Dear friends,

This IFCN Dairy Report 2017 compiles in a most comprehensive overview, the status of the dairy world and gives insights into the IFCN Research.

The IFCN Mission and Vision

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

IFCN Mission:

Dear friends,

This IFCN Dairy Report 2017 compiles in a most comprehensive overview, the status of the dairy world and gives insights into the IFCN Research.

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 2017

Overall: The IFCN launched a new website and substantial steps have been achieved in better understanding the dairy development.

Farm economics: Special attention was given to the following areas: typical farm representativeness, milk standardisation, land productivity, milk supply response of farms, and the impact of VAT systems on dairy competitiveness and interest rates.

The dairy sector work: Focused mainly on analysing dairy farm structure and forecasting this for the first time. A second focus was related to monitoring the regional milk production development within countries.

Outlook: As dairy business is changing very rapidly, IFCN has developed scenarios for the long-term outlook of the dairy world for over 200 countries till 2026.

HIGHLIGHTS – IFCN EVENTS IN 2017

IFCN Dairy Conference 2017

The focus of this conference was ‘Dairy development: Past, present and future’. GDP, DMK and Elanco hosted this event in Kiel, Germany, in June.

IFCN Supporter Conference 2017

This event was held in September in Lucerne, Switzerland. The topic covered the success factors in dairy regions. Emmi, Nestlé and Hochdorf were the main hosts.

IFCN Dairy Economic Workshop 2017

The workshop took place for the 3rd time to help people improve their skills in dairy economic analysis.

IFCN Regional Workshop 2017

The workshop takes place for the fourth time in India, focussing on sustainability of family dairy farms. The event will take place in Chennai. CavinKare and Elanco will act as sponsors.

Status of the IFCN Research Network in 2017

The dairy sector analysis covered over 200 countries. In the farm comparison, 159 typical dairy farms from 62 dairy regions and 52 countries were analysed. In 2017 the research network grew substantially via new countries in farm and dairy sector analysis.

IFCN Dairy Report 2017

Chapter 1: Cost comparison summarises results on costs, returns, profitability and productivity of dairy farms worldwide. Real time cost estimates for 2017 have also been included for some countries.

Chapter 2: Global monitoring provides a broad overview on specific dairy issues such as milk prices, feed prices and milk: feed price ratio and monthly milk price transmission. New in this edition are the real time farm economics and the results of IFCN Long-term Outlook 2017, covering the years 2017 – 2026.

Chapter 3: Milk production fact sheets, prepared for 110 countries, representing 98% of world milk production with comparable information on:

- Milk density and milk movements within countries
- Dairy farm numbers and farm size trends
- Dairy farm structure analysis and trends
- Price analysis for milk, beef, feed and land

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

Chapter 4: IFCN Methods: IFCN Methods: This chapter is dedicated to explain the methods used for the IFCN Analyses. Moreover it highlights the following topics: a) farm supply reaction, b) status of the model TIPICAL, c) milk standardisation, d) land productivity method, and e) development of elevator stories to understand what a typical farm represents in a country more clearly.

Finally it includes an overview of IFCN Products and Data Services. Modules and a selection of typical farms are described.

Acknowledgement

We would like to thank all IFCN Research Partners, Supporter Partners, Institutional Partners and the colleagues working in the IFCN Dairy Research Centre during the last year. It was a pleasure to work with you and strengthen the network in 2017. We are looking forward to our activities in 2018.

Anders Fagerberg
Chairman of the IFCN Board

Torsten Hemme
Managing Director
Participating dairy economists / co-editors of the IFCN Dairy Report

Researchers participating only in the country profile analysis or in specific country information:

