For a better understanding of the dairy world
Dear friends,
In this IFCN Dairy Report 2016 you will find a summary of the research highlights and network activities in 2016.

The IFCN Mission and Vision
IFCN Mission: We create a better understanding of the dairy world by providing comparable data, knowledge and inspiration.

IFCN Content work 2016
Farm economics data: Different cost components of dairy enterprises provide us with valuable information on farm economics. Hence, detailed analyses of the production factor costs i.e. feed, labour, land, animal health, herd replacement and their drivers are presented. Methods of analysis and data quality are being improved through:
• Classification of typical farms
• Risk profiling of farm types
• Quality assurance system

Trade data: To understand the dairy world better, it is important to observe the global dairy trade. By monitoring the monthly trade of 25 HS 6-digit dairy commodities IFCN is able to draw better conclusions on milk surplus and deficit worldwide.

Outlook: Due to the speed with which dairy business is changing, IFCN has developed scenarios for a long-term outlook of the dairy world for over 200 countries.

HIGHLIGHTS – IFCN EVENTS IN 2016
IFCN Dairy Conference 2016
The focus of this conference was ‘Milk pricing systems, farmer – processor cooperation and the global dairy crisis’. Milcobel hosted this event in Ghent, Belgium, in June.

IFCN Supporter Conference 2016
The conference was held in September in Wageningen, The Netherlands. The topic covered the future of dairy farming systems and key pre-competitive areas where dairy industry can cooperate to better withstand future volatility. Trouw Nutrition and Friesland Campina were the main hosts for this conference.

IFCN Regional Workshop 2016
Organized for the second time in India, this workshop offered insights on the global dairy crisis and its lessons for the dairy development in India. This workshop took place in the heart of the dairy development area in India in the city of Anand. The Workshop was sponsored by Amul, Danone and Elanco as co-sponsors.

Status of the IFCN Research Network in 2016
The dairy sector analysis covered 198 countries representing 98% of the world milk production.

In the farm comparison, 146 typical dairy farms from 60 dairy regions and 52 countries were analysed. For the first time Hungary, Kenya and Russia-NW have been included.

IFCN Dairy Report 2016
Chapter 1: Cost comparison summarises results on costs, returns, profitability and productivity of dairy farms worldwide. New in this section is the detailed presentation of cost components and their drivers.

Chapter 2: Global monitoring provides a broad overview on specific dairy issues such as milk prices, feed prices, milk: feed price ratio and the monthly milk price transmission.

Chapter 3: Dairy sector and chain profile, prepared for 105 countries, presents a comparable overview related to:
• A list of up to 10 major milk processors per country
• Milk supply and demand developments
• Milk processing profile per dairy product
• Monthly farm gate and world milk price
• Consumer prices and margins in the chain

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

Chapter 4: IFCN Methods & Definitions: This chapter explains the methods used for the IFCN Analyses and quality assurance.

Acknowledgement
We would like to thank all IFCN Research Partners, Agribusiness Partners, Institutional Partners and the colleagues working in the IFCN Dairy Research Center during the last year. It was a pleasure to work with you and strengthen the network in 2016. We are looking forward to our activities in 2017.

Torsten Hemme
Managing Director
Anders Fagerberg
Chairman of the IFCN Board
### Participating dairy economists / co-editors of the IFCN Dairy Report

