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Dairy Data · Knowledge · Inspiration

Sustainability and resilience of the dairy sector.

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Founder of IFCN

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4th International Meeting
'Lait, vecteur de développement

6 to 8 March 2023, Tunis

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IFCN network

Dairy global & sustainability

Dairy economics

How to win the future

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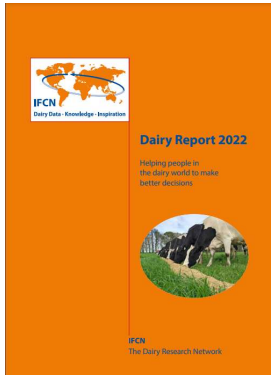
IFCN Network & how its Serving Dairy

Mission: Helping people in the dairy world to make better decisions.

IFCN Approach: 3 Pillars

- **> 100** countries: Network of researchers
- **> 140** companies in the dairy ecosystem
- **20 Researchers** in the IFCN Center in Kiel

>1000 dairy experts joining



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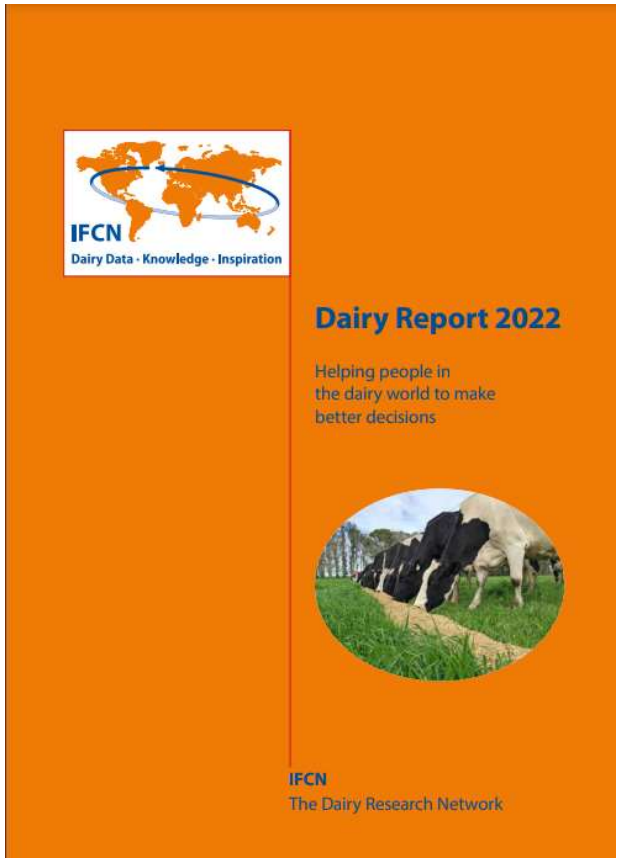
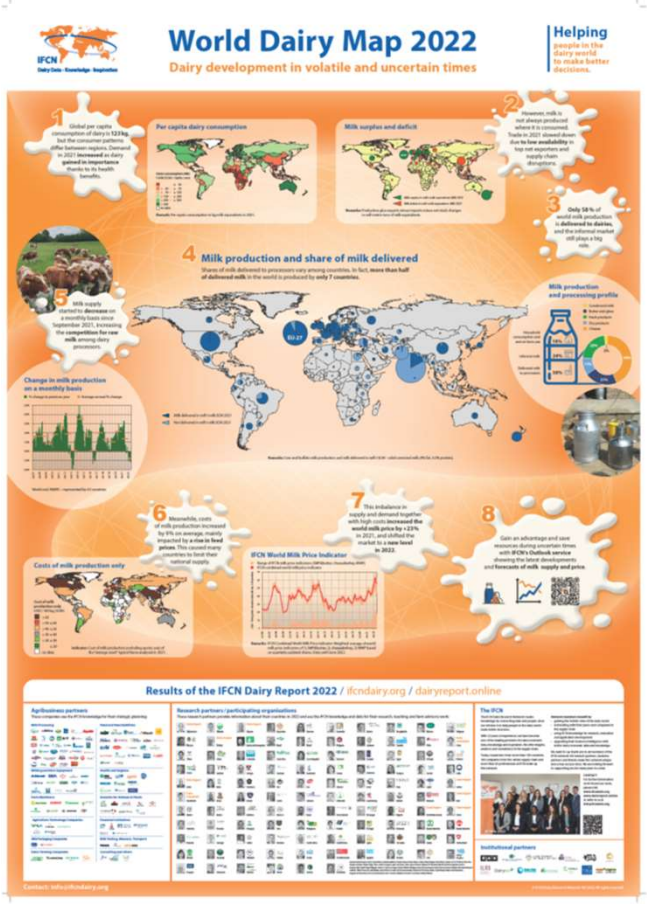
IFCN World Dairy Map 2022



This map is a summary of the report 2022



IFCN Dairy Research Network 2022

Focus on dairy farm analysis

Why?

