IFCN
Dairy Data · Knowledge · Inspiration

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

Outcome from the 16th IFCN Supporter Conference 2018

- 125 participants
- 88 agribusiness companies
- 98,4 % overall satisfaction

Event hosting partner

Cargill™

Gold sponsors

Allflex Livestock Intelligence

DDW BIG data for dairy

other sponsors

GrowSafe SYSTEMS

Connecterra

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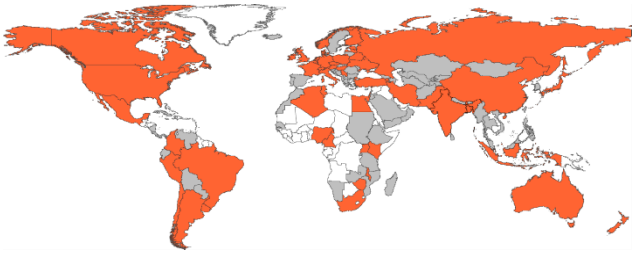
THE IFCN SUPPORTER CONFERENCE

Coverage of IFCN Network 2018



The IFCN Supporter Conference is the leading global think tank for dairy related companies.
It has a 16-year long tradition and provides room and time for knowledge sharing and exchange.

At the annual Supporter Conference, the organizing **IFCN Dairy Research Center,** not only discusses the status of the dairy world but also gives insights into short-term and long-term developments. The declared goal is to prepare participating stakeholders well for the next 12 to 18 months. In addition to this, every year the conference programme features an overall topic as well as content-related workshops, discussions and panels.

From the 11th to the 13th September 2018 the conference which was themed "How will BIG DATA change dairy farming and the supply chain in the future?", brought together 125 participants representing 88 agribusiness companies. For more information about the conference, please see www.ifcndairy.org/press/. The 16th IFCN Supporter Conference was proudly hosted by IFCN partner Cargill. Allflex Livestock Intelligence and Dairy Data Warehouse acted as gold sponsors. Also, Growsafe and Connecterra supported to make this event a great success.

The purpose of this outcome paper is to share acquired results and give guidance for future actions.

KEY MESSAGES ON DAIRY AND BIG DATA

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.*

Gain in efficiency shows huge potential: *Big data will increase the efficiency at farm level by monitoring processes and optimizing operations.*

Transform digitally or die: *Technology will speed up the consolidation process by increasing the gap between smaller farms and farms that adopt technology.*

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.*

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.*

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.*

3. RESULTS OF THE WORKSHOPS

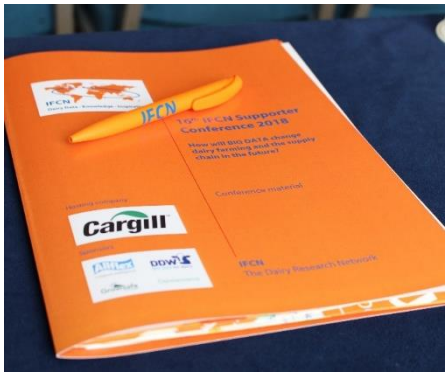
The workshops **'Impact of big data on dairy farming' and 'Truth and myth of big data'** inspired the participants to think beyond the current status of the dairy sector. In the workshop the future impact possibilities of big data on dairy farming was discussed. Moreover, ideas and opinions were shared 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 new technologies need to be encountered with an open mindset and a clear strategy.

Which aspects of dairy farming will be affected most by big data?

- **Animal health**
  e.g. by herd health management and milk quality improvement
- **Farm management**
  e.g. by support in decision making and profitability gains
- **Animal genetics**
  e.g. by evaluating the efficiency of nutrition and maximize production
- **Animal feeding**
  e.g. by optimization of the diet for herds and individual cows
- **Market understanding**
  e.g. by comparison, trend observation and benchmarking
- **Labour efficiency**
  e.g.by expanding the labour pool and attract successors
- **Consumer confidence**
  e.g. by trust building based on transparency and food safety
- **Sustainability**
  e.g. by quantification of greenhouse gas emissions
- **Farm services**
  e.g. by new opportunities for the farmer/ advisor relationship

What will be the biggest change for milk production and the supply chain until 2030?

- **Consumer confidence**
  e.g. traceability of dairy products to farm and cow level
- **Dairy products**
  e.g. diversity of dairy products from different milk streams
- **Data**
  e.g. availability of comprehensive data accessed by different stakeholders
- **Environment**
  e.g. climate change, water scarcity and improved manure management
- **Supply Chain**
  e.g. full integration and transparency of the supply chain
- **Farm management and size**
  e.g. farm consolidation, capital intensity and automation
- **Animal genetics**
  e.g. precision breeding and "genetic design"
- **Animal feeding**
  e.g. manipulation of nutrition to reduce nitrogen
- **Animal health and welfare**
  e.g. cow's insemination by beef genetics resulting in more lactations



OPINIONS, OPPORTUNITIES AND CHALLENGES

Within fruitful presentations, discussions and workshops Major challenges and opportunities of big data and technologies have been determined. Additionally, opinions where expressed via a e-voting.

