Dutch Dairy in Figures
2023

ZuivelNL
KETENORGANISATIE VAN DE ZUIVELSECTOR

Dutch Dairy in Figures 2023 (Zuivel in Cijfers 2023) is a publication by ZuivelNL and provides an overview in figures of the key developments in the Dutch dairy sector in 2023. The publication is divided into 7 topics:

- The Netherlands: land of dairy
- Market and Economy
- Dairy farming
- Milk processing industry
- Sustainability
- Trade
- Consumption

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 a dairy industry organisation, and to create added value through joint initiatives. ZuivelNL's members are the Dutch Dairymen Board (DDB), the Netherlands Agricultural and Horticultural Association (LTO), the Dutch Dairy Farmers' Union (NMV), and the Dutch Dairy Association (NZO).

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

Tables with detailed statistical information can be consulted on ZuivelNL's website.
Although the 2023 figures are provisional, they will not differ much from the final figures.

If the notation '-' is used, it means that the value is '0' (zero).
If the notation '--' is used, it means that the value is unknown.

The Netherlands: land of dairy

MODERN INDUSTRY

The Netherlands is known worldwide as a dairy country. The production and consumption of milk, butter and cheese has a long tradition and the characteristic meadow landscape with cows and windmills is inextricably linked to the image 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 a frontrunner in the international dairy world. As a result, it has a strong image and good access to important (growth) markets. The following requirements are important in this regard:

- Distinctive product quality
- Food safety
- Animal health
- Animal welfare
- Sustainable development

The professionalism of dairy farmers, in the dairy processing industry and in supplying sectors is the decisive factor behind the successful development of the Dutch dairy sector.

THE NITROGEN POLICY AND THE PHASING OUT OF DEROGATION POSE A MAJOR CHALLENGE TO THE DAIRY SECTOR

The government has imposed a tough target on the agricultural sector to reduce nitrogen emissions. The entire Dutch dairy sector is expected to experience the consequences of this during the period until 2035.

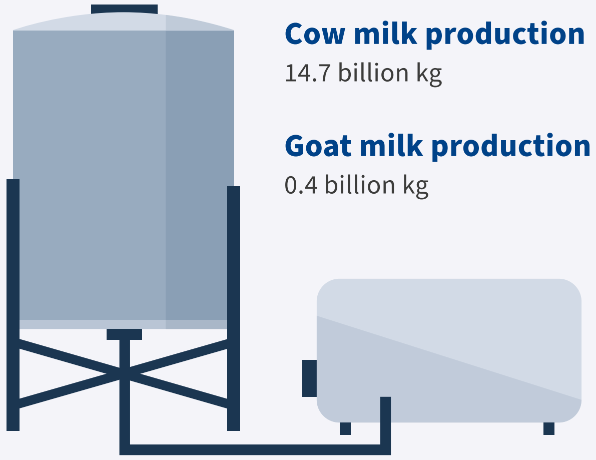
In 2022, the Nitrates Committee of the European Commission decided to phase out the more lenient regulations for manure spreading in the Netherlands. As a result, the costs for disposing of surplus manure are rising significantly, which strongly impacts in a negative way the financial results of dairy farmers. Starting in 2023, a gradual reduction will take place on an annual basis. This 'derogation' will end definitively on January 1, 2026. After that, Dutch dairy farmers will be allowed to spread a maximum of 170 kg of nitrogen from animal manure per hectare per year (down from 230 to 250 kg).

FUTURE-ORIENTED THROUGH ECONOMICALLY AND ENVIRONMENTALLY RESPONSIBLE DEVELOPMENTS

In the coming years, Dutch dairy farming will continue to focus on a healthy, balanced development within the environmental limits. Climate measures, and greenhouse gas reduction and energy policies in particular, also have an increasing impact on dairy companies. Both dairy processing industry and dairy farms want to make a positive contribution to realising the national climate objectives in an economically responsible manner.

Dutch dairy at a glance

MILK PRODUCTION



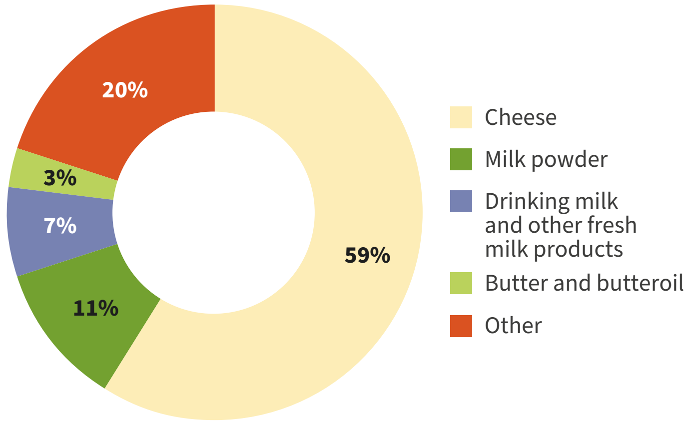
Cow milk production
14.7 billion kg

Goat milk production
0.4 billion kg

1.6 million
Dairy cows

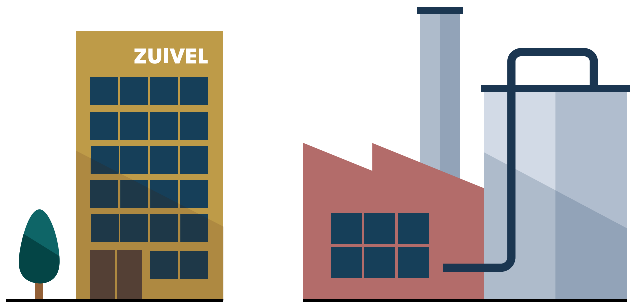
0.5 million
Dairy goats

MILK PROCESSING

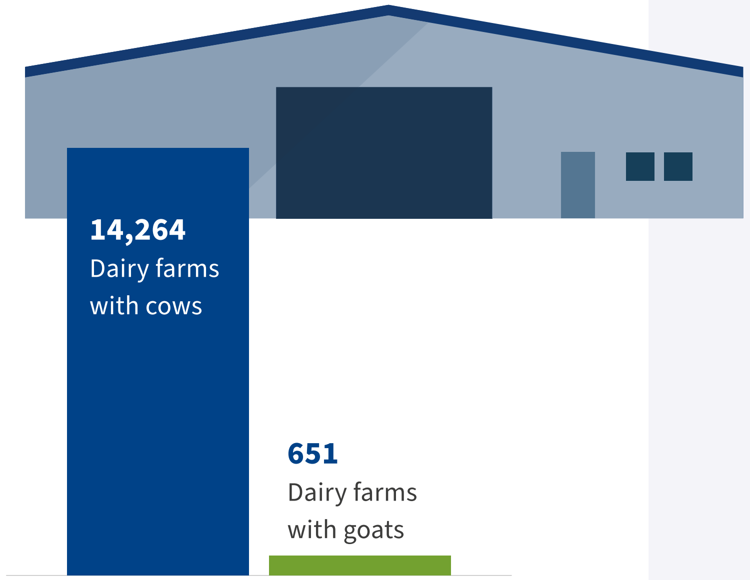


26
Milk processing companies

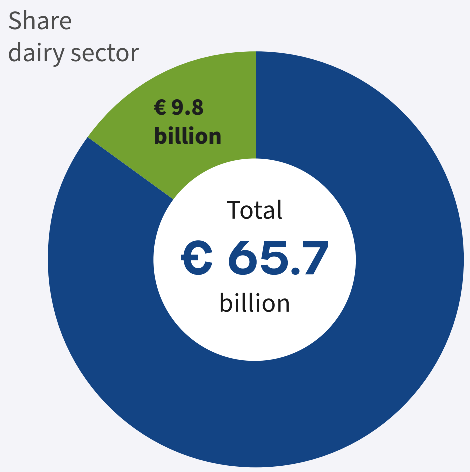
53
Dairy plants



NUMBER OF DAIRY FARMS



CONTRIBUTION OF AGRO & FOOD TO THE ECONOMY



EMPLOYMENT DAIRY FARMING AND MILK PROCESSING INDUSTRY

45 thousand fte's

Total surface area grassland and maize
1.0 million hectares

This is **25%** of the surface area in The Netherlands

EXPORT REVENUES

€ 10.3 billion
6.1% contribution to trade surplus

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

Market and Economy

MARKET DEVELOPMENT

Despite the global milk production showing anything but strong growth in 2023, dairy prices remained relatively low for a large part of the year. This was due to a disappointing demand development. From September onwards, some recovery was observed in the dairy market, as milk production in the export regions developed more weakly than expected.

The fall in price, which began in the fourth quarter of 2022, continued until the end of January 2023. Demand drop due to the high price level, combined with a recovery in milk supply in several key dairy countries (EU and US) and decreasing prices in the energy market, exerted strong pressure on prices during this period. Within 4 months, the butter quotation dropped by as much as 40% to € 430 per 100 kg by the end of January. For skimmed milk powder, the quotation in early February was 35% lower than at the beginning of October 2022, reaching a level of € 240 per 100 kg.

Afterwards, until August, the market experienced some fluctuations. Supply and demand were reasonably balanced, although the balance was very fragile. The increase in milk supply was modest and insufficient to compensate for the decline in 2022. Demand, however, remained disappointing.
When prices dropped, buyers would return to the market, only to quickly adopt a wait-and-see approach again if prices rose (too) rapidly. This behaviour arose during the COVID-19 pandemic and was reinforced during the early period of the war between Russia and Ukraine, when buyers decided to purchase only the most essential items for the short term due to great uncertainty. While the butter quotation remained just above the low levels of January during this period, the quotation of skimmed milk powder continued to decline in July and August. This weakening was partly due to increased competition from New Zealand.
New Zealand companies, faced with a significant drop in Chinese imports of (particularly non-skimmed) milk powder in recent years, have been forced to shift their focus and look more towards other markets.

From September onwards, there was a recovery in price levels. From the third quarter onwards, the global dairy market was confronted with a lagging milk supply in the most important export regions. The shortage in supply outweighed the still disappointing demand, causing prices to rise sharply. Dairy products with a high fat content, in particular, saw significant price increases.

The rise in butter prices was almost entirely due to high cream prices. Due to the lagging milk production and a recovery in the cheese market, the supply of fresh butter declined significantly in the last months of the year. However, this was also offset by limited demand. In December, a slight downward correction in the butter quotation was observed due to lower cream prices. Ultimately, the butter quotation ended the year at a level of € 548 per 100 kg. The quotation of skimmed milk powder also increased, but less sharply. The price rise was still tempered by limited buying interest in the (global) market and lasted for a shorter period than butter. In November, the price level stabilized and remained almost unchanged in December. At the end of December, the quotation of skimmed milk powder was at a level of € 254 per 100 kg.

The average price level in 2023 dropped significantly after 2 years of substantial increases. The average quotations of protein-rich dairy products like skimmed milk powder (-33%) and whey powder (-39%) decreased more sharply than those of high-fat dairy products. The average quotation of butter fell by 28%, while that of whole milk powder decreased by 27%. The cheese price (Gouda) dropped by an average of 16%.

MILK PRICES PAID

The development of milk prices paid in Europe and the Netherlands logically reflected the trends in the dairy market. After reaching a historic peak at the end of 2022, milk prices fell sharply in the first half of 2023. This was due to significantly lower market prices for dairy products in the last quarter of 2022 and the beginning of 2023.

In the third quarter, milk prices continued to decline slightly. In the last quarter of 2023, they increased again thanks to the recovery in dairy market price levels.

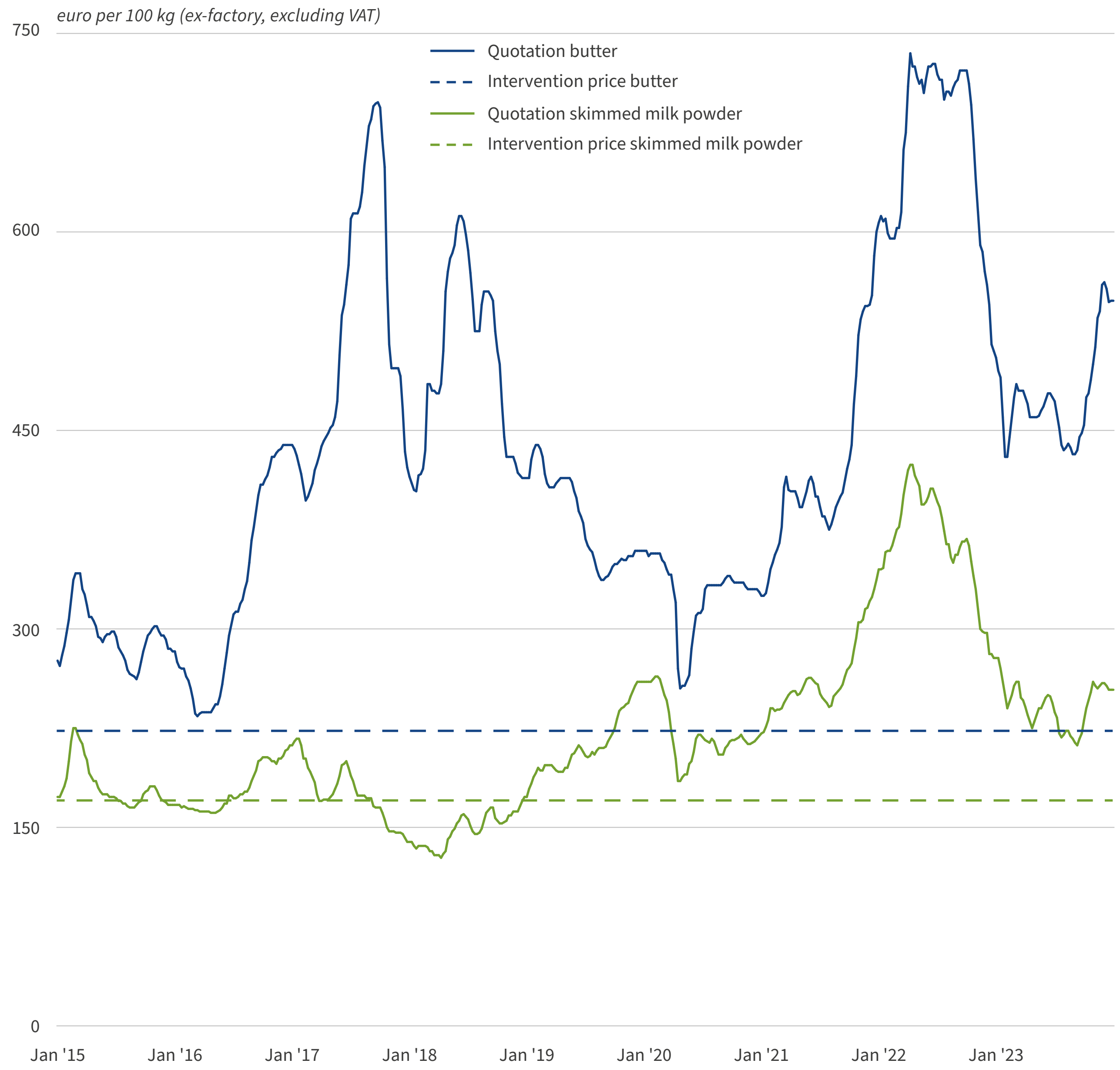
On average, the Dutch milk price level in 2023 ended more than 16% below the level of the previous year. The profitability of dairy farming showed a significant deterioration in 2023 compared to the financially strong milk year of 2022. Milk prices fell sharply, while the cost price decreased only slightly.

ECONOMIC SIGNIFICANCE

In 2022, Agro & Food contributed € 65.7 billion (6.9%) to the Dutch economy (total: € 958.6 billion), of which € 9.8 billion (1.0%) related to dairy.

The share of dairy products [1] in the consumer expenditure of Dutch households on food and non-alcoholic beverages has increased to nearly 15% in recent years. In 2022, dairy products represented a value of over € 6.9 billion, accounting for 1.7% of the total consumer expenditure.

