Extract

IFCN

Dairy Data · Knowledge · Inspiration

Dairy Report 2019

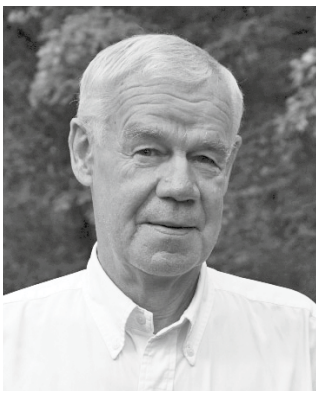
For a better
understanding of
the dairy world

20th Anniversary Edition

IFCN
The Dairy Research Network

Dear Friends,

This IFCN Dairy Report 2019 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.

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IFCN Content updates 2019

Solid Corrected Milk (SCM): IFCN has implemented a new standardisation methodology of milk content. SCM reflects the content of the produced milk better, as fat and protein are weighted equally.

Farm economics: Special attention was given to the following areas: typical farm representativeness, robotic milking systems, calculation of resilience and sustainability of dairy farms.

The dairy sector: To understand the dairy world better, it is important to observe the global dairy market and its short-term milk production outlook. By monitoring the market monthly and forecasting milk supply, price and farm economics for the global market, IFCN can draw conclusions on milk supply and milk price trends and drivers for the next 12 months.

Outlook 2040: As dairy business is changing very rapidly, IFCN has developed scenarios for the long-term outlook of the dairy world for over 200 countries until 2040.

Highlights – IFCN events in 2019

IFCN Dairy Conference 2019

The focus of this conference was „Changing dairy world: 2000 – 2020 – 2040" with a focus on „special types of milk". DMK hosted this event in Berlin, Germany, in June.

IFCN Supporter Conference 2019

This event was held in September in Brno, Czech Republic. The topic explored „Special types of milk – Complexities and Opportunities". Brazzale was the event hosting partner.

IFCN Data Analysis Workshop 2019

The workshop took place for the first time to transmit profound knowledge and thorough information on the (background) framework and development of the dairy market to novices in the field of dairy economics.

IFCN Regional Workshop 2019

This workshop, the 8th of its series, will be organised in Bangalore, India from 15th to 16th October. The focus will be to define Dairy 2.0 for the Indian dairy. The event will be sponsored Kemin, ITC Limited, Prognosis, and ST Genetics.

Status of the IFCN Research Network in 2019

The dairy sector analysis covered over 200 countries. In the farm comparison, 176 typical dairy farms from 67 dairy regions and 54 countries were analysed. In 2019 the research network grew substantially via new countries in farm and dairy sector analysis.

IFCN Dairy Report 2019

Chapter 1: Cost comparison summarises results on costs, returns, profitability and productivity of dairy farms worldwide. A special focus lies on sustainability and resilience of dairy farms this year.

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 this year.

Chapter 3: Milk Production fact sheets prepared for 120 countries, representing 98% of world milk production with comparable information on:

- Milk density and milk movements in 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: This chapter is dedicated to explain the methods used for the IFCN Analyses. Moreover it highlights the following topics: a) robotic milking systems, b) reviewing the water footprint methodology, c) monthly supply forecast model, and d) development of elevator stories to understand more clearly what a typical farm represents in a country.

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 20 years**. It was a pleasure to work with you and strengthen the network in 2019. We are looking forward to our activities in 2020.

Anders Fagerberg
Chairman of the IFCN Board

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

Dairy Expert

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To our partners

IFCN Dairy Conferences

2nd IFCN Dairy Conference 2001 in Braunschweig, Germany

7th IFCN Dairy Conference 2006 in Szczecin, Poland

10th IFCN Dairy Conference 2009 in Tumba, Sweden

19th IFCN Dairy Conference 2018 in Cork, Ireland

IFCN Supporter Conferences

5th IFCN Supporter Conference 2006 in Brussels, Belgium

10th IFCN Supporter Conference 2011 in Monastier Treviso, Italy

14th IFCN Supporter Conference 2015 in Minneapolis, USA

17th IFCN Supporter Conference 2018 in Parma, Italy

Dear IFCN Partners and friends,

This year, we proudly celebrate the 20 years anniversary of the IFCN.

Conceptualised by Torsten Hemme as a young PhD scholar in 1996, the idea of benchmarking farms worldwide has flourished into a community of global dairy experts, researchers, institutions and companies.

In these years IFCN has strived to create a better understanding of the dairy world and has stood by its values of trust, truth and independence.

In 2019, dairy researchers from more than 100 countries and 141 agribusiness companies and institutions are part of the network.

This feat has only been possible with your valuable cooperation and selfless contribution. We at IFCN are overwhelmed and would like to thank you for your trust and commitment. By exchanging data and sharing the generated knowledge, each of you supports dairy development in your country. It is a pleasure to work with you.

We enter the third decade in joyful anticipation of what lies ahead. There will be more challenges and changes in the dairy world which the IFCN will analyse and forecast. Overcoming these challenges is a task that we can only master if we share our knowledge, exchange ideas and cooperate with each other.

