairy sector and chain profile

Status 2013

- No. 56 in the world (cow's) milk production: 1.8 mill t ECM, of which delivered: 95%
- Country dairy consumption: 2.1 mill t ME
- Self-sufficiency in milk: 91%

Key developments 2008-2013

- Milk production (cow's): -1.8% per year
- Country dairy consumption: -2.0% per year
- Dairy consumption per capita: -2.0% per year

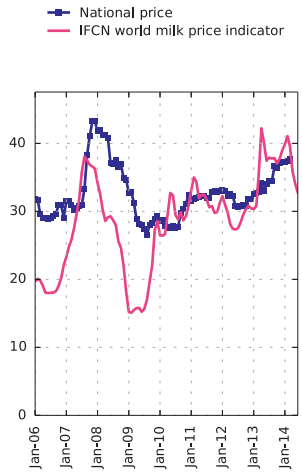
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	1.73	1.79	2.00	2.04	2.00	1.94	1.98	1.86	1.85	1.87	1.81	+0.3%	-1.8%
Cows (in 1,000s)	376	372	355	341	338	307	301	243	242	241	235	-1.7%	-4.8%
Milk yield (t/cow/year)	4.60	4.82	5.62	5.97	5.92	6.31	6.59	7.66	7.66	7.75	7.69	+2.1%	+3.2%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	1.93	2.01	2.23	2.44	2.34	2.37	2.37	2.13	2.21	2.02	2.14	+0.5%	-2.0%
Population (mill people)	10.06	10.13	10.23	10.37	10.50	10.58	10.62	10.64	10.65	10.60	10.61	+0.3%	0.0%
Consumption (kg ME/capita)	192	198	218	235	223	224	223	201	207	191	202	+0.1%	-2.0%
The dairy chain													
Milk delivered (cow's)%	94%	95%	93%	95%	93%	93%	94%	95%	96%	96%	95%	+0.1%	+0.4%
Self-sufficiency in milk in%	100%	99%	98%	91%	93%	89%	91%	94%	90%	100%	91%	-0.3%	0.0%
Farmers' share of consumer price	51%	53%	47%	49%	46%	42%	47%	42%	46%	40%	41%	-0.3%	-2.7%

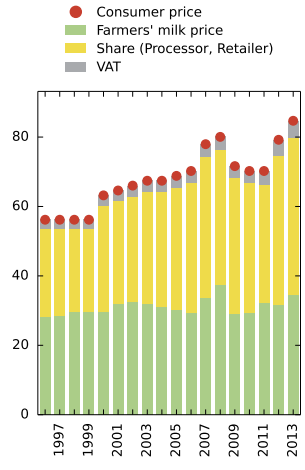
Farm gate milk prices

EUR / 100 kg milk (ECM)



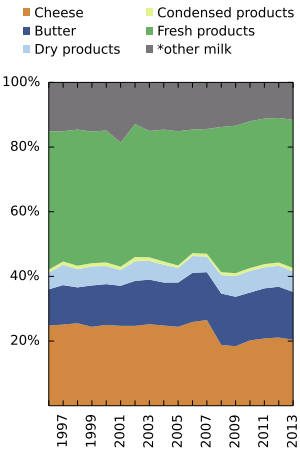
Consumer & farmers' prices

EUR / 100 kg milk (ECM)



Processing profile

% of all milk produced



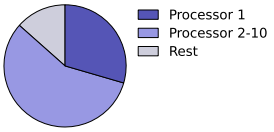
Milk processors list 2013

Milk intake in 1,000 tons (natural content)

Agros	524
Bel	182
Proleite	164
Lacticoop	153
Unileite	150
Unicol	142
Insulac	82
Leicar	63
Parmalat	46
Danone	32

Cooperatives: 83% of milk intake shown

Share on national milk delivery:



Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA, Eurostat, AMI.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *UHT milk with 1.6% fat, 3.1% protein.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

Dairy sector and chain profile

Status 2013

- No. 31 in the world (cow's) milk production: 4.4 mill t ECM, of which delivered: 19%
- Country dairy consumption: 6.0 mill t ME
- Self-sufficiency in milk: 91%

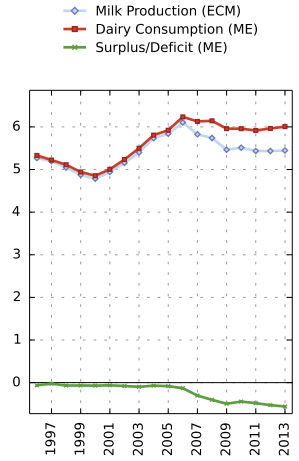
Key developments 2008-2013

- Milk production (cow's): -1.4% per year
- Country dairy consumption: -0.4% per year
- Dairy consumption per capita: -0.2% per year

Milk equivalent (ME) calculation based on fat and protein only

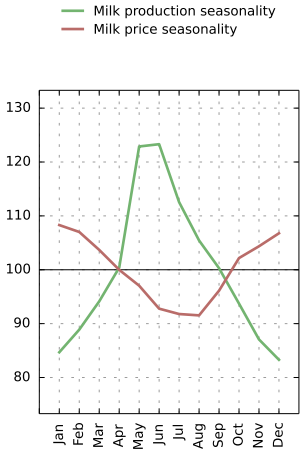
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)

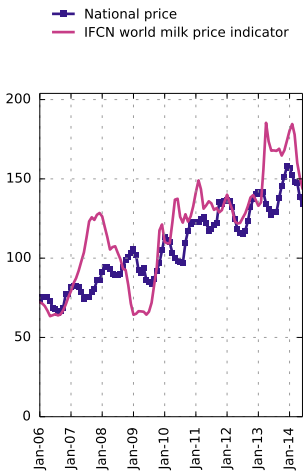


Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	4.66	4.49	4.28	4.61	5.02	5.08	4.70	4.48	4.43	4.41	4.39	-0.5%	-1.4%
Cows (in 1,000s)	1,939	1,794	1,775	1,759	1,755	1,733	1,483	1,151	1,154	1,163	1,192	-3.3%	-4.3%
Milk yield (t/cow/year)	2.40	2.50	2.41	2.62	2.86	2.93	3.17	3.89	3.84	3.79	3.68	+2.9%	+3.0%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	5.33	5.11	4.85	5.23	5.81	6.23	6.14	5.96	5.92	5.96	6.01	+2.2%	-0.4%
Population (mill people)	22.78	22.54	22.33	22.31	21.64	21.57	21.52	21.45	21.38	21.34	21.29	-0.2%	-0.2%
Consumption (kg ME/capita)	234	227	217	235	268	289	285	278	277	279	282	+2.4%	-0.2%
The dairy chain													
Milk delivered (cow's)%	17%	17%	17%	17%	19%	21%	21%	19%	19%	19%	19%	+4.8%	-2.0%
Self-sufficiency in milk in%	99%	99%	99%	98%	99%	98%	93%	93%	92%	91%	91%	-1.0%	-0.6%
Farmers' share of consumer price							17%	18%	18%	18%	19%		+2.3%

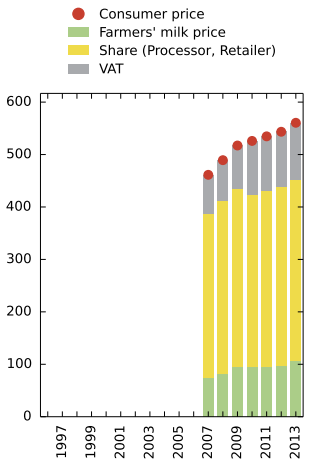
Farm gate milk prices

RON / 100 kg milk (ECM)



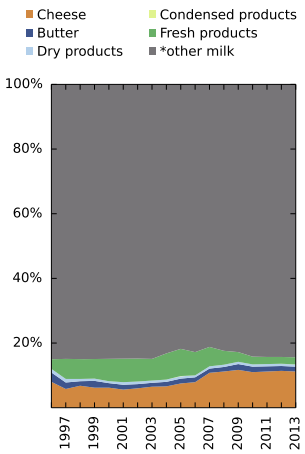
Consumer & farmers' prices

RON / 100 kg milk (ECM)



Processing profile

% of all milk produced



Milk processors list 2011

Company names

SC FRIESLAND ROMANIA SA
Danone
SC ALBALACT SA
SC COVALACT SA
Dorna (Groupe Lactalis)
Olympus Dairy Industry SA
SC HOCHLAND ROMANIA SRL

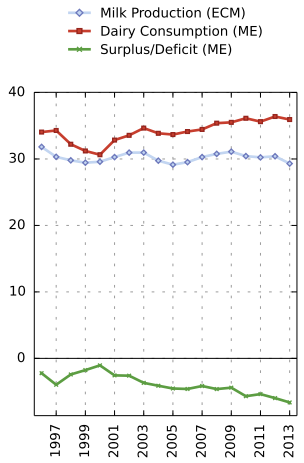
Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated.*
Consumer price (raw data) for: *Fresh milk with 1.5% fat and 3% protein.*
Estimates done for: *Consumer price: 2008, 2010-12. Milk processing: 2013.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

3.81 Russian Federation

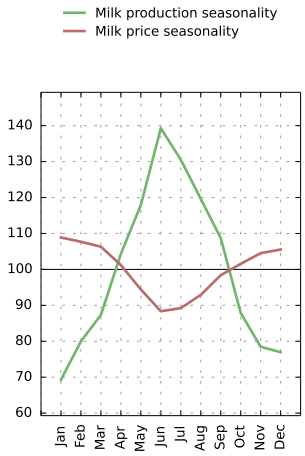
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)



Dairy sector and chain profile

Status 2013

- No. 7 in the world (cow's) milk production: 29.1 mill t ECM, of which delivered: 62%
- Country dairy consumption: 36 mill t ME
- Self-sufficiency in milk: 82%

Key developments 2008-2013

- Milk production (cow's): -1.0% per year
- Country dairy consumption: +0.3% per year
- Dairy consumption per capita: +0.3% per year

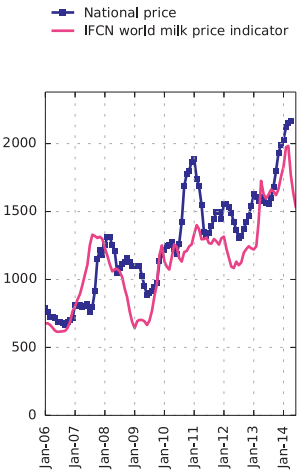
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	31.52	29.50	29.27	30.66	29.48	29.28	30.52	30.18	29.99	30.16	29.05	-0.1%	-1.0%
Cows (in 1,000s)	16,557	13,837	12,771	11,873	10,425	9,647	9,129	8,844	8,948	8,895	8,850	-4.0%	-0.6%
Milk yield (t/cow/year)	1.90	2.13	2.29	2.58	2.83	3.04	3.34	3.41	3.35	3.39	3.28	+4.1%	-0.4%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	34.05	32.22	30.64	33.56	33.86	34.13	35.39	36.12	35.62	36.39	35.93	+0.4%	+0.3%
Population (mill people)	148	148	146	145	144	143	143	143	143	143	143	-0.3%	0.0%
Consumption (kg ME/capita)	230	218	209	231	235	238	248	253	249	254	251	+0.7%	+0.3%
The dairy chain													
Milk delivered (cow's)%	35%	38%	39%	40%	46%	48%	49%	56%	56%	59%	62%	+3.0%	+4.7%
Self-sufficiency in milk in%	93%	92%	97%	92%	88%	87%	87%	84%	85%	84%	82%	-0.5%	-1.3%
Farmers' share of consumer price		22%	37%	35%	36%	37%	37%	36%	41%	38%	38%	+1.1%	+0.7%

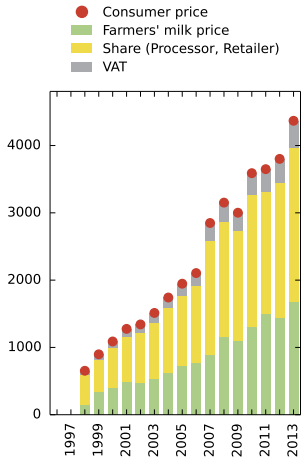
Farm gate milk prices

RUB / 100 kg milk (ECM)



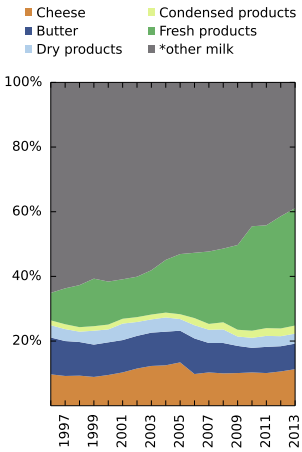
Consumer & farmers' prices

RUB / 100 kg milk (ECM)



Processing profile

% of all milk produced



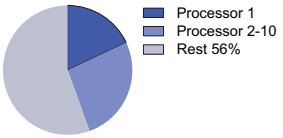
Milk processors list 2012

Market share in%

OJSC Wimm-Bill-Dann Foods	18.0%
Group Danone in Russia	15.7%
JSC Molvest	3.2%
Milkiland	1.6%
PC Vologda Dairy	1.3%
Ltd. Campina	1.1%
ZAO MK Avida	1.0%
ZAO BMK	0.9%
LLC Herman	0.9%
LLC Rostagrokompleks	0.8%

Cooperatives: 0% of milk intake shown

Share on national milk delivery:



Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated.*
Consumer price (raw data) for: *Whole drinkable milk pasteurized 2.5-3.2% fat, 2.8% protein per litre.*
Remarks: *Processor list represents share of processed milk by the company on total processed milk in Russia. Calculated out of milk equivalent.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

Ali Al Rakban

Dairy sector and chain profile

Status 2013

- No. 48 in the world (cow's) milk production: 1.9 mill t ECM, of which delivered: 93%
- Country dairy consumption: 4.1 mill t ME
- Self-sufficiency in milk: 54%

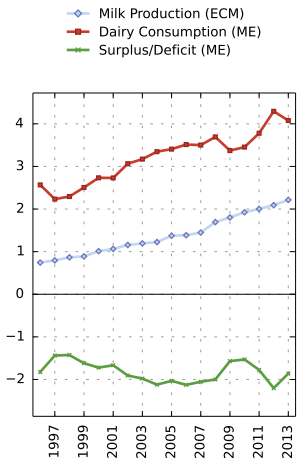
Key developments 2008-2013

- Milk production (cow's): +6.4% per year
- Country dairy consumption: +2.0% per year
- Dairy consumption per capita: -1.0% per year

Milk equivalent (ME) calculation based on fat and protein only

Milk balance

in mill t, from all dairy species

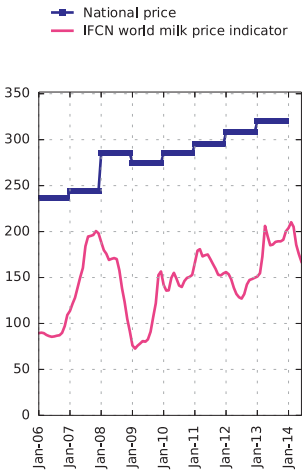


Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	0.47	0.60	0.73	0.85	0.90	1.07	1.42	1.66	1.73	1.82	1.93	+9.8%	+6.4%
Cows (in 1,000s)	59.00	73.00	84.00	88.00	101	109	148	160	227	227	227	+9.4%	+9.0%
Milk yield (t/cow/year)	7.97	8.22	8.69	9.66	8.91	9.82	9.59	10.37	7.62	8.02	8.50	+0.4%	-2.4%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	2.57	2.29	2.73	3.06	3.35	3.51	3.69	3.45	3.78	4.29	4.08	+3.1%	+2.0%
Population (mill people)	18.58	19.50	20.47	21.49	22.56	24.12	25.79	27.56	28.38	29.20	29.99	+3.2%	+3.1%
Consumption (kg ME/capita)	138	118	133	143	148	146	143	125	133	147	136	-0.1%	-1.0%
The dairy chain													
Milk delivered (cow's)%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	93%	0.0%	-0.4%
Self-sufficiency in milk in%	29%	38%	37%	38%	37%	39%	46%	56%	53%	49%	54%	+4.0%	+3.5%
Farmers' share of consumer price						58%	63%	63%	64%	72%	77%		+4.0%

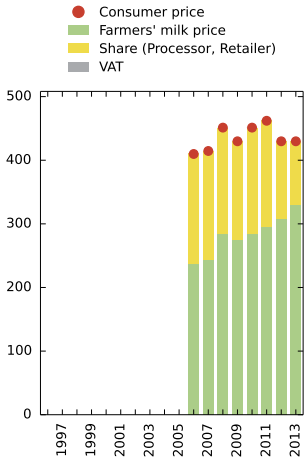
Farm gate milk prices

SAR / 100 kg milk (ECM)



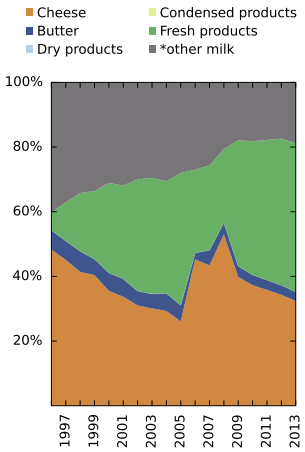
Consumer & farmers' prices

SAR / 100 kg milk (ECM)



Processing profile

% of all milk produced



Milk processors list 2013

Company names

Almarai
Nadec
AlSafi-Danon
Nada
Alrai
Alhana
Alkharj
Almatrood
Aletch
Najdyah

Explanations

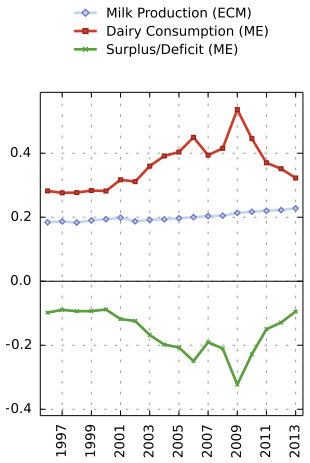
Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated.*
Consumer price (raw data) for: *1 kg pack, 3.5% fat, 3.2% protein.*
Estimates done for: *Milk deliveries: Estimated number of cattle in KSA (2013 data) + steady growth and assuming 97% goes to dairy processors. Milk consumer price: 4.00 SAR per kg standard price + considering 8% promotions.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

3.83 Senegal

Christian Corniaux

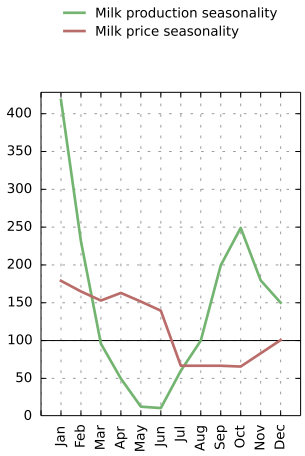
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)



Dairy sector and chain profile

Status 2013

- No. 113 in the world (cow's) milk production: 0.2 mill t ECM, of which delivered: 7%
- Country dairy consumption: 0.3 mill t ME
- Self-sufficiency in milk: 71%

Key developments 2008-2013

- Milk production (cow's): +1.3% per year
- Country dairy consumption: -4.9% per year
- Dairy consumption per capita: -7.6% per year

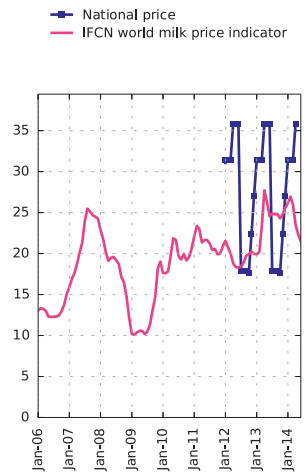
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	0.16	0.16	0.17	0.17	0.17	0.17	0.18	0.18	0.19	0.19	0.19	+1.2%	+1.3%
Cows (in 1,000s)	718	728	747	749	760	784	803	828	836	836	853	+1.2%	+1.2%
Milk yield (t/cow/year)	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.0%	0.0%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	0.28	0.28	0.28	0.31	0.39	0.45	0.42	0.45	0.37	0.35	0.32	+2.9%	-4.9%
Population (mill people)	8.92	9.38	9.86	10.39	10.97	11.58	12.24	12.95	13.33	13.72	14.13	+2.8%	+2.9%
Consumption (kg ME/capita)	32	30	29	30	36	39	34	34	28	26	23	+0.1%	-7.6%
The dairy chain													
Milk delivered (cow's)%	2%	2%	5%	5%	5%	7%	7%	7%	7%	7%	7%	+7.0%	0.0%
Self-sufficiency in milk in%	65%	66%	69%	60%	49%	45%	49%	49%	60%	63%	71%	-1.5%	+7.5%
Farmers' share of consumer price							44%	47%	47%	47%	47%		+1.2%

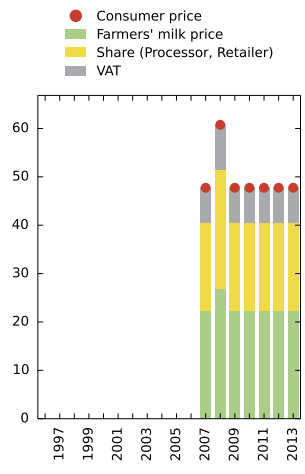
Farm gate milk prices

1,000 XOF / 100 kg milk (ECM)



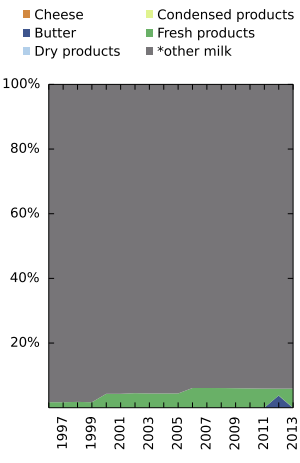
Consumer & farmers' prices

1,000 XOF / 100 kg milk (ECM)



Processing profile

% of all milk produced



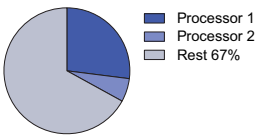
Milk processors list 2013

Market share in%

Laiterie du Berger	0.8
Kirène	0.2
Other small dairies	2.0

Cooperatives: 0% of milk intake shown

Share on national milk delivery:



Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *„Local" milk price in Dakar, 5% fat, 3.2% protein.*
Remarks: *Processing profile: Yoghurt has a high and increasing share in processed milk, though not mentioned in the profile. Milk processors: Other small dairies - sum of 56 small dairies (2013), the rest of processed milk is comming from imported SMP.*
Estimates done for: *Milk prices.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

Ekonomski fakultet Subotica

Rade Popovic

Dairy sector and chain profile

Status 2013

- No. 66 in the world (cow's) milk production: 1.5 mill t ECM, of which delivered: 65%
- Country dairy consumption: 1.4 mill t ME
- Self-sufficiency in milk: 104%

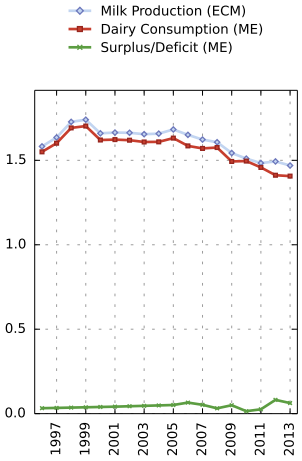
Key developments 2008-2013

- Milk production (cow's): -1.8% per year
- Country dairy consumption: -2.2% per year
- Dairy consumption per capita: -1.8% per year

Milk equivalent (ME) calculation based on fat and protein only

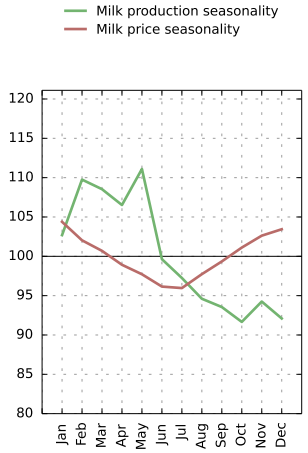
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)

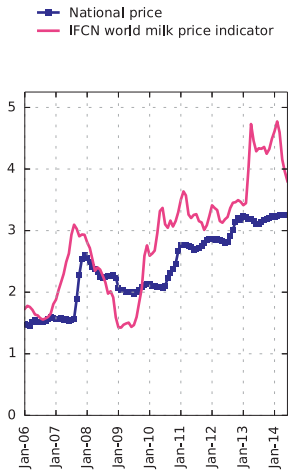


Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	1.51	1.65	1.61	1.62	1.62	1.63	1.58	1.49	1.47	1.48	1.45	-0.4%	-1.8%
Cows (in 1,000s)	828	813	817	752	742	674	624	561	542	538	506	-3.4%	-4.1%
Milk yield (t/cow/year)	1.82	2.03	1.97	2.15	2.18	2.41	2.54	2.66	2.71	2.74	2.87	+3.1%	+2.5%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	1.55	1.69	1.62	1.62	1.61	1.59	1.58	1.50	1.46	1.41	1.41	-0.4%	-2.2%
Population (mill people)	7.57	7.57	7.52	7.50	7.46	7.41	7.35	7.29	7.23	7.20	7.20	-0.4%	-0.4%
Consumption (kg ME/capita)	205	224	216	216	216	214	214	205	202	196	195	-0.1%	-1.8%
The dairy chain													
Milk delivered (cow's)%	17%	18%	35%	44%	48%	54%	61%	66%	66%	66%	65%	+6.3%	+1.2%
Self-sufficiency in milk in%	102%	102%	102%	103%	103%	104%	102%	101%	102%	106%	104%	-0.2%	+0.5%
Farmers' share of consumer price	42%	46%	58%	41%	40%	35%	35%	34%	35%	36%	34%	-2.2%	-0.8%

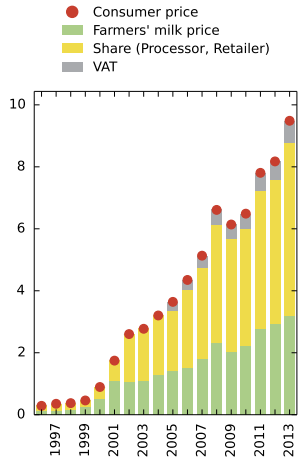
Farm gate milk prices

1,000 RSD / 100 kg milk (ECM)



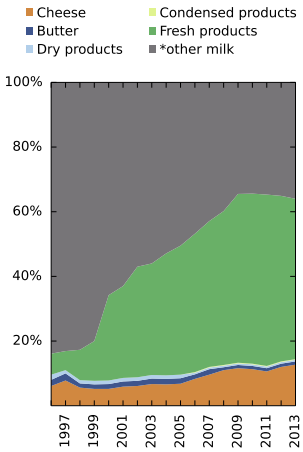
Consumer & farmers' prices

1,000 RSD / 100 kg milk (ECM)



Processing profile

% of all milk produced



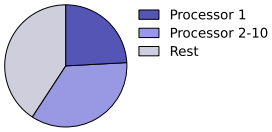
Milk processors list 2013

Milk intake in 1,000 tons (natural content)

Imlek, Beograd	229
Mlekara Sabac, Sabac	54
Mlekara Subotica	61
Somboled, Sombor	59
Meggle Srbija	38
Mlekoprodukt, Zrenjanin	34
Niska Mlekara, Nis	34
Milkop, Raska	18
Lazar, Blace	18
Granice, Mladenovac	18

Cooperatives: 0% of milk intake shown

Share on national milk delivery:



Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *Pasteurised milk, 1 litre, 2.8% fat, 3.0% protein.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

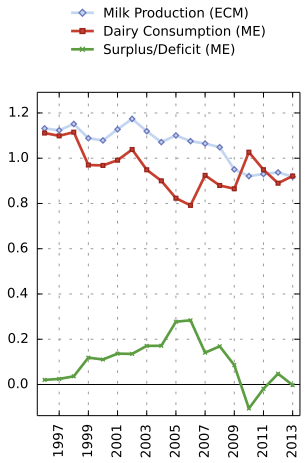
Country supporter:
The participation in the IFCN was supported by Imlek and Mlekara Subotica

3.85 Slovakia

Margita Stefanikova

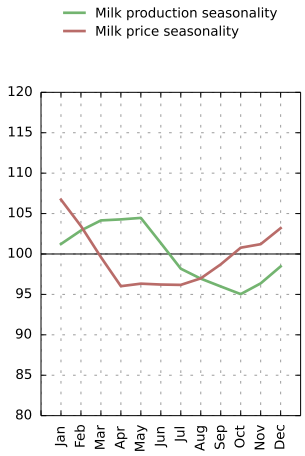
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)



Dairy sector and chain profile

Status 2013

- No. 77 in the world (cow's) milk production: 0.9 mill t ECM, of which delivered: 91%
- Country dairy consumption: 0.9 mill t ME
- Self-sufficiency in milk: 100%

Key developments 2008-2013

- Milk production (cow's): -2.7% per year
- Country dairy consumption: +0.9% per year
- Dairy consumption per capita: +0.9% per year

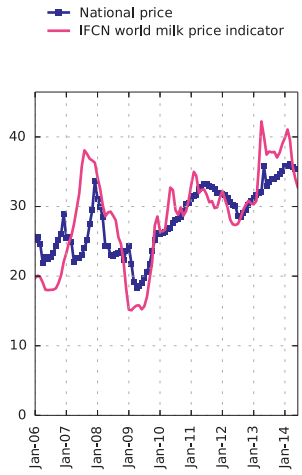
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	1.11	1.13	1.05	1.15	1.05	1.05	1.03	0.90	0.91	0.91	0.89	-1.3%	-2.7%
Cows (in 1,000s)	263	246	230	216	201	196	197	197	196	196	192	-1.1%	-0.5%
Milk yield (t/cow/year)	4.21	4.57	4.55	5.32	5.22	5.39	5.21	4.57	4.63	4.65	4.65	-0.2%	-2.2%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	1.11	1.12	0.97	1.04	0.90	0.79	0.88	1.03	0.95	0.89	0.92	-1.5%	+0.9%
Population (mill people)	5.38	5.36	5.38	5.38	5.37	5.39	5.40	5.42	5.39	5.40	5.41	0.0%	+0.1%
Consumption (kg ME/capita)	207	208	180	193	168	147	163	189	176	165	170	-1.5%	+0.9%
The dairy chain													
Milk delivered (cow's)%	76%	79%	82%	86%	88%	88%	90%	87%	87%	91%	91%	+0.3%	+0.3%
Self-sufficiency in milk in%	102%	103%	111%	113%	119%	136%	119%	90%	98%	105%	100%	+0.2%	-3.5%
Farmers' share of consumer price					29%	26%	33%	31%	33%	30%	30%		-1.6%

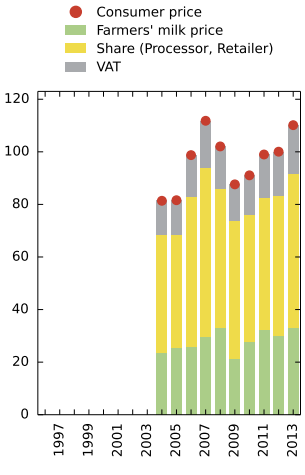
Farm gate milk prices

EUR / 100 kg milk (ECM)



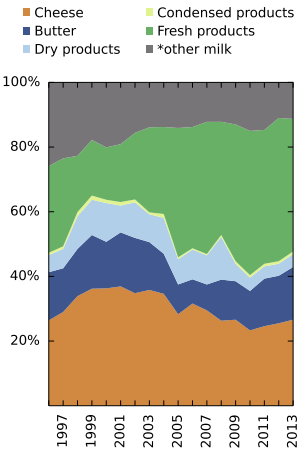
Consumer & farmers' prices

EUR / 100 kg milk (ECM)



Processing profile

% of all milk produced



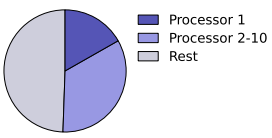
Milk processors list 2011

Milk intake in 1,000 tons (natural content)

Rajo a.s., Bratislava	136
Agro Tami, a. s. Nitra	81
Tatranská mliekareň, a. s. Kežmarok	59
Milsy a.s. Bánovce nad Bebravou	25
Liptovská mliekareň, a. s.	22
Koliba, a. s. Hriňová	21
Euromilk, a. s., Veľký Meder	20
Senická mliekareň, a. s. Senica	20
Syráreň Bel, a. s. Michalovce	14
Gemermilk RS, s. r. o.	13

Cooperatives: 0% of milk intake shown

Share on national milk delivery:



Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA, Eurostat, AMI.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *UHT milk with 1.5% fat, 3.26% protein.*
Remarks: *National statistics show: Consumption per capita 2013 est.: 157.4 kg milk. Trade of raw milk 2013 (in 1,000 tonnes): 631 import, 595 export. Milk yield per cow 2013: 6.3 t/cow/year. All data is for cow's only. The list includes only processors (not purchasers).*
Estimates done for: *Cow numbers 1996-1999 following the trend. Milk processors: Milk intake estimated by Slovak Association of Dairy Farmers.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

Ben Moljk

Dairy sector and chain profile

Status 2013

- No. 85 in the world (cow's) milk production: 0.6 mill t ECM, of which delivered: 85%
- Country dairy consumption: 0.5 mill t ME
- Self-sufficiency in milk: 122%

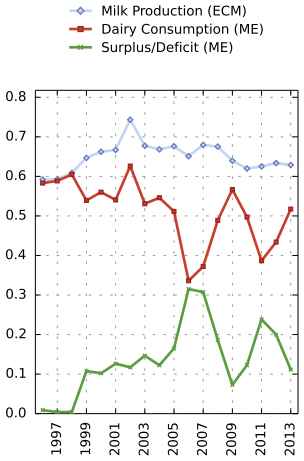
Key developments 2008-2013

- Milk production (cow's): -1.4% per year
- Country dairy consumption: +1.1% per year
- Dairy consumption per capita: +0.7% per year

Milk equivalent (ME) calculation based on fat and protein only

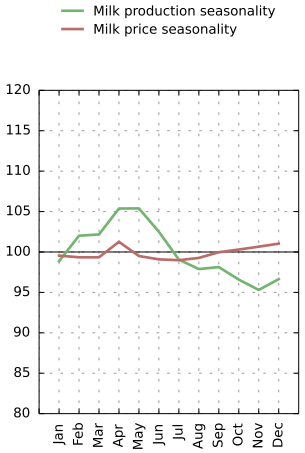
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)