DUTCH QUOTATION FOR BUTTER AND SKIMMED MILK POWDER

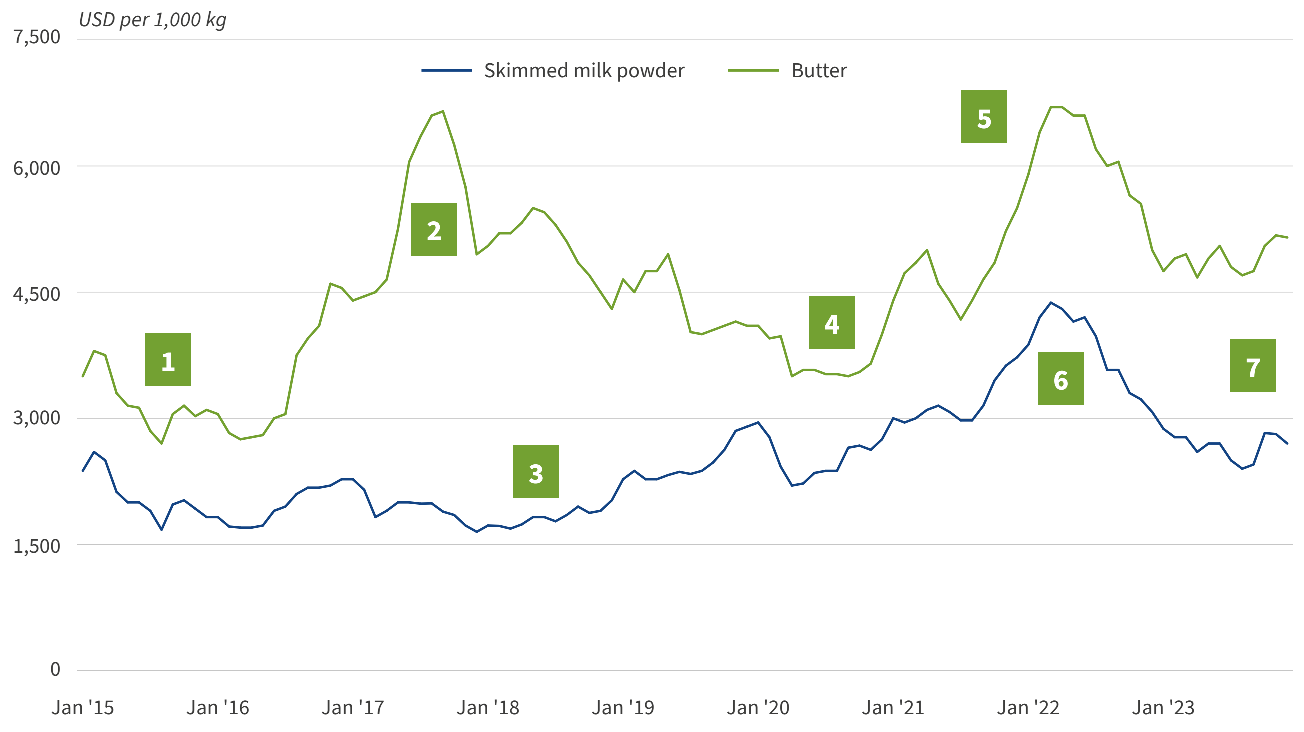


Source: ZuivelNL

[1] Including eggs, oils and fats.

ECONOMIC AND (GEO-)POLITICAL EVENTS THAT HAVE AFFECTED THE GLOBAL DAIRY MARKET

Prices (FOB Western Europe)



1

The combination of:
- collapse of Chinese dairy imports
- Russian trade ban
- end of EU milk quotas

brings dairy prices to a very low level.

2

- Lagging milk supply brings the market back into balance.
- The butter price is peaking due to a reassess-ment of butter as a healthy and natural ingredient.

3

The price of skimmed milk powder has been under pressure for years due to the large intervention stocks in the EU.

4

The COVID pandemic disrupts the economy and global logistics.

5

Economies are restarting:
- Energy and transport costs are increasing.
- Labor and parts shortages are slowing down the restart.

6

Russian invasion of Ukraine:
- Accelerates the rise in energy prices.
- Creates shortages of farm inputs.
- Drives significant food price inflation.

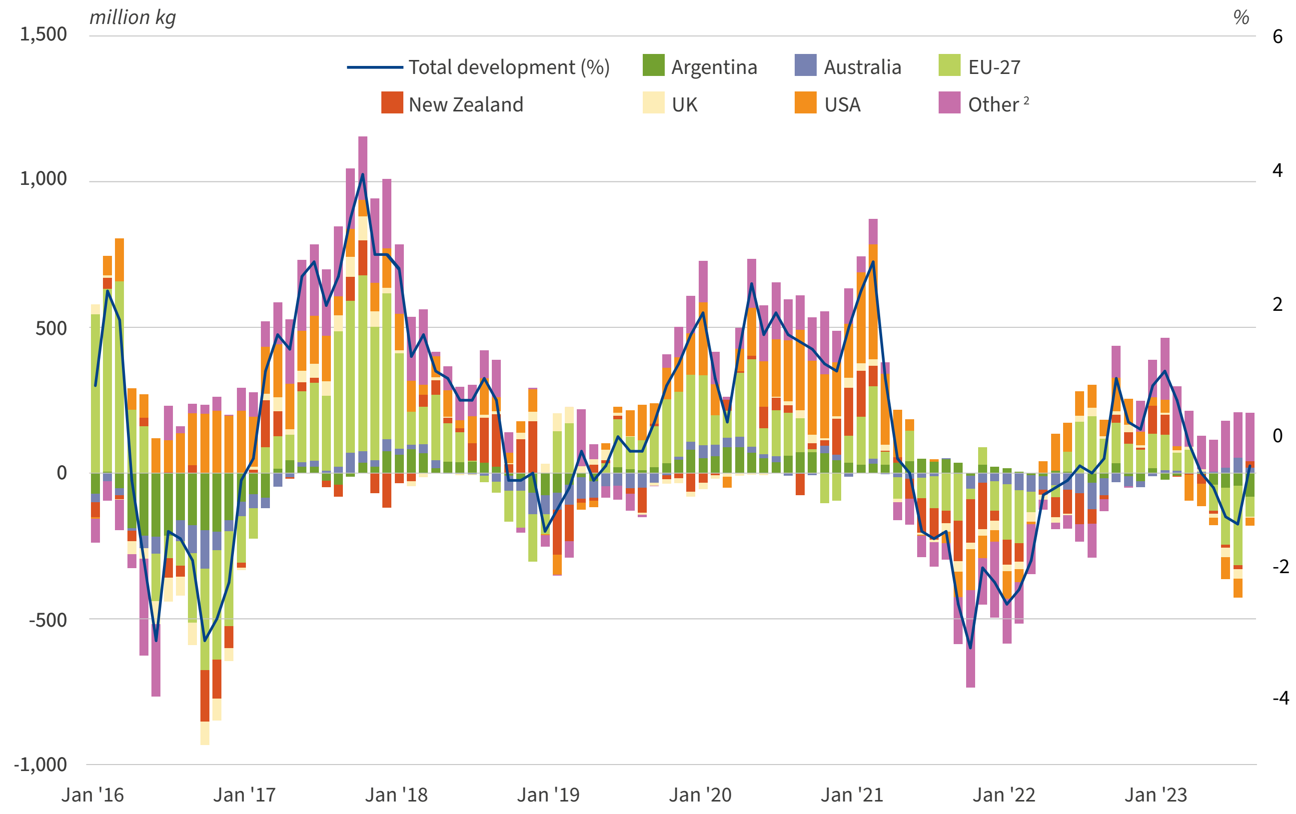
7

The Gaza war disrupts global logistics.

Source: ZMB, ZuivelNL, various media

DEVELOPMENT MONTHLY MILK DELIVERIES IN LEADING GLOBAL DAIRY EXPORTING COUNTRIES

Change from the same month in the previous year

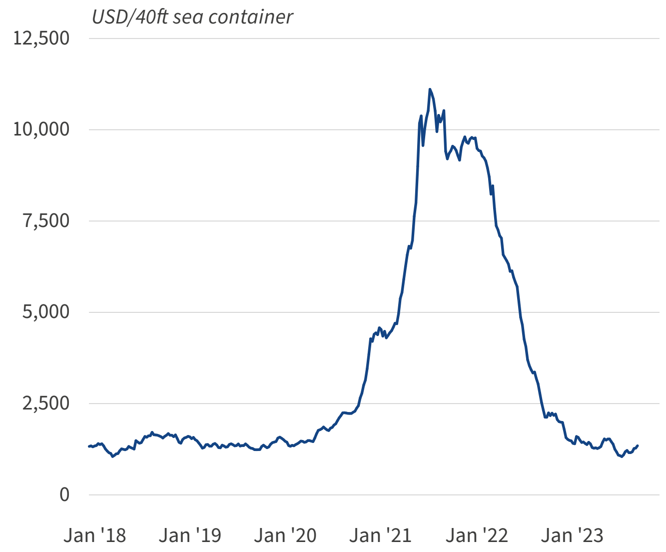


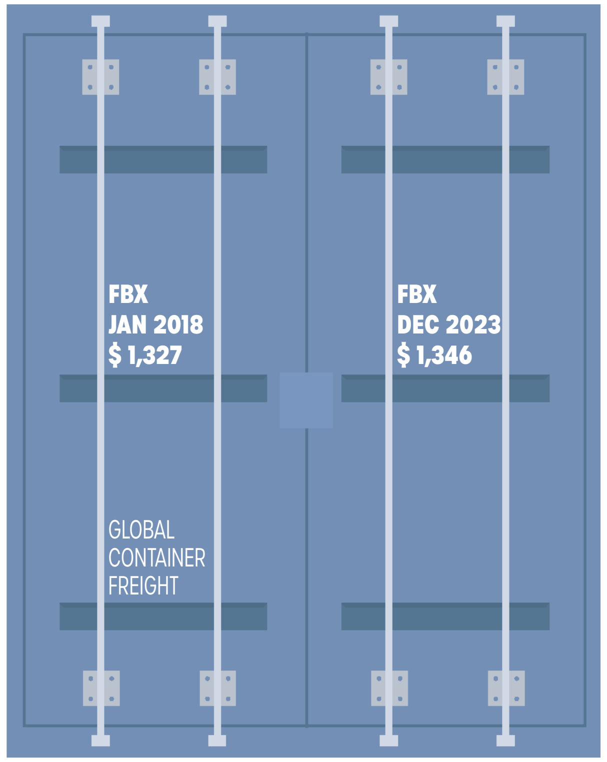
² Other: Belarus, Brazil, Canada, Chile, Türkiye and Uruguay.

Source: Eurostat, RVO, ZuivelNL, national statistics

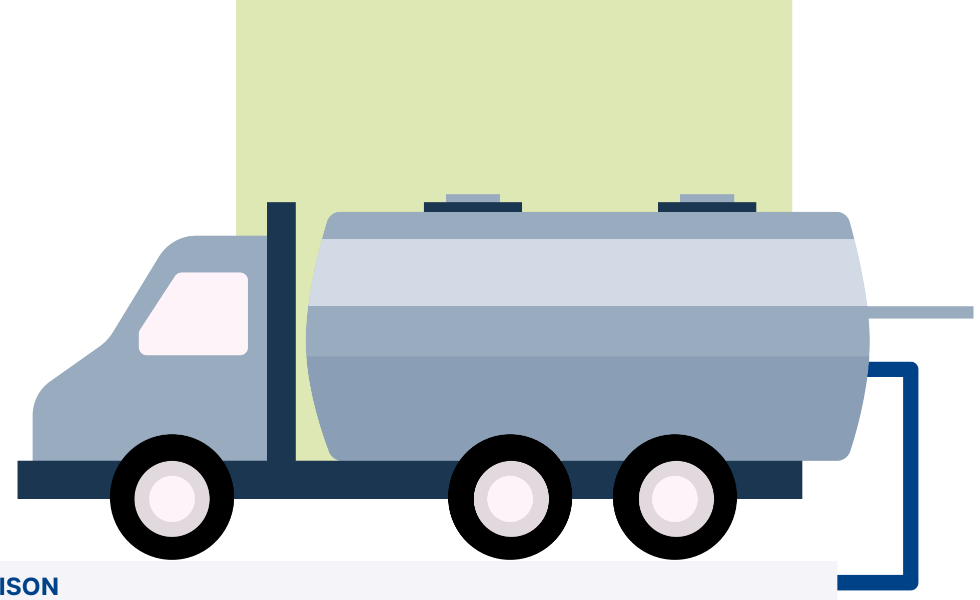
PRICE DEVELOPMENT GLOBAL CONTAINER FREIGHT

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



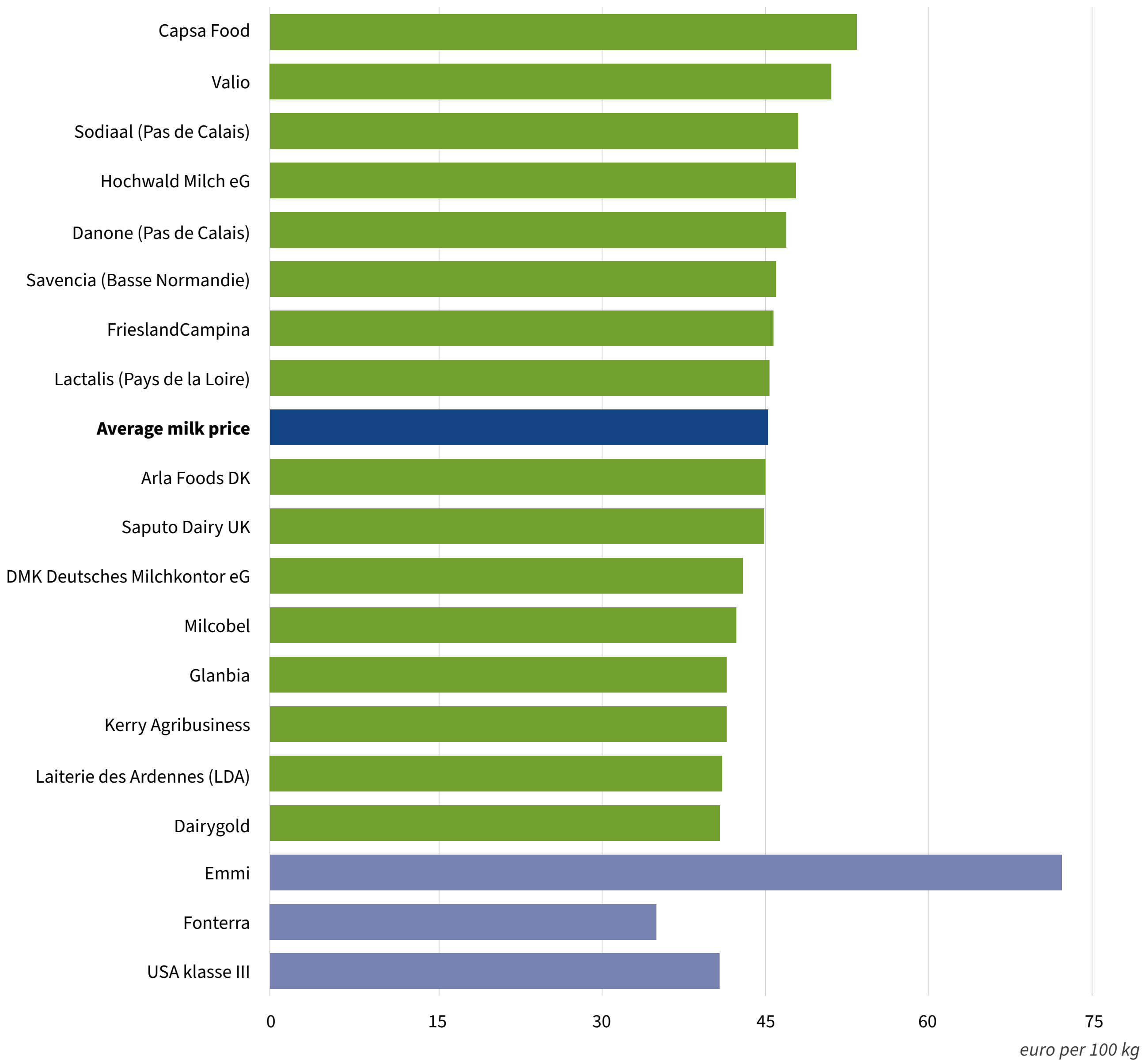


Source: Freightos data



INTERNATIONAL MILK PRICE COMPARISON

12 month average over January-December 2020 (excluding supplementary payments) [3]