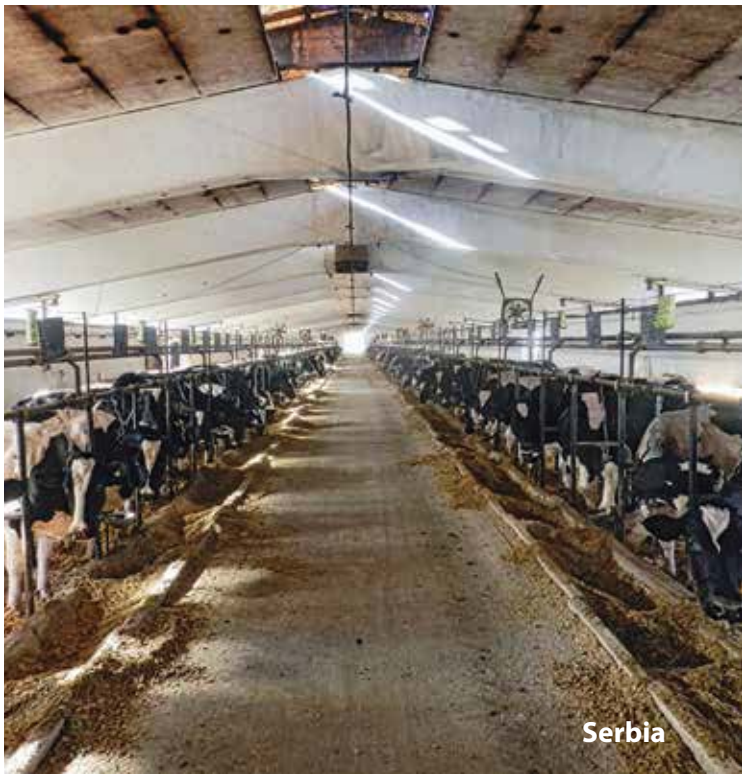
Without you, valued researchers, supporter partners and friends, the IFCN would not be where it is today. With excitement, we are looking forward to the next 20 years with you.

Thank you for being a vital part of IFCN.

With best regards,
The IFCN Team

Dairy Report 2019 – Table of Contents

Serbia



THE IFCN TIMELINE

Born and brought up to a dairy farm in Northern Germany, Torsten Hemme showed a passionate interest for dairy at an early age. He travelled internationally and had the opportunity to work on different kinds of dairy farms. As his experience grew, so did his curiosity to understand more thoroughly the various dairy farming systems which existed in different continents.

Thus the research question was born:

How to create a better understanding of milk production world-wide?

1994

Torsten started his PhD at Thünen Institute. In his research work, he **developed the TIPICAL model** which is now a standard for dairy farm economics. The idea of a network of researchers was born to have an ongoing benchmarking of dairy farms.

1999

Torsten's **PhD study finalised** – method base for IFCN.

2000

First IFCN Dairy conference organized and First IFCN Dairy Report published with eight countries.

2003

IFCN highlights **cooperation with companies on Dairy Report** – 6 Supporter companies.

2006

New Home: **IFCN moves to Kiel**.

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2010

First **strategy review in IFCN** to create more transparency, develop a sustainable business model and modify the leadership.

IFCN AG

2014

Second strategy review for the period of 2014 – 2019 to **better structure** its cooperation with researchers and companies.

2019

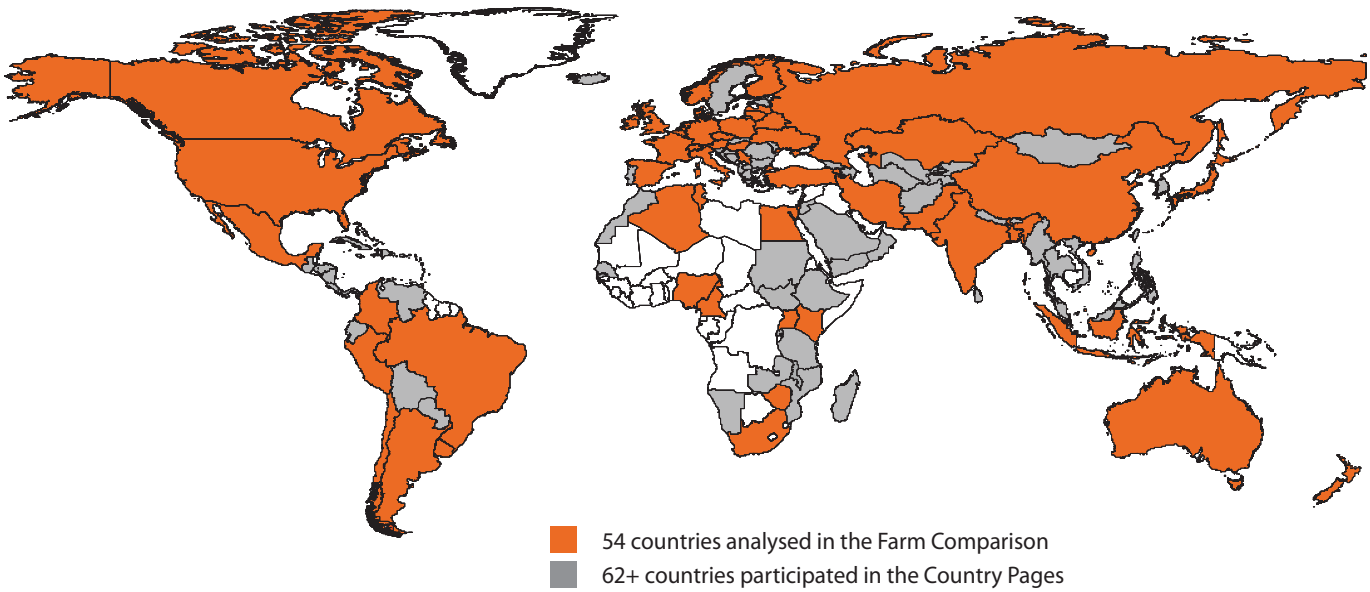
IFCN is a thriving network of researchers from over 100 countries as well as 141 company and institutional partners.

