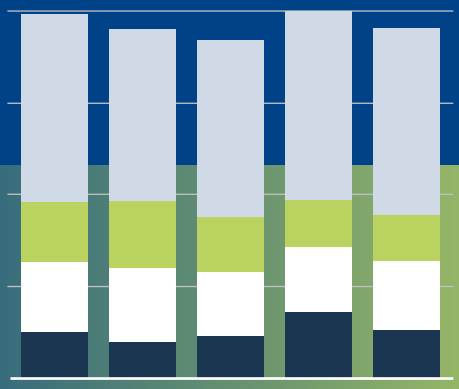
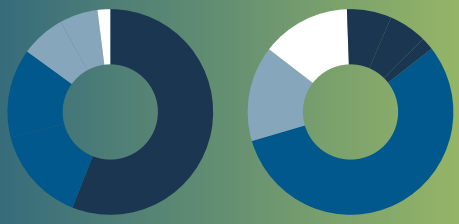
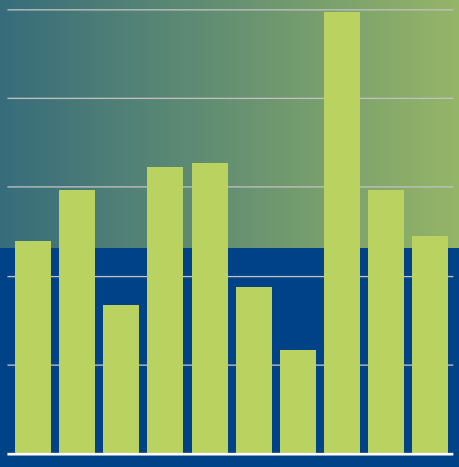






ZuivelNL
KETENORGANISATIE VAN DE ZUIVELSECTOR

Dutch dairy in Figures
2021

Economic importance, Market overview, Dairy farming, Milk processing, Sustainability, Trade, Consumption

2021

The publication Dutch dairy in Figures (Zuivel in Cijfers) provides an overview in figures of the key developments in the Dutch dairy sector in 2021 and is divided into eight topics:

• The Netherlands: land of dairy • Economic importance • Market overview • Dairy farming • Milk processing industry • Sustainability • Trade • Consumption

Tables with detailed statistical information can be consulted on the website of ZuivelNL (www.zuivelnl.org). The figures for the year 2021 are provisional, but will only differ slightly from the final figures.

THE NETHERLANDS: LAND OF DAIRY

Modern sector

The Netherlands is known worldwide as a dairy country. A long tradition of milk, butter and cheese production and consumption and the typical pasture landscape with cattle and windmills is inextricably connected with the perception of our country. Behind this image lies a modern sector, with consideration for people, animals and the environment. It is one of the largest and most vital agricultural sectors in the Netherlands and contributes significantly to the Dutch economy.

The Dutch dairy sector is one of the frontrunners in the international dairy world. As a result, the sector has a strong image and good access to important (growth) markets. Greater efficiency on dairy farms and in the production locations remains necessary from a cost price perspective and in order to remain internationally competitive.

Distinctive product quality, food safety, animal health, animal welfare and sustainable development are important prerequisites in that respect. The professionalism of dairy farmers, in the dairy processing industry and in supplying sectors is decisive for the successful development of the industry.

Nitrogen policy poses a major challenge to the industry

The abolition of the milk quota system at the end of March 2015 and the generally promising outlook for the global dairy market boosted new investments in dairy farming and the dairy processing industry, aimed at capacity growth through modernisation, expansion and new construction. However, the strong growth in dairy farming, and by extension in the dairy herd, created new challenges in the years that followed, which are limiting growth.

When it became apparent in the years 2015, 2016 and 2017 that the phosphate production ceiling set by the European Commission for the Netherlands had been significantly exceeded, drastic measures were taken.

The effect of a plan for reducing phosphate drafted by the industry in 2017 and a phosphate rights system introduced by the government with effect from January 2018 was that as of 2018 dairy farming had returned to the position where it stayed within the applicable phosphate production limits.

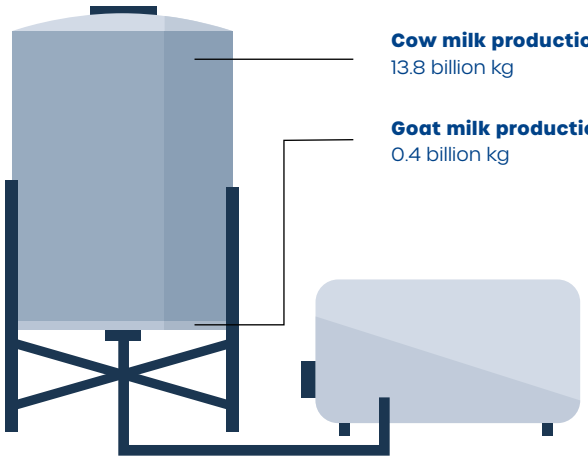
Another and even greater challenge is to reduce the nitrogen emissions, which were reduced in recent years due to a decline in the dairy herd and other herds. Despite the fact that the emissions are currently below the ceiling, the government has imposed the heavy task on the agricultural sector to drastically reduce nitrogen emissions, which will significantly affect the entire Dutch dairy sector until 2030 and probably also in the years that follow.

Future-oriented through economically and environmentally responsible developments

The coming years, therefore, Dutch dairy farmers will need to continue to focus on healthy and balanced developments that are within the environmental limits. The further reduction of nitrogen and greenhouse gas emissions are key focal points in that respect.

Climate measures, and greenhouse gas reduction and energy policies in particular, also increasingly have an impact on dairy companies. Both the dairy processing industry and the dairy farming sector aim to make a positive contribution to realising the national climate objectives in an economically responsible manner.

MILK PRODUCTION



Cow milk production
13.8 billion kg

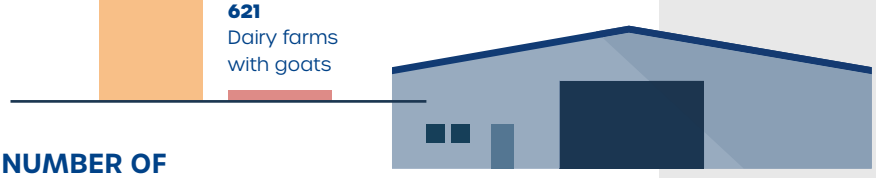
Goat milk production
0.4 billion kg

1.6 million
Dairy cows

0.5 million
Dairy goats

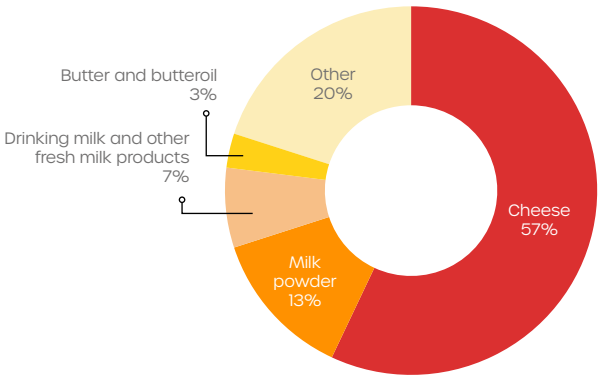
15,251
Dairy farms
with cows

621
Dairy farms
with goats



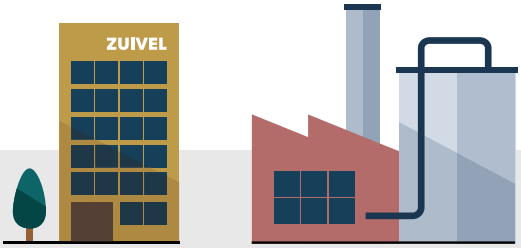
NUMBER OF DAIRY FARMS IN THE NETHERLANDS

MILK PROCESSING



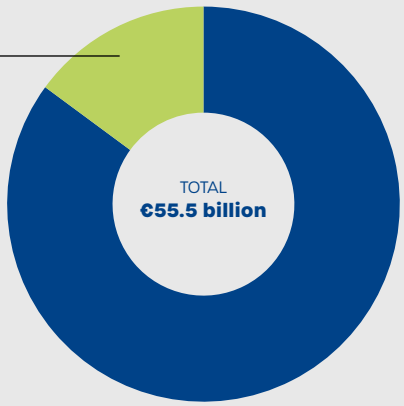
26
Milk processing companies

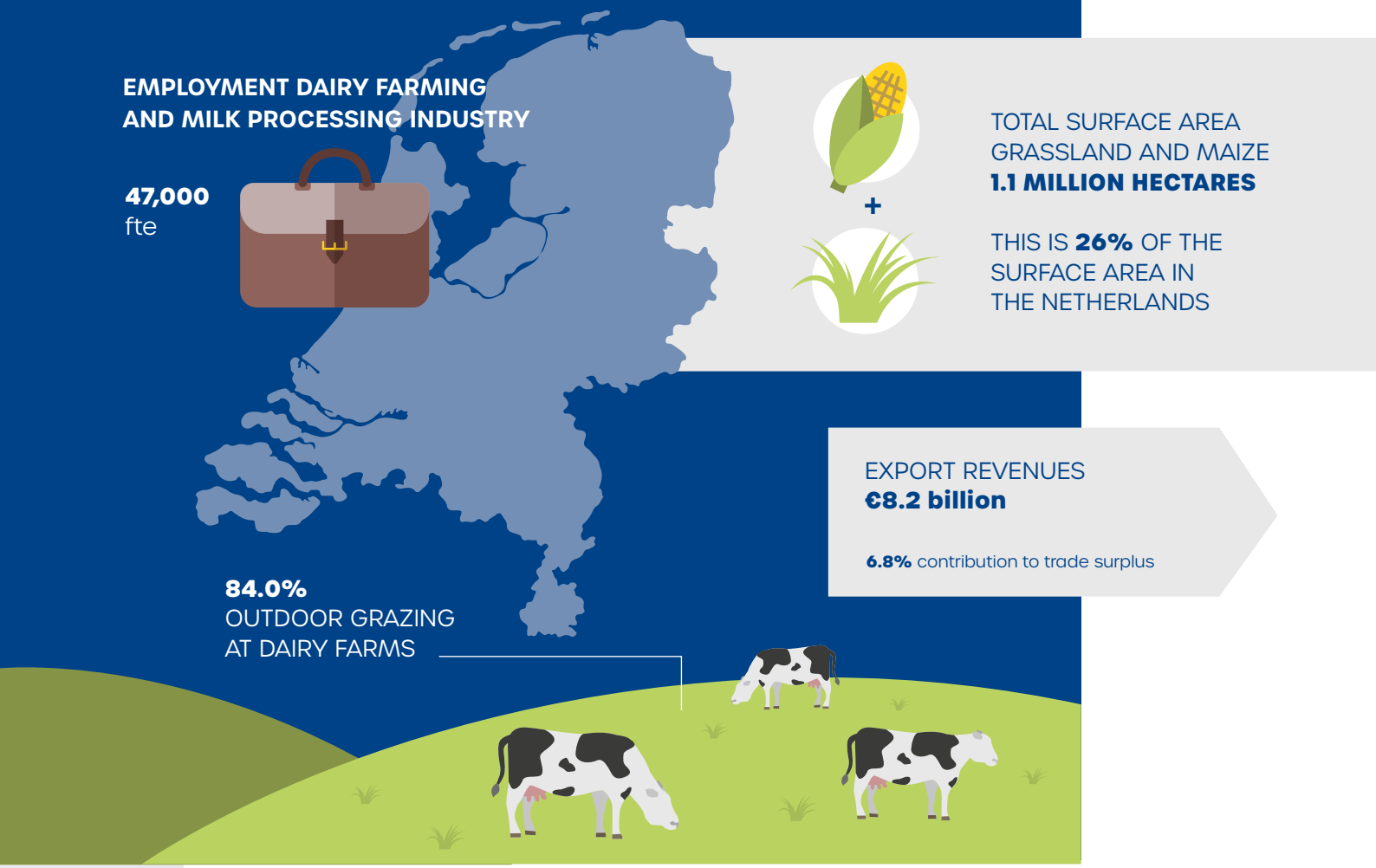
52
Dairy plants



CONTRIBUTION OF AGRO & FOOD TO THE ECONOMY

€7.5 billion
Share dairy
industry



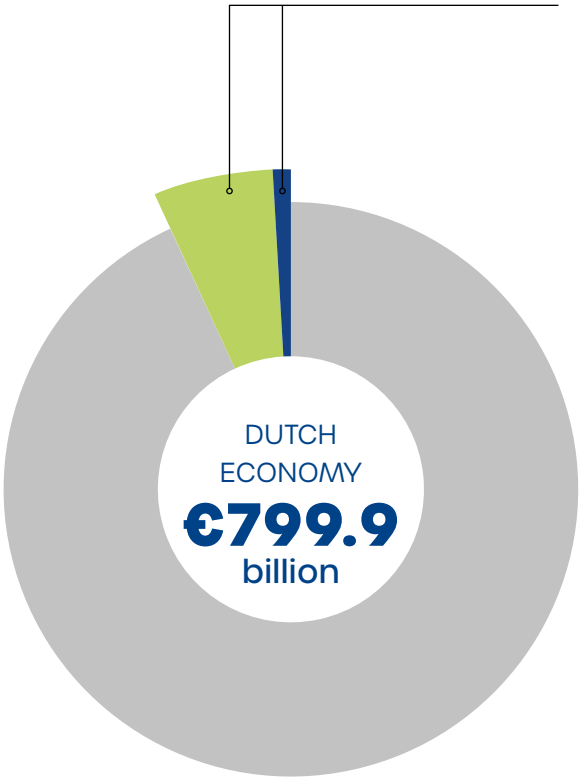


Dutch dairy at a glance

Source: Statistics Netherlands (CBS), Sustainable Dairy Chain, Wageningen University & Research, ZuivelNL

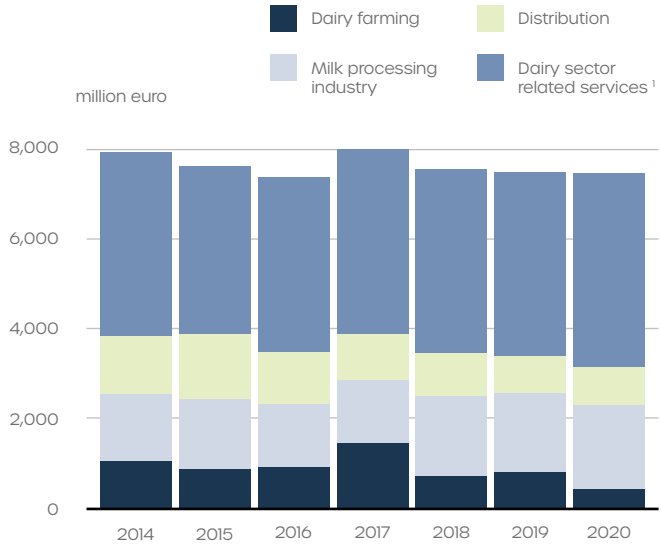
Economic importance

CONTRIBUTION OF AGRO & FOOD TO THE ECONOMY IN 2020



Agro & Food contributes **€55.5 billion (6.9%)** to the Dutch economy, of which **€7.5 billion (0.9%)** relates to dairy.