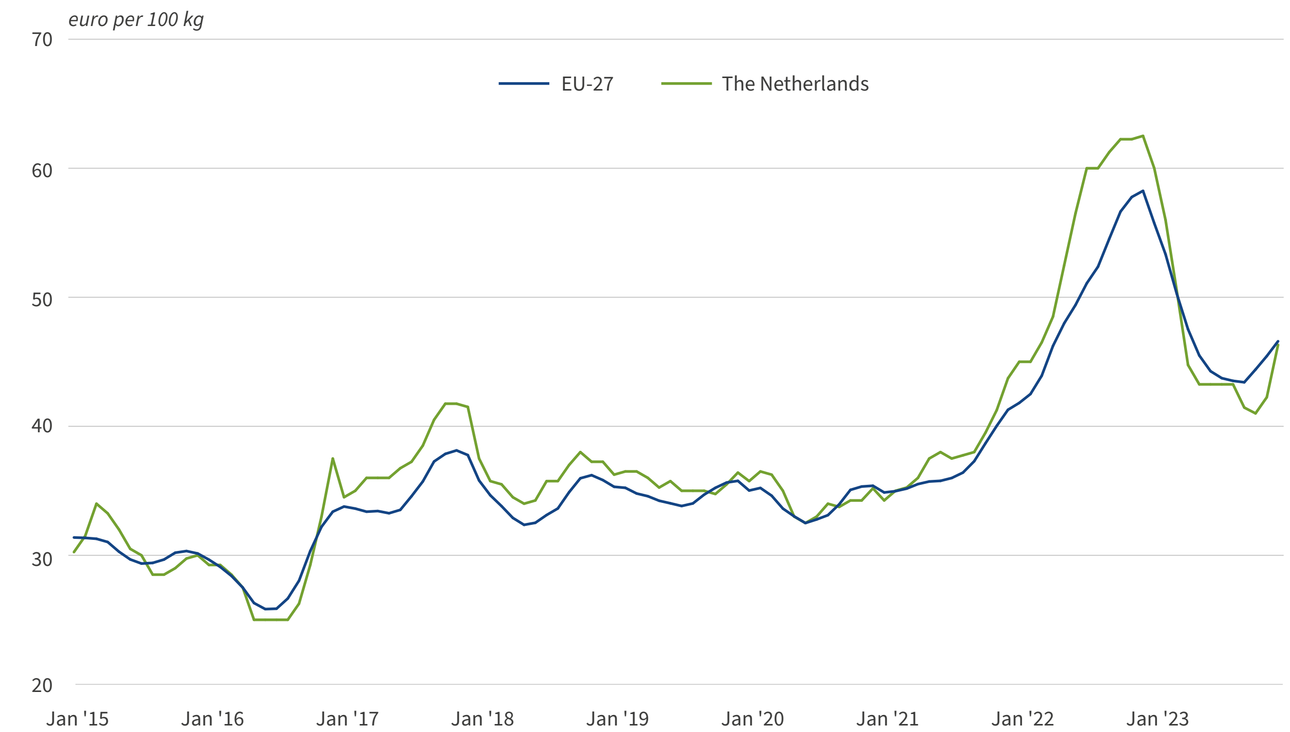


[3] Prices for standard milk with 4.2% fat and 3.4% protein with an annual delivery of 1,000,000 kg milk, tbc 24,999 per ml and scc 249,999 per ml (excluding VAT, excluding supplementary payments).

Source: European Dairy Farmers (EDF), ZuivelNL

MONTHLY MILK PRICES PAID

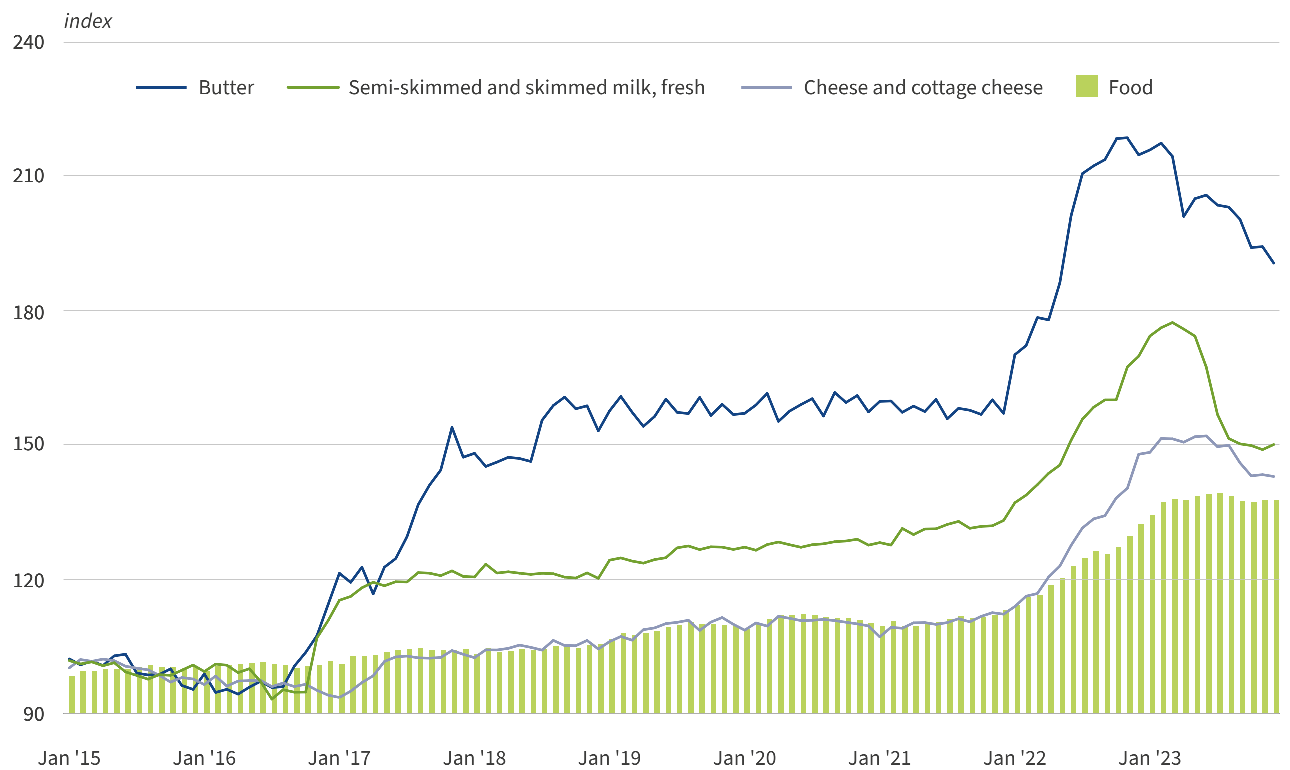
The Netherlands and the EU-27



Source: Milk Market Observatory

DEVELOPMENT OF CONSUMER PRICES

Index (2015 = 100)



Source: Statistics Netherlands (CBS)

CONTRIBUTION OF DAIRY TO THE DUTCH ECONOMY

million euro

	2015	2019	2020	2021	2022
Dairy farming	875	822	509	675	2,119
Milk processing industry	1,569	1,747	1,812	1,882	1,925
Distribution	1,432	819	766	887	963
Dairy sector related services [4]	3,727	4,087	4,204	4,433	4,814
Total dairy	**7,603**	**7,475**	**7,291**	**7,877**	**9,821**
% GDP	**1.1%**	**0.9%**	**0.9%**	**0.9%**	**1.0%**
Agro & food other	*41,752*	*48,108*	*48,389*	*52,333*	*55,860*
% GDP	*6.1%*	*5.9%*	*6.1%*	*6.0%*	*5.8%*
Total GDP	**685,179**	**812,900**	**796,360**	**870,704**	**958,583**

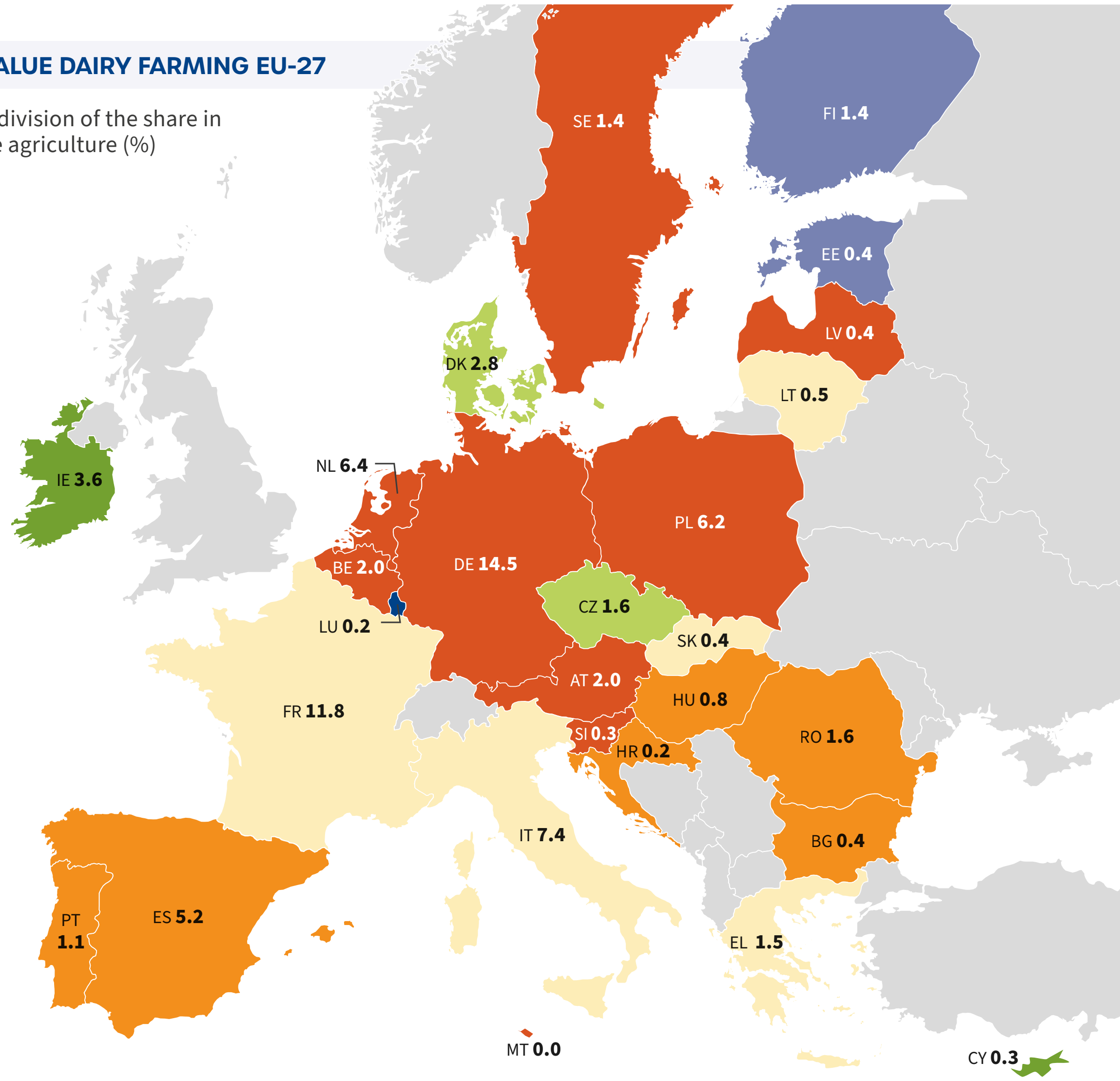
[4] Among other agricultural and financial services, utilities and employment agencies.

Source: Wageningen University & Research

GROSS PRODUCTION VALUE DAIRY FARMING EU-27

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

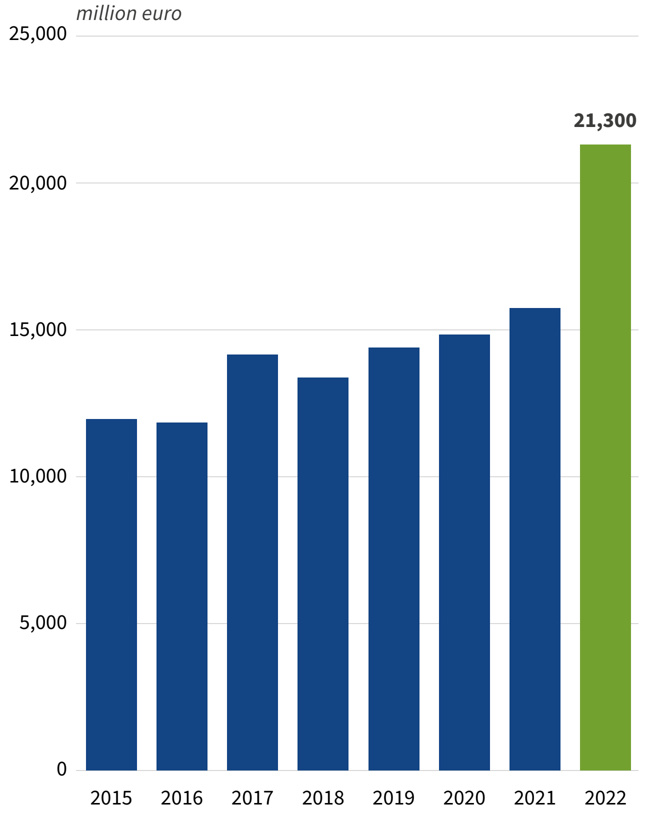
% share
- 35-40%
- 30-35%
- 25-30%
- 20-25%
- 15-20%
- 10-15%
- 5-10%



Gross production value of dairy farming in the EU-27: **€ 74.4 billion**, share of **14%** in the total production value of agriculture.

Source: Eurostat

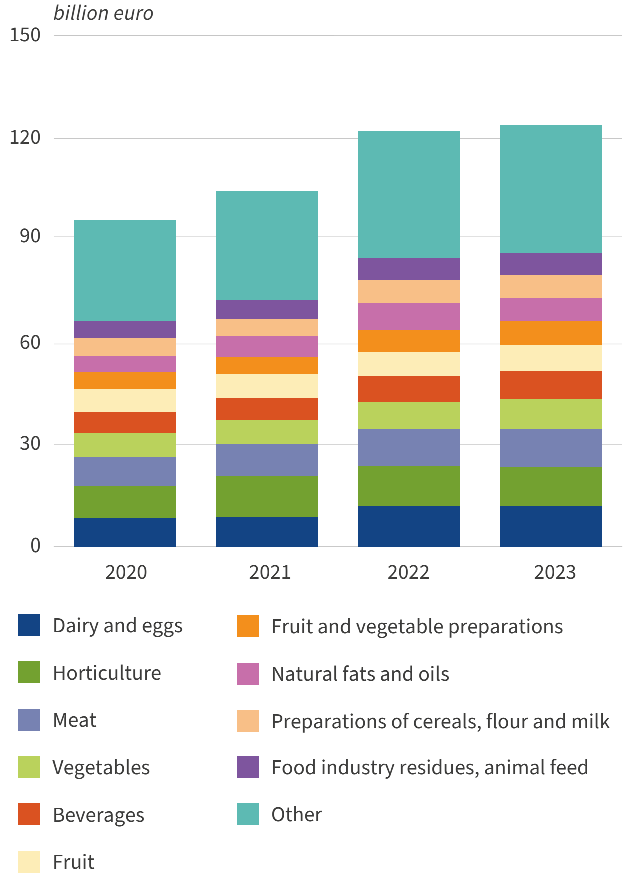
NET TURNOVER MILK PROCESSING INDUSTRY THE NETHERLANDS [5]



[5] Including production of ice cream.

Source: Statistics Netherlands (CBS)

EXPORT REVENUES AGRICULTURAL PRODUCTS THE NETHERLANDS

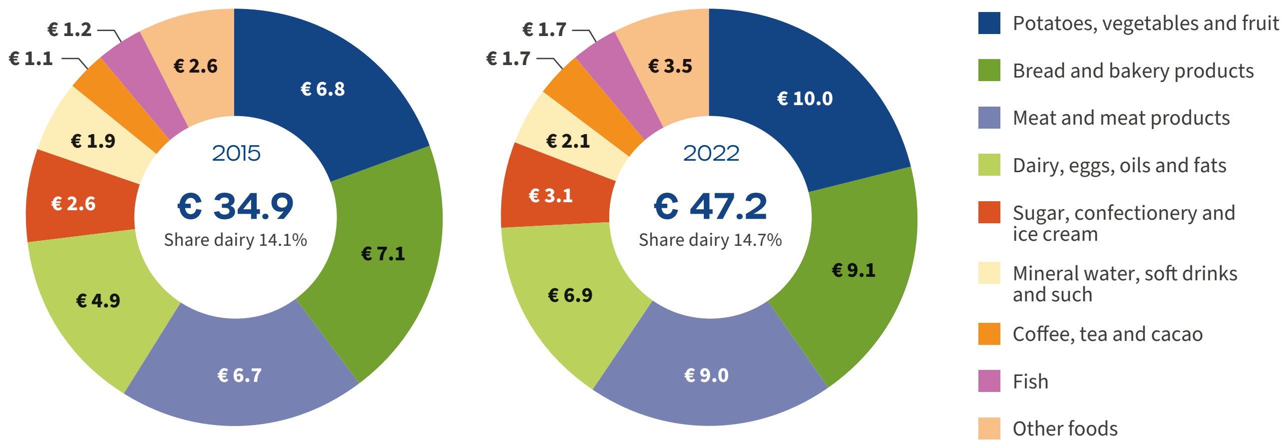


Source: Statistics Netherlands (CBS), Wageningen University & Research

CONSUMPTION SPENDING OF DUTCH HOUSEHOLDS

Spending on food and non-alcoholic beverages

billion euro



Total consumption spending

billion euro

2015	2022
€ 310.8	**€ 411.1**
Share dairy 1.6%	Share dairy 1.7%

Source: Statistics Netherlands (CBS)

Dairy farming

MILK PRODUCTION

In 2023, Dutch milk production reached a volume of approximately 14.7 billion kilograms. About 96% of this was delivered to the Dutch dairy processing industry. Dutch milk deliveries increased by almost 1% to 14 billion kilograms in 2023. During the first 7 months of 2023, Dutch milk deliveries increased. This was a continuation of the strong recovery that began in June 2022, driven by the high milk prices paid during this period.