2025

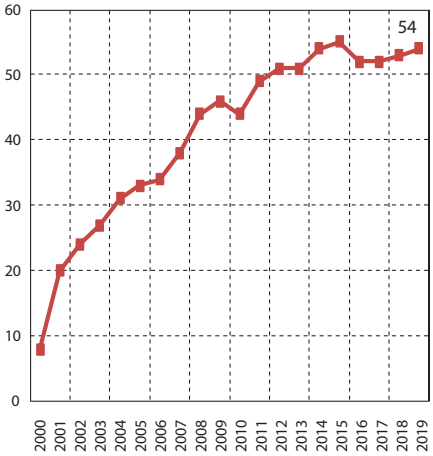
We help people in the dairy world with dairy data, knowledge and inspiration **to make better decisions.**

IFCN Dairy Report – Developments 2000 – 2019

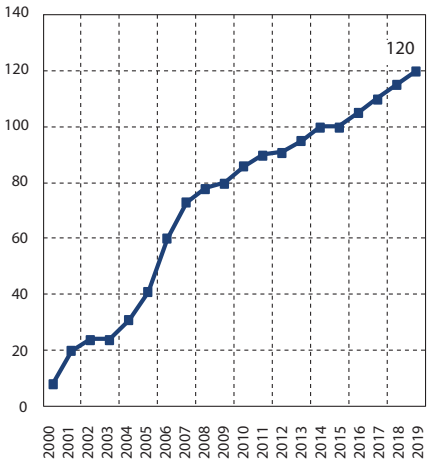
Which countries are participating in the IFCN Dairy Report activities in 2019?



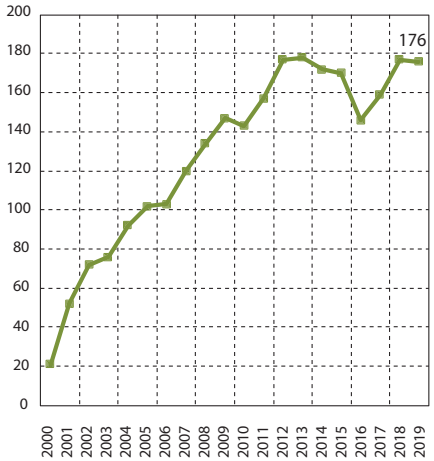
Number of countries included in farm comparison



Number of countries included in country profile analysis



Number of farm types analysed




Germany

Legend: *Numbers indicate the number of cows in the typical farms.*
++ = future farm, B = Buffalo, BE = Beijing, bio = Organic, C = Central,
CF = Commercial Farm, CN = Central North, DP = Dual Purpose, E = East, JA = Jalisco,
MC = Massif Central, MG=Malang, N = North, NW = North West, S = South, SE = South East,
SW = South West, TO = Torréon, W = West

About IFCN

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 100 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 141 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, 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: 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 life time 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 23 employees coordinating the network process and running dairy research activities.

Managing Director

Torsten Hemme

Network Management

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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), Hans Jörn (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

Ernesto Reyes

Hans Jörn Morelon

Uwe Latacz-Lohmann

Olaf Rosenbaum

Torsten Hemme

20th IFCN Dairy Conference in Berlin, Germany, June 15 – 19, 2019

Changing dairy world: 2000 – 2020 – 2040, with a focus on special types of milk

The 20th IFCN Dairy Conference 2019 in Berlin, Germany, brought together 85 dairy economists and experts representing 48 countries. The conference was proudly hosted by DMK and sponsored by Hochland.

Monday, June 17

DAIRY WORLD STATUS

20 years IFCN
- History of IFCN
- IFCN Researchers' Network 2020/2025

Global picture on dairy markets
- Flashback: 20 years of dairy market – (un)foreseen drivers and trends
- 20 years from country perspective – game changers of the dairy market *(IFCN Partners)*

Global picture on dairy farms
- 20 years of dairy farming – global dairy production systems and farm structure
- Dairy production systems around the world – key drivers for farm development *(IFCN Partners)*

Network evening

Tuesday, June 18

SPECIAL TYPES OF MILK

From the farmer to the consumer
- Different types of milk and milk products
- Challenges and opportunities for processors *(P. Hildebrandt, DMK)*
- Current and future trends in dairy consumption *(A. Capkovicova, European Commission)*
- Panel: Perception of milk from the farmer to the consumer

Milk = Milk?
- Trends on "special" milk in different countries *(IFCN Partners)*

Workshop
- Complexity and opportunities of special types of milk

Exhibition of posters and milk packages

IFCN 20th Anniversary celebration

Wednesday, June 19

DAIRY OUTLOOK

Dairy outlook
- Dairy development's impact on poverty reduction *(E. Reyes, GDP)*
- 20 years backwards, 20 years forward for the dairy industry *(R. Erhard, Nestlé)*
- IFCN Long-term Dairy Outlook 2040
- IFCN Short-term Dairy Outlook 2020
- IFCN Way forward 2020/2025

Summing up and closing

Complexity and opportunities of special types of milk: Results from the 20th IFCN Dairy Conference 2019

Complexity and opportunities of special milk

Consumer demand for special types of milk is rising. Therefore, the 20th IFCN Dairy Conference has put a key focus on different types of milk and their challenges, complexities and opportunities. During intense days of discussion between IFCN Researchers and representatives from international companies, it became clear that trust and transparency are important for promoting dairy. IFCN thanks host DMK and sponsor Hochland.