ADDED VALUE DUTCH DAIRY COMPLEX



[1] Among other agricultural and financial services, utilities and employment agencies

Source: Wageningen University & Research

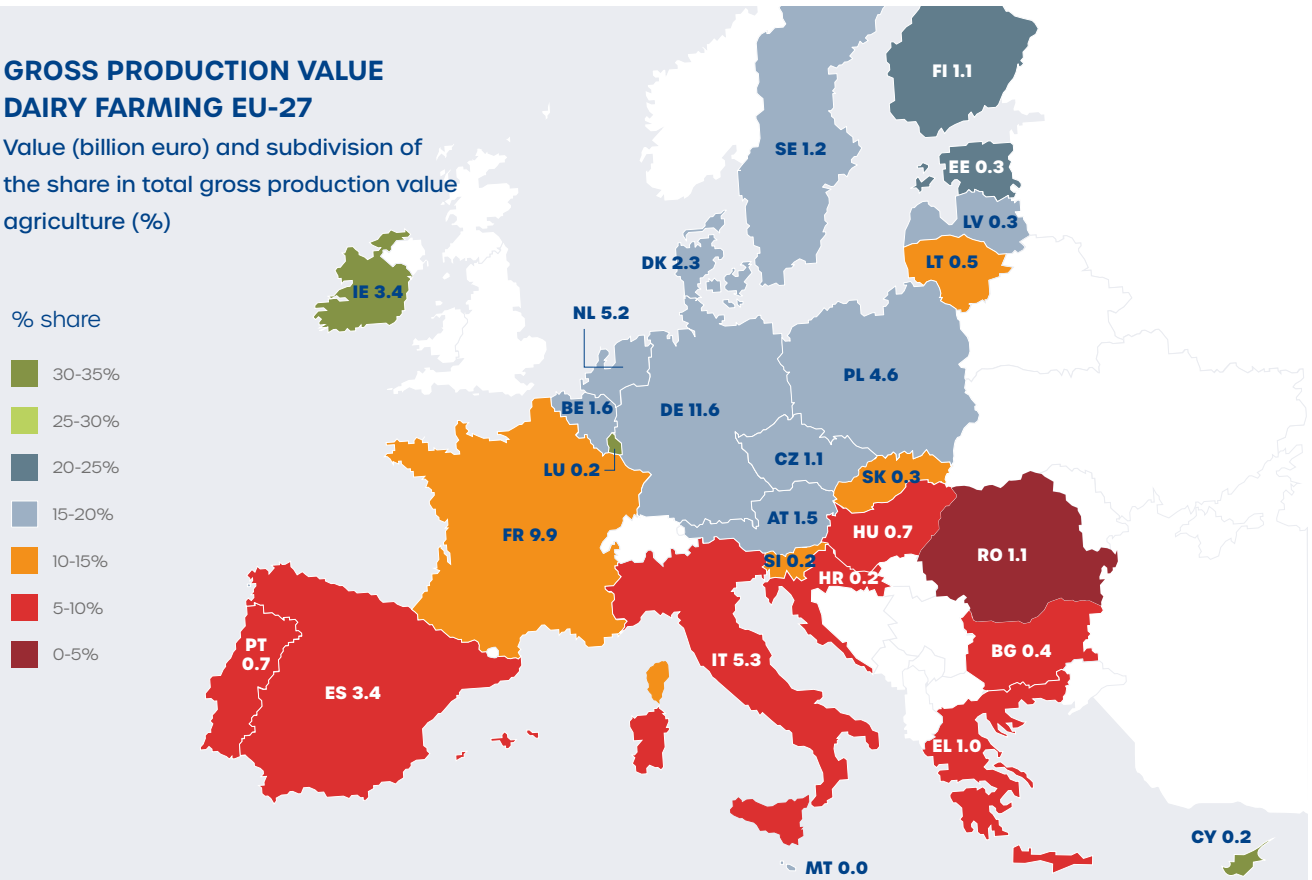
GROSS PRODUCTION VALUE DUTCH AGRICULTURE

	Value (billion euro)				% share			
	2010	**2015**	**2020**	**2021**	**2010**	**2015**	**2020**	**2021**
Horticulture	9.6	10.2	10.6	11.8	37.7%	37.9%	37.7%	39.0%
Livestock, meat and eggs	5.2	5.5	5.6	5.5	20.3%	20.6%	19.9%	18.1%
Dairy farming	4.0	4.4	4.8	5.2	15.8%	16.3%	17.1%	17.0%
Arable farming	3.0	3.1	3.3	3.7	11.9%	11.6%	11.7%	12.1%
Other agricultural products	3.6	3.7	3.8	4.1	14.2%	13.6%	13.6%	13.7%
Total	**25.5**	**26.9**	**28.2**	**30.3**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Source: Eurostat

GROSS PRODUCTION VALUE DAIRY FARMING EU-27

Value (billion euro) and subdivision of the share in total gross production value agriculture (%)



Gross production value of dairy farming in the EU-27: **€57.9 billion, share of 13%** in the total production value of agriculture.

Source: Eurostat

EMPLOYMENT DAIRY FARMING NETHERLANDS

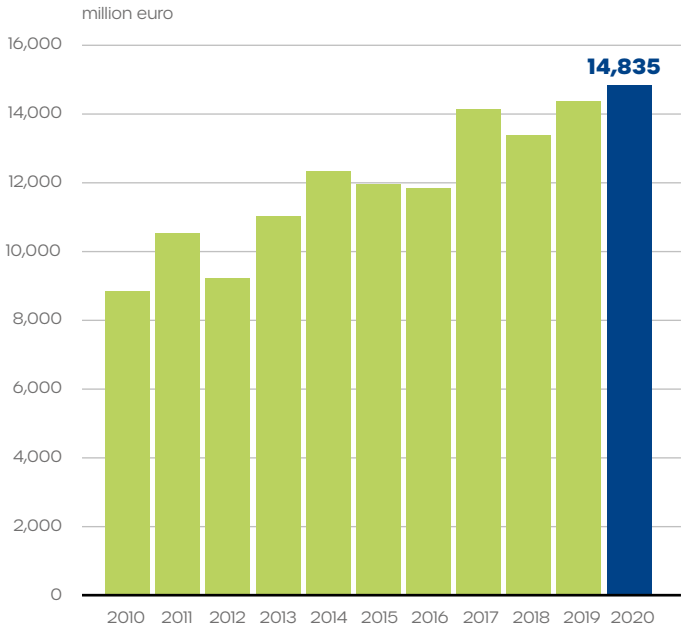
Number of dairy farms: breakdown by number of employed persons per farm (in fourth quarter)

Classification: number of employed persons [2]	2017	2018	2019	2020	2021
1	5,580	4,810	4,540	3,745	3,610
2	7,490	6,665	6,420	6,435	6,175
3 -< 5	4,270	4,215	4,220	4,620	4,710
5 -< 10	455	495	535	575	630
10 -< 20	30	35	30	30	30
20 -< 50	5	5	5	5	5
50 and more	0	0	0	0	0
Total	**17,830**	**16,225**	**15,750**	**15,410**	**15,160**

[2] Employees and self-employed persons, living in the Netherlands or abroad.

Source: Statistics Netherlands (CBS)

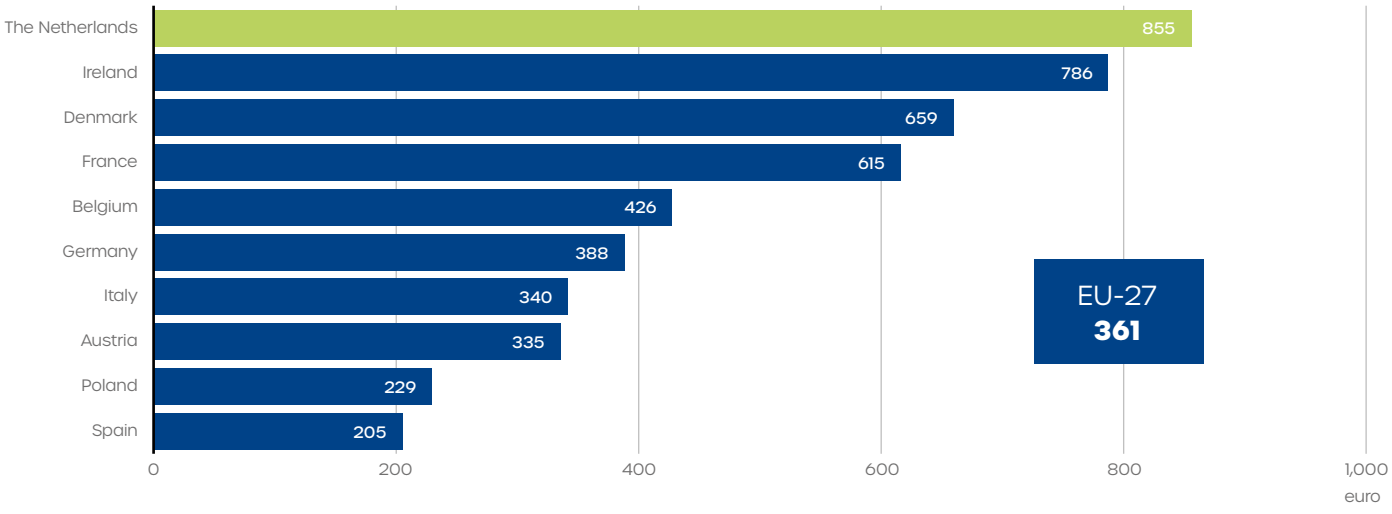
NET TURNOVER MILK PROCESSING INDUSTRY NETHERLANDS [3]



[3] Including production of ice cream

Source: Statistics Netherlands (CBS)

TURNOVER MILK PROCESSING INDUSTRY PER CAPITA IN THE EU IN 2020



Source: Eurostat

IMPORTS

billion euro

Total (all products)	526.8
Agricultural products	72.0
of which dairy products [4]	*4.1*
of which from EU Member States	*3.9*

TRADE BALANCE 2021

POSITIVE TRADE BALANCE

billion euro

Total (all products)	59.9
Agricultural products	30.3
of which dairy products [4]	*4.1*
of which with EU Member States	*1.9*

EXPORTS

billion euro

Total (all products)	586.6
Agricultural products	102.3
of which dairy products [4]	*8.2*
of which from EU Member	*5.8*

[4] Cheese, butter and butteroil, fermented milk products, concentrated milk, milk and cream, whey and whey products and products with milk constituents (HS-codes 0401-0406 and 17021)

Source: Statistics Netherlands (CBS), Eurostat

Market overview

Market development
Although restrictive COVID-19 measures affected large parts of the year, they had only a minor impact on the dairy market in 2021. Vaccination campaigns and a drop in the number of infections meant that more was possible in 2021 than in 2020. This had a positive effect on the development of the global demand. In the second half of 2021, however, supply became increasingly tighter owing to the disappointing development of milk production in leading exporting dairy countries, which caused a sharp rise in prices from August onwards.

The first months of 2021 saw an upward trend in price levels. That was predominantly a further recovery in prices from the relatively lower levels that dominated the market for a large part of 2020 as a result of COVID-19. Butter in particular saw a good price development: supply was low, stocks were limited and cream prices were high. After the €400.00 mark was exceeded in March, the prices rose and fell successively around that level during the period from March to the end of July. The expectations that the partial reopening of hospitality establishments would cause a sharp rise in the demand for butter have not yet materialised.