After remaining relatively stable in August, a downward trend was observed from September onwards. The decline was primarily related to the outbreak of the bluetongue virus in the second half of the year, which caused a lower milk yield among many infected cows.

According to Statistics Netherlands (CBS), at the beginning of April 2023, the Netherlands had 1.57 million dairy cows and cows in calf, slightly more than in the 2 previous years. The increase in milk production is therefore largely attributable to the rise in the average milk yield per cow. In 2023, this was estimated to be over 9,300 kg, which is more than 50 kg higher than in the previous year (+0.6%).

SCALE

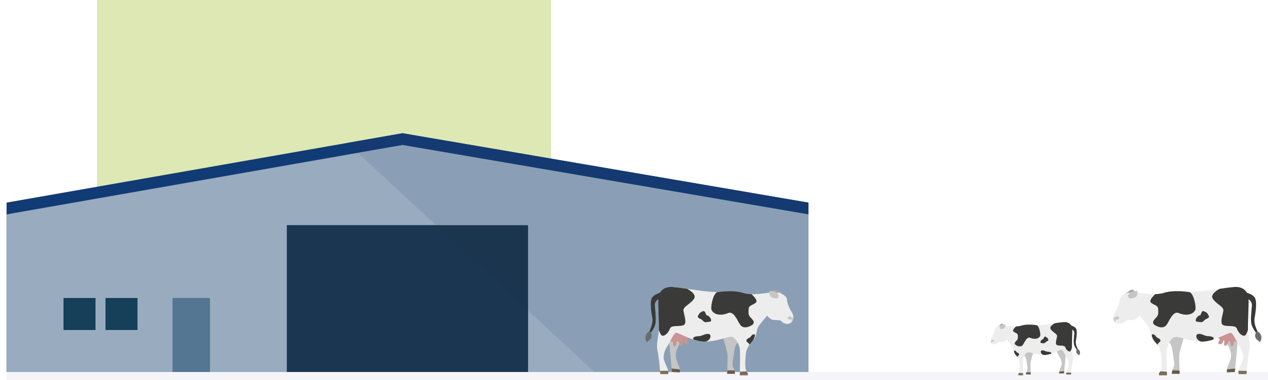
For decades, the structural development within dairy farming has been characterized by a decreasing number of dairy farms. Since 2015, an average of 3% of farms has ended their activities each year. Due to phosphate legislation, the percentage of farms ceasing operations was slightly higher in 2018 and 2019 compared to the years just after the milk quota period (the milk quota system ended on 31 March 2015).

According to Statistics Netherlands (CBS), in 2023, the number of dairy farmers decreased by 3.2% to 14,264. A similar decline was observed in the period from 2020 to 2022. In recent years, the following factors have played a role in the decision to terminate dairy farming operations:

- Unfavourable margin developments
- Uncertainty surrounding nitrogen measures
- Phasing out of derogation

In recent years, the number of dairy farms with fewer than 100 dairy cows has been rapidly declining. The overall decrease in the number of dairy farms over the past 4 years can be entirely attributed to the decline in this size category. In 2023, there was a contraction of over 7%, following a reduction of even more than 8% in the previous year.

On the other hand, the number of dairy farms with more than 100 dairy cows has been increasing. In 2022 and 2023, there was an increase of 3% and 2% respectively in this size category. As a result, in 2023, the share of larger dairy farms reached nearly 48% (compared to 33% in 2015). A significant part of this growth took place in the category of farms with more than 200 dairy cows. On average, a Dutch dairy farm in 2023 had 110 dairy cows (2022: 107).



DAIRY CATTLE AND MILK PRODUCTION

	2015	2020	2021	2022	2023
Milk production *(mln kg.)*	13,886	14,550	14,217	14,534	14,650
Dairy cows *(x 1,000)*	1,622	1,593	1,571	1,571	1,574
Average milk yield per cow *(kg)*	8,562	9,133	9,048	9,253	9,309

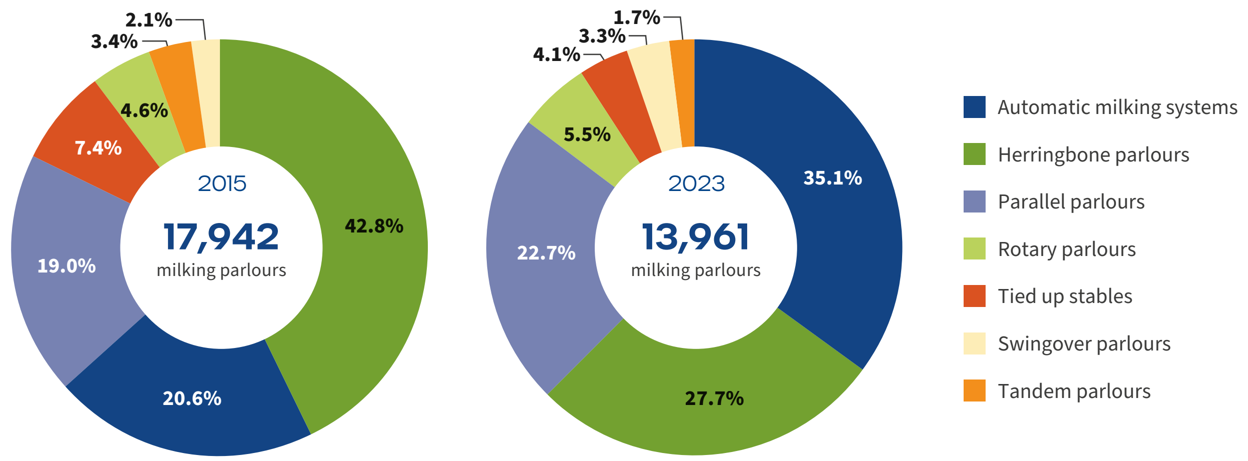
Source: RVO, Statistics Netherlands (CBS), ZuivelNL

DAIRY FARMS: CLASSIFIED ACCORDING TO THE NUMBER OF DAIRY COWS PER FARM

	2015	2020	2021	2022	2023
Less than 100 dairy cows	12,248	9,260	8,785	8,062	7,465
Percentage of total	*67%*	*59%*	*58%*	*55%*	*52%*
Between 100 and 200 dairy cows	5,272	5,400	5,362	5,473	5,513
Percentage of total	*29%*	*34%*	*35%*	*37%*	*39%*
200 dairy cows, and more	745	1,071	1,104	1,194	1,286
Percentage of total	*4%*	*7%*	*7%*	*8%*	*9%*
Total	**18,265**	**15,731**	**15,251**	**14,729**	**14,264**

Source: Statistics Netherlands (CBS)

DAIRY FARMS, CLASSIFIED ACCORDING TO THE TYPE OF MILKING PARLOUR



Source: : Quality and Maintenance of Milking Installations (Qlip)

KEY FIGURES DAIRY FARMING PER PROVINCE

- Surface grassland (km²)
- Surface maize (km²)
- Dairy cows (x 1,000)
- Dairy cows per km² grassland
- Dairy farms
- Dairy farms with outdoor grazing (%) [1]
- Share in milk production 2023

TOTAL THE NETHERLANDS

	2015	2023
Surface grassland (km²)	9,563	8,682
Surface maize (km²)	2,242	1,806
Dairy cows (x 1,000)	1,622	1,574
Dairy cows per km² grassland	170	181
Dairy farms	18,265	14,264
Dairy farms with outdoor grazing (%)	78	83

GRONINGEN 6.2%

	2015	2023
Surface grassland (km²)	646	586
Surface maize (km²)	88	67
Dairy cows (x 1,000)	104	103
Dairy cows per km² grassland	160	175
Dairy farms	961	765
Dairy farms with outdoor grazing (%)	74	77

FRIESLAND 17.8%

	2015	2023
Surface grassland (km²)	1,807	1,699
Surface maize (km²)	157	164
Dairy cows (x 1,000)	292	298
Dairy cows per km² grassland	162	176
Dairy farms	2,824	2,306
Dairy farms with outdoor grazing (%)	75	83

DRENTHE 7.2%

	2015	2023
Surface grassland (km²)	675	577
Surface maize (km²)	196	156
Dairy cows (x 1,000)	109	105
Dairy cows per km² grassland	161	182
Dairy farms	1,098	830
Dairy farms with outdoor grazing (%)	73	80

NOORD-HOLLAND 5.0%

	2015	2023
Surface grassland (km²)	692	613
Surface maize (km²)	47	44
Dairy cows (x 1,000)	85	88
Dairy cows per km² grassland	123	143
Dairy farms	1,043	828
Dairy farms with outdoor grazing (%)	94	97

FLEVOLAND 2.6%

	2015	2023
Surface grassland (km²)	142	136
Surface maize (km²)	46	33
Dairy cows (x 1,000)	36	34
Dairy cows per km² grassland	252	250
Dairy farms	269	221
Dairy farms with outdoor grazing (%)	34	48

OVERIJSSEL 17.0%

	2015	2023
Surface grassland (km²)	1,407	1,328
Surface maize (km²)	374	324
Dairy cows (x 1,000)	260	255
Dairy cows per km² grassland	185	192
Dairy farms	3,212	2,589
Dairy farms with outdoor grazing (%)	77	85

UTRECHT 5.2%

	2015	2023
Surface grassland (km²)	534	555
Surface maize (km²)	56	60
Dairy cows (x 1,000)	86	95
Dairy cows per km² grassland	162	172
Dairy farms	1,176	1,067
Dairy farms with outdoor grazing (%)	88	93

ZUID-HOLLAND 5.2%

	2015	2023
Surface grassland (km²)	693	564
Surface maize (km²)	50	45
Dairy cows (x 1,000)	101	91
Dairy cows per km² grassland	145	162
Dairy farms	1,320	955
Dairy farms with outdoor grazing (%)	92	95

GELDERLAND 15.5%

	2015	2023
Surface grassland (km²)	1,561	1,410
Surface maize (km²)	410	332
Dairy cows (x 1,000)	243	229
Dairy cows per km² grassland	156	163
Dairy farms	3,131	2,348
Dairy farms with outdoor grazing (%)	77	84

ZEELAND 1.5%

	2015	2023
Surface grassland (km²)	175	148
Surface maize (km²)	55	48
Dairy cows (x 1,000)	22	23
Dairy cows per km² grassland	126	158
Dairy farms	229	187
Dairy farms with outdoor grazing (%)	72	77

NOORD-BRABANT 13.8%

	2015	2023
Surface grassland (km²)	941	815
Surface maize (km²)	593	422
Dairy cows (x 1,000)	232	208
Dairy cows per km² grassland	247	255
Dairy farms	2,449	1,771
Dairy farms with outdoor grazing (%)	58	69

LIMBURG 3.0%

	2015	2023
Surface grassland (km²)	291	250
Surface maize (km²)	170	111
Dairy cows (x 1,000)	52	44
Dairy cows per km² grassland	180	177
Dairy farms	553	397
Dairy farms with outdoor grazing (%)	72	75

[1] Source of the figures per province is Statistics Netherlands (CBS), year 2023 refers to the year 2022. Source for the Netherlands is the Sustainable Dairy Chain (ZuivelNL).

Source: CRV, Statistics Netherlands (CBS), ZuivelNL

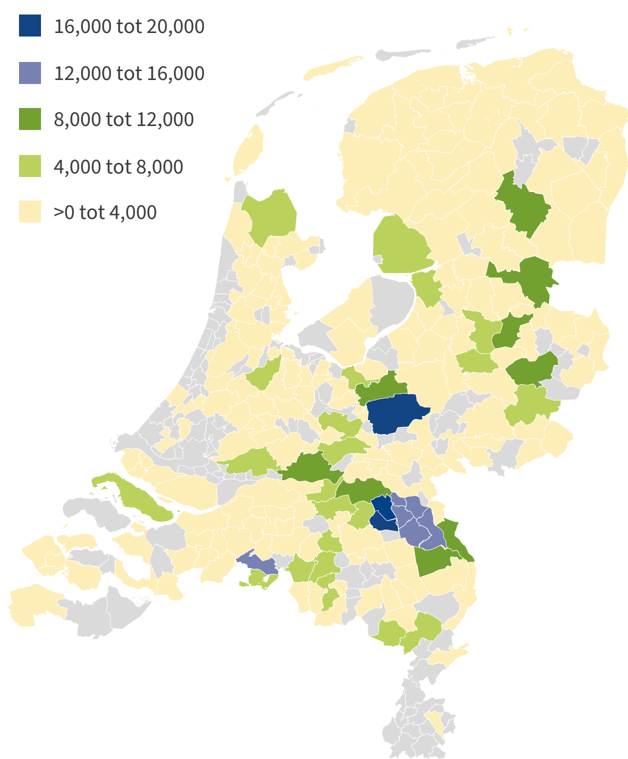
KEY FIGURES DAIRY GOAT FARMING THE NETHERLANDS

	2015	2020	2021	2022	2023
Number of dairy goat farms	545	569	644	665	651
Number of dairy goat farms	*48%*	*57%*	*51%*	*50%*	*50%*
Total number of dairy goats (x 1,000)	328	476	483	489	489
▪ Number of dairy goats, 7 months to 1 year (x 1,000) [2]	36	35	32	33	32
▪ Number of dairy goats, 1 year or older (x 1,000)	292	441	451	456	458
Goat milk production (million kg)	261	407	418	445	--
Average milk yield (kg) per goat	894	923	927	976	--
Number of milk processing companies	14	14	14	13	14

[2] Figure for the year 2015 refers to dairy goats younger than 1 year.

Source: NZGO, RVO, Statistics Netherlands (CBS), ZuivelNL

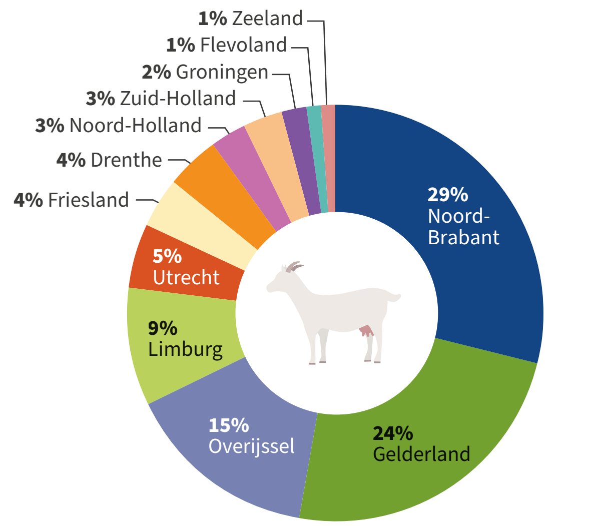
NUMBER OF DAIRY GOATS PER MUNICIPALITY [3]



[3] Including dairy goats between 7 months to 1 year.

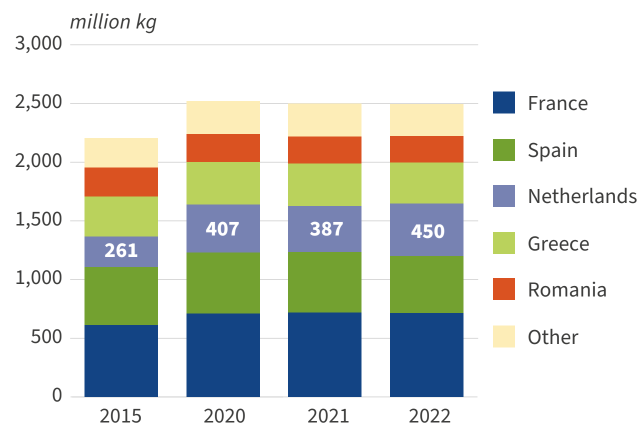
Source: Statistics Netherlands (CBS)

DISTRIBUTION OF DAIRY GOATS ACROSS PROVINCES



Source: Statistics Netherlands (CBS)

PRODUCTION OF GOATS' MILK IN THE EU-27



Source: Eurostat, RVO

Milk processing

MILK SUPPLY

In 2023, the milk supply from the major dairy exporting countries increased slightly by 0.2%. In 2022 there still had been a decline of 0.8%. Growth occurred during the first 7 months of 2023. In fact, this increase was nothing more than a partial recovery of lost volumes from the same period in 2022. However, starting from August 2023, international milk deliveries stagnated, and the volume development remained stable to slightly negative thereafter.