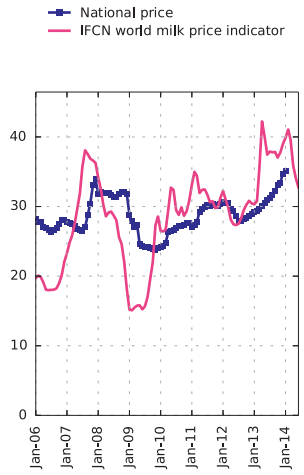


Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	0.59	0.61	0.66	0.74	0.67	0.65	0.67	0.62	0.62	0.63	0.63	-0.1%	-1.4%
Cows (in 1,000s)	155	146	140	140	134	113	113	109	109	111	110	-2.8%	-0.7%
Milk yield (t/cow/year)	3.81	4.14	4.70	5.29	4.97	5.77	5.94	5.64	5.71	5.69	5.72	+2.8%	-0.7%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	0.58	0.60	0.56	0.63	0.55	0.34	0.49	0.50	0.39	0.43	0.52	-1.6%	+1.1%
Population (mill people)	1.99	1.98	1.99	1.99	2.00	2.00	2.01	2.05	2.05	2.06	2.06	+0.1%	+0.5%
Consumption (kg ME/capita)	293	306	282	314	274	168	243	243	189	211	251	-1.8%	+0.7%
The dairy chain													
Milk delivered (cow's)%	67%	71%	69%	66%	77%	80%	80%	86%	86%	87%	85%	+1.7%	+1.2%
Self-sufficiency in milk in%	102%	101%	118%	119%	122%	194%	138%	125%	162%	146%	122%	+1.6%	-2.5%
Farmers' share of consumer price	49%	47%	43%	43%	44%	44%	40%	34%	35%	33%	35%	-1.4%	-2.3%

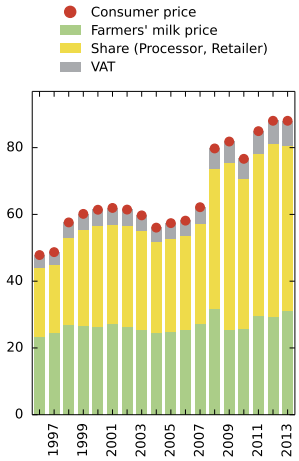
Farm gate milk prices

EUR / 100 kg milk (ECM)



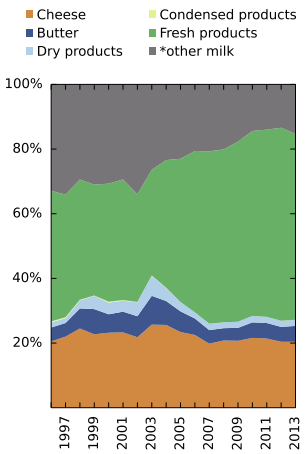
Consumer & farmers' prices

EUR / 100 kg milk (ECM)



Processing profile

% of all milk produced



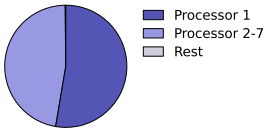
Milk processors list 2013

Milk intake in 1,000 tons (natural content)

Ljubljanske mlekarne	272
Mlekarna Celeia	145
Pomurske mlekarne	81
Agroind Vipava	0.8
Mlekarna Planika Kobarid	13
KGZ Škofja Loka	3
Kele & Kele Laze	2

Cooperatives: 0% of milk intake shown

Share on national milk delivery:



Explanations

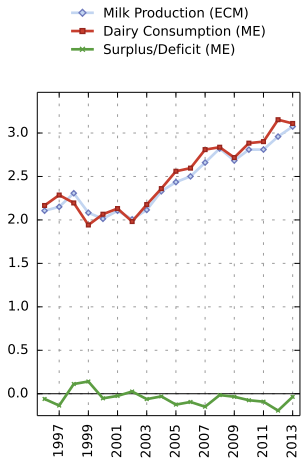
Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA, Eurostat, AMI.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *Milk, tetrapak, 3.5% fat, 3.25% protein.*
Estimates done for: *Milk processing 2013. Milk processors: Milk intake estimated by partner.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

3.87 South Africa

Koos Coetzee

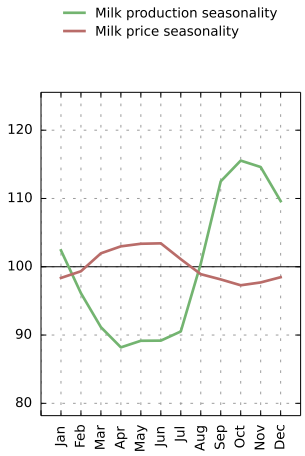
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)



Dairy sector and chain profile

Status 2013

- No. 39 in the world (cow's) milk production: 3.1 mill t ECM, of which delivered: 98%
- Country dairy consumption: 3.1 mill t ME
- Self-sufficiency in milk: 99%

Key developments 2008-2013

- Milk production (cow's): +1.7% per year
- Country dairy consumption: +1.9% per year
- Dairy consumption per capita: +0.5% per year

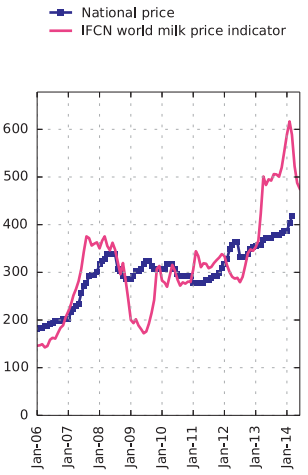
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	2.11	2.31	2.01	2.01	2.33	2.50	2.82	2.81	2.81	2.96	3.07	+5.9%	+1.7%
Cows (in 1,000s)	562	552	545	540	540	520	520	530	530	523	622	-0.8%	+3.6%
Milk yield (t/cow/year)	3.75	4.18	3.69	3.72	4.31	4.81	5.43	5.30	5.30	5.66	4.94	+6.7%	-1.8%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	2.17	2.20	2.07	1.98	2.36	2.60	2.84	2.88	2.90	3.15	3.11	+5.4%	+1.9%
Population (mill people)	41.03	42.48	43.69	45.59	47.02	48.27	49.56	50.90	51.58	52.27	52.98	+1.4%	+1.3%
Consumption (kg ME/capita)	53	52	47	43	50	54	57	57	56	60	59	+4.0%	+0.5%
The dairy chain													
Milk delivered (cow's)%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	0.0%	0.0%
Self-sufficiency in milk in%	97%	105%	97%	101%	99%	96%	99%	97%	97%	94%	99%	+0.5%	-0.1%
Farmers' share of consumer price	38%	36%	34%	33%	33%	30%	35%	34%	33%	35%	36%	+0.5%	+0.5%

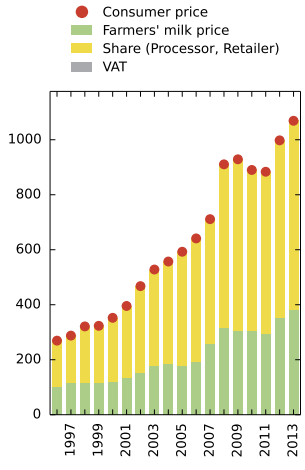
Farm gate milk prices

ZAR / 100 kg milk (ECM)



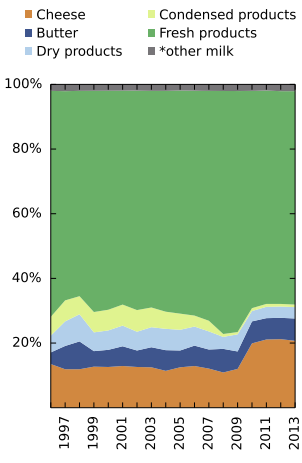
Consumer & farmers' prices

ZAR / 100 kg milk (ECM)



Processing profile

% of all milk produced



Milk processors list 2013

Company names

Clover SA
Parmalat
Woodlands
Nestle
Coega
Lancewood
Dairybelle
Creighton dairies
Orange Grove
Ladismith Cheese

Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated.*
Consumer price (raw data) for: *Based on 2 litre fresh milk, sachet packed, 3.3% fat, 3.1% protein.*
Remarks: *No. of cows: 2013 onwards based on new data collection method. Limited comparability to previous data.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

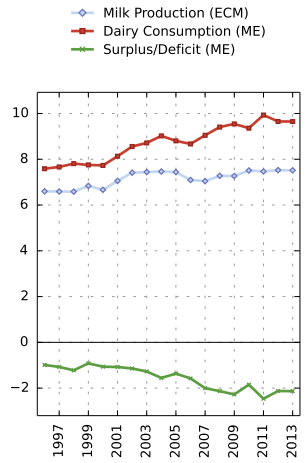
South Africa

3.88 Spain

National Network Team (Jesús Llorente, Ernesto Reyes, Carlos García, Fernando Merelo, Alfredo García)

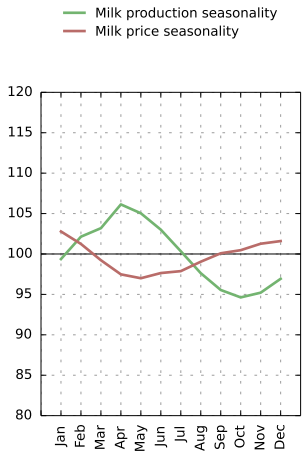
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average (avg = 100, 2008-2012)



Dairy sector and chain profile

Status 2013

- No. 22 in the world (cow's) milk production: 6.2 mill t ECM, of which delivered: 97%
- Country dairy consumption: 9.6 mill t ME
- Self-sufficiency in milk: 78%

Key developments 2008-2013

- Milk production (cow's): +0.4% per year
- Country dairy consumption: +0.5% per year
- Dairy consumption per capita: +0.2% per year

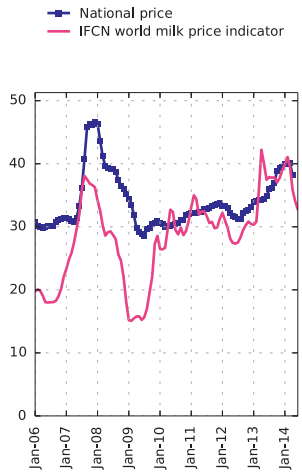
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	5.76	5.66	5.61	6.26	6.34	5.93	6.09	6.06	6.18	6.21	6.20	-0.7%	+0.4%
Cows (in 1,000s)	882	996	1,141	1,436	1,171	992	902	861	859	859	821	-7.1%	-1.9%
Milk yield (t/cow/year)	6.53	5.68	4.92	4.36	5.41	5.98	6.75	7.05	7.20	7.23	7.55	+6.9%	+2.3%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	7.59	7.81	7.73	8.56	9.02	8.67	9.41	9.36	9.93	9.65	9.65	+1.5%	+0.5%
Population (mill people)	39.48	39.72	40.26	41.42	42.86	44.36	45.98	46.56	46.74	46.77	46.61	+1.7%	+0.3%
Consumption (kg ME/capita)	192	197	192	207	210	195	205	201	213	206	207	-0.2%	+0.2%
The dairy chain													
Milk delivered (cow's)%	89%	90%	92%	91%	90%	94%	92%	92%	90%	92%	97%	+0.6%	+0.9%
Self-sufficiency in milk in%	87%	84%	86%	87%	83%	82%	77%	80%	75%	78%	78%	-2.0%	+0.1%
Farmers' share of consumer price	41%	46%	47%	39%	40%	36%	37%	33%	37%	36%	40%	-0.5%	+1.5%

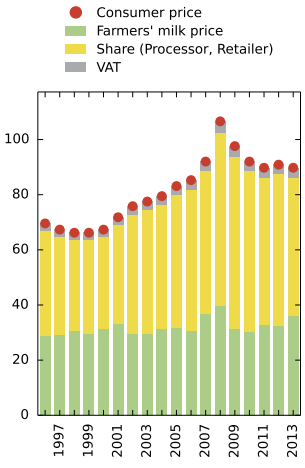
Farm gate milk prices

EUR / 100 kg milk (ECM)



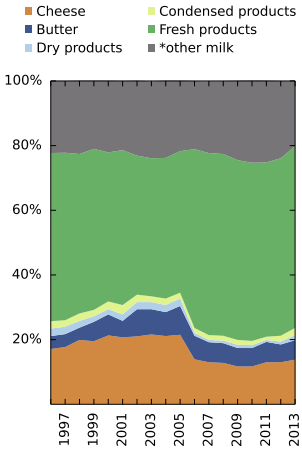
Consumer & farmers' prices

EUR / 100 kg milk (ECM)



Processing profile

% of all milk produced



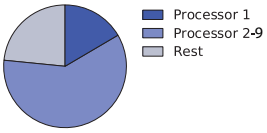
Milk processors list 2012

Milk intake in 1,000 tons (natural content)

Grupo Lactalis, Iberia, S.A.	992
CAPSA	930
Leche Celta	449
Leche Pascual España, S.L.	434
Leite Rio	403
Industrias Lacteas Asturianas	393
Iparlat	382
Danone	341
COVAP	269

Cooperatives: 6% of milk intake shown

Share on national milk delivery:



Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA, Eurostat, AMI.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *Fresh milk, pasteurised with 3.2% fat (min) and 2.8% protein (min).*
Estimates done for: *Cow numbers 1996-1999 by IFCN following the trend.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

Hemali Kothalawala

Dairy sector and chain profile

Status 2013

- No. 98 in the world (cow's and buffalo's) milk production: 0.4 mill t ECM, of which delivered: 48%
- Country dairy consumption: 0.9 mill t ME
- Self-sufficiency in milk: 46%

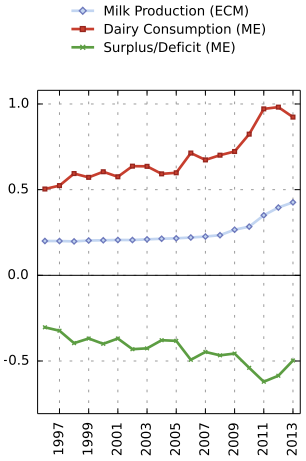
Key developments 2008-2013

- Milk production (cow's and buffalo's): +12.9% per year
- Country dairy consumption: +5.7% per year
- Dairy consumption per capita: +4.9% per year

Milk equivalent (ME) calculation based on fat and protein only

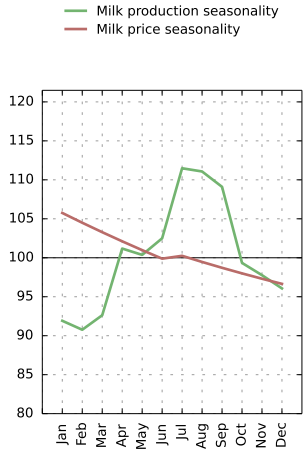
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)

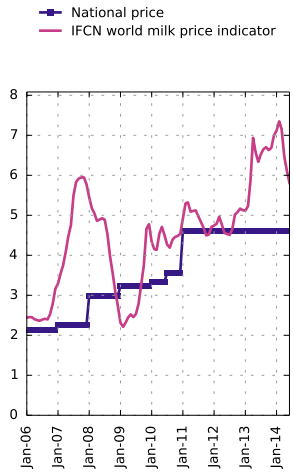


Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's and buffalo's)													
Production (mill t ECM)	0.19	0.19	0.20	0.20	0.21	0.22	0.23	0.28	0.34	0.39	0.42	+2.3%	+12.9%
Cows and buffalos (in 1,000s)	1,257	1,228	1,198	1,165	1,129	1,099	1,103	968	1,002	1,031	936	-0.6%	-3.2%
Milk yield (t/cow/year)	0.15	0.16	0.17	0.17	0.18	0.20	0.21	0.29	0.34	0.38	0.45	+2.9%	+16.7%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	0.50	0.59	0.60	0.64	0.59	0.71	0.70	0.82	0.97	0.98	0.92	+2.0%	+5.7%
Population (mill people)	17.49	17.93	18.47	19.01	19.44	19.77	20.09	20.40	20.54	20.66	20.82	+0.9%	+0.7%
Consumption (kg ME/capita)	29	33	33	34	30	36	35	40	47	48	44	+1.1%	+4.9%
The dairy chain													
Milk delivered (cow's and buffalo's)%	51%	51%	46%	45%	47%	50%	51%	49%	41%	47%	48%	+3.5%	-1.2%
Self-sufficiency in milk in%	40%	33%	34%	32%	36%	31%	33%	34%	36%	40%	46%	+0.2%	+6.7%
Farmers' share of consumer price			52%	42%	49%	38%	40%	47%	59%	58%	46%	-2.0%	+2.7%

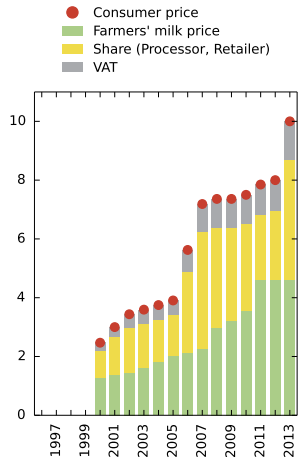
Farm gate milk prices

1,000 LKR / 100 kg milk (ECM)



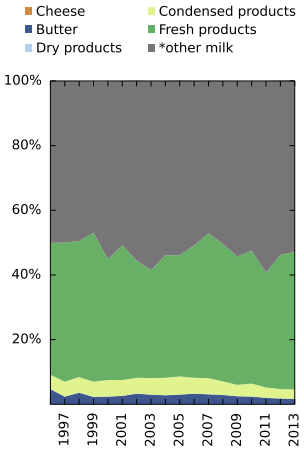
Consumer & farmers' prices

1,000 LKR / 100 kg milk (ECM)



Processing profile

% of all milk produced



Milk processors list 2009

Company names

Milco (PVT)
Nestlé Lanka
Swiss Cheese Company
Newdale Dairy (PVT)
Rich Life
Cargills (PVT)
Lucky Lanka Yoghurt (PVT)
Nat. Livestock Dev. Board
Mahaweli Authority
Fonterra Brands Lanka

Explanations

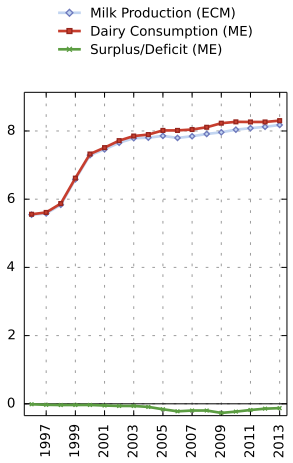
Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated.*
Consumer price (raw data) for: *Full cream milk powder.*
Remarks: *Monthly milk production shows only cow milk production. Monthly milk price: Annual averages shown; there is no seasonal variation seen. Little variation between rainy and dry season. Milk processors: Informal milk market has expanded (more demand for fresh milk).*
Estimates done for: *Milk processing: 2013.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

3.90 Sudan, Republic of

Nazar Omer Hassan Salih

Milk balance

in mill t, from all dairy species



Dairy sector and chain profile

Status 2013

- No. 21 in the world (cow's) milk production: 5.7 mill t ECM, of which delivered: 10%
- Country dairy consumption: 8.3 mill t ME
- Self-sufficiency in milk: 98%

Key developments 2008-2013

- Milk production (cow's): +0.5% per year
- Country dairy consumption: +0.5% per year
- Dairy consumption per capita: +2.6% per year

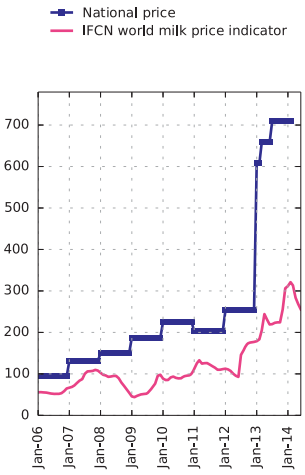
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	3.78	3.94	5.25	5.57	5.51	5.55	5.61	5.65	5.68	5.71	5.73	-0.1%	+0.5%
Cows (in 1,000s)	6,100	6,600	9,300	11,000	14,011	14,410	14,561	14,679	7,518	3,850	9,200	+2.1%	-8.8%
Milk yield (t/cow/year)	0.62	0.60	0.56	0.51	0.39	0.39	0.39	0.38	0.76	1.48	0.62	-2.2%	+10.1%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	5.56	5.87	7.32	7.72	7.89	8.02	8.11	8.27	8.26	8.26	8.30	+0.6%	+0.5%
Population (mill people)	28.60	29.80	31.10	32.70	34.47	36.22	38.13	40.13	32.66	33.51	34.38	+2.6%	-2.0%
Consumption (kg ME/capita)	194	197	236	236	229	221	213	206	253	247	241	-1.9%	+2.6%
The dairy chain													
Milk delivered (cow's)%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	0.0%	0.0%
Self-sufficiency in milk in%	100%	99%	100%	99%	99%	97%	98%	97%	98%	98%	98%	-0.3%	+0.2%
Farmers' share of consumer price						19%	31%	47%	35%	40%	94%		+24.9%

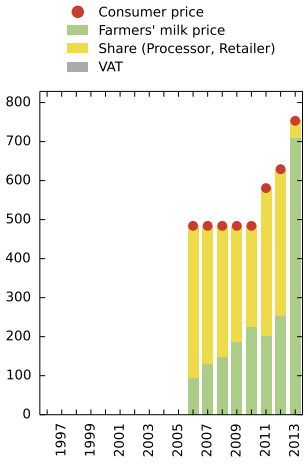
Farm gate milk prices

SDG / 100 kg milk (ECM)



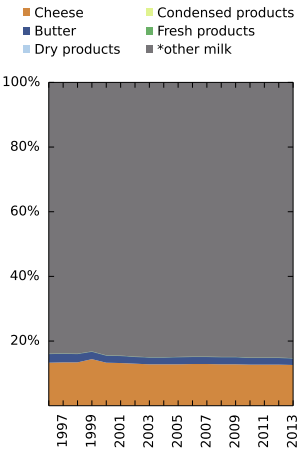
Consumer & farmers' prices

SDG / 100 kg milk (ECM)



Processing profile

% of all milk produced



Milk processors list 2010

Company Names

Blue Nile Dairy Co. (CAPO)
Premier Food Industries
Moawia Al-Bereir Co.
Kenana Dairy Co.
Khartoum Dairy Co. Ltd.

Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated.*
Consumer price (raw data) for: *Milk sold from middlemen to consumers, no hygienic precautions done. Covers 97% of milk sold.*
Remarks: *Processor list: 90% of the production comes from dairy farms traditional private and there are no state-owned companies specialise valuable dairy production.*
Estimates done for: *Consumer price 2013 due to extremely high farmer price; farmer prices so high due to lack of rain, increasing fodder price and deterioration of local currency.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

Clara Secher

Dairy sector and chain profile

Status 2013

- No. 40 in the world (cow's) milk production: 3.0 mill t ECM, of which delivered: 99%
- Country dairy consumption: 3.7 mill t ME
- Self-sufficiency in milk: 81%

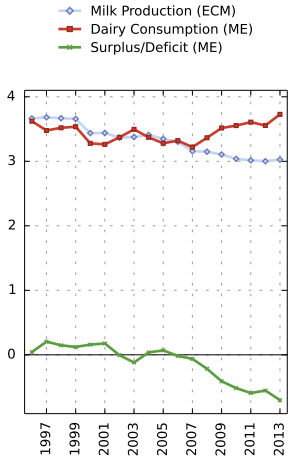
Key developments 2008-2013

- Milk production (cow's): -0.8% per year
- Country dairy consumption: +2.1% per year
- Dairy consumption per capita: +1.3% per year

Milk equivalent (ME) calculation based on fat and protein only

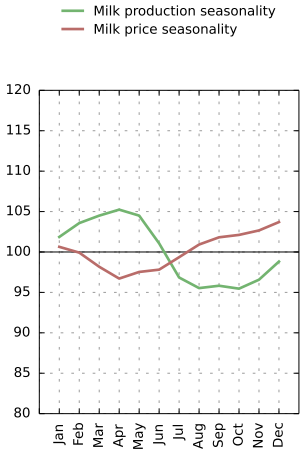
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)

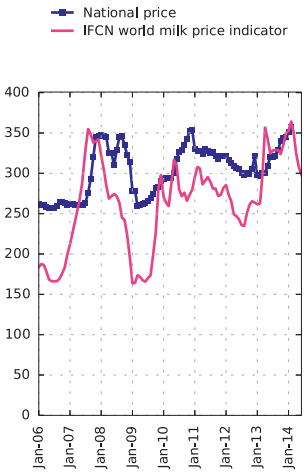


Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	3.66	3.67	3.44	3.37	3.41	3.30	3.15	3.04	3.01	3.00	3.03	-1.4%	-0.8%
Cows (in 1,000s)	466	449	428	417	404	388	357	348	346	348	344	-2.4%	-0.7%
Milk yield (t/cow/year)	7.86	8.17	8.04	8.07	8.45	8.52	8.82	8.73	8.70	8.62	8.80	+1.0%	0.0%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	3.62	3.52	3.28	3.37	3.37	3.32	3.36	3.55	3.61	3.56	3.73	-0.8%	+2.1%
Population (mill people)	8.84	8.85	8.88	8.94	9.01	9.11	9.26	9.42	9.48	9.56	9.64	+0.6%	+0.8%
Consumption (kg ME/capita)	409	397	369	377	374	364	364	377	380	372	387	-1.4%	+1.3%
The dairy chain													
Milk delivered (cow's)%	92%	92%	98%	98%	98%	98%	98%	98%	98%	98%	99%	0.0%	+0.2%
Self-sufficiency in milk in%	101%	104%	105%	100%	101%	99%	94%	85%	84%	84%	81%	-0.6%	-2.8%
Farmers' share of consumer price	37%	35%	34%	31%	28%	27%	32%	30%	29%	27%	28%	+1.3%	-2.1%

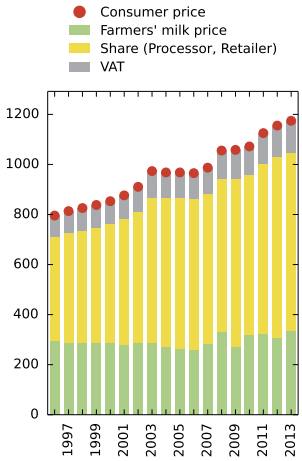
Farm gate milk prices

SEK / 100 kg milk (ECM)



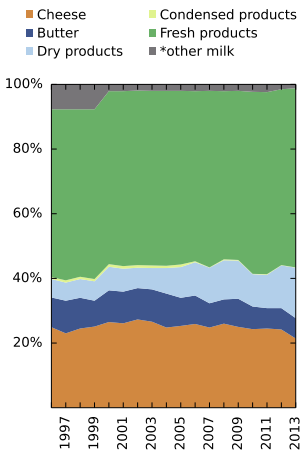
Consumer & farmers' prices

SEK / 100 kg milk (ECM)



Processing profile

% of all milk produced



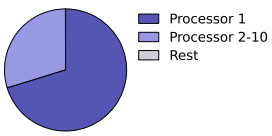
Milk processors list 2013

Milk intake in 1,000 tons (natural content)

	2016
Arla Foods Sverige	
Skånemejerier	414
Norrmejerier	209
Falköpings mejeri	116
Gefleortens mejeriförening	41
Grådö Mejeri	27
Gäsene	21
Wapnö	10
Emå mejeri	9
Sju gårdar	6

Cooperatives: 98% of milk intake shown

Share on national milk delivery:



Explanations

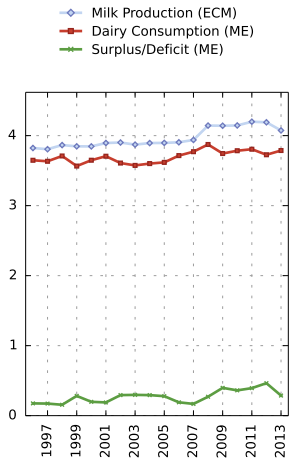
Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA, Eurostat, AMI.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *Fresh milk, 1 litre pack, 1.5% fat, 3.5% protein.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

3.92 Switzerland

Christian Gazzarin

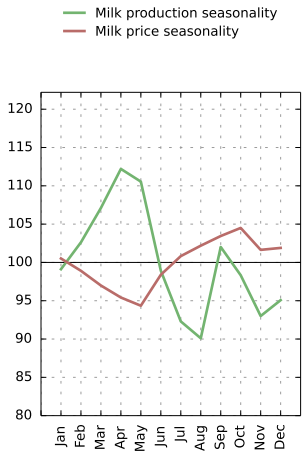
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)



Dairy sector and chain profile

Status 2013

- No. 35 in the world (cow's) milk production: 4.0 mill t ECM, of which delivered: 86%
- Country dairy consumption: 3.8 mill t ME
- Self-sufficiency in milk: 108%

Key developments 2008-2013

- Milk production (cow's): -0.4% per year
- Country dairy consumption: -0.4% per year
- Dairy consumption per capita: -1.5% per year

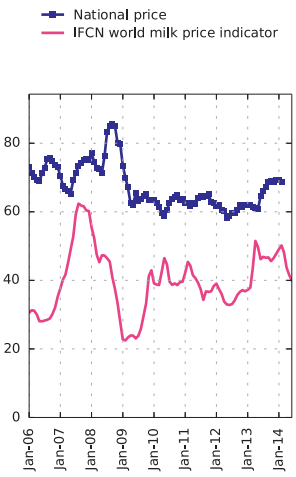
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	3.81	3.85	3.83	3.88	3.87	3.88	4.12	4.12	4.17	4.16	4.04	+1.4%	-0.4%
Cows (in 1,000s)	605	583	572	574	554	565	578	555	550	546	537	+0.5%	-1.5%
Milk yield (t/cow/year)	6.30	6.61	6.69	6.76	6.99	6.86	7.12	7.42	7.58	7.62	7.53	+0.8%	+1.1%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	3.65	3.71	3.65	3.61	3.60	3.71	3.87	3.78	3.81	3.73	3.79	+1.6%	-0.4%
Population (mill people)	7.06	7.10	7.16	7.26	7.36	7.46	7.59	7.79	7.87	7.96	8.00	+0.8%	+1.1%
Consumption (kg ME/capita)	517	523	509	497	489	498	510	486	484	468	473	+0.9%	-1.5%
The dairy chain													
Milk delivered (cow's)%	79%	80%	84%	83%	83%	83%	84%	84%	84%	85%	86%	+0.4%	+0.4%
Self-sufficiency in milk in%	105%	104%	105%	108%	108%	105%	107%	110%	110%	112%	108%	-0.2%	+0.1%
Farmers' share of consumer price	50%	48%	51%	50%	48%	47%	52%	44%	44%	43%	45%	+1.2%	-3.1%

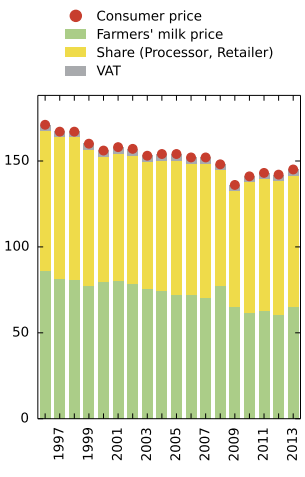
Farm gate milk prices

CHF / 100 kg milk (ECM)



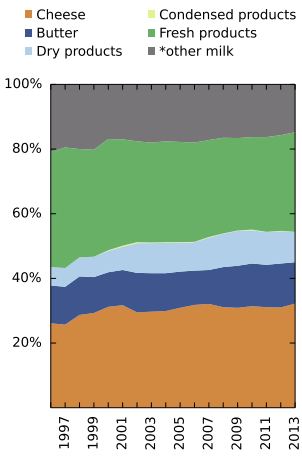
Consumer & farmers' prices

CHF / 100 kg milk (ECM)



Processing profile

% of all milk produced



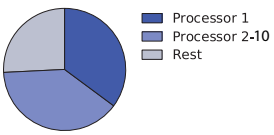
Milk processors list 2012

Milk intake in 1,000 tons (natural content)

Emmi AG	1220
Cremo SA	456
Hochdorf Swiss Milk AG	317
Elsa-Mifroma	268
Züger AG	120
Nestlé Suisse SA	78
Groupe FLV (Fed. Lait. Valaisanne)	47
LRG (Laiteries Réunis de Genève)	41
Strähl AG	29

Cooperatives: 0% of milk intake shown

Share on national milk delivery:



Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *Fresh milk, pasteurised with 3.8% fat, 3.2% protein.*
Remarks: *Milk cow numbers: 1996-2005 trend of suckler and dairy cows used, no seperation in national statistics. National statistics show a six percent higher share of cheese processing (by using specific ME factors for the different types of cheese).*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

Juliane Liu

Dairy sector and chain profile

Status 2013

- No. 105 in the world (cow's) milk production: 0.3 mill t ECM, of which delivered: 84%
- Country dairy consumption: 1.2 mill t ME
- Self-sufficiency in milk: 31%

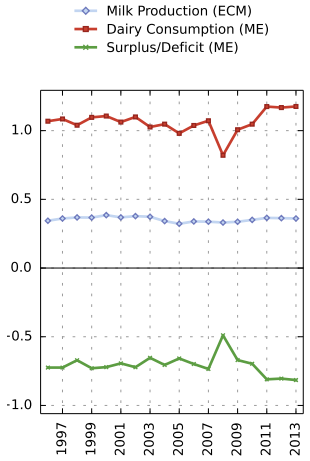
Key developments 2008-2013

- Milk production (cow's): +1.8% per year
- Country dairy consumption: +7.5% per year
- Dairy consumption per capita: +7.1% per year

Milk equivalent (ME) calculation based on fat and protein only

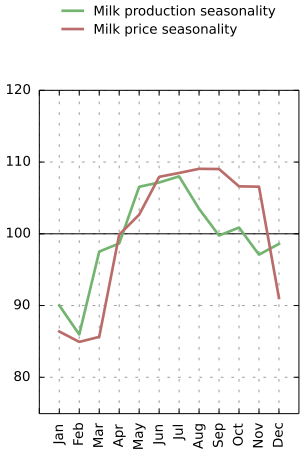
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)