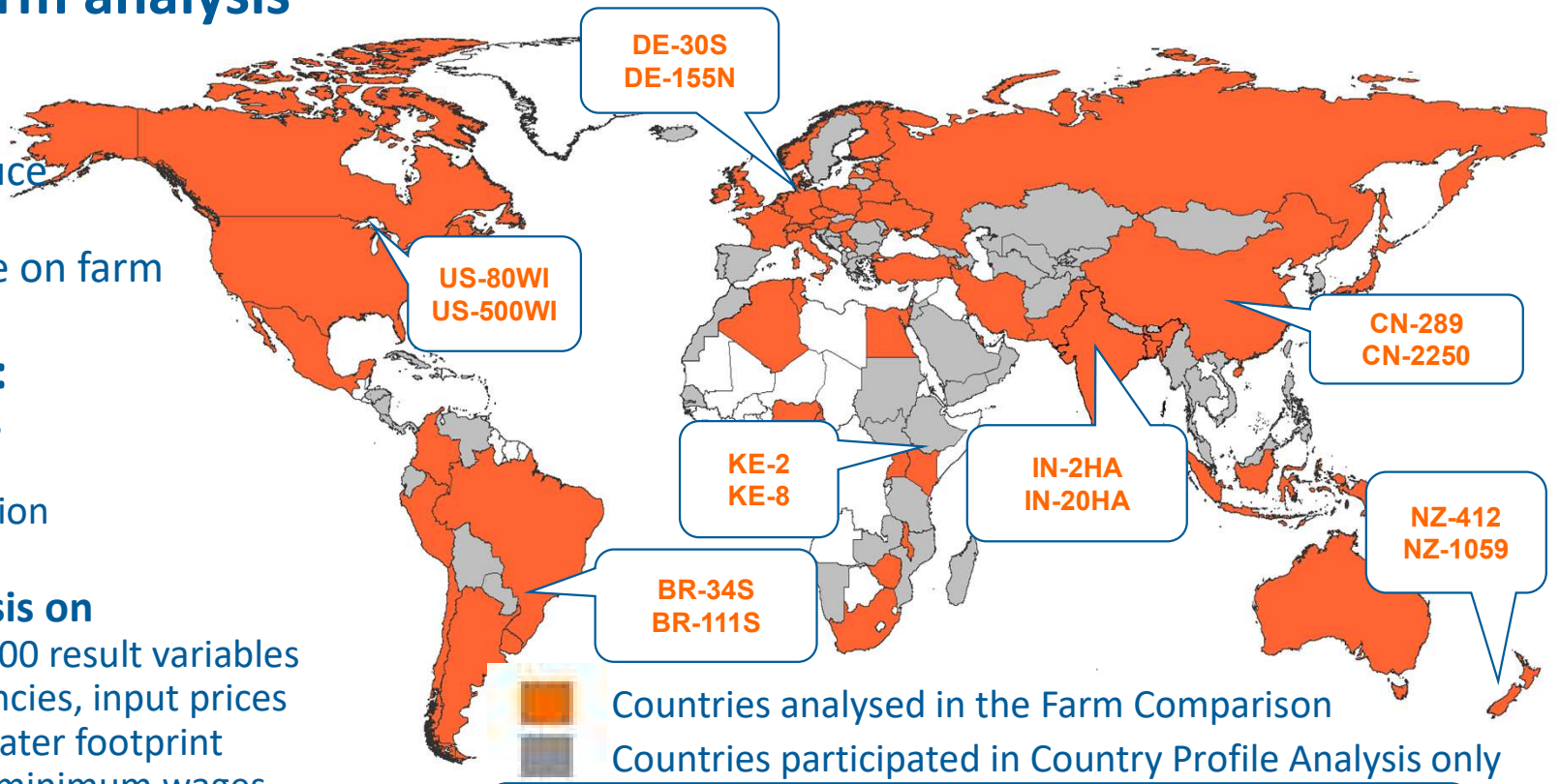
80% costs to produce a dairy product is to produce the milk on the farm.
80% of the emissions are on farm

Dairy Farm Analysis:

170 Farming systems/types
52 countries representing
89% of world milk production

Farm comparison analysis on

- **> 300 variables**/farm, > 600 result variables
- **Economics:** Costs, efficiencies, input prices
- **Environment**: Carbon / Water footprint
- **Social:** Farmer income vs minimum wages
- **Animal welfare:** Somatic cells, cow longevity
- **Resilience:** Start with buffer capacity
- etc.