- **Shakir Ullah Akhtar** | Dairy Expert, Salim, Tunisia
- **Ilir Kapa** | Agricultural University Tirana, Albania
- **Neill Lane** | Dairy Australia, Victoria, Southbank, Australia
- **Vugar Bayramov** | CESD – Center for Economic and Social Development Baku, Azerbaijan
- **Tashi Samdup, Dr. N. B. Tamang** | Department of Livestock, Ministry of Agriculture & Forests, Thimphu, Bhutan
- **Felix Menzel** | Dairy Expert, Mezza Sucre, Bolivia
- **Konstantin Stankov** | Trakia University, Bulgaria
- **Henri Bayemi** | Institute of Agricultural Research for Development (IRD), Yaoundé, Cameroon
- **Federico Pérez García** | DMV U.N., CNLM, Colombia
- **Francisco José Arias Cordero** | Cooperativa de Productores de Leche Dos Pinos R.L., Costa Rica
- **Rafael Vizcarra** | Centro de la Industria Láctea, Quito, Ecuador
- **Katri Kall** | Estonian University of Life Sciences, Estonia
- **Mélanie Richard - Lenfant** | Institut de l’Élevage, Paris, France
- **Giorgi Khatiashvili** | Caucasus Genetics, Tbilisi, Georgia
- **Łukasz Wyrzykowski** | IFCN Dairy Research Center, Kiel, Germany
- **Irene Tzouramani** | Agricultural Economics Research Institute (AGRE-RI), Hellenic Agricultural Organization and Research Centre, Athens, Greece
- **Bjarni Ragnar Brynjólfsson** | Icelandic Dairies Association, Reykjavík, Iceland
- **R. R. B. Singh, Smita Sirohi** | National Dairy Research Institute, Karnal, India
- **Marjuki** | Department of Animal Nutrition, Brawijaya University, Malang, Indonesia
- **Othman Alqaisi** | College of Agricultural & Marine Sciences, Sultan Qaboos University, Muscat, Oman, Jordan
- **Francis Karin** | Tegemeo Institute of Agricultural Policy and Development, Egerton University, Nairobi, Kenya
- **Azat Mukaliev** | Kyrgyz State Agricultural University, Bishkek, Kyrgyzstan
- **Agnese Krievina, Andreis Miglavs** | 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
- **Mira Rakotondrandrindra, Malagasy Dairy Board Antananarivo, Madagascar
- **Anatolie Ignat, Eugenia Lucascenko** | National Institute for Economic Research, Chisinau, Moldova
- **Mohamed Taheer Srairi** | Département des Productions et Biotechnologies Animales, Institut Agronomique et Vétérinaire Hassan II, Rabat, Morocco
- **Naomi K. Torreta, Maria Carmen A. Briones** | National Dairy Authority, Quezon City, Philippines
- **António Moltinho Rodrigues** | School of Agriculture – Polytechnic Institute of Castelo Branco, Portugal
- **Rodica Chetroui** | Institute for Agriculture Economy and Rural Development (ICEADR), Bucharest, Romania
- **John Musemakweli** | Rwanda National Dairy Platform, Kigali, Rwanda
- **Christian Corniaux** | CIARD / PPZS, Dakar, Senegal
- **Margita Stefanikova** | Slovak Association of Milk Producers (SZPM), Nitra, Slovakia
- **Ben Moljik** | Agricultural Institute of Slovenia, Ljubljana, Slovenia
- **Seung Yong Park** | Yonam College, Cheonan, South Korea
- **Hemali Kothalawala** | Department of Animal Production and Health, Peradeniya, Sri Lanka
- **Nazar Omer Hassan Salih** | AI - Neealin University, Khartoum, Sudan
- **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
- **Yana Muzychenko** | Association of Milk Producers, Ukraine
- **Muzaffar Yunusov** | IFCN Dairy Research Center, Kiel, Germany, Uzbekistan
- **Vu Ngoc Quynh** | Vietnam Dairy Association, Hanoi, Vietnam
- **Abdulkarim Abdulmageed Amad** | Thamar University, Dhamar, Yemen
- **Kapoco Mwale** | Dairy Association of Zambia, Zambia
- **Rob Jansen-van Vuuren** | Addmore Maniwa | Livestock Consultant, Department of Livestock & Veterinary Services, Zimbabwe
Preface

Regional maps and the typical farms 7
About IFCN 8
IFCN Dairy Research Center and IFCN Board 9
18th IFCN Dairy Conference 2017 10
14th IFCN Supporter Conference 2016 11
5th IFCN Regional Workshop 2016 12
3rd IFCN Dairy Economic Workshop 2016 13

