# The World Dairy Situation Report 2022[1]

[1] Summary report on IDF Bull. 518/2022 World Dairy Situation. The complete document is available from the IDF www.fil.idf.org

## Introduction

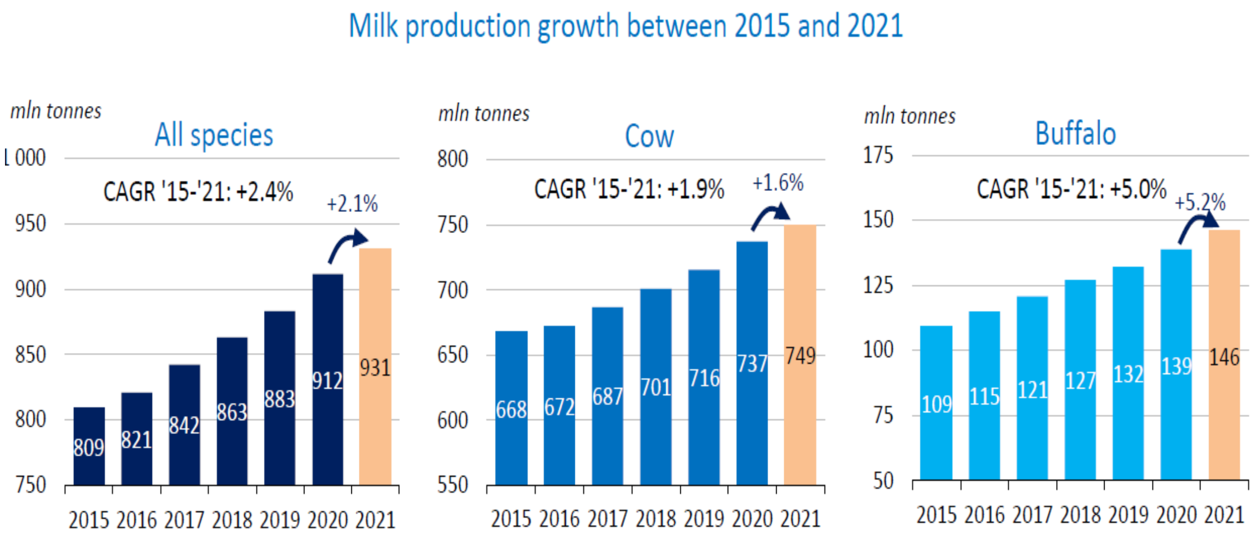
The 2022 World Dairy Situation report was published by the International Dairy Federation (IDF) in October 2022. As always, it provides a general survey and overview of the global dairy industry in the previous year. The compilation includes the most relevant and up-to-date information on global production, processing, trade, prices and consumption of milk and dairy products. The complete report is available from the IDF. In this article, the most salient points are covered to provide a snapshot of the world dairy situation in 2021.

## Summary

In 2021 global per capita consumption increased by 1.4% to 118.2 kg milk equivalents, while the world population grew by 75 million people (1.0%) to 7.87 billion. Global milk production (all species) grew by 2.1% in 2021, down from the average growth of 2.4% per year. The subdued growth was due to the difficult supply situation in the key exporting regions caused by aggressive increases in energy, animal feed and fertiliser prices. The increased costs were a result of worldwide supply chain disruptions and strong economic activity in certain regions that increased demand. Global dairy product output (production) increased strongly for cheese (+2.9%) and whey powder (+2.8%). The output for whole milk powder (WMP) (+1.3%) and butter (+0.9%) were at lower levels, while skimmed milk powder (SMP) fell by 1.5% due to processors favouring cheese and WMP. Global liquid milk production decreased by 0.4% in 2021. International prices for SMP, WMP and cheese ended 2021 at the highest levels since 2014.

## Production of unprocessed (raw) milk

Total production of unprocessed milk (all species) increased by 2.1% in 2021, which is lower than the average rate of 2,4% over the previous five years. The growth rate of buffalo milk exceeded the growth rate of cow's milk, indicating a growing appetite for buffalo milk.




Source: IDF World Dairy Situation 2022

Cows' milk production represents 80% of total milk production internationally. It grew by 1.6% to 749 million tonnes in 2021, bolstering the overall production of unprocessed milk. The growth in unprocessed cows' milk production during 2021 is lower than the compounded annual growth rate (CAGR) of 1.9% over the period from 2015 to 2021. The major unprocessed milk-producing continents are listed in Table 1.