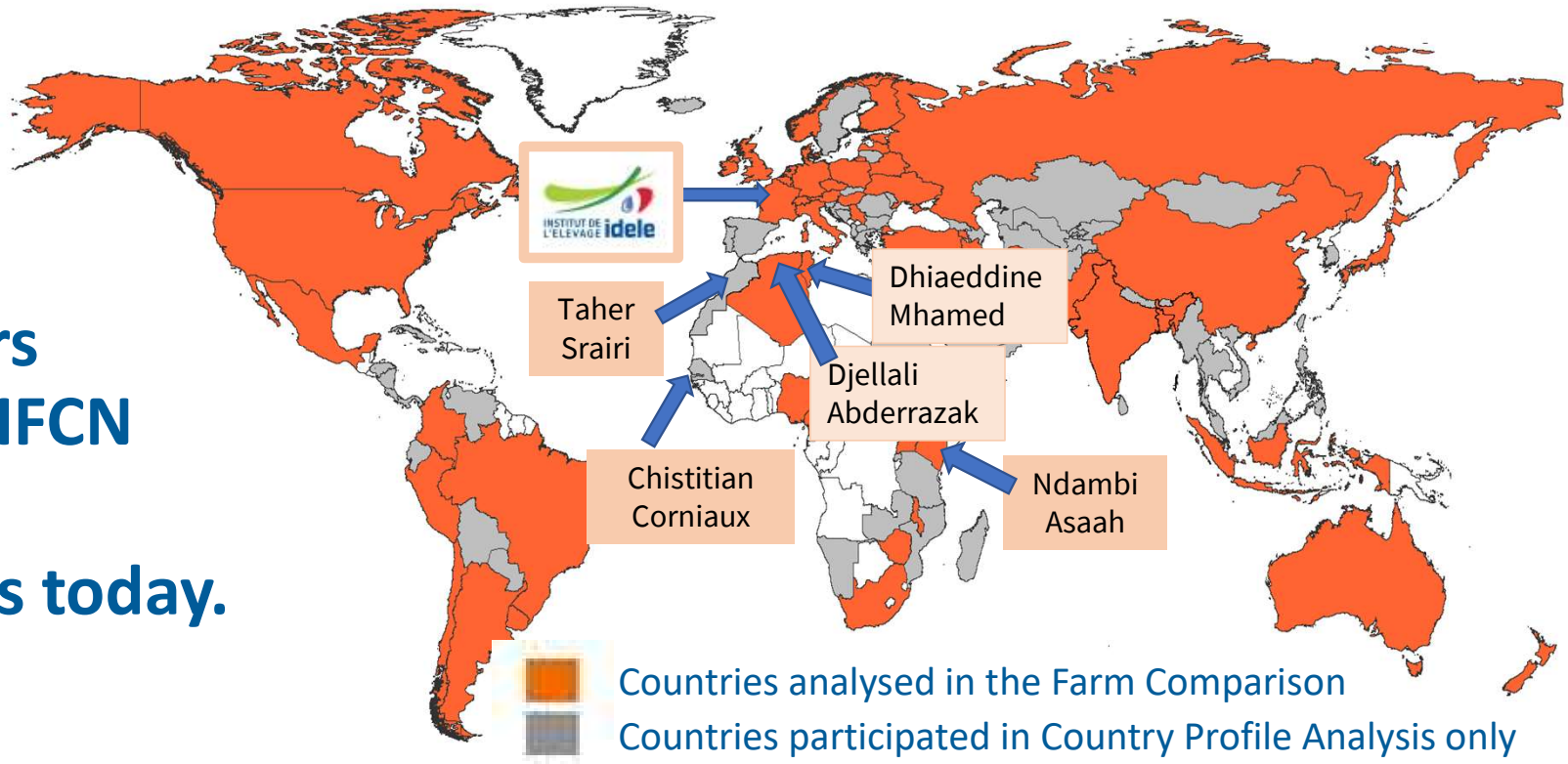


Examples of typical farm types
NZ-412 means a 412 cows farm in New Zealand

IFCN Researchers Network 2022

Big thanks
to all researchers
participating in IFCN

Some are with us today.



Dairy development

Food and Agriculture Organization of the United Nations

LOBAL DAIRY PLATFORM

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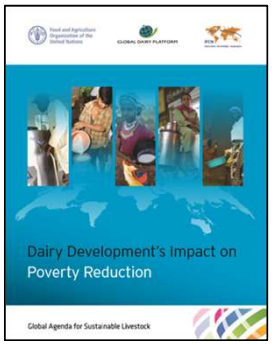
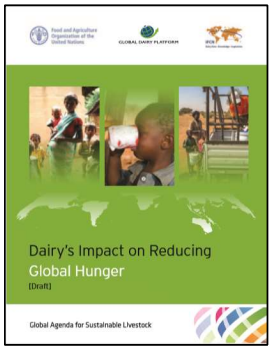
1 Evidence

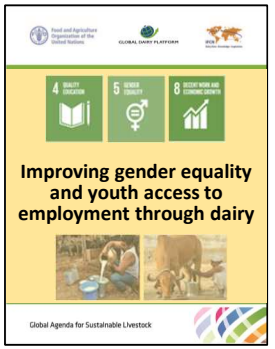
Dairy and SDGs Goals



2018 Poverty Reduction



2019 Reducing Hunger



202x Gender and Youth (planned)

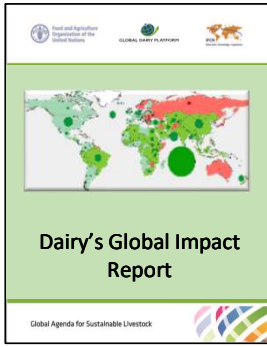
4 areas
IFCN involved

2 Dairy impact

dim dairy impact methodology

Toolkit

Pilots



3 P2DNZ

GLOBAL DAIRY PLATFORM · FIL IDF · SAI PLATFORM · ILRI · CGIAR · IFCN Dairy Data · Knowledge · Inspiration · dsf Dairy Sustainability Framework

