## **GLOBAL DAIRY SYMPOSIUM**

Madison, Wisconsin, U.S.A. | October 6, 2022

Hosted by: Wisconsin Department of Agriculture, Trade and Consumer Protection













# USDEC CHILE FARMER MISSION

SEPTEMBER 2022







## INFLUENCER EVENT

RETAIL TOUR
TRADE SHOW
COLUM
PLANT
INACP











## **SAMA:**

Proactive multilateral engagement to positively shape policies and market forces



**Amplifying** U.S Dairy's voice and defining benefits in global discussions and within the UN policy debate on sustainable food systems and nutrition



Harnessing international dairy orgs and other global partners to demonstrate U.S. Dairy leadership and drive positive outcomes



**Building** relationships with decision makers and thought leaders that will shape future policies, market forces & perception of U.S. Dairy

## OPPORTUNITIES FOR U.S. DAIRY

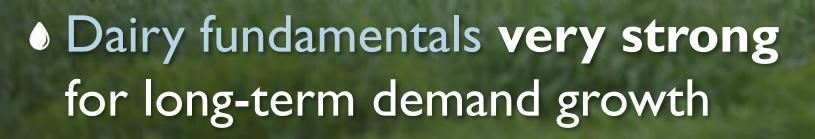
Increased
Cheese
Consumption

Growing
Demand for
Protein
Globally and
in the US

Lack of Milk from Key
Competitors

## WHAT DOES THIS MEAN FOR THE U.S.?

- U.S. exports still the path to growth
- Supply, particularly outside of the U.S., will be hard to find



## **THANK YOU**

MARILYN HERSHEY



## Global dairy trends and perspectives

Presented by:



Torsten Hemme

Founder and CEO of IFCN

torsten.hemme@ifcndairy.org



## GLOBAL DAIRY SYMPOSIUM

6th October 2022, World Dairy Expo; USA





### **Farm economics**

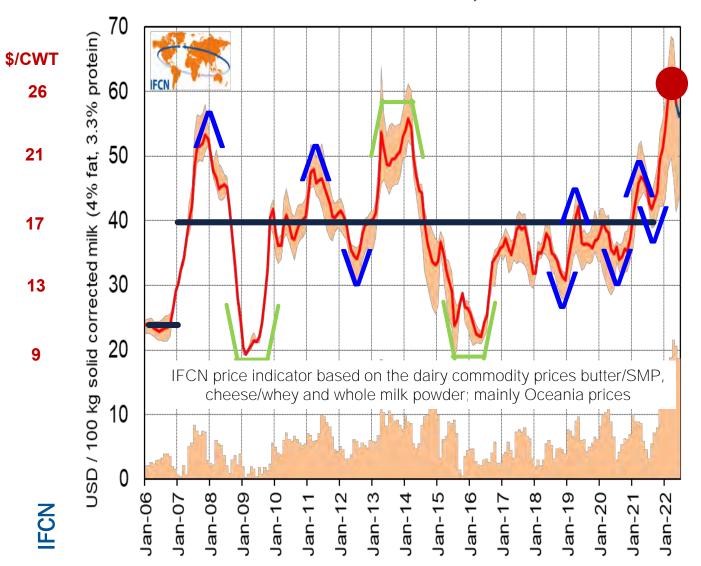
Dairy Outlook



## Global dairy trends and perspectives

## WORLD MILK PRICE, 2006 – SEPT 2022





Three price levels (simplified) until – 2006 – 25 \$/ 100 kg - 11 \$/CWT 2007 – 2021 – 40 \$/ 100 kg - 17 \$/CWT 2022 new record – > 60 \$/ 100 kg - 26 \$/CWT

#### **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**

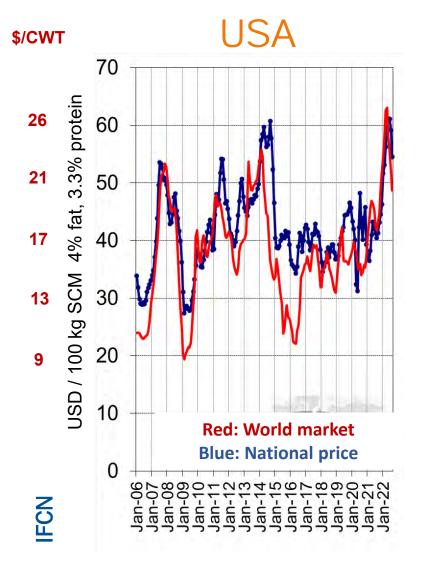
Prices = Milk supply and demand growth

Volatility = Delay to react on prices change

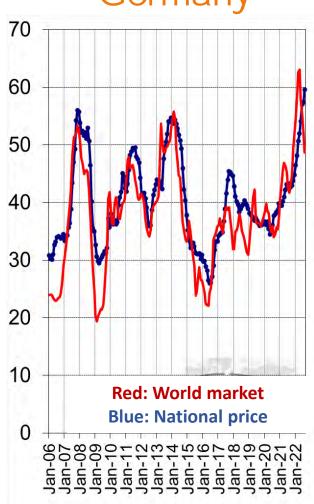
Cycles = Biology in the farming system











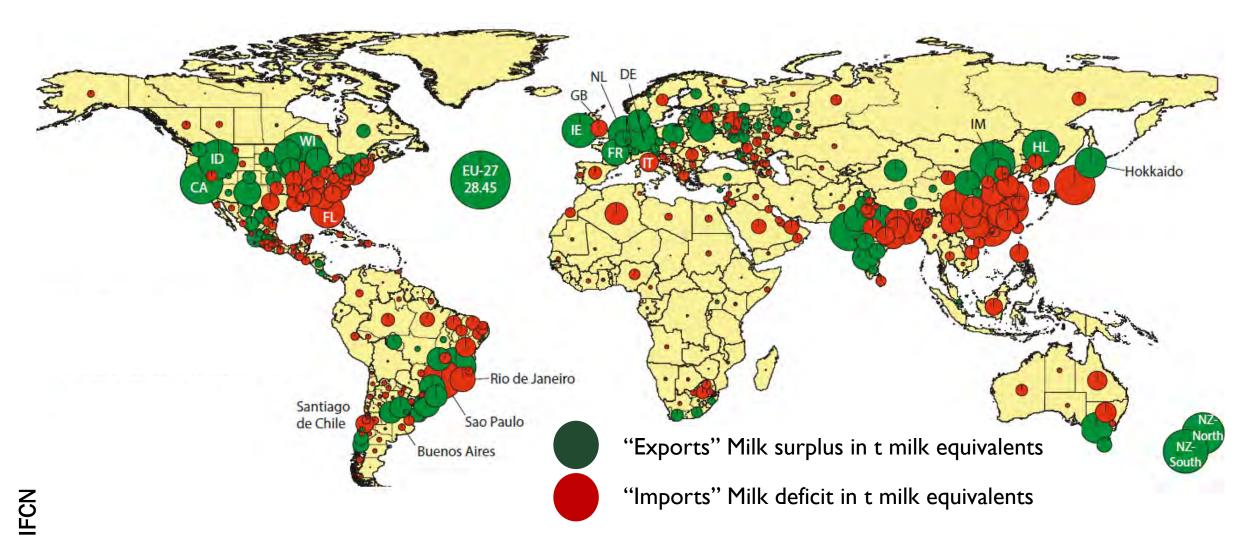
#### **Patterns**

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

- 2. Germany at 60 US\$/100 kg France at 50 US\$ / 100 kg
- 3. In 2022 USA Milk prices have increased faster than EU but prices peaked