Definition of special milk

IFCN defines special milk as value-added cow milk and milk alternatives. Special types of milk are clustered in three main categories:

- Milk from different sources (type of animals, plant-based milk, synthetic milk, etc.)
- Milk generated with different farming practices (organic, GMO-free, etc.)
- Different ways of processing and packaging (composition of liquid milk)

Animal based dairy products will stay most popular

Annually IFCN attempts to define the status quo of current developments by means of an opinion survey and, in this way, catch a glimpse into the future of dairy farming. The 2019 results of the opinion survey (n = 50 different countries) show that animal based dairy products will outlive alternative kinds of „milk".

Workshop on special milk

The conference participants, divided into working groups, identified milks that consumers in their country see at the moment as most exciting besides conventional milk. According to the partners' opinions, the following special milk types are currently mostly demanded worldwide (ranked):

1. Organic milk
2. Plant based "milk" (soy, almond, rice, oat, etc.)
3. Regional / my farm milk
4. Milk from other animals (sheep, goat, buffalo, etc.)
5. Grazing milk

Source: HEMME T (2019): Outcome Paper from the 20th IFCN Dairy Conference. https://ifcndairy.org/press/

Opportunities of special milk

As the next step, participants brainstormed on country specific success stories where value has been generated with special types of milk. Here are some examples:

- Alpro (BE+DE), ne moloko (RU), Oatly: plant-based milk
- Fairlife (US): ultra-filtered milk
- Parag (IN): milk quality and branding and delivery
- Hemme Milch (DE): regional milk
- The A2 milk company (NZ): A2 milk
- Ornua, Kerrygold (IE): grazing and sustainability

KEY CONCLUSIONS

Participants furthermore brainstormed on country specific success stories to draw key conclusions. IFCN Research Partners agreed that:

- **Special milk products remain a small market portion:** Sales of plant-based drinks are growing fast both in value and volume but so far, they remain a small market portion. In 2018, they represented a 4% share on cow milk based dairy product volume sales.
- **Differentiation creates value for the early adopters:** Opportunities in special milk production exist. Differentiation of milk adds and creates additional value.
- **Organic and local milk are appreciated by consumers as special milk:** Organic milk is well accepted by consumers. Also, local milk plays an important role. Vertical integration is an opportunity especially for small-scale farmers to sell milk directly to consumers ("from grass to finished milk"). Consumers want to support their neighbourhood and know the source of the products. Partners state that consumers' demand is driven by the wish for protecting the environment and animals.
- **Emotional stories touch consumers more than facts:** Plant based products are coupled with a specific way of life like sports, freedom, animal welfare. It is important to promote local and vertical produced milk which consumers can link to products coming from known source and production standards. Trust and transparency are very important – however, emotional stories often win over facts. In the long-term, it is important to promote real value-added products with impactful campaigns and simple messages.

Exhibition of milk packages

To obtain insights into the different packaging used worldwide, participants brought milk packages from their countries which were presented in an exhibition.

16th IFCN Supporter Conference in Parma, Italy, September 11 – 13, 2018

How will big data change dairy farming and the supply chain in the future?

The 16th IFCN Supporter Conference was held in Parma, Italia. More than 120 participants from 88 dairy related companies attended the conference which was hosted by Cargill. Allflex Livestock Intelligence and Dairy Data Warehouse acted as gold sponsors. Also, Growsafe and Connecterra participated with their support to make this event a great success.

Tuesday, September 11 **THE DAIRY WORLD IN 2018**	Wednesday, September 12 **BIG DATA IN MILK PRODUCTION**	Thursday, September 13 **VISION TALKS**
Pre Conference: **Understanding industry's needs towards IFCN** • IFCN – The company and their products • IFCN Monthly Real Time Farm Economics – new development of tools **Official start of the conference** • Welcome to the 16th IFCN Supporter Conference **The dairy world today** • The dairy world in 2018 • IFCN Monthly Real Time Data – What are the latest developments? • IFCN short-term Dairy Outlook 2019 • Farm technology past, present and future • Working groups: which aspects of milk production will be affected most by big data? **Networking evening**	**Big data in milk production** • Technology disruption and industry adoption – *Finisterre Ventures* • Digital dairies and the future of protein - *Cainthus Technologies* • Unleash the power of BIG dairy data – *Dairy Data Warehouse* • Everyone should be ruminating on this data – *Allflex* • A New Data Paradigm – *Growsafe* **Panel Session:** Innovators for disruptive technologies **Workshop Session:** Truth and myth of big data in milk production **See, feel and smell big data on an Italian 150 – cow farm** **Networking evening**	**Vision talks** • Think wider: The IFCN Dairy Long-term Outlook 2030 • Beyond digital technologies: getting ready for the digital transformation of the dairy industry – *Cargill* **Panel Session:** Processors perspective towards 2030 • Condensing complexity – what really matters for your company in the future • How to win the future with big data – what to consider most! **Reporting session** **Summing up and closing**

What makes a dairy region successful? Results from the IFCN Supporter Conference 2018

Big data in agriculture describes large sets of data that are generated on farms. Big data is becoming more important due to the increasing use of emerging technologies that create data, such as sensors and cameras. However, simply storing the data is not enough. As seen in different conference presentations, data becomes useful when it is analysed computationally to reveal patterns, trends, and associations, especially related to behaviour and interactions. All this data, combined with advanced data platforms, can create new value for cows, farmers, processors and consumers, by providing insights that can enhance animal productivity and comfort while also driving incremental value and transparency.