4 DNA – Dairy Nourishing Africa

DAIRY NOURISHES AFRICA

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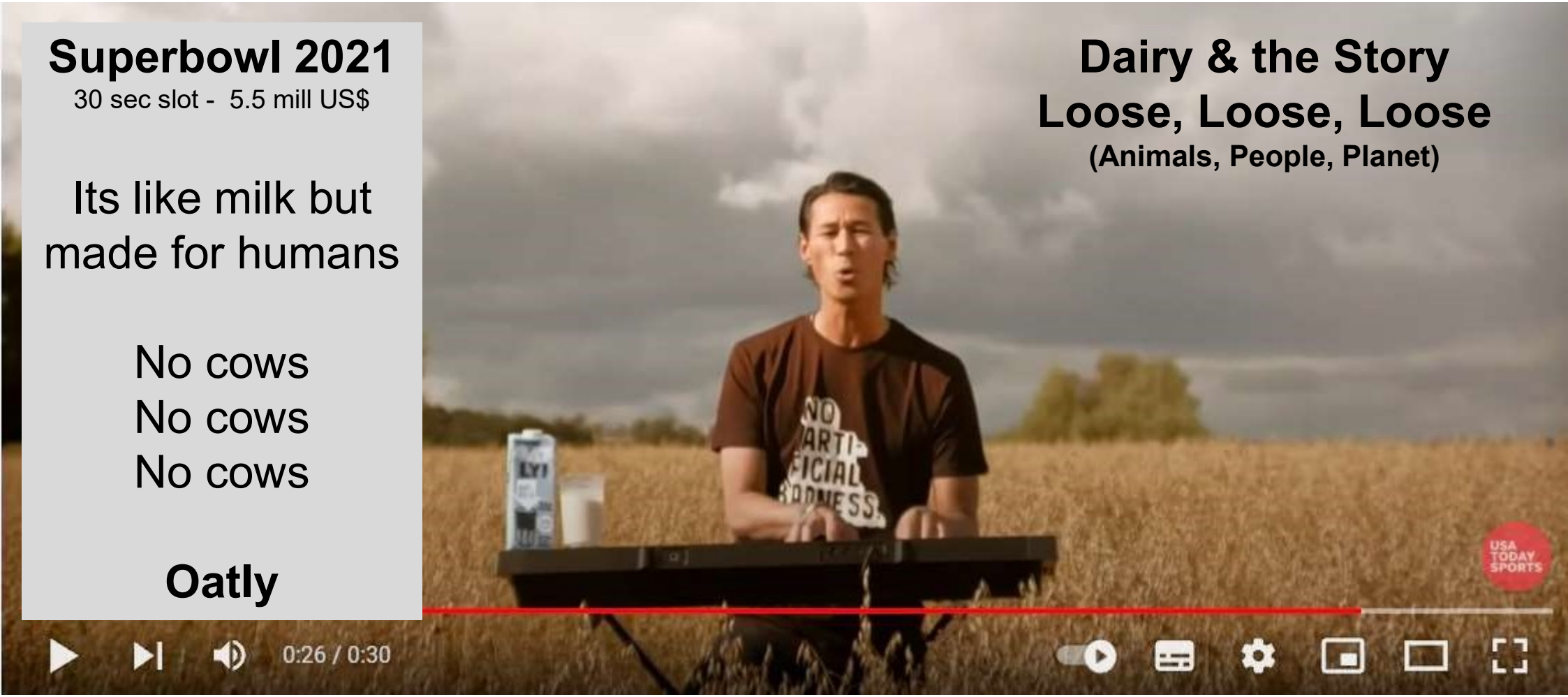
Dairy Alternatives are Aggressive

Superbowl 2021
30 sec slot - 5.5 mill US$

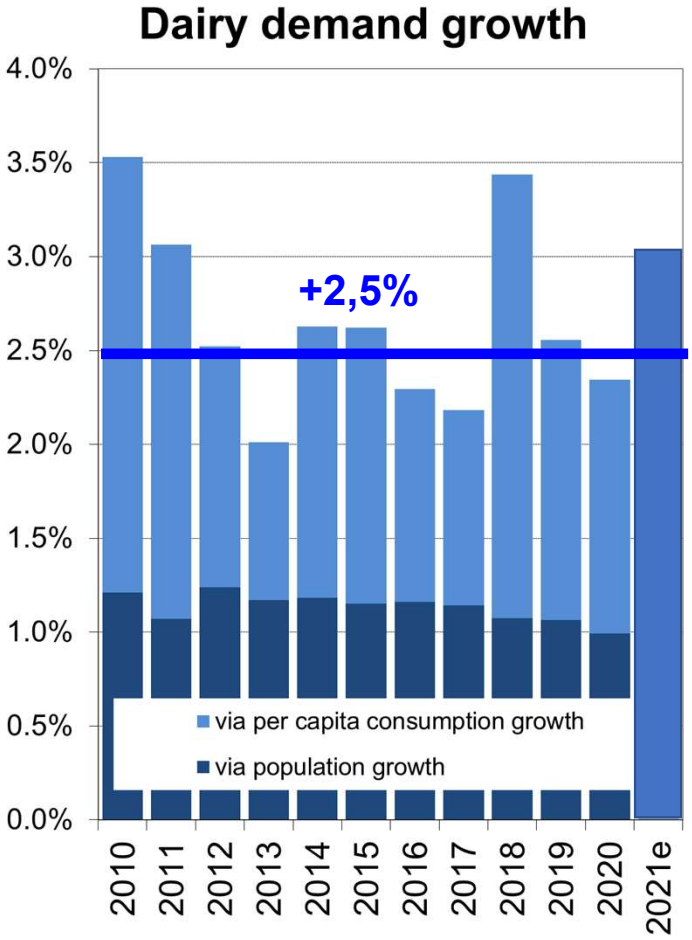
Its like milk but made for humans

No cows
No cows
No cows

Oatly



Global Dairy Demand Developments



IFCN data base 2022, Method milk equivalents

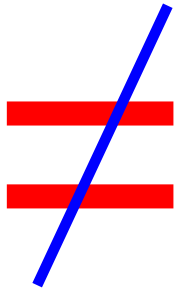
Stories you hear: Dairy =

Facts tell us: Dairy =

Drivers for dairy demand

1. More People
2. More dairy / capita 2010 – 2020
   - USA + 10%;
   - EU + 8%
   - Asia > + 30%
   - Africa + 7%

Sustainability
A lot of people see it like this

Sustainability  **Carbon emissions**

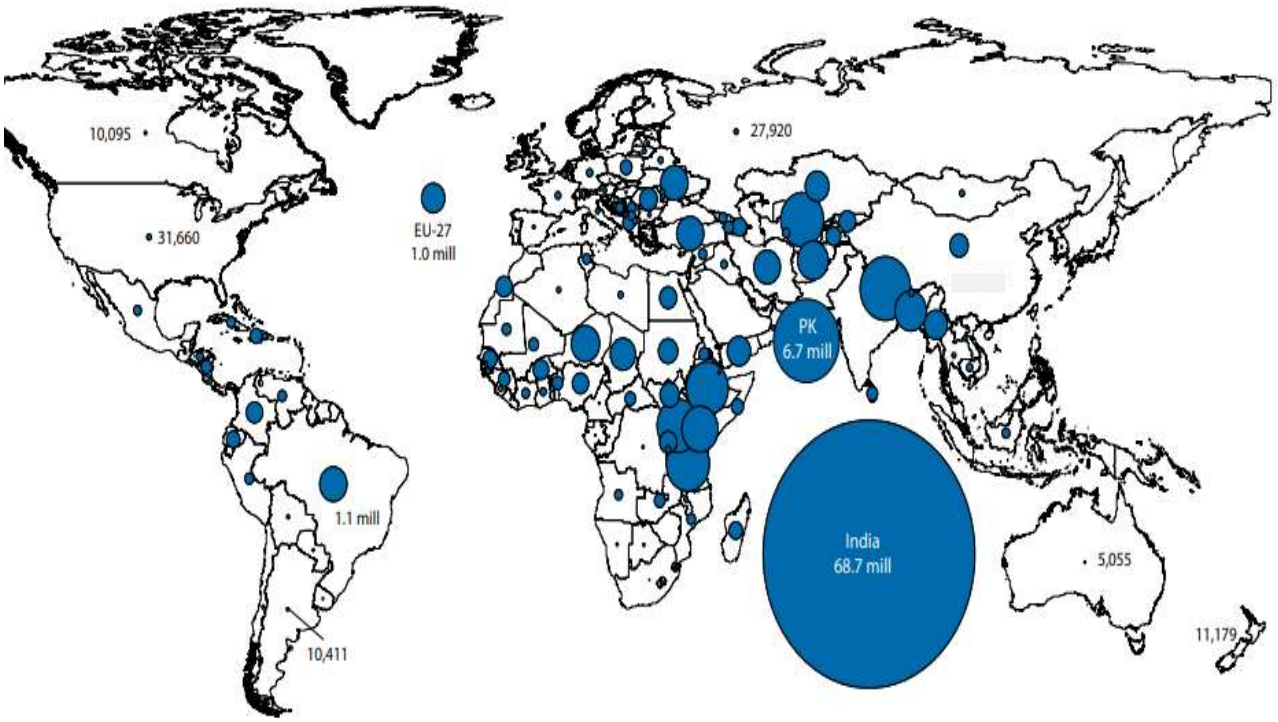
= 4 pillars

a) Social, b) Economic,

c) Environment, d) Animal welfare

Social: Dairy impacts income of 1 bill people

Dairy farm numbers in 2020



Dairy World 2020

120 million farms,
3 cows / farm
7,5 kg milk/ day

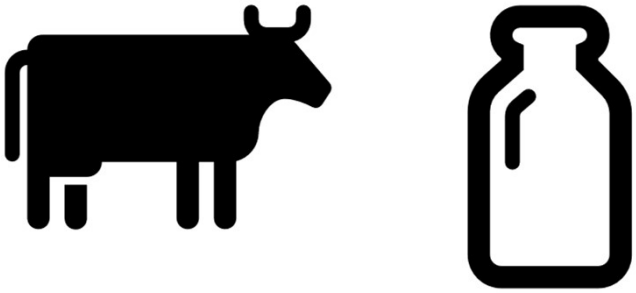
1 Bill People Mathematics

=> Over 600 million people
live on dairy farms (120*5)