1. Comparison of the typical farms 2016
1.1 Summary – Farm comparison 2016 15
1.2 Regional overview of costs and returns of the dairy enterprise 16
1.3 Milk supply curves 2016 18
1.4 Cost of milk production on average sized farms 2016 20
1.5 Cost of milk production on large farms 2016 21
1.6 Description of the dairy farms analysed 22
1.7 Cost of milk production only 24
1.8 Total costs and returns of the dairy enterprise 26
1.9 Returns: Milk price, non-milk returns and decoupled subsidies 28
1.10 Description of direct subsidies and policies 30
1.11 Dairy enterprise: Profits and return to labour 32
1.12 Asset structure and return on investment 34
1.13 Summary on cost components of the dairy enterprise 36
1.14 Cost components of production costs the dairy enterprise 38
1.15 Cost component: Feed 39
1.16 Cost component: Labour 40
1.17 Cost component: Land 41
1.18 Cost component: Animal Health 42
1.19 Cost component: Herd replacement 43
1.20 Overview of all typical farms analysed – costs and returns 44
1.21 Farm level time series analysis 2000 – 2017 – Cost of milk production only 46

2. Global monitoring dairy economic indicators
2.1 Summary: Monitoring dairy economic indicators 51
2.2 Global trends in oil, milk and feed prices 1981 – 2017 52
2.3 Milk prices in 2016 in USD 54
2.4 Monitoring milk prices 1996 – 2016 56
2.5 Monthly milk price transmission and key facts 58
2.6 Monitoring feed prices and milk: feed price ratio 1996 – 2016 60
2.7 IFCN Real Time Farm Economics 2007 – 2017 62
2.8 IFCN Long term Dairy Outlook 2017 64

3. Dairy sector and chain profiles
3.1 Summary - status and development of milk production 68
3.2 Status and development of milk production 70
3.3 Centres of milk production 2016 71
3.4 Percentage change in milk production 2011 – 2016 72
3.5 Volume change in milk production 2011 – 2016 73
3.6 Milk surplus and deficit in 2016 74
3.7 Cow culling and Land prices in selected countries 76
3.8 Farm structure – Dairy farm numbers and IFCN Standard size classes 77
3.9 Method explanation of the Country Page 2017 80

Country Pages – Dairy sector and chain profiles
3.10 European Union 81 3.44 Georgia 115
3.11 Afghanistan 82 3.45 Germany 116
3.12 Albania 83 3.46 Greece 118
3.13 Algeria 84 3.47 Hungary 119
3.14 Argentina 85 3.48 Iceland 120
3.15 Armenia 86 3.49 India 121
3.16 Australia 87 3.50 Indonesia 122
3.17 Austria 88 3.51 Iran 123
3.18 Azerbaijan 89 3.52 Ireland 124
3.19 Bangladesh 90 3.53 Israel 125
3.20 Belarus 91 3.54 Italy 126
3.21 Belgium 92 3.55 Jamaica 127
3.22 Bhutan 93 3.56 Japan 128
3.23 Bolivia 94 3.57 Jordan 129
3.24 Bosnia and Herzegovina 95 3.58 Kazakhstan 130
3.25 Brazil 96 3.59 Kenya 131
3.26 Bulgaria 97 3.60 Korea, Republic of 132
3.27 Cameroon 98 3.61 Kyrgyzstan 133
3.28 Canada 99 3.62 Latvia 134
3.29 Chile 100 3.63 Lebanon 135
3.30 China 101 3.64 Lithuania 136
3.31 Colombia 102 3.65 Luxembourg 137
3.32 Costa Rica 103 3.66 Macedonia 138
3.33 Croatia 104 3.67 Madagascar 139
3.34 Cuba 105 3.68 Malawi 140
3.35 Cyprus 106 3.69 Malaysia 141
3.36 Czech Republic 107 3.70 Malta 142
3.37 Denmark 108 3.71 Mexico 143
3.38 Ecuador 109 3.72 Moldova, Republic of 144
3.39 Egypt 110 3.73 Mongolia 145
3.40 Estonia 111 3.74 Morocco 146
3.41 Ethiopia 112 3.75 Namibia 147
3.42 Finland 113 3.76 Nepal 148
4. **Methods applied in IFCN Analyses**