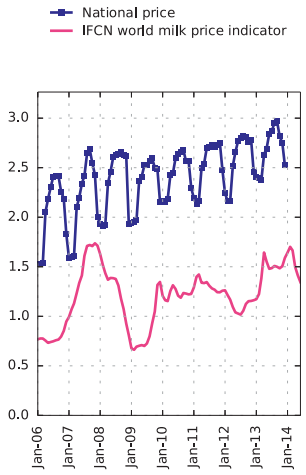


Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	0.31	0.34	0.36	0.36	0.32	0.32	0.31	0.33	0.35	0.35	0.34	-2.3%	+1.8%
Cows (in 1,000s)	63.00	67.00	66.00	65.00	55.00	52.00	54.00	55.00	57.00	59.00	60.00	-1.8%	+2.1%
Milk yield (t/cow/year)	4.99	5.05	5.37	5.50	5.86	6.14	5.78	6.06	6.10	5.85	5.70	-0.4%	-0.3%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	1.07	1.04	1.11	1.10	1.05	1.04	0.82	1.05	1.18	1.17	1.18	-4.4%	+7.5%
Population (mill people)	21.52	21.93	22.28	22.52	22.69	22.88	23.04	23.16	23.23	23.32	23.37	+0.4%	+0.3%
Consumption (kg ME/capita)	50	47	50	49	46	45	36	45	51	50	50	-4.7%	+7.1%
The dairy chain													
Milk delivered (cow's)%	84%	84%	84%	84%	84%	84%	84%	84%	84%	84%	84%	0.0%	0.0%
Self-sufficiency in milk in%	32%	35%	35%	34%	33%	33%	40%	33%	31%	31%	31%	+2.1%	-5.3%
Farmers' share of consumer price		52%	50%	48%	44%	43%	44%	37%	35%	33%	35%	-0.2%	-4.5%

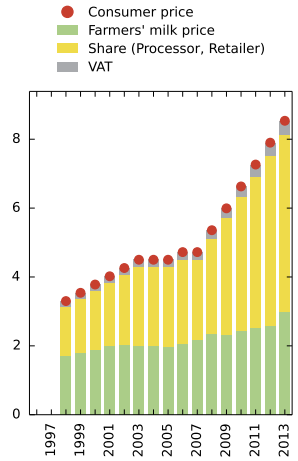
Farm gate milk prices

1,000 TWD / 100 kg milk (ECM)



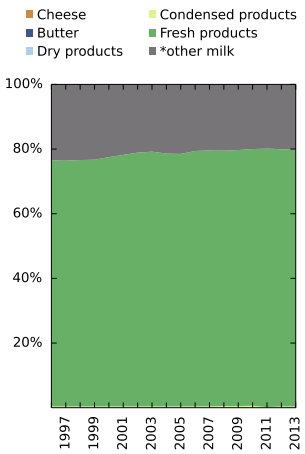
Consumer & farmers' prices

1,000 TWD / 100 kg milk (ECM)



Processing profile

% of all milk produced



Milk processors list 2013

Company Names

Uni-President
Wei Chuan Foods Corporation
Kuang Chuan Dairy Co., Ltd.
I-Mei Foods Co., Ltd.
Farmer Org
Standard Foods Taiwan Limited
Yakult Co., Ltd
Creation Food CO., Ltd
Taiwan Befitas Bio-Tech Laboratory INC
Go Long

Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated.*
Consumer price (raw data) for: *Milk for end user.*
Estimates done for: *Milk delivered: 1996-2013 estimated by IFCN. Consumer price 2007-2012: interpolated. Milk processing: 2013.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

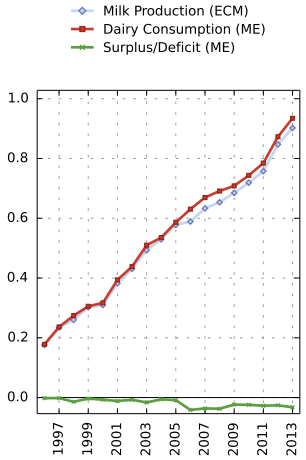
3.94 Tajikistan

Maksud Bekchanov

Zentrum für Entwicklungsforschung
Center for Development Research
University of Bonn

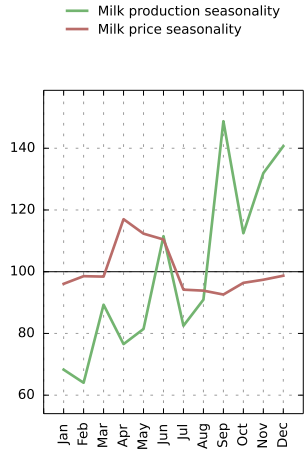
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)



Dairy sector and chain profile

Status 2013

- No. 78 in the world (cow's) milk production: 0.8 mill t ECM, of which delivered: 20%
- Country dairy consumption: 0.9 mill t ME
- Self-sufficiency in milk: 97%

Key developments 2008-2013

- Milk production (cow's): +6.6% per year
- Country dairy consumption: +6.2% per year
- Dairy consumption per capita: +4.2% per year

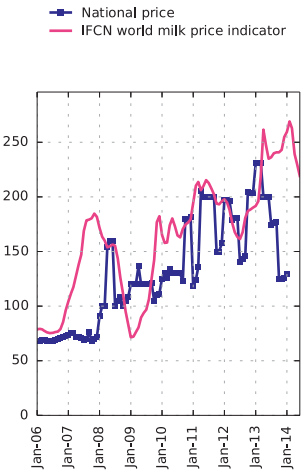
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	0.17	0.24	0.29	0.40	0.49	0.54	0.60	0.66	0.70	0.78	0.83	+5.5%	+6.6%
Cows (in 1,000s)	491	473	488	517	585	720	864	951	969	1,042	1,109	+9.7%	+5.1%
Milk yield (t/cow/year)	0.35	0.51	0.59	0.77	0.84	0.76	0.70	0.69	0.72	0.75	0.75	-3.8%	+1.4%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	0.18	0.27	0.32	0.44	0.54	0.63	0.69	0.74	0.78	0.87	0.93	+6.3%	+6.2%
Population (mill people)	5.74	5.94	6.25	6.51	6.78	7.06	7.37	7.62	7.80	7.96	8.13	+2.1%	+2.0%
Consumption (kg ME/capita)	31	46	51	67	79	89	94	98	101	110	115	+4.1%	+4.2%
The dairy chain													
Milk delivered (cow's)%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0.0%	0.0%
Self-sufficiency in milk in%	99%	95%	98%	98%	99%	93%	95%	97%	97%	97%	97%	-0.5%	+0.4%
Farmers' share of consumer price								38%	48%	54%	55%		

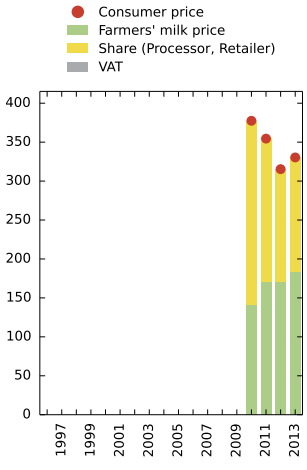
Farm gate milk prices

TJS / 100 kg milk (ECM)



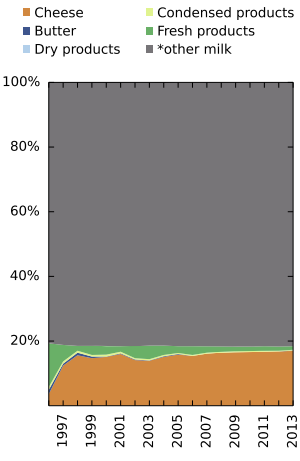
Consumer & farmers' prices

TJS / 100 kg milk (ECM)



Processing profile

% of all milk produced



Milk processors list 2013

Company Names

Kombinati Shiri Dushanbe
Milk Factory Saodat
Shirdaryo
Correct
OJSHC Fabrikai Shiri Saodat
Universal Plus
Kombinati Shiri Dushabe

Explanations

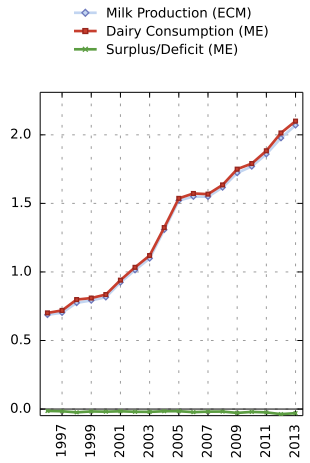
Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated.*
Consumer price (raw data) for: *Milk (regular), 1 liter.*
Remarks: *Monthly milk price and consumer price are calculated based on monthly price index and real data.*
Estimates done for: *Cow numbers: 2013. Milk delivered: 20% of cow's milk by IFCN. Consumer prices: 2009, 2010. Dairy processing profile for 2013 with partner estimation.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

Tajikistan

3.95 Tanzania

Milk balance

in mill t, from all dairy species



Dairy sector and chain profile

Status 2013

- No. 51 in the world (cow's) milk production: 2.0 mill t ECM, of which delivered: 30%
- Country dairy consumption: 2.1 mill t ME
- Self-sufficiency in milk: 99%

Key developments 2008-2013

- Milk production (cow's): +5.3% per year
- Country dairy consumption: +5.1% per year
- Dairy consumption per capita: +2.5% per year

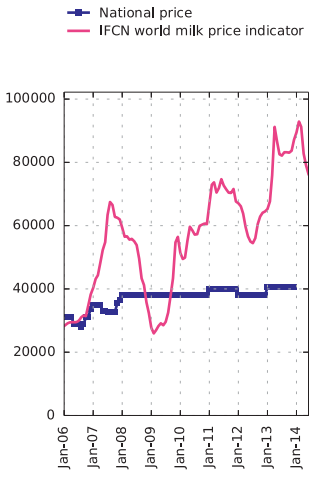
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	0.59	0.68	0.72	0.91	1.20	1.43	1.51	1.66	1.75	1.87	1.96	+8.7%	+5.3%
Cows (in 1,000s)	3,250	3,850	3,400	4,175	5,180	6,100	6,620	6,900	6,900	6,950	6,950	+7.6%	+1.0%
Milk yield (t/cow/year)	0.18	0.18	0.21	0.22	0.23	0.24	0.23	0.24	0.25	0.27	0.28	+1.1%	+4.3%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	0.70	0.80	0.84	1.03	1.32	1.57	1.63	1.79	1.88	2.01	2.10	+7.9%	+5.1%
Population (mill people)	30.56	32.27	33.68	35.28	36.79	38.64	40.73	42.83	43.88	44.93	46.28	+2.5%	+2.6%
Consumption (kg ME/capita)	23	25	25	29	36	41	40	42	43	45	45	+5.2%	+2.5%
The dairy chain													
Milk delivered (cow's)%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	0.0%	0.0%
Self-sufficiency in milk in%	98%	97%	98%	98%	99%	99%	99%	99%	99%	98%	99%	+0.1%	-0.1%
Farmers' share of consumer price			51%	50%	44%	54%	45%	39%	36%	30%	29%	+1.1%	-8.3%

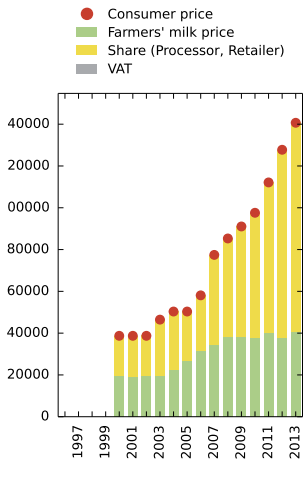
Farm gate milk prices

TZS / 100 kg milk (ECM)



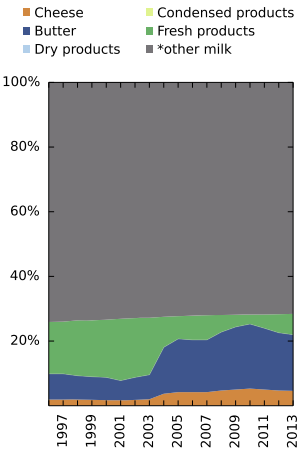
Consumer & farmers' prices

TZS / 100 kg milk (ECM)



Processing profile

% of all milk produced



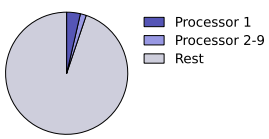
Milk processors list 2011

Milk intake in 1,000 tons (natural content)

Tanga Fresh Ltd	19
Musoma Dairy Ltd.	3.8
Shambani Graduates Enterprises	1.1
New Northern Creameries Ltd.	1.1
Mara Milk	0.6
Mountain Green Ltd.	0.6
International Dairy Products	0.6
Nyalable Dairy Cooperative Society	0.2
Baraki Sisters Farm	0.2

Cooperatives: 92% of milk intake shown

Share on national milk delivery:



Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *1 litre fresh milk, farm gate.*
Remarks: *Milk processors: Milk intake is represented by the milk intake capacity of the dairy companies.*
Estimates done for: *Milk production 2013. No. of cows 2013. Consumer price 2012-2013. Monthly milk prices 2008-2013: Annual averages.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

Adul Vangtal

Dairy sector and chain profile

Status 2013

- No. 73 in the world (cow's) milk production: 1.1 mill t ECM, of which delivered: 95%
- Country dairy consumption: 1.6 mill t ME
- Self-sufficiency in milk: 69%

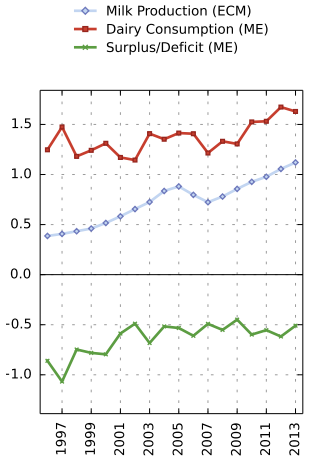
Key developments 2008-2013

- Milk production (cow's): +7.5% per year
- Country dairy consumption: +4.1% per year
- Dairy consumption per capita: +3.5% per year

Milk equivalent (ME) calculation based on fat and protein only

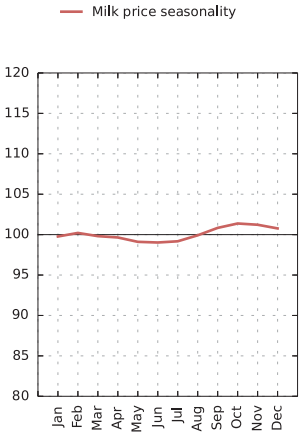
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)

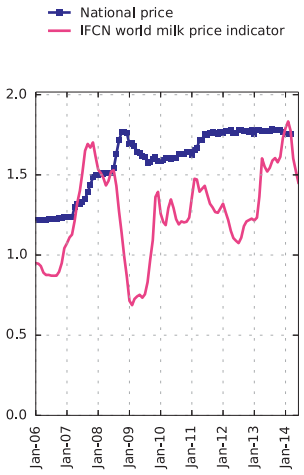


Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	0.39	0.43	0.52	0.65	0.84	0.80	0.78	0.93	0.98	1.06	1.12	+1.5%	+7.5%
Cows (in 1,000s)	116	132	146	159	203	215	208	280	288	296	280	+3.2%	+6.1%
Milk yield (t/cow/year)	3.33	3.28	3.53	4.12	4.12	3.71	3.75	3.31	3.39	3.57	4.00	-1.7%	+1.3%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	1.25	1.18	1.31	1.14	1.35	1.41	1.33	1.53	1.53	1.67	1.63	-1.1%	+4.1%
Population (mill people)	60.12	61.47	61.88	63.46	65.08	65.28	66.32	67.28	67.58	67.89	68.23	+0.7%	+0.6%
Consumption (kg ME/capita)	21	19	21	18	21	22	20	23	23	25	24	-1.8%	+3.5%
The dairy chain													
Milk delivered (cow's)%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	0.0%	0.0%
Self-sufficiency in milk in%	31%	37%	39%	57%	62%	57%	59%	61%	64%	63%	69%	+2.6%	+3.3%
Farmers' share of consumer price		33%	35%	39%	39%	39%	45%	43%	42%	42%	41%	+3.3%	-2.0%

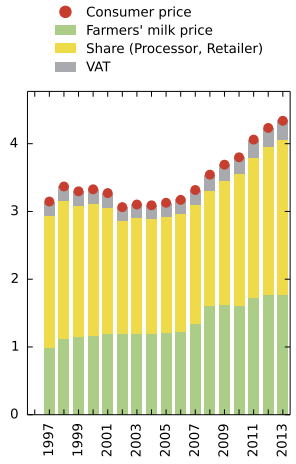
Farm gate milk prices

1,000 THB / 100 kg milk (ECM)



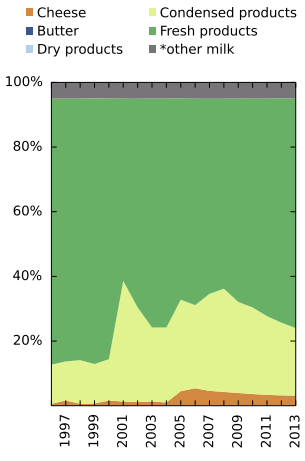
Consumer & farmers' prices

1,000 THB / 100 kg milk (ECM)



Processing profile

% of all milk produced



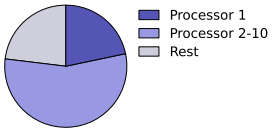
Milk processors list 2009/2010

Milk intake in 1,000 tons (natural content)

Dairy Farming Promotion Organization of Thailand	193
Frieslandcampina (Thailand) PCL.	148
CP-Meiji Co. Ltd.	60
Nongpho Dairy Cooperative Ltd.	57
Dutch Mill Co. Ltd.	55
F & N Dairies (Thailand) Co., Ltd.	50
Wangnamyen Dairy Cooperative Ltd.	37
Country Fresh Dairy Co., Ltd.	34
Chiangmai Fresh Milk Co. Ltd.	30
Nestle (Thailand) Co. Ltd.	18

Cooperatives: 0% of milk intake shown

Share on national milk delivery:



Explanations

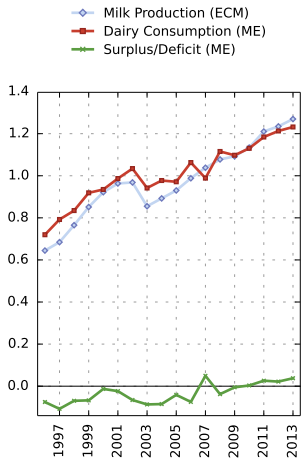
Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *UHT milk, 250 cc, 6 pack.*
Estimates done for: *Milk production: 2013. Consumer price: 2010-13.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

3.97 Tunisia

Dhiaeddine M'Hamed — **Dairy Expert**

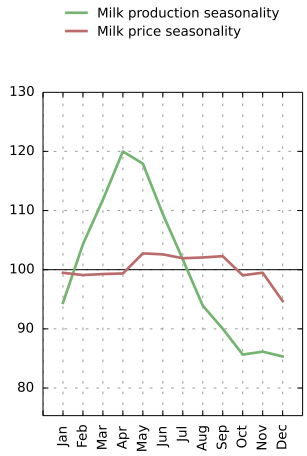
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)



Dairy sector and chain profile

Status 2013

- No. 70 in the world (cow's) milk production: 1.2 mill t ECM, of which delivered: 68%
- Country dairy consumption: 1.2 mill t ME
- Self-sufficiency in milk: 103%

Key developments 2008-2013

- Milk production (cow's): +3.2% per year
- Country dairy consumption: +2.0% per year
- Dairy consumption per capita: +0.9% per year

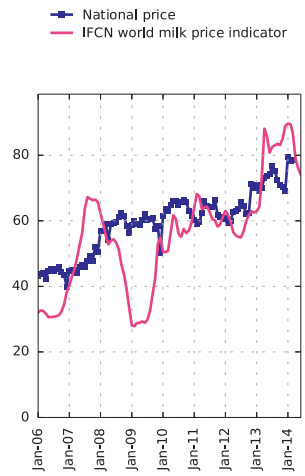
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	0.61	0.73	0.88	0.93	0.85	0.95	1.03	1.08	1.16	1.18	1.21	+4.8%	+3.2%
Cows (in 1,000s)	409	463	482	485	435	480	530	565	585	595	605	+3.3%	+2.7%
Milk yield (t/cow/year)	1.49	1.57	1.82	1.91	1.96	1.97	1.95	1.91	1.98	1.98	2.00	+1.4%	+0.5%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	0.72	0.83	0.93	1.03	0.98	1.06	1.12	1.13	1.18	1.21	1.23	+3.4%	+2.0%
Population (mill people)	9.09	9.33	9.55	9.75	9.93	10.13	10.33	10.55	10.67	10.78	10.92	+1.0%	+1.1%
Consumption (kg ME/capita)	79	89	98	106	98	105	108	107	111	113	113	+2.4%	+0.9%
The dairy chain													
Milk delivered (cow's)%	47%	53%	55%	58%	62%	63%	61%	64%	66%	68%	68%	-0.1%	+2.1%
Self-sufficiency in milk in%	90%	92%	99%	94%	91%	93%	97%	100%	102%	102%	103%	+1.3%	+1.3%
Farmers' share of consumer price	41%	43%	43%	44%	44%	47%	48%	40%	42%	45%	48%	+1.9%	+0.1%

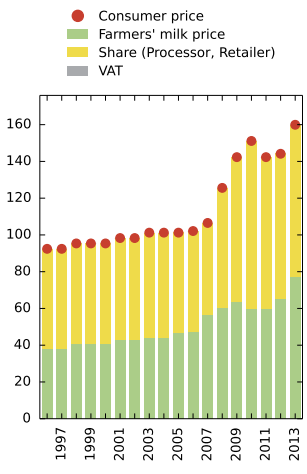
Farm gate milk prices

TND / 100 kg milk (ECM)



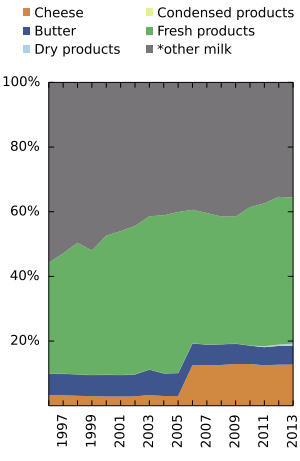
Consumer & farmers' prices

TND / 100 kg milk (ECM)



Processing profile

% of all milk produced



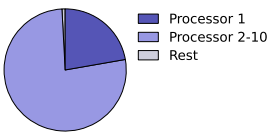
Milk processors list 2013

Milk intake in 1,000 tons (natural content)

Centrale Laitière du Cap-Bon	198
Centrale Laitière du Nord	136
Tunisie Lait	127
Centrale Laitière de Mahdia	99
Stial	85
Centrale Laitière de Sidi Bouzid	85
Agromed	51
Seabg	51
Gipa	28
Soril	23

Cooperatives: 0% of milk intake shown

Share on national milk delivery:



Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *1 litre packaging, UHT half skimmed milk, 1.55% fat, 2.8% protein.*
Estimates done for: *Cow's milk: Fat & protein contents. Milk processors: Milk intake estimated by partner.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

ULUSAL SÜT KONSEYİ

Muhittin Özder

Dairy sector and chain profile

Status 2013

- No. 10 in the world (cow's and buffalo's) milk production: 17.8 mill t ECM, of which delivered: 43%
- Country dairy consumption: 20 mill t ME
- Self-sufficiency in milk: 100%

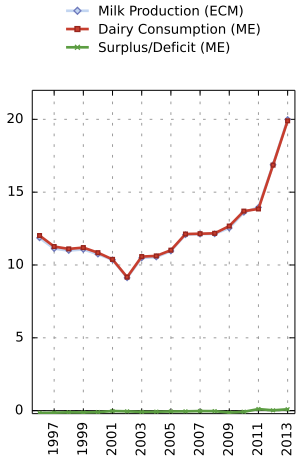
Key developments 2008-2013

- Milk production (cow's and buffalo's): +10.6% per year
- Country dairy consumption: +10.3% per year
- Dairy consumption per capita: +8.7% per year

Milk equivalent (ME) calculation based on fat and protein only

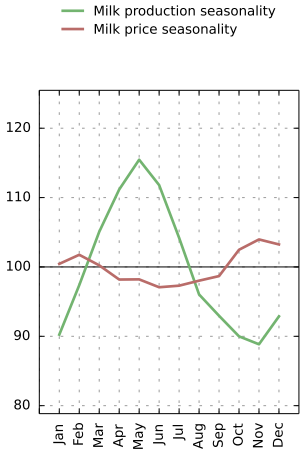
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)

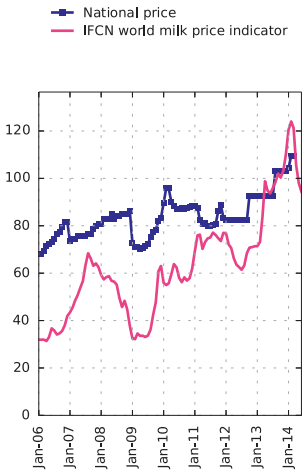


Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's and buffalo's)													
Production (mill t ECM)	10.14	9.46	9.30	7.87	9.07	10.57	10.75	12.06	12.22	14.91	17.76	+3.6%	+10.6%
Cows and buffalos (in 1,000s)	6,082	5,574	5,349	4,444	3,915	4,224	4,111	4,420	4,529	5,276	5,659	-4.2%	+6.6%
Milk yield (t/cow/year)	1.67	1.70	1.74	1.77	2.32	2.50	2.61	2.73	2.70	2.83	3.14	+8.2%	+3.7%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	12.02	11.11	10.84	9.17	10.62	12.13	12.17	13.70	13.85	16.86	19.90	+2.9%	+10.3%
Population (mill people)	58.53	62.46	64.25	66.01	67.72	69.39	71.09	73.00	73.95	74.89	76.48	+1.2%	+1.5%
Consumption (kg ME/capita)	205	178	169	139	157	175	171	188	187	225	260	+1.6%	+8.7%
The dairy chain													
Milk delivered (cow's and buffalo's)%	35%	38%	40%	47%	54%	60%	60%	54%	55%	52%	43%	+3.6%	-6.2%
Self-sufficiency in milk in%	99%	99%	99%	99%	99%	100%	100%	99%	101%	100%	100%	+0.1%	+0.2%
Farmers' share of consumer price	31%	40%	45%	28%	31%	28%	31%	45%	43%	40%	36%	+0.7%	+2.8%

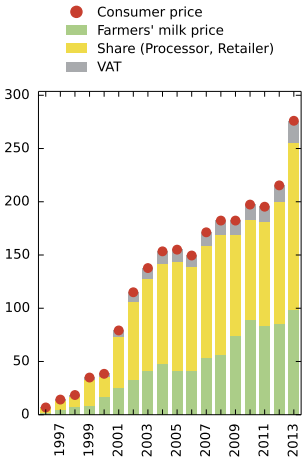
Farm gate milk prices

TRY / 100 kg milk (ECM)



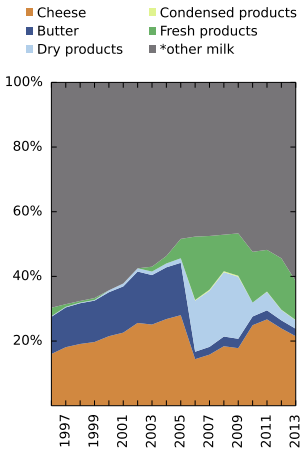
Consumer & farmers' prices

TRY / 100 kg milk (ECM)



Processing profile

% of all milk produced



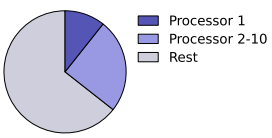
Milk processors list 2013

Milk intake in 1,000 tons (natural content)

Ak Gıda	847
Sütaş	579
Yörsan	244
Pinar	229
Aynes	194
Akova	178
Sek	166
Kaanlar	138
Sütaş	128
Teksüt	123

Cooperatives: 0% of milk intake shown

Share on national milk delivery:



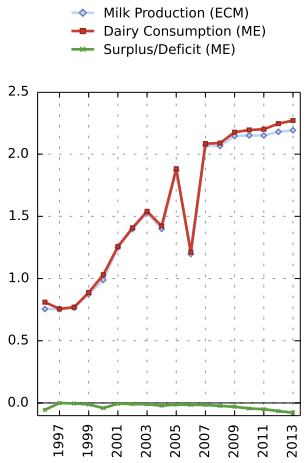
Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *UHT - whole milk, 1 litre, tetrapak, 3.6% fat, 3.5% protein.*
Remarks: *Milk processors: Milk intake based on partner data.*
Estimates done for: *Buffalo's milk: fat and protein.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

3.99 Turkmenistan

Milk balance

in mill t, from all dairy species



Dairy sector and chain profile

Status 2013

- No. 50 in the world (cow's) milk production: 2.2 mill t ECM, of which delivered: 20%
- Country dairy consumption: 2.3 mill t ME
- Self-sufficiency in milk: 97%

Key developments 2008-2013

- Milk production (cow's): +1.2% per year
- Country dairy consumption: +1.7% per year
- Dairy consumption per capita: +0.1% per year

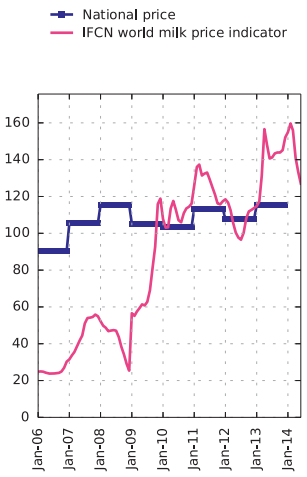
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	0.75	0.77	0.99	1.40	1.40	1.20	2.06	2.15	2.15	2.18	2.19	+6.2%	+1.2%
Cows (in 1,000s)	567	485	620	770	1000	1,032	1,043	1000	1000	1000	1000	+3.0%	-0.8%
Milk yield (t/cow/year)	1.33	1.58	1.60	1.82	1.40	1.16	1.98	2.15	2.15	2.18	2.19	+3.1%	+2.1%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	0.81	0.77	1.03	1.41	1.42	1.21	2.09	2.19	2.20	2.25	2.27	+6.3%	+1.7%
Population (mill people)	4.20	4.48	4.64	4.79	4.95	5.10	5.27	5.44	5.53	5.61	5.70	+1.6%	+1.6%
Consumption (kg ME/capita)	193	172	222	293	288	238	396	403	398	400	398	+4.6%	+0.1%
The dairy chain													
Milk delivered (cow's)%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0.0%	0.0%
Self-sufficiency in milk in%	93%	99%	96%	99%	98%	99%	99%	98%	98%	97%	97%	-0.1%	-0.5%
Farmers' share of consumer price								37%	41%	39%	42%		

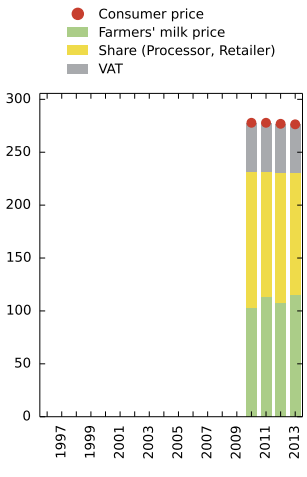
Farm gate milk prices

TMT / 100 kg milk (ECM)



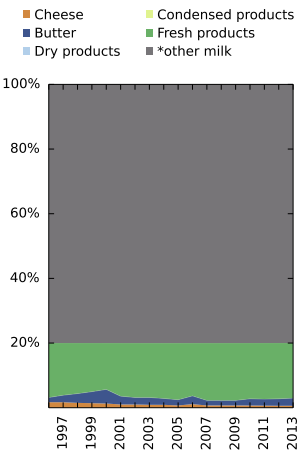
Consumer & farmers' prices

TMT / 100 kg milk (ECM)



Processing profile

% of all milk produced



Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated.*
Consumer price (raw data) for: *Milk (regular), 1 liter*
Estimates done for: *Consumer price 2013. Monthly milk prices 1996-2013: Annual averages. Milk delivered: 20% estimated by IFCN.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

Steven Aikiriza

Dairy sector and chain profile

Status 2013

- No. 57 in the world (cow's) milk production: 1.9 mill t ECM, of which delivered: 7%
- Country dairy consumption: 1.9 mill t ME
- Self-sufficiency in milk: 100%

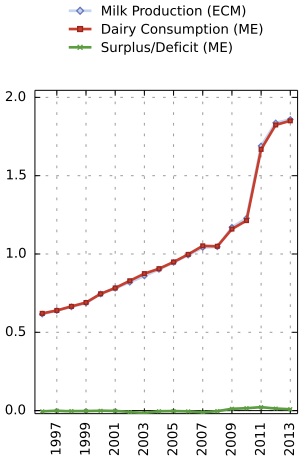
Key developments 2008-2013

- Milk production (cow's): +12.2% per year
- Country dairy consumption: +12.0% per year
- Dairy consumption per capita: +8.5% per year

Milk equivalent (ME) calculation based on fat and protein only

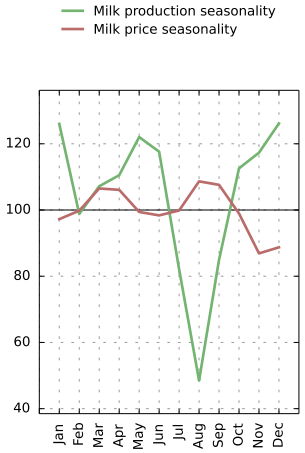
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)

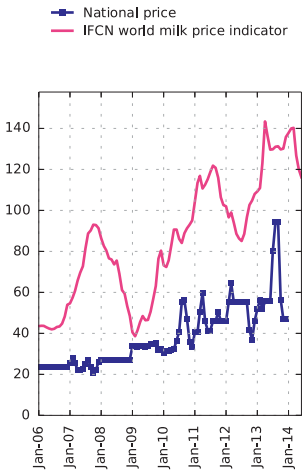


Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	0.62	0.66	0.74	0.82	0.90	0.99	1.05	1.23	1.69	1.84	1.86	+4.0%	+12.2%
Cows (in 1,000s)	1,325	1,413	1,492	1,582	1,700	2,767	3,721	4,293	4,612	5,226	5,383	+17.8%	+7.7%
Milk yield (t/cow/year)	0.46	0.47	0.50	0.52	0.53	0.36	0.28	0.29	0.37	0.35	0.35	-11.7%	+4.2%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	0.62	0.67	0.75	0.83	0.91	1.00	1.05	1.21	1.67	1.82	1.85	+3.7%	+12.0%
Population (mill people)	0.46	0.47	0.50	0.52	0.53	0.36	0.28	0.29	0.37	0.35	0.35	+3.3%	+3.3%
Consumption (kg ME/capita)	29	29	31	32	33	34	33	36	48	51	50	+0.4%	+8.5%
The dairy chain													
Milk delivered (cow's)%	7%	6%	6%	5%	5%	3%	5%	6%	4%	6%	7%	+2.2%	+7.7%
Self-sufficiency in milk in%	99%	100%	100%	99%	100%	100%	100%	101%	101%	101%	100%	+0.3%	+0.2%
Farmers' share of consumer price	33%	30%	22%	25%	23%	20%	25%	32%	26%	29%	36%	+4.4%	+7.3%