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<td>Rubin Benoit</td>
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<td>(Horizons Agro-alimentaires Boufark, Gouraya, Algeria)</td>
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<td>Sam Shi</td>
<td>Liu Changuan</td>
<td>Dorothee Bölling</td>
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<td></td>
<td>Dairy Consultant, Beijing, China</td>
<td>Rural Development Institute of Chinese Academy of Social Sciences, Beijing, China</td>
<td>IFCN Dairy Research Center, Kiel, Germany</td>
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<td>(Unión Productores de Leche Cuenca Mar y Sierras, Tandil, Argentina)</td>
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<td>Anna Yeritsyan, Var旦h Urutyan</td>
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<td>Enrique Ortega, René Perez</td>
<td>Daniel Mándi-Nagy</td>
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<td></td>
<td>Beijing Orient Dairy Consultants Ltd, Beijing, China</td>
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<td>Research Institute of Agricultural Economics (AKI), Budapest, Hungary</td>
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<td>(International Center for Agribusiness Research and Education (ICARE), Yerevan, Armenia)</td>
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<td>C.N.L.M (Consejo Nacional de la Calidad de la Leche y Prevención de la Mastitis), Bogotá, Colombia</td>
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<td>Jon Hauser</td>
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<td>Liu Changuan</td>
<td>Kuldeep Sharma</td>
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<td>Rural Development Institute of Chinese Academy of Social Sciences, Beijing, China</td>
<td>Suruchi Consultants, Noida, Uttar Pradesh, India</td>
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<td></td>
<td>College of Dairy Science &amp; Technology, Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana, Punjab, India</td>
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<td>(Federal Institute of Agricultural Economics, Vienna, Austria)</td>
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<td>Mohammad Uddin</td>
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<td>Farhad Mirzaei</td>
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<td>Bangladesh Agricultural University, Mymensingh, Bangladesh</td>
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<td>Erwin Wauters</td>
<td>Susanne Clausen</td>
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<td>Adel Khattab</td>
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<td>Tanta University, Faculty of Agriculture, Animal production department, Tanta, Egypt</td>
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<td>CRPA – Centro Ricerche Produzioni Animali, Reggio Emilia, Italy</td>
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<td>(Embrapa Gado de Leite (Embrapa Dairy Cattle), Juiz de Fora, Minas Gerais, Brazil)</td>
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<td>Sami Ovaska, Olli Niskanen</td>
<td>Hironobu Takeshita</td>
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<td>J-milk (Japan Dairy Association); Japan Milk Academic Alliance; Nagoya University, Aichi, Tokyo, Japan</td>
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<tr>
<td>Asah Ndambi</td>
<td>Mc Loyd Banda</td>
<td></td>
<td>Ola Flaten, Bjørn Gunnar Hansen</td>
</tr>
<tr>
<td></td>
<td>International Livestock Research Institute (ILRI), Nairobi, Kenya</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Participating dairy economists / co-editors of the IFCN Dairy Report

Waseem Shaukat | Solve Agri Pak (Private) Limited, Lahore, Pakistan

Carlos A. Gomez | Universidad Nacional Agraria La Molina, Lima, Peru

Ewa Kołoszycz | West Pomeranian University of Technology in Szczecin, Department of Management, Szczecin, Poland

Vladimir Surovtsev, Mikhail Ponomarev, Julia Nikulina | Northwest Research Institute of Economics and Organization of Agriculture, St. Petersburg, Russian Federation

Rade Popovic | University of Novi Sad, Faculty of Economics, Subotica, Serbia

Koos Coetze | Milk Producers’ Organisation, Pretoria, South Africa

National Network Team (J. Llorente, C. Garcia, F. Merelo, A. Garcia) | National Network Team (J. Llorente, C. García, F. Merelo, A. García)

Christian Gazzarri | Agroscope Research Station, Farm Management Group, Tänikon, Switzerland

Michel de Haan | Animal Sciences Group, Wageningen-UR, Lelystad, The Netherlands

Dhiaeddine M’Hamed | Dairy Expert, Saliman, Tunisia

Muhittin Özder, Selçuk Akkaya | Turkish Milk Council, Ankara, Turkey

Steven Aikinriza | Dairy Development Authority, Kampala, Uganda

Olga Kozak | National Scientific Centre, Institute of Agrarian Economics, Kyiv, Ukraine

Mark Topliff | Agriculture & Horticulture Development Board, Market Intelligence, Kenilworth, Warwickshire, United Kingdom

Jorge Artagaveytia, Gabriel Bagnato | Instituto Nacional de la Leche, Montevideo, Uruguay