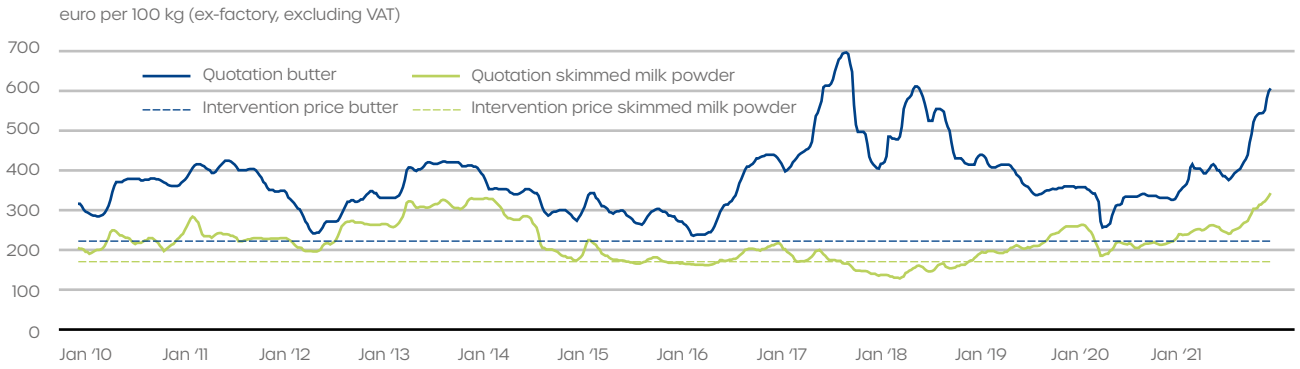
Owing to the good demand on the world market, in Q1 the price of skimmed milk powder was characterised predominantly by an increase, which eventually continued until early June. During the rest of June and in July the market became clearly weaker and the price began to fall. Due to the persistent COVID-19 problem, the demand in key markets in Southeast Asia was limited. Europe was also affected by cheaper supply from the United States.

The market took a turn in August, and the prices of various dairy products rose sharply across the board. That was mainly a response to the disappointing development of milk supplies in the export regions. Less milk was produced not only in the EU, but also in North America, Oceania and South America. The main reason for that drop was the sharp increase in the cost of dairy farming. The cost of cattle feed in particular was a constricting factor. Consequently, dairy farmers used less concentrated feed to maintain the level of milk production. Northwest Europe (Belgium, Germany, France and the Netherlands) was furthermore confronted with a disappointing quality of roughage, which caused the production of milk and the milk contents to drop even further.

The prices continued to increase sharply until the end of the year, and they were driven up even further by the major increase in transport costs caused by the limited availability of sea containers. The significant increase in gas prices also contributed to a sharp increase in the milk processing industry's cost level.

In 2021, the average price level was considerably higher than in 2020, when the market was hit far harder by COVID-19 than in 2021. The butter price in particular rose sharply by 30%. The average annual prices for skimmed milk powder and whole milk powder rose by 20% and 19%, respectively. Whey powder saw the largest relative increase (+38%). Cheese prices did not rise as sharply (+7%).

DUTCH QUOTATION FOR BUTTER AND SKIMMED MILK POWDER



Source: ZuivelNL

DEVELOPMENT MILK DELIVERIES IN LEADING EXPORTING COUNTRIES

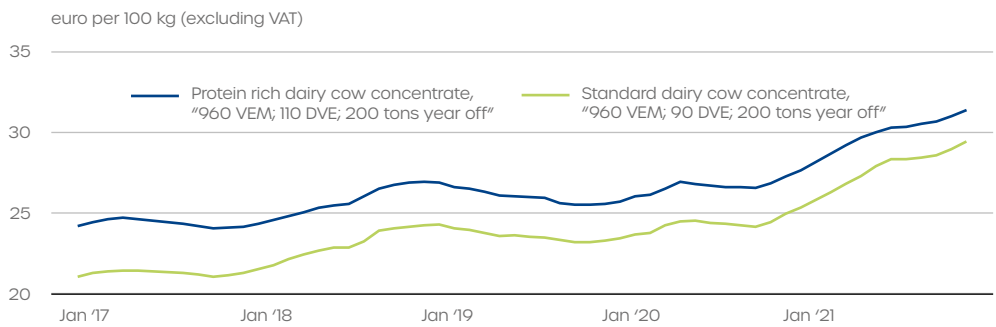
Argentina, Australia, Brazil, Canada, Chile, EU-27, New Zealand, Türkiye, UK, Uruguay and USA

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020 [1]	2021
Milk deliveries (x billion kg)	301	310	316	318	331	337	336	342	346	347	354	355
Relative development compared to previous year	**2.2%**	**3.1%**	**2.2%**	**0.4%**	**4.2%**	**1.8%**	**-0.3%**	**1.7%**	**1.4%**	**0.1%**	**2.0%**	**0.3%**

[1] No correction has been made due to the leap day in 2020

Source: Eurostat, RVO.nl, national statistics

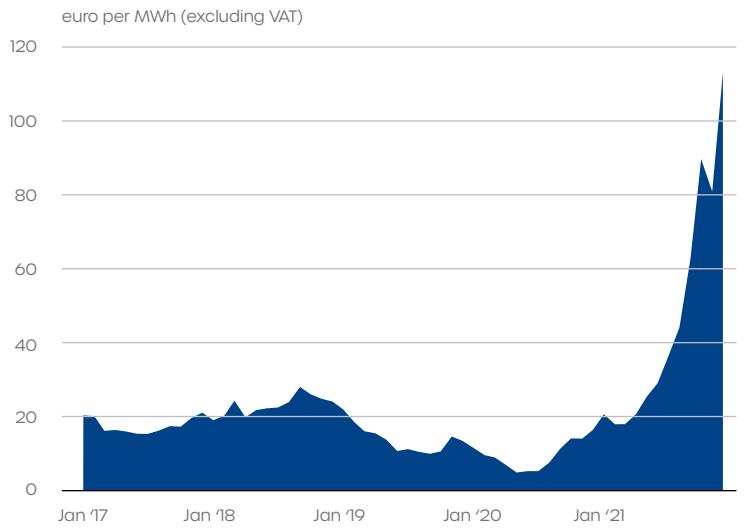
PRICE DEVELOPMENT CATTLE FEED



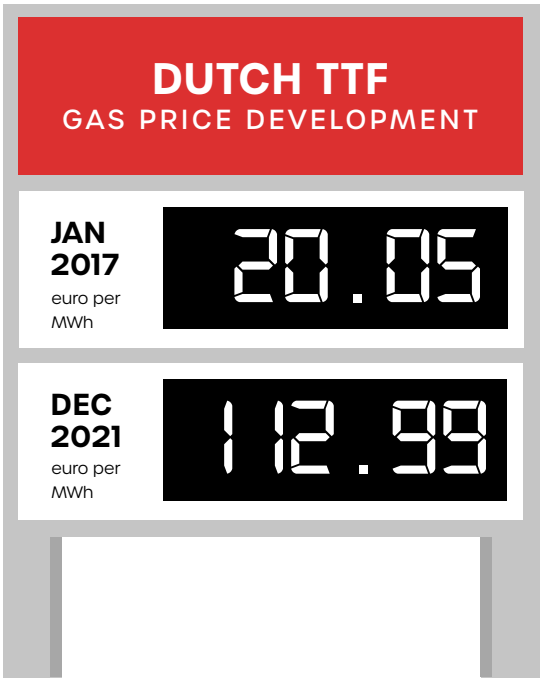
Source: Wageningen University & Research, ZuivelNL

GAS PRICE DEVELOPMENT (DUTCH TTF)

TTF: Title Transfer Facility (Dutch (virtual) trading place where gas is traded)



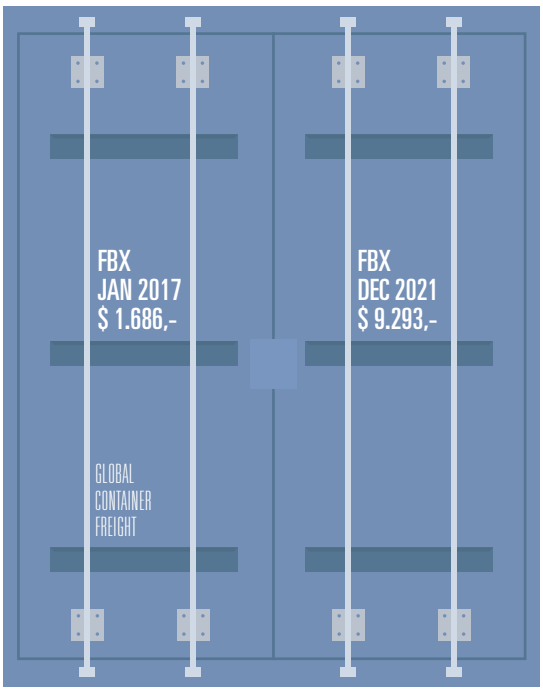
Source: Elexys



PRICE DEVELOPMENT GLOBAL CONTAINER FREIGHT

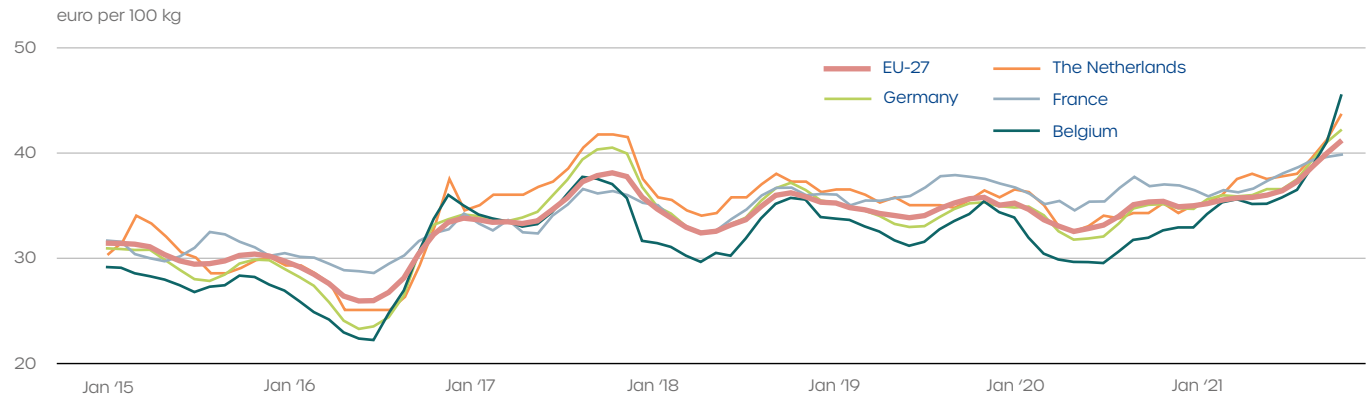
Freightos Baltic Index (FBX): rates for 40ft sea containers

Source: Freightos data



MONTHLY MILK PRICES PAID

The Netherlands, Belgium, Germany, France and the EU-27

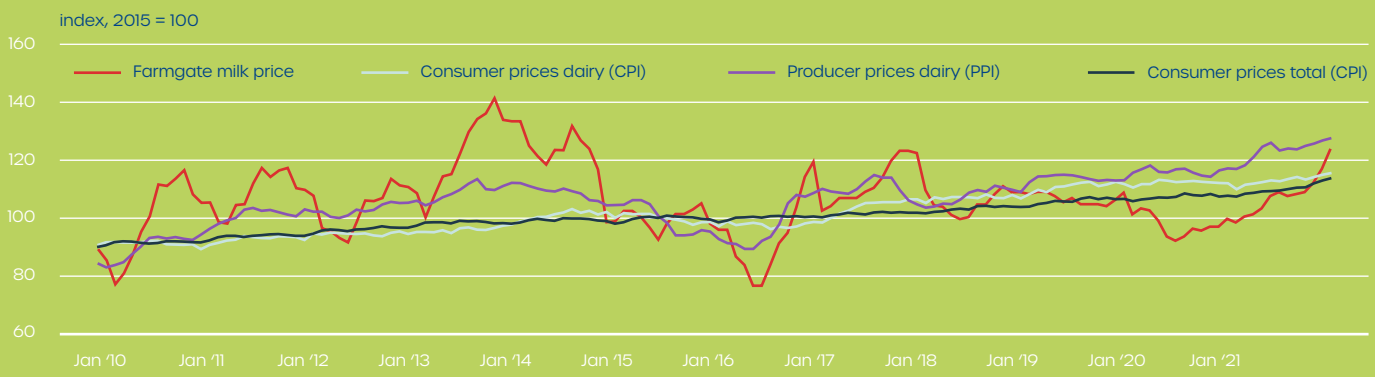


Source: Milk Market Observatory

Milk prices paid

The movements in the milk prices paid in the Netherlands reflected the developments on the dairy market. The price of milk increased gradually until the end of June and stabilised in Q3 as a consequence of the dairy market prices that were under pressure in June and July. Starting in October, the price of milk in the Netherlands shot up, which was reflective of the increase in the prices on the dairy market that had started in August. On average, the 2021 Dutch milk price was almost 10% higher than in the previous year. Despite that increase, the returns generated by the average milk farmer increased only slightly, as the costs also increased sharply.