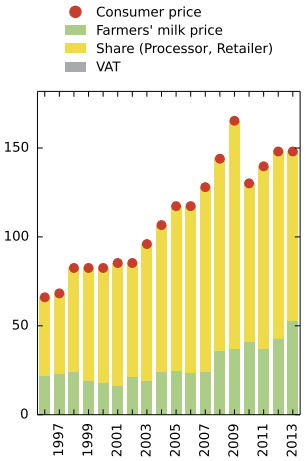
Farm gate milk prices

1,000 UGX / 100 kg milk (ECM)



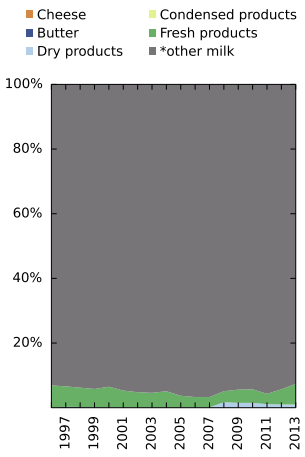
Consumer & farmers' prices

1,000 UGX / 100 kg milk (ECM)



Processing profile

% of all milk produced



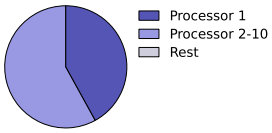
Milk processors list 2013

Milk intake in 1,000 tons (natural content)

Sameer A&L Ltd	57
Pearl Dairy U Limited est.	28
JESA Farm Dairy	27
G.B.K. Dairy Ltd	5.7
Paramount Cheese Ltd	5.6
Birunga Dairy Ltd	5.2
Hillside D&A Ltd	3.5
Rainbow Industries	2.9
Mama Omulungi est.	0.8
Seasons Dairy	0.4

Cooperatives: 0% of milk intake shown

Share on national milk delivery:



Explanations

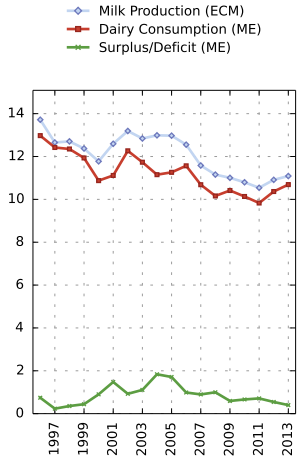
Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *Pasteurised milk (standardised), 3.2% fat, 3.3% protein.*
Remarks: *Appr. 30% of produced milk is used in household/on farm.*
Estimates done for: *Butter and Ghee: 2009-2013.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

3.101 Ukraine

Olga Kozak

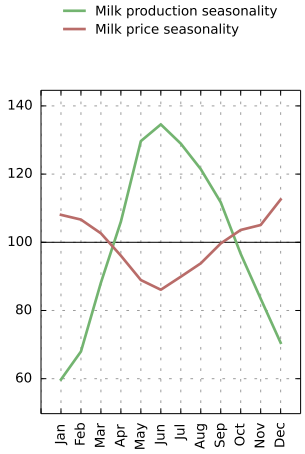
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)



Dairy sector and chain profile

Status 2013

- No. 17 in the world (cow's) milk production: 10.7 mill t ECM, of which delivered: 40%
- Country dairy consumption: 11 mill t ME
- Self-sufficiency in milk: 104%

Key developments 2008-2013

- Milk production (cow's): -0.3% per year
- Country dairy consumption: +1.0% per year
- Dairy consumption per capita: +1.4% per year

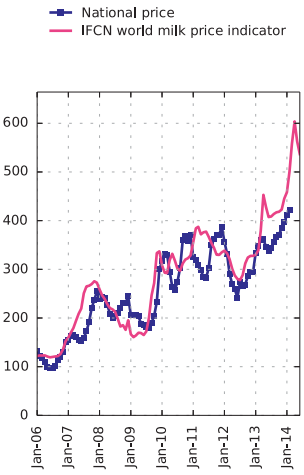
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	13.48	12.48	11.54	12.90	12.65	12.27	10.91	10.50	10.23	10.60	10.75	-2.7%	-0.3%
Cows (in 1,000s)	6,972	5,841	4,958	4,716	3,926	3,347	2,920	2,677	2,589	2,582	2,554	-7.4%	-2.6%
Milk yield (t/cow/year)	1.93	2.14	2.33	2.74	3.22	3.67	3.74	3.92	3.95	4.10	4.21	+5.0%	+2.4%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	12.97	12.35	10.87	12.27	11.15	11.57	10.16	10.13	9.83	10.37	10.69	-2.8%	+1.0%
Population (mill people)	50.87	49.97	49.12	48.24	47.44	46.75	46.19	45.78	45.60	45.45	45.37	-0.7%	-0.4%
Consumption (kg ME/capita)	255	247	221	254	235	247	220	221	216	228	236	-2.2%	+1.4%
The dairy chain													
Milk delivered (cow's)%	42%	54%	49%	42%	38%	38%	40%	42%	41%	41%	40%	-2.1%	-0.3%
Self-sufficiency in milk in%	106%	103%	108%	108%	116%	109%	110%	107%	107%	105%	104%	+0.1%	-1.1%
Farmers' share of consumer price	25%	26%	30%	29%	28%	35%	30%	35%	35%	32%	39%	-2.3%	+5.4%

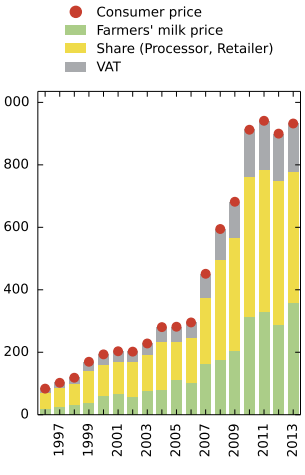
Farm gate milk prices

UAH / 100 kg milk (ECM)



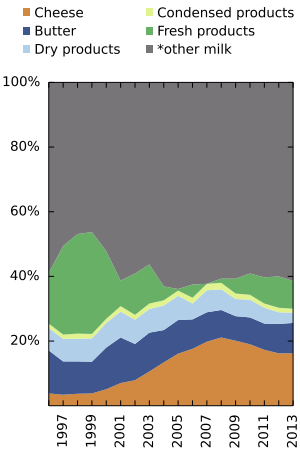
Consumer & farmers' prices

UAH / 100 kg milk (ECM)



Processing profile

% of all milk produced



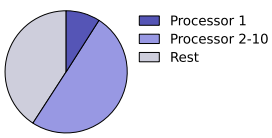
Milk processors list 2013

Milk intake in 1,000 tons (natural content)

Milk Alliance	412
Milkiland Ukraine	361
Danone-Unimilk	360
Lustdorf	322
Terra Food	316
Wimm Bill Dann	224
Almira	196
GK Formula	184
Galychyna	171
Lactalis	159

Cooperatives: 0% of milk intake shown

Share on national milk delivery:



Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *Fresh milk, 1 litre pack, 2.5% fat, 2.8% protein.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

AHDB Agriculture & Horticulture DEVELOPMENT BOARD

Mark Topliff

Dairy sector and chain profile

Status 2013

- No. 11 in the world (cow's) milk production: 14.0 mill t ECM, of which delivered: 98%
- Country dairy consumption: 17 mill t ME
- Self-sufficiency in milk: 81%

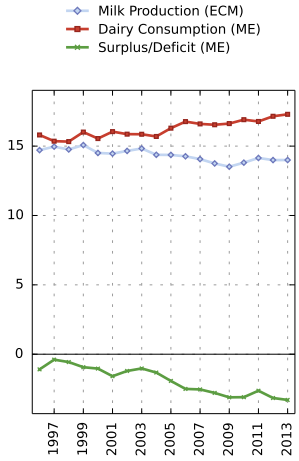
Key developments 2008-2013

- Milk production (cow's): +0.4% per year
- Country dairy consumption: +0.9% per year
- Dairy consumption per capita: 0.0% per year

Milk equivalent (ME) calculation based on fat and protein only

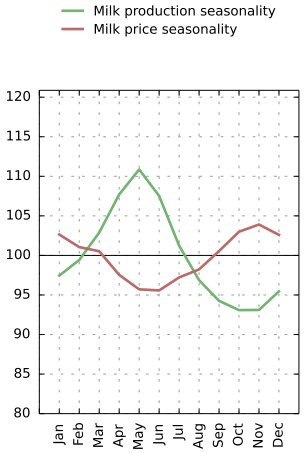
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)

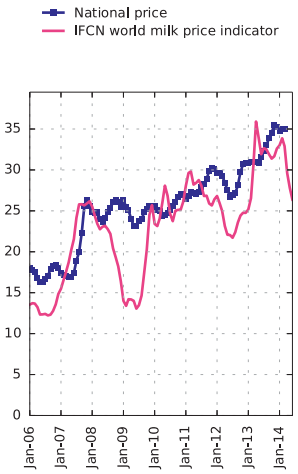


Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	14.71	14.76	14.51	14.65	14.37	14.26	13.75	13.81	14.15	13.99	14.00	-1.5%	+0.4%
Cows (in 1,000s)	2,511	2,439	2,336	2,227	2,129	2,066	1,909	1,847	1,814	1,812	1,782	-2.7%	-1.4%
Milk yield (t/cow/year)	5.86	6.05	6.21	6.58	6.75	6.90	7.20	7.48	7.80	7.72	7.85	+1.3%	+1.7%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	15.80	15.33	15.54	15.86	15.70	16.77	16.54	16.91	16.78	17.15	17.29	+0.8%	+0.9%
Population (mill people)	58.16	58.48	58.89	59.32	59.84	60.58	61.40	62.26	63.28	63.70	64.09	+0.6%	+0.9%
Consumption (kg ME/capita)	272	262	264	267	262	277	269	272	265	269	270	+0.2%	0.0%
The dairy chain													
Milk delivered (cow's)%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	0.0%	0.0%
Self-sufficiency in milk in%	93%	96%	93%	92%	92%	85%	83%	82%	84%	82%	81%	-2.3%	-0.5%
Farmers' share of consumer price	60%	49%	45%	41%	41%	35%	43%	42%	48%	50%	56%	+1.0%	+5.2%

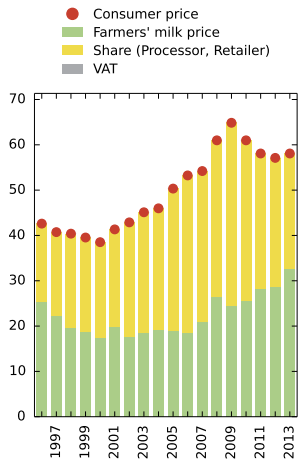
Farm gate milk prices

GBP / 100 kg milk (ECM)



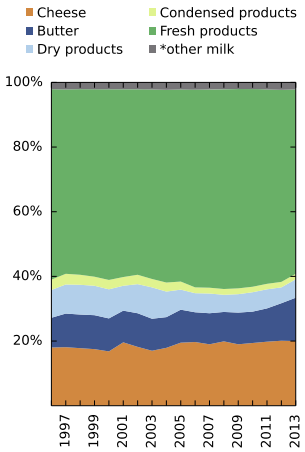
Consumer & farmers' prices

GBP / 100 kg milk (ECM)



Processing profile

% of all milk produced



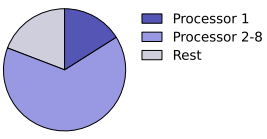
Milk processors list 2011

Milk intake in 1,000 tons (natural content)

Dairy Crest	2214
Robert Wiseman Dairies	1972
Arla UK	1942
First Milk	1673
Milk Link	1565
UDF	930
Meadow	615
Muller	247

Cooperatives: 55% of milk intake shown

Share on national milk delivery:



Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA, Eurostat, AMI.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *Average price of supermarket liquid milk, 1 litre pack.*
Remarks: *Average milk price: Net of delivery charges and excluding retrospective bonuses and deductions for superlevy.*
Milk processors: Muller and Robert Wisemann merged in 2012.
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

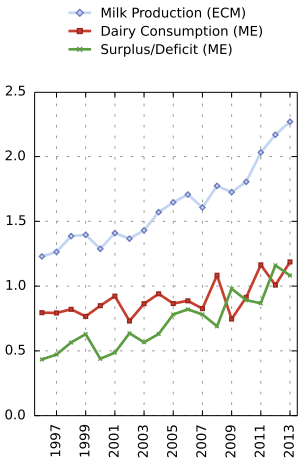
3.103 Uruguay

Jorge Artagaveytia

inale
Instituto Nacional de la Leche

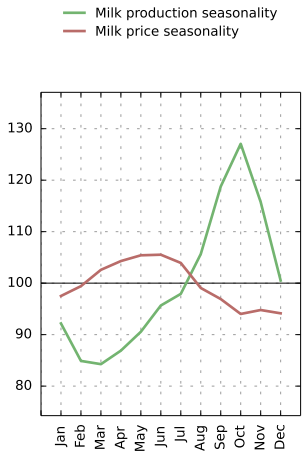
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)



Dairy sector and chain profile

Status 2013

- No. 47 in the world (cow's) milk production: 2.3 mill t ECM, of which delivered: 89%
- Country dairy consumption: 1.2 mill t ME
- Self-sufficiency in milk: 191%

Key developments 2008-2013

- Milk production (cow's): +5.0% per year
- Country dairy consumption: +1.8% per year
- Dairy consumption per capita: +1.5% per year

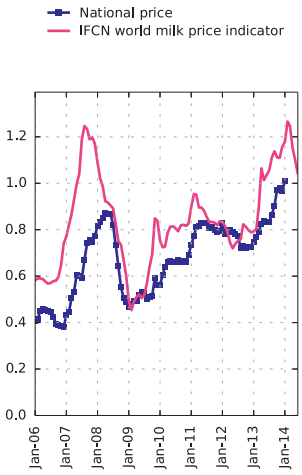
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	1.23	1.39	1.29	1.37	1.57	1.71	1.77	1.81	2.03	2.17	2.27	+4.4%	+5.0%
Cows (in 1,000s)	380	394	403	443	389	400	409	428	428	450	441	-0.4%	+1.5%
Milk yield (t/cow/year)	3.23	3.52	3.20	3.08	4.04	4.27	4.34	4.22	4.75	4.82	5.15	+4.8%	+3.5%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	0.79	0.82	0.85	0.73	0.94	0.89	1.08	0.91	1.16	1.01	1.19	+4.6%	+1.8%
Population (mill people)	3.22	3.27	3.30	3.31	3.30	3.31	3.33	3.36	3.37	3.38	3.39	+0.2%	+0.3%
Consumption (kg ME/capita)	247	251	257	221	285	268	325	272	346	298	350	+4.4%	+1.5%
The dairy chain													
Milk delivered (cow's)%	78%	78%	78%	77%	80%	82%	84%	85%	90%	89%	89%	+1.5%	+1.2%
Self-sufficiency in milk in%	155%	169%	152%	187%	167%	193%	164%	198%	175%	215%	191%	-0.2%	+3.2%
Farmers' share of consumer price		26%	20%	17%	35%	30%	51%	44%	52%	43%	48%	+7.9%	-1.1%

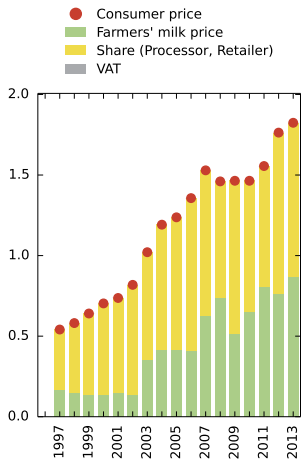
Farm gate milk prices

1,000 UYU / 100 kg milk (ECM)



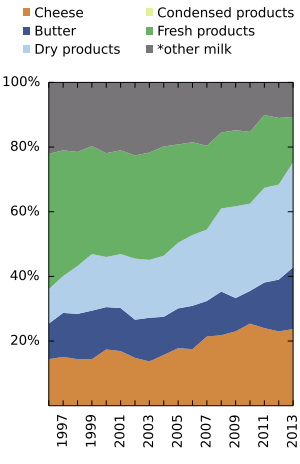
Consumer & farmers' prices

1,000 UYU / 100 kg milk (ECM)



Processing profile

% of all milk produced



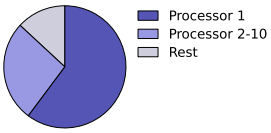
Milk processors list 2013

Milk intake in 1,000 tons (natural content)

CONAPROLE S.A	1266
ECOLAT	155
CALCAR	85
DULEI	74
INDULACSA	72
CLALDY	60
PILI S.A	60
GRANJA POCHA	23
BONPROLE	20
COLEME	11

Cooperatives: 78% of milk intake shown

Share on national milk delivery:



Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *Fresh milk, pasteurised, 2.6% fat, 3.1% protein.*
Remarks: *National statistics show a human consumption of 248 liter/capita in 2012. Milk processors: Milk intake is based on% of milk collected from the national market.*
Estimates done for: *Milk processing: 2013.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

CENTER FOR DAIRY PROFITABILITY

Mark Stephenson

Dairy sector and chain profile

Status 2013

- No. 2 in the world (cow's) milk production: 87.0 mill t ECM, of which delivered: 100%
- Country dairy consumption: 82 mill t ME
- Self-sufficiency in milk: 106%

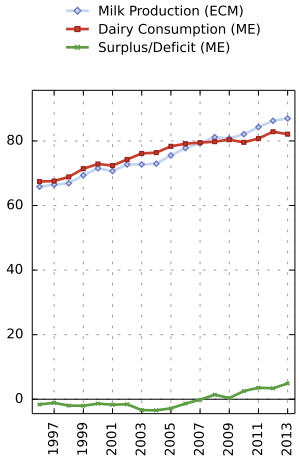
Key developments 2008-2013

- Milk production (cow's): +1.4% per year
- Country dairy consumption: +0.6% per year
- Dairy consumption per capita: -0.2% per year

Milk equivalent (ME) calculation based on fat and protein only

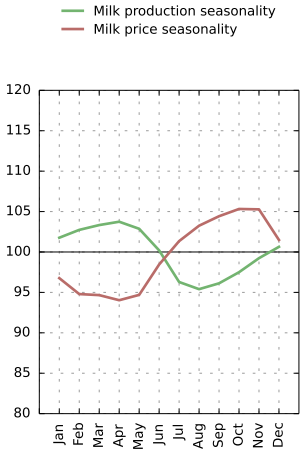
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)

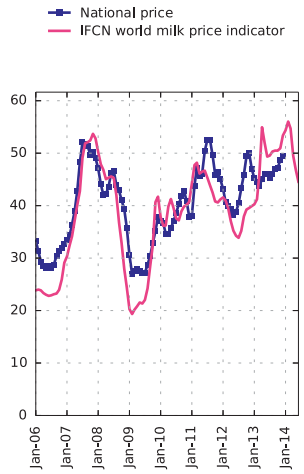


Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	65.82	66.90	71.51	72.71	72.95	77.80	81.18	82.09	84.30	86.25	86.98	+2.2%	+1.4%
Cows (in 1,000s)	9,372	9,151	9,199	9,139	9,011	9,137	9,315	9,119	9,194	9,232	9,215	+0.5%	-0.2%
Milk yield (t/cow/year)	7.02	7.31	7.77	7.96	8.10	8.51	8.71	9.00	9.17	9.34	9.44	+1.7%	+1.6%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	67.43	68.86	72.86	74.27	76.39	79.15	79.78	79.57	80.74	82.86	82.10	+0.9%	+0.6%
Population (mill people)	270	276	282	288	293	299	305	310	312	314	316	+0.9%	+0.8%
Consumption (kg ME/capita)	250	249	258	258	260	265	262	257	259	264	259	0.0%	-0.2%
The dairy chain													
Milk delivered (cow's)%	99%	99%	99%	99%	99%	99%	99%	99%	99%	100%	100%	0.0%	0.0%
Self-sufficiency in milk in%	98%	97%	98%	98%	96%	98%	102%	103%	104%	104%	106%	+1.3%	+0.8%
Farmers' share of consumer price	46%	47%	36%	36%	42%	34%	39%	41%	46%	43%	47%	+1.2%	+3.5%

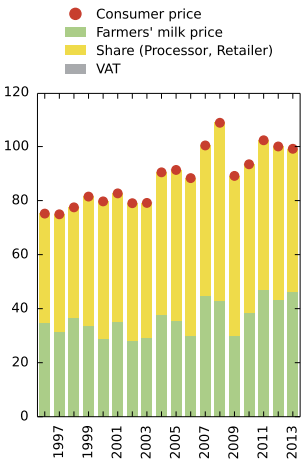
Farm gate milk prices

USD / 100 kg milk (ECM)



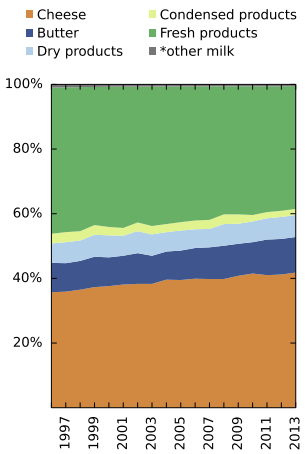
Consumer & farmers' prices

USD / 100 kg milk (ECM)



Processing profile

% of all milk produced



Milk processors list 2012

Turn over in mill USD

Nestlé USA	11174
Dean Foods Co.	9320
Saputo Inc.	7157
Schreiber Foods	4500
Land O'Lakes Inc.	4200
Kraft Foods Global Inc.	3845
Agropur Cooperative	3653
Dairy Farmers of America Inc.	3544
Lactalis USA	3230
Prairie Farms Dairy	2730

Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated.*
Consumer price (raw data) for: *US average retail price, whole fluid milk, 3.25% fat, 3.1% protein. US average price per gallon (3.9 kg).*
Remarks: *Milk production: Total US milk production including on-farm use. Milk processors: Turnover represents annual sales of the top 10 processors in 2012.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

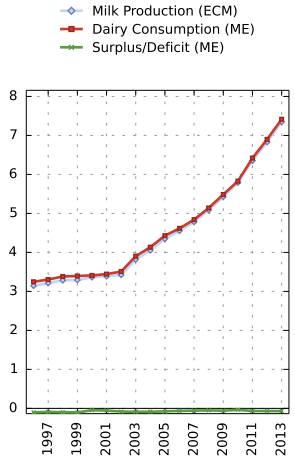
3.105 Uzbekistan

Evelina Budjurova

JUSTUS-LIEBIG-UNIVERSITÄT GIESSEN

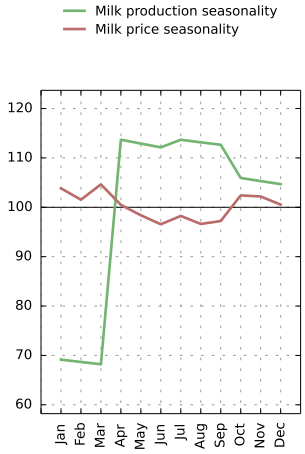
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)



Dairy sector and chain profile

Status 2013

- No. 25 in the world (cow's) milk production: 7.3 mill t ECM, of which delivered: 30%
- Country dairy consumption: 7.4 mill t ME
- Self-sufficiency in milk: 99%

Key developments 2008-2013

- Milk production (cow's): +7.6% per year
- Country dairy consumption: +7.6% per year
- Dairy consumption per capita: +5.6% per year

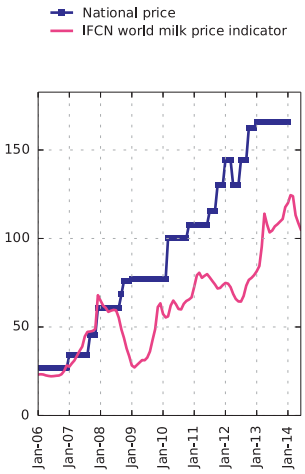
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	3.08	3.22	3.31	3.38	3.98	4.52	5.05	5.74	6.30	6.77	7.28	+6.1%	+7.6%
Cows (in 1,000s)	2,234	2,310	2,362	2,557	2,700	2,983	3,327	3,764	3,878	4,017	4,161	+5.4%	+4.6%
Milk yield (t/cow/year)	1.38	1.39	1.40	1.32	1.48	1.52	1.52	1.53	1.62	1.69	1.75	+0.7%	+2.9%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	3.25	3.38	3.41	3.51	4.13	4.62	5.14	5.83	6.42	6.90	7.42	+5.7%	+7.6%
Population (mill people)	23.13	24.23	24.91	25.52	26.12	26.76	27.55	28.50	29.10	29.75	30.24	+1.3%	+1.9%
Consumption (kg ME/capita)	140	140	137	137	158	173	187	204	221	232	245	+4.3%	+5.6%
The dairy chain													
Milk delivered (cow's)%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	0.0%	0.0%
Self-sufficiency in milk in%	97%	97%	99%	98%	98%	99%	99%	99%	99%	99%	99%	+0.2%	0.0%
Farmers' share of consumer price	72%	72%	72%	72%	72%	72%	77%	77%	70%	58%	56%	+1.2%	-6.0%

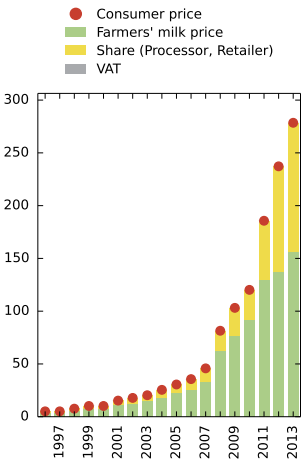
Farm gate milk prices

1,000 UZS / 100 kg milk (ECM)



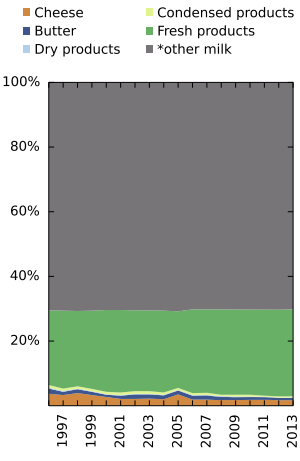
Consumer & farmers' prices

1,000 UZS / 100 kg milk (ECM)



Processing profile

% of all milk produced



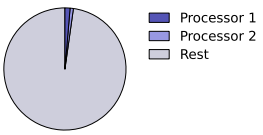
Milk processors list 2004/2008

Milk intake in 1,000 tons (natural content)

Wimm–Bill–Dann (2004)	22
Nestle Uzbekistan LLC (2008)	14

Cooperatives: 0% of milk intake shown

Share on national milk delivery:



Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *Fresh milk, sold directly to the consumer, in average 3.58% fat, 3.3% protein. The milk is not sanitary controled.*
Estimates done for: *Milk cow number 2013. Milk price 2013. Milk processing 2013. Monthly milk price: April 2013 - Jan 2014. Milk delivered: 30% by IFCN*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

IFCN Dairy Research Center

Dairy sector and chain profile

Status 2013

- No. 63 in the world (cow's) milk production: 1.7 mill t ECM, of which delivered: 77%
- Country dairy consumption: 3.3 mill t ME
- Self-sufficiency in milk: 54%

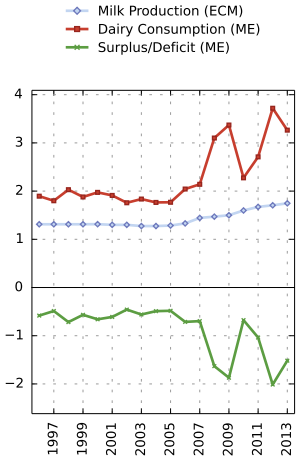
Key developments 2008-2013

- Milk production (cow's): +3.5% per year
- Country dairy consumption: +1.0% per year
- Dairy consumption per capita: -0.5% per year

Milk equivalent (ME) calculation based on fat and protein only

Milk balance

in mill t, from all dairy species

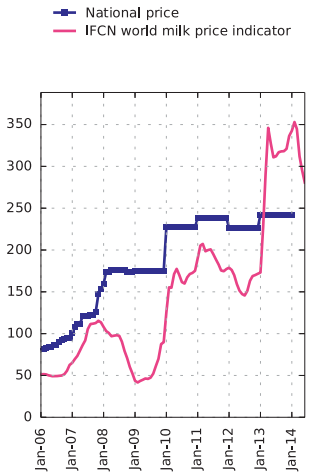


Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	1.31	1.31	1.31	1.30	1.27	1.33	1.47	1.60	1.67	1.71	1.75	+2.9%	+3.5%
Cows (in 1,000s)	740	740	735	730	730	747	811	864	896	905	918	+2.1%	+2.5%
Milk yield (t/cow/year)	1.77	1.77	1.79	1.78	1.75	1.78	1.81	1.85	1.87	1.88	1.90	+0.8%	+1.0%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	1.89	2.03	1.97	1.76	1.77	2.04	3.10	2.28	2.71	3.72	3.26	+11.1%	+1.0%
Population (mill people)	22.22	23.13	24.06	25.02	25.99	26.84	27.73	28.63	29.07	29.52	29.98	+1.7%	+1.6%
Consumption (kg ME/capita)	85	88	82	70	68	76	112	79	93	126	109	+9.2%	-0.5%
The dairy chain													
Milk delivered (cow's)%	77%	77%	77%	77%	77%	77%	77%	77%	77%	77%	77%	0.0%	0.0%
Self-sufficiency in milk in%	69%	65%	67%	74%	72%	65%	47%	70%	62%	46%	54%	-7.4%	+2.5%
Farmers' share of consumer price								31%	27%	21%	19%		

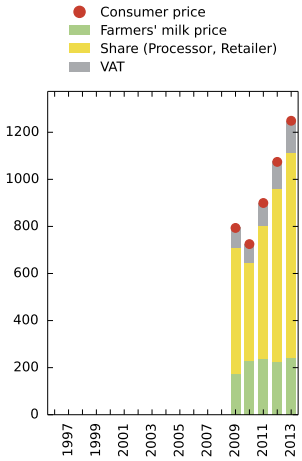
Farm gate milk prices

VEF / 100 kg milk (ECM)



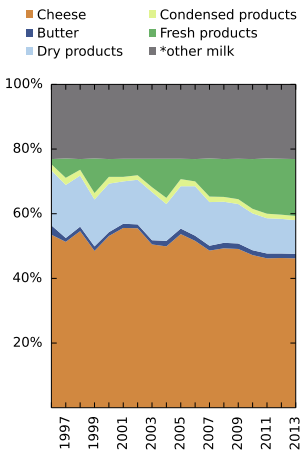
Consumer & farmers' prices

VEF / 100 kg milk (ECM)



Processing profile

% of all milk produced



Milk processors list 2008

Company Names

Agroéxito
Alpina Productos Alimenticios
Corporatión Inlaca
Empaquetadora de Alimentos Lácteos - Empalact
Fonterra
General de Alimentos Nisa - Genica
Industria Láctea Venezolana - Indulac, Parmalat, Quenaca
Industrias Lácteas Torondoy - Inlatoca
Lácteos Óptimus
Lumalac Dairy Products

Explanations

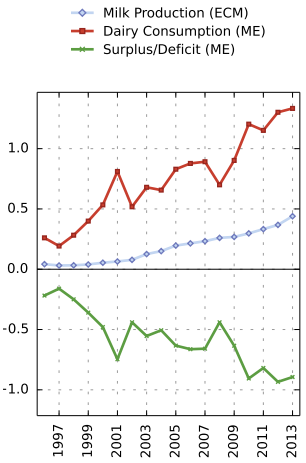
Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated.*
Consumer price (raw data) for: *UHT whole milk 1 litre.*
Remarks: *Monthly milk price 2009-2013: Annual averages.*
Estimates done for: *Cow numbers: 1996-98. Consumer price 2009, 2011. Milk delivered: 77% estimated by IFCN. Milk processing 2013. Cheese processing: 2007-2013 following the trend. Dry products: 1996-2002 based on trend.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

3.107 Vietnam

Vu Ngoc Quynh, Tieu Duc Viet

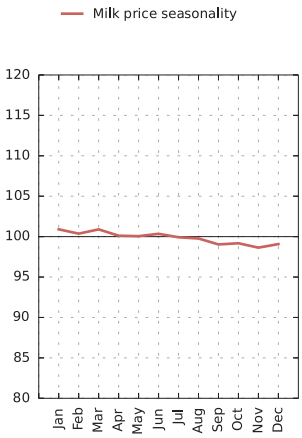
Milk balance

in mill t, from all dairy species



Seasonal index

Based on moving average
(avg = 100, 2008-2012)



Dairy sector and chain profile

Status 2013

- No. 97 in the world (cow's) milk production: 0.4 mill t ECM, of which delivered: 95%
- Country dairy consumption: 1.3 mill t ME
- Self-sufficiency in milk: 33%

Key developments 2008-2013

- Milk production (cow's): +11.1% per year
- Country dairy consumption: +13.8% per year
- Dairy consumption per capita: +12.6% per year

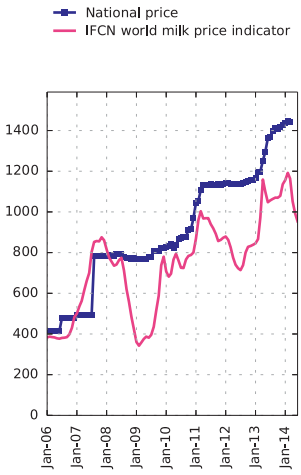
Milk equivalent (ME) calculation based on fat and protein only

Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	0.04	0.03	0.05	0.08	0.15	0.21	0.26	0.30	0.33	0.37	0.44	+15.6%	+11.1%
Cows (in 1,000s)	53.00	41.00	68.00	56.00	96.00	113	108	129	143	167	186	+6.4%	+11.6%
Milk yield (t/cow/year)	0.79	0.79	0.79	1.39	1.57	1.89	2.41	2.31	2.33	2.20	2.36	+8.7%	-0.4%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	0.26	0.28	0.53	0.52	0.66	0.88	0.70	1.20	1.15	1.30	1.33	+0.6%	+13.8%
Population (mill people)	73.16	75.46	77.64	79.73	82.03	83.31	85.12	86.93	87.84	88.76	89.69	+1.0%	+1.1%
Consumption (kg ME/capita)	4	4	7	6	8	11	8	14	13	15	15	-0.4%	+12.6%
The dairy chain													
Milk delivered (cow's)%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	-0.1%	+0.1%
Self-sufficiency in milk in%	16%	12%	10%	15%	23%	24%	37%	25%	29%	28%	33%	+15.0%	-2.4%
Farmers' share of consumer price						26%	37%	34%	36%	33%	33%		-2.2%

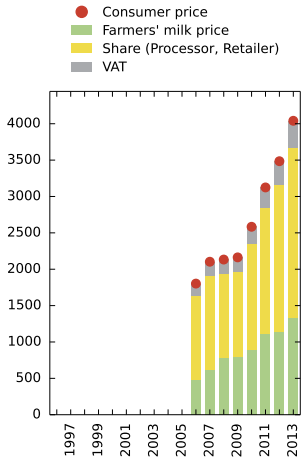
Farm gate milk prices

1,000 VND / 100 kg milk (ECM)



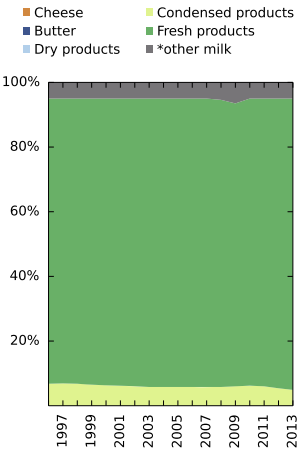
Consumer & farmers' prices

1,000 VND / 100 kg milk (ECM)



Processing profile

% of all milk produced



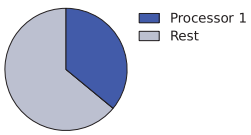
Milk processors list 2013

Milk intake in 1,000 tons (natural content)

Vinamilk	156
FrieslandCampina Vietnam	n/a
TH milk	n/a
IDP	n/a
Moc Chau	n/a
Hanoi Milk	n/a
Lothamilk	n/a
Ladomilk	n/a
Nutifood	n/a
Nestle Vietnam	n/a

Cooperatives: 0% of milk intake shown

Share on national milk delivery:



Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated. Cooperatives share on milk intake shown in the list is an IFCN estimate based on partner information.*
Consumer price (raw data) for: *UHT milk, 180 ml box, 3.4% fat, 2.9% protein.*
Estimates done for: *Milk delivered 1996-2007 by IFCN.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

Abdulkarim Abdulmagneed Amad

Dairy sector and chain profile

Status 2013

- No. 100 in the world (cow's) milk production: 0.2 mill t ECM, of which delivered: 0%
- Country dairy consumption: 0.7 mill t ME
- Self-sufficiency in milk: 57%

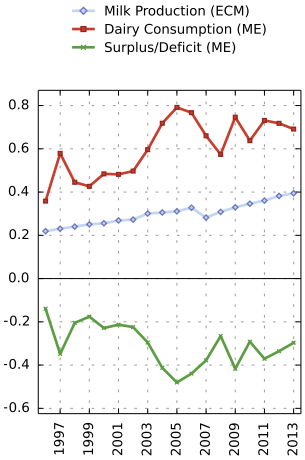
Key developments 2008-2013

- Milk production (cow's): +3.5% per year
- Country dairy consumption: +3.8% per year
- Dairy consumption per capita: +0.7% per year

Milk equivalent (ME) calculation based on fat and protein only

Milk balance

in mill t, from all dairy species

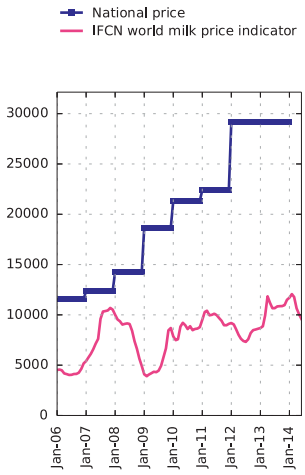


Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)							0.18	0.20	0.21	0.22	0.21		+3.5%
Cows (in 1,000s)	876	944	1,008	1,082	1,193	1,261	1,531	1,605	1,654	1,684	1,684	+5.5%	+1.9%
Milk yield (t/cow/year)							0.12	0.13	0.13	0.13	0.13		+1.5%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	0.36	0.45	0.48	0.50	0.72	0.77	0.57	0.64	0.73	0.72	0.69	-0.8%	+3.8%
Population (mill people)	15.80	16.86	17.94	19.09	20.33	21.62	22.98	24.40	25.13	25.88	26.66	+3.1%	+3.0%
Consumption (kg ME/capita)	23	26	27	26	35	35	25	26	29	28	26	-3.8%	+0.7%
The dairy chain													
Milk delivered (cow's)%													
Self-sufficiency in milk in%	61%	54%	53%	55%	43%	43%	54%	54%	49%	53%	57%	+1.3%	+1.2%
Farmers' share of consumer price								106%	105%	106%	106%		

Farm gate milk prices

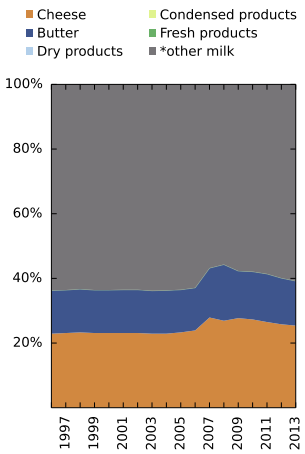
YER / 100 kg milk (ECM)



The produced milk is processed and sold directly by the farms that are marketing their products at the level of 284 YER per liter of milk. The family farms, that consume their own milk have lower milk production costs.

Processing profile

% of all milk produced



Explanations

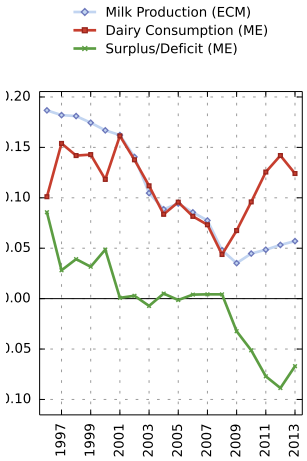
Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated.*
Remarks: *Milk deliveries: The produced milk is prosecced, used & sold by the family farms.*
Estimates done for: *Cow's milk: fat & protein. Farmer's milk price: fat & protein.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

3.109 Zimbabwe

Rob A. Jansen-van Vuuren

Milk balance

in mill t, from all dairy species



Dairy sector and chain profile

Status 2013

- No. 135 in the world (cow's) milk production: 0.057 mill t ECM, of which delivered: 95%
- Country dairy consumption: 0.1 mill t ME
- Self-sufficiency in milk: 46%

Key developments 2008-2013

- Milk production (cow's): +3.5% per year
- Country dairy consumption: +23.2% per year
- Dairy consumption per capita: +21.5% per year

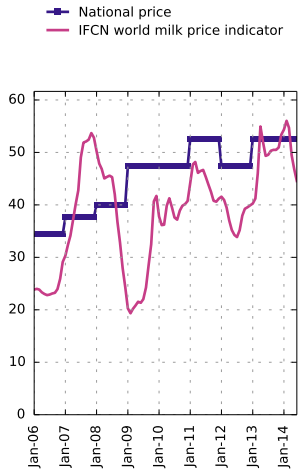
Milk equivalent (ME) calculation based on fat and protein only

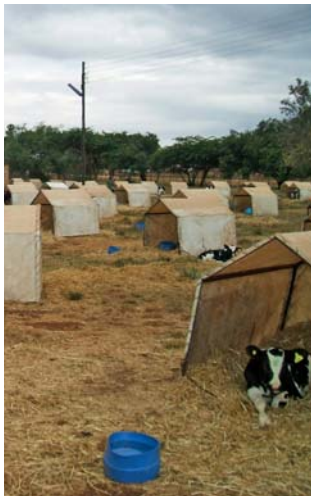
Key variables of the dairy sector

	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012	2013	annual change '03-'08	annual change '08-'13
Milk production (cow's)													
Production (mill t ECM)	0.19	0.18	0.17	0.14	0.09	0.09	0.05	0.04	0.05	0.05	0.06	-14.4%	+3.5%
Cows (in 1,000s)	39.00	44.00	30.00	39.00	24.00	21.00	18.00	14.00	12.00	12.00	12.00	-11.9%	-7.8%
Milk yield (t/cow/year)	4.80	4.12	5.56	3.60	3.69	4.07	2.67	3.19	4.04	4.44	4.75	-2.8%	+12.3%
Dairy consumption (from all dairy species)													
Country consumption (mill t ME)	0.10	0.14	0.12	0.14	0.08	0.08	0.04	0.10	0.13	0.14	0.12	-17.1%	+23.2%
Population (mill people)	11.90	11.76	11.69	11.63	11.73	12.01	12.12	12.34	12.65	12.97	12.97	+0.8%	+1.4%
Consumption (kg ME/capita)	8	12	10	12	7	7	4	8	10	11	10	-17.8%	+21.5%
The dairy chain													
Milk delivered (cow's)%	95%	95%	95%	95%	95%	94%	94%	96%	94%	95%	95%	-0.1%	+0.2%
Self-sufficiency in milk in%	185%	128%	141%	102%	106%	105%	110%	47%	39%	38%	46%	+3.2%	-16.0%
Farmers' share of consumer price													

Farm gate milk prices

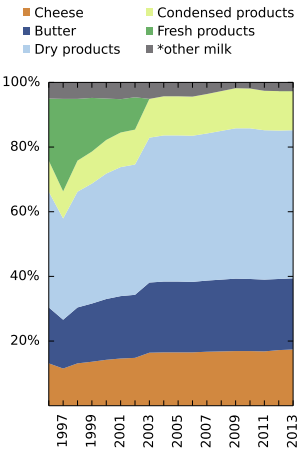
ZWD / 100 kg milk (ECM)





Processing profile

% of all milk produced



Milk processors list 2013

Company Names

Dairibord Zimbabwe Ltd
Nestle Zimbabwe
Dendairy
Kefalos Cheese
Kershalmare Dairies
Alpha Omega/Gushungo Dairies
Kefalos Cheese

Explanations

Method: *See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA.*
Data: *2014 data preliminary and partly estimated.*
**other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. All dairy species (if applicable): Cows, buffalo, sheep, goat and camel.*

Zimbabwe

Saudi Arabia

Armenia

Norway

Chapter 4 – Methods applied in IFCN analyses

Authors: IFCN

4.1 Standardisation used by IFCN

A) ECM adjustment

Converting milk with natural contents to ECM

In order to be able to show comparable outputs, the IFCN converts all milk with natural contents into energy corrected milk (ECM). With ECM conversion, milk outputs with 4% fat and 3.3% protein are generated. The formula applied is:

ECM = (milk production * (0.383 * % fat + 0.242 * % protein + 0.7832) / 3.1138)

Effects of ECM adjustment

Adjusted milk volumes are higher than the raw data, if natural fat and protein contents are high. This is especially the case for buffalo milk, as well as sheep, goat and camel milk. However, certain breeds of cows produce raw milk with high content levels (e.g. Jersey). The opposite can also occur, in the case of low natural fat and protein contents in national milk. Thus, ECM data can differ to a certain extent from data published in national statistics based on natural content.

Example

India 2011	Raw Data in mill t	ECM adjusted in mill t	Difference
Cow milk	56.9	52.9	-7%
Content	3.5% fat, 3.2% protein	4% fat, 3.3% protein	
Buffalo milk	64.3	84.6	32%
Content	6.0% fat, 4.2% protein	4% fat, 3.3% protein	

Comment: raw milk average fat and protein estimated.

B) Conversion litres to kg – mass versus volume

IFCN aims to show each variable for all countries in a comparable unit, namely in metric mass values (e.g. metric tons, kilograms). For this purpose if the specified unit in national statistics is in litres, it will be adjusted to metric tons using the multiplier 1.033 **(1 litre = 1.033 kg)**. Thus, unit adjusted figures published by IFCN can differ from data published nationally in the national unit.

C) Milk equivalents (ME)

Method and concept

To convert different dairy products into milk equivalents (ME) a wide number of concepts exist. Some consider only the fat in the milk, some the protein, some the total solids. In the IFCN Dairy Report 2004 6 concepts were compared to define the best one suitable for the IFCN work. Based on this study, IFCN has chosen the "fat and protein only" method which considers the main dairy ingredients, fat and protein, as these represent the highest value for calculating farmers' milk prices. Details on the comparison of milk equivalent concepts can be found in the IFCN Dairy Report 2004, Chapter 4.17.

Milk equivalents (ME) conversion factors

In simple words, the calculation shows how much milk is used to produce one unit of commodity. The ME factors for main products are: Butter: 11.2 ME; skim milk powder: 5.0 ME, whole milk powder 7.4 ME, cheeses (all kinds): 7.2 ME; casein 12.7 ME; condensed milk: 2.3 ME; fresh milk: 1.2 ME; dry whey 1.9; lactose 0.01 ME. These factors are based on the IDF method (*IDF 2004). It is important to note, that the methodology is applied for all processed products, imports and exports, and does not exclude transit-trade nor imports for further processing and trade.

D) Annual milk production

In a number of countries milk production is based on seasonal milk production statistics. For some major dairy countries, seasonal milk production and price data have been recalculated to annual data.

For example in India, the annual 2010 milk production would be based on a seasonal share of approximately 27% volume produced in the 2009/10 season (covering the milk production from January to March 2010) and 73% volume produced in the 2010/11 season (covering the production from April to December 2010).

Milk production recalculation to annual data

India (mill t, natural content)	**2009/10**	**2010/11**	**Annual 2010**
Cow and buffalo	112.0	117.3	115.9

** IDF 2004: International Dairy Federation, Bulletin no. 390/2004*


Italy

The TFA approach

The key issue in creating high quality farm comparison results is to apply a uniform method to all farms. In this chapter the Standard Operating Procedure applied for IFCN data collection, called "Typical farm approach" (TFA) is described. For more details see Hemme et al. (2014)*.

The TFA contains 3 elements:

1. Definition and selection of typical farms

2. Data collection

3. Data analysis / validation

1.) Definition and selection of typical farms

In the IFCN, a typical farm represents a certain production system, farm size, production technology used and the related milk volume in a country/dairy region (HEMME 2000). The goal is to have at least two (and up to six) typical farms for each region. The first farm is an **average sized** farm with an average management performance. The second farm is **larger** than the first one but also having an average management performance, to show economies of scale. The additional farms (which are usually optional) can represent different types of farms for example "a future farm" with a larger herd size than average and/or better management. It might also represent a different production system with a relatively high share of milk production in the respective country.

2.) Data collection

Panel approach: A panel (scientist, advisors and farmers) discuss the data and agree on the results of the typical farm.

Statistical approach only: The data are taken mainly from accounting statistics and are discussed among dairy experts to create a typical farm.

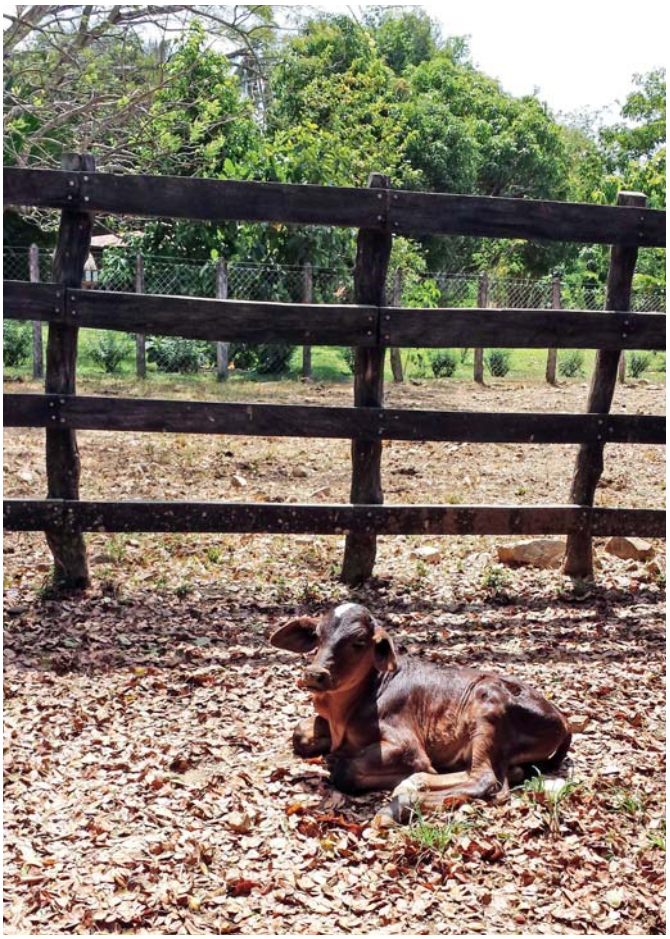
Single farm approach only: The data are taken mainly from a single farm and are discussed among dairy experts to create a typical farm.

Single farm case: The data are taken from a single farm. The data represent this single case rather than a type of dairy farm in the region.

The technical and economic data to describe the typical farms are preferably neither individual farm data nor statistical averages but based on a consensus achieved in a panel meeting.
There is an overview of the approach used for the data collection of every farm in Annex A.2.

3.) Data validation and analysis

After the data collection is finished in a country, the next step is the data validation. Therefore the data is included in the TIPI-CAL model, in order to see the preliminary results. These results are crosschecked with national dairy experts as well as with the IFCN country partner. National dairy experts may be experts, a panel of farmers or the national accounting statistics. The chosen method depends on the country's situation. Within the IFCN Dairy Research Center (DRC) there are also several check loops on plausibility in order to ensure the best possible data quality.
When the data validation is finalised, the analysis of the data with the TIPI-CAL model is conducted. The results can be seen in this report.



Criteria to ensure data quality

For a meaningful comparison of farms within and across countries, it is necessary that all partners follow the same approach. The IFCN focusses on five main aspects to ensure a high data quality:

Selection of typical farms: The key criteria for a good farm selection are a typical herd size and farm structure for a region and an average management level.

Sourcing of farm data: Consistency in data sourcing has a big impact on the quality of the data. This can become a challenge as soon as the available databases are restructured.

Completeness and consistency of data sets: The optimum situation is to receive a complete and consistent data set from every partner. Due to lack of data availability and time this is not always the case, and needs some adjustments from the team in the IFCN DRC.

Timeliness in data delivery and correspondence: Several loops on plausibility checks ensure a high level of data quality.

New countries or partners in the farm comparison analysis: It takes some time to get to know the IFCN methods and to understand the milk production in new countries. This is the case especially for countries with a limited access to statistics. Therefore, results from farms which have already been validated for several years, can be seen as more reliable.

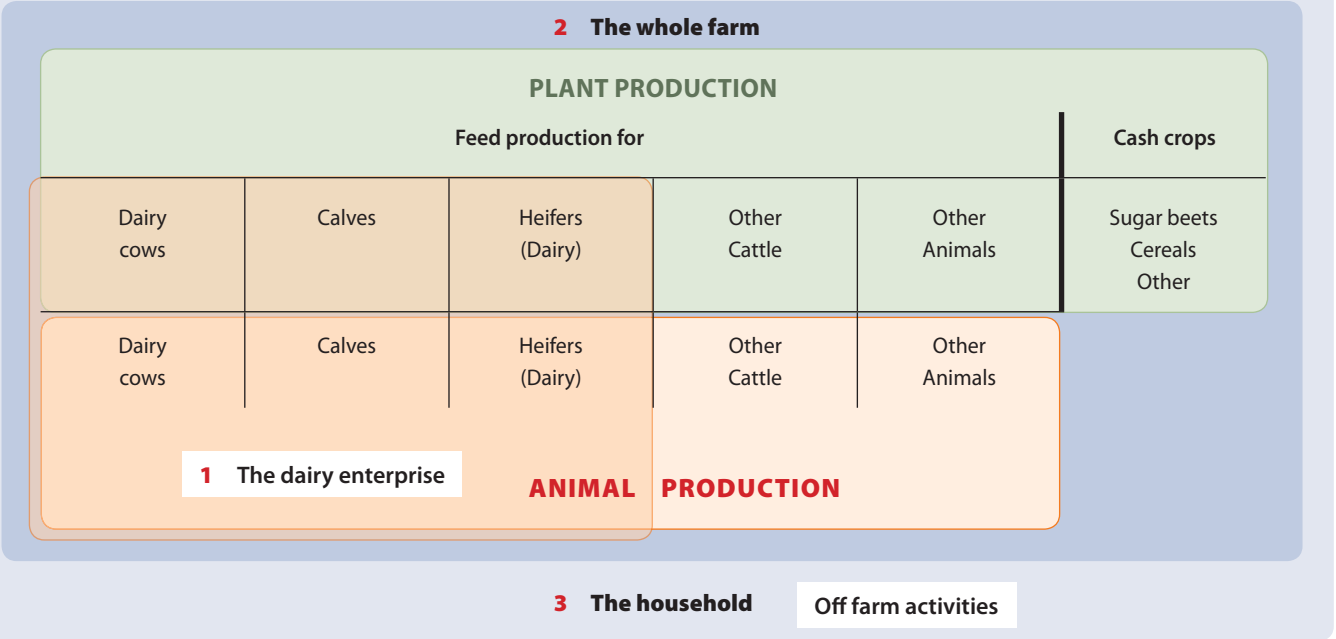
** Hemme T, Uddin MM, Ndambi OA (2014): Benchmarking Cost of Milk Production in 46 Countries, Journal of Reviews on Global Economics, 2014, 3, 254 -270.*
www.lifescienceglobal.com/pms/index.php/jrge/article/view/1977/pdf_9

In many regions of the world, it is difficult to separate the dairy enterprise from other enterprises of the household. The IFCN simplifies this complex situation by characterising the enterprises of the household and then allocating the inputs and outputs of the dairy enterprise.

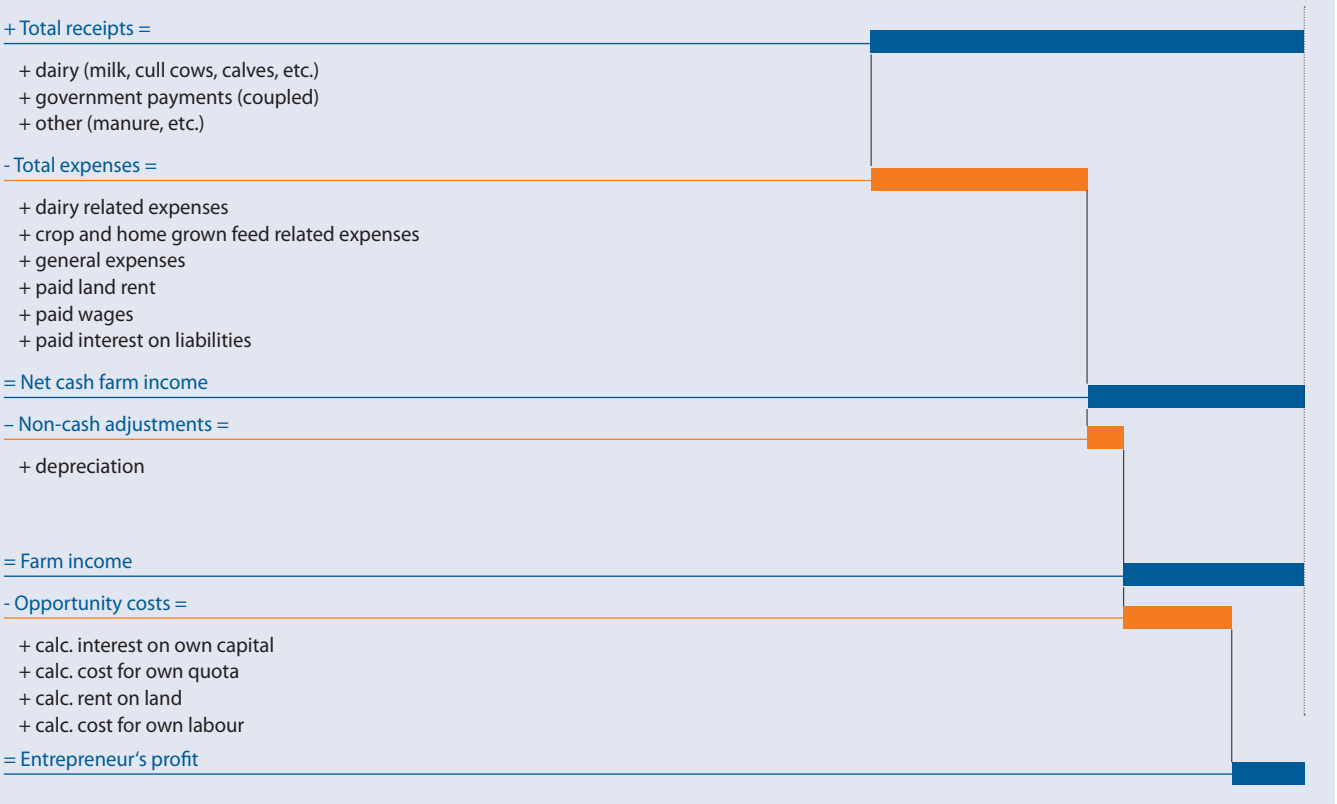
Characterisation of household enterprises

The dairy enterprise (the brown box labelled 1) includes milk production, raising replacement heifers and home-grown feed production and/or feed purchased for dairy cows and replacements. The whole farm which is the blue box labelled 2, comprises the animal production (dairy enterprise & all other animals) and plant production (feed & cash crops). The household, which is the grey box labelled 3, is the sum of all enterprises: farm (crop & animal production) and off farm activities. Off-farm activities generate additional income outside the farm, for example teaching, working in a factory etc.

Dairy enterprise as a part of the whole farm



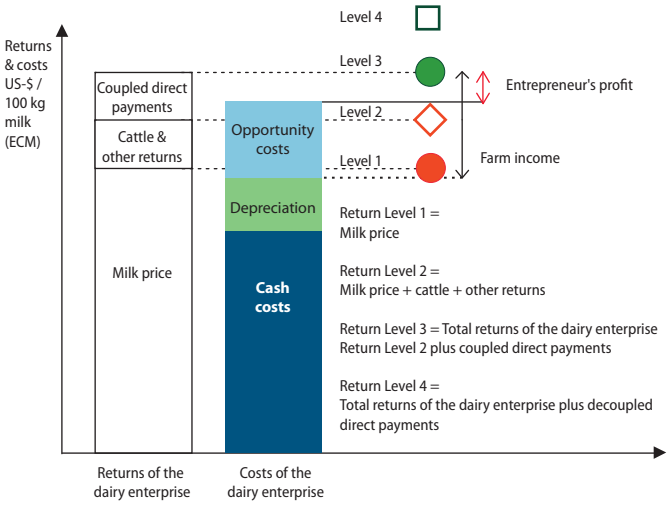
4.4 Whole farm calculations



A) COST INDICATORS & ASSET STRUCTURE

Total costs of the dairy enterprise

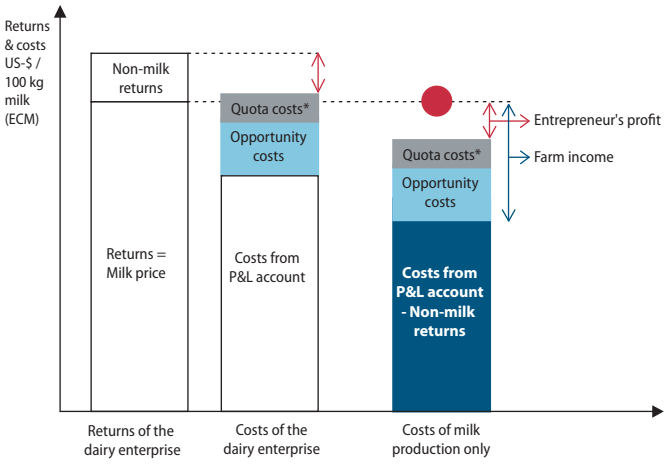
The **total costs of the dairy enterprise** are shown in relation to the total returns of the dairy enterprise including milk and non-milk returns (cattle returns & direct subsidies). The cost of the dairy enterprise consists of the cash cost, depreciation and opportunity cost. The bar for the total cost of the dairy enterprise considers the following four return levels: 1) **Milk price:** Average milk prices (excluding VAT) adjusted to ECM. This would be the level of return if the farm does not have beef returns and receives no direct subsidies. 2) **Milk price + non-milk returns:** Milk price + cull cows, calves, heifer returns + changes in livestock inventory + other returns such as selling manure. This would be the level of return if the farm did not receive direct subsidies. 3) **Milk price + non-milk returns + coupled subsidies:** This represents the return structure of the farm if the farm did not receive decoupled subsidies. 4) **Milk price + non-milk returns + all subsidies:** This represents the total returns of the farm including all direct subsidies (coupled and decoupled).



The cost of milk production only

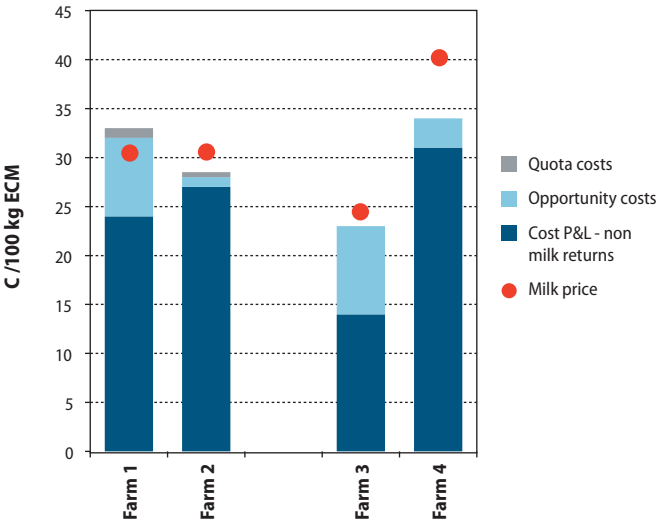
Description: The cost of milk production only shows the cost for producing milk exclusively. In order to obtain a cost that can be associated to the milk price, the non-milk returns have been deducted from the total costs (see graph above) from the dark blue bar (cash costs) of the chart. It is assumed that the cost of the nonmilk returns equals the value of the returns. The quota cost (rent and opportunity cost for quota) are shown separately. The entrepreneur's profit equals a deduction of the cost of milk production only from the milk price. Meanwhile, the calculation of family farm income adds opportunity costs to the entrepreneur's profit as it shows the cash contribution of the dairy enterprise.

Drivers: Based on these calculations, the cost of milk production only will increase with higher input costs (land, labour, feed, fertiliser, fuel, etc.) and will decrease with higher non-milk returns (cattle returns, coupled subsidies, manure sales etc.) or lower input costs. As costs are expressed per 100 kg ECM an increasing milk yield will lead to lower costs, ceteris paribus.



* Rent and opportunity costs for quota.

Example: The chart shows cost of milk production only of four different farms. The high level of opportunity cost (non-cash costs valuing the own production factors) indicates that this is a family farm. Very low opportunity cost on farm 2 leads to the assumption that this is most likely a business farm, as it has hardly any farm owned production factors. On farm 1 the family farm income is positive (difference between milk price and the dark blue bar) but the entrepreneurs' profit is negative (because the cost of milk production only is higher than the milk price). Even though farm 2 has a positive entrepreneurs' profit, farm 1 is more resilient as the risk that it will face cash problems is lower. This will occur, when the milk price is in the dark blue bar, meaning that the milk price is too low to cover all cash costs. All the other farms are generating a positive entrepreneur's profit.



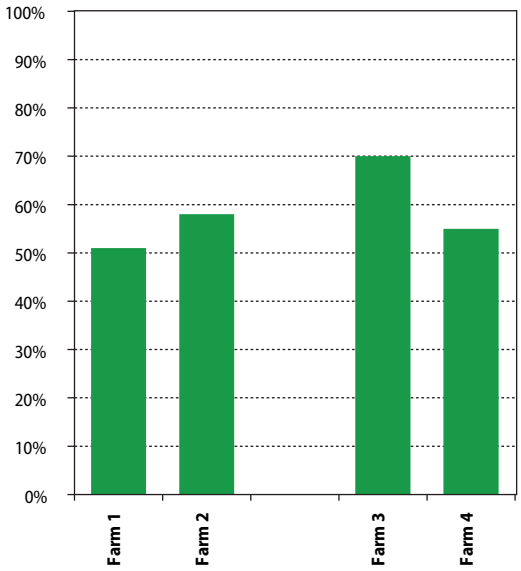
4.5 Details on farm economic analysis

Share of feed cost on total cost

Description: The indicator **share of feed cost on total cost** is obtained by dividing the total feed cost by the total cost of the dairy enterprise. Feed cost is calculated using the activity based costing (ABC) method by allocating all total costs of the dairy enterprise (costs from the P&L account and opportunity costs) to five activities (feed, feeding and manure handling, milking, cow handling, management and infrastructure). As costs for feed are usually the main part of the total production costs, this indicator gives a good idea about the share of costs spent for purchased feed and feed produced on the farm.

Drivers: The share of feed cost on total cost rises with a high share of purchased feed, high intake of expensive feed items (e.g. concentrate) or if the feed prices are, in general, high.

Example: In the chart the share of feed cost on total cost varies between 50 to 70 % for three different farms. Farm 1 spends about 50 % of the total costs for feed whereas farm 3 spends about 70 % of the total costs for feed and thus has lower shares of costs for feeding and manure handling, milking, cow handling, management and infrastructure. It is important to note that, since this is a proportionate value, the share of feed cost on total cost can also be high in low cost systems like extensive pasture based systems, where other costs for milk production are relatively low.