Mark Stephenson | University of Wisconsin - Center for Dairy Profitability (CDP), Wisconsin, USA

Bill Zweigbaum | Farm Credit East, Greenwich, New York, USA

Linda Nielsen | Zimbabwe Association of Dairy Farmers, Harare, Zimbabwe

Shakir Ullah Akhtar | Dairy Expert, Afghanistan

Ilir Kapo | Agricultural University Tirana, Albania

Vugar Bayramov | CESD – Center for Economic and Social Development Baku, Azerbaijan

Tashi Samdup | Department of Livestock, Ministry of Agriculture & Forests Thimphu, Bhutan

Felix Menzel | Dairy Expert, Mezza Sucre, Bolivia

Konstantin Stankov | Trakia University, Bulgaria

Henri Bayemi, Asah Ndambi | Institute of Agricultural Research for Development (IRAD), International Livestock Research Institute (ILRI), Nairobi, Kenya, Yaoundé, Cameroon

Federico Pérez García | DMV U.N., CNLM, Colombia

Francisco José Arias Cordero | Dos Pinos, Costa Rica

Nataša Mikulec, Jasmina Havranek | Faculty of Agriculture, University of Zagreb, Croatia

Rafael Vizzcarra | Centro de la Industria Láctea, Quito, Ecuador

Katri Kall | Estonian University of Life Sciences, Estonia

Mélanie Richard - Lenfant | Institut de l’élevage, Paris, France

Lukasz Wyrzykowski | IFCN Dairy Research Center, Kiel, Germany

Dr. A. K. Srivastava, Smita Sirohi | National Dairy Research Institute, Karnal, India

Emmanuel Kinuthia | International Livestock Research Institute Nairobi, Kenya

Azat Mukaliev | Kyrgyz State Agricultural University, Bishkek, Kyrgyzstan

Agnee Krijevina | Institute of Agricultural Resources and Economics (AREI), Riga, Latvia

Deiva Mikelionyte | Lithuanian Institute of Agrarian Economics, Vilnius, Lithuania

Blagica Sekovska | Veterinary Faculty, Institute for Food, Skopje, Macedonia

Zakaria Abd Rahman | Dairy Expert, Redagi Farm Sdn Bhd, Hulu Terengganu, Malaysia

Leonie Prinsloo | Namibia Dairies (PTY) Ltd, Windhoek, Namibia

Keshav Premy | Ministry of Agriculture – Veterinary Department of Livestock Services, Lalitpur, Kathmandu, Nepal

Naomi K. Torreta, Maria Carmen A. Briones | National Dairy Authority, Quezon City, Philippines

António Moitinho Rodrigues | School of Agriculture – Polytechnic Institute of Castelo Branco, Portugal

Michael Mishchenko | The Center for the Study of Dairy Market, „The DairyNews”, Russian Federation

Christian Corniaux | CIRAD / PPZS, Dakar Etoile, Senegal

Margita Stefanikova | Slovak Association of Milk Producers (SZPM), Nitra, Slovakia

Ben Mojik | Agricultural Institute of Slovenia, Ljubljana, Slovenia

Seung Yong Park | Yonam College, Cheonon, South Korea

Hemali Kothalwala | Department of Animal Production and Health, Peradeniya, Sri Lanka

Nazar Omer Hassan Salih | Al - Neelain University, Khartoum, Sudan

Agneta Hjellström | LRF Mjölk/LRF Dairy Sweden, Stockholm, Sweden

Juliane Liu | Forefront Enterprise Co., Ltd., Taipei, Taiwan

Jonas Kizima | Livestock Research Institute (TALIRI), Tanga, Tanzania

Adul Vangtal | Thai Holstein Friesian Association (T.H.A.), Thailand

Muzaffar Yunusov | IFCN Dairy Research Center, Kiel, Germany, Uzbekistan

Vu Ngoc Quyen | Vietnam Dairy Association, Hanoi, Vietnam

Abdulkarim Abdulmageed Amad | Thamar University, Dhamar, Yemen

Rob Jansen-van Vuuren, Addmore Maniwa | Livestock Consultant, Department of Livestock & Veterinary Services, Zimbabwe