PRICE DEVELOPMENT DAIRY PER LINK IN THE CHAIN IN THE NETHERLANDS



Source: Statistics Netherlands (CBS), Wageningen University & Research

DAIRY FARMING

Milk production
Dutch milk production fell by 2.5% in 2021 to a volume of 13.84 billion kg. A small percentage of that drop (0.3%) is associated with the leap day effect (i.e., an extra production day in 2020). Key reasons for the drop in the milk production included the disappointing quality of roughage, the high energy and feed prices, and the uncertainty surrounding the nitrogen measures. As a result of the high feed prices, less concentrated feed was used. This led not only to less milk, but also to lower milk content.

According to Statistics Netherlands, at the beginning of April 2021 there were 1.57 million dairy cows and cows in calf in the Netherlands, almost 22 thousand less than in 2020 (-1.4%). That decline in the dairy herd was responsible for almost 50% of the drop in the milk production. The remaining 50% of the drop was caused by a decrease in the average milk yield per cow, which was more than 8,800 kg in 2021, i.e., more than 100 kg less than in the previous year (-1.2%).

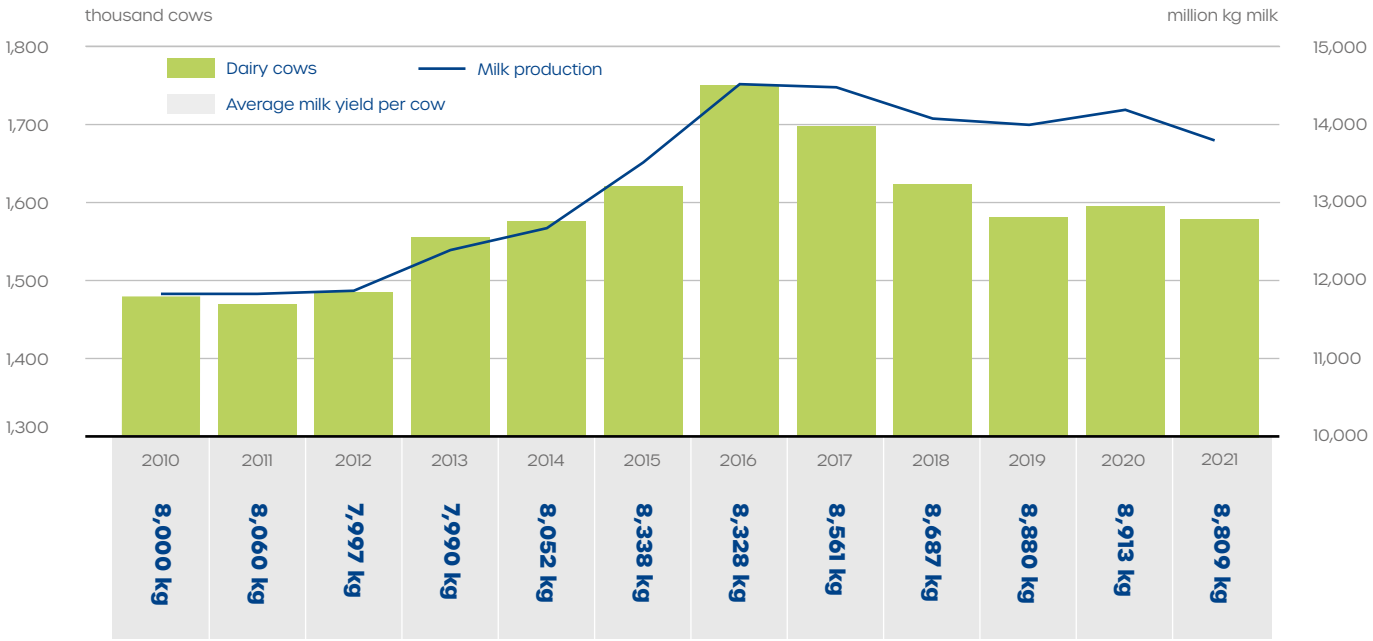
Scale
For decades, the structural development in the dairy farming sector has been characterised by a declining number of dairy farms. From 2010 onwards, on average more than 2% of businesses ceased operations each year. Due to the phosphate legislation, the percentage of businesses that ceased operations in 2018 and 2019 was slightly higher than during the quota period.

In the past two years, the unfavourable market development and the uncertainty surrounding the nitrogen measures constituted additional factors when making the decision of whether or not to close down. According to Statistics Netherlands, 2021 again saw an above-average drop in the number of dairy farmers to 15,250 (-3.1%). In 2020, the drop was virtually the same.

The number of smaller dairy farms with less than 100 dairy cows and cows in calf is declining rapidly. In 2021, the drop in the total number of dairy farms was fully attributable to the drop in this size category (-5%).

The number of dairy farmers with more than 100 dairy cows and cows in calf remained virtually the same in 2021. Larger farms made up more than 42% of the total number of farms. In 2021, an average dairy farm with 103 dairy cows and cows in calf (2020: 101) produced 907.6 thousand kg of milk (2020: 902.7 thousand kg).

DAIRY CATTLE AND MILK PRODUCTION



Source: Statistics Netherlands (CBS), RVO.nl, ZuivelNL

STRUCTURE FIGURES DAIRY FARMING IN THE NETHERLANDS

Classification by type of milk

DAIRY FARMING, COW MILK

	2010	2015	2020	2021
Milk production (million kg)	11,829	13,522	14,200	13,842
Dairy farms	19,805	18,265	15,731	15,251
of which with more than 100 dairy cows	*4,260*	*6,017*	*6,471*	*6,466*
Dairy herd (x 1.000) [1]	1,479	1,622	1,593	1,571
Average milk yield (per animal, in kg)	8,000	8,338	8,913	8,809

GOAT MILK FARMING

	2010	2015	2020	2021
Milk production (million kg)	192	261	407	417
Dairy farms	551	509	561	621
of which with more than 100 dairy goats	*334*	*348*	*392*	*400*
Dairy herd (x 1.000) [2]	222	292	441	451
Average milk yield (per animal, in kg)	865	894	923	925

SHEEP MILK FARMING

	2010	2015	2020	2021
Milk production (million kg)	5	5	7	7
Dairy farms	40	40	135	143
of which with more than 100 dairy sheep	-	-	*43*	*38*
Dairy herd (x 1.000) [2]	10	10	14	14
Average milk yield (per animal, in kg)	500	500	500	500

BUFFALO MILK FARMING

	2010	2015	2020	2021
Milk production (million kg)	1	1	3	3
Dairy farms	8	7	19	21
Dairy herd (x 1,000)	1	1	1	2
Average milk yield (per animal, in kg)	2,200	2,200	2,200	2,200

[1] Older than 2 years
[2] Older than 1 year

Source: Statistics Netherlands (CBS), LTO, RVO.nl, Wageningen University & Research, ZuivelNL

ORGANIC DAIRY FARMING IN A NUMBER OF EUROPEAN COUNTRIES

Production of organic milk

million kg

	2015	2016	2017	2018	2019	2020	2021
Germany	732	795	939	1,118	1,185	1,234	1,266
France	568	579	655	868	1,022	1,144	1,266
Denmark	466	516	594	690	708	728	746
Austria	441	472	529	568	585	601	613
United Kingdom	427	420	453	493	488	508	509
Sweden	370	369	414	465	464	481	482
The Netherlands	169	189	214	255	265	284	291
Switzerland	223	228	233	245	260	272	288
Belgium	-	55	62	80	90	99	107
Finland	56	57	64	71	76	81	83

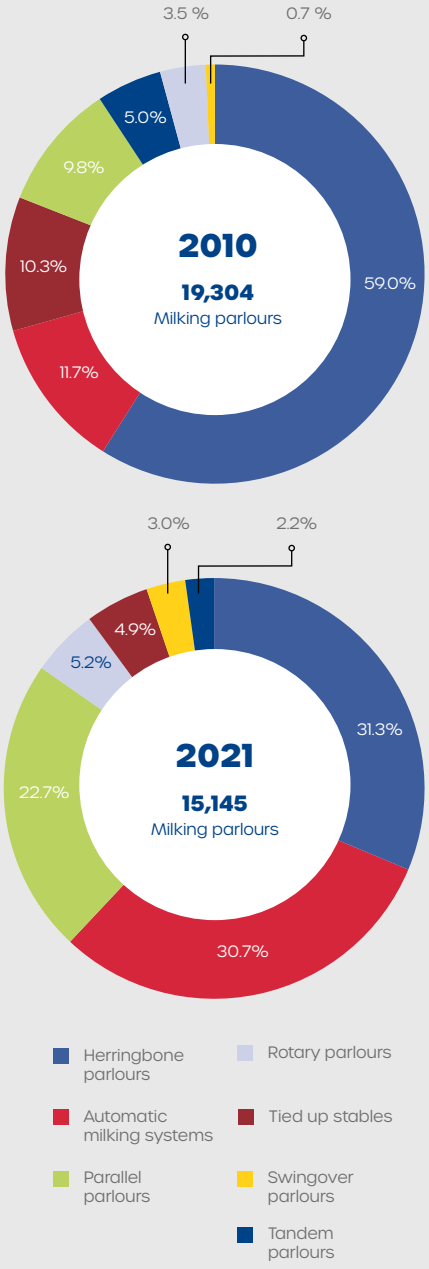
Number of organic dairy cows

thousand cows

	2015	2016	2017	2018	2019	2020
Germany	150	176	204	196	227	227
France	114	120	128	146	160	169
Denmark	56	58	71	79	78	79
Austria	95	107	115	115	115	115
United Kingdom	77	81	76	88	90	60
Sweden	48	49	53	59	57	57
The Netherlands	25	28	32	37	38	40
Switzerland	51	52	55	60	61	62
Belgium	13	17	20	22	22	24
Finland	8	9	9	10	10	10

Source: Statistics Netherlands (CBS), Eurostat, Wageningen University & Research, ZMB, ZuivelNL, national statistics

MILKING PARLOUR TYPES



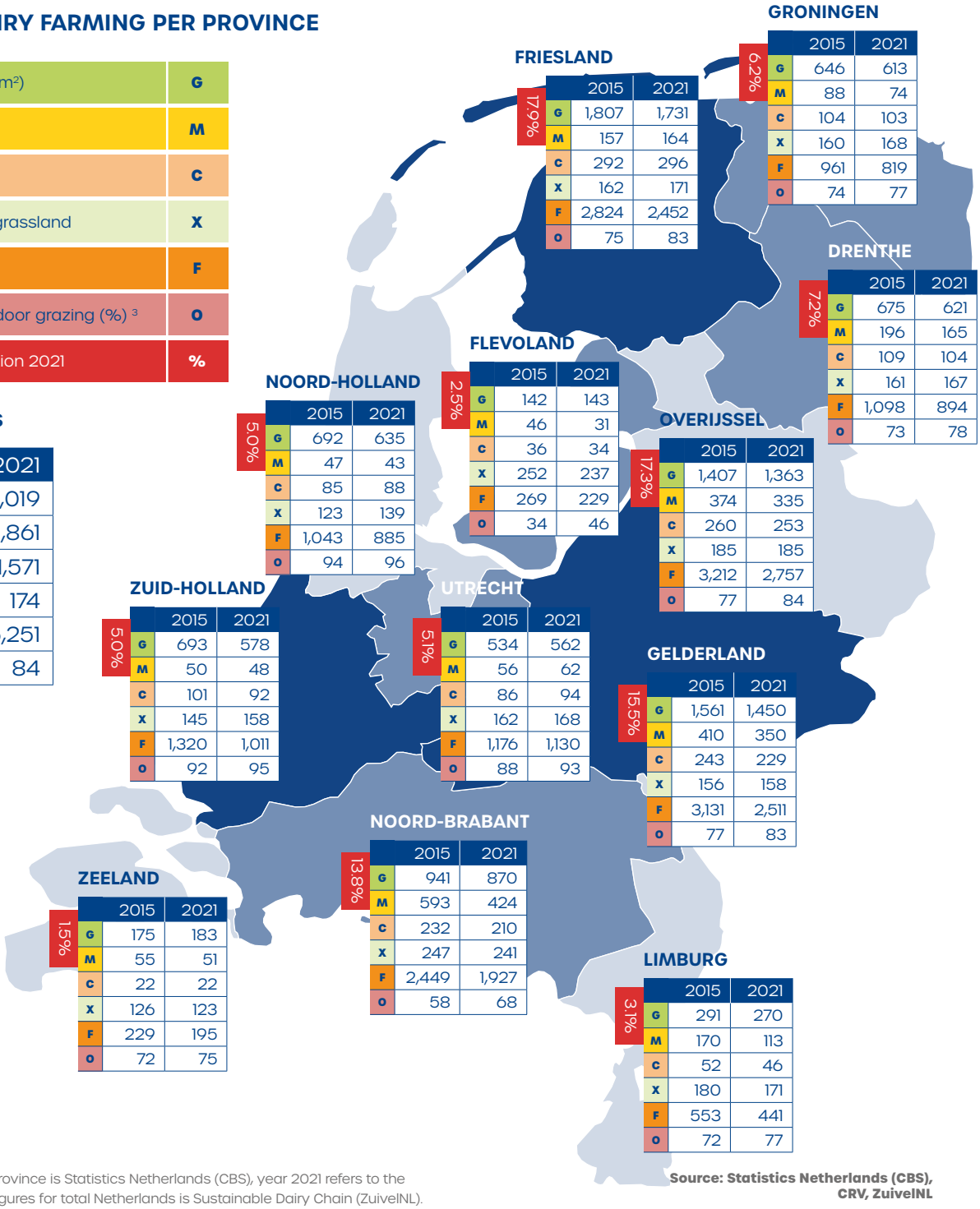
Source: Quality and Maintenance of Milking Installations (Qlip)

KEY FIGURES DAIRY FARMING PER PROVINCE

Surface grassland (km²)	G
Surface maize (km²)	M
Dairy cows (x 1,000)	C
Dairy cows per km² grassland	X
Dairy farms	F
Dairy farms with outdoor grazing (%) [3]	O
Share in milk production 2021	%

TOTAL NETHERLANDS

	2015	2021
G	9,563	9,019
M	2,242	1,861
C	1,622	1,571
X	170	174
F	18,265	15,251
O	78	84



[3] Source of the figures per province is Statistics Netherlands (CBS), year 2021 refers to the year 2020. Source of the figures for total Netherlands is Sustainable Dairy Chain (ZuivelNL).