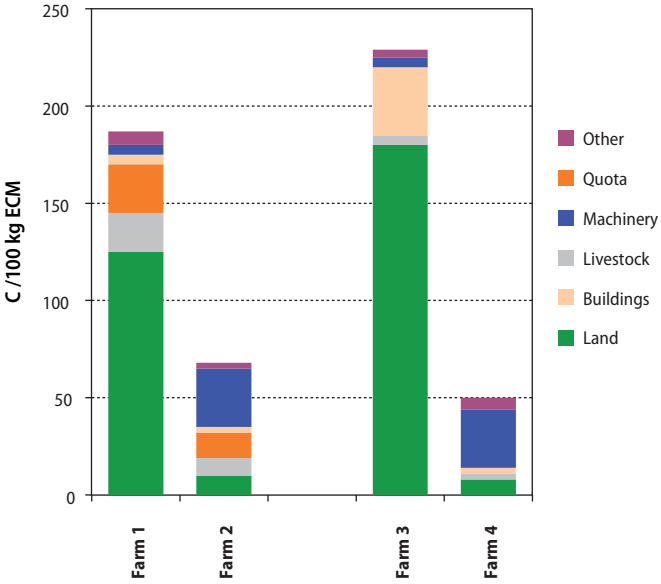
Asset structure of the dairy enterprise

Description: The **Asset structure of the dairy enterprise** gives an overview of the economic value of assets used in the dairy enterprise. It makes it possible to classify farms based on total asset value and on the proportion of each asset item.

Drivers: The asset input is lower in farms with less asset use and/or low asset prices. Older machinery and buildings will also have lower asset values than new ones.

Example: Farm 2 and farm 4 have low asset values due to one or more of the following reasons: low land prices, low livestock values (local or beef breeds), low investment in machinery and buildings, old machinery or buildings, no quota. A very large farm could also have low asset values due to economies of scale, because the value is shown per 100 kg of milk.

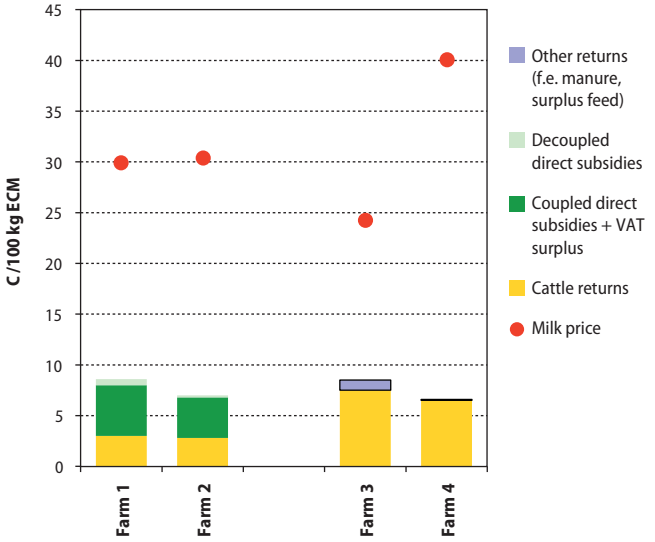
Looking at the single components, one can see that farm 1 and farm 3 have very high land values. This could be either from high land prices or high use of land on the farm (for grazing or feed production). Farm 4 has the highest value from livestock indicating either high livestock prices, low land prices or a small total land base of the farm.



B) RETURN & PROFITABILITY INDICATORS

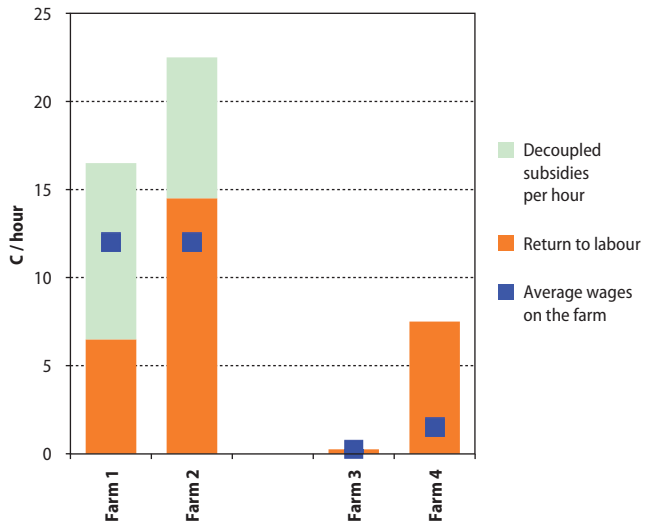
Returns of the dairy enterprise

Description: The **returns of the dairy enterprise** include all revenue from the dairy enterprise (milk, non-milk returns) including subsidies.
Drivers: Dairy returns vary depending on the level of specialisation of the farm, the region and intervention policies.
Example: The chart shows returns of the dairy enterprise of four different farms. For Farm 1 and 2, the direct subsidies are an important share of the returns, as for example in the EU. For farm 3 and farm 4, cattle returns play a stronger role. This is typical for farms in countries with high beef prices, farms with dual purpose cattle or beef cattle and farms with a low milk yield. In some countries (South Asia, Africa, etc.) it is common to sell cow dung either as manure or fuel for heating as shown in farm 3.



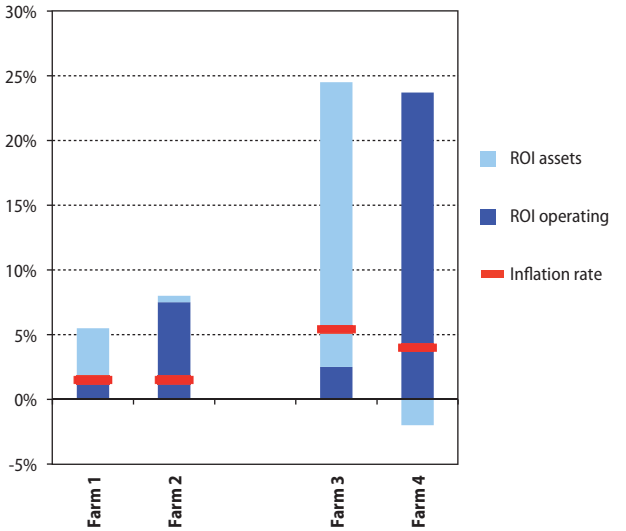
Return to labour

Description: The **return to labour** shows the level of profit a farm worker (employee or farmer) generates per hour worked on the farm. It is calculated as the sum of the entrepreneur´s profit, wages for hired labour and opportunity cost for family labour, divided by the total hours of labour used for the dairy enterprise.
Average wages on the farm represent the gross salary plus social fees (insurance, taxes, etc.) the employer has to cover. Decoupled subsidies per hour are total decoupled subsidies of the dairy enterprise divided by total labour input.
Drivers: Wage level, labor input, and economic performance of farm.
Example: A comparison made of the return to labour with the average wage level calculated per farm gives an indication on how the farm is able to pay the labour it is using. A family farm where the return to labour is lower than the average wage level calculated, may stay in business until a generation change takes place or as long as the farmers are satisfied with the wage level they generate. The chart shows returns to labour of four different farms. Farm 2 and Farm 4 have a return to labour which is higher than the average wage on the farm, indicating that dairying is lucrative. On farm 1 the return to labour is lower than the average wage. Here the dairy business is only attractive as long as subsidies last. In Farm 3 the low wage level shows that this is most likely a low cost system, where a low return to labour does not necessarily imply that the dairy business is not lucrative.



Return on investment

Description: The **return on investment** (ROI) measures the ability of a farm to utilise its operating assets in order to generate income. The ROI operating reflects the part of ROI that is created from the operating business while the ROI asset reflects the part which is generated by changes in asset value.
The inflation rate is also shown in order to get an idea on the development in purchasing power of the farm.
Drivers: The ROI can be increased by: improving economic performance, reducing operating assets (allocated to the dairy enterprise), increasing sales (milk yield, milk price), etc.
Example: In the chart, all farms have a positive return on investment varying from 5% to 25%. Farm 3 and Farm 4 have a high ROI (above 20%) showing that there are higher investment opportunities for such farms, in comparison to Farm 1 and Farm 2. The negative ROI asset for Farm 4 indicates that the asset value has fallen from the previous year to the current one. This could be a drop in rent price or quota value.



Glossary – Farm level

Activity Based Costing (ABC): IFCN Method that allows allocating costs to five different activities on the farm: home grown feed production, feeding and manure handling, milking, cow handling, and management. Thus, a better understanding of cost difference between farms is generated. (Chapter 1.2)

Allocation to dairy enterprise: Via allocation factors, the share of all costs and returns related to the dairy enterprise is extracted from the whole farm figures. Example: if, from the total arable land of a farm 60% is used to produce feed for the cows and the remaining 40% is for cash crops production for sale, only 60% of the costs related to the land (rents, opportunity costs for land) are used to show the costs for the dairy enterprise.

Animal production: This is part of the whole farm and includes all kinds of livestock production (dairy, beef cattle, poultry, hogs, etc.).

Business farm: In a business farm, usually a low share of production factors (land, labour, capital) is owned by the farm and therefore has to be paid for (rents, salaries, interests). The level of investment is generally high. In developed countries this kind of farm is usually bigger (e.g. 300 or more cows) and the key driver is to generate the expected ROI. In developing countries the farm size may be much smaller.

Cattle returns: Dairy related returns from sales of cull cows, calves and heifers.

Costs: total costs comprise expenses from the profit and loss account (cash costs, depreciation, etc.) and opportunity costs for farm-owned factors of production (family labour, own land, own capital).

Cost calculations: are based on the dairy enterprise and include milk production, raising replacement heifers and related feed production (home-grown) or feed purchases.

Costs of milk production only: is the cost for the milk production, calculated by deducting the non-milk returns from the total costs of the dairy enterprise. (Chapters 1.2, 1.7, 1.13, 4.5)

Coupled subsidies: These are subsidies which are "coupled" to the amount of milk produced.

Dairy Enterprise: Part of the animal production, including milk production, raising replacement heifers and related feed production (home-grown) or feed purchases. The IFCN farm comparison results focus on the dairy enterprise.

Dairy Farm: A dairy farm is a household that runs a dairy enterprise and sells part, or all, of its milk.

Decoupled subsidies: These are transfers per ha or direct aid to farmers which are not linked to a specific product/amount produced.

Energy Corrected Milk (ECM): Milk standardised to 4% fat and 3.3% protein (see Chapter 4.1 A)

Entrepreneurs' profit: is a measure of the profitability. On a whole farm level it equals farm income minus opportunity costs. In the dairy enterprise approach the entrepreneur's profit equals a deduction of the cost of milk production only from the milk price.

Family farm: is defined as a farm on which the work is mainly done by the family who owns the farm. In developed countries the farm size is usually between 10 and 100 cows (in some cases up to 300). The key driver for these farms is to generate income to meet the family needs.

Farm income: equals net cash income adjusted by depreciation and inventory.

Household: is the sum of all enterprises: farm (plant & animal production) and off farm activities.

Household farm: household farms are mainly found in developing countries with 1-3 cows or in developed countries with 10-30 cows. The dairy business is only a part of their family income. The key driver for a household farm is to have milk for own use and to get some daily cash from selling part of the milk produced.

Milk price: Average farm gate milk prices (excluding VAT) adjusted to ECM.

Net cash farm income: equals total receipts minus total expenses

Non-milk returns: cattle returns, coupled subsidies, changes in livestock inventory and other dairy returns, such as selling manure.

Off-farm activities: Additional income generated through activities outside the farm.

Opportunity costs: are costs for farm-owned factors of production (family labour, own land, own capital). They are considered as the potential income of farm owned production factors in alternative uses. Different estimations and assumptions are used to calculate opportunity costs. The IFCN is using these assumptions:

- **Labour costs:** For hired labour the average wage paid within the analysed year is used. For unpaid family labour, the average wage rate for hired labour substituting the family labour is used.
- **Land costs:** For rented land currently paid rents are used. Regional rent prices are used for owned land.
- **Capital costs:** Own capital is defined as assets, without land, plus circulating capital. For borrowed funds, a real interest rate of 6% was used; for owner's capital, the real interest rate was assumed as 3%.

Other dairy returns: Part of the non-milk returns, other than beef and subsidies. This includes sales of manure, surplus feed, etc.

Plant production part of the whole farm, contains all kinds of crop production (cash crops, home-grown feed production, etc.).

Profit and loss account (P&L): is a summary of the financial performance of a business over time (monthly, quarterly or annually is most common). It summarises the income for a period and subtracts the expenses incurred for the same period to calculate the profit or loss for the business.

Quota cost: contains rent and opportunity cost for own quota.

Regions: World regions are clusters of different countries, e.g. South America or EU-28. These are specified on the map in Chapter 4.7. Dairy regions are parts of countries with particular geographical and

socio-economic conditions which characterise the dairy production systems within the country, e.g US-Wisconsin or US-California.

Returns of the dairy enterprise: include all revenue from the dairy enterprise including subsidies. (Chapter 1.8, 1.13)

Total costs of the dairy enterprise: contain the cash cost, depreciation and opportunity cost of the dairy enterprise.

Total returns of the dairy enterprise: including milk and non-milk returns (cattle returns & direct subsidies).

Typical farm: In the IFCN, a typical farm represents a certain production system, farm size, production technology used and the related milk volume in a country/dairy region. The goal is to have at least two typical farms for each region. The first farm is an average sized farm with an average management performance. The second farm is larger than the first one but also has an average management performance for that type of farm, to show economies of scale.

Typical farm approach (TFA): The key issue in creating high quality farm comparison results worldwide is to apply the same method to all farms. Therefore this method used the Standard Operating Procedure, called „Typical farm approach" (TFA). This is explained more in detail in the publication:

Hemme T, Uddin MM, Ndambi OA (2014): Benchmarking Cost of Milk Production in 46 Countries, Journal of Reviews on Global Economics, 2014, 3, 254 -270.
www.lifescienceglobal.com/pms/index.php/jrge/article/view/1977/pdf_9

Whole farm: Part of the farm household including all animal and plant production.

Glossary – Country level

Annualised data: In a number of countries milk production is based on seasonal milk production statistics. For some major dairy countries, seasonal milk production and price data have been recalculated to annual data.

Conversion litres to kg – mass versus volume: IFCN aims to show each variable for all countries in a comparable unit, namely in metric mass values (e.g. metric tons, kilograms). For this purpose if the specified unit in national statistics is in litres, it will be adjusted to metric tons using the multiplier 1.033 (1 litre = 1.033 kg). Thus, unit adjusted figures published on the Country Pages can differ from data published nationally in the national unit.

Dairy consumption: Indicator calculated from milk production of all milk animals plus import minus export volumes plus or minus stock changes.

Feed price – IFCN world feed price indicator: Indicator for the cost of compound feed. The comparison of concentrate feed prices is extremely difficult as it is impossible to compare the contents (e.g. energy, protein). The analysis therefore is based on comparable feed which, in this case, is soybean meal and corn or barley. The calculation equals 0.3 kg soybean meal price + 0.7 kg corn or barley price. The annual price is calculated as the arithmetic mean from monthly data. Advantages: This indicator gives a preliminary idea of regions with high/low feed prices and trends. Limitations: In a number of countries dairy compound feed is based on other commodities. In that case feed prices are probably overestimated. For more details, see:
www.ifcnnetwork.org/en/output/prices/feed_prices2013.php

Milk : feed price ratio: Milk price divided by the calculated feed price. In a simplified form it shows how much feed (kg concentrates) a farmer can buy after selling one kg of milk. The milk : feed price ratio has been defined as favourable if it is higher than 1.5. If this is the case, high yield (high input) systems can be used or the higher the ratio is, the more economical it is to use concentrates. In extensive feeding systems, it represents a theoretical figure which indicates how advantageous the input of compound feed would be, if it were used. **Calculation:** World market: combined IFCN world milk price indicator divided by IFCN world feed price indicator. National milk : feed price ratio: Data source: Milk and feed prices from national statistics. Feed: Based on the soybean meal price in combination with barley or corn price, country specific. For more details, see:
www.ifcnnetwork.org/en/output/prices/feed_prices2013.php

Milk Equivalents (ME): to generate comparable, standardised figures, such as per capita consumption for each country the first step is to convert different dairy products into milk equivalents (ME). For more details Chapter 4.1.

Milk price – Combined IFCN world milk price indicator: Illustrates the world market price level for milk. It represents the milk price a milk processor could theoretically pay to its farmers, if it was selling its products on the world spot market and producing at standardised costs. Calculation is based on the weighted average of 3 IFCN world milk price indicators: 1. SMP &butter (35%), 2. Cheese & whey (45%), 3. WMP (20%), based on shares of the related commodities traded on the world market. For more details, see: www.ifcndairy.org/en/output/prices/milk_indicator2013.php

Milk surplus and deficit: Calculation of surplus or deficit per country.Milk production minus dairy demand.

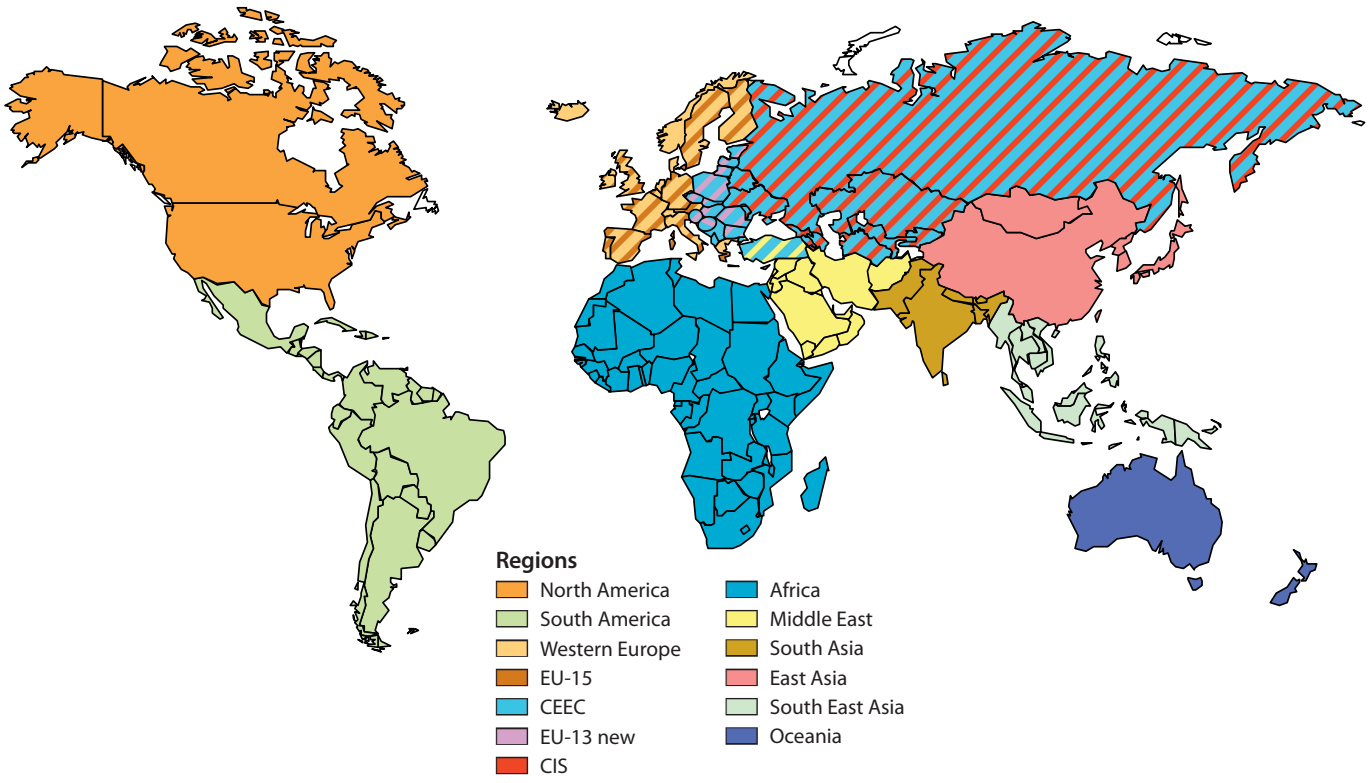
Milk yield: Calculation: Milk production divided by number of milking animals.

Per capita dairy consumption in kg milk equivalents (ME): Calculation: Dairy consumption = milk production of all milk animals plus import minus export volumes plus or minus stock changes. Per capita consumption = dairy consumption in the country divided by population.

Processor top 3 share on milk delivery: Calculation: Milk intake of top 3 processors divided by national milk delivery.

Self-sufficiency: Calculation: Self-sufficiency in milk = milk production of all milk animals (cow, buffalo, goat, sheep, camel) / dairy consumption in the country.

Specifications of world regions



Source: *Specification done by IFCN Dairy Research Center, Kiel, to group countries into meaningful aggregates. In some cases the aggregation does not follow the official geopolitical specification of world region.*
Special cases: *CEEC: includes all former Soviet Union countries. South America: includes all Latin American countries.*

Maps used and boundaries: *It should be mentioned that IFCN does not take any political position especially regarding the issues where 2 countries or regions do not have a common agreement of their border lines. The map specification is based on the RegioGraph software and refers to border specification used by the United Nations Cartographic Section. The use of boundaries, geographic names and related data shown on maps in this report may not be error free and they do not necessarily imply any official endorsement or acceptance by the United Nations. Case of Morocco: The maps show Morocco and Western Sahara as one country as the statistics of Morocco include both. Case of Sudan: as Sudan is part of the analysis this year, the Republic of South Sudan is not shown separately in the maps, as the statistics include both.*


Brazil


雀巢Nestlé
®
岭前奶站
LINGQIAN MILK COLLECTION CENTER


PENNAR

Pictures on this double page: IFCN in action: Visiting a milk collection center in China. Visiting a cheese factory in Italy. Attending the ESADA conference in Zimbabwe.

Annex

A.1 IFCN Dairy publications

IFCN in general

HEMME T (2000): IFCN – A concept for international analysis of the policy and technology impacts in agriculture. Ein Konzept zur international vergleichenden Analyse von Politik- und Technikfolgen in der Landwirtschaft. Landbauforschung Völkenrode, Sonderheft 215, Braunschweig. (Dissertation)

Important IFCN publications 2008 – 2012

ALQAISI O, NDAMBI OA AND HEMME T (2010): Environmental and economic perspectives of milk production in feedlot and grazing systems., In: Green house gases (GHG) and animal agriculture conferences, Banff, Canada, October 2010

GARCIA O, BALIKOWA D, KICONCO D, NDAMBI A AND HEMME T (2008): Milk Production in Uganda: Dairy Farming Economics and Development Policy Impacts. IGAD LPI Working Paper No. 09 – 08. Food and Agriculture Organisation, Rome, Italy.

HAGEMANN M, HEMME T, NDAMBI A, ALQAISI O, MST. N. SULTANA (2011): Benchmarking of greenhouse gas emissions of bovine milk production systems for 38 countries in Animal Feed Science Technology 166-167 (2011) 46-58. [doi:10.1016/j.anifeedsci.2011.04.002]

HAGEMANN M, NDAMBI A, HEMME T, LATACZ-LOHMANN U (2011): Contribution of milk production to global greenhouse gas emissions: An estimation based on typical farms in Environmental Science and Pollution Research: Volume 19, Issue 2 (2012), 390-402. [Environ Sci Pollut Res DOI 10.1007/s11356-011-0571-8]

HEMME T (2010): Competitiveness of bovine milk in a world of subsidies and more liberal commodity trade in "Updates on Ruminant Production and Medicine", World Buiatrics Congress Santiago de Chile 2010, F. Wittwer et al, November 2010, Santiago de Chile, Chile.

UDDIN MM, SULTANA MN, NDAMBI OA, HEMME T AND PETERS KJ (2010). Input productivity and profitablity of dairy farming system in Bangaldesh. In: Proceedings on International Dairy Conference: Dairying for Food Security and Livelihood Development, 3-5th of April, 2010, Bangladesh.

IFCN Dairy Publications 2013

ADAM S (2013): IFCN (International Farm Comparison Network) - Teil 1. De Beroder, Number 73, November 2013, Service d'Economie Rurale, Luxembourg
http://www.ser.public.lu/publikationen/beroder/beroder73.pdf

ADAM S (2013): IFCN (International Farm Comparison Network) - Teil 2. De Beroder, Number 74, November 2013 Service d'Economie Rurale, Luxembourg
http://www.ser.public.lu/publikationen/beroder/beroder74.pdf

MIRZAEI F (2013): Dairy companies facing market volaitility, neccesities and needfuls to their adaptation, 4th national conference of Iranian Holstein Association, 17-18 December, Tehran, Iran

MIRZAEI F (2013): Milk price and its production cost in the world, 4th national conference of Iranian Holstein Association, 17-18 December, Tehran, Iran

ROBOHM J (2013): Futtereffizienz in der Milchviehhaltung; Institut für Agrarökonomie der Christian-Albrechts-Universität zu Kiel, Germany

SULTANA MN (2013): Life Cycle Assessment-Based Water Footprint in Dairy Farming Systems of Different Production Intensity. Humboldt-Universität zu Berlin, Germany. (Dissertation)

Farm	Data collection	Time period
NO-22	2/3	1
NO-36	2/3	1
CH-17	2/3	1
CH-22	2/3	1
CH-64	2/3	1
FI-28	2	1
FI-67	2	1
FI-124	2	1
AT-14	3	1
AT-27-bio	3	1
AT-58	3	1
DE-30S	2	3
DE-79S	2	3
DE-108S	2	3
DE-118N	1/2	1
DE-240N	1/2	1
DE-700E	1/2	1
DE-1200E	1/2	1
NL-82	2	1
NL-178	2	1
NL-115AMS	1/2	2
BE-40N	1	1
BE-95N	1	1
LU-56	2	1
LU-127	2	1
FR-38MC	2/3	1
FR-84C	2/3	1
FR-66W	2/3	1
ES-50NW	1/3	1
ES-76S	3/4	1
ES-125NW	1/3	1
ES-70CN	1/4	1
IT-154	1	1
IT-229	1	1
UK-150NW	1/2	1
UK-246SW	1/2	1
IE-67	2	1
IE-116	2/3	1
DK-150	2	1
DK-275	2	1
SE-55	1/2	1
SE-70	1/2	1
SE-220	1/2	1

Farm	Data collection	Time period
PL-16	2/3	1
PL-25	1/2	1
PL-65	2/3	1
CZ-80	3	1
CZ-405	3	1
CZ-760	3	1
RS-2	1/2	1
RS-10	1/2	1
RS-84	1/2	1
UA-145	2	2
UA-535	2	2
BY-1	3	1
BY-660	2/3	1
BY-1312	2/3	1
RU-650	1	1
RU-1500	1	1
RU-3000	1	1
RU-2000	1	1
AM-5	3	1
AM-6	3	1
AM-35	3	1
TR-15	2/3	1
TR-100	2	1
IL-80	1	1
IL-390	1	1
JO-76	3	1
JO-412	3	1
IR-90	1	1
IR-120	1	1
IR-276	1	1
IR-458	1	1
TN-2	1/2	1
TN-4	3/4	1
TN-5	1/2	1
TN-12	1/2	1
TN-290	2/3	1
DZ-6	1/2	1
DZ-18	1/2	1
EG-5B	4	1
EG-5	4	1
EG-10	4	1
EG-20	4	1
EG-190	4	1

Farm	Data collection	Time period
MA-3N	1	1
MA-8N	1	1
SD-20	4	1
SD-117	3	1
UG-1	1	1
UG-3	1	1
UG-13	1	1
CM-2	1/3	1
CM-11	1/3	1
CM-35	1/3	1
CM-50	1/3	1
ET-2	4	4
ET-3	4	4
ET-50	4	4
ZA-230	1	1
ZA-520	1/2	1
ZA-630	1	1
ZW-95	1	1
ZW-650	1	1
MW-2	1/4	1
MW-6	1/4	1
CA-49	2/3	2
CA-83	2/3	2
CA-355	2/3	2
US-1100CA	2/3	1
US-3000CA	2/3	1
US-1000ID	2/3	1
US-5000ID	2/3	1
US-70NY	2	1
US-500NY	2	1
US-2000NY	2	1
US-80WI	2	1
US-500WI	2	1
MX-16JA	2/3	1
MX-38JA	2/3	1
MX-1000TO	3	1
MX-2000TO	3	1
CO-6	3/4	1
CO-100	1/4	1
CO-100DP	1/4	1
AR-170	1/2	1
AR-400	1/2	1
AR-600	1/2	1

Farm	Data collection	Time period
UY-71	2	3
UY-142	2/3	3
UY-419	2/3	3
CL-62	3/1	1
CL-103	1	1
CL-435	3/1	1
CL-441++	1	1
CL-1212	3/1	1
BR-23S	1	1
BR-60S	1	1
BR-50SE	1	1
BR-310SE	1	1
PE-7	4	1
PE-17	4	1
IN-4N	2/3	4
IN-18N	2/3	4
IN-2SE	1	1
IN-4SE	1	1
IN-23SE	3	1
IN-100SE	3	1
PK-6	3/4	1
PK-25	3/4	4
PK-100	3/4	1
BD-2	1/2	1
BD-14	1/2	1
ID-3NG	1	1
ID-10NG	1	1
ID-2NJ	1	1
ID-10NJ	1	1
JP-38	2	4
JP-71	2	4
CN-5HJ	3/1	2
CN-10HJ	3/1	2
CN-40HJ	3/1	2
CN-17BE	1	1
CN-340BE	1	1
CN-145N	1/3	1
CN-240N	1/3	1
CN-1650N	1/3	1
AU-300	1/2	1
AU-750	1/2	1
NZ-388	2	5
NZ-1113	2	5

Explanations:

Data collection: *1 = panel approach, 2 = statistical approach, 3 = single farm approach, 4 = single farm case, combiantion of approaches = e.g. 1/2*

Time period: *1 = calendar year 2013, 2 = calendar year 2012 indexed to calendar year 2013, 3 = financial year/season July 2012 to June 2013, 4 = financial year/season April 2012 to March 2013, 5 = financial year/season June 2012 to May 2013*

A.3 Description of the typical dairy farms analysed

Typical farm	AM-5	AM-6	AM-35	AR-170	AR-400	AR-600	AT-14	AT-27-bio	AT-58	AU-300
Region	Gegharkunik	Shirak	Shirak	Sta.Fé-Córdoba	Mar y Sierras - Buenos Aires Province	Oeste (Trenque Lauquen)	Steiermark	Oberösterreich	Oberösterreich	Gippsland, Victoria
Kind of farm (as speicified in the INP)	Family farm	Family farm	Family farm	Family farm partnership	Corporate farming system	Family farm partnership	Family farm	Family farm	Family farm	Family farm
Production system	st	st	fs	gr	gr	gr	st	fs	fs	gr
No. of cows	5	6	35	170	400	600	14	27	58	300
Breed	Caucasian Brown	Caucasian Brown, Brown Swiss	Caucasian Brown, HF, Jersey	HF	HF	HF	Simmental	Simmental	Simmental	HF
Total land (ha)	2	3	106	227	485	750	42	89	62	160
Land used for dairy enterprise [1] (% of total land)	60%	33%	80%	76%	100%	100%	50%	25%	73%	74%
Stocking rate per ha land [2]	2,88	2,62	0,35	1,11	0,97	0,97	0,88	0,85	1,98	2,15
Total labour input [3] (labour unit)	2,38	0,76	9,99	4,81	7,33	12,32	1,83	1,79	2,74	3,10
Family labour input (% of total labour)	100%	100%	69%	20%	9%	5%	100%	100%	100%	54%
Other enterprises	cash crops,beef fattening	cash crops,beef fattening	cash crops	cash crops						beef fattening
Dairy specific data										
Milk yield (kg ECM 4) / cow)	1506	1774	2920	5005	5752	6548	6821	6303	8858	6151
Milk production (t ECM [4])	8	11	103	862	2317	3969	97	174	524	1883
Replacement rate (%)	19%	20%	13%	26%	29%	28%	33%	30%	30%	15%
Age of first calving (months)	30	32	34	29	27	27	33	24	26	24
Farm background (from the year box)										
reason for culling (code)	2, 3, 5	2, 3, 4	2, 3, 5	3, 1, 4	3, 1, 4	3, 1, 4	1, 2, 3	1, 2, 3	1, 2, 4	1, 3, 6
most limiting recources on the farm for creating sustainable business (code)	1, 2	1, 5	2, 8	6, 2, 10, 1	6, 2, 10, 1	6, 2, 10, 1	1, 4, 2	1, 4, 2	1, 4, 3	3, 2, 7
availabilty of electricity on farm (hrs/day)	24	24	24	24	24	24	24	24	24	24
internet accessability (code)	no	no	no	no	24 flat	24 flat	24 flat	24 flat	24 flat	24 flat

Typical farm	AU-750	BD-2	BD-14	BE-40N	BE-95N	BR-23S	BR-60S	BR-50SE	BR-310SE	BY-1
Region	Gippsland, Victoria	Dinajpur	Dinajpur	Flanders	Flanders	Rio Grande do Sul	Rio Grande do Sul	Minas Gerais	Minas Gerais	Petrikov
Kind of farm (as speicified in the INP)	Family farm	Household with farming activities	Family farm	Family farm	Family farm	Household with farming activities	Corporate farming system	Family farm	Corporate farming system	Household with farming activities
Production system	gr	ss	ss	fs	fs	st	fl	fl	fl	ss
No. of cows	750	2	14	40	95	23	60	50	310	1
Breed	HF	Local	Local x Shahiwal / HF	HF	HF	HF	HF	HF	HF	Belarusian Black & White
Total land (ha)	401	1	3	40	60	20	50	40	179	1
Land used for dairy enterprise [1] (% of total land)	74%	30%	45%	81%	100%	100%	100%	100%	100%	79%
Stocking rate per ha land [2]	2,15	-	-	1,68	2,14	1,16	1,45	1,33	2,49	0,86
Total labour input [3] (labour unit)	6,57	1,07	2,62	2,19	2,65	0,88	3,52	2,64	7,92	1,19
Family labour input (% of total labour)	35%	67%	18%	100%	94%	100%	12%	67%	11%	100%
Other enterprises	beef fattening	cash crops, beef fattening, manure	cash crops, beef fattening, manure	cash crops,beef fattening						cash crops
Dairy specific data										
Milk yield (kg ECM 4) / cow)	6548	742	894	7775	8661	4189	6901	4693	6119	5173
Milk production (t ECM [4])	5011	1	13	316	835	99	421	240	1954	5
Replacement rate (%)	16%	16%	16%	34%	37%	21%	21%	24%	29%	1%
Age of first calving (months)	24	42	36	28	26	28	28	31	25	27
Farm background (from the year box)										
reason for culling (code)	1, 3, 6	3	3	1, 4, 3	1, 4, 3	1	1	1	1	3, 2, 6
most limiting recources on the farm for creating sustainable business (code)	3, 2, 7	1, 2, 6, 3	1, 2, 6, 3	1, 5, 7	1	1	1	2	5	5, 2
availabilty of electricity on farm (hrs/day)	24	16	16	24	24	24	24	24	24	24
internet accessability (code)	24 flat	no	no	24 flat	24 flat	24 flat	24 flat	24 flat	24 flat	24 no flat