In the EU-27, milk supply remained nearly stable for the second consecutive year (+0.1%). There were significant differences observed within the EU. Most notably, Irish milk deliveries showed a sharp decline (-4.2%) after years of growth, partly due to adverse weather conditions, lower milk prices, and the phasing out of derogation starting January 2024. France also experienced a substantial decrease (-2.6%), while Italy reported a similar decline to 2022 (-0.7%). On the other hand, Belgium (+3.3%), Germany (+1.4%), the Netherlands (+0.9%), and Poland (+1.9%) all recorded increases in deliveries in 2023.

The United States showed the same development as the EU, with milk production remaining nearly unchanged for the second consecutive year. After an increase in the first half of the year, production declined from July onwards. This decline was primarily due to a reduced number of dairy cows and lower milk yield per cow caused by the extremely hot summer period. In Argentina, milk production in 2023 was also significantly affected by adverse weather conditions. Severe drought led to a 2% decrease in milk production, with a noticeable sharp decline towards the end of the year.

In 2023, Oceania experienced a modest recovery from the significant decline observed in 2022. New Zealand's milk supply increased by 0.9%. Growth primarily occurred in the first 5 months of 2023, followed by predominantly lower volumes thereafter. Australia also saw a slight increase in milk production (+0.2%) in 2023. After more than a year and a half of declining volumes, the turnaround occurred in May. The increase throughout the rest of the year was sufficient to offset the decrease observed in the first 4 months of 2023.

MILK PROCESSING

In 2023, the Dutch dairy processing industry processed approximately 13.9 billion kilograms of milk, the same as in 2022. About 59% of this milk was used for cheese production. Cheese production increased by over 3% in 2023, reaching a volume of 977 thousand tonnes (including cottage cheese). Approximately 60% of this was Gouda cheese. Butter and butter oil production decreased by 3%. Notably, there was a significant decrease of 19% in the production of skimmed milk powder. Production of non-skimmed milk powder was 3% lower than in the previous year. Additionally, less drinking milk and drinking milk products were produced (-3%).

STRUCTURE

At the end of 2023, the Dutch dairy processing industry consisted of 26 companies with a total of 53 production locations. 5 of these companies were cooperatives, processing milk at 24 locations. The net turnover of the dairy industry (including the production of ice cream and other consumption ice) was € 21.3 billion in 2022, marking a substantial increase of 35% compared to 2021.

INDUSTRIAL DAIRY PRODUCTION THE NETHERLANDS

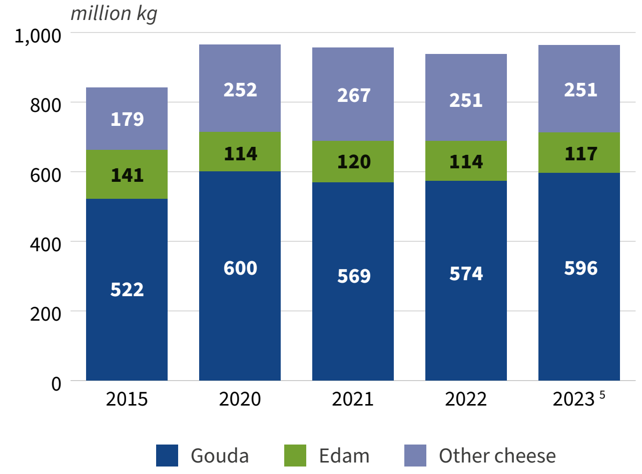
million kg

	2022	2023 [1]	2023/2022
Milk delivered to dairies	13,876	14,000	0.9%
Milk available for processing	13,890	13,900	0.1%
Drinking milk and other fresh milk products [2]	1,007	973	-3.4%
Cheese (including cottage cheese)	945	977	3.4%
Butter and butteroil	201	195	-2.7%
Non-skimmed milk powder [3]	120	117	-3.1%
Skimmed milk powder	106	86	-18.9%

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

Source: RVO, ZuivelNL

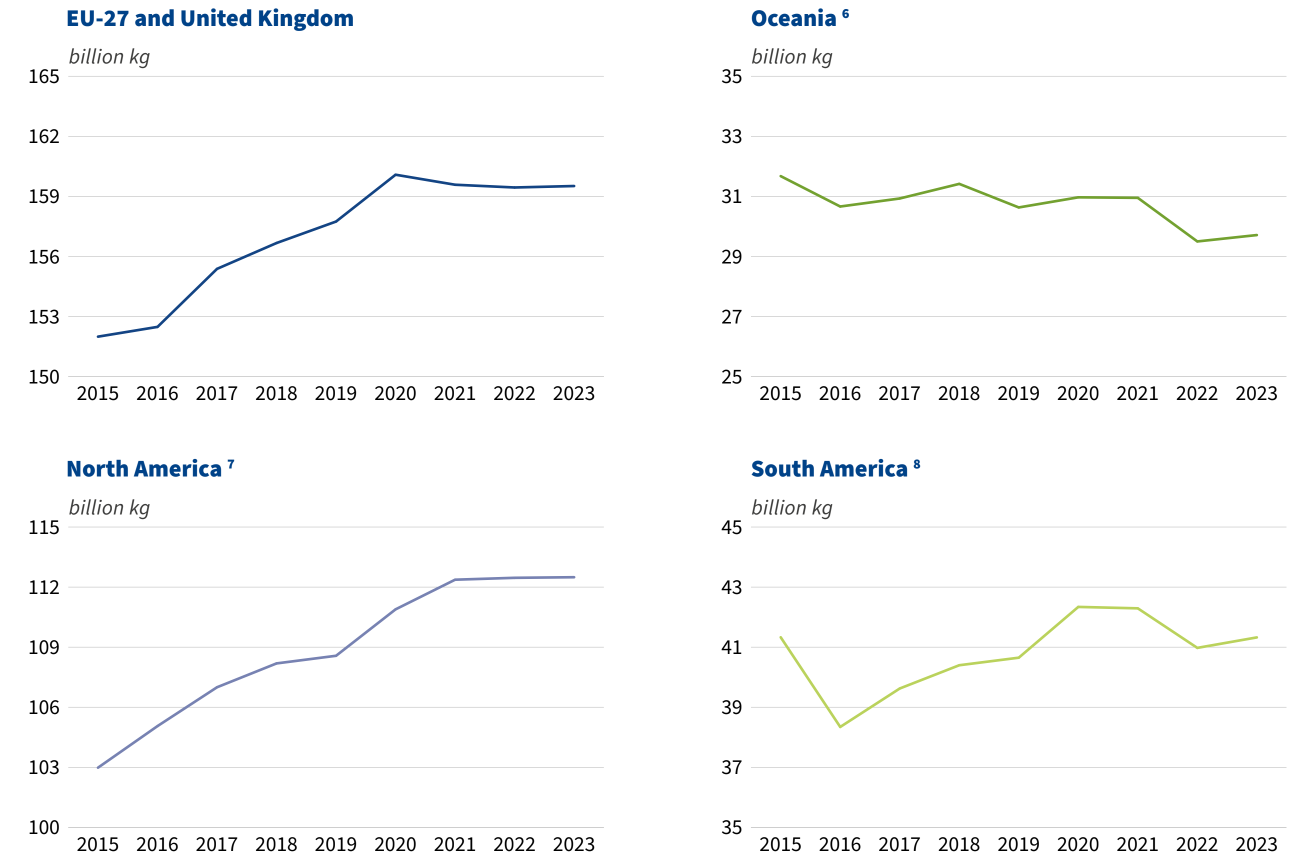
PRODUCTION OF FACTORY CHEESE PER TYPE IN THE NETHERLANDS [4]



[4] Excluding cottage cheese.
[5] Estimation based on the development of monthly production, export and import figures.

Source: RVO, ZuivelNL

DEVELOPMENT MILK DELIVERIES, BY REGION



[6] Australia and New Zealand.
[7] Canada and United States.
[8] Argentina, Brazil, Chile and Uruguay.

Source: Eurostat, RVO, ZuivelNL, national statistics

GEOGRAPHICAL SPREAD OF MILK PROCESSING INDUSTRY

Situation from 31-12-2023

- FrieslandCampina (18)
- Vreugdenhil Dairy Foods (3)
- Ausnutria (2)
- A-ware (2)
- DOC Kaas (DMK) (2)
- Kaasmakerij Henri Willig (2)
- Klaverkaas (2)
- Lactalis Leerdammer (2)
- Nutricia (Danone) (2)
- Rouveen Kaasspecialiteiten (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*
- Nestlé *NUNSPEET*
- Trouw Nutrition *SLOTEN*
- VecoZuivel *ZEEWOLDE*
- VIV Buisman *ZELHEM*
- Wheyco (DMK) *HOOGEVEEN*
- Zuivelhoeve *HENGELO OV*

KEY STATISTICS NETHERLANDS

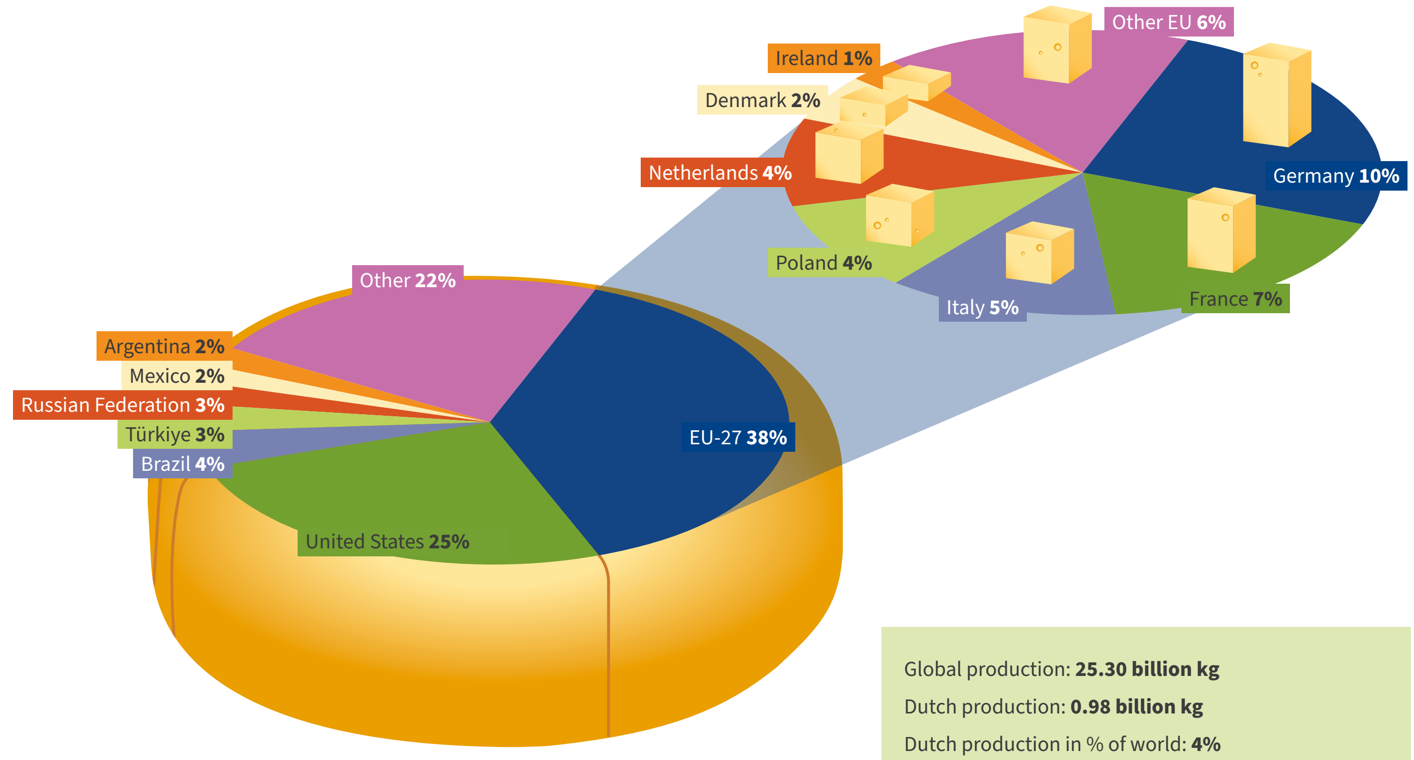
	2020	2021	2022	2023
Companies [9]	26	26	26	26
Number of dairy plants	53	52	54	53
Cooperative	*26*	*25*	*25*	*24*
Non-cooperative	*27*	*27*	*29*	*29*
Milk processed (million kg)	14,620	14,500	13,890	13,900
Net turnover (million euro) [10]	14,835	15,732	21,300	--

[9] Which process more than 10 million kg of (raw) milk, cream and/or whey.
[10] Including production of ice cream.

Source: RVO, Statistics Netherlands (CBS), ZuivelNL

POSITION OF DUTCH CHEESE PRODUCTION IN THE WORLD 2023

Production of (factory) cheese of cow's milk



Global production: **25.30 billion kg**
Dutch production: **0.98 billion kg**
Dutch production in % of world: **4%**

Source: Eurostat, FAO, IDF, RVO, USDA, ZMB, ZuivelNL, national statistics

TOP-10 LARGEST DAIRY COMPANIES

Turnover in 2022 + mergers and acquisitions between 1 January and 30 June 2023

	Company	Country	TURNOVER (bln) billion US dollar	TURNOVER (bln) billion euro
1	Lactalis	France	28.6 [11]	27.2 [11]
2	Dairy Farmers of America	USA	24.5	23.3
3	Nestlé	Switzerland	23.3 [11]	22.1 [11]
4	Danone	France	21.2 [11]	20.1 [11]
5	Yili	China	18.3 [11]	17.3 [11]
6	Arla Foods	Denmark/Sweden	14.5	13.8
7	FrieslandCampina	The Netherlands	14.4 [11]	13.7 [11]
8	Mengniu	China	14.4 [11]	13.7 [11]
9	Fonterra	New Zealand	14.2 [11]	13.4 [11]
10	Saputo	Canada	13.7	13.0

[11] Estimate.

Source: Rabobank

Sustainability

SUSTAINABLE DAIRY CHAIN

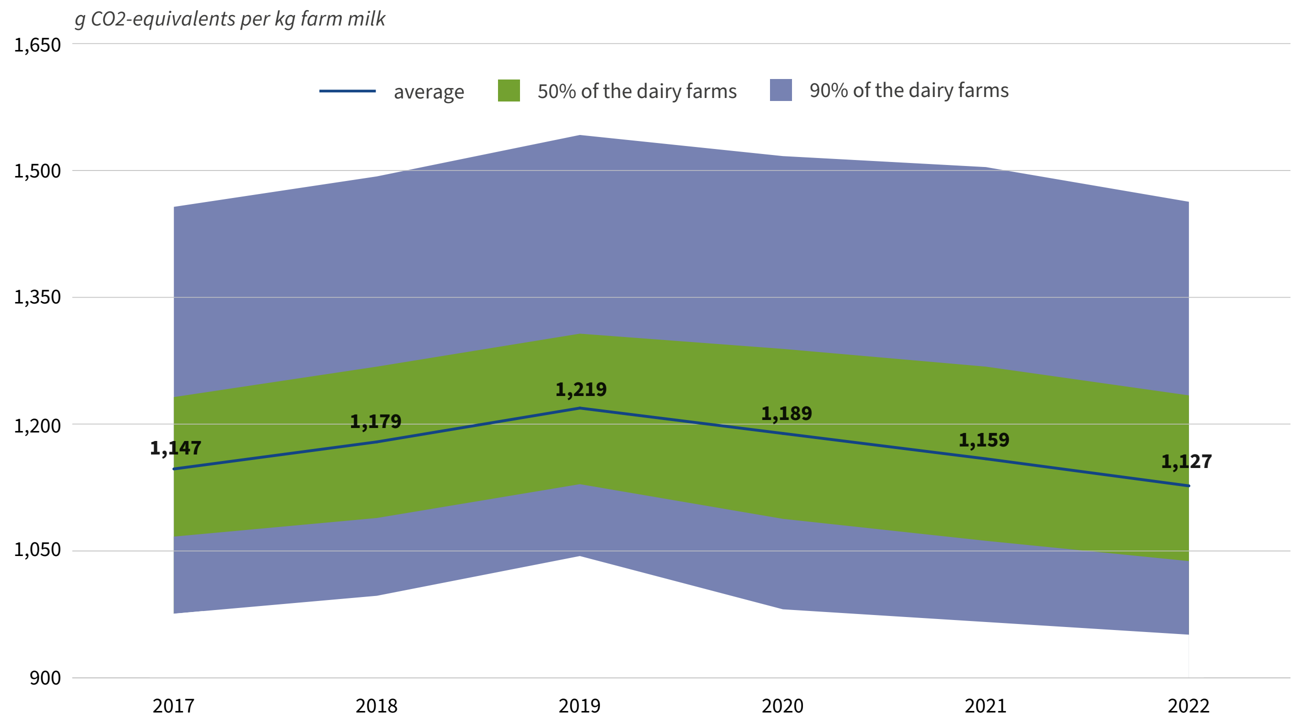
The Sustainable Dairy Chain is a thematic group within ZuivelNL, in which the member dairy farming organisations the Dutch Dairymen Board (DDB), the Netherlands Agricultural and Horticultural Association (LTO Nederland), the Dutch Dairymen Board (DDB) and partner the Dutch Agricultural Youth Association (NAJK), along with 13 dairy companies united under the Dutch Dairy Association (Nederlandse Zuivel Organisatie), collaborate on furthering the sustainability of the Dutch dairy chain.