## MILK "SUPLUS & DEFICIT" 2020



### DAIRY ALTERNATIVES ARE AGGRESSIVE



## Superbowl 2021

30 sec slot - 5.5 mill US\$

Its like milk but made for humans

No cows No cows

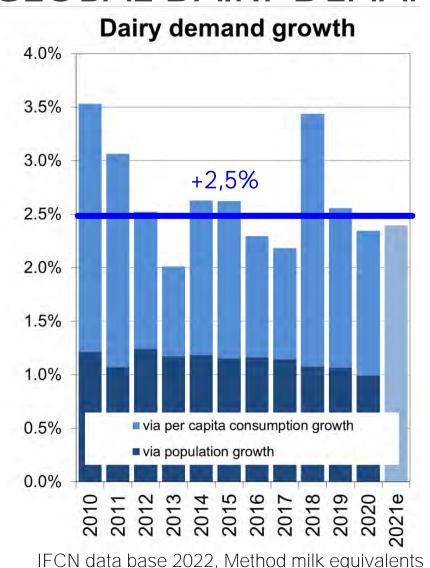
Oatly







### GLOBAL DAIRY DEMAND DEVELOPMENTS



Stories you hear: Dairy =



Facts tell us: Dairy =



### **Drivers for dairy demand**

- 1. More People
- 2. More dairy / capita 2010 2020

Asia > 
$$+ 30\%$$

10/10/2022





## Dairy world today



Dairy Outlook



## Global dairy trends and perspectives



### IFCN DAIRY RESEARCH NETWORK

US-1000 US-2600

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/types52 countries representing89% of world milk production

Farm comparison analysis on

- > **300 variables**/farm, > 600 result variables

- **Economics:** Costs, efficiencies, input prices

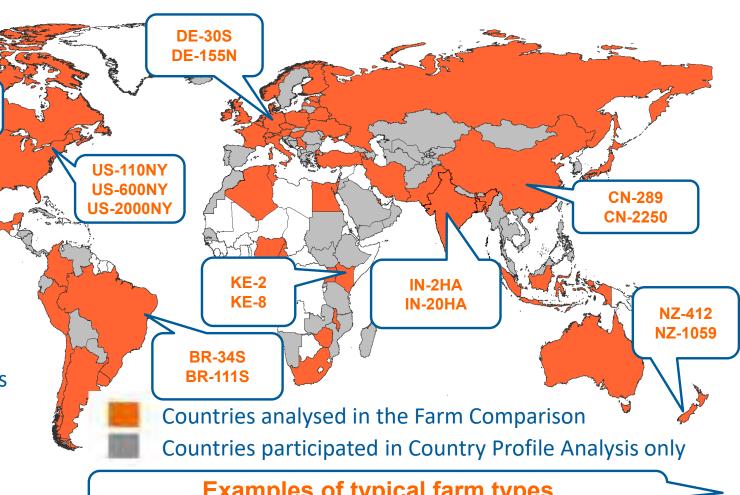
- **Environment**: Carbon / Water footprint

- **Social:** Farmer income vs minimum wages

- Animal welfare: Somatic cells,

- Resilience: Start with buffer capacity

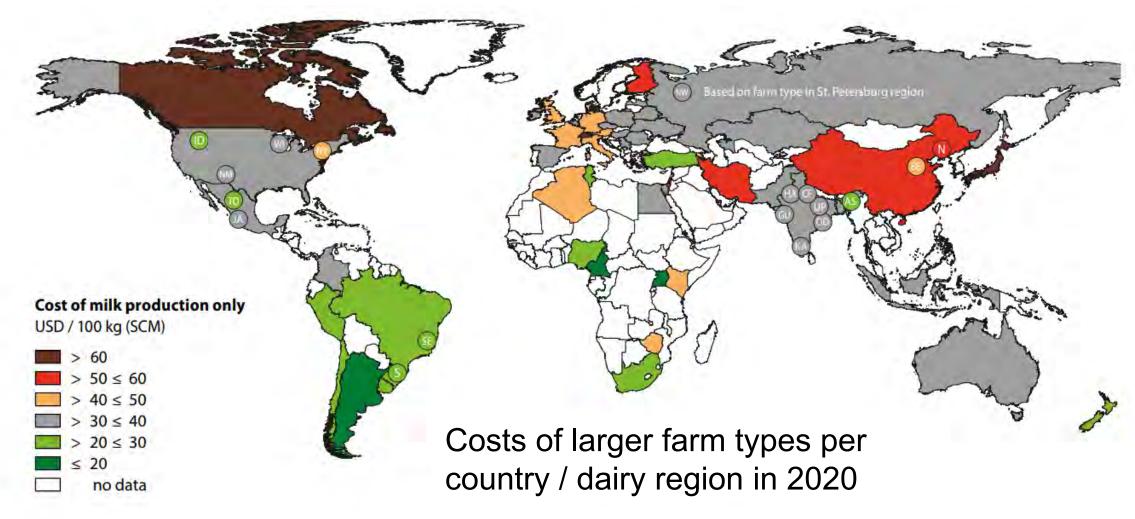
- etc.



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

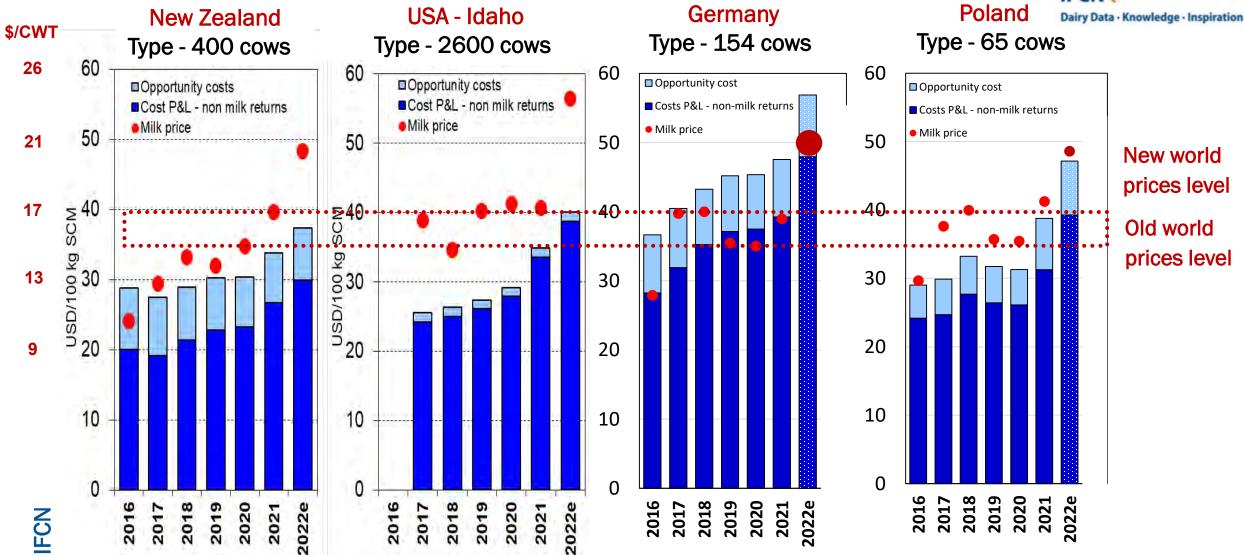






## COSTS OF MILK PRODUCTION COSTS NZ, USA; EU

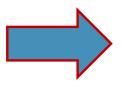






## Dairy world today

Farm economics



Dairy Outlook 2023

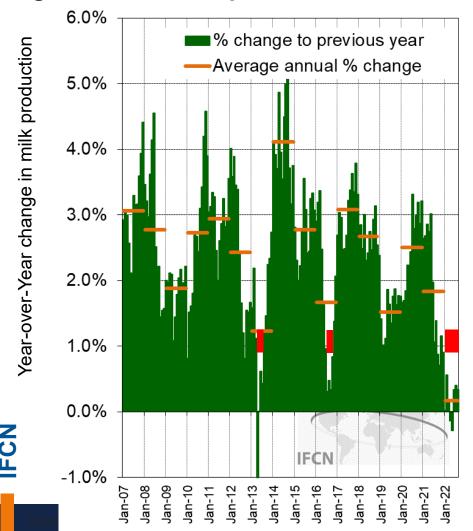


## Global dairy trends and perspectives





#### Change in world\* milk production on a monthly basis



## IFCN has the world most solid milk supply data Monthly data standardised for

Fat/protein content, leap year
Real time estimates done + validated

IFCN provides this as monthly data service

#### **Old normal**

Good years + 2,5-3%; bad years 1,5% **3-4** month times with very low growth

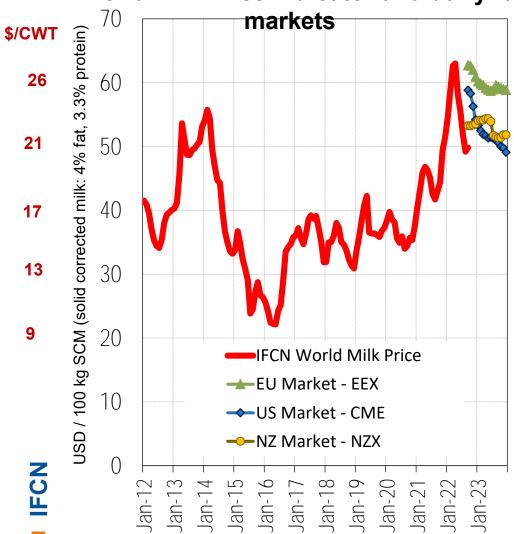
#### **Current situation**

Milk production -0- 0,2% growth in 2022% > 8 month with very low growth once we exclude IN/Pk since 14 month no growth!!