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Russia
Regional maps and the typical farms

North America

Canada
Wisconsin (WI)
New York (NY)

Mexico
26 JA
47 JA
1000 TO
2000 TO

North America

Europe and Middle East

Germany
30 S, 80 S, 108 S, 131 N
245 N, 700 E, 1200 E

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259 NW, 750 E

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South East Asia and Oceania

Phuket
30 S

South East Asia and Oceania

South America

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Peru
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Chile
60
108
435
455++

Brazil
23 S
60 S
180 SE
320 SE

Argentina
170
400

Uruguay
71
142
419

Africa

Morocco
3 N, 14

Algeria
6, 18

Egypt
5 B, 5, 10

Tunisia
2, 4, 5, 12, 290

Uganda
1, 3, 13

Kenya
2, 10

Malawi
1, 6

South Africa
230, 520, 630

South Africa

Regional maps and the typical farms

Legend: Numbers indicate the number of cows in the typical farms.
++ = future farm, B = Buffalo, BE = Beijing, bio = Organic, C = Central, CA = California,
CF = Commercial Farm, CN = Central North, DP = Dual Purpose, E = East, JA = Jalisco,
MC = Massif Central, N = North, NG = Ngantang, NW = North West, NY = New York,
S = South, SE = South East, SW = South West, TO = Torrón, W = West, WI = Wisconsin

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The dairy world today
Today the dairy world is serving over 7 billion consumers and provides 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.

About IFCN
IFCN is the global dairy research network. By addressing challenges in the dairy world, IFCN can contribute to a more resilient and more sustainable future for all of us.

What does IFCN do?
IFCN provides globally comparable dairy data, outstanding knowledge and inspiration to widen your imagination. Our core competence is in the field of milk production, milk prices and related economic topics.

How does IFCN operate?
IFCN creates a better understanding of the global dairy world. The IFCN – International Farm Comparison Network – started in 2000 with basics analytics. Step by step the knowledge bases are deepened and widen every year.

The knowledge is created via a network of dairy researchers from over 90 countries contributing to our annual processes, and managed by the IFCN Dairy Research Center staff.

The IFCN 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 the knowledge to better solve challenges in the dairy world.

IFCN has innovative ways to share the knowledge with their members and with the dairy world as a whole. The IFCN Events are a key element in developing the network spirit.

IFCN Values: Trust – Independence - Truth
Trust among the IFCN Partners 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. Truth means that IFCN shows the dairy world as it is and as accurately as measurements allow. IFCN describes realities and reports without having any hidden agendas.

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.

Dairy data: We provide 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.

What does IFCN offer stakeholders in the dairy chain?
1. Farmers: IFCN gives you a voice to reach other players in the dairy world. Actual global milk and feed price trends and helpful IFCN Publications are presented on the IFCN Website. Farm comparison work allows you to judge the competitive position of milk production in your region.

2. Researchers and advisors: IFCN makes you part of the leading global dairy network. We support you to serve your dairy stakeholders better and to develop your professional career in the dairy world and strengthening your dairy economics profile in your country.

3. Companies: IFCN provides dairy related companies such as milk processors and farm input companies a comprehensive 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: IFCN provides comprehensive dairy knowledge to be used for your policy decisions and conferences.

5. Consumers: IFCN illustrates milk-production, its fascinating diversity and value creation in rural areas.

6. Colleagues in the IFCN Center: You are invited to build a lifetime 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: info@ifcndairy.org
Organisational setup

**IFCN** stands for International Farm Comparison Network and is a global dairy research network. The IFCN has a **Dairy Research Center** (DRC) with 18 employees, coordinating the network process and running dairy research activities.