Opinions on big data and dairy

- The most limiting factor of big data is the acceptance of 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 the gain of objective and transparent decisions.
- Most positively affected regions by the use of big data will be Europe and North America
- Dairy farming will not be run mainly 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

- 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.

Challenges faced by companies and farms

- If not well implemented regulated and adopted, new technology can imply risks.
- Critical mindsets of farmers towards technology adoption should be changed by trust.
- Confidence and comfort of the farmer with new systems will determine the success.
- Transferability, transparency and manageability for farmers is the key.

Perspectives and actions to be taken from companies

1) Move mindsets - Use big data for costumer segmentation and win hearts and minds for dairy products.

2) From silo to system - A Holistic approach of technological integration needs to be applied.

3) Built platforms for the learning process and implementation of new technologies for all stakeholders.

4) Investments need to be done to start a logistic revolution at farm level and bring sustainability forward.

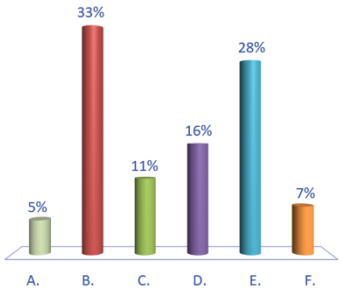
5) Providing objective evidence by big data is the key to change opinions and convince critical thinkers.

6) Define the data language in your company - Digital strategy of technology and big data is needed.

E-VOTING RESULTS AFTER THE WORKSHOP

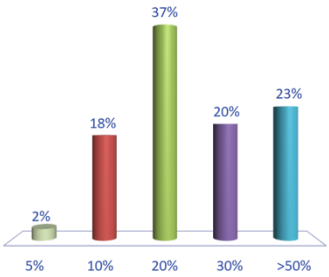
Q: *What is the most limiting factor to „big data in dairy?“*

A. Consumer expectations & perceptions
B. Acceptance by farmers
C. Access to funding by farmers
D. Regulations/Politics/Data sharing rules
E. Non-compatible technology/companies
F. Other



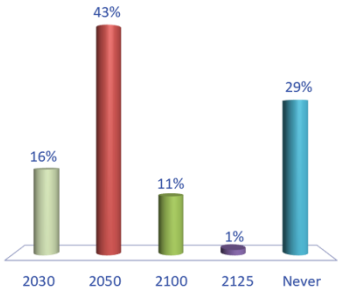
Q: Dairy farm efficiency gain by using big data is equal to*(based on an average performing farm until 2030)*

A. 5%
B. 10%
C. 20%
D. 30%
E. >50%



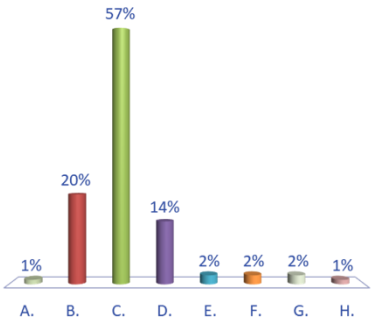
Q: *Dairy farming will be run mainly by Artificial Intelligence in?*

A. 2030
B. 2050
C. 2100
D. 2125
E. Never



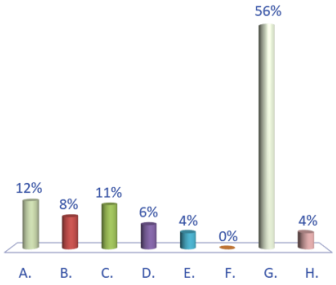
Q: *Who will take the leadership to bring big data forward*

A. Public research
B. Established companies
C. Tech companies
D. Leading farmers
E. Policy makers/governments
F. NGOs
G. Retailers
H. Other groups



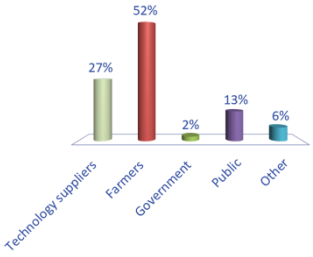
Q: Biggest benefit in the dairy sector due to big data will be in

A. Sustainability
B. Consumer communication
C. Farm costs
D. Milk yield
E. Animal health
F. Breeding
G. Objective and transparent decision making
H. Other



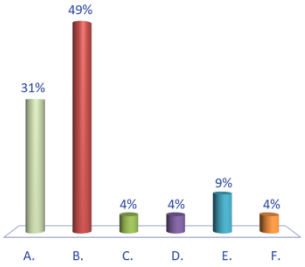
Q: The data will be owned by

A. Technology suppliers
B. Farmers
C. Government
D. Public
E. Other



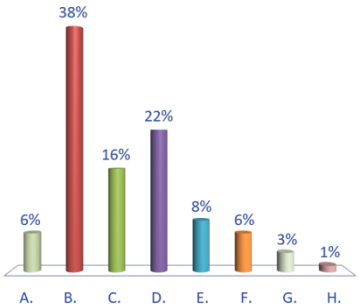
Q: Which area in the world will gain most from big data?