### WORLD MILK PRICE OUTLOOK 2023



#### **IFCN World Milk Price Indicator and dairy future**



### Scenario 1

World milk price will decline from peak levels but stay at high levels – a level shift like 2007 is possible

#### Scenario 2

=> Rollercoaster times like 2007-2010 2013-2016 2023 lower prices towards 30 US\$/ 100 kg milk 2024 price recovery

Future market prices taken from 1<sup>st</sup> September 2022



## Dairy world today

Farm economics

Dairy Outlook 2030



## Global dairy trends and perspectives





INCOME RESTRICTED

**DEMAND** Strong preferences for dairy products

PRO DAIRY

DEMAND / SUPPLY GROWTH

LIKE 2010 - 2020

POLICY & ECONOMICS

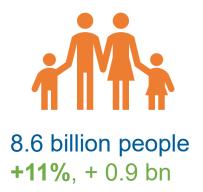
"STAGNATION OR SHRINKING?"

RICH AND PICKY

DEMAND More dairy-free diets ( + less food waste)



#### THE DAIRY WORLD IN 2030 VS 2020



## +21% more milk produced and consumed

(+192 mill t milk SCM = 2x USA today)



2.2 kg CO<sub>2</sub> eq. /kg milk -13%, -0.3 kg CO2 eq. / milk



131 kg "milk" consumed +8.8%, +11 kg ME/capita



81 mill t ME traded\* +22%, +15 mill t ME



351 mill dairy "cows" -3.7%, -14 mill heads

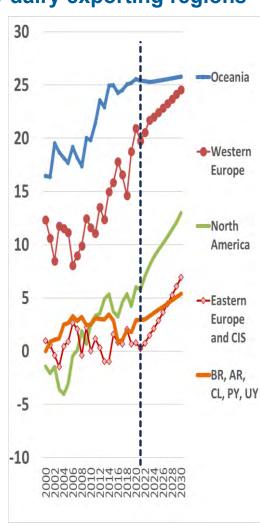
<sup>\*</sup> excl. EU-intra trade



### DAIRY SURPLUS / DEFICIT IN 2030

## Mill t milk equivalents (milk solids) Net exporting countries Net importing countries Bullet size = Milk surplus or deficit in milk equivalents

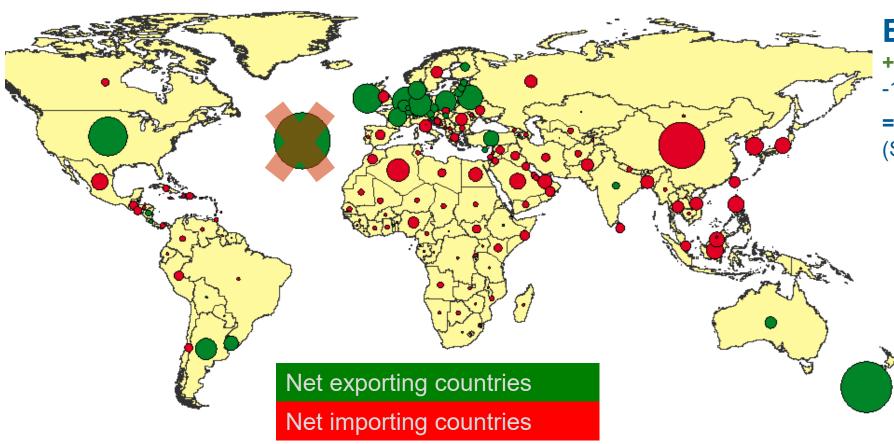
#### **Key dairy exporting regions**



10/10/2022



## DAIRY GAME CHANGERS & IMPACTS MAP: BASELINE MILK SURPLUS/DEFICIT 2030 IN PRO DAIRY SCENARIO



Bullet size = Milk surplus or deficit in milk equivalents

#### **EU IFCN outlook 2030**

**+0,5%** / year more milk -1% cows, +1,5% yields

=> + 6 mill t dairy exports
(Supply + 9millt; demand + 3 mill t)

#### **EU Scenario 2**

-1% / year less milk => dairy exports = 0 in 2030 > 20 mill t less supply => + world price + x%

#### Other scenario

- NZ policy impact x% milk
- India milk supply growth?
- Climate disasters (California, Australia?) 30

. . . . .

### **SUMMARY**



Look at the facts not "rumors"

People still love dairy, and demand is growing



Dairy Outlook 2023: We live in bizarre time 2022 2023 two scenarios possible & a new price level



Dairy Outlook 2030: Dairy demand growth 2\* the US milk today A golden area? But - is US- Dairy ready for this? Will it be competitive; take social responsibility, etc.



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## GLOBAL DAIRY SYMPOSIUM

6th October 2022, World Dairy Expo; USA

## View from the cheese aisle Why buy U.S.?

Sheryl Meshke AMPI Co-President and CEO

October 7, 2022



















## Membership and Manufacturing Area

B Blair

F Freeman

H Hoven

JF Jim Falls

NU New Ulm

PV Paynesville

PO Portage

S Sanborn

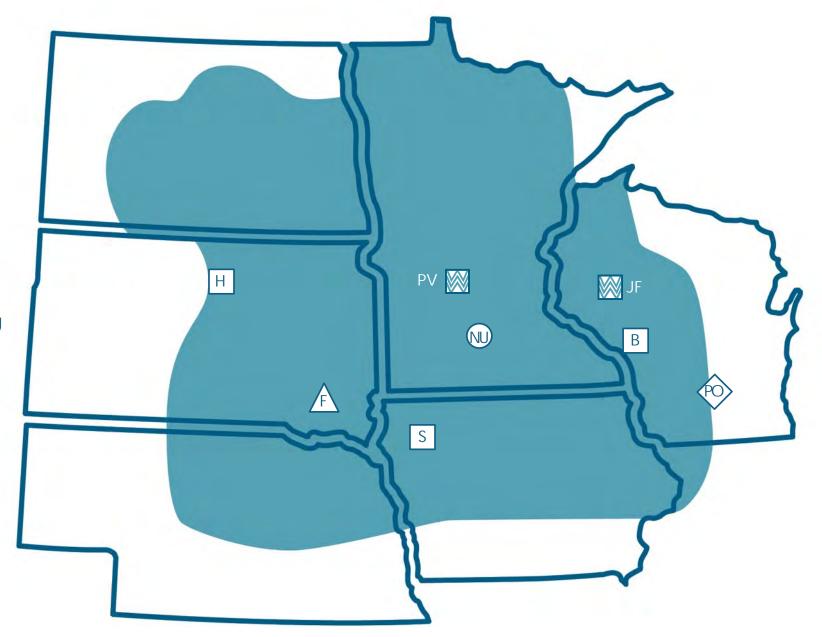
Cheese - Manufacturing

Whey Drying

Cheese –
Consumer Packaging

Nonfat Dry Milk

Butter Consumer Packaging











#### AMPI VISION

WE MAKE
THE DAIRY
PRODUCTS
THAT MAKE
THE BRAND.



We believe what we're made of is as important as what we make. Our core values — **commitment to quality, responsibility to others and determination to succeed** — guide us in all we do.