| 3.77 | Netherlands, the | 149 | 3.99 | Sudan | 171 |
| 3.78 | New Zealand | 150 | 3.100 | Sweden | 172 |
| 3.79 | Nigeria | 151 | 3.101 | Switzerland | 173 |
| 3.80 | Norway | 152 | 3.102 | Taiwan | 174 |
| 3.81 | Pakistan | 153 | 3.103 | Tajikistan | 175 |
| 3.82 | Panama | 154 | 3.104 | Tanzania, | |
| 3.83 | Paraguay | 155 | 3.105 | United Rep of | 176 |
| 3.84 | Peru | 156 | 3.106 | Thailand | 177 |
| 3.85 | Philippines | 157 | 3.107 | Turkey | 179 |
| 3.86 | Poland | 158 | 3.108 | Turkmenistan | 180 |
| 3.87 | Portugal | 159 | 3.109 | Uganda | 181 |
| 3.88 | Romania | 160 | 3.110 | Ukraine | 182 |
| 3.89 | Russian Federation | 161 | 3.111 | United Kingdom | 183 |
| 3.90 | Rwanda | 162 | 3.112 | Uruguay | 184 |
| 3.91 | Saudi Arabia | 163 | 3.113 | USA | 185 |
| 3.92 | Senegal | 164 | 3.114 | Uzbekistan | 186 |
| 3.93 | Serbia | 165 | 3.115 | Venezuela | 187 |
| 3.94 | Slovakia | 166 | 3.116 | Vietnam | 188 |
| 3.95 | Slovenia | 167 | 3.117 | Yemen | 189 |
| 3.96 | South Africa | 168 | 3.118 | Zambia | 190 |
| 3.97 | Spain | 169 | 3.119 | Zimbabwe | 191 |
| 3.98 | Sri Lanka | 170 |

**Annex**

| A.1 | IFCN Publications | 210 |
| A.2 | Glossary | 211 |
| A.3 | Typical farm approach and data quality assessment | 213 |
| A.4 | Elevator stories of typical farms | 214 |
| A.5 | Description of the typical dairy farms analysed | 216 |
| A.6 | Abbreviations | 221 |
| A.7 | Exchange rates 1996 – 2016 | 222 |
| A.8 | Inflation rates 2006 – 2016 | 223 |
| A.9 | Who is who | 224 |

Which countries are participating in the IFCN Dairy Report activities in 2017?

![Map of participating countries]

- **52 countries** analysed in the Farm Comparison
- **58+ countries** participated in the Country Pages

<table>
<thead>
<tr>
<th>Year</th>
<th>Countries included in</th>
<th>No. of farm types analysed</th>
<th>Topic of Country Report</th>
<th>IFCN Dairy Conferences</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>8</td>
<td>8</td>
<td>Ex-post analysis 1996–2000</td>
<td>Sep-00</td>
</tr>
<tr>
<td>2001</td>
<td>20</td>
<td>20</td>
<td>Country reports on milk production</td>
<td>Jun-01</td>
</tr>
<tr>
<td>2002</td>
<td>24</td>
<td>24</td>
<td>Dairy production systems survey</td>
<td>May-02</td>
</tr>
<tr>
<td>2003</td>
<td>27</td>
<td>24</td>
<td>Farm structure analysis 1990–2001</td>
<td>May-03</td>
</tr>
<tr>
<td>2006</td>
<td>34</td>
<td>60</td>
<td>Dairy sector &amp; chain profile 1996–2004</td>
<td>May-06</td>
</tr>
<tr>
<td>2008</td>
<td>44</td>
<td>78</td>
<td>Dairy sector &amp; chain profile 1996–2007</td>
<td>June-08</td>
</tr>
<tr>
<td>2009</td>
<td>46</td>
<td>80</td>
<td>Milk production fact sheet 1996–2008</td>
<td>June-09</td>
</tr>
<tr>
<td>2010</td>
<td>44</td>
<td>86</td>
<td>Dairy sector &amp; chain profile 1996–2009</td>
<td>June-10</td>
</tr>
<tr>
<td>2012</td>
<td>51</td>
<td>91</td>
<td>Dairy sector &amp; chain profile 1996–2011</td>
<td>June-12</td>
</tr>
<tr>
<td>2014</td>
<td>54</td>
<td>100</td>
<td>Dairy sector &amp; chain profile 1996–2013</td>
<td>June-14</td>
</tr>
</tbody>
</table>