Source: Statistics Netherlands (CBS), CRV, ZuivelNL

MILK PROCESSING INDUSTRY

Milk supply

In 2021, on balance the milk supplied by the main dairy export countries only increased slightly (+0.3%). That growth represented an additional volume of approximately 1.1 billion kg of milk. Adjusted for the leap day effect, the increase came to 0.6%. Until the end of August, the market saw growth, although the growth rate slowed down considerably during the summer months. With effect from September, milk production in the main export regions saw a negative development on balance. The primary reasons for the decline in milk production were the sharp increase in the cost of energy, feed and fertiliser.

The milk supply in the EU-27 dropped by 0.3% in 2021. Taking the leap day effect into account, the development was virtually stable. The drop in Northwest Europe was striking. Belgium (-1.2%), Germany (-2.1%), France (-1.5%) and the Netherlands (-2.5%) showed a drop, which was caused primarily by the lower quality of roughage and the high feed prices. Conversely, Ireland (+5.5%) and Italy (+3.2%) realised a strong growth.

Some significant growth was realised in the United States (+1.3%, adjusted for the leap day effect +1.6%). Until the end of July, the United States was still the driving force behind the global supply. Meanwhile, the rising costs and a declining dairy herd slowed down milk production, which stabilised and even slight reduced the volume. Of the world's leading dairy exporters, in 2021 Argentina was the only country that showed continuous growth. Argentina's milk production rose by 4%.

For the second year in a row, New Zealand's milk supply hardly increased (+0.1%). The unfavourable weather conditions during the second half of the year and the strong rise in costs completely cancelled out the increase realised in the first half of the year. Australia's milk production dropped by 0.9%. The volume dropped continuously since June. Particularly in Victoria and Tasmania, Australia's leading milk regions, the volumes plummeted due to poor weather conditions.

Milk processing

The Dutch milk processing industry processed approximately 14.3 billion kg of milk in 2021, which is over 2% less than in 2020. More than half of that milk was used for cheese production, which dropped by almost 2% to a volume of 955 thousand tonnes (including cottage cheese). More than 60% of the cheese produced was Gouda cheese. The production of butter and butter oil remained virtually steady. Significantly less drinking milk and drinking milk products were produced (-7%). The estimation is that the production of skimmed milk powder dropped by almost 8%. The production of non-skimmed milk powder grew significantly (+18%) owing to the strong demand for export.

Structure

At the end of 2021, the Dutch milk processing industry consisted of 26 businesses with a total of 52 production locations. Five of those businesses are cooperatives that process milk at 25 locations. The Dutch milk processing industry's production value was up 6.3% in 2021 to an estimated €8.1 billion. That increase reflected the sharp rise in the market prices for all products on the dairy market. For each 100 kg of processed milk, the production value came to almost 9% compared with the value in the previous year.

INDUSTRIAL DAIRY PRODUCTION NETHERLANDS

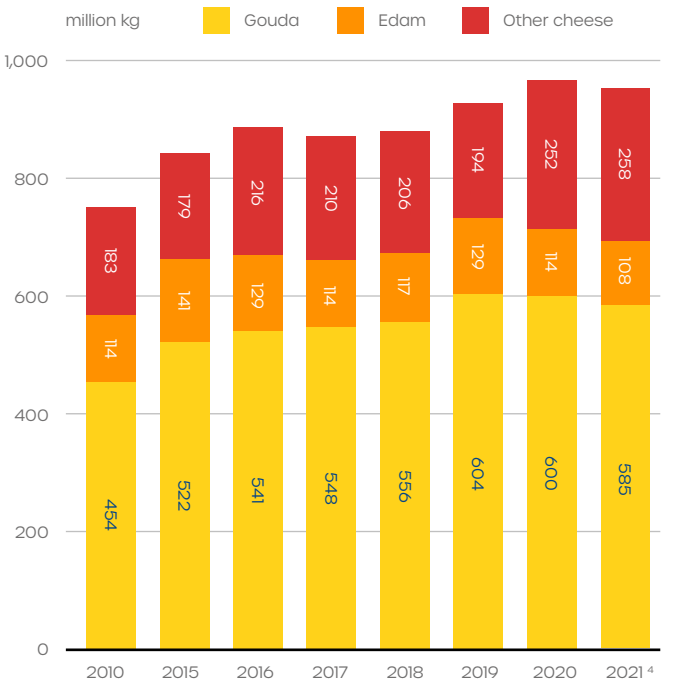
million kg

	2020	2021 [1]	2021/2020
Milk delivered to dairies	13,987	13,635	-2.5%
Milk available for processing	14,620	14,300	-2.2%
Drinking milk and other fresh milk products [2]	1,102	1,030	-6.6%
Cheese (including cottage cheese)	970	955	-1.6%
Butter and butteroil	206	204	-0.5%
Non-skimmed milk powder [3]	135	158	17.8%
Skimmed milk powder [3]	71	65	-7.8%

[1] Based on the development in the monthly figures
[2] Excluding added ingredients, including cream
[3] Estimation

Source: RVO.nl, ZuivelNL

PRODUCTION OF FACTORY CHEESE PER TYPE IN THE NETHERLANDS

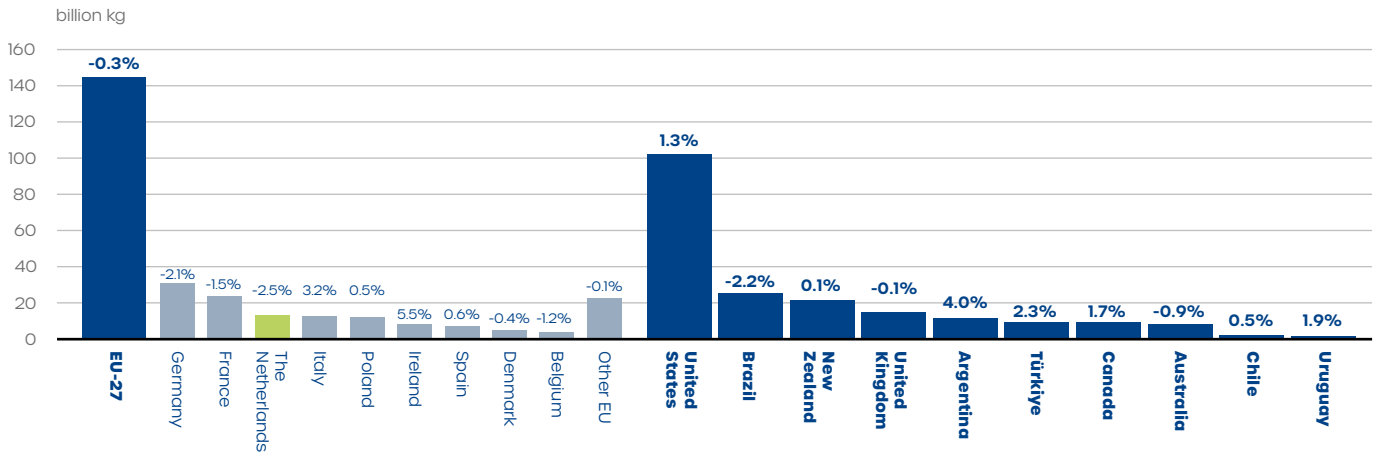


[4] Estimation based on the development of monthly production and export figures

Source: RVO.nl, ZuivelNL

INTERNATIONAL MILK DELIVERIES

Milk deliveries in the leading exporting countries of the world (relative development compared to 2020) [5]



[5] No correction has been made due to the leap day in 2020

Source: Eurostat, RVO.nl, national statistics

GEOGRAPHICAL SPREAD OF MILK PROCESSING INDUSTRY

Situation from 31-12-2021

- FrieslandCampina (19)
- Ausnutria (2)
- A-ware (2)
- DOC Kaas (DMK) (2)
- Kaasmakerij Henri Willig (2)
- Lactalis Leerdammer (2)
- Nutricia (Danone) (2)
- Rouveen Kaasspecialiteiten (2)
- Vreugdenhil Dairy Foods (2)
- Arla Foods **NIJKERK**
- CONO Kaasmakers **WESTBEEMSTER**
- Den Eelder **WELL**
- De Graafstroom **BLESKENSGRAAF**
- Eijssen Dairy **BEEK**
- Farm Dairy **LELYSTAD**
- Fonterra **HEERENVEEN**
- Globemilk **BOXMEER**
- Hochwald Foods **BOLSWARD**
- Kaasmakerij Özgazi **ETTEN-LEUR**
- Klaverkaas **WINKEL**
- Nestlé **NUNSPEET**
- Trouw Nutrition **SLOTEN**
- Vecozuivel **ZEEWOLDE**
- VIV Buisman **ZELHEM**
- Wheyco (DMK) **HOOGEVEEN**
- Zuivelhoeve **HENGELO OV**

KEY STATISTICS NETHERLANDS

	2019	2020	2021
Companies [6]	26	26	26
Number of dairy plants:	54	53	52
Cooperative	*27*	*26*	*25*
Non-cooperative	*27*	*27*	*27*
Milk processed (million kg)	14,230	14,620	14,300
Production value (million euro)	7,600	7,600	8,075

[6] Which process more than 10 million kg of (raw) milk, cream and/or whey **Source: RVO.nl, ZuivelNL**

TOP-20 LARGEST DAIRY COMPANIES

Turnover in 2020 + mergers and acquisitions between 1 January and 30 June 2021

	COMPANY	COUNTRY	TURNOVER	
			billion US dollar	billion euro
1	**Lactalis**	France	23.0 [7]	20.2 [7]
2	**Nestlé**	Switzerland	20.8 [7]	18.2 [7]
3	**Dairy Farmers of America**	USA	19.0 [7]	16.6 [7]
4	**Danone**	France	17.3 [7]	15.2 [7]
5	**Yili**	China	13.8 [7]	12.1 [7]
6	**Fonterra**	New Zealand	13.6	11.9
7	**FrieslandCampina**	The Netherlands	12.7	11.1
8	**Arla Foods**	Denmark/Sweden	12.1	10.6
9	**Mengniu**	China	11.0 [7]	9.7 [7]
10	**Saputo**	Canada	10.7	9.3
11	**Unilever**	The Netherlands/UK	6.6 [7]	5.8 [7]
12	**DMK**	Germany	6.4	5.6
13	**Meiji**	Japan	6.0 [7]	5.2 [7]
14	**Savencia**	France	5.9	5.2
15	**Kraft Heinz**	USA	5.6	4.9
16	**Agropur**	Canada	5.6 [7]	4.9 [7]
17	**Sodiaal**	France	5.5	4.8
18	**Gujarat Co-operative Milk Marketing Federation**	India	5.3	4.6
19	**Schreiber Foods**	USA	5.1	4.5
20	**Müller**	Germany	5.1	4.5

[7] Estimate

Source: Rabobank

Sustainability

PRODUCT CARBON FOOTPRINT DAIRY FARMING

grams of CO_2 equivalents per kg of measuring milk delivered by source

	2010	2015	2016	2017	2018	2019	2020
On the dairy farm							
Rumen fermentation and digestion (methane)	571	573	552	509	506	526	520
Manure (methane) [1]	152	157	149	141	140	144	141
Manure and soil (nitrous oxide) [2]	147	137	127	118	115	116	119
Energy use (CO_2) [3]	31	31	30	29	29	30	31
Total on the dairy farm	900	898	858	797	789	816	812
In production of raw materials							
Concentrated feed (CO_2)	298	351	346	340	322	318	321
Roughage and by-products (CO_2)	16	27	23	20	20	15	27
Fertilizer (CO_2)	43	41	37	37	33	35	36
Energy (CO_2) [4]	37	19	19	19	19	17	16
Other (CO_2) [5]	34	32	28	31	34	35	34
Total production of raw materials	429	470	453	447	428	421	434
Total dairy farming	**1,329**	**1,368**	**1,312**	**1,244**	**1,217**	**1,241**	**1,246**

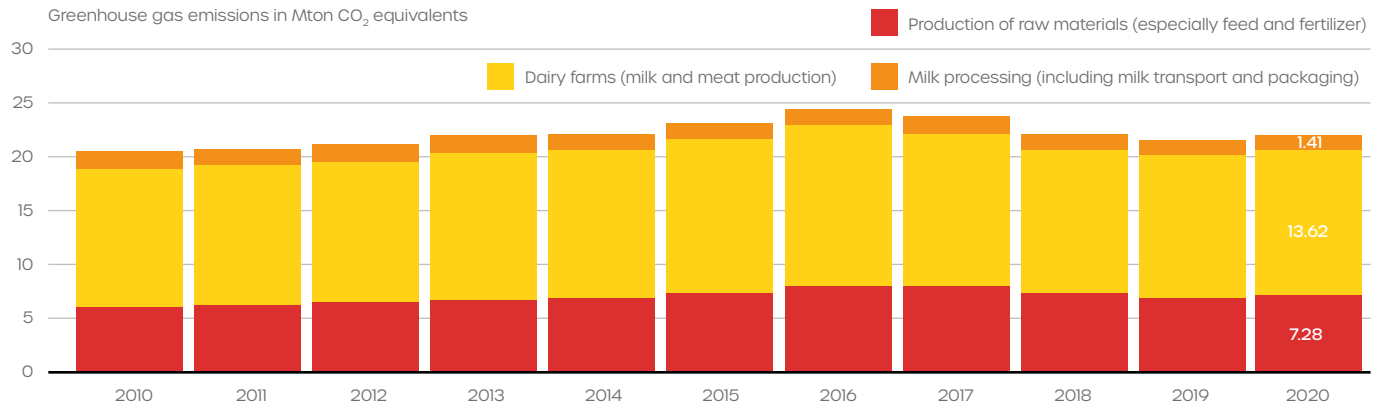
[1] animal manure emissions from fermentation processes in an anaerobic environment;
[2] emissions from nitrification and denitrification processes in the storage of animal manure and in the soil, and the indirect emission after atmospheric deposition of N-compounds and by washout of N from agricultural soils;
[3] direct fossil fuel emissions (assuming that 80% of the total fossil fuel emissions occur during combustion on dairy farm), including contract work and cultivation work;
[4] emissions that occur during the production of electricity (100%) and fossil fuels (assuming that 20% of the total emissions of fossil fuels occur during production);
[5] emissions from the production of other raw materials supplied, for example agricultural plastics and pesticides.