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).
Chapter 1 – Comparison of the typical farms 2015

Authors: Dorothee Boelling, Amit Saha, Maria Schmeer, Rebecca Kühl and Andreas Schier
with contribution from researchers mentioned on page 2-3 of this report

1.1 Summary – Farm comparison 2015
1.2 Regional overview on costs and returns of the dairy enterprise
1.3 Milk supply curves 2015
1.4 Cost of milk production on average sized farms 2015
1.5 Cost of milk production on larger farms per country 2015
1.6 Description of the dairy farms analysed
1.7 Cost of milk production only
1.8 Total costs and returns of the dairy enterprise
1.9 Returns: Milk price, non-milk returns and decoupled payments
1.10 Description of direct subsidies and policies
1.11 Dairy enterprise: Profits and return to labour
1.12 Asset structure and return on investment
1.13 Summary on cost components of the dairy enterprise
1.14 Cost components of the dairy enterprise
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1.17 Cost component: Land
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1.19 Cost component: Herd replacement
1.20 Overview of all typical farms analysed – costs and returns
1.21 Farm level time series analysis 2000-2015 – cost of milk production only
Chapter 2 – Global monitoring dairy economic indicators 1996 – 2015

**Authors:** Muzaffar Yunusov, Łukasz Wyrzykowski, Hassan Ajini, Barbara Siwirska and Katrin Reincke

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

2.1 Summary: Monitoring dairy economic indicators

2.2 Global trends in oil, milk and feed prices 1981 – 2016

2.3 Milk prices in 2015 in USD

2.4 Monitoring milk prices 1996 – 2015

2.5 Monthly developments and key facts

2.6 Monthly milk price transmission and key facts

2.7 Monitoring milk : feed price ratio 1996 – 2015

IFCN Combined World Milk Price Indicator

*IFCN Combined World Milk Price Indicator: weighted average of 3 IFCN World Milk Price Indicators: 1. SMP & butter (35%), 2. Cheese & whey (45%), 3. WMP (20%)*
Chapter 3 – Dairy sector and chain profile
Authors: Katrin Reincke, Łukasz Wyrzykowski, Hassan Ajini, Barbara Siwirska and Muzaffar Yunusov
with the contribution from researchers mentioned on page 2-3 of this report

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### Milk balance

**in mill t, from all dairy species**

- **Milk production (ECM)**
- **Dairy consumption (ME)**
- **Surplus / Deficit (ME)**

### Dairy trade

**in mill ME, from all dairy species**

- **Trade surplus**
- **Trade deficit**
- **Dairy exports**
- **Dairy imports**

### Key variables of the dairy sector

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<td>Milk production (cow’s)</td>
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<tr>
<td>Production (mill t ECM)</td>
<td>30.00</td>
<td>29.49</td>
<td>29.36</td>
<td>28.80</td>
<td>29.28</td>
<td>28.76</td>
<td>29.42</td>
<td>30.49</td>
<td>31.45</td>
<td>32.98</td>
<td>33.39</td>
<td>0.8%</td>
<td>1.8%</td>
</tr>
<tr>
<td>Cows (in 1,000’s)</td>
<td>5,195</td>
<td>4,833</td>
<td>4,564</td>
<td>4,373</td>
<td>4,287</td>
<td>4,054</td>
<td>4,229</td>
<td>4,182</td>
<td>4,190</td>
<td>4,296</td>
<td>4,285</td>
<td>0.1%</td>
<td>0.5%</td>
</tr>
<tr>
<td>Milk yield (t/cow/year)</td>
<td>5.77</td>
<td>6.10</td>
<td>6.43</td>
<td>6.59</td>
<td>6.83</td>
<td>7.09</td>
<td>6.96</td>
<td>7.29</td>
<td>7.50</td>
<td>7.68</td>
<td>7.79</td>
<td>0.7%</td>
<td>1.3%</td>
</tr>
</tbody>
</table>