*Bangladesh*
Regional maps and the typical farms

Legend: Numbers indicate the number of cows in the typical farms. ++ = future farm, -- = farm with a low management level, B = Buffalo, BE = Beijing, bio = Organic, C = Central, CA = California, CF = Commercial Farm, CN = Central North, DP = Dual Purpose, E = East, IM = Inner Mongolia, ID = Idaho, JA = Jalisco, MC = Massif Central, MG = Malang, N = North, NW = North West, NY = New York, S = South, SE = South East, SW = South West, TO = Torréon, W = West, WI = Wisconsin
The dairy world today
Today the dairy world serves 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 a 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 stretch one’s imagination. Its core competence lies 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 basic analytics. Step by step the knowledge bases are being deepened and widened every year.

Knowledge is created via a network of dairy researchers from over 90 countries. The data and knowledge are managed and analysed by the IFCN Dairy Research Centre 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 solve challenges in the dairy world better.

IFCN has innovative ways to share this knowledge with its partners 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 organisation of worldwide data regarding 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. Up to date 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. IFCN helps to serve your dairy stakeholders better and to develop your professional career in the dairy world while 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 holistic 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 Centre: You are invited to build a lifetime career in the IFCN Centre 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 21 people (full / part time) employees, coordinating the network process and running dairy research activities.

Managing Director

Torsten Hemme

Network Management

Anke Heyer
Prashant Tripathi
Annika Jarrens
Birte Petersen

Office Management

Sandra Bornhoft
Franziska Rekow
Ufukhan Hamurcuoğlu

Dairy Sector Analysis

Łukasz Wyrzykowski
Hassan Ajini
Katrin Reincke
Muzaffar Yunusov
Johanna Scholz
Johnny McHone
Qirui Li
Mateusz Węgrzynowski
Karin Wesseling

Dairy Farm Analysis

Amit Saha
Dorothee Bölling
Maria Schmeer
Elgin Giffhorn

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).

© IFCN Dairy Report 2017
The 18th IFCN Dairy Conference 2017 in Kiel, Germany, was attended by 99 participants representing 43 countries. The conference was proudly hosted by the Global Dairy Platform (GDP). The event was also sponsored by DMK and Elanco.

<table>
<thead>
<tr>
<th>Monday, June 12</th>
<th>Tuesday, June 13</th>
<th>Wednesday, June 14</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DAIRY WORLD STATUS</strong></td>
<td><strong>DAIRY DEVELOPMENT</strong></td>
<td><strong>DAIRY OUTLOOK</strong></td>
</tr>
<tr>
<td>IFCN Strategy and board report</td>
<td>Dairy development</td>
<td>Dairy outlook</td>
</tr>
<tr>
<td><strong>The Dairy world today</strong></td>
<td>• Dairy for development – a joint effort (E. Reyes, IFCN)</td>
<td>• The dairy world in 10 years: GDP perspective (D. Moore)</td>
</tr>
<tr>
<td>• The dairy world after the crisis: key trends 1996 – 2016</td>
<td>• Global perspectives on dairy development (FAO, GDP, IFCN)</td>
<td>• IFCN Long-term Dairy Outlook 2016 – the dairy world in the next 10 years</td>
</tr>
<tr>
<td>• Monthly dairy developments: What are the drivers of milk production in 2017?</td>
<td>• Case studies from Africa (Send a Cow)</td>
<td>• Panel discussion: Dairy world in 10 years (GDP, FAO, Elanco)</td>
</tr>
<tr>
<td>• Panel discussion: What are the drivers of milk production in your country?</td>
<td><strong>Workshop session 1</strong></td>
<td>• IFCN Short-term Dairy Outlook 2017/18</td>
</tr>
<tr>
<td><strong>Dairy farm economics and risk analysis</strong></td>
<td>• Broadening the scope of dairy development</td>
<td>• IFCN Strategy forward – The IFCN Dairy Research Network in 2017/18</td>
</tr>
<tr>
<td>• Competitiveness of dairy farming worldwide</td>
<td><strong>Workshop session 2</strong></td>
<td><strong>Summing up and closing</strong></td>
</tr>
<tr>
<td><strong>Farm structure analysis</strong></td>
<td>• Leadership and success in dairy development programmes</td>
<td></td>
</tr>
<tr>
<td>• IFCN Farm Structure: trends and implications</td>
<td><strong>Farewell evening</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Network evening</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The Dairy world today:
- Key trends 1996 – 2016
- Monthly dairy developments: What are the drivers of milk production in 2017?
- Panel discussion: What are the drivers of milk production in your country?