Source: Sustainable Dairy Chain, 2020 Report

Sustainable Dairy Chain
ZuivelNL finances and manages the programme for Sustainable Dairy Chain (DZK), which is a collaboration between the Netherlands Agricultural and Horticultural Association (LTO Nederland), the Dutch Agricultural Youth Association (NAJK), the Dutch Dairy Farmers' Union (NMV) and the dairy companies united in the Dutch Dairy Association (NZO).

Through the Sustainable Dairy Chain, the dairy farmer organisations and dairy companies in question work together towards a sustainable dairy chain (for more detailed information visit: www.duurzamezuivelketen.nl).

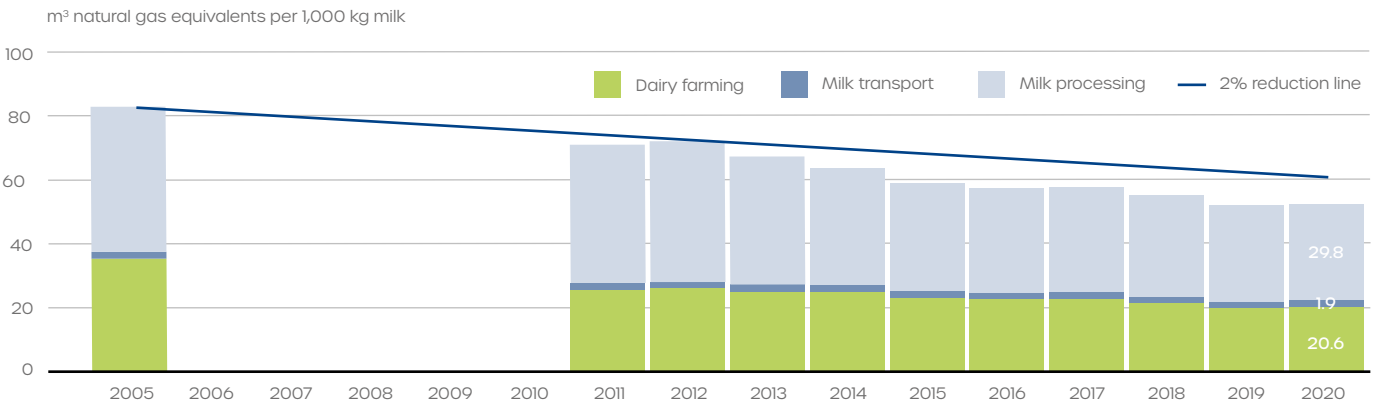
SECTOR CARBON FOOTPRINT FROM THE DAIRY CHAIN



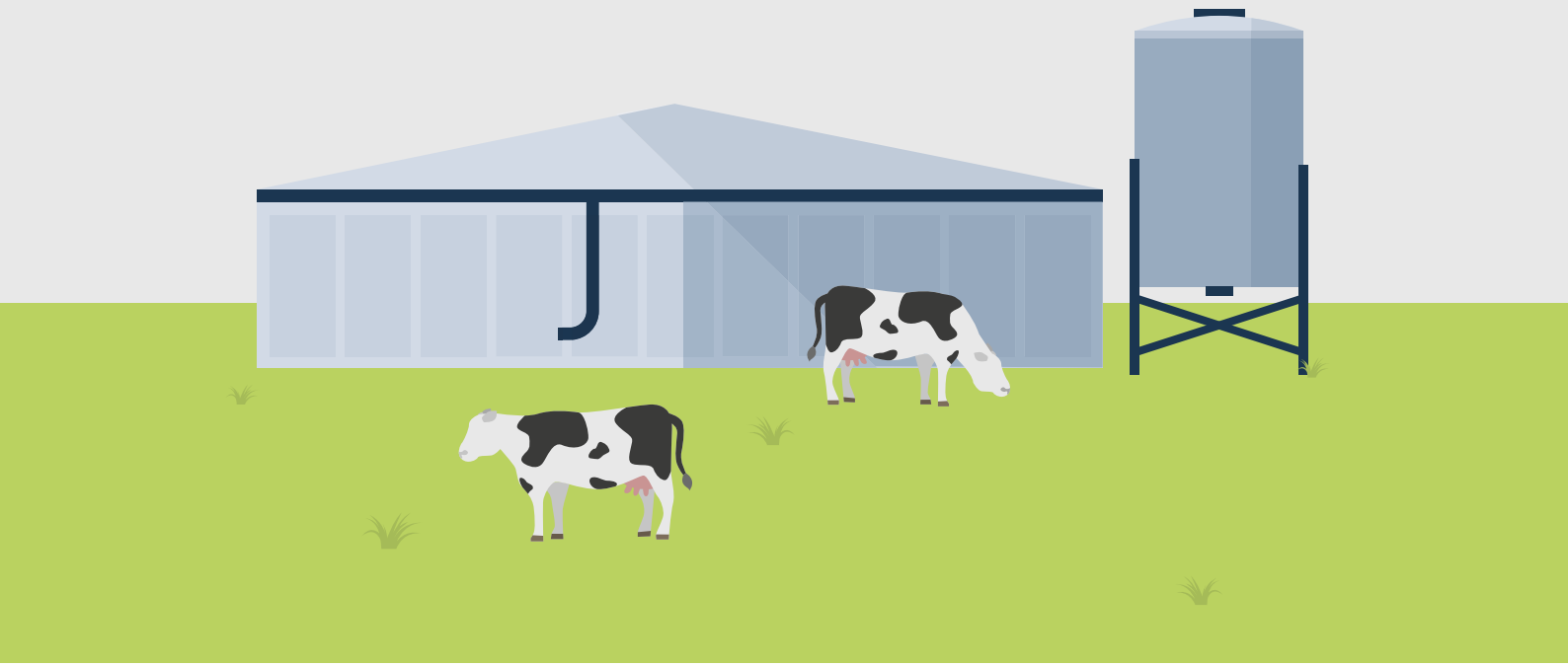
Source: Sustainable Dairy Chain, 2020 Report

PROGRESS IN ENERGY EFFICIENCY IN THE DAIRY CHAIN

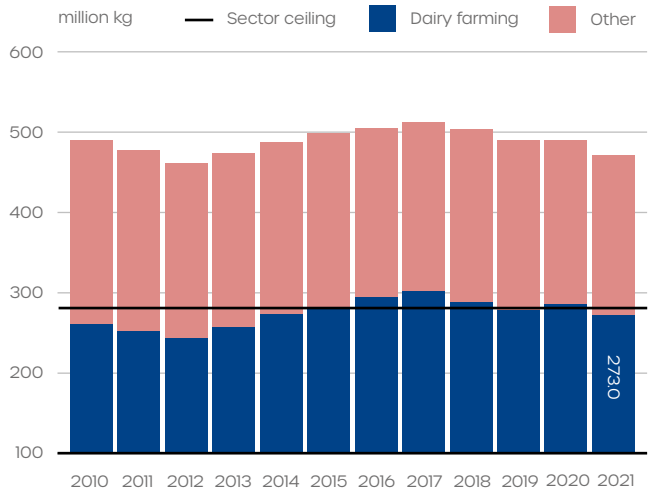
(objective: annual reduction of 2% compared to reference year 2005)



Source: Sustainable Dairy Chain, 2020 Report

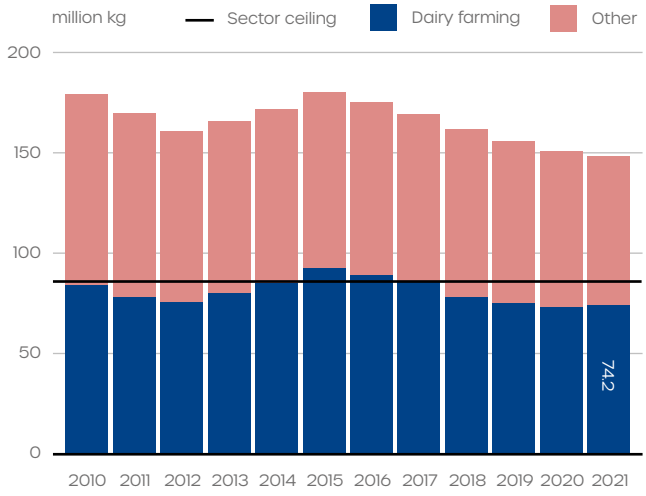


NITROGEN PRODUCTION IN ANIMAL MANURE



Sector ceiling dairy farming 281.8 million kg

PHOSPHATE PRODUCTION IN ANIMAL MANURE

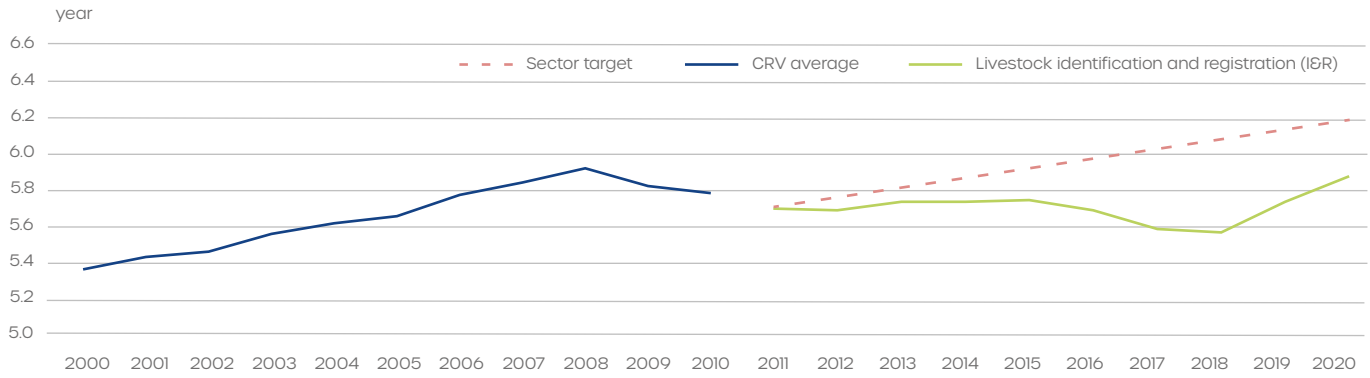


Sector ceiling dairy farming 84.9 million kg

Source: Statistics Netherlands (CBS)