Typical farm	BY-660	BY-1312	CA-49	CA-83	CA-355	CH-17	CH-22	CH-64	CL-62	CL-103
Region	Slutsk	Minsk	Québec	Ontario	Western provinces	Mountain area	Hill area	Plain area	Xª Región Chiloé Island	XIVa. Región, Rio Bueno
Kind of farm (as speicified in the INP)	Corporate farming system	Corporate farming system	Family farm	Family farm	Corporate farming system	Family farm	Family farm	Family farm	Family farm	Family farm
Production system	st	fs	st	fs	fs	st	st	fs	gr	gr
No. of cows	660	1312	49	83	355	17	22	64	62	103
Breed	Belarusian Black & White	Belarusian Black & White	HF	HF	HF	Brown Swiss	Brown Swiss	Red Holstein x Simmental	HF, HF x Jersey	HF
Total land (ha)	2.547	4.278	78	203	439	30	27	43	100	90
Land used for dairy enterprise [1] (% of total land)	66%	46%	93%	93%	93%	80%	82%	83%	27%	76%
Stocking rate per ha land [2]	0,34	0,69	0,93	0,60	1,19	0,88	1,21	2,05	1,22	1,48
Total labour input [3] (labour unit)	159,44	243,18	2,43	2,23	5,97	2,01	2,01	3,14	2,94	4,67
Family labour input (% of total labour)	0%	0%	51%	100%	40%	83%	80%	55%	8%	22%
Other enterprises	cash crops, beef fattening, manure, other	cash crops, beef fattening, manure, other				cash crops, beef fattening, other	cash crops, beef fattening, other	cash crops, beef fattening, other	beef fattening, other	beef fattening
Dairy specific data										
Milk yield (kg ECM 4) / cow)	3941	5259	8104	8845	8610	6078	6761	6800	6660	5047
Milk production (t ECM [4])	2738	7187	419	768	3200	107	153	449	417	542
Replacement rate (%)	43%	40%	41%	41%	41%	32%	34%	30%	14%	23%
Age of first calving (months)	25	26	26	26	26	32	30	28	28	27
Farm background (from the year box)										
reason for culling (code)	3, 4, 1	3, 4, 1	1, 3, 6	1, 3, 6	1, 3, 6	1, 3, 6	1, 3, 6	1, 3, 6	4, 2, 1	4, 3, 7
most limiting recources on the farm for creating sustainable business (code)	6, 7, 5	6, 7, 5	1, 2	1, 2	1, 2	1, 2	1	1, 2, 10	2, 1, 6, 5	2, 7, 5
availabilty of electricity on farm (hrs/day)	24	24	24	24	24	24	24	24	24	24
internet accessability (code)	24 flat	24 flat	24 flat	24 flat	24 flat	24 flat	24 flat	24 flat	24 flat	24 flat

Explanations:

[1] incl. setaside, [2] Livestock units/ ha of dairy land, [3] Hired and family labour input for the whole farm shown in labour units (1 unit = 2,100 hours), [4] ECM = Energy corrected milk (4% fat, 3.3 % protein)

Production system codes: *st = stanchion barn, fs = free stall barn, fl = feedlot farms, gr = grazing farms, ss = small scale farms*

Reasons for culling: *1 = fertility, 2 = age, 3 = mastitis, 4 = claw disorders, 5 = other diseases, 6 = low milk yield, 7 = high beef price, 8 = other, 9 = udder, 10 = health (general), 11 = milk price, 12 = financial situation on farm*

Limitations for sustainable dairy farming: *1 = land, 2 = labour, 3 = water, 4 = quota, 5 = technical & management Skills, 6 = political restrictions, 7 = farm succession, 8 = other, 9 = milk price, 10 = capital, 11 = environment, 12 = feed (shortage, price)*

Typical farm	CL-435	CL-441++	CL-1212	CM-2	CM-11	CM-35	CM-50	CN-5HJ	CN-10HJ	CN-40HJ
Region	Xa. Región, Llanquihue	Xa. Región, Osorno.	Xª Región, Puyehue	Western Highlands	Western Highlands	Western Highlands	Western Highlands	Shuangcheng	Shuangcheng	Shuangcheng
Kind of farm (as speicified in the INP)	Family farm	Family farm	Corporate farming system	Family farm	Family farm	Family farm	Family farm	Family farm	Family farm	Family farm
Production system	gr	gr	gr	ss	ss	gr	gr	fl	fl	fl
No. of cows	435	441	1212	2	11	35	50	5	10	40
Breed	HF	HF	HF, Montbéliarde	HF	Fulani x HF	Fulani	Fulani	HF	HF	HF
Total land (ha)	523	288	1.500	5	32	40	60	1	2	2
Land used for dairy enterprise [1] (% of total land)	76%	79%	83%	18%	75%	50%	50%	100%	100%	100%
Stocking rate per ha land [2]	1,10	2,14	0,88	1,89	0,29	1,14	1,09	4,54	-	-
Total labour input [3] (labour unit)	21,69	17,35	36,26	2,70	1,82	2,27	2,52	0,90	1,71	5,71
Family labour input (% of total labour)	5%	6%	0%	77%	19%	42%	41%	100%	100%	50%
Other enterprises	beef fattening, other			cash crops	beef fattening	beef fattening, manure	beef fattening, manure			
Dairy specific data										
Milk yield (kg ECM 4) / cow)	8862	7119	6295	3600	1918	806	754	4415	4415	4415
Milk production (t ECM [4])	3934	3171	7706	7	22	29	38	22	44	177
Replacement rate (%)	25%	30%	22%	12%	17%	18%	18%	18%	18%	18%
Age of first calving (months)	24	27	27	30	32	35	35	27	27	27
Farm background (from the year box)										
reason for culling (code)	2, 7, 6	4, 7, 1	7, 4, 1	8, 1, 2	8, 1, 2	1, 10, 2	1, 10, 2	-	-	-
most limiting recources on the farm for creating sustainable business (code)	2, 6	2, 1, 5, 6, 7	6, 2, 7	1, 2, 3	1, 2, 3	1, 2, 5, 3	1, 2, 5, 3	-	-	-
availabilty of electricity on farm (hrs/day)	24	24	24	0	0	0	0	-	-	-
internet accessability (code)	24 flat	24 flat	24 flat	no	no	no	no	-	-	-

Typical farm	CN-17BE	CN-340BE	CN-145N	CN-240N	CN-1650N	CO-6	CO-100	CO-100DP	CZ-80	CZ-405
Region	North China	North China	Beijing	Beijing	Hebei	Central Colombia	Central Colombia	North Colombia	Northeast	Eastern Bohemia
Kind of farm (as speicified in the INP)	Family farm	Corporate farming system	Corporate farming system	Corporate farming system	Cooperative	Household with farming activities	Corporate farming system	Corporate farming system	Family farm	Corporate farming system
Production system	fl	fl	fs	fs	fs	gr	gr	gr	fs	fs
No. of cows	17	340	145	240	1650	6	100	100	80	405
Breed	HF	HF	HF	HF	HF	HF	HF	Zebu x HF, Zebu x Brown Swiss	HF	Simmental
Total land (ha)	0	4	13	15	50	3	50	100	108	1.263
Land used for dairy enterprise [1] (% of total land)	100%	100%	90%	100%	48%	67%	93%	81%	100%	43%
Stocking rate per ha land [2]	-	-	-	-	-	1,96	2,25	0,98	0,94	0,93
Total labour input [3] (labour unit)	1,88	51,87	21,73	29,00	131,43	1,87	7,12	5,92	2,78	52,38
Family labour input (% of total labour)	92%	4%	6%	5%	0%	100%	7%	6%	66%	0%
Other enterprises	beef fattening, manure	manure	beef fattening, manure	manure	beef fattening, manure			beef fattening	cash crops	cash crops
Dairy specific data										
Milk yield (kg ECM 4) / cow)	5003	5003	5773	8241	7662	4537	5943	1684	9859	6739
Milk production (t ECM [4])	90	1809	846	1998	12771	28	606	177	822	2873
Replacement rate (%)	31%	21%	25%	27%	27%	20%	25%	27%	24%	38%
Age of first calving (months)	26	26	28	24	24	32	30	40	29	28
Farm background (from the year box)										
reason for culling (code)	7, 1, 6	7, 1, 6	3, 1, 6	3, 1, 6	3, 1, 6	1, 6, 5	1, 6, 3	1, 7, 5	2, 6, 10	2, 6, 10
most limiting recources on the farm for creating sustainable business (code)	1, 5	2, 1	5, 2	5, 2	5, 2	1, 5	1, 2, 7	1, 2, 5	1, 2	1, 8
availabilty of electricity on farm (hrs/day)	24	24	24	24	24	24	24	24	24	24
internet accessability (code)	24 flat	24 flat	24 flat	24 flat	24 flat	no	few hrs	no	24 flat	24 flat

Typical farm	CZ-760	DE-30S	DE-79S	DE-108S	DE-118N	DE-240N	DE-700E	DE-1200E	DK-150	DK-275
Region	Central Bohemia	Bayern	Bayern	Bayern	Northern Germany, Schleswig-Holstein	Northern Germany, Schleswig-Holstein	Eastern Germany, Sachsen-Anhalt	Eastern Germany, Sachsen-Anhalt	Jutland	Jutland
Kind of farm (as speicified in the INP)	Cooperative	Family farm	Family farm	Family farm	Family farm	Family farm	Corporate farming system	Corporate farming system	Family farm	Family farm
Production system	fs	st	fs	fs	fs	fs	fs	fs	fs	fs
No. of cows	760	30	79	108	118	240	700	1200	150	275
Breed	HF, Simmental	Simmental	Simmental	Simmental	HF	HF	HF	HF	SDM	SDM
Total land (ha)	3.252	39	76	91	105	238	1.700	1.700	143	227
Land used for dairy enterprise [1] (% of total land)	34%	80%	80%	80%	81%	83%	22%	33%	79%	81%
Stocking rate per ha land [2]	0,96	1,37	1,82	2,07	1,71	1,50	2,42	2,77	1,75	1,95
Total labour input [3] (labour unit)	104,76	1,69	2,45	2,71	2,61	4,08	22,00	40,00	2,50	3,70
Family labour input (% of total labour)	0%	95%	81%	80%	57%	37%	0%	0%	38%	26%
Other enterprises	cash crops, beef fattening	cash crops, beef fattening	cash crops, beef fattening	cash crops, beef fattening	cash crops	cash crops	cash crops, biogas	cash crops, biogas	cash crops	cash crops
Dairy specific data										
Milk yield (kg ECM 4) / cow)	7685	6592	7270	7437	8048	8348	8725	8725	9559	9523
Milk production (t ECM [4])	6148	210	591	828	979	2065	6567	11258	1478	2714
Replacement rate (%)	37%	32%	29%	28%	36%	33%	31%	31%	42%	39%
Age of first calving (months)	30	28	28	28	28	28	25	25	26	26
Farm background (from the year box)										
reason for culling (code)	2, 6, 10	1, 6, 7	1, 6, 7	1, 6, 7	1, 3, 4	1, 3, 5	1, 3, 4	1, 3, 4	3, 4, 6	3, 4, 6
most limiting recources on the farm for creating sustainable business (code)	1, 8	5, 1, 2, 6, 7, 4	1, 2, 5, 6, 7, 4	1, 2, 5, 6, 7, 4	1, 2, 7	1, 2, 8	5	5	6	6
availabilty of electricity on farm (hrs/day)	24	24	24	24	24	24	24	24	24	24
internet accessability (code)	24 flat	24 flat	24 flat	24 flat	24 flat	24 flat	24 flat	24 flat	24 flat	24 flat

Explanations:

[1] incl. setaside, [2] Livestock units/ ha of dairy land, [3] Hired and family labour input for the whole farm shown in labour units (1 unit = 2,100 hours), [4] ECM = Energy corrected milk (4% fat, 3.3 % protein)

Production system codes: *st = stanchion barn, fs = free stall barn, fl = feedlot farms, gr = grazing farms, ss = small scale farms*

Reasons for culling: *1 = fertility, 2 = age, 3 = mastitis, 4 = claw disorders, 5 = other diseases, 6 = low milk yield, 7 = high beef price, 8 = other, 9 = udder, 10 = health (general), 11 = milk price, 12 = financial situation on farm*

Limitations for sustainable dairy farming: *1 = land, 2 = labour, 3 = water, 4 = quota, 5 = technical & management Skills, 6 = political restrictions, 7 = farm succession, 8 = other, 9 = milk price, 10 = capital, 11 = environment, 12 = feed (shortage, price)*

A.3 Description of the typical dairy farms analysed

Typical farm	DZ-6	DZ-18	EG-5	EG-5B	EG-10	EG-20	EG-190	ES-50NW	ES-70CN	ES-76S
Region	North Center	Nord-East	Rahmane Behera	Rahmane Behera	Sakha Farm	Kafer El - Sheik	Kafer El - Sheik	Galicia	Castilla y León	Andalucía
Kind of farm (as speicified in the INP)	Household with farming activities	Family farm	Household with farming activities	Household with farming activities	Household with farming activities	Household with farming activities	Other	Family farm	Family farm	Family farm
Production system	st	fs	ss	ss	ss	ss	fs	fs	fs	fs
No. of cows	6	18	5	5	10	20	190	50	70	76
Breed	HF, Montbéliarde, Simmental	HF, Montbéliarde, Simmental	HF	Egyptian Buffaloes	Egyptian Buffaloes	HF	HF	HF	HF	HF
Total land (ha)	1	5	2	1	1	3	25	23	43	90
Land used for dairy enterprise [1] (% of total land)	60%	60%	85%	60%	70%	80%	65%	80%	95%	100%
Stocking rate per ha land [2]	-	-	3,68	-	-	-	-	2,71	1,94	1,03
Total labour input [3] (labour unit)	2,71	5,00	1,10	0,71	2,48	3,14	23,14	1,87	1,66	1,38
Family labour input (% of total labour)	100%	52%	65%	100%	35%	45%	6%	100%	95%	28%
Other enterprises	cash crops, beef fattening	cash crops, beef fattening	cash crops, beef fattening, manure	cash crops, beef fattening, manure	cash crops, beef fattening, manure	cash crops, beef fattening, manure	cash crops, beef fattening, manure			
Dairy specific data										
Milk yield (kg ECM 4) / cow)	3384	4430	2930	3698	3555	2884	2513	9311	10300	9472
Milk production (t ECM [4])	22	84	15	19	37	59	503	470	743	735
Replacement rate (%)	20%	27%	18%	13%	13%	18%	18%	28%	38%	38%
Age of first calving (months)	29	28	28	33	30	28	30	24	25	25
Farm background (from the year box)										
reason for culling (code)	3	6	1, 3, 4	1, 3, 4	1, 3, 4	1, 3, 4	3, 1, 4	1, 2, 6	1, 2, 6	1, 2, 6
most limiting recources on the farm for creating sustainable business (code)	1, 5	1, 5	2, 1, 5, 4	2, 1, 5, 4	1, 5, 2, 7	1, 5, 2, 7	1, 5, 2, 7	4, 1, 7	4, 1, 7	4, 1, 7
availabilty of electricity on farm (hrs/day)	24	24	24	24	24	24	24	24	24	24
internet accessability (code)	no	24 no flat	few hrs	few hrs	few hrs	few hrs	24 flat	24 flat	24 flat	24 flat

Typical farm	ES-125NW	ET-2	ET-3	ET-50	FI-28	FI-67	FI-124	FR-38MC	FR-66W	FR-84C
Region	Ribadeo, Lugo, Galicia	Oromia	Oromia	Dire Dawa	Päijät-Häme	Etelä- ja Keski-Pohjanmaa	Etelä- ja Keski-Pohjanmaa	Massif Central	West	Centre
Kind of farm (as speicified in the INP)	Family farm	Family farm partnership	Family farm partnership	Corporate farming system	Family farm	Family farm	Family farm	Family farm	Family farm	Family farm
Production system	fs	st	st	st	st	fs	fs	st	fs	fs
No. of cows	125	2	3	50	28	67	124	38	66	84
Breed	HF	HF x Zebu	HF x Zebu	HF x Zebu	Ayrshire/HF	Ayrshire/HF	Ayrshire/HF	Montbéliarde	HF	HF
Total land (ha)	47	6	8	1	61	112	124	56	76	145
Land used for dairy enterprise [1] (% of total land)	79%	0%	0%	60%	92%	100%	99%	100%	91%	59%
Stocking rate per ha land [2]	3,64	0,00	0,00	-	0,60	0,72	1,22	0,91	1,27	1,26
Total labour input [3] (labour unit)	3,87	5,90	6,51	35,51	2,47	3,28	3,95	1,50	2,00	2,76
Family labour input (% of total labour)	48%	35%	32%	8%	97%	64%	70%	100%	100%	72%
Other enterprises		cash crops	cash crops	beef fattening	cash crops				cash crops	cash crops
Dairy specific data										
Milk yield (kg ECM 4) / cow)	10738	3839	2872	4308	8411	9076	8576	6907	7834	8518
Milk production (t ECM [4])	1356	8	9	227	248	640	1119	274	524	724
Replacement rate (%)	39%	18%	18%	23%	33%	30%	35%	35%	37%	32%
Age of first calving (months)	24	30	36	24	26	26	26	33	30	30
Farm background (from the year box)										
reason for culling (code)	1, 2, 6	2, 6, 1	2, 6, 1	6, 1, 3	3, 1, 5	3, 1, 6	3, 1, 7	1, 3, 4	1, 3, 6	1, 3, 5
most limiting recources on the farm for creating sustainable business (code)	4, 1, 7	5, 2	5, 2	1	1, 2, 7	1, 2, 8	1, 2, 9	2, 6, 1	2, 6, 3	2, 6, 2
availabilty of electricity on farm (hrs/day)	24	24	24	24	24	24	24	24	24	24
internet accessability (code)	24 flat	no	no	no	24 flat	24 flat	24 flat	24 flat	24 flat	24 flat

Typical farm	ID-2NJ	ID-10NJ	ID-3NG	ID-10NG	IE-67	IE-116	IL-80	IL-390	IN-2SE	IN-4SE
Region	East Java	East Java	East Java	East Java	National average	South East	no differentiation	no differentiation	Thanjavur/ Tamilnadu	Thanjavur/ Tamilnadu
Kind of farm (as speicified in the INP)	Family farm	Family farm	Family farm	Family farm	Family farm	Family farm	Family farm	Cooperative	Family farm	Family farm
Production system	ss	ss	ss	ss	gr	gr	fl	fl	ss	ss
No. of cows	2	10	3	10	67	116	80	390	2	4
Breed	HF	HF	HF	HF	HF	HF	HF	HF	Jersey crossbred	Jersey crossbred
Total land (ha)	1	2	0	1	57	107	0	2	0	-
Land used for dairy enterprise [1] (% of total land)	100%	100%	100%	100%	81%	86%	0%	0%	65%	60%
Stocking rate per ha land [2]	3,06	3,84	-	-	1,27	1,12	-	-	4,90	-
Total labour input [3] (labour unit)	0,96	4,85	1,39	3,61	2,05	3,04	2,83	9,52	0,70	1,39
Family labour input (% of total labour)	100%	39%	100%	72%	93%	91%	58%	0%	100%	100%
Other enterprises		other			cash crops, beef fattening	cash crops, beef fattening			manure	manure
Dairy specific data										
Milk yield (kg ECM 4) / cow)	3099	3866	2923	2953	5239	6803	10586	11357	1723	2494
Milk production (t ECM [4])	7	41	9	31	369	831	864	4519	4	11
Replacement rate (%)	16%	17%	15%	15%	20%	27%	34%	31%	12%	12%
Age of first calving (months)	30	30	27	27	25	25	25	25	24	30
Farm background (from the year box)										
reason for culling (code)	2, 7	2, 7	2, 7	2, 7	1, 2, 6	2, 2, 6	1, 6 , 3	1, 6 , 3	1, 2	1, 2
most limiting recources on the farm for creating sustainable business (code)	1	1, 5	1	1, 5	1, 11, 7, 5, 2	1, 11, 7, 5, 3	2, 7, 5, 6	5, 1, 7, 6	1, 2, 5, 7	1, 2, 5, 8
availabilty of electricity on farm (hrs/day)	12	12	12	12	24	24	24	24	20	20
internet accessability (code)	no	no	no	no	24 flat	24 flat	24 flat	24 flat	no	no

Explanations:

[1] incl. setaside, [2] Livestock units/ ha of dairy land, [3] Hired and family labour input for the whole farm shown in labour units (1 unit = 2,100 hours), [4] ECM = Energy corrected milk (4% fat, 3.3 % protein)

Production system codes: *st = stanchion barn, fs = free stall barn, fl = feedlot farms, gr = grazing farms, ss = small scale farms*

Reasons for culling: *1 = fertility, 2 = age, 3 = mastitis, 4 = claw disorders, 5 = other diseases, 6 = low milk yield, 7 = high beef price, 8 = other, 9 = udder, 10 = health (general), 11 = milk price, 12 = financial situation on farm*

Limitations for sustainable dairy farming: *1 = land, 2 = labour, 3 = water, 4 = quota, 5 = technical & management Skills, 6 = political restrictions, 7 = farm succession, 8 = other, 9 = milk price, 10 = capital, 11 = environment, 12 = feed (shortage, price)*

Typical farm	IN-23SE	IN-100SE	IN-4PU	IN-18PU	IR-90	IR-120	IR-276	IR-458	IT-154	IT-229
Region	Salem/ Tamil nadu	Tirupoor/ Tamilnadu	Gureh Village, West Ludhiana, Jagraon taluka	Gureh Village, West Ludhiana, Jagraon taluka	Karaj	Karaj	Esfahan /North Broan	Esfahan /Flavarjan	Lombardia	Lombardia
Kind of farm (as speicified in the INP)	Corporate farming system	Corporate farming system	Family farm	Family farm	Corporate farming system	Corporate farming system	Corporate farming system	Corporate farming system	Family farm	Family farm
Production system	fl	fs	ss	fl	fs	fs	fs	fs	fs	fs
No. of cows	23	100	4	18	90	120	276	458	154	229
Breed	Jersey x HF	HF x Jersey	Jersey, Murrah	HF	HF	HF	HF	HF	HF	HF
Total land (ha)	2	8	3	3	1	2	340	70	72	130
Land used for dairy enterprise [1] (% of total land)	80%	74%	23%	56%	52%	41%	39%	6%	100%	100%
Stocking rate per ha land [2]	-	-	-	-	-	-	2,44	-	2,23	1,88
Total labour input [3] (labour unit)	5,41	15,50	2,35	4,91	10,00	6,95	27,14	40,32	4,28	4,87
Family labour input (% of total labour)	26%	0%	100%	36%	14%	21%	0%	0%	56%	61%
Other enterprises	manure	manure	cash crops, manure	cash crops, manure	manure	manure	manure	cash crops, manure, other		
Dairy specific data										
Milk yield (kg ECM 4) / cow)	2966	4537	4362	5681	7838	8418	8655	7782	8712	8922
Milk production (t ECM [4])	72	468	17	102	784	1063	2488	3674	1347	2050
Replacement rate (%)	18%	29%	29%	28%	30%	27%	30%	30%	28%	28%
Age of first calving (months)	32	26	33	23	25	25	25	25	26	26
Farm background (from the year box)										
reason for culling (code)	1, 2	1, 2	-	-	3, 1, 7	3, 1, 7	3, 1, 6	3, 1, 4	6, 1,	6, 1
most limiting recources on the farm for creating sustainable business (code)	1, 2, 5, 9	5	-	-	1, 5, 2, 7, 3, 6	1, 5, 2, 7, 3, 6	1, 5, 2, 7, 3, 6	1, 5, 2, 7, 3, 6	1, 2, 4	1, 2, 4
availabilty of electricity on farm (hrs/day)	20	20	-	-	24	24	24	24	24	24
internet accessability (code)	if power avail.	if power avail.	-	-	if power avail.	if power avail.	if power avail.	if power avail.	24 flat	24 flat

Typical farm	JO-76	JO-412	JP-38	JP-71	LU-56	LU-127	MA-3N	MA-8N	MW-2	MW-6
Region	Al-Dhuleel	Al-Dhuleel	Other Prefecture	Hokkaido	no differentiation	no differentiation	Loukkous	Loukkous	Central Region	Central Region
Kind of farm (as speicified in the INP)	Family farm	Corporate farming system	Family farm	Family farm	Family farm	Family farm	Household with farming activities	Household with farming activities	Household with farming activities	Household with farming activities
Production system	fl	fl	st	fs	fs	fs	st	st	ss	ss
No. of cows	76	412	38	71	56	127	3	8	2	6
Breed	HF	HF	HF	HF	HF	HF	Croisée	Croisée	HF	HF
Total land (ha)	5	9	10	84	111	185	6	7	1	2
Land used for dairy enterprise [1] (% of total land)	0%	0%	69%	68%	53%	66%	68%	84%	21%	33%
Stocking rate per ha land [2]	-	-	-	1,24	1,19	1,30	0,53	0,95	-	3,71
Total labour input [3] (labour unit)	5,45	17,23	2,12	2,91	1,99	3,14	1,57	1,48	2,19	3,96
Family labour input (% of total labour)	21%	6%	89%	90%	91%	82%	100%	100%	97%	26%
Other enterprises			cash crops, beef fattening, other	cash crops, beef fattening, other	cash crops, beef fattening	cash crops, beef fattening	cash crops, manure, other	cash crops, manure, other	cash crops, beef fattening, manure	cash crops, beef fattening, manure
Dairy specific data										
Milk yield (kg ECM 4) / cow)	6358	7307	8234	7848	7515	8043	3770	3209	3130	3913
Milk production (t ECM [4])	488	3041	311	559	429	1038	13	29	7	25
Replacement rate (%)	22%	37%	22%	26%	33%	34%	20%	20%	33%	33%
Age of first calving (months)	27	26	25	25	30	30	27	26	30	30
Farm background (from the year box)										
reason for culling (code)	2, 6, 3	2, 6, 3	1, 6	1, 6	3, 1, 4	3, 1, 4	-	-	1, 3, 2	1, 2
most limiting recources on the farm for creating sustainable business (code)	12	12	1	1	1, 4, 2, 7	1, 4, 2, 7	-	-	5, 1, 2	1
availabilty of electricity on farm (hrs/day)	Available	Available	24	24	24	24	-	-	0	0
internet accessability (code)	24 no flat	24 no flat	24 flat	24 flat	24 flat	24 flat	-	-	no	no

Typical farm	MX-16JA	MX-38JA	MX-1000TO	MX-2000TO	NL-82	NL-178	NL-115AMS	NO-22	NO-36	NZ-388
Region	Jalisco	Jalisco	La Laguna	La Laguna	no differentiation	no differentiation	no differentiation	Nord-Østerdalen	Jæren	Waikato
Kind of farm (as speicified in the INP)	Family farm	Family farm	Corporate farming system	Corporate farming system	Family farm	Family farm	Family farm	Family farm	Family farm	Family farm
Production system	ss	st	fl	fl	fs	fs	fs	st	st	gr
No. of cows	16	38	1000	2000	82	178	115	22	36	388
Breed	HF	HF	HF	HF	HF	HF	HF	Norwegian Red	Norwegian Red	Crossbred
Total land (ha)	21	31	300	600	47	100	52	27	30	126
Land used for dairy enterprise [1] (% of total land)	98%	97%	93%	95%	100%	100%	100%	80%	79%	100%
Stocking rate per ha land [2]	0,61	1,02	3,67	3,68	2,12	2,15	2,76	1,08	1,66	2,72
Total labour input [3] (labour unit)	1,79	3,33	78,93	127,66	1,20	2,10	1,03	1,65	1,74	2,90
Family labour input (% of total labour)	78%	84%	4%	2%	92%	81%	97%	89%	77%	34%
Other enterprises	other		beef fattening, other	beef fattening, other, biogas			other	beef fattening	beef fattening	other
Dairy specific data										
Milk yield (kg ECM 4) / cow)	4548	3658	9068	8509	8627	8406	10090	7526	6292	4965
Milk production (t ECM [4])	81	151	9253	17366	709	1500	1162	170	251	1926
Replacement rate (%)	18%	15%	34%	34%	27%	25%	28%	33%	31%	26%
Age of first calving (months)	26	27	24	24	26	26	26	26	25	24
Farm background (from the year box)										
reason for culling (code)	1, 3	1, 3	1, 6, 3	1, 6, 3	1, 3, 6, 4	1, 3, 6, 4	1, 3, 6, 4	1, 9, 6	1, 2, 3	1, 2, 3
most limiting recources on the farm for creating sustainable business (code)	5, 1, 3	5, 1, 3	3, 9	3, 9	1, 6, 5, 11, 2	1, 6, 5, 11, 2	1, 6, 5, 11, 2	6	1, 6	5, 6, 7
availabilty of electricity on farm (hrs/day)	24	24	24	24	24	24	24	24	24	24
internet accessability (code)	no	no	24 flat	24 flat	24 flat	24 flat	24 flat	24 flat	24 flat	24 flat

Explanations:

[1] incl. setaside, [2] Livestock units/ ha of dairy land, [3] Hired and family labour input for the whole farm shown in labour units (1 unit = 2,100 hours), [4] ECM = Energy corrected milk (4% fat, 3.3 % protein)

Production system codes: *st = stanchion barn, fs = free stall barn, fl = feedlot farms, gr = grazing farms, ss = small scale farms*

Reasons for culling: *1 = fertility, 2 = age, 3 = mastitis, 4 = claw disorders, 5 = other diseases, 6 = low milk yield, 7 = high beef price, 8 = other, 9 = udder, 10 = health (general), 11 = milk price, 12 = financial situation on farm*

Limitations for sustainable dairy farming: *1 = land, 2 = labour, 3 = water, 4 = quota, 5 = technical & management Skills, 6 = political restrictions, 7 = farm succession, 8 = other, 9 = milk price, 10 = capital, 11 = environment, 12 = feed (shortage, price)*

A.3 Description of the typical dairy farms analysed

Typical farm	NZ-1113	PE-7	PE-17	PK-6	PK-25	PK-100	PL-16	PL-25	PL-65	RS-2
Region	Canterbury	Polloc, Cajamarca	La Campiña, Cajamarca	Lahore, Punjab	Lahore, Punjab	Sialkot, Punjab	Mazowieckie	no differentiation	Śląsk	Sumadija, Western Serbia
Kind of farm (as speicified in the INP)	Family farm partnership	Family farm	Corporate farming system	Household with farming activities	Family farm	Family farm partnership	Family farm	Family farm	Family farm	Family farm
Production system	gr	ss	gr	ss	fs	fs	st	st	fs	ss
No. of cows	1113	7	17	6	25	100	16	25	65	2
Breed	HF	Brown Swiss	HF	Nili Ravi, Sahiwal/ Cholistani	Nili Ravi, Sahiwal, Crossbred	HF, Jersey, HFxJersey	HF x local breed	HF	HF	Simmental
Total land (ha)	303	16	7	2	19	30	32	36	100	5
Land used for dairy enterprise [1] (% of total land)	100%	83%	100%	25%	33%	59%	81%	70%	81%	70%
Stocking rate per ha land [2]	4,15	0,58	2,79	-	3,95	-	0,75	1,14	1,01	0,61
Total labour input [3] (labour unit)	6,20	1,93	3,75	3,10	6,50	23,00	2,48	2,09	4,44	0,48
Family labour input (% of total labour)	11%	100%	29%	57%	60%	8%	100%	96%	52%	100%
Other enterprises	other			cash crops, beef fattening	cash crops, beef fattening	cash crops	cash crops	cash crops	cash crops	cash crops, beef fattening
Dairy specific data										
Milk yield (kg ECM 4) / cow)	5751	2599	5955	1844	2203	5463	5240	5802	8394	3373
Milk production (t ECM [4])	6401	19	102	13	59	563	86	150	563	7
Replacement rate (%)	27%	22%	19%	18%	20%	29%	34%	31%	34%	20%
Age of first calving (months)	24	32	27	35	36	23	26	26	27	23
Farm background (from the year box)										
reason for culling (code)	1, 2, 4	3, 2, 1	3, 2, 1	2, 3, 1	1, 3, 2	6, 3, 1	1, 2, 6	1, 2, 6	1, 3, 4	2, 1, 3
most limiting recources on the farm for creating sustainable business (code)	5, 6, 3	1, 5, 2	1, 5, 2	5, 1, 2	5, 1, 2	2, 1, 5	4, 6	4, 6, 1	4, 6	1, 5, 2, 7, 6
availabilty of electricity on farm (hrs/day)	24	24	24	Summer 4, Winter 8	Summer 4, Winter 8	24	24	24	24	24
internet accessability (code)	24 flat	no	24 no flat	no	no	if power avail.	24 no flat	24 flat	24 flat	24 no flat