A. Europe
B. North America
C. Latin America
D. Africa + Middle East
E. Asia (South + South East)
F. Oceania



Q: Who shall take the leadership to bring big data forward?

A. Public research
B. Established companies
C. Tech companies
D. Leading farmers
E. Policy makers/governments
F. NGOs
G. Retailers
H. Other groups



ANNEX I. Conference programme

Tuesday, September 11th – The Dairy World In 2018	
12:00 - 13:30	**Networking lunch**
13:30 - 14:00	Official conference opening – T. Hemme
14:00 - 15:00	The dairy world in 2018 – Short-term Dairy Outlook 2019 – Ł. Wyrzykowski
15:00 - 15:30	**Coffee break**
15:30 - 16:15	Status of the milk production worldwide – D. Boelling, J. Scholz
16:15 - 16:35	Farm technology past, present and future – P. Tripathi
16:35 - 17:30	Working groups: Which aspects of milk production will be affected most of big data?
19:00	Food and Wine Tasting in Parma
Wednesday, September 12th – Big data in milk production	
09:00 - 09:30	"Technology Disruption and Industry Adoption" – K. Furlong, Finisterre Ventures, Ireland
09:30 - 10:00	"Digital Dairies and the future of protein" – D. Hunt, Cainthus Technologies, USA
10:00 - 10:30	"Unleash the power of BIG dairy data" – A. Pearn, Dairy Data Warehouse, Netherlands
10:30 - 11:00	**Coffee break**
11:00 - 11:30	"Everyone should be ruminating on this data" – A. Turkaspa, Allflex Livestock Intelligence, Israel
11:30 - 12:00	"A New Data Paradigm" – A. Sunstrum, Growsafe
12:00 - 12:30	Panel: Innovators for disruptive technologies (Allflex Livestock Intelligence, Cainthus, DDW, Smartbow)
12:30 - 13:30	**Networking lunch**
13:30 - 15:00	Company Workshop: Truth and myth of BIG Data in milk production
15:00 - 15:30	**Coffee break**
16:00	See, feel and smell BIG data on an Italian 150 cows farm
19:00	Sunset barbeque in the countryside
Thursday, September 13th – Vision talks	
09:00 - 09:30	Think wider: The IFCN Dairy Long-term Outlook 2030 – K. Reincke
09:30 - 10:00	"Beyond digital technologies: getting ready for the digital transformation of the dairy industry" – R. Daura, Cargill, USA
10:00 - 10:30	Panel: Processors perspective towards 2030 (key dairy processors)
10:30 - 11:00	**Coffee break**
11:00 – 12:30	Condensing complexity – what really matters for your company in the future – T. Hemme
	How to win the future with big data – what to consider most!
12:30	**Light lunch**

ANNEX II. What is IFCN?

The IFCN Network

IFCN Dairy Data - Knowledge - Inspiration

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.

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

The IFCN Network approach – three knowledge pillars

1) Network of Researchers
2) Network of Supporter Partners
3) IFCN Dairy Research Center

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IFCN Data Services & Products 2018/19

IFCN Dairy Data - Knowledge - Inspiration

IFCN provides a wide series of data products to support your business

D IFCN Dairy Data	
D3.2	IFCN Annual Dairy Sector Data + IFCN Long-term Dairy Outlook 2030
D3.4.0	IFCN Monthly Real Time Data – production, prices + milk:feed price ratio
D3.4.1	IFCN Monthly Real Time Farm Economics – Improvement
D3.5	IFCN Monthly Dairy Demand – NEW
D3.6	IFCN Quarterly Update – on dairy market & milk supply, PDF version
D3.7	IFCN Annual Farm Structure Data –time series + forecast Improvement
D3.8	IFCN Top Milk Processor Data – update data
D3.9	IFCN Monthly Dairy Trade Data – NEW
D5.1	IFCN Farm Economic Data – time series, incl. current year estimate
D5.2	IFCN Farm Feeding System Data
K IFCN Knowledge	
K1	**Reports** like e.g. IFCN Dairy Report
K4	**IFCN Presentations and Workshops**
K4.4	**IFCN Milk Production Outlook Webinar - NEW**
I IFCN Inspiration	
	Conferences, Sponsorship, Research and Consulting Projects
I 1.8	**IFCN Hub Workshop Argentina - NEW**

IFCN Data Services
= less time for data mining
+ more time for analysis

Value creation via:
a) High quality data delivery
b) Continuous innovation + progress
c) Focus on your needs

Projects
IFCN has a wide range of projects related to dairy economic questions. Please feel free to contact us.

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Interested in joining the Network?

Contact Swantje.bruhn@ifcndairy.org