- 1. Availability
- 2. Reliability
- 3. Responsibility

- 1. Availability
- 2. Reliability
- 3. Responsibility





# Do you have enough milk to make the cheese?

YES

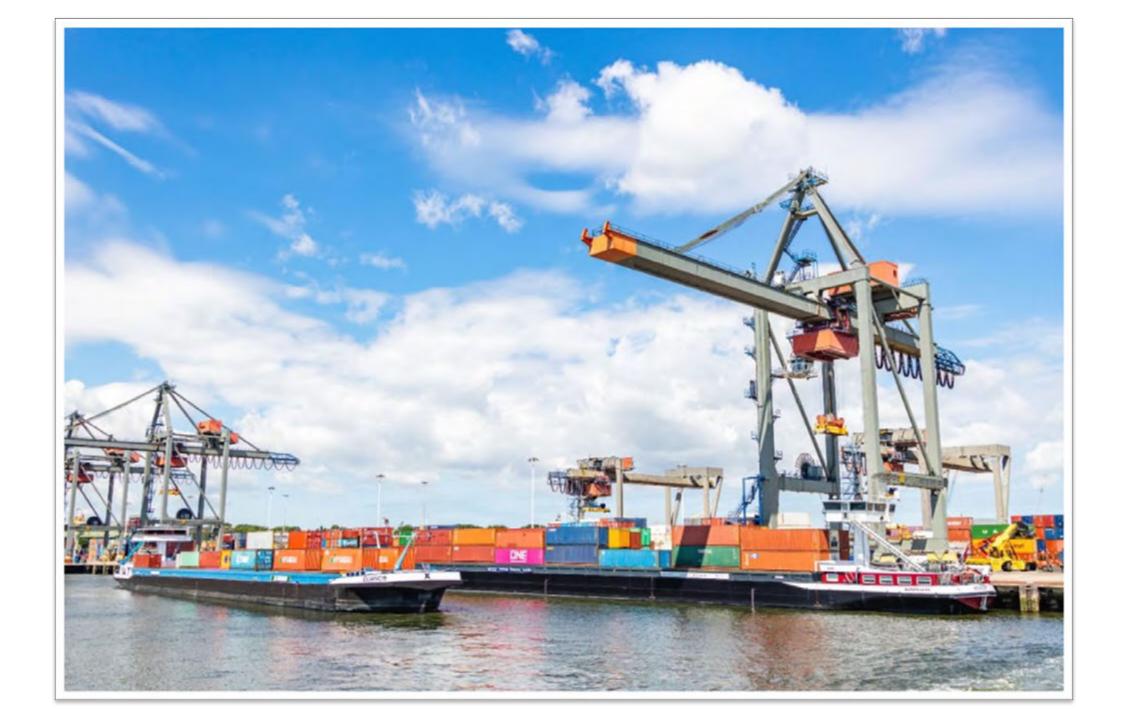


#### Global Milk Production

#### In Billion Pounds

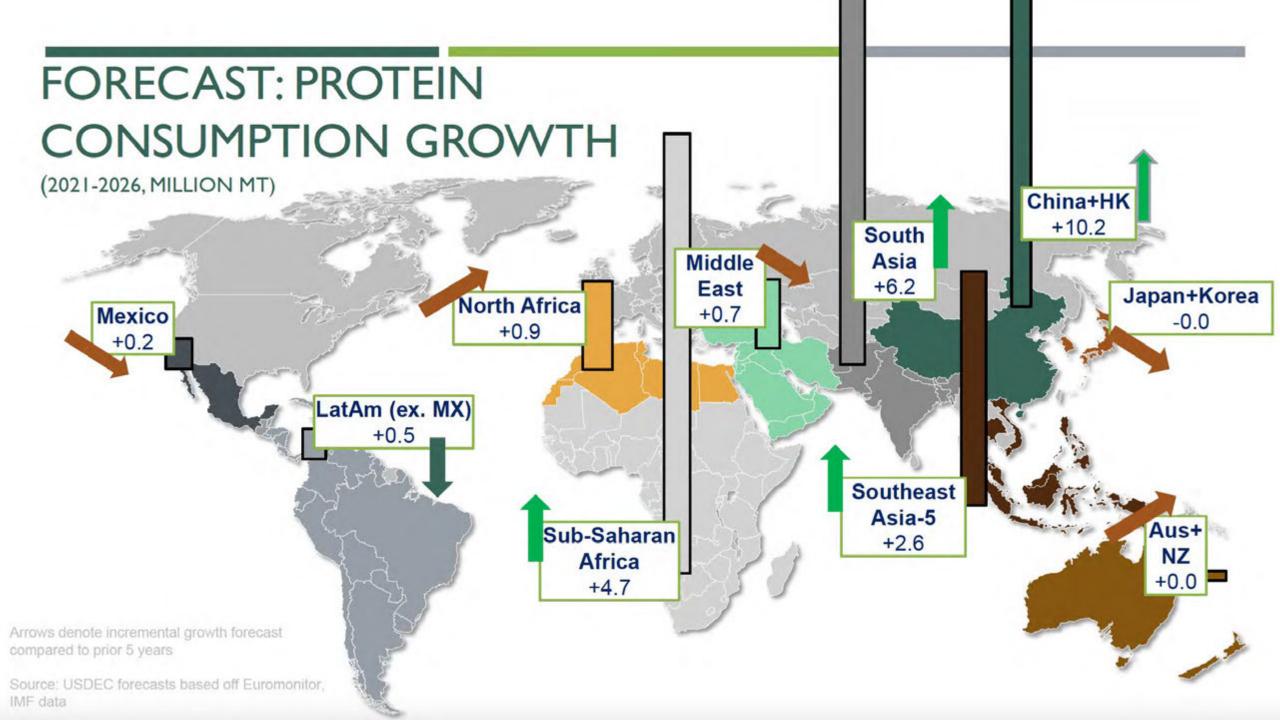


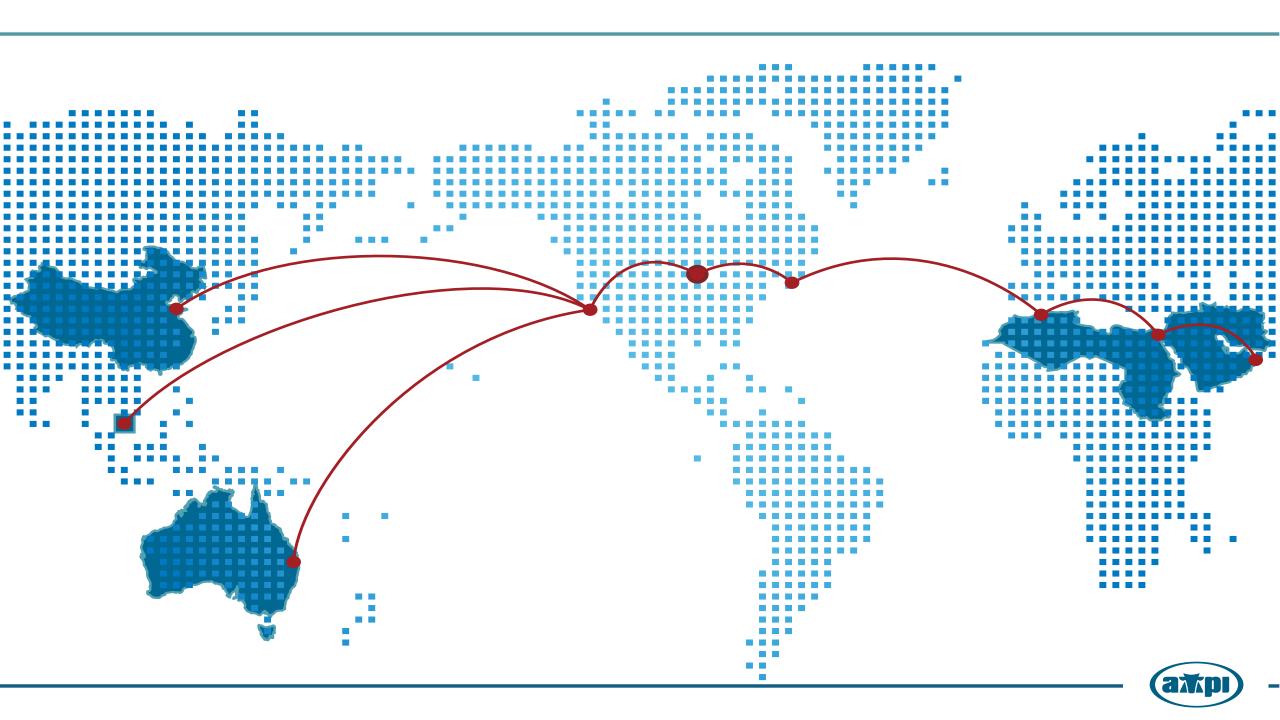
	2021 Total Milk Production	YOY Change 9-Year Avg.	YOY Change 3-Year Avg.	
European Union	314	3.8	1.0	
United States	166	2.7	2.3	
New Zealand	47.6	0.3	-0.3	
Australia	18.9	-0.1	0.0	