The workshops – *"Impact of big data on dairy farming"* and *"Truth and myth of big data"* inspired the participants to think beyond the current status of the dairy sector. The future impact possibilities of big data on dairy farming was discussed in the workshop. Moreover, ideas and opinions were shared on how the dairy sector could change in the next decade. It was agreed that the whole supply chain needs to be prepared for the future and that new technologies should be found with an open mindset and a clear strategy.

Opinions on big data and dairy:

- The most limiting factor of big data is the lack of acceptance by famers as well as non-compatible technology.
- Data gathered through technology will be owned by farmers.
- Efficiency gains by big data in the dairy sector will be around 20% or higher.
- Biggest benefit of big data in the dairy sector is being able to make objective and transparent decisions.
- Europe and North America will be the regions most positively affected by the use of big data.
- Dairy farming will not mainly be run by Artificial Intelligence before 2050
- The leadership role in bringing big data forward will be taken by tech-companies.
- The leadership role should be taken from established companies and leading farms.

Opportunities faced by companies and farms:

The future impact possibilities of big data on dairy farming was discussed in the workshop. Moreover, ideas and opinions were shared on how the dairy sector could change in the next decade. It was agreed that the whole supply chain needs to be prepared for the future and that new technologies should be found with an open mind

- Transparency supports cost reduction. Benchmarking and decision making for all stakeholders.
- Technologisation in agriculture lags behind. Lessons should be learnt from other sectors.
- Big data can contribute to gain consumer trust by proving the social impact of dairy.
- Transparency will drive sustainability and give the social license and acceptance to producers.
- Progress on farm technology could attract successors and bring new people into the sector.
- Predictability of milk production on farm level will improve the farmers´ operations and planning.
- A shift from a herd approach to an individual cow treatment will improve animal welfare.
- A holistic system at farm level will drive efficiency improvements and financial optimization.

Key take away messages

- **Big data is the future:** Big data combined with advanced information platforms will create value along the whole dairy chain, affecting cows, farmers, companies and consumers.
- **Transform digitally or die:** Technology will speed up the consolidation process by increasing the gap between smaller farms and farms that adopt technology.
- **Transparency is a driver:** Big data increases transparency and is one of the major drivers for productivity gains. It shows potential to relocate profits towards farmers and input providers.
- **Paving the way for sustainability:** Big data will lead to value creation, productivity gains and animal welfare improvement by optimized management and operations resulting in great steps towards sustainability.
- **Gain in efficiency shows huge potential:** Big data will increase the efficiency at farm level by monitoring processes and optimizing operations.
- **Consumer trust can be gained:** Traceability and transparency of information is the key to convince consumers of the high value within the dairy sector and its products.
- **Big data brings potential for decision making:** Using new technologies, farmers will be enabled to base their decision on facts and information retrieved from big data rather than gut feelings.

KEY ACTIONS

Actions to be taken by companies in the perspectives:

- Move mindsets.
- From silo to system.
- Build platforms.
- Investments need to be made.
- Providing objective evidence by big data.
- Define the data language in your company.

7th IFCN Regional Workshop in Pune, India, November 28 – 29, 2018

Milk Quality and exports potential of India

This IFCN Regional Workshop took place in Pune, Maharashtra; more than 80 participants, representing various aspects of the dairy value chain, took part of the discussions and the group working sessions. The focus of the workshop was the Milk Quality and exports potential of India. This topic was intensively discussed by the participants. The workshop provided a suitable platform for participants to exchange experiences and discuss various approaches for obtaining better milk quality and achieving exports potential in India. Presentations by IFCN researchers and agribusiness-related companies introduced the topic. A panel of representatives of different aspects of the dairy value chains was also very well received.

Working in groups, the participants highlighted the key drivers for the milk quality issues in India, including having no nationwide definition of milk quality along the supply chain ie. at the farm gate, factory gate and at the point of sale/consumer. Neither governments nor the processors have defined the minimum industry standards for milk procurement. Another problem is India´s fragmented production structure which is a major cause of quality deterioration.

The workshop also highlighted the fact that a real root cause analysis for the prevalent milk quality problems in India has not been done. The working groups also came up with the following recommendations:

1. **Defining nationwide unified milk quality standards with** which all the stakeholders of the dairy value chain agree as well as aligning sets of definitions on milk quality and minimum standards.
2. **Incentive program** to encourage production and transportation of quality milk.
3. **Rejection:** Development and implementation of industrial norms for rejection of poor quality/adulterated milk and penalization for deliberate inclusion of additives.
4. **Control:** Setting up minimum acceptance rate of drug residues, aflatoxins and detergents.
5. **Implementation:** The dairy sector stakeholder should agree on the formulation, implementation and adherence of the milk quality improvement plan with a certain flexibility during an adjustment period.

IFCN also recommended that India should have a milk quality crisis management plan. The workshop was proudly hosted by Schreiber Dynamix and sponsored by Kemin, Prabhat, Neogen and Promethean Power Systems.