Typical farm	RS-10	RS-84	RU-650	RU-1500	RU-3000	RU-2000	SD-20	SD-117	SE-55	SE-70
Region	Vojvodina	Vojvodina	Belgorod	Voronezh	Lipetsk	Yaroslavl	North Khartoum/ Sudan	Central Sudan	Säter Dalarna	Luleå Kustområdet Norrmejerier
Kind of farm (as speicified in the INP)	Family farm	Family farm	Corporate farming system	Corporate farming system	Corporate farming system	Corporate farming system	Family farm	Family farm	Family farm	Family farm
Production system	ss	fs	st	fs	fs	fs	fs	fs	st	fs
No. of cows	10	84	650	1500	3000	2000	20	117	55	70
Breed	HF, Simmental	HF, Simmental	Red & White local	HF	HF	HF	Kanana & Butana x HF	Kanana & Butana x HF	Swedish Red, HF	Swedish Red, HF
Total land (ha)	15	240	-	-	-	-	1	12	155	150
Land used for dairy enterprise [1] (% of total land)	69%	40%	0%	0%	0%	0%	60%	78%	74%	100%
Stocking rate per ha land [2]	1,26	1,15	0,00	0,00	0,00	0,00	-	-	0,66	0,63
Total labour input [3] (labour unit)	1,90	5,10	33,43	32,86	72,38	45,71	6,00	25,71	2,40	2,29
Family labour input (% of total labour)	100%	47%	0%	0%	0%	0%	24%	26%	54%	75%
Other enterprises	cash crops	cash crops					manure	manure	cash crops	
Dairy specific data										
Milk yield (kg ECM 4) / cow)	5560	6196	6375	8692	8073	9598	2181	2929	9963	10107
Milk production (t ECM [4])	57	531	4362	13724	26043	19790	46	361	577	737
Replacement rate (%)	33%	30%	35%	30%	40%	25%	11%	52%	45%	45%
Age of first calving (months)	24	24	28	31	28	28	36	30	27	25
Farm background (from the year box)										
reason for culling (code)	2, 1, 3	1, 6, 3	-	-	-	-	2, 3, 6	2, 3, 6	1, 3, 4	1, 3, 4
most limiting recources on the farm for creating sustainable business (code)	7, 5	5, 7	-	-	-	-	1, 3, 2, 5	1, 3, 2, 5	8, 1, 6, 2	6, 2, 7, 5
availabilty of electricity on farm (hrs/day)	24	24	-	-	-	-	24	24	24	24
internet accessability (code)	24 flat	24 flat	-	-	-	-	no	no	24 flat	24 flat

Typical farm	SE-220	TN-2	TN-4	TN-5	TN-12	TN-290	TR-15	TR-100	UA-145	UA-535
Region	Falkenberg, Halland	Central-East	North	Mahdia	Mahdia	Northwest	Marmara/Thrace	Marmara/Thrace	Chernihivska oblast	Sumska oblast
Kind of farm (as speicified in the INP)	Corporate farming system	Family farm	Family farm	Family farm	Family farm	Other	Family farm	Family farm	Corporate farming system	Corporate farming system
Production system	fs	ss	ss	ss	ss	fs	ss	fs	fs	fs
No. of cows	220	2	4	5	12	290	15	100	145	535
Breed	HF	HF	HF	HF	HF	HF	HF	HF	Ukrainian Red & White	Ukrainian Red & White
Total land (ha)	215	2	4	2	4	2.750	6	40	815	3.866
Land used for dairy enterprise [1] (% of total land)	100%	50%	50%	66%	40%	15%	50%	30%	13%	14%
Stocking rate per ha land [2]	1,43	1,73	1,77	4,72	-	0,70	-	-	1,29	0,78
Total labour input [3] (labour unit)	5,93	0,46	0,83	1,02	2,32	140,95	1,60	4,62	84,76	190,48
Family labour input (% of total labour)	28%	100%	100%	100%	100%	0%	95%	19%	0%	0%
Other enterprises		cash crops	cash crops	cash crops, manure	cash crops, manure	cash crops	cash crops	cash crops	cash crops, beef fattening	cash crops, beef fattening
Dairy specific data										
Milk yield (kg ECM 4) / cow)	9902	6853	3652	5030	4952	6393	5318	7638	4169	5017
Milk production (t ECM [4])	2310	14	15	25	60	1873	83	779	672	2855
Replacement rate (%)	40%	13%	13%	32%	15%	30%	24%	32%	30%	35%
Age of first calving (months)	27	28	28	30	29	29	26	24	26	26
Farm background (from the year box)										
reason for culling (code)	1, 3, 4	2 , 1 , 3	2, 1, 3	2, 1, 3	2, 1, 3	2, 1, 3	1, 3, 7	1, 3, 7	1, 2, 6	1, 3, 6
most limiting recources on the farm for creating sustainable business (code)	6, 2, 1, 5	1, 3, 5, 7	1, 3, 5, 7	1, 3, 5, 7	1, 3, 5, 7	1, 3, 5, 7	1, 2, 3	1, 2, 3	5	5
availabilty of electricity on farm (hrs/day)	24	24	24	24	24	24	24	24	24	24
internet accessability (code)	24 flat	no	no	no	no	no	no	24 flat	24 flat	24 flat

Explanations:

[1] incl. setaside, [2] Livestock units/ ha of dairy land, [3] Hired and family labour input for the whole farm shown in labour units (1 unit = 2,100 hours), [4] ECM = Energy corrected milk (4% fat, 3.3 % protein)

Production system codes: *st = stanchion barn, fs = free stall barn, fl = feedlot farms, gr = grazing farms, ss = small scale farms*

Reasons for culling: *1 = fertility, 2 = age, 3 = mastitis, 4 = claw disorders, 5 = other diseases, 6 = low milk yield, 7 = high beef price, 8 = other, 9 = udder, 10 = health (general), 11 = milk price, 12 = financial situation on farm*

Limitations for sustainable dairy farming: *1 = land, 2 = labour, 3 = water, 4 = quota, 5 = technical & management Skills, 6 = political restrictions, 7 = farm succession, 8 = other, 9 = milk price, 10 = capital, 11 = environment, 12 = feed (shortage, price)*

Typical farm	UG-1	UG-3	UG-13	UK-150NW	UK-246SW	US-1100CA	US-3000CA	US-1000ID	US-5000ID	US-70NY
Region	Mbarara District	Lyantonde District	Lyantonde District	NW England	SW England	California	California	Idaho	Idaho	Northeast US
Kind of farm (as speicified in the INP)	Family farm	Family farm	Family farm	Family farm	Family farm	Corporate farming system	Corporate farming system	Corporate farming system	Corporate farming system	Family farm
Production system	ss	ss	ss	fs	fs	fl	fl	fl	fl	st
No. of cows	1	3	13	150	246	1100	3000	1000	5000	70
Breed	HF	Ankole Cattle	Ankole Cattle	HF	HF	HF	HF	HF	HF	HF
Total land (ha)	1	2	6	122	191	183	346	390	550	167
Land used for dairy enterprise [1] (% of total land)	95%	63%	59%	93%	96%	95%	95%	95%	95%	68%
Stocking rate per ha land [2]	0,92	2,55	4,66	1,59	1,71	-	-	2,50	-	0,54
Total labour input [3] (labour unit)	0,83	1,60	3,14	2,47	4,55	13,56	34,94	19,43	40,00	2,76
Family labour input (% of total labour)	88%	67%	50%	51%	52%	5%	2%	12%	0%	61%
Other enterprises		cash crops	cash crops	beef fattening						cash crops, other
Dairy specific data										
Milk yield (kg ECM 4) / cow)	3803	696	535	7801	7286	10153	10864	10283	10586	8672
Milk production (t ECM [4])	4	2	7	1206	1820	11168	32592	10283	52928	628
Replacement rate (%)	45%	35%	23%	30%	24%	41%	45%	35%	35%	36%
Age of first calving (months)	26	33	36	27	28	25	25	24	24	24
Farm background (from the year box)										
reason for culling (code)	1, 6, 11, 12	1, 6, 11, 12	1, 6, 11, 12	1, 3, 4	1, 3, 4	3, 1, 6	3, 1, 6	1, 3, 6	1, 3, 6	3,1,6
most limiting recources on the farm for creating sustainable business (code)	1, 5, 2	1, 5, 2, 3	1, 5, 3	5, 2, 1, 7	5, 2, 1, 7	1, 3, 6	1, 3, 6	2, 3, 1	2, 3, 1	1, 2, 5, 7
availabilty of electricity on farm (hrs/day)	12	12	12	24	24	24	24	24	24	24
internet accessability (code)	few hrs	few hrs	no	24 flat	24 flat	24 flat	24 flat	24 flat	24 flat	24 flat

Typical farm	US-500NY	US-2000NY	US-80WI	US-500WI	UY-71	UY-142	UY-419	ZA-230	ZA-520	ZA-630	ZW-95	ZW-650
Region	Northeast US	Northeast US	Wisconsin	Wisconsin	South Uruguay	South Uruguay	South Uruguay	Free-Sate	Kwazulu natal	Gauteng/ Western-Cape	Midlands	Midlands
Kind of farm (as speicified in the INP)	Family farm partnership	Corporate farming system	Family farm	Family farm partnership	Family farm	Corporate farming system	Corporate farming system	Corporate farming system	Corporate farming system	Corporate farming system	Family farm	Corporate farming system
Production system	fs	fs	st	fs	gr	gr	gr	fl	gr	fs	fs	6
No. of cows	500	2000	80	500	71	142	419	230	520	630	95	630
Breed	HF	HF	HF	HF	HF	HF	HF	HF	HF	HF	HF	HF, Jersey, Ayrshire
Total land (ha)	739	1.741	73	346	114	205	624	432	269	670	435	500
Land used for dairy enterprise [1] (% of total land)	71%	84%	94%	98%	97%	98%	97%	96%	88%	7%	100%	42%
Stocking rate per ha land [2]	0,90	1,51	1,39	1,90	0,84	0,83	0,79	0,73	2,47	1,23	0,20	0,19
Total labour input [3] (labour unit)	16,05	54,77	3,00	12,38	2,02	4,05	9,42	6,95	25,81	24,10	16,34	232,31
Family labour input (% of total labour)	17%	11%	76%	31%	49%	24%	10%	14%	4%	4%	13%	2%
Other enterprises	cash crops, other	cash crops, other										cash crops, beef fattening
Dairy specific data												
Milk yield (kg ECM 4) / cow)	10684	11077	9190	10556	4143	5737	6160	6171	5777	10587	4636	7707
Milk production (t ECM [4])	5434	22445	750	5386	297	823	2607	1463	3065	6806	445	4905
Replacement rate (%)	31%	37%	30%	35%	22%	23%	24%	31%	31%	32%	20%	20%
Age of first calving (months)	24	23	26	26	40	34	30	30	28	25	32	26
Farm background (from the year box)												
reason for culling (code)	3,1,6	3,1,6	1, 4, 3, 6	1, 4, 3, 6	1, 3	1, 3	1, 3	1	2	3	1, 8, 9	1, 8, 9
most limiting recources on the farm for creating sustainable business (code)	1, 2, 5, 7	1, 2, 5, 7	1, 5, 2, 8	1, 5, 2, 8	2, 7, 5, 1	2, 7	2, 7	10	1, 3	1, 3	3, 8	6, 1, 3, 4
availabilty of electricity on farm (hrs/day)	24	24	24	24	24	24	24	24	24	24	24	24
internet accessability (code)	24 flat	24 flat	24 flat	24 flat	24 no flat	24 no flat	24 no flat	24 no flat	24 no flat	24 no flat	24 flat	24 flat

Explanations:

[1] incl. setaside, [2] Livestock units/ ha of dairy land, [3] Hired and family labour input for the whole farm shown in labour units (1 unit = 2,100 hours), [4] ECM = Energy corrected milk (4% fat, 3.3 % protein)

Production system codes: *st = stanchion barn, fs = free stall barn, fl = feedlot farms, gr = grazing farms, ss = small scale farms*

Reasons for culling: *1 = fertility, 2 = age, 3 = mastitis, 4 = claw disorders, 5 = other diseases, 6 = low milk yield, 7 = high beef price, 8 = other, 9 = udder, 10 = health (general), 11 = milk price, 12 = financial situation on farm*

Limitations for sustainable dairy farming: *1 = land, 2 = labour, 3 = water, 4 = quota, 5 = technical & management Skills, 6 = political restrictions, 7 = farm succession, 8 = other, 9 = milk price, 10 = capital, 11 = environment, 12 = feed (shortage, price)*

A.4 **Exchange rates 1996 – 2013**

Country	Currency	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Afghanistan	AFN	47.50	47.50	47.50	47.11	48.37	47.50	47.26	55.65	42.79	43.13	49.02	50.05	50.42	51.02	46.54	46.93	51.08	55.58
Albania	ALL	101.56	147.71	152.44	138.64	144.82	145.87	145.44	126.34	106.80	102.93	102.91	92.57	85.62	96.68	105.88	102.68	110.10	107.54
Algeria	DZD	54.75	57.72	58.72	66.58	76.83	78.96	82.02	79.81	74.15	74.39	75.18	70.25	65.84	74.15	75.45	73.58	78.16	80.13
Argentina	ARS	1.00	1.00	1.00	1.00	1.00	1.00	3.11	2.99	2.96	2.93	3.09	3.13	3.17	3.74	3.92	4.13	4.56	5.48
Armenia	AMD	414.03	490.75	504.96	535.20	539.50	555.10	573.40	578.80	533.50	457.70	423.98	339.50	305.95	363.14	373.76	372.35	401.64	409.72
Australia	AUD	1.28	1.35	1.59	1.55	1.73	1.93	1.84	1.54	1.36	1.31	1.33	1.19	1.19	1.28	1.09	0.97	0.97	1.04
Azerbaijan	AZN	4,300	3,984	3,869	4,120	4,475	4,655	4,860	4,910	4,915	4,730	0.92	0.90	0.82	0.80	0.80	0.79	0.79	0.79
Bangladesh	BDT	41.90	44.01	47.05	49.19	52.34	56.77	59.63	60.06	60.88	64.65	70.29	70.33	69.79	70.14	70.82	75.21	83.26	79.39
Belarus	BYR	13,608	25,039	43,569	276,661	800	1,420	1,804	2,051	2,160	2,150	2,152	2,152	2,152	2,793	2,997	5,146	8,381	8,920
Bolivia	BOB	5.09	5.26	5.52	5.79	6.12	6.52	6.89	7.43	7.63	8.16	8.27	8.05	7.37	7.16	7.16	7.14	7.13	7.10
Bosnia and Herzegovina	BAM	1.50	1.73	1.76	1.84	2.12	2.18	2.07	1.73	1.57	1.57	1.56	1.43	1.34	1.41	1.47	1.41	1.52	1.47
Brazil	BRL	1.00	1.08	1.16	1.82	1.83	2.38	2.97	3.12	2.93	2.43	2.18	1.93	1.84	2.01	1.77	1.68	1.96	2.16
Bulgaria	BGN	179.45	1,645.66	1,753.92	2.18	2.18	2.18	2.07	1.73	1.58	1.57	1.57	1.43	1.34	1.41	1.48	1.41	1.52	1.48
Cameroon	XAF	512.49	584.26	590.21	616.02	713.46	741.47	724.61	590.97	549.16	532.75	539.56	492.72	457.07	481.08	504.92	480.81	517.70	494.11
Canada	CAD	1.36	1.38	1.48	1.49	1.49	1.55	1.57	1.40	1.30	1.21	1.13	1.07	1.06	1.14	1.03	0.99	1.00	1.03
Chile	CLP	412.37	419.51	460.67	509.19	539.67	642.62	703.77	702.97	621.67	561.81	539.39	520.69	521.97	570.54	519.48	485.21	487.79	495.65
China	CNY	8.31	8.29	8.28	8.28	8.28	8.28	8.29	8.29	8.29	8.20	7.98	7.60	6.94	6.84	6.78	6.47	6.32	6.20
Colombia	COP	1,036	1,143	1,428	1,762	2,093	2,324	2,580	2,938	2,676	2,332	2,424	2,104	1,987	2,181	1,922	1,868	1,810	1,871
Costa Rica	CRC	207.02	232.12	256.49	284.39	306.83	324.71	346.72	387.74	410.34	482.49	527.71	530.20	534.91	580.68	532.60	506.81	512.01	511.21
Croatia	HRK	5.44	6.17	6.40	7.14	8.30	8.40	8.10	6.97	6.28	5.98	5.84	5.37	4.94	5.30	5.51	5.36	5.86	5.72
Cuba	CUP	3.29	20.92	23.00	12.06	1.00	1.00	2.03	4.21	21.00	21.00	22.70	23.15	23.15	23.15	23.15	23.15	23.15	23.15
Czech Republic	CZK	27.14	31.75	32.27	34.63	38.64	38.04	32.81	28.23	25.73	23.99	22.63	20.23	17.06	19.11	19.12	17.70	19.58	19.57
Denmark	DKK	5.80	6.60	6.70	6.98	8.09	8.32	7.88	6.58	5.99	6.00	5.94	5.42	5.08	5.36	5.62	5.36	5.79	5.62
Ecuador	USD	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Egypt	EGP	3.41	3.40	3.42	3.42	3.55	4.06	4.66	5.91	6.24	5.83	5.82	5.71	5.50	5.60	5.68	5.97	6.10	6.91
Ethiopia	ETB	5.84	6.50	6.99	7.81	8.08	8.42	8.79	8.79	8.89	8.83	9.02	9.22	10.71	11.86	14.62	17.15	17.97	18.90
Euro	EUR	0.77	0.87	0.90	0.94	1.09	1.12	1.06	0.89	0.81	0.80	0.80	0.73	0.68	0.72	0.75	0.72	0.78	0.75
Hungary	HUF	149.45	186.85	214.49	237.40	282.89	286.59	258.08	224.50	202.93	199.94	210.83	184.02	172.80	202.63	208.22	201.26	225.38	223.79
Iceland	ISK	66.80	71.10	71.20	72.40	78.90	97.69	91.67	76.78	70.26	62.92	70.10	63.66	88.55	125.04	124.87	116.25	125.27	122.46
India	INR	35.44	36.34	41.29	43.06	44.95	47.23	48.68	46.66	45.34	44.12	45.32	41.08	43.80	48.86	45.94	47.23	53.75	58.57
Indonesia	IDR	2,328	2,904	10,285	7,877	8,416	10,294	9,350	8,593	8,946	9,722	9,184	9,139	9,685	10,437	9,125	8,813	9,400	10,466
Iran	IRR	1,585	2,399	3,297	4,195	5,094	5,992	6,890	7,900	7,900	8,283	9,492	9,524	9,641	10,050	10,205	10,728	12,329	18,129
Israel	ILS	3.19	3.45	3.81	4.15	4.09	4.21	4.74	4.55	4.49	4.50	4.47	4.10	3.60	3.93	3.74	3.58	3.86	3.62
Jamaica	JMD	36.09	34.39	36.02	38.57	42.55	45.60	47.72	53.48	57.41	66.35	65.76	69.53	74.32	89.92	88.17	86.80	89.72	100.75
Japan	JPY	108.83	121.04	130.88	113.81	107.86	121.56	125.30	115.98	108.17	110.12	116.34	117.58	103.40	93.57	87.85	79.76	79.81	97.59
Jordan	JOD	0.71	0.71	0.71	0.71	0.71	0.72	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
Kazakhstan	KZT	67.87	75.63	78.64	119.83	142.31	147.55	150.77	151.91	140.81	134.17	130.59	125.41	122.38	149.63	149.46	148.74	151.38	154.33
Kenya	KES	57.17	58.92	60.54	70.42	76.28	78.75	79.15	76.32	79.55	75.75	72.62	67.82	71.46	79.96	82.24	90.11	85.85	87.46
Korea, Republic of	KRW	804.83	954.00	1,402.11	1,190.13	1,131.16	1,291.50	1,249.79	1,194.54	1,150.91	1,027.59	969.90	935.27	1,102.84	1,279.59	1,159.89	1,109.38	1,130.16	1,099.00
Kyrgyzstan	KGS	12.80	17.36	20.77	39.02	47.72	48.45	46.94	43.72	42.67	41.01	41.44	39.96	36.57	42.96	45.98	46.17	47.01	48.44
Latvia	EUR	0.80	0.88	0.89	0.94	1.08	1.12	1.06	0.89	0.81	0.80	0.80	0.73	0.68	0.72	0.75	0.72	0.78	0.75
Lithuania	LTL	4.00	4.00	4.00	4.00	4.00	4.00	3.66	3.06	2.78	2.78	2.76	2.52	2.38	2.50	2.62	2.49	2.69	2.61
Macedonia	MKD	49.84	57.41	58.27	60.83	70.27	72.35	68.72	57.35	52.14	52.11	50.31	45.52	42.37	44.66	46.77	44.57	48.28	46.90
Malawi	MWK	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	139.55	143.29	143.70	144.82	153.28	159.10	247.34	369.26
Malaysia	MYR	2.52	2.82	3.93	3.80	3.80	3.80	3.80	3.80	3.80	3.79	3.68	3.45	3.34	3.53	3.23	3.06	3.10	3.16
Mexico	MXN	7.60	7.93	9.15	9.56	9.47	9.35	9.68	10.81	11.31	10.90	10.92	10.94	11.17	13.53	12.65	12.44	13.17	12.76
Mongolia	MNT	466.00	514.00	819.00	990.00	1,069	1,096	1,103	1,121	1,120	1,120	1,135	1,170	1,166	1,441	1,356	1,260	1,356	1,511
Morocco	MAD	8.71	9.53	9.62	9.81	10.64	11.32	11.07	9.69	8.97	8.96	8.91	8.22	7.80	8.15	8.49	8.15	8.71	8.49
Nepal	NPR	55.20	56.93	61.76	68.42	71.01	76.00	80.42	78.18	74.86	73.99	75.24	68.31	70.82	78.62	74.37	75.76	86.28	94.86
New Zealand	NZD	1.46	1.51	1.87	1.89	2.20	2.38	2.16	1.72	1.51	1.42	1.54	1.35	1.42	1.60	1.39	1.27	1.24	1.22
Nigeria	NGN	81.86	82.19	86.46	96.00	105.14	116.95	126.40	133.07	133.56	132.10	132.44	128.22	120.15	150.92	152.81	157.40	160.07	160.86
Norway	NOK	6.46	7.08	7.55	7.80	8.80	8.99	7.98	7.08	6.74	6.44	6.42	5.82	5.65	6.30	6.05	5.61	5.82	5.88
Pakistan	PKR	36.00	41.08	48.73	51.40	53.94	62.63	62.26	59.89	60.01	59.74	60.25	60.78	70.73	81.75	85.91	86.99	94.04	102.33
Panama	PAB	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.01	1.04	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Paraguay	PYG	2,038	2,165	2,690	3,112	3,485	4,054	5,561	6,367	5,861	6,246	5,843	5,172	4,434	5,071	4,849	4,286	4,530	4,408
Peru	PEN	2.45	2.66	2.93	3.38	3.49	3.55	3.66	3.60	3.51	3.31	3.36	3.19	2.96	3.06	2.87	2.79	2.68	2.74
Philippines	PHP	26.23	29.63	41.00	39.15	44.34	51.17	51.73	54.31	56.19	55.14	51.41	45.95	44.56	47.72	45.25	43.39	42.35	42.54
Poland	PLN	2.70	3.28	3.49	3.97	4.35	4.10	4.07	3.89	3.65	3.24	3.11	2.77	2.41	3.13	3.02	2.97	3.26	3.16
Romania	RON	0.31	0.72	0.89	1.54	2.17	2.93	3.41	3.41	3.34	2.94	2.82	2.43	2.53	3.06	3.19	3.05	3.47	3.33
Russian Federation	RUB	5,134	5,787	10.22	24.98	28.17	29.19	31.39	30.70	28.82	28.29	27.19	25.49	24.87	31.86	30.43	29.45	31.16	31.88
Saudi Arabia	SAR	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.76	3.75	3.76	3.75	3.75	3.75
Senegal	XOF	507.80	578.35	591.16	616.44	713.96	730.34	692.59	579.34	528.89	524.67	539.92	492.89	457.02	480.58	655.96	480.44	517.81	494.13
Serbia	RSD	4.92	5.00	8.99	10.92	11.61	48.31	63.53	57.68	58.96	67.07	69.36	59.50	56.18	68.02	78.11	73.76	88.40	85.55
South Africa	ZAR	4.30	4.61	5.55	6.12	6.94	8.62	10.53	7.57	6.46	6.38	6.79	7.06	8.28	8.45	7.35	7.27	8.22	9.65
Sri Lanka	LKR	55.31	58.98	64.91	70.77	76.92	89.61	95.78	96.55	101.24	100.59	104.29	111.19	108.62	115.20	113.30	110.72	127.79	129.36
Sudan	SDG	1.04	1.58	1.98	2.50	2.56	2.56	2.56	2.58	2.59	2.47	2.29	2.07	2.12	2.36	2.36	2.69	3.57	4.60
Sweden	SEK	6.71	7.64	7.95	8.27	9.17	10.33	9.72	8.08	7.35	7.47	7.38	6.74	6.59	7.66	7.21	6.49	6.78	6.52
Switzerland	CHF	1.24	1.45	1.45	1.50	1.69	1.69	1.56	1.35	1.24	1.25	1.25	1.20	1.08	1.09	1.04	0.89	0.94	0.93
Taiwan	TWD	27.46	28.72	33.50	32.32	31.26	33.99	34.58	34.48	33.47	32.20	32.56	32.89	31.56	33.07	31.56	29.51	29.66	29.75
Tajikistan	TJS	0.29	0.56	0.78	1.24	1.83	2.37	2.76	3.06	2.97	3.12	3.30	3.44	3.41	4.14	4.38	4.61	4.76	4.76
Tanzania	TZS	614.13	618.62	660.22	748.79	803.66	887.35	994.12	1,062.8	1,112.8	1,150.3	1,286.3	1,270.2	1,221.7	1,344.9	1,460.9	1,605.1	1,608.2	1,649.1
Thailand	THB	25.36	31.18	41.35	37.88	40.20	44.54	43.07	41.60	40.31	40.31	37.99	32.26	33.27	34.58	31.96	30.67	31.21	30.79
Tunisia	TND	0.98	1.10	1.14	1.19	1.37	1.44	1.43	1.33	1.29	1.31	1.34	1.29	1.25	1.36	1.44	1.41	1.57	1.63
Turkey	TRY	0.08	0.15	0.26	0.42	0.62	1.24	1.54	1.53	1.45	1.35	1.44	1.30	1.31	1.56	1.51	1.68	1.80	1.91
Turkmenistan	TMT	0.65	0.83	0.98	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	2.85	2.85	2.85	2.85	2.85	2.85
Uganda	UGX	1,051	1,088	1,247	1,472	1,655	1,788	1,738	1,845	1,807	1,777	1,847	1,736	1,736	2,051	2,199	2,553	2,537	2,619
Ukraine	UAH	1.52	1.87	2.61	4.35	5.50	5.38	5.49	5.51	5.47	5.16	5.22	5.17	5.37	8.15	8.05	8.08	8.19	8.25
United Kingdom	GBP	0.64	0.61	0.60	0.62	0.66	0.69	0.67	0.61	0.55	0.55	0.54	0.50	0.54	0.64	0.65	0.62	0.63	0.64
Uruguay	UYU	8.03	9.50	10.53	11.26	11.40	12.84	21.32	28.24	28.69	24.46	24.93	23.98	21.28	23.04	20.43	19.66	20.68	20.82
USA	USD	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uzbekistan	UZS	81.81	91.16	94.79	124.64	237.20	941.65	1,013	1,096	1,029	1,010	971	1,286	1,317	1,464	1,587	1,716	1,893	2,110
Venezuela	VEF	0.40	0.49	0.55	0.61	0.68	0.72	1.16	1.61	1.88	1.89	2.15	2.15	2.15	2.15	4.22	4.30	4.30	6.07
Viet Nam	VND	11,036	11,705	13,267	13,945	14,177	15,031	15,934	16,068	16,175	15,968	16,436	16,412	16,707	18,006	19,331	20,783	21,044	21,162
Yemen	YER	173.83	173.83	173.83	173.83	173.83	173.83	173.83	165.17	182.05	182.59	180.66	188.52	200.59	203.52	219.04	218.22	216.95	215.49
Zimbabwe	USD	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

1 US-$ = … national currency, Source: www.oanda.com

Euro: In Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain since 2002 the currency is the Euro. Slovenia has the Euro since 2007. Cyprus is part of the Euro-Zone since 2008, Slovakia since 2009, Estonia since 2011. The years before the exchange rates have been quite similar. In the table the exchange rate of the German currency is shown converted into EUR. Turkey: New turkish Lira since 2005: six zeros were deleted, in our data base this is backdated. Ecuador: USD since 2000, in our data base this is backdated. Zimbabwe: ZWD suspended in 2009, now USD is most commonly used currency.

Countries

AF	Afghanistan
AL	Albania
AM	Armenia
AR	Argentina
AT	Austria
AU	Australia
AZ	Azerbaijan
BA	Bosnia-Herzegovina
BD	Bangladesh
BE	Belgium
BG	Bulgaria
BO	Bolivia
BR	Brazil
BY	Belarus
CA	Canada
CH	Switzerland
CL	Chile
CM	Cameroon
CN	China
CO	Colombia
CR	Costa Rica
CU	Cuba
CY	Cyprus
CZ	Czech Republic
DE	Germany
DK	Denmark
DZ	Algeria
EC	Ecuador
EE	Estonia
EG	Egypt
ES	Spain
ET	Ethiopia
FI	Finland
FR	France
GR	Greece
HR	Croatia
HU	Hungary
ID	Indonesia
IE	Ireland
IL	Israel
IN	India
IR	Iran
IS	Iceland
IT	Italy
JM	Jamaica
JO	Jordan
JP	Japan
KE	Kenya
KG	Kazakhstan
KR	Korea, Republic of
KZ	Kyrgyzstan
LK	Sri Lanka
LT	Lithuania
LU	Luxembourg
LV	Latvia
MA	Morocco
MK	Macedonia
MN	Mongolia
MW	Malawi
MX	Mexico
MY	Malaysia
NG	Nigeria
NL	The Netherlands
NO	Norway
NP	Nepal
NZ	New Zealand
PA	Panama
PE	Peru
PH	Philippines
PK	Pakistan
PL	Poland
PT	Portugal
PY	Paraguay
RO	Romania
RS	Serbia
RU	Russian Federation
SA	Saudi Arabia
SD	Sudan
SE	Sweden
SI	Slovenia
SK	Slovakia
SN	Senegal
SY	Syria
TH	Thailand
TJ	Tajikistan
TM	Turkmenistan
TN	Tunisia
TR	Turkey
TW	Taiwan
TZ	Tanzania
UA	Ukraine
UG	Uganda
UK	United Kingdom
US	USA
UY	Uruguay
UZ	Uzbekistan
VE	Venezuela
VN	Vietnam
YE	Yemen
ZA	South Africa
ZW	Zimbabwe

Currencies

AFN	Afghanistan Afghani
ALL	Albanian Lek
AMD	Armenian Dram
ARS	Argentine Peso
AUD	Australian Dollar
AZN	Azerbaijan New Manat
AZN	Azerbaijan New Manat
BAM	Bosnian Mark
BDT	Bangladeshi Taka
BGN	Bulgarian Lev
BOB	Bolvian Boliviano
BRL	Brazilian Real
BYR	Belarusian Ruble
CAD	Canadian Dollar
CHF	Swiss Franc
CLP	Chilean Peso
CNY	Chinese Yuan Renminbi
COP	Colombian Peso
CRC	Costa Rican colón
CUP	Cuban Peso
CZK	Czech Koruna
DKK	Danish Krone
DZD	Algerian Dinar
EEK	Estonian Kroon
EGP	Egyptian Pound
ETB	Ethiopian Birr
EUR	European Euro
GBP	British Pound
HRK	Croatian Kuna
HUF	Hungarian Forint
IDR	Indonesian Rupiah
ILS	Israeli New Shekel
INR	Indian Rupee
IRR	Iranian Rial
ISK	Iceland Krona
JMD	Jamaican Dollar
JOD	Jordanian Dinar
JPY	Japanese Yen
KES	Kenyan Shilling
KGS	Kyrgyzstanian Som
KRW	South Korean Won
KZT	Kazakhstan Tenge
LKR	Sri Lanka Rupee
LTL	Lithuanian Litas
LVL	Latvian Lats
MAD	Moroccan Dirham
MKD	Macedonian Denar
MNT	Tögrög
MWK	Malawi Kwacha
MXN	Mexican Peso
MYR	Malaysian Ringgit
NGN	Nigerian Naira
NOK	Norwegian Kroner
NPR	Nepalese Rupee
NZD	New Zealand Dollar
PEN	Peruvian Nuevo Sol
PHP	Philippine Peso
PKR	Pakistan Rupee
PLN	Polish Zloty
PYG	Paraguay Guarani
RON	Romanian New Lei
RSD	Serbian Dinar
RUB	Russian Rouble
SAR	Saudi Riyal
SDG	Sudanese Pound
SEK	Swedish Krona
SYP	Syrian Pound
THB	Thai Baht
TJS	Tajikistani Somoni
TMT	Turkmenistan New Manat
TND	Tunisian Dinar
TRY	Turkish Lira
TWD	Taiwan Dollar
TZS	Tanzanian Shilling
UAH	Ukraine Hryvnia
UGX	Uganda Shilling
USD	US Dollar
UYU	Uruguayan Peso
UZS	Uzbekistan Som
VEF	Venezuelan bolívar
VND	Vietnamese Dong
XAF	Central African CFA frank
XOF	CFA Franc BCEAO
YER	Yemeni Rial
ZAR	South African Rand
ZWD	Zimbabwe Dollar

Others

bn	Billion
CEEC	Central and Eastern European Countries
CIS	Commonwealth of Independent states
CPI	Consumer price index
DM	Dry matter
DMI	Dry matter intake
ECM	Energy corrected milk 4% fat, 3.3% protein
EU	European Union
FAO	Food and Agricultural Organisation of the United Nations
h	Hour
ha	Hectare
HF	Holstein Friesian
HH	Household
IFCN	International Farm Comparison Network
IMF	International Monetary Fund
kg	Kilogram
l	Litre
ME	Milk Equivalent
mill	Million
NDF	Neutral detergent fiber
ROI	Return on investment
SMP	Skim milk powder
t	Metric tons
TIPI-CAL	Technology Impact and Policy Impact Calculations
UHT	Ultra High Temperature (milk)
US-$	US Dollar
USDA	United States Department of Agriculture
VAT	Value added tax
WMP	Whole milk powder

Farm Codes

++	Future farm, farms better managed than average
AMS	Automated Milking System (robot)
B	Buffalo
BE	Beijing
bio	Organic
BR- PR	Brazil-Paraná
C	Central
CN-BE	China-Beijing
CN-HJ	China-Heilongjiang
DP	Dual purpose
E	East
ES-CN	Spain-Center North
FR- MC	France-Massif Central
ID- NG	Indonesia-Ngatang
ID-NJ	Indonesia-Nongkojaja
MX-JA	Jalisco
MX-TO	Mexico-Torreon
N	North
NW	North West
PU	Punjab
S	South
SE	South East
SW	South West
US- NY	US-New York
US- WI	US-Wisconsin
US-CA	US-California
US-ID	USA-Idaho
W	West

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