In 2023, a re-evaluation of the Sustainable Dairy Chain themes was initiated:

- Climate-sensible dairy sector
- Continuous improvement of animal health and welfare
- Cows in the meadows
- Biodiversity conservation
- Business models
- Land-related dairy farming
- Farm safety

Wageningen Economic Research produces reports on an annual basis to monitor progress towards achieving sector goals. This monitoring can lead to a tightening or refining of the sustainability programs. Since 2022, the structure of the annual Sustainable Dairy Chain Report has been revised, and reporting is now done per theme in separate sections.

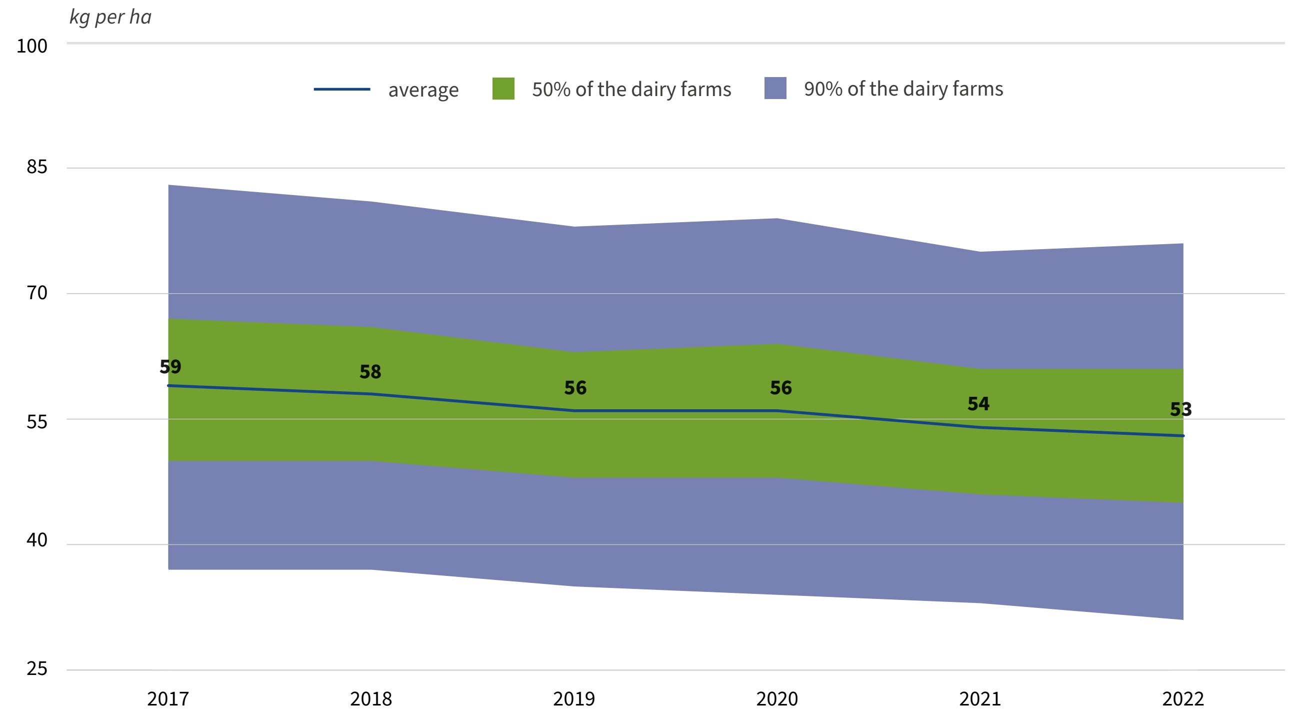
GREENHOUSE GAS EMISSIONS [1]



[1] Greenhouse gases = gases in the Earth's atmosphere with the ability to absorb heat radiation and gradually re-emit it in all directions. This contributes to the retention of heat in the atmosphere, thereby increasing and maintaining the equilibrium temperature. This phenomenon is known as the greenhouse effect.

Source: input data from KringloopWijzer (ZuivelNL) and the KringloopWijzer model version 2022.09

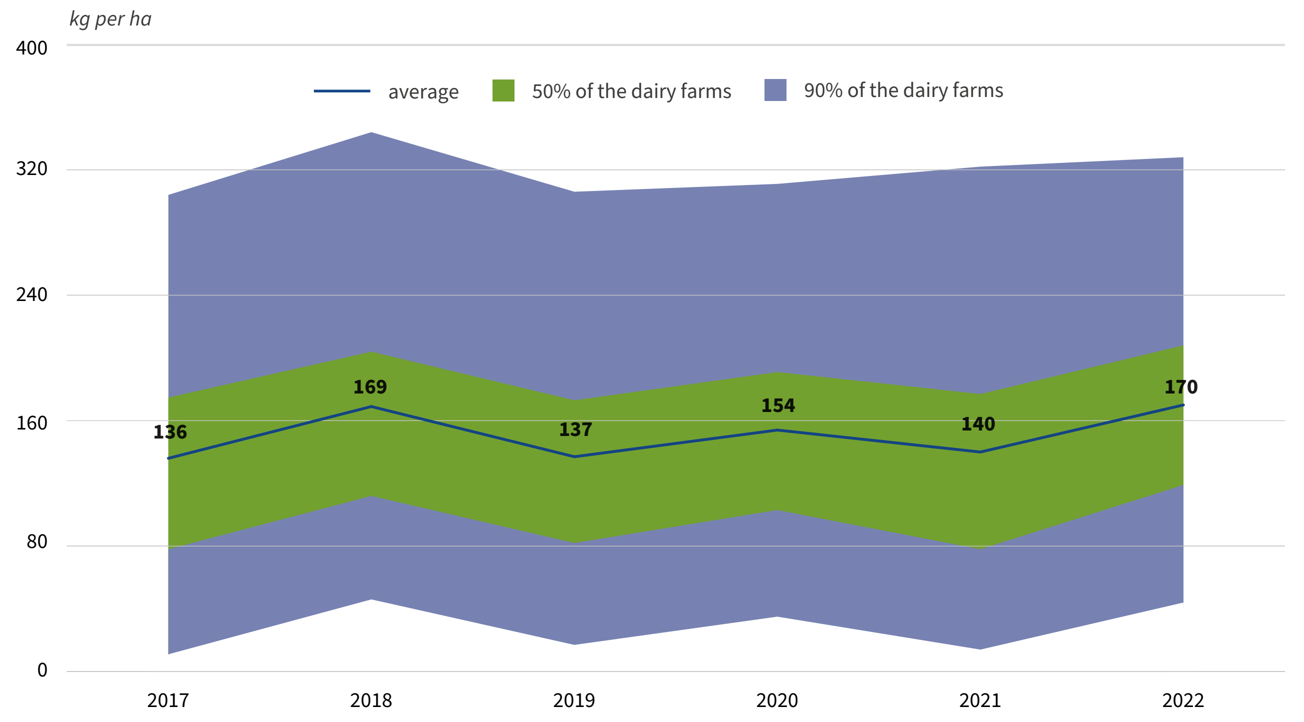
AMMONIA EMISSION [2]



[2] Ammonia = a nitrogen compound linked to hydrogen (NH_3). It is an undesirable gaseous emission. The nitrogen from the diet that is not utilized can form ammonia.

Source: input data from KringloopWijzer (ZuivelNL) and the KringloopWijzer model version 2022.09

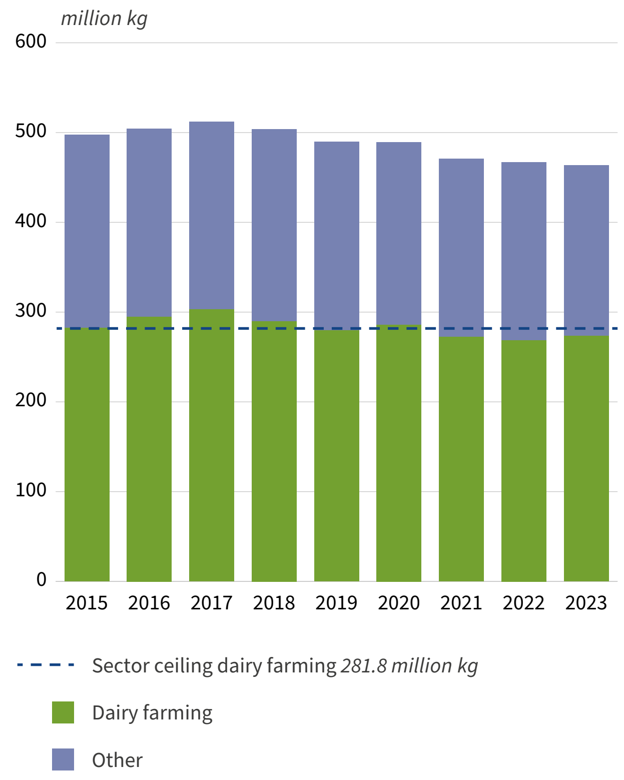
NITROGEN SURPLUS ON DAIRY FARMS [3]



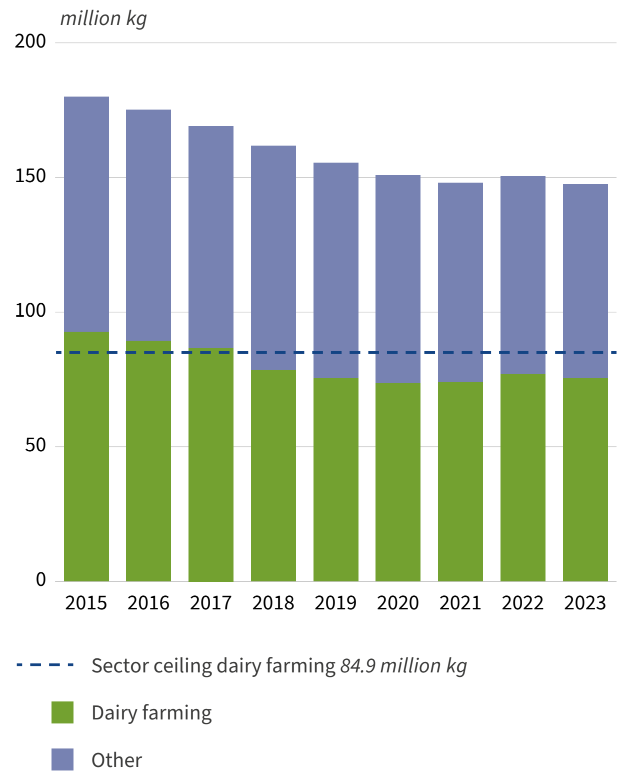
[3] Nitrogen suplus = the amount of nitrogen that can be used for fertilization (organic, pasture manure, artificial fertilizer, compost, deposition, mineralization, legumes) minus the amount of nitrogen harvested from the land.

Source: input data from KringloopWijzer (ZuivelNL) and the KringloopWijzer model version 2022.09

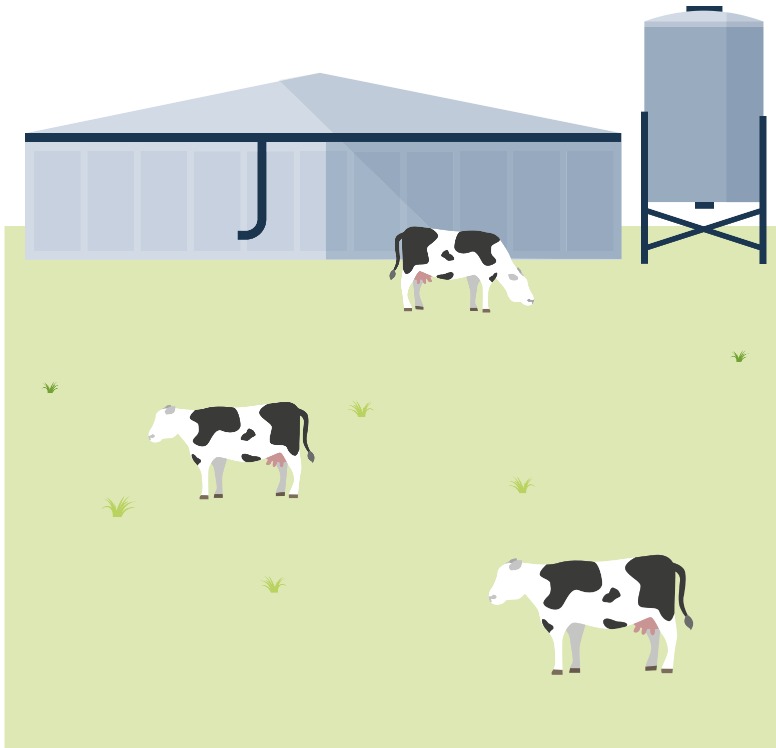
NITROGEN PRODUCTION IN ANIMAL MANURE



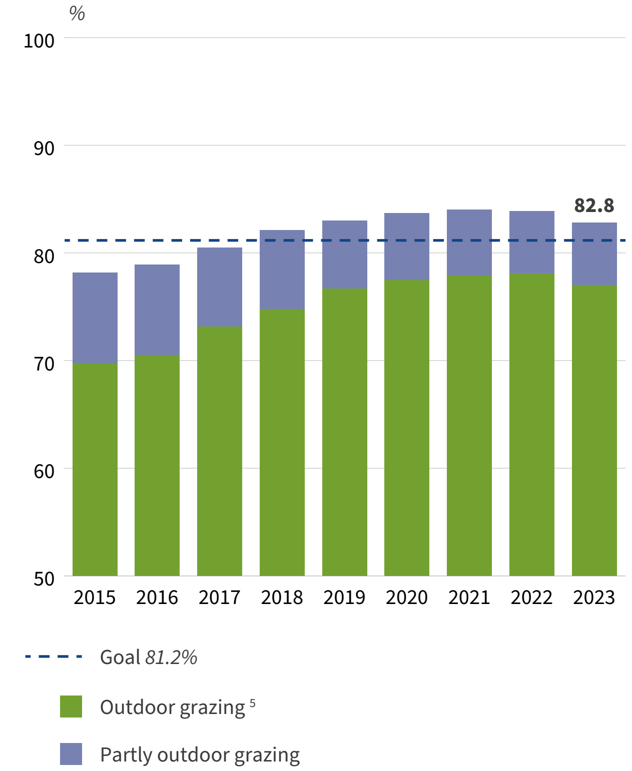
PHOSPHATE PRODUCTION IN ANIMAL MANURE



Source: Statistics Netherlands (CBS)