### Dairy sector and chain profile

#### Status 2015

- No. 5 in the world milk production
- 96% of the 33.4 mill t milk (ECM) are delivered
- 117% self-sufficiency in milk
- 4.9 mill t ME net exports

#### Key developments 2010-2015

- Farmers’ milk price on avg 6.7% above the world market price
- Farmers’ share on consumer price decreased from 47.3% to 43.3%
- Supply increased on avg annually by 1.8%
- Demand increased on avg annually by 2.1%

### Farm gate milk prices

**EUR/100 kg milk (ECM)**

- IFCN World Milk Price Indicator
- National farm gate milk price
- Distance nat. vs. world in EUR

### Consumer & farmers’ prices

**EUR/100 kg milk (ECM)**

- Share (Processor, retailer)
- Farm gate milk price

### Processing profile

**% of all milk produced**

- *other milk*
- Fresh products
- Condensed milk
- Dry products
- Butter
- Cheese

### Milk processors list 2015

1. DMK Deutsches Milchkontor
2. Hochwald Foods GmbH
3. Unternehmensgruppe Theo Müller S.e.c.s*
4. Arla Foods GmbH
5. Molkerei Ammerland eG
6. Frischli Milchwerke GmbH
7. Goldsteig Käsereien Bayerwald GmbH
8. Meierei Barmstedt
9. Rücker*
10. Bayerische Milchindustrie eG

Cooperatives: 45% of milk intake shown Share on national milk delivery:

- Processor 1
- Processor 2-10
- Rest 49%

### Explanations

**Method:** See Chapter 3.9 for details. Sources: National statistics supplemented by data from FAO, IMF, OANDA, GTT, Eurostat, AMI.

**Data:** 2015 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 packing with 3.5% fat, 3.77% protein.

**Remarks:** Milk processors: Milk intake data (processed milk) of Unternehmensgruppe Theo Müller and Rücker for 2013.

* other milk: Milk not delivered to dairies and milk from animals other than cow and buffalo. If applicable: Sheep, goat and camel.
Chapter 4 – Methods applied in IFCN Analyses

Authors: IFCN

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### Partners of the IFCN

**Dairy researchers representing 105 countries**

#### Institutional partners

- CAU
- International Dairy Federation
- Global Dairy Platform
- ESADA
- ILRI
- Dairy Asia
- IDF
- USAID
- FAO
- Chief
- Eurobins
- ECOBAS
- DairyNZ

#### Agribusiness partners

**Milk processing**

- Fonterra
- Sodiaal
- LACTALIS
- Nestlé
- Arla
- Dean Foods
- glanbia
- Amk
- Milko
- Dairygold
- PEPSICO
- NHPC
- Altana
- SAKTI
- Engro foods

**Milking and barn equipment**

- DeLaval
- GEA
- LIV
- Bumatic
- Fujiwood
- AVON
- NEDAP
- SCR
- KRAIBURG
- MIKROPON
- MILKLINE
- BANTEC BENKE

**Health and hygiene**

- MSD Animal Health
- Deutscher Milchbauerverband
- Boehringer Ingelheim
- Zoetis
- Merck Sharp & Dohme
- AkzoNobel
- Hypred
- ECOLAB
- Vetquinnol

**Feed**

- Trouw Nutrition
- Cargill
- DSM
- Altech
- Phibro
- ZINER
- BIODOM
- Nutriveo
- Ferraroni

**Farm machinery**

- CLAAS
- ALÉ
- KUHN
- KRONE
- Kverneland Group
- POTTINGER
- STORTI
- FARESIN
- WEIDMANN
- JOHN DEERE

**Genetics for animal & plants**

- SEMEX
- HAYNS
- MASTERIND
- EVOLUTION
- KWS
- ADVANTA

**Other branches of the dairy chain**

- Farm Credit East
- SIG
- FOSS
- ELOPAK
- Premax
- Norske Skog
- VAS
- PromoTec
- PROVAMED

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