1st IFCN Data Analysis Workshop in Amsterdam, The Netherlands, April 17, 2019

Dairy economics is more than just the price of milk

This first IFCN Data Analysis Workshop took place in Amsterdam, The Netherlands.
It was attended by 12 participants from different dairy related companies, institutions and institutes.

Wednesday, April 17

IFCN DATA ANALYSIS WORKSHOP

Introduction to dairy economics
- Introduction: workshop overview
- What does data analysis mean for IFCN?
- Drivers of the world milk price

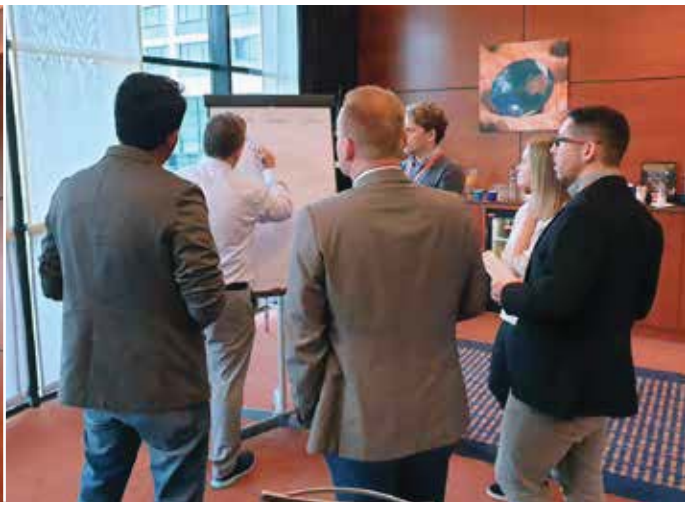
Networking lunch
- How IFCN data can answer research questions
- Dairy farm sustainability & resilience
- Dairy farm economics knowledge versus market knowledge
- Future of IFCN data

Feedback: *"Great interaction, engaged team".*

Feedback: *"Time series of farm level data and price transmission was inspirational".*

Feedback: *"Explanation of ECM, SCM, World milk price, Typical farms".*

Feedback: *"Farm labour costs explanation was interesting".*



IFCN Supporter Partnership and IFCN Data Products

P – IFCN Supporter Partnership Packages

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 globalized world. More than **120 dairy related companies** are contributing to IFCN which is a **global dairy related research** network that helps to better understand the dairy world by providing globally comparable dairy economic data and even forecasts since 2000.

Main benefits of the partnership:

- Global holistic picture
- Networking with dairy chain companies
- Learning and capacity building
- Better data: comparable, globally & real time
- Better analysis: no wasting time
- World class dairy business intelligence

IFCN Partnership Packages | Your benefit	Basic	Premium	Ultimate
IFCN Dairy Report Coverage of 120+ countries on macro and micro dairy economic indicators (5 hard & pdf copies)	✔	✔	✔
IFCN Insight Slides Annual holistic picture of the dairy world	✔	✔	✔
IFCN Monthly Newsletter Latest happening on the sector on your finger tips	✔	✔	✔
Logo positioning Be visible on the IFCN Dairy Report, IFCN World Dairy Map and on the IFCN Website	✔	✔	✔
IFCN Hotline Remarks and first suggestions for urgent questions	E-Mail	E-Mail, Phone	E-Mail, Phone
Global Dairy Think Tank Be part of annual IFCN Supporter Conference with more than 120 agribusiness companies	One seat	Two seats	Three seats
Annual 101 Exclusive IFCN Partner company feedback meeting on existing data usage and future needs	–	✔	✔
IFCN Milk Production Outlook Webinar Join quarterly webinar on latest milk supply trends & drivers	–	✔	✔
IFCN Special Events Be part of such an event – more information to be shared – envisaged locations are in Europe & India	–	✔	✔
Global Dairy Sector Database Get data from county pages in IFCN Dairy Report (key variables)	✔	✔	✔
Access to IFCN Data Products Get access to the Standard IFCN Data Delivery Package (Excel formats)	Data purchase possible	Data purchase possible	Access to all data services
	6,000 €	**10,000 € +**	**30,000 €**

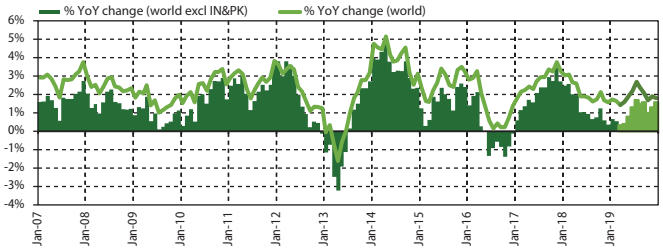
IFCN Milk Production Outlook Webinar

The webinar is an innovative service providing milk supply projections for the next 12 months. It offers results of the IFCN milk supply outlook model along with possible world milk price developments based on Futures (CME, EEX, NZX). Forecast of milk production at steady prices and evaluation of the trends of the world milk price for the next few months makes the dairy market trajectories more comprehensible. This excellent service permits the user to have an overview of the current dairy market situation and to also track the underlying factors for more than 60 countries.