- 1. Availability
- 2. Reliability
- 3. Responsibility

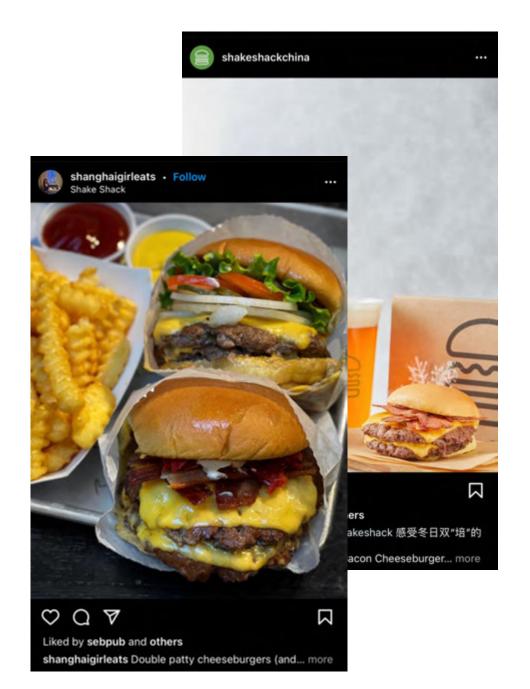


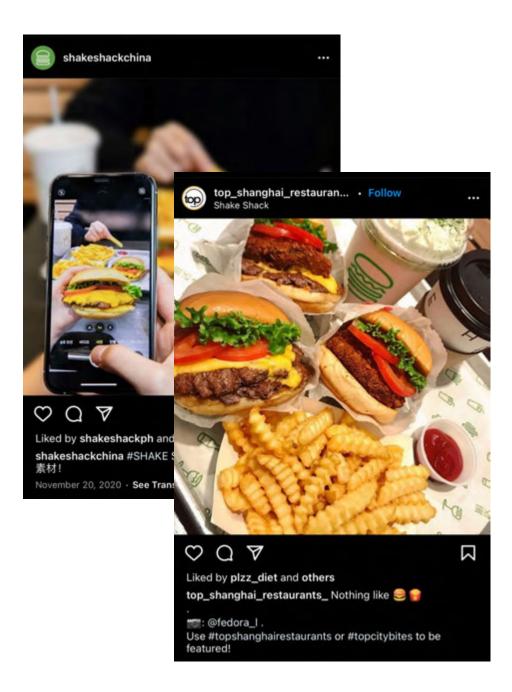


#### China











- 1. Availability
- 2. Reliability
- 3. Responsibility





Responsibly Produced



**Nourishing Communities** 



Continuous Improvement

















#### **ENVIRONMENTAL STEWARDSHIP**

Quantifies a dairy farm's GHG + energy use footprints and assesses use of nutrient management plans

2,600+ assessments completed to-date

participating organizations representing 80% of milk supply

**Strong** science with periodic updates

Resources for continuous improvement

Enables supply chain reporting and collaboration

#### Footprint (lb. CO2e / lb. FPCM") broken down by category









On-Site Enteric

**Energy Use** 

On-Site Manure

Feed Production



















- 1. Availability
- 2. Reliability
- 3. Responsibility

Sheryl Meshke AMPI Co-President and CEO

October 7, 2022







# Dairy farming in Europe; balance between business model and sustainability

www.globaldairyfarmers.com president@globaldairyfarmers.com



















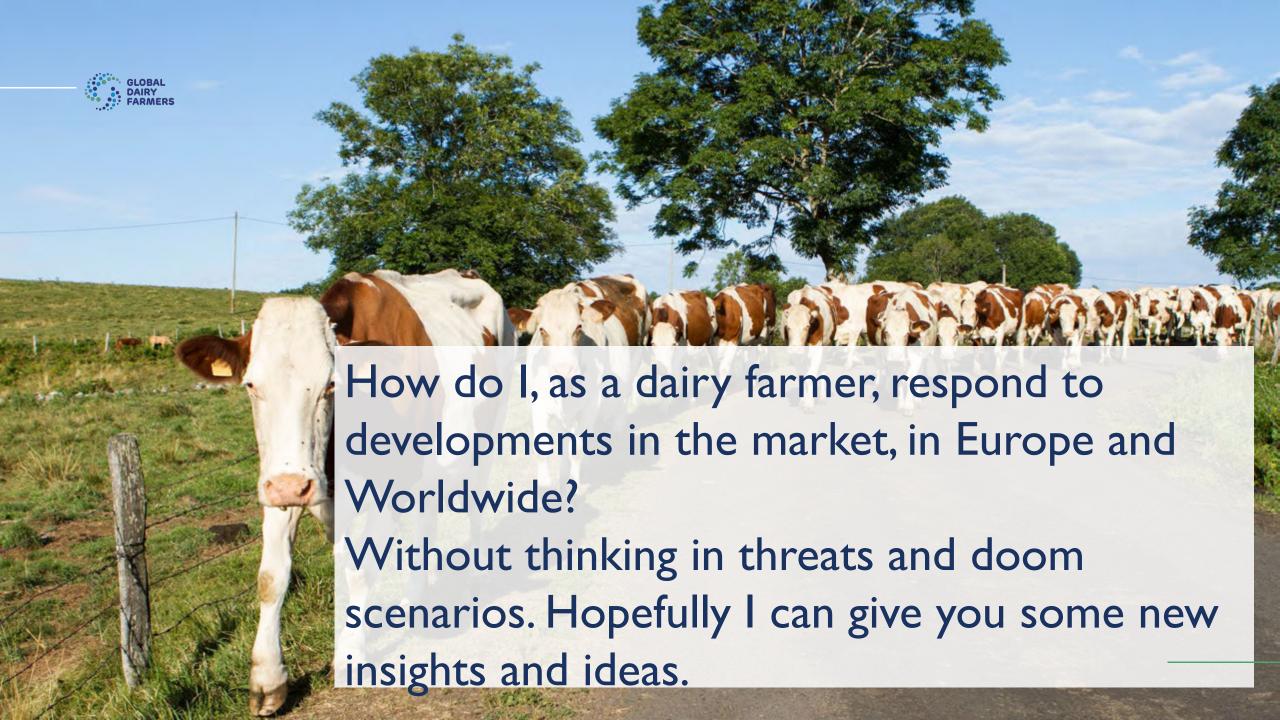
## WHAT'S HAPPENING IN THE WORLD AND WHAT IS THE IMPACT ON THE DAIRY BUSINESS AND OUR FARM?

And.....where, how and who will produce this milk?

- My perspective:
- Dairy farming in the Netherlands for many generations. Look to the market and as a dairy farmer!!