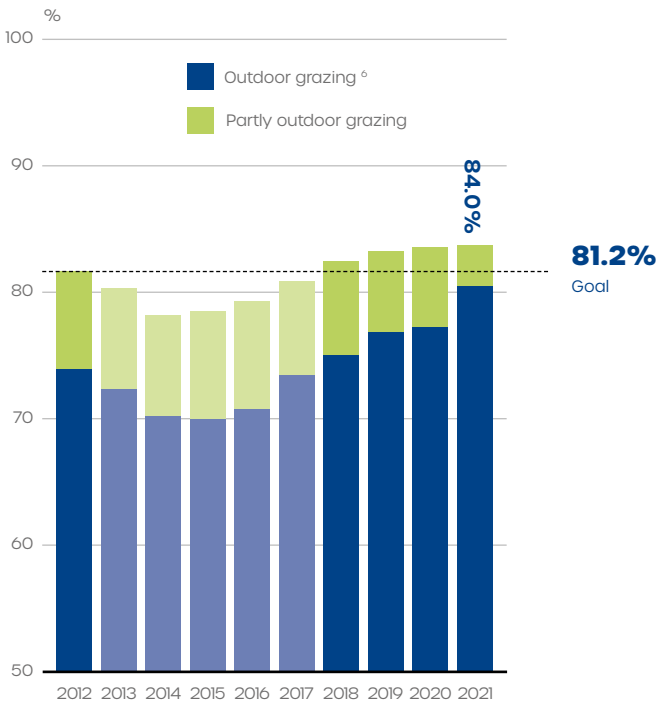
LIFESPAN OF DAIRY COWS

Average age at removal



Source: Sustainable Dairy Chain, 2020 Report

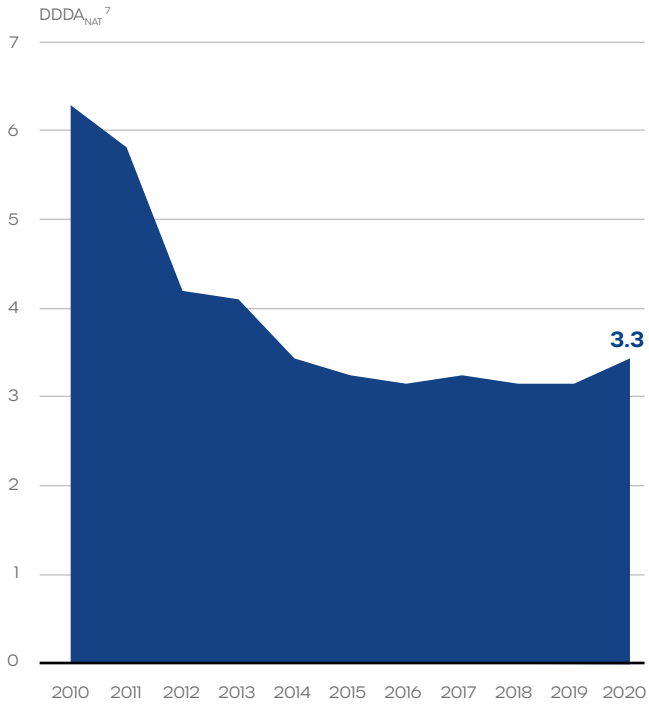
OUTDOOR GRAZING



[6] With outdoor grazing, the dairy cows are outside for at least 120 days and at least 6 hours a day on an annual basis

Source: Sustainable Dairy Chain, ZuivelNL

DEVELOPMENT OF AVERAGE ANTIBIOTIC USE BY DAIRY FARMS ACCORDING TO THE NETHERLANDS VETERINARY MEDICINES INSTITUTE



[7] Defined Daily Dose Animal, National: use of antibiotics at national level

Source: Sustainable Dairy Chain, 2020 Report

Trade

Export

In 2021, the total Dutch dairy export value increased by approximately 9%, reaching a level of €8.2 billion. This was the result not only of the substantially higher dairy market prices, but also of the recovery in export volume of almost all products after the first COVID-19 year. Despite the fact that COVID-19 still had a major impact worldwide, it did not lead to a further reduction in the demand. Butter and butter oil (+18%), cheese (+5%) and condensed milk (+5%) contributed most to the increase in value. The export value of non-skimmed milk powder saw only a modest increase (+1%), despite the fact that the volume increased sharply. Although the value of skimmed milk powder rose by 4%, export volumes fell by 4%.

For the main product group, i.e., cheese, the increase in volume (+3%) was less than the increase in value. In 2021, a total of over 945 thousand tonnes of cheese was exported. The strong drop in the export of Dutch cheeses by almost 25 thousand tonnes stood out. Gouda (-5%) and Edam (-8%) in particular saw a sharp drop.

Conversely, the export of Mozzarella increased considerably by 62% to a volume of approximately 69 thousand tonnes. Most of the absolute growth in the export of cheese was realised in the EU-27 (+3%). Spain in particular was a major growth market. Trade with Germany increased slightly. Exports to Belgium were down for the second year in a row. As a result of Brexit, the exports to third countries became more important. Due to Brexit, exports to the UK suffered a severe blow (-9%) in 2021. The drop materialised chiefly in Q3. The volumes remained fairly stable for the rest of the year. Despite that drop, the volume of cheese exported to the other European countries remained stable. Exports to Asia fell at a notable rate. Japan and the Middle East in particular procured less cheese. The export of cheese, Mozzarella in particular, to South Korea rose significantly.

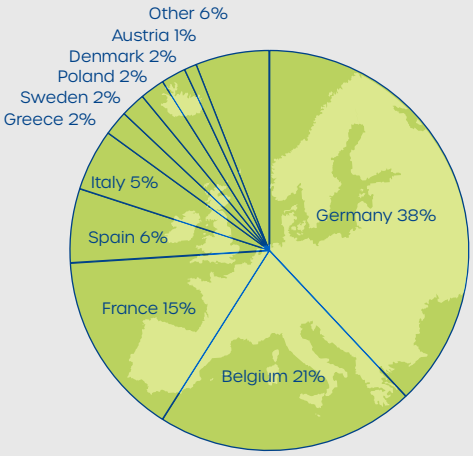
The EU has traditionally been the most important sales region for Dutch dairy products. In 2021, exports to EU Member States with a value of almost €5.8 billion represented over 70% of the total export value. Neighbouring countries Belgium and Germany alone, together with France, are good for more than half of the total Dutch dairy sales. The Netherlands is one of the most active EU Member States on the world market. The Netherlands' share in the world trade, which amounted to 93.0 billion kg of milk equivalents in 2021, was over 4%. Outside the EU, China (including Hong Kong) was once again the largest market for dairy from the Netherlands in 2021, representing 3% of the total export value. In 2021, South Korea and the UK were each good for a share of over 2% of the total export value.

Import

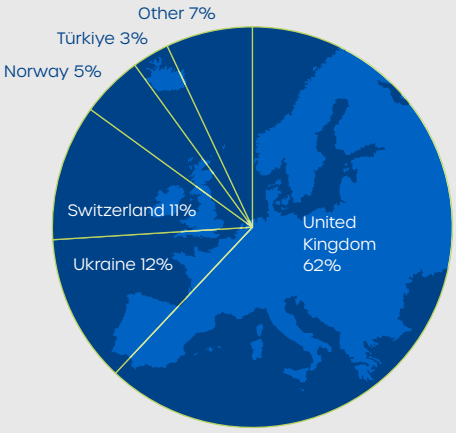
In addition to being an exporter, the Netherlands is a large importer of dairy from other EU Member States, primarily from Germany, Belgium and Ireland. Brexit caused the import from other origin countries outside the EU to increase to 4% (was less than 1% in 2020). In 2021, the import value saw significant growth to almost €4.1 billion (+14%). In particular, the import of butter, butter oil, skimmed milk powder, milk and cream increased sharply in terms of both volume and value. On balance, in 2021 the Dutch dairy trade surplus grew to €4.1 billion (+4%).

DUTCH EXPORT VALUE [1] PER DESTINATION

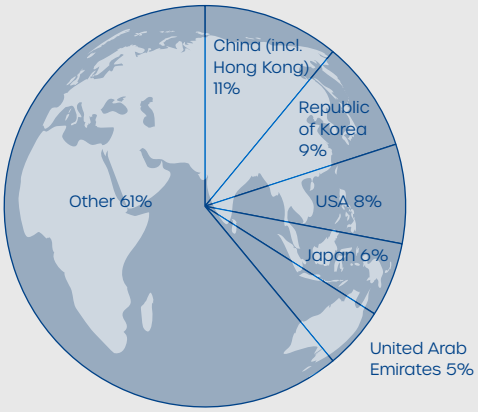
EU-27: **€5.8 billion**



Other European countries: **€0.3 billion**



Third countries: **€2.1 billion**



[1] Cheese, butter and butteroil, fermented milk products, concentrated milk, milk and cream, whey and whey products and products with milk constituents (HS-codes 0401-0406 and 17021)

Source: Eurostat, ZuivelNL

TOP-5 EXPORTING COUNTRIES IN VOLUME (EU-27: EXCLUDING INTRA-EU TRADE)

million kg

CHEESE

Country	Volume	%
EU-27	1,393.9	40.4%
of which:		
Germany	212.0	6.1%
The Netherlands	193.0	5.6%
France	179.0	5.2%
Ireland	163.9	4.8%
Italy	161.5	4.7%
USA	407.1	11.8%
New Zealand	358.0	10.4%
Belarus	298.5	8.7%
Australia	156.8	4.5%
Other	835.7	24.2%
Total [2]	**3,450.0**	**100.0%**

BUTTER AND BUTTEROIL

Country	Volume	%
New Zealand	397.5	38.8%
EU-27	262.5	25.6%
of which:		
Ireland	84.2	8.2%
France	52.2	5.1%
The Netherlands	39.4	3.8%
Denmark	29.5	2.9%
Belgium	17.0	1.7%
Belarus	87.4	8.5%
USA	58.1	5.7%
UK	51.9	5.1%
Other	167.7	16.4%
Total [2]	**1,025.0**	**100.0%**

NON-SKIMMED MILK POWDER

Country	Volume	%
New Zealand	1,618.9	57.8%
EU-27	298.1	10.6%
of which:		
The Netherlands	99.1	3.5%
Denmark	48.6	1.7%
France	42.7	1.5%
Ireland	31.2	1.1%
Belgium	24.7	0.9%
Argentina	145.1	5.2%
Uruguay	140.8	5.0%
Australia	51.4	1.8%
Other	545.6	19.5%
Total [2]	**2,800.0**	**100.0%**

SKIMMED MILK POWDER

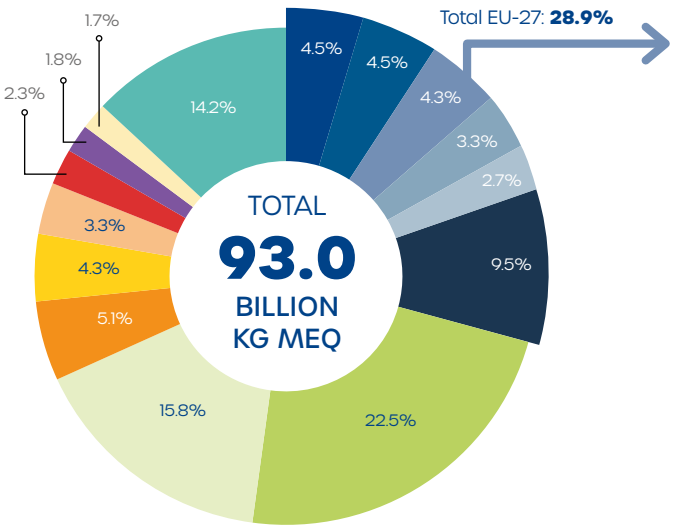
Country	Volume	%
USA	893.8	34.0%
EU-27	788.5	30.0%
of which:		
France	165.0	6.3%
Belgium	139.2	5.3%
Germany	116.9	4.5%
Ireland	97.3	3.7%
The Netherlands	79.2	3.0%
New Zealand	325.9	12.4%
Australia	156.7	6.0%
Belarus	120.0	4.6%
Other	340.2	13.0%
Total [2]	**2,625.0**	**100.0%**

[2] This is an approximation of the world trade total

Source: Comtrade, Eurostat, ZuivelNL

POSITION OF DUTCH DAIRY EXPORTS ON THE WORLD MARKET

Export shares of the most important dairy exporting countries (in % of total world trade, expressed in milk equivalents)

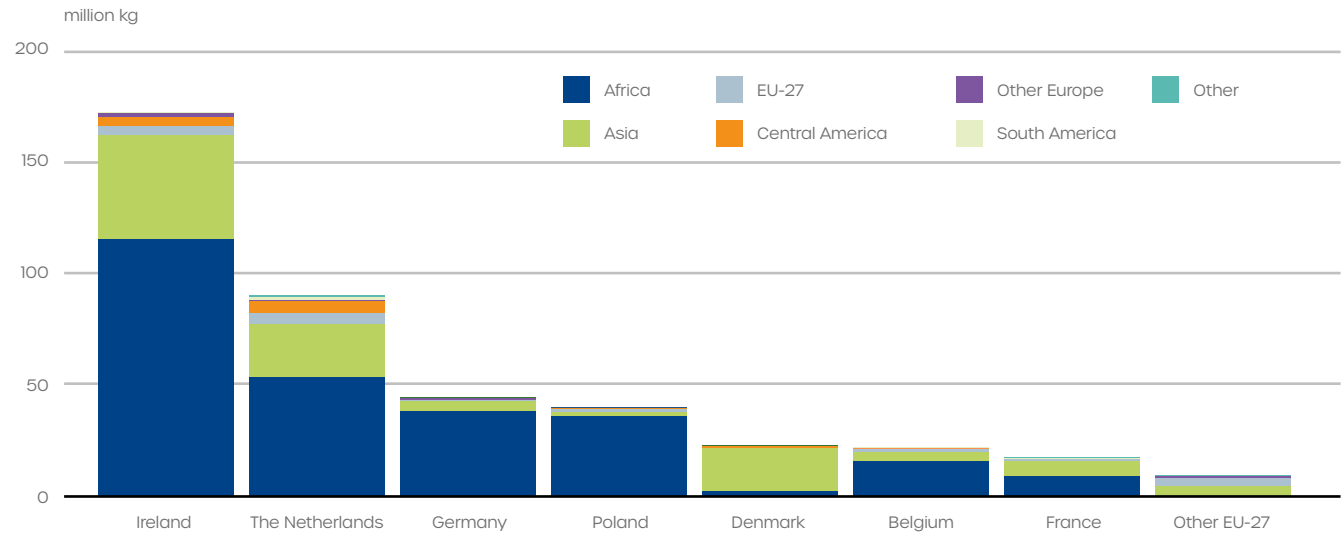


Dutch exports to third countries:
4.0 billion kg. In % of world trade: **4.3%**

New Zealand
Australia
Saudi Arabia
USA
United Kingdom
Uruguay
Belarus
Argentina
Other
France
Ireland
Germany
Belgium
The Netherlands
Other EU-27