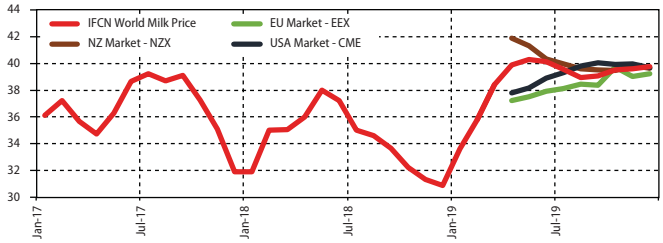
Main befits of the product

- Monitor dairy market drivers in real-time for growth of your sales numbers
- Enhance your risk management by better evaluating milk price trends
- Design suitable short-term actions with a better understanding of the national markets

Change in milk production in % YoY



IFCN World Milk Price Indicator based on Future Prices
(ONLY Butter + SMP)



Key variables

- World milk production forecast
- World milk and feed price forecast
- Next 12 months drivers of supply
- Farm economics status & forecast
- Maps & charts with key informaton

Technical Details

Format: PDF & audio recorded file
Delivery: Quarterly
Coverage: 64 countries
Duration: 30 – 45 minutes
Price: Free for Premium & Ultimate IFCN Partners

Monthly Real Time Data incl. farm economics

This real time product delivers data on milk production, milk & feed prices and describes the current situation and on-going development on dairy markets to optimise short-term operational business processes on a global and on a country level. A summary with the key message and IFCN Analysis are send with this data product. Data provide real-time situation of the dairy market with price analysis, making anticipating short-term shifts and changes in the dairy markets easier. This year additional information on fat and protein production has also been added to the data. Sample Fig 1 highlights Germany milk price and implication on milk production and milk contents.

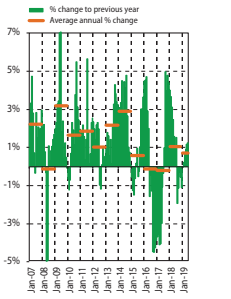
Dairy Sector Data & Long-term Outlook

The comprehensive IFCN product supports long-term strategic business decisions providing comparable country level data. It contains the parts: time line data since 1996, regional data and IFCN Long-term Dairy Outlook 2040. Database reflects how the overall dairy situation looks like in the country of analysis, helping in assessing the real market potentials. Standardised and quality approved country data increase your efficiency in business analysis and business development by reducing the data mining time. Sample Fig 2 shows milk production until 2018 and Outlook 2040 with regional milk production for Brazil.

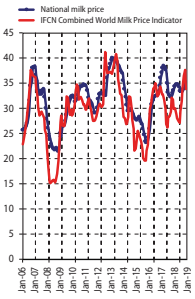
Dairy Farm Comparison Data

The farm sector data facilitates strategic decision making by presenting a unique tool for benchmarking dairy farms world-wide. There are new key figures embedded in the product; cost components of the dairy enterprise and actual farm economics. These figures help to get an even better insight in actual farm economics in the analysed countries. With the data, gain a deeper understanding of cost competitiveness and KPIs of dairy production such as efficiency, labour and land costs, capital, yield and prices. Fig 4 compares farms in Germany, USA and New Zealand on cost of milk production and return to labour.

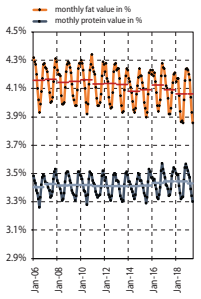
Change in Germany milk production on monthly basis



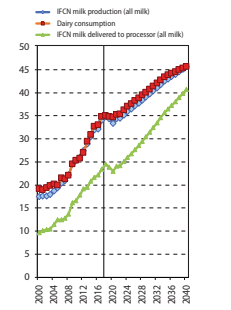
Milk prices in Germany in EUR / 100 kg SCM



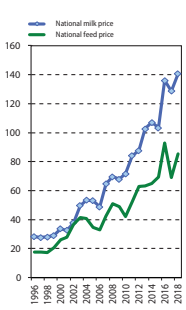
Milk contents on monthly data in Germany



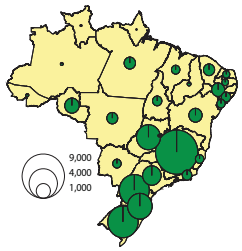
Brazil milk suplly and demand



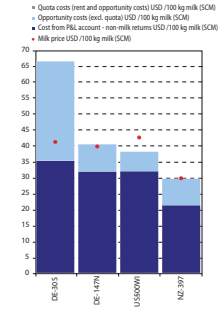
Brazil milk and feed prices



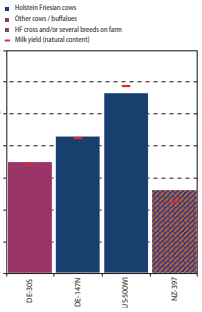
Brazil milk production in 2018 in 1,000 tons



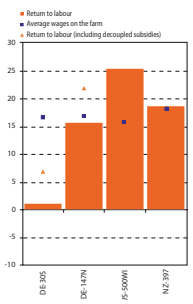
Cost of milk production only



Milk Yield



Return to labor

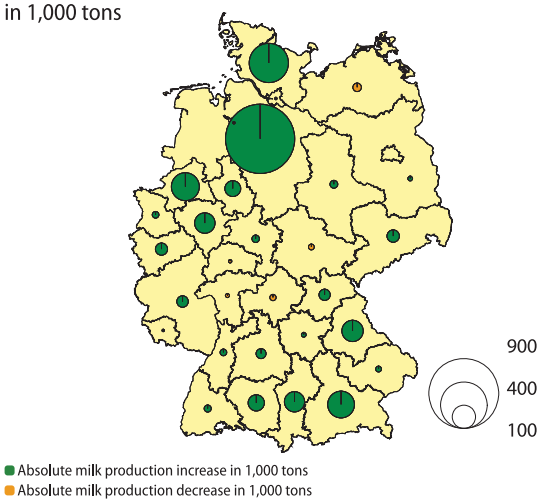


3.45 Germany

Łukasz Wyrzykowski

Milk production change 2012–2017

in 1,000 tons



Status and key developments

Status 2018

- No. **5** in world milk production: **33.14** mill t SCM
- No. of dairy farms: **62,813**
- Milk price: **+23%** to world market
- Feed price: **+2%** to world market