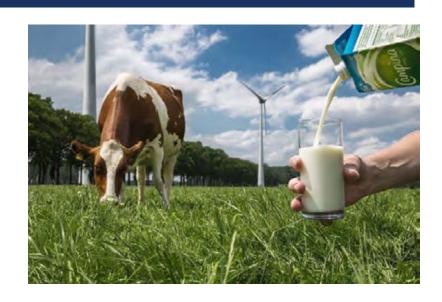
#### MAIN QUESTIONS/TOPICS: #DAIRY

- Dairy consumption; trends, products(new), per capita
- Population growth; where, impact
- Production dairy/milk; where, how and by whom +

**BUSINESS MODEL!!!** 

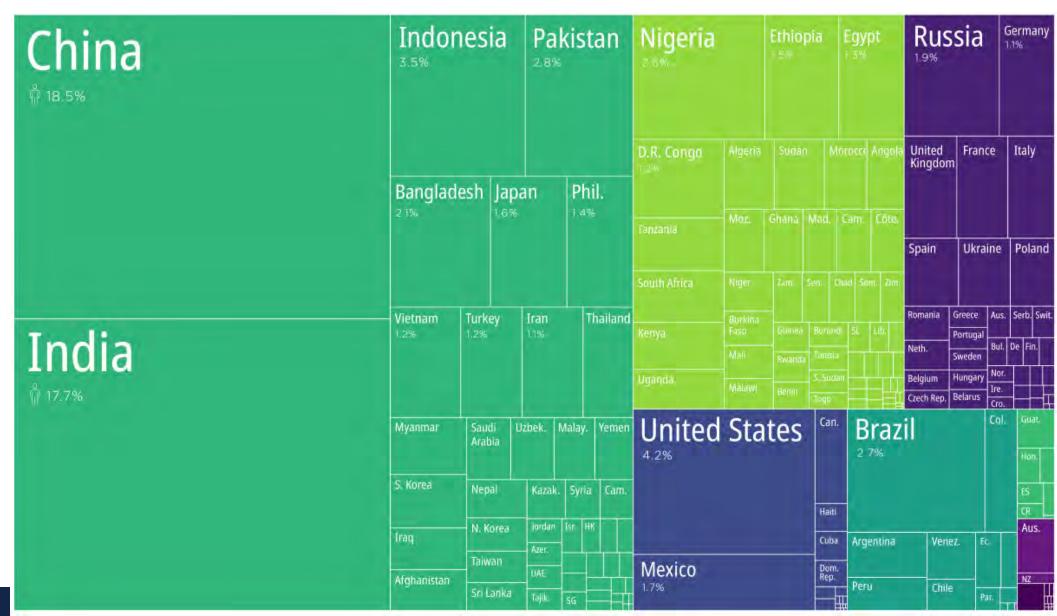
- Climate change
- Sustainabilty
- Technology/innovations





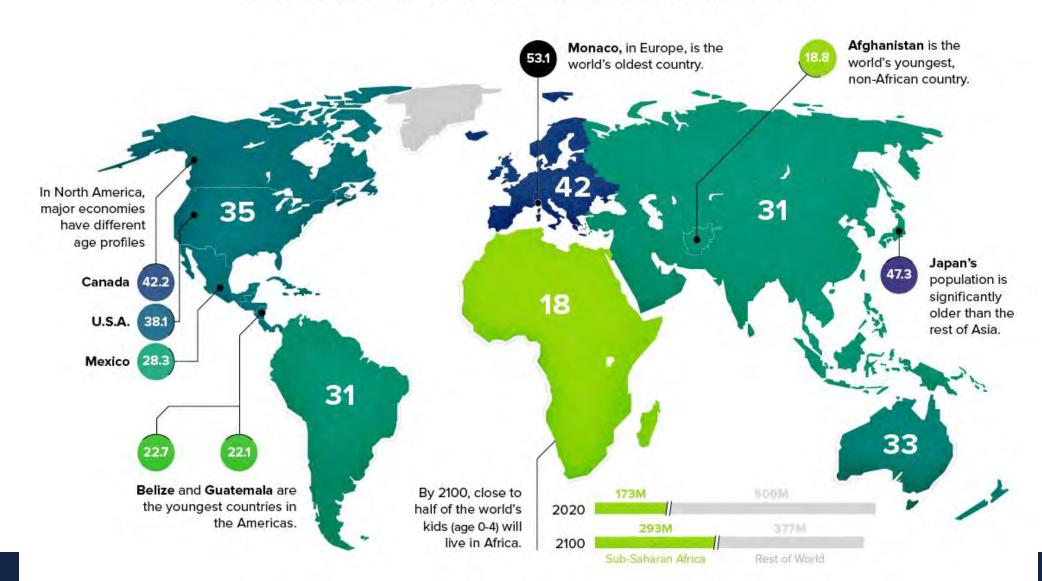


#### VISUALIZING THE MOST POPULOUS COUNTRIES IN THE WORLD



#### **MEDIAN AGE**

8 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54





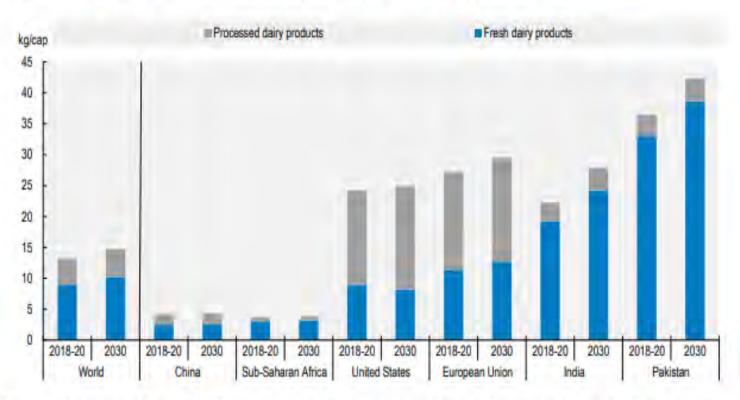
2017			2030			2050		
Rank	Country	Population	Rank	Country P	opulation	Rank	Country	<b>Population</b>
1	China	1 410	1	India	1 513	1	India	1 659
2	India	1 339	2	China	1 441	2	China	1 364
3	United States of America	324	3	United States of America	355	3	Nigeria	411
4	Indonesia	264	4	Indonesia	296	4	United States of America	390
5	Brazil	209	5	Nigeria	264	5	Indonesia	322
6	Pakistan	197	6	Pakistan	244	6	Pakistan	307
7	Nigeria	191	7	Brazil	225	7	Brazil	233
8	Bangladesh	165	8	Bangladesh	186	8	Bangladesh	202
9	Russian Federation	144	9	Mexico	148	9	Dem. Rep. of the Congo	197
10	Mexico	129	10	Russian Federation	141	10	Ethiopia	191
11	Japan	127	11	Ethiopia	140	11	Mexico	164
12	Ethiopia	105	12	Philippines	125	12	Egypt	153
13	Philippines	105	13	Japan	122	13	Philippines	151
			14	Democratic Republic of the Co	ongo 120	14	United Republic of Tanzania	138
			15	Egypt	120	15	Russian Federation	133
			16	Viet Nam	106	16	Viet Nam	115
						17	Japan	109
						18	Uganda	106

- Strong population growth in Africa/Asia
- EU-27 2021 450 million population, little increase to 2050
- Nigeria, Indonesia, Pakistan, Ethiopia; upcoming world powers