Dairy development:
- Dairy for development – a joint effort (E. Reyes, IFCN)
- Global perspectives on dairy development (FAO, GDP, IFCN)
- Case studies from Africa (Send a Cow)

Workshop session 1:
- Broadening the scope of dairy development

Workshop session 2:
- Leadership and success in dairy development programmes

Farewell evening:
What is the future of dairy farming systems?

The 14th IFCN Supporter Conference was held in Wageningen, The Netherlands. More than 80 participants from 70 dairy related companies attended the conference which was hosted by FrieslandCampina and Trouw Nutrition.

<table>
<thead>
<tr>
<th>Wednesday, September 14</th>
<th>Thursday, September 15</th>
<th>Friday, September 16</th>
</tr>
</thead>
<tbody>
<tr>
<td>THE DAIRY WORLD IN 2016</td>
<td>FUTURE DAIRY FARMING SYSTEMS</td>
<td>DAIRY OUTLOOK</td>
</tr>
<tr>
<td>Pre Conference: Understanding industry needs towards IFCN</td>
<td>Future dairy farms</td>
<td>Global perspectives of milk production</td>
</tr>
<tr>
<td>IFCN- The company and their products</td>
<td>• Farmers perspective – How to be a future farmer?</td>
<td>• Researchers perspective – What can the dairy industry learn from other industries?</td>
</tr>
<tr>
<td>IFCN Monthly Real Time Farm Economics</td>
<td>• Farm structure – What are the trends &amp; criteria that define future farms?</td>
<td>• Agribusiness perspective – Collaborate to innovate – the future of our global industry</td>
</tr>
<tr>
<td>Official start of the conference</td>
<td>Workshop: Which strategies can the dairy industry develop to meet future constraints on the farm?</td>
<td>IFCN Long-term Dairy Outlook 2025 – How will the dairy world look like in 10 years?</td>
</tr>
<tr>
<td>• Welcome to the 14th IFCN Supporter Conference</td>
<td>• Visit to FrieslandCampina research and development centre.</td>
<td>IFCN Short-term Dairy Outlook 2016/2017 – How will the dairy world look like in 15 months?</td>
</tr>
<tr>
<td>The dairy world today</td>
<td>Dairy farm visit</td>
<td>Reporting session</td>
</tr>
<tr>
<td>• The dairy world in 2016</td>
<td>Networking evening</td>
<td>Summing up and closing</td>
</tr>
<tr>
<td>• IFCN Monthly Real Time Data – What are the latest developments?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• IFCN Farm Economics – How are farms affected?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
This IFCN Regional Workshop took place in Anand, Gujarat; more than 50 participants representing various aspects of the dairy value chain became part of the discussions and group working session.

The workshop focused on the topic: Global dairy crisis: Lessons to be learned for dairy development in India. These questions were intensively discussed among the participants – key people who represented various stakeholders in the dairy chain including farmers and government representatives.

The workshop provided a suitable frame and platform for participants to exchange experiences and discuss various different approaches for dairy development in India. Presentations by IFCN researchers and agribusiness-related companies introduced the topic. A panel of representatives of different aspects of dairy value chains was also very well received.