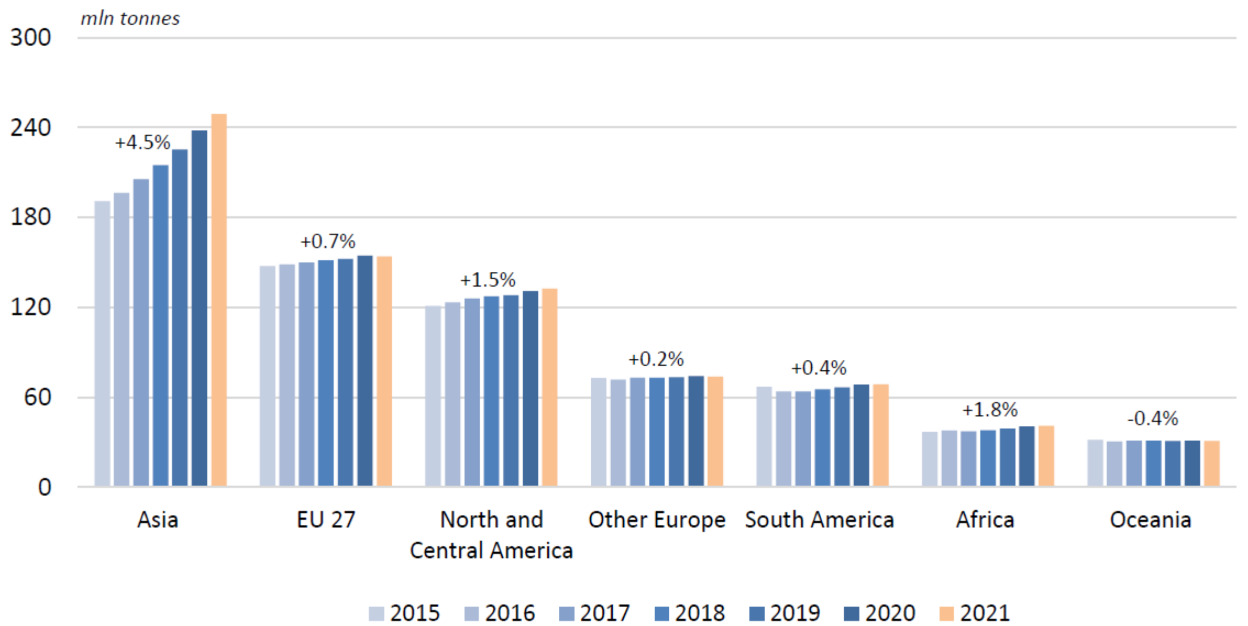
**Table 1: Unprocessed cow's milk production per continent, 2021**

| Continent | Milk production 2021 (mil. tonnes) | Share in total cows' milk production (%) | Annual growth 2020 – 2021 (%) |
|---|---|---|---|
| Asia | 248.9 | 33% | 4.6 |
| EU-27 | 154 | 21% | -0.3 |
| North and Central America | 132.6 | 18% | 1.4 |
| South America | 68.5 | 9% | 0.3 |
| Other Europe | 73.7 | 10% | -0.6 |
| Africa | 40.9 | 5% | 1.1 |
| Oceania | 30.8 | 4% | -1.1 |
| World | 749 | 100,0% | 1,6 |

Source: IDF World Dairy Situation 2022

Comparing the unprocessed milk production of 2021 to that of 2020, the growth in production in Asia is very similar to the growth that was experienced in 2020, while the EU-27 experienced slower growth moving from 0.6% to -0.3%. The growth in North and Central America and Africa reduced from 3.9% and 13.1% respectively in 2020 to 1.4% and 1.1% respectively in 2021. Both Other Europe and Oceania experienced negative growth. Other Europe fell back from +1,7% in 2020 to -0.6% in 2021 and Oceania improved from -5.2% to -1.1% in 2021, although still negative growth.

Regional development cow milk production between 2015 and 2021 (CAGR '15-'21 in %)




Source: CNIEL, ZuivelNL, FAO, IDF National Committees, national statistics.

Unprocessed milk production growth in selected countries is shown in Table 2. Strong growth is observed in Argentina, China and Uzbekistan.

**Table 2: Production of unprocessed cow's milk in selected countries, 2021**