#### PER CAPITA CONSUMPTION, NOW AND IN 2030.



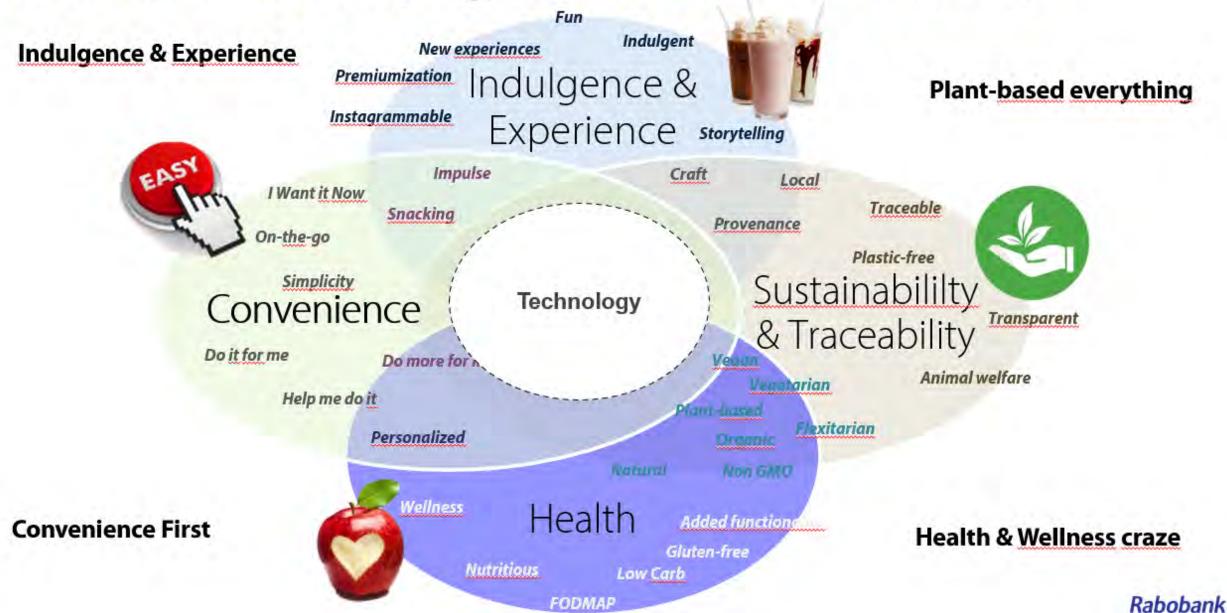
Figure 7.1. Per capita consumption of processed and fresh dairy products in milk solids



Note: Milk solids are calculated by adding the amount of fat and non-fat solids for each product; Processed dairy products include butter, cheese, skim milk powder and whole milk powder.

Source: OECD/FAO (2021), "OECD-FAO Agricultural Outlook OECD Agriculture statistics (database)", http://dx.doi.org/10.1787/agr-outl-data-

## **Consumer Trends Shaping Current and Future Demand**



ACROSS EVERY DAIRY COMMUNITY. THROUGHOUT EVERY CONTINENT. WE ARE TAKING ACTION.

## **BE PART OF TO DAIRY NET ZERO.**

Your quide to the initiative









## **TOGETHER WE CAN RAISE DAIRY'S** AMBITION AND ACCELERATE **CLIMATE ACTION**

The global dairy community is coming together to help reduce the sector's impact on the planet.

#### THE NEED FOR DAIRY IS GREATER THAN EVER

30% Increase in milk production in 10 years to meet growing

nutrition demands1

Efficiency improvements mean that producing a glass of milk now results in:

11% Less greenhouse gas emissions¹

**BUT DAIRY, LIKE ALL SECTORS, KNOWS** THERE IS MORE WORK TO DO ...

## **CHINA & INDIA**





HOME CHINA WORLD BUSINESS LIFESTYLE CULTURE TRAVEL WATCHTHIS SPORTS OPINION R
Business Macro Companies Industries Technology Motoring China Data Fil

Home / Business / Industries

## Pandemic gives boost to dairy consumption

By ZHU WENQIAN | chinadaily.com.cn | Updated: 2021-05-27 13:34





Milk products are displayed at an exhibition in Shanghai. [Photo by Wang Zhuangfei/China Daily]

#### DAIRYMEN INSIGHT AND ANALYSIS



# Watch: Gen Z experts explain why young people are wary of dairy and how to fix it

20 November 2020 | By The Grocer

Gen Z just isn't buying milk, with some people even calling evil, so for this year's Dairymen creative challenge, we tasked creative agency Zak with breathing new life into the white stuff



## Creative Challenge: can milk be futureproofed?

20 November 2020 | By Megan Tatum

Gen Z Just isn't buying milk, with some even calling it evil. So we tasked creative agency Zak to come up with a brand that breathes new life into the white stuff

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HOT TOPICS Cost of Living Crisis Politics HFSS Sustainability and Environment Coronavirus Brexit Labour crisis

SUSTAINABILITY AND ENVIRONMENT

# Animal Rebellion's anti-dairy tantrums won't be as effective as a reasoned argument

By Joanna Blythman, food journalist and author of Swallow This | 28 September 2022

Making your voice heard is a civil right, but protests won't stop people drinking milk, says Joanna Blythman



## CONCLUSIONS # QUESTIONS

Milkproduction must increase worldwide

Large market companies like Nestlé, Unilever go "sustainable"

Climate change/sustainab lity topics

Impact Technology/Inno vations



- Europe: high added value, cheese, sustainable (Netherlands, Ireland) Growth in volume?
- Oceania: close to markets, no growth in New Zealand, milkpowder
- USA: '21 17% of total production, future?





## KEY MESSAGES



Agriculture  $\rightarrow$  significant part of the solution of today's planetary challenges.



Farmers -> can achieve this if they are willing and able to transform, linked to professionalism, also smaller farms



Farmers income, the Business Model, is critical for transition. Direct or indirect, meaning through cooperatives or combination coops/private companies



Possible → Dairy Net Zero? Regenerative? Profitable?



Global growth outlook is still strong



Classic dairy scene in The Netherlands

## HOW TO FEED THE WORLD?

- Responsiblity EU/Netherlands!!!
- Perfect climate conditions for agriculture.
- Strong processing industry/ infrastructure
- Well educated farmers.
- Life space, environment + "make nature" vs agriculture
- Sentiment society, how to manage?



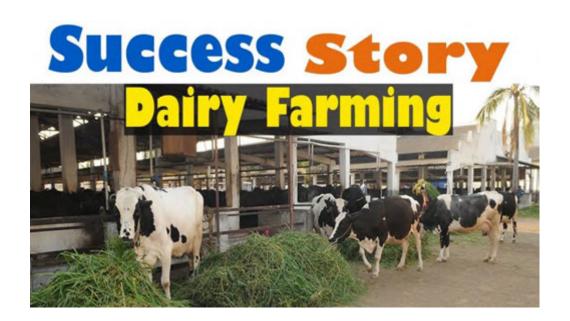
#### ECONOMY & SUSTAINABILITY 62% **Export value** of dairy farms €8bn save energy by utilizing 43% the natural heat from milk less antibiotic 1.6 m use in 2020 compared cows Dairy product to 2009 Dairy's export contribution 7% 84% to the Dutch trade balance of farms practice grazing 35% 100% Domestic use responsible soy market 51 47,000 have solar panels 25% 40% dairy factories Milk supply employment 13.6 bn kg in dairy farming Outside of the EU EU market 14% and dairy industry (fte) 1. China 1. Germany 2. Belgium 2. United States **Production value** 3. United kingdom 3. France € 57% Butter and butteroil € 6% Condensed milk 7% €5.2 bn €8.1 bn 13% 15,000 Milk and other products dairy farms Milk powder dairy industry dairy farming

## **FUTURE DAIRY FARMERS**

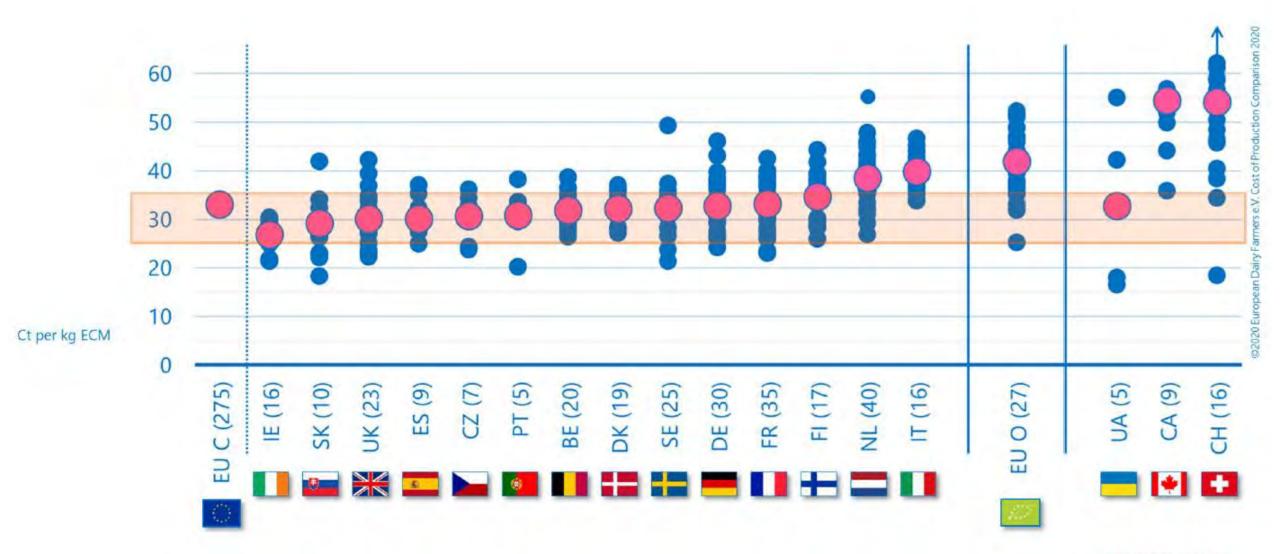


#### **BUSINESS MODEL**

- Top 25% of region, country
- Open for transition/innovation
- Top technical results, top management
- Top quality milk, animals, crops, forage
- Vision, strategy
- Future ready, profitable, sustainable
- Margins.....small...