The workshop was proudly sponsored by Amul, Danone and Elanco.

<table>
<thead>
<tr>
<th>Monday, November 28</th>
<th>Tuesday, November 29</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>INDIAN DAIRY EXPERIENCE</strong></td>
<td><strong>INTERACTIVE SESSION</strong></td>
</tr>
<tr>
<td><strong>Field trip</strong></td>
<td><strong>Global dairy crisis</strong></td>
</tr>
<tr>
<td>• Visit to local dairy farm and chilling centre</td>
<td>• The dairy crisis 2015/16 – T. Hemme, IFCN</td>
</tr>
<tr>
<td>• Interaction with the dairy farmer</td>
<td>• Panel: How has India perceived the global dairy crisis?</td>
</tr>
<tr>
<td>• Visit to Amul milk processing plant.</td>
<td><strong>Outlook 2025</strong></td>
</tr>
<tr>
<td><strong>Official start of the conference</strong></td>
<td>• How can the dairy world look like in 2025? – T. Hemme, IFCN</td>
</tr>
<tr>
<td>• Welcome to the 5th IFCN Regional Workshop</td>
<td>• Dairy India in 2025: Processors perspective – R.S. Sodhi, Amul</td>
</tr>
<tr>
<td>• What has worked for dairy development in India in the past.</td>
<td>• Dairy in India 2025: Farm input perspective – S. Jha, Elanco</td>
</tr>
<tr>
<td><strong>Networking event</strong></td>
<td><strong>Dairy development in India</strong></td>
</tr>
<tr>
<td></td>
<td>• Dairy farm competitiveness – A. Saha, IFCN</td>
</tr>
<tr>
<td></td>
<td>• Working group: Dairy development in India present and future</td>
</tr>
<tr>
<td></td>
<td><strong>Presentations of the results and conclusions (sum up) of the workshop</strong></td>
</tr>
</tbody>
</table>
Dairy economics is more than just the price of milk

This third IFCN Dairy Economic Workshop took place in Kiel, Germany. It was attended by 10 participants from different dairy related companies, institutions and institutes.

Thursday, February 23

INTRODUCTION TO DAIRY ECONOMICS

- Dairy farm analysis - Farm economics across the globe
- Dairy sector analysis - How does the global dairy world look like?
- Workshop session: Principles of the dairy market

Networking event

Friday, April 15

CURRENT SITUATION AND ANALYSIS

- Farm structure – What’s behind the segments?
- Dairy farm economics – Current situation and how to predict the dairy future
- Company case studies – Learn how to address strategic development questions

Presentation of the results and conclusions (sum up) of the workshop

Optional IFCN Product Training
Top 10 regions - avg. annual milk production growth
2011 - 2016 - regions represent 60% of national milk production in 2016

<table>
<thead>
<tr>
<th>Region</th>
<th>Avg. Annual Milk Production Growth (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weser-Ems</td>
<td>2.6%</td>
</tr>
<tr>
<td>Schleswig-Holstein</td>
<td>2.2%</td>
</tr>
<tr>
<td>Lüneburg</td>
<td>3.6%</td>
</tr>
<tr>
<td>Oberbayern</td>
<td>1.2%</td>
</tr>
<tr>
<td>Schwaben</td>
<td>0.4%</td>
</tr>
<tr>
<td>Mecklenburg-Vorpommern</td>
<td>1.1%</td>
</tr>
<tr>
<td>Oberpfalz</td>
<td>1.3%</td>
</tr>
<tr>
<td>Sachsen Anhalt</td>
<td>1.5%</td>
</tr>
<tr>
<td>Tübingen</td>
<td>0.9%</td>
</tr>
<tr>
<td>Niedersbayern</td>
<td>0.5%</td>
</tr>
</tbody>
</table>

Status and key developments

Status 2016
- No. 5 in world milk production: 33.5 mill t ECM
- No. of dairy farms: 69,174
- Milk price: +8% to world market
- Feed price: +1% to world market