Key developments 2013–2018

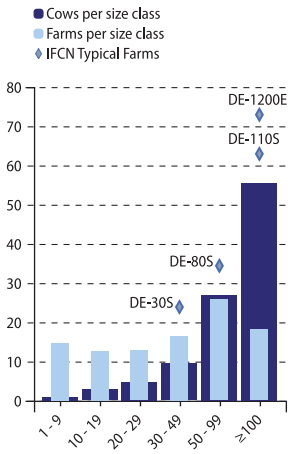
- Milk production growth: **+1%** per year
- Farm number: **-4.6%** per year
- Milk yield: **+1.8%** per year
- Top herd size class growth: **≥100** cows/farm: CAGR **+3.7%**

Key variables

	1996	1999	2002	2005	2007	2009	2011	2013	2015	2017	2018	Annual change '08-'13	Annual change '13-'18
Milk production (cows')													
Production (mill t SCM)	29.56	28.92	28.35	28.83	28.79	29.50	30.53	31.51	32.77	32.78	33.14	1.7%	1.0%
Cows (in 1,000's)	5,195	4,710	4,373	4,164	4,087	4,169	4,190	4,268	4,285	4,199	4,101	0.2%	-0.8%
Milk yield (t / cow / year)	5.7	6.1	6.5	6.9	7.0	7.1	7.3	7.4	7.6	7.8	8.1	1.6%	1.8%
Farm structure													
No. of dairy farms (in 1,000's)	186.0	152.7	125.1	108.0	99.0	95.8	87.2	79.5	73.3	65.8	62.8	-4.4%	-4.6%
Average farm size (cows / farm)	27.9	30.8	35.0	38.6	41.3	43.5	48.1	53.7	58.5	63.8	65.3	4.8%	4.0%
Prices in national currency													
Milk : feed price ratio	1.8	2.2	2.2	2.1	2.0	1.4	1.6	1.3	1.4	1.9	1.8	-2.2%	6.7%
Cull cow (EUR / kg live weight)	1.11	1.09	0.94	1.25	1.26	1.40	1.71	1.91	1.82	1.89	1.81	6.4%	-1.1%
Land - buy (EUR / ha)	10,394	8,938	9,465	8,692	9,205	10,908	13,493	16,381	19,614	24,064	25,748	10.5%	9.5%
Devaluation of EUR vs USD	-2%	-20%	-29%	-6%	4%	5%	5%	—	-16%	-15%	-11%	-2.0%	-2.2%

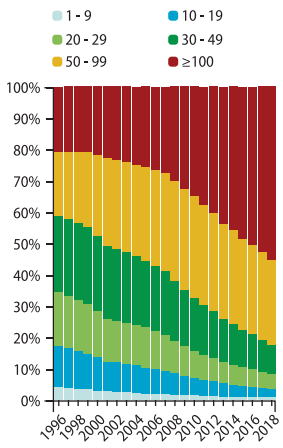
Farm structure

% of dairy farms and cows in size classes (2018)



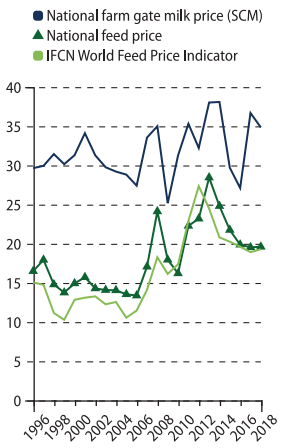
Farm structure

% of cows per herd size



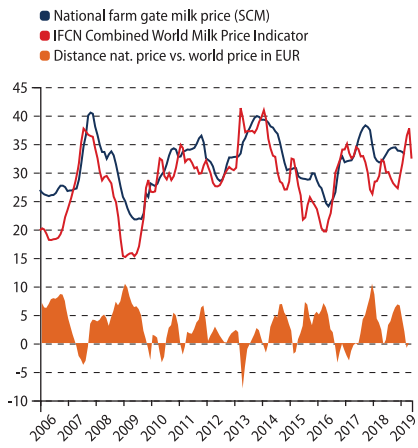
Milk and feed price

EUR / 100 kg



Monthly farm gate milk price

EUR / 100 kg SCM



Explanations

Sources: *National statistics, FAO, IMF, Oanda, Eurostat, AMI. 2018 data preliminary and partly estimated.*
Estimates done for: *Cull cow prices (2010-2018) were revised by IFCN. Land price (2018) by IFCN.*
Devaluation: *Changes based on 2013 Exchange rate: EUR/USD= 0.75.*
Regional data: *Milk production in natural fat and protein content.*

Dairy researchers representing 120 countries

Institutional partners

Agribusiness partners

Milk processing

Feed and feed additives

Milking and barn equipment

Health and hygiene

Farm machinery

Generics for animal & plants

Milk testing, measure, transport

Milk processing and packaging technologies

Finance institutions

Agriculture technology companies

Consulting and others

Dairy farming companies

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