Source: Comtrade, Eurostat, ZuivelNL

EU EXPORTS OF FAT FILLED POWDER[3]



[3] Powder, consisting of a mixture of skimmed milk and/or whey and vegetable fats/oils

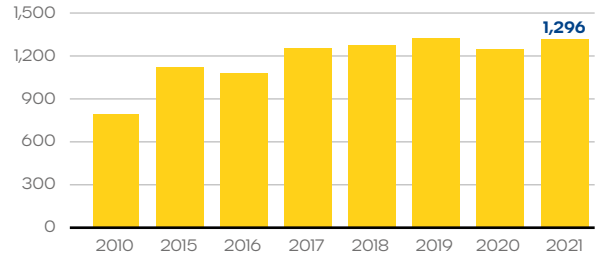
Source: Eurostat

DEVELOPMENT DUTCH IMPORTS

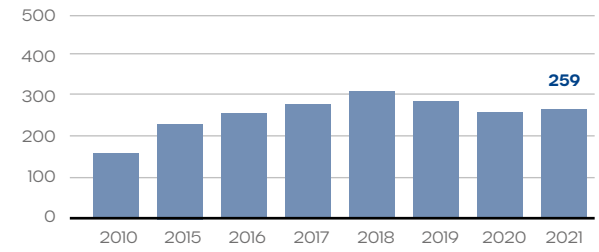
(including intra trade)

million euro

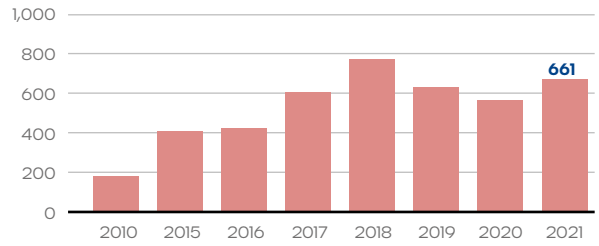
CHEESE



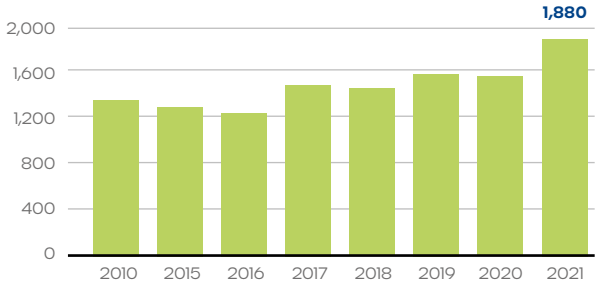
MILK AND CREAM [4]



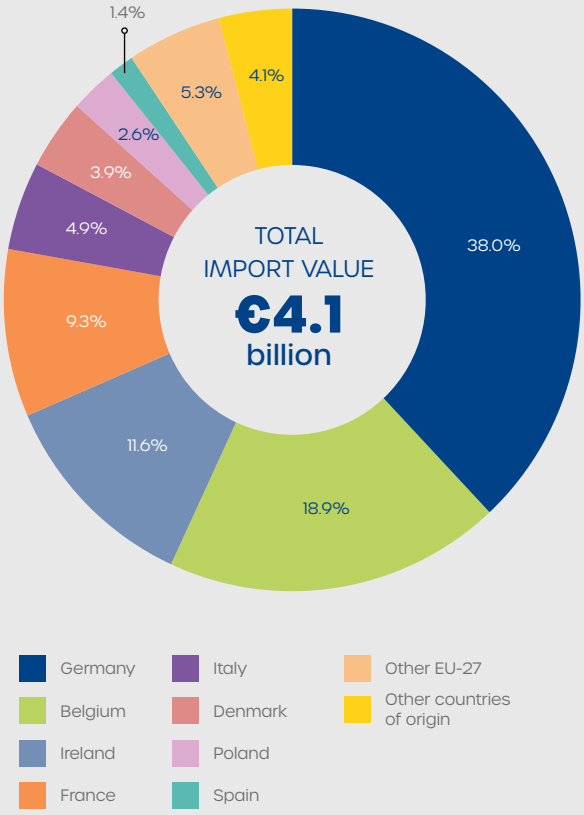
BUTTER AND BUTTEROIL



OTHER [5]



COUNTRIES OF ORIGIN OF DUTCH IMPORTS



Source: Eurostat

[4] In small packages for consumers

[5] Milk powder, condensed milk, fermented milk products, whey and whey products, milk and cream (in bulk)

Source: Eurostat

Consumption

The Netherlands has a long tradition of dairy consumption. Milk, cheese, yoghurt and dairy desserts are part of the daily diet of many Dutch people. The fact that milk and dairy also contribute to people's better health is shown by the fact that dairy has a place in the Netherlands Nutrition Centre's *'Schijf van Vijf'*, its equivalent to the food pyramid. This is a nationally recognised information model to promote good, safe and more sustainable food choices.

The share of dairy products[1] in Dutch households' consumer spending on food and non-alcoholic drinks has increased to roughly 15% in recent years. In 2020, this amounted to €6.3 billion, or 1.9% of the total consumer spending.

Cheese is an important part of Dutch dairy consumption. Dutch cheese consumption per capita has been above the European average for years. The per capita consumption of cheese, including quark and goat's cheese, is approximately 25 kg.

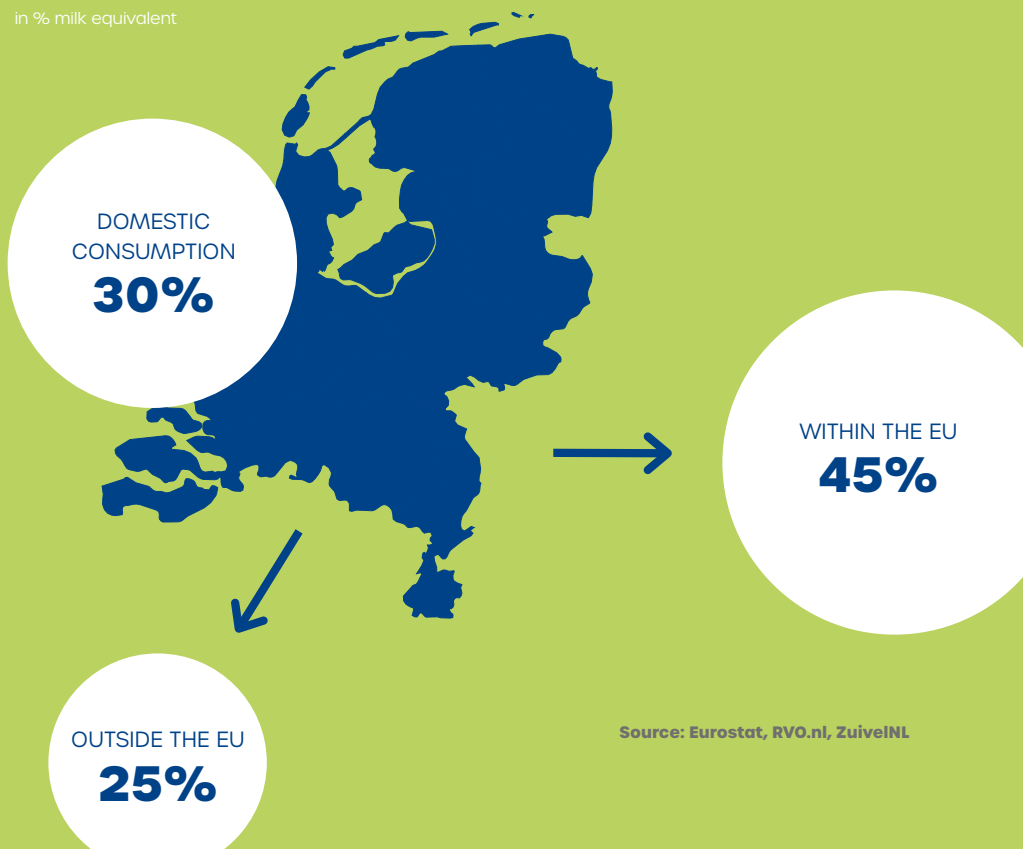
[1] Including eggs, oils and fats

Of the dairy available in the Netherlands (expressed in milk equivalents), which consists of national milk production and imports, approximately 30% is consumed in the domestic market. The remaining 70% is exported.

DESTINATION OF AVAILABLE DAIRY PRODUCTS IN THE NETHERLANDS

Based on production, imports and exports

in % milk equivalent



Source: Eurostat, RVO.nl, ZuivelNL

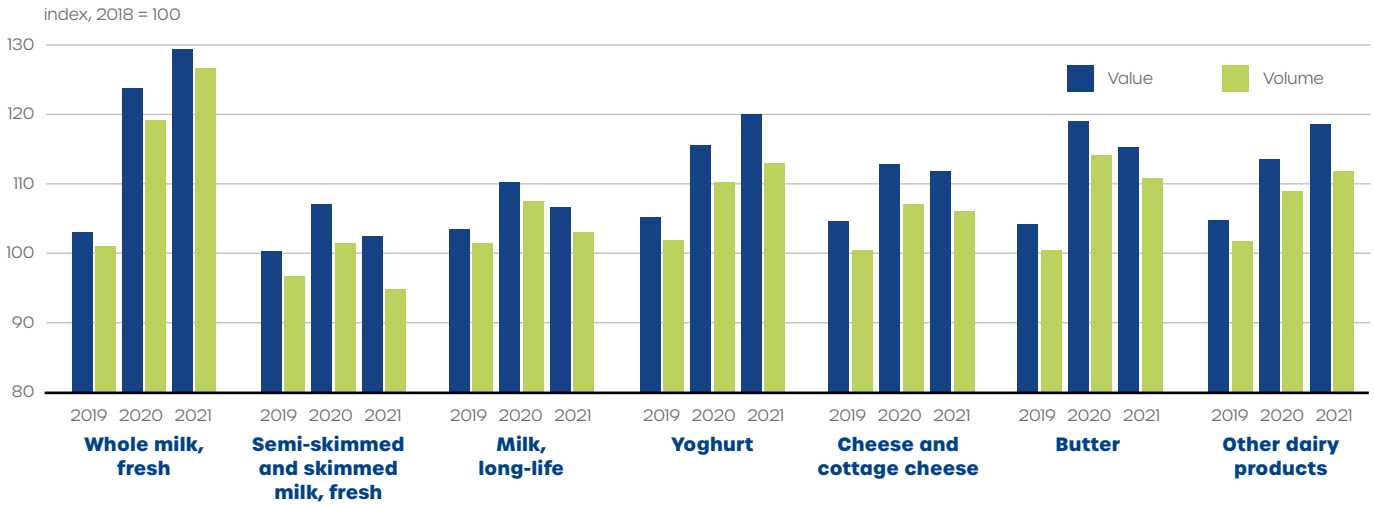
CONSUMPTION SPENDING OF DUTCH HOUSEHOLDS

billion euro

	2010	2015	2016	2017	2018	2019	2020
Potatoes, vegetables and fruit	5.8	6.8	7.1	7.5	7.7	8.1	8.9
Meat and meat products	6.1	6.7	6.9	7.1	7.3	7.6	8.3
Bread and bakery products	6.4	7.1	7.1	7.3	7.5	7.9	8.3
Dairy, eggs, oils and fats	4.4	4.9	5.0	5.3	5.6	5.9	6.3
Sugar, confectionery and ice	2.3	2.6	2.6	2.7	2.7	2.8	2.9
Mineral water, soft drinks and such	1.7	1.9	2.0	1.9	1.9	1.9	1.9
Fish	1.0	1.2	1.2	1.2	1.3	1.4	1.5
Coffee, tea and cacao	0.9	1.1	1.1	1.2	1.2	1.2	1.4
Other foods	2.1	2.6	2.7	2.8	2.9	3.0	3.2
Total food and non-alcoholic beverages	**30.7**	**34.9**	**35.6**	**37.0**	**38.0**	**39.8**	**42.7**
Total consumption spending	**290.5**	**310.8**	**316.0**	**327.3**	**341.6**	**353.5**	**335.2**
Share of dairy products in:							
Total food and non-alcoholic beverages	14.3%	14.1%	14.0%	14.3%	14.8%	14.8%	14.7%
Total consumption spending	1.5%	1.6%	1.6%	1.6%	1.6%	1.7%	1.9%

Source: Statistics Netherlands (CBS)

DEVELOPMENT IN TURNOVER SUPERMARKETS [1]



[1] The method for compiling the turnover of product groups is recently developed by Statistics Netherlands (CBS) and is of an experimental nature

Source: ZuivelNL

ZuivelNL
KETENORGANISATIE VAN DE ZUIVELSECTOR

Dutch dairy in Figures 2021 is a publication of ZuivelNL. It provides an overview in figures of the key developments in the Dutch dairy sector.

ZuivelNL's mission is to strengthen the Dutch dairy chain while maintaining respect for mankind, animals, the environment and society as a whole, to facilitate discourse between dairy farmer interest groups and dairy companies in its capacity as an industry organisation, and to create added value through joint initiatives. ZuivelNL's members are the Netherlands Agricultural and Horticultural Association (LTO), the Dutch Dairy Farmers' Union (NMV), the Dutch Dairymen Board (DDB) and the Dutch Dairy Association (NZO).

For more information about ZuivelNL, visit **www.zuivelnl.org**

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