=> Over 355 million people
live in household where 1 person has a job in the dairy chain (71*5)

=> Over 50 million people
impacted by induced jobs / spin offs

Econmics: Dairy > than Apple & Microsoft



Dairy

> 800 billion US$*

(consumer value of milk)

Apple & Microsoft

= 585 billion US$

Sales 2022

*estimates IFCN 2022 for 2021

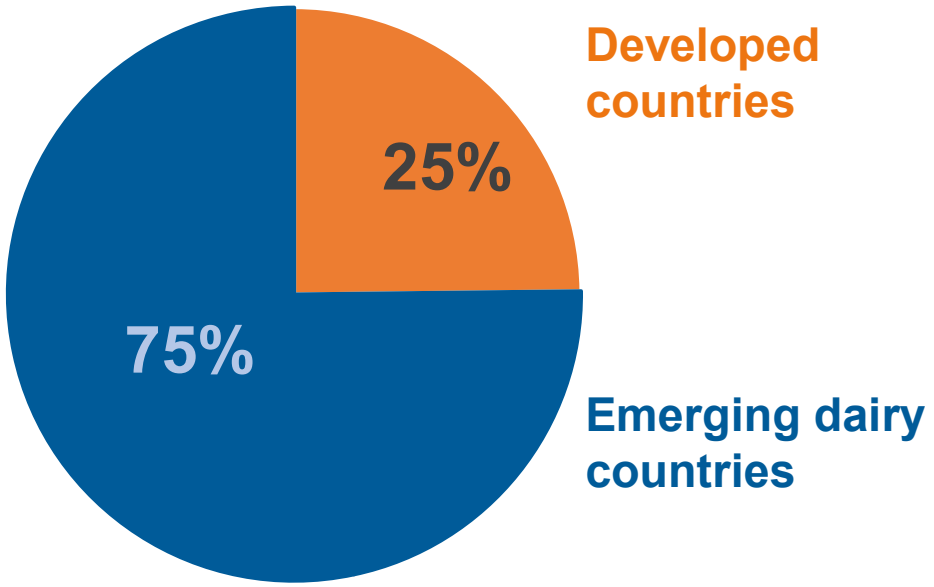
Environment: Dairy counts for 2,2% of all global green house gas emissions

Status quo

2.2% Milk production on global GHG emissions[1,2]

75% Emissions in emerging dairy countries [1]

Dairy GHG emission by segments[2]



Sources: 1. FAO,2010; 2. IFCN database, LCA model and estimation 2021.

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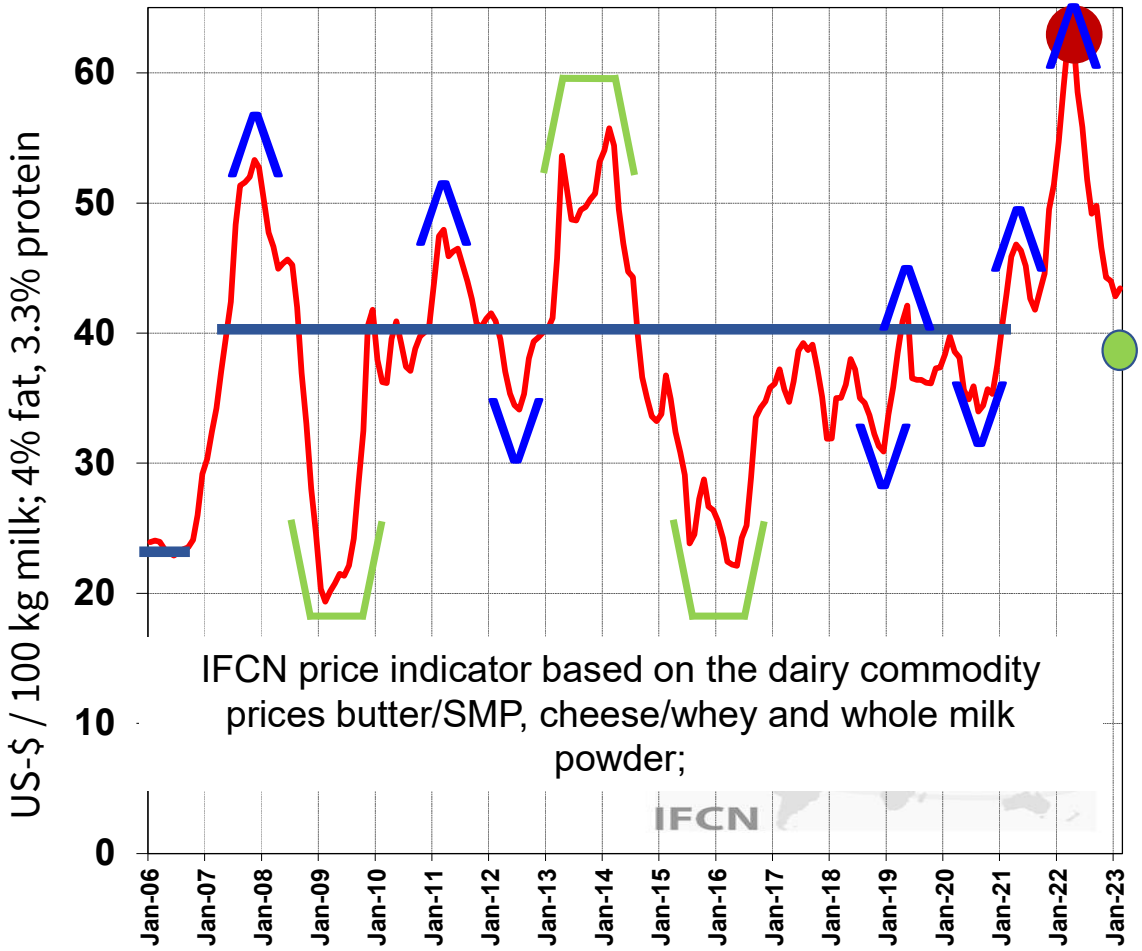
For Dairy Farmers
No.1 = Economics

More Sustainable & resiliance

Less Sustainable

World milk price, 2006 – Feb 2023



Three price levels (simplified)

until – 2006 – 25 $/ 100 kg

2007 – 2021 – 40 $/ 100 kg

2022 new record – > 60 $/ 100 kg

2023 – 30% from peak Tunisia today 1200 dinar

Patterns

Mostly we are in price cycles 3- 4 years

Stability 2017 – 2021 an exception (5 years)

More "V's" than "U's"

Drivers for

Prices = Milk supply and demand growth

Volatility = Delay to react on prices change

Cycles = Biology in the farming system

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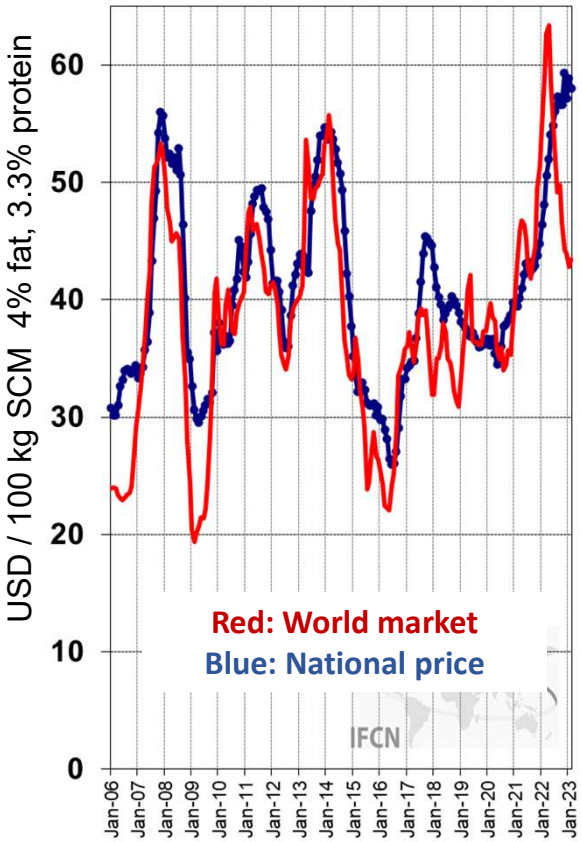
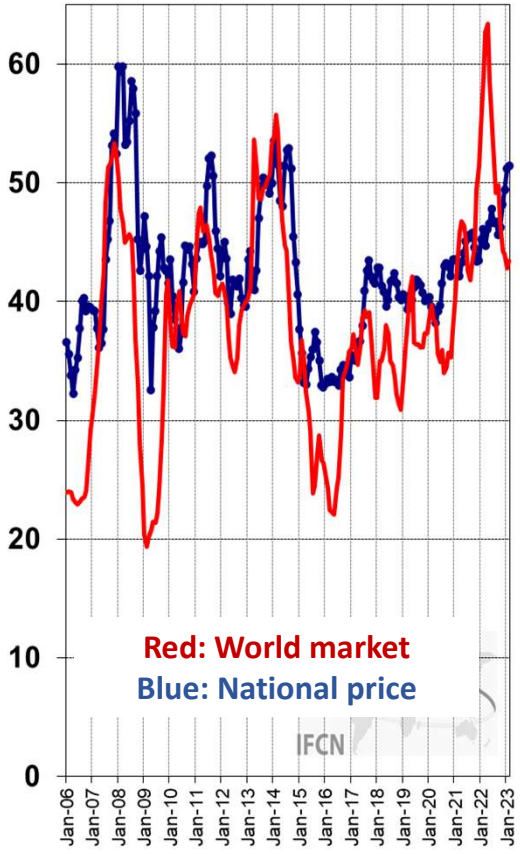
Source: IFCN world milk price is based on the dairy commodity prices butter/SMP, cheese/whey and whole milk powder; mainly Oceania prices

World milk price drives national prices

Germany



France



Patterns

1. National prices follow the world price with a certain delay

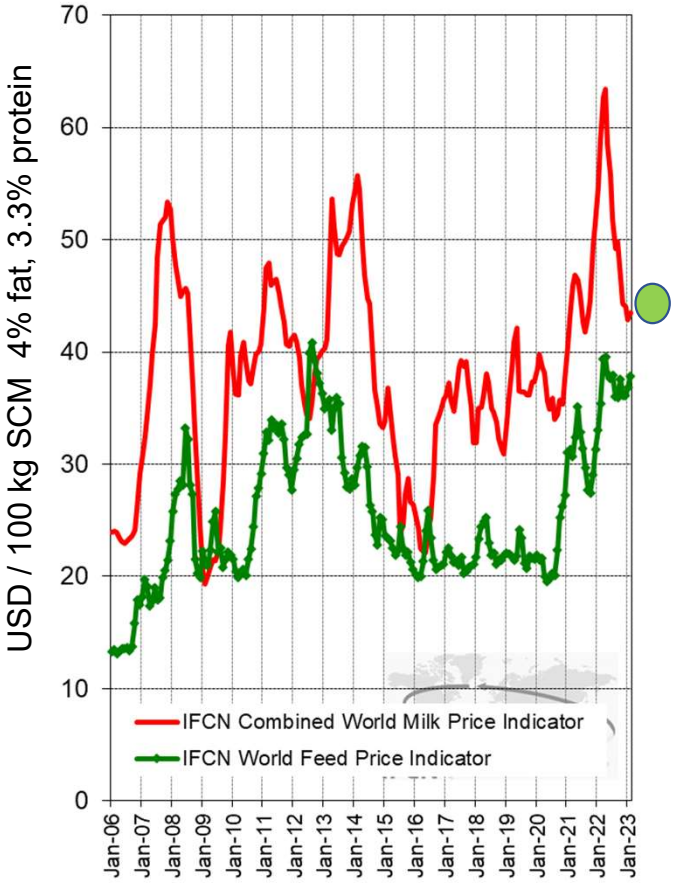
2. Today
   Germany at 58 US$/100 kg
   France at 52 US$ / 100 kg,
   lower level & less volatile

3. Outlook
   Price in the EU to drop soon

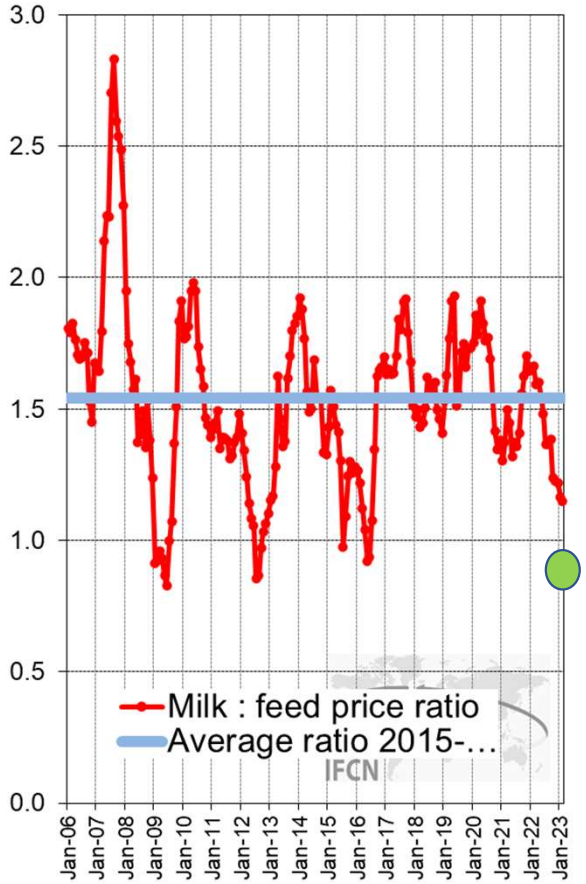
Source: D3.4 IFCN Monthly Real-Time Database for 65 countries; Status Feb 2023

World market milk / feed prices

Price milk/ feed



Ratio Milk/ feed price



1. Average milk feed price ratio
ca. 1.5. Selling one kg milk can buy 1.5 kg compound feed.

2. Ration 1 to 1 or below like in 2009, 2012, 2016 is very bad. In 2023 we move in this direction.

3. Country specific this looks very different. Most cases worst as a lot of countries did not get the high milk prices.

Tunisia Feed price > world market
Milk feed ration today 0,8

Source: D3.4 IFCN Monthly Real-Time Database for 65 countries; Status March 2022; Feed prices blended 30% soy bean meal and 70% corn/barley

How to win the future?

1. Fitting farming system (measure, research, & training)
2. Fitting dairy policy design; supply chain, etc.
3. Who starts first wins the future & future generation.