Key developments over the past five years
- Milk production growth: +1.5% per year
- Farm number: -4.5% per year
- Top herd size growth: ≥100 cows/farm: CAGR 5.8%
- Devaluation of EUR vs USD: avg. -4.0% per year

Key variables

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Production (mill t ECM)</td>
<td>30.00</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>33.35</td>
<td>33.48</td>
<td>1.6%</td>
<td>1.5%</td>
</tr>
<tr>
<td>Cows (1,000’s)</td>
<td>5,195</td>
<td>4,564</td>
<td>4,373</td>
<td>4,287</td>
<td>4,054</td>
<td>4,229</td>
<td>4,190</td>
<td>4,296</td>
<td>4,285</td>
<td>4,218</td>
<td>4,218</td>
<td>0.7%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Milk yield (t / cow / year)</td>
<td>5.8</td>
<td>6.4</td>
<td>6.6</td>
<td>6.8</td>
<td>7.1</td>
<td>7.0</td>
<td>7.3</td>
<td>7.5</td>
<td>7.7</td>
<td>7.8</td>
<td>7.9</td>
<td>0.9%</td>
<td>1.3%</td>
</tr>
</tbody>
</table>

Farm structure

- No. of dairy farms (in 1,000’s): 186, 138.5, 125.1, 113.5, 102.2, 99.4, 91.6, 82.9, 76.5, 73, 69.2
- Average farm size (cows / farm): 27.9, 33.0, 35.0, 37.8, 39.7, 42.5, 45.7, 50.6, 58.5, 61.0

Prices in national currency

- Milk : feed price ratio: 1.8, 2.1, 2.1, 2.0, 2.0, 1.4, 1.9, 1.4, 1.5, 1.3, 1.3
- Cull cow (EUR / kg live weight): 1.11, 1.17, 0.94, 1.06, 1.28, 1.40, 1.43, 2.05, 1.73, 1.82, 1.66
- Land - buy (EUR / ha): 10,394, 9,081, 9,465, 9,233, 8,909, 9,855, 11,854, 14,424, 18,099, 19,614, 21,256
- Devaluation of EUR vs USD: -7%, -34%, -32%, -11%, -10%, 5%, -5%, -8%, -5%, -20%, -20%

Explanations

Devaluation: Changes based on 2011 Exchange rate: EUR/USD= 0.72.
Regional data: Ranking according to year 2016 distribution. Milk production in natural fat and protein content.
### Partners of the IFCN

**Dairy researchers representing 110 countries**

#### Institutional partners

- CAU
- International Dairy Federation
- GLOBAL DAIRY PLATFORM
- GLOBAL AGENDA FOR SUSTAINABLE LIVESTOCK
- Dairy Asia

#### Agribusiness partners

**Milk processing**

- Fonterra
- LACTALIS
- Nestlé
- Arla
- Dean
- glanbia
- dmk
- Müller

- Sodiaal Union
- Sapito
- DFA
- General Mills
- Savencia
- Arla Foods Ingredients
- Arla Dairy Cooperative
- Arla Foods Ingredients Austria
- Arla Foods Ingredients

- Hochdorff Best Partner
- Holstenn

- Volac
- Pepsico
- Arkiland

**Milking and barn equipment**

- DeLaval
- GEA
- Lely
- Fullwood Packs
- Milkoire InterPuls
- Nedap
- etex

- SCR
- Milkplan
- Milkline
- Barten Benke

**Health and hygiene**

- MSD Animal Health
- Elanco
- BaiMergerg
- zoetis
- Elanco Animal Health
- HYPRED
- Ceva
- Ecolab

**Feed**

- Trouw Nutrition
- Cargill
- DSM
- Avitech
- Phibro
- Josera
- Ceva
- Evonik

**Farm machinery**

- CLAAS
- Alo
- Krone
- Vema Group
- AGCC

**Genetics for animal & plants**

- SEMEX
- MasterRind
- Evolution

**Other branches of the dairy chain**

- IFC
- COBANK
- ELOPAK
- promar international
- AFI
- VAS
- Topcon

- Farm Credit East
- SIG
- FOSS
- Kite
- DZ BANK