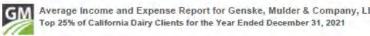


## Only few Dutch farms have a low Break-Even



# TOP 25 % DAIRIES CALIFORNIA USA

- Top 25 % dairies California USA
- **2021**
- 2663 cows average, yearly production →
   34.7 million kg milk per year
- Average production 36 kg per day, 3.95 fat, 3.26 protein
- Small margins, losses → Top 25%



INCOME:	PER CWT	ECM CWT	PER COV
Milk	\$ 17.76	\$ 16.33	\$ 4,375
Risk management	0.05	0.04	11
Calves and heifers	0.24	0.22	60
Patronage dividend	0.24	0.22	59
Agricultural program payments	0.24	0.22	60
Other	0.23	0.21	57
Total income	18.76	17.24	4,622
EXPENSES:			
eed;	- / /		
Hay, silage and farming	3.98	3.66	981
Grain	8.70	8.00	2,143
Less cost of feeding heifers	(2.41)	(2.22)	(594
otal feed	10.27	9.44	2,530
Herd replacement cost:			
Depreciation - dairy cows	0.85	0.78	209
Loss on sale of cows	0.54	0.50	134
Total herd replacement cost	1.39	1.28	343
Other operating expenses:			
Interest and rent	0.76	0.70	186
Labor	1.50	1.38	370
Depreciation - other	0.46	0.43	114
Milk hauling	0.43	0.40	106
Industry assessments	0.20	0.18	49
Supplies	0.57	0.52	140
Manure management and environmental costs	0.05	0.04	11
Repairs and maintenance	0.56	0.52	139
Utilities	0.33	0.31	82
Taxes and licenses	0.21	0.20	53
Insurance	0.22	0.20	53
Fuel and oil	0.17	0.16	42
Professional services	0.06	0.06	16
Employee benefits	0.06	0.06	15
Veterinary and breeding	0.34	0.31	84
Testing and trimming	0.07	0.07	18
Hauling livestock	0.03	0.02	7
Miscellaneous	0.01	0.01	3
Less cost of raising heifers	(0.45)	(0.41)	(110
Total other expenses	5.58	5.16	1,378
Total expenses	17.24	15.88	4,251
Net income before debt and draws	1.52	1.36	371
Current debt repayment and owners' draws	1.68	1.55	415
Vet (loss) after debt and draws	\$ (0.16)	\$ (0.19)	5 (44
AVERAGE DAIRY STATISTICAL DATA:			
Average number of milking cows	2,663		
Average daily pounds per milking cow	79		
Average daily EC pounds per milking cow	86		
Average butterfat test	3.95	%	
Average protein test	3.26		
Average other solids test	5.78		
Herd turnover rate	42		
Net mailbox price	5 17.13		





# **Hunsingo Dairy**







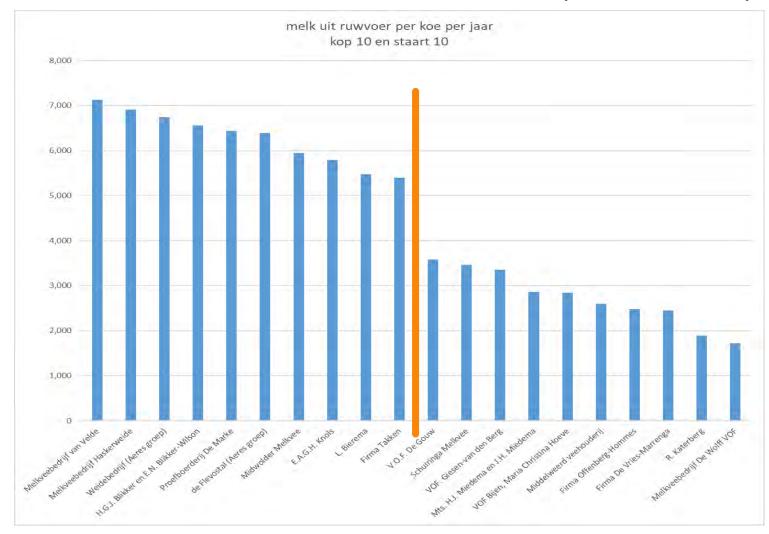
#### **HUNSINGO DAIRY**

#### Focus:

- Fertility (healthy cows)
- Young stock (future)
- Roughage/forage (basis)
  - grass; grass to glas, storage CO2, biodiversity, growing protein, circularity
  - Fine tuning manure management → NIR, new vision, new data
  - Maize for the perfect combination with top quality grass, more efficient use in the cow, less emission of ammonia
  - Innovations, fodder beets, grass/lucerne mixes, high N efficient grasses.



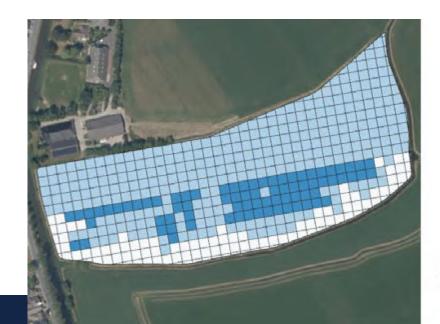
## MELK UIT RUWVOER: KOP EN STAART (EDFDATA)



- OBV 450 VEM PER KG MELK UIT KRACHTVOER - CORRECTIE GEMAAKT VOOR JV-BEZETTING

#### OPTIMIZING N- FERTILIZATION

- Farm quota
- Right distribution per field
- Right distribution over the season







## MY FARMERS CONCLUSIONS

- Less emissions; ammonia, methane, nitrous oxide
- Maize/grass (young grass) ammonia emission/methane emission lower
- Higher feed efficiency
- Lower inputs
- Maximum utilization of inputs





#### FUTURE.....SHORT TERM

- Healthy animals, crossbreds.
- More milk out of roughage
- Reduce use of artificial fertilizer in the future, new technologies with manure
- Stable use of concentrate.
- High yields, fits in this region
- Better varieties of grass, maize, .....better silage and fresh products.
- Close cooperation with crop farmers.
- Now 68% protein own production, 75% coming years.....and more.
- "New" crops, 5-year experience with fodder beets and lucerne....beans, peas
- To work with same data from land, as we work with the cows/precision farming





## FUTURE.....LONG TERM

- Next generation is coming
- Telling our story
- Valorisation; market/consumer is always right
  - Non GMO/grazing...+3...longevity, antibiotic free, quality, cowfomfort...+2
  - . . . . . .
- Energy producer
- Manure  $\rightarrow$  LelySphere, Nitrogen cracker,...
- Development; growth in size, processing, second location
- Climate neutral.















IT'S TIME TO COOPERATE, IT INSPIRES ME TO MEET ALL THE DAIRYMAN AND PEOPLE WHO ARE ACTIVE IN THE DAIRY INDUSTRY THE LAST DAYS.

#### CLIMATE

## How dairy farmers are cashing in on California's push for cleaner fuel

February 10, 2022 - 5:07 AM ET Heard on Morning Edition



#### CONTACT

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**THANK YOU** 





## **GLOBAL DAIRY SYMPOSIUM**

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