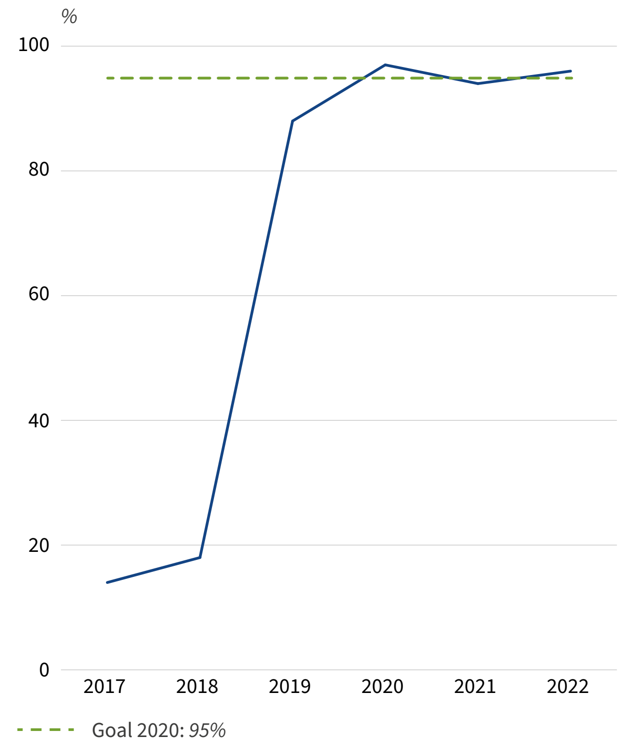
OUTDOOR GRAZING



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

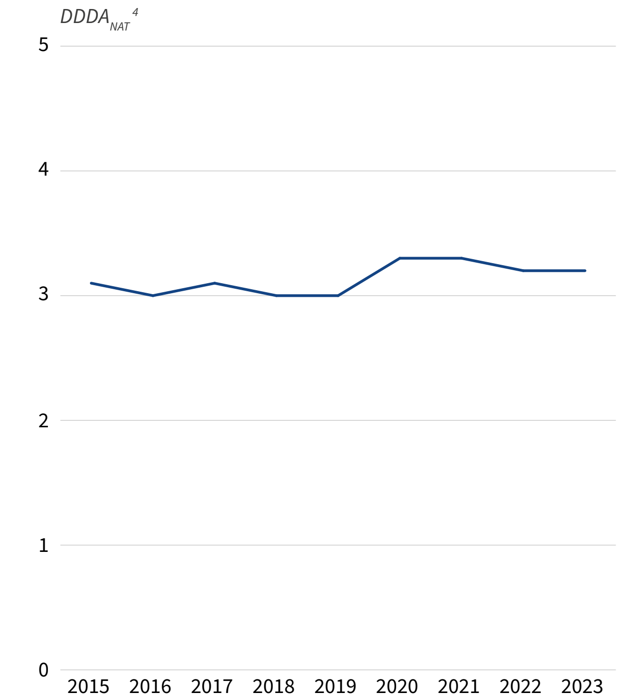
Source: Sustainable Dairy Chain (ZuivelNL)

PERCENTAGE OF DAIRY FARMS THAT HAVE IMPLEMENTED THE KOEKOMPAS WITH WELFARE MONITOR



Source: Stichting Zuivelplatform

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

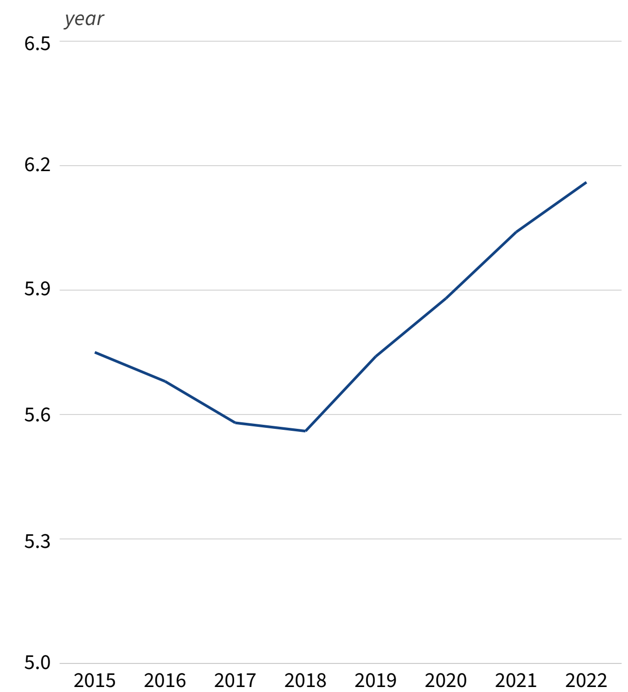


[4] $DDDA_{NAT}$ (Defined Daily Dose Animal, National: use of antibiotics at national level).

Source: the Netherlands Veterinary Medicines Institute (SDa)

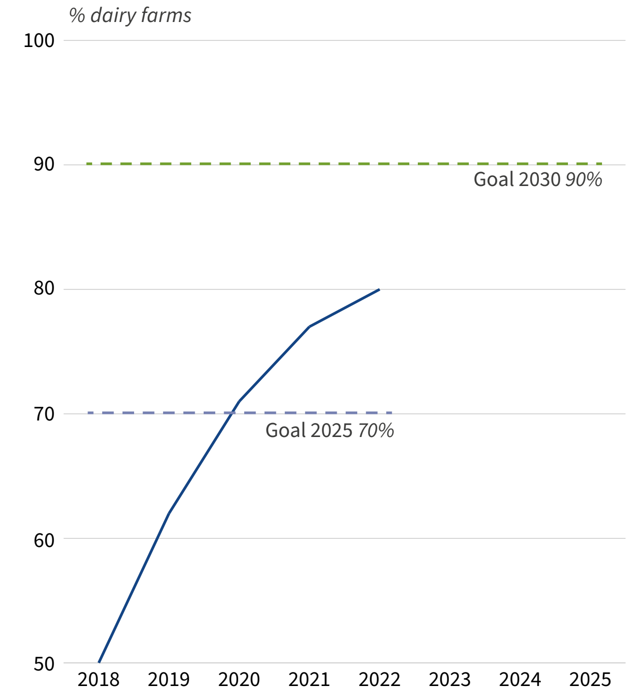
LIFESPAN OF DAIRY COWS

Average age at removal



Source: Sustainable Dairy Chain (ZuivelNL)

SHARE OF DAIRY FARMS WITH A LIFESPAN AT OR ABOVE THE SECTOR AVERAGE IN 2018



Source: Sustainable Dairy Chain (ZuivelNL)

Trade

EXPORT

In 2023, the Dutch export value of dairy products amounted to € 10.34 billion, which was over 4% lower than in 2022. This decrease was primarily due to significantly reduced market prices, despite most product categories (excluding non-skimmed milk powder and whey products) showing volume growth. The largest declines in export value were observed in whey products (-24%), skimmed milk powder (-21%), non-skimmed milk powder (-16%), and butter and butter oil (-5%). On the other hand, the export value of cheese increased by 1%, and condensed milk by 7%. This increase in cheese export value was underpinned by a substantial growth in export volume.

The EU traditionally is by far the most important sales region for Dutch dairy products. In 2023, exports to EU member states represented a value of nearly € 7.6 billion, accounting for over 73% of the total export value. When considering other European countries as well, this share increases to 77%. The neighbouring countries Belgium and Germany, along with France alone, accounted for a value of € 5.4 billion, which constituted more than 52% of the total Dutch dairy exports.

The Netherlands is one of the most active EU member states in the global market. The Dutch share in world trade, which amounted to approximately 92.0 billion kg of milk equivalents, was 4.3%. The top 3 export destinations outside the EU were China (including Hong Kong), the United Kingdom and the Republic of Korea, each accounting for a 2% share of the total.

Cheese is traditionally the most important dairy product exported. In 2023, cheese accounted for nearly half of the total Dutch export value of dairy products. The export volume of cheese that year was 1.03 billion kg, an increase of 7% compared to 2022. The export of Dutch cheese types (Edam, Gouda, and Maasdam) showed a strong recovery in 2023 (+28 thousand tonnes) after 2 years of significant decline.

Additionally, Dutch exports of Mozzarella also increased significantly (+33%), continuing the trend of strong growth after a slight decline in 2022.

The additional cheese traded was primarily destined for markets within the EU-27, showing a growth of 9% in 2023. In particular, Italy and Spain were notable growth markets. On the other hand, exports to third countries (countries outside the EU) experienced a slight overall decline (-0.4%). Specifically, exports to Africa (-9%), Asia (-6%) and non-EU parts of Europe (-7%) saw significant decreases. However, exports to South America rose significantly (+133%), driven by a tripling of exports to Chile (+8 thousand tonnes).

IMPORT

Besides being an exporter, the Netherlands is a significant importer of dairy products from other EU member states. The main countries of origin are Germany, Belgium and Ireland, which together account for two-thirds of the total import value. Approximately 4% of the dairy imports come from outside the EU, with the majority originating from the United Kingdom and New Zealand.

In 2023, the import value of dairy products sharply declined by 8%, amounting to € 5.0 billion. Only cheese saw an increase in import value, driven by a substantial rise in imported volume. Import values for all other product categories decreased significantly. The decline in value for butter and butteroil, as well as skimmed milk powder, was partially offset by volume growth. The Dutch dairy trade surplus in 2023 remained unchanged from 2022, at € 5.3 billion.

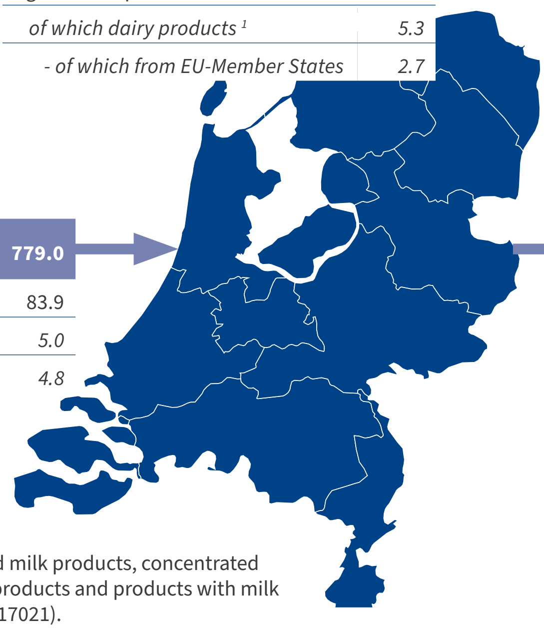
TRADE BALANCE 2023

POSITIVE TRADE BALANCE:
billion euro

Total (all products)	87.2
Agricultural products	39.9
of which dairy products [1]	5.3
- of which from EU-Member States	2.7

IMPORTS
billion euro

Total (all products)	779.0
Agricultural products	83.9
of which dairy products [1]	5.0
- of which from EU-Member States	4.8



EXPORTS
billion euro

Total (all products)	866.2
Agricultural products	123.8
of which dairy products [1]	10.3
- of which from EU-Member States	7.6

[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, Statistics Netherlands (CBS), ZuivelNL

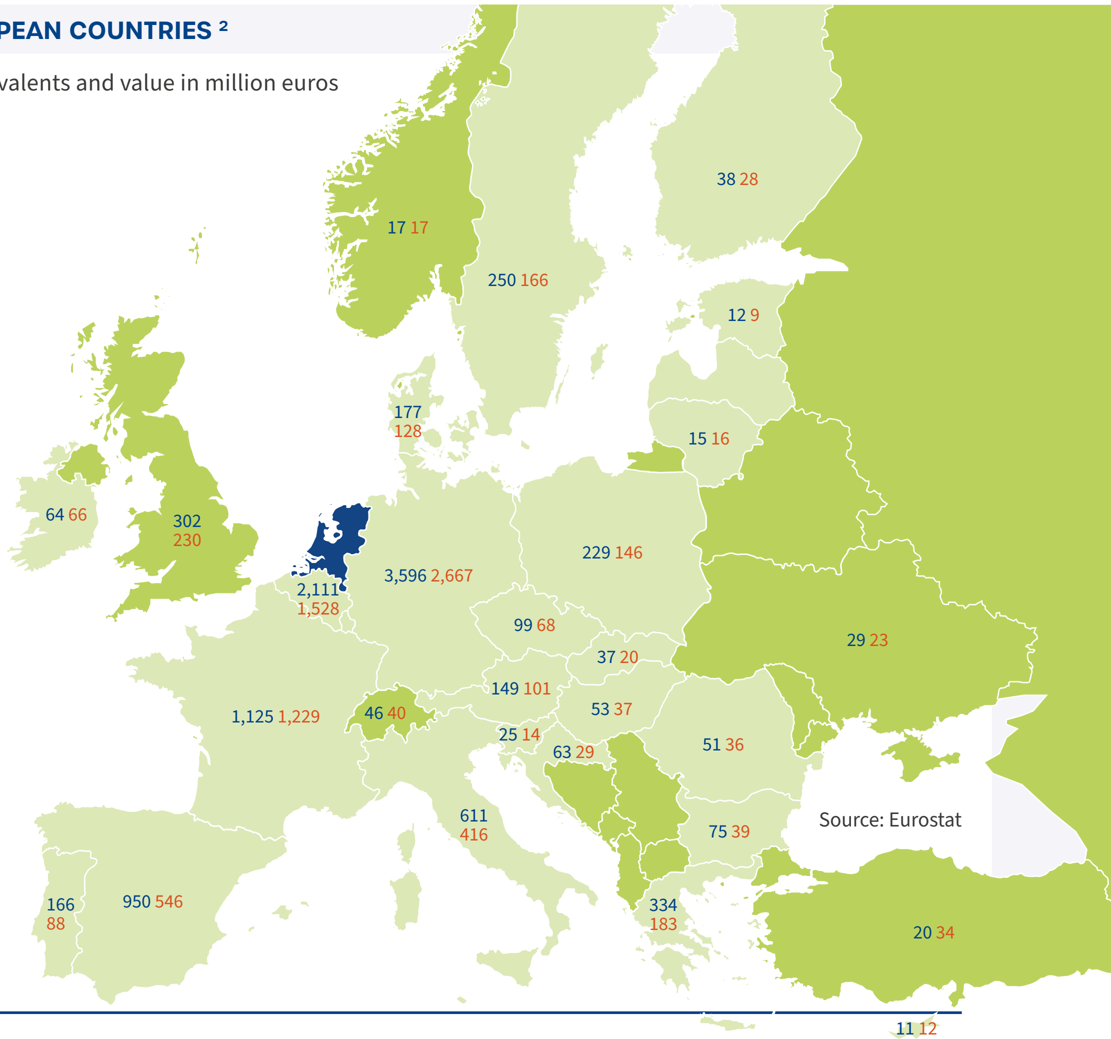
DUTCH EXPORTS TO EUROPEAN COUNTRIES [2]

Quantity in million kg milk equivalents and value in million euros

Total

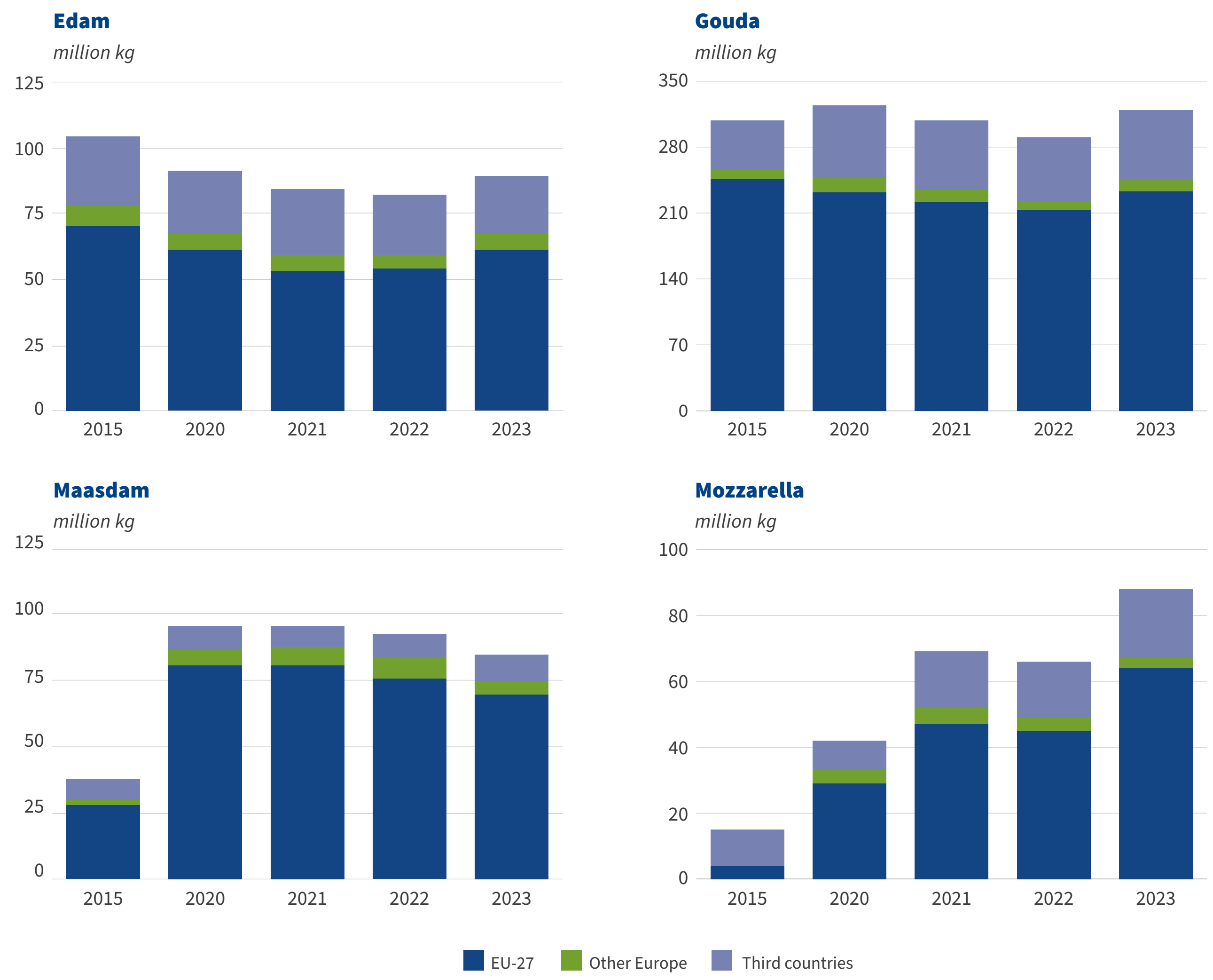
EU-27	10,263
	7,590
Other Europe	449
	376
Third countries [3]	3,521
	2,377

million kg milk equivalents
million euro



[2] Exports more than 10 million kg milk equivalents.
[3] Excluding other Europe.

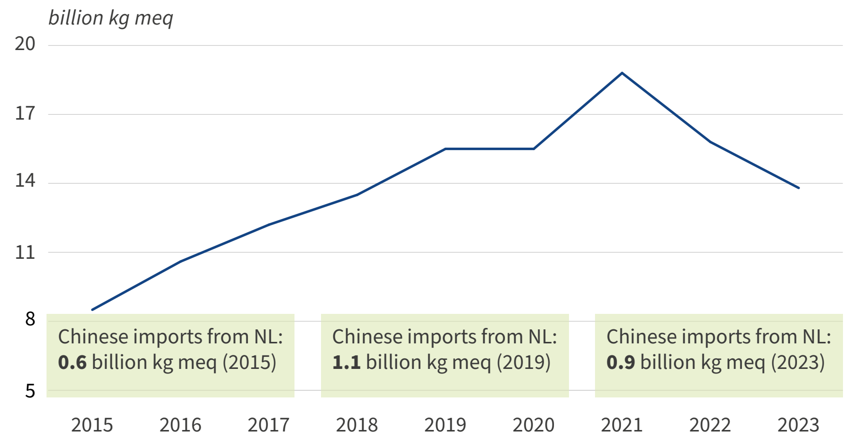
DUTCH EXPORTS OF EDAM, GOUDA, MAASDAM EN MOZZARELLA



Source: Eurostat

CHINESE [4] IMPORTS OF DAIRY [5]

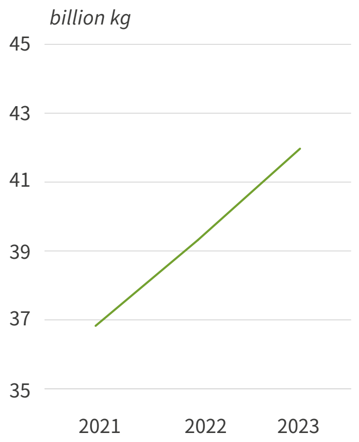
Expressed in milk equivalents (meq)



[4] Including Hong Kong.
[5] Cheese, butter and butteroil, fermented milkproducts, concentrated milk, milk and cream, whey and whey products, infant nutrition, casein and caseinates and products with milk constituents. (HS-codes 0401 t/m 0406, 17021, 190110 en 3501).

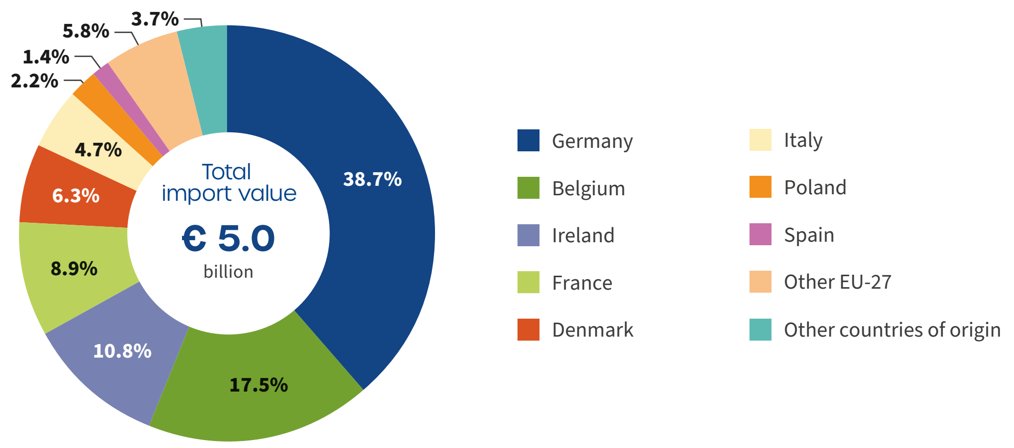
Source: ZuivelNL, national statistics

MILK PRODUCTION CHINA



Source: IDF, USDA

COUNTRIES OF ORIGIN OF DUTCH IMPORTS



Source: Eurostat

DUTCH IMPORTS FROM BELGIUM, DENMARK, FRANCE, GERMANY AND IRELAND

IRELAND

Product	Volume (million kg)	Value (million euro)
Cheese	50	208
Butter and butteroil	42	186
Milk powder	45	109
Milk and cream	6	3
Other [6]	- [7]	37
Total	**- [7]**	**543**

BELGIUM

Product	Volume (million kg)	Value (million euro)
Cheese	63	312
Butter and butteroil	18	92
Milk powder	20	45
Milk and cream	305	286
Other [6]	- [7]	148
Total	**- [7]**	**883**

DENMARK

Product	Volume (million kg)	Value (million euro)
Cheese	46	170
Butter and butteroil	19	83
Milk powder	6	14
Milk and cream	4	3
Other [6]	- [7]	47
Total	**- [7]**	**317**

GERMANY

Product	Volume (million kg)	Value (million euro)
Cheese	187	699
Butter and butteroil	58	216
Milk powder	63	153
Milk and cream	727	438
Other [6]	- [7]	443
Total	**- [7]**	**1,950**

FRANCE

Product	Volume (million kg)	Value (million euro)
Cheese	62	166
Butter and butteroil	7	34
Milk powder	46	100
Milk and cream	5	5
Other [6]	- [7]	144
Total	**- [7]**	**449**

[6] Condensed milk, fermented milk products, milk and cream, whey and whey products and products with milk constituents.
[7] Addition not possible due to diversity in products.

Source: Eurostat, ZuivelNL

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. Semi-skimmed and skimmed milk, yoghurt, and cheeses labelled as 20+ and 30+ are included in the Netherlands Nutrition Centre's 'the Wheel of Five', its equivalent to the food pyramid. This is a nationally recognised information model to promote healthy, safe and more sustainable food choices.

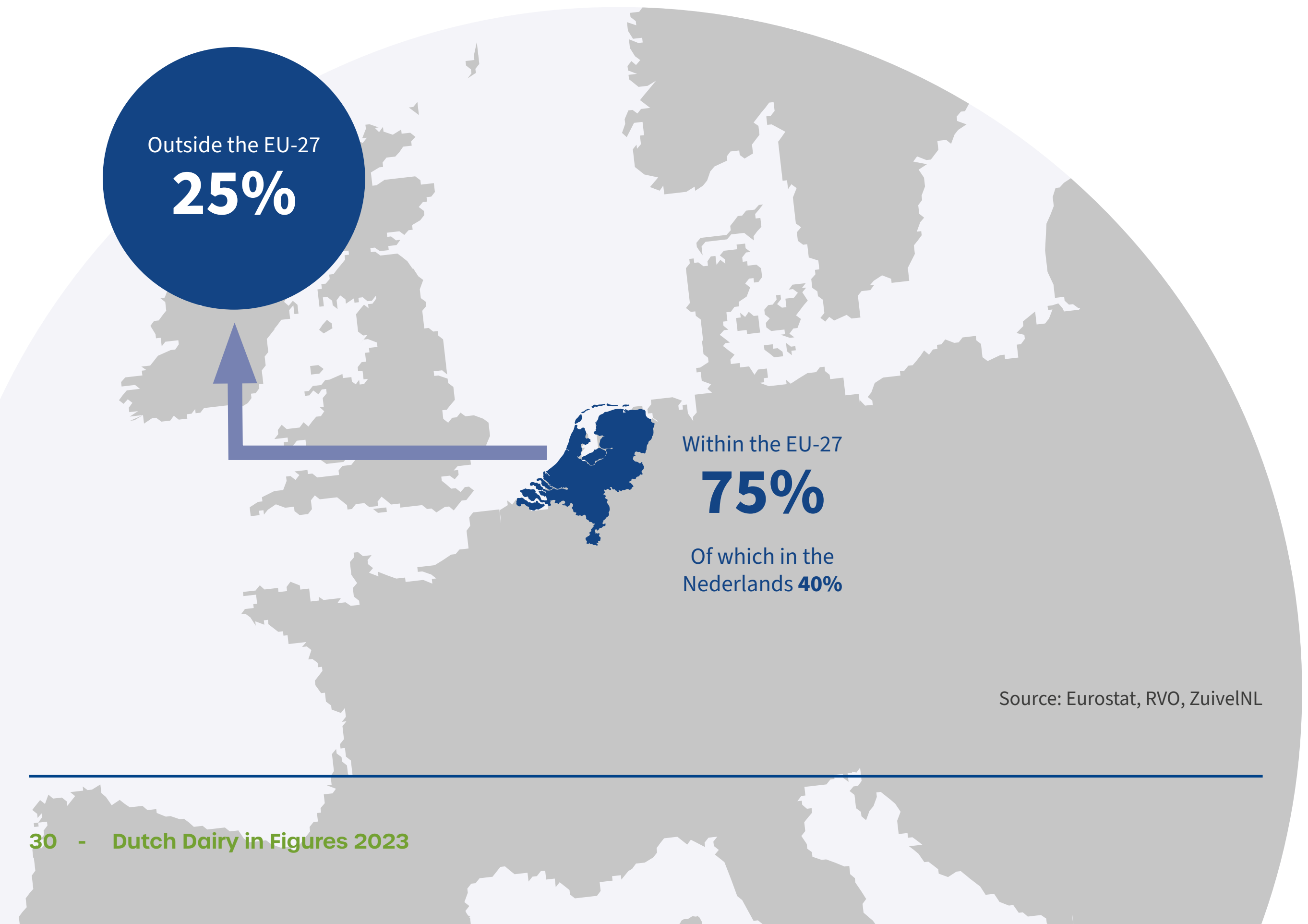
With the Food Consumption Survey (VCP), the Dutch National Institute for Public Health and the Environment (RIVM) maps out the eating patterns of about 3,500 children and adults. The VCP provides insights into what, where and when Dutch people eat and drink, aligning these habits with the Health Council guidelines of the Netherlands. According to the latest survey, conducted from 2019 to 2021, the average Dutch person consumes 338 grams of dairy products daily. Milk and milk drinks, yoghurt and cheese (including cottage cheese) are the leading categories at 180 grams, 70 grams and 49 grams, respectively.

Cheese is a significant component of Dutch dairy consumption. Dutch cheese consumption per capita has been above the European average for years. The consumption of cheese per capita, including cottage cheese and goat's cheese, is between 20 and 25 kg.

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, most of which is sold in the EU, especially in the neighbouring countries.

DESTINATION OF AVAILABLE DAIRY PRODUCTS IN THE NETHERLANDS

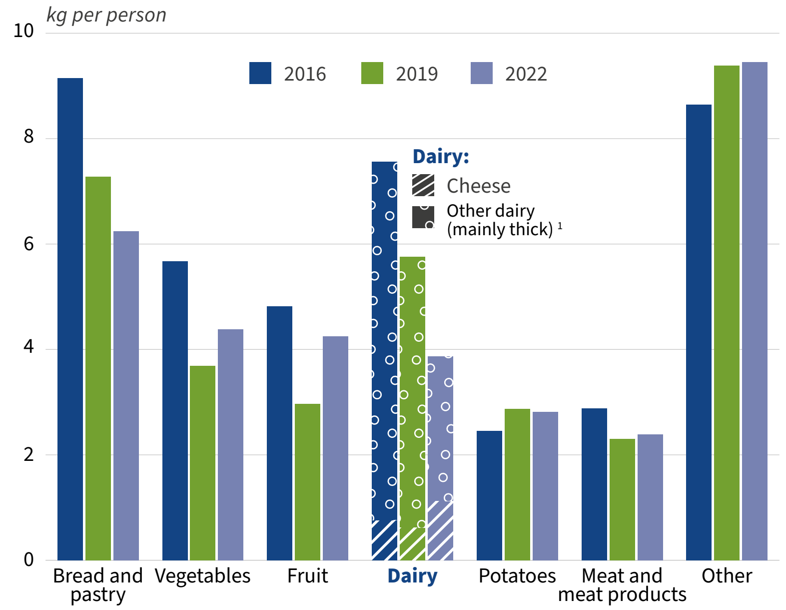
Based on production, imports and exports (*in % milk equivalent*)



Source: Eurostat, RVO, ZuivelNL

HOUSEHOLD FOOD WASTE BY DUTCH CONSUMERS

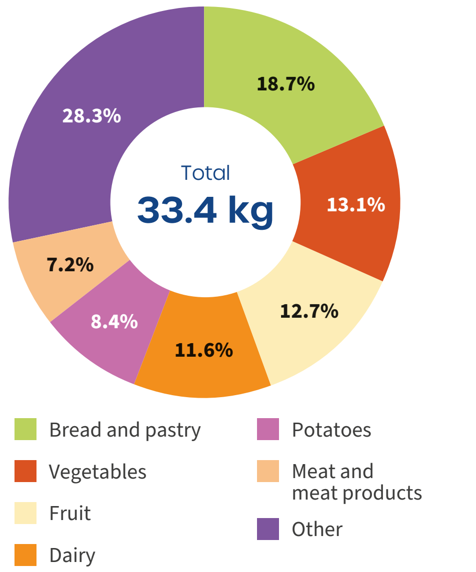
Food waste per person, by product group (in kg per year)



[1] Thick dairy products include items like custard, yogurt, and cottage cheese (quark).

Source: Netherlands Nutrition Centre

% of total food waste 2022



In 2022, the average waste of solid food by Dutch consumers at home was **33.4 kg** per person per year. This is **8.9%** of the total purchased amount of food.

DAIRY CONSUMPTION IN THE NETHERLANDS

Grams per day, by gender and age (1-79 years)

	Female						Male					
	age: 1-3	age: 4-11	age: 12-17	age: 18-50	age: 51-64	age: 65-79	age: 1-3	age: 4-11	age: 12-17	age: 18-50	age: 51-64	age: 65-79
Non-fermented milk and milk beverages	217.9	152.9	122.8	85.3	114.1	109.4	266.2	203.7	199.9	142.4	164.9	112.6
Fermented milk and milk beverages	54.4	69.7	39.8	30.4	44.8	71.8	41.9	66.7	61.4	35.5	59.7	67.2
Yogurt	40.2	44.7	54.7	64.5	87.1	93.1	40.0	30.6	46.9	77.0	74.7	84.5
Fromage blanc, petit suisses	11.7	5.3	4.5	17.0	19.7	17.4	10.1	7.1	7.8	26.4	17.5	13.5
Cheese	13.6	18.6	24.1	33.1	36.2	33.6	13.9	20.2	26.0	37.1	36.2	35.0
Cream desserts, puddings, mousse	23.6	25.1	20.9	10.4	21.2	20.7	23.0	29.8	27.4	23.5	26.4	39.2
Cream, coffee cream	1.0	1.9	3.0	5.9	7.4	9.3	1.2	2.1	3.6	6.6	9.2	10.6
Ice cream	3.6	10.3	13.0	6.2	5.4	6.2	4.0	6.5	8.8	6.7	9.0	7.3
Dairy, other	1.2	2.9	3.3	0.5	0.4	0.1	3.9	4.7	3.3	0.8	0.6	0.8
Dairy substitutes	18.1	4.3	5.9	14.5	11.3	10.9	20.4	5.4	7.1	20.3	8.4	4.4

Dutch people eat and drink

338 g/dag

dairy and

13 g/dag

dairy substitutes

Boys/men eat or drink more dairy and dairy substitutes than girls/women

388 grams | 315 grams

Girls and women aged 12-50 eat and drink the least dairy and dairy substitutes

Source: Food consumption survey 2019-2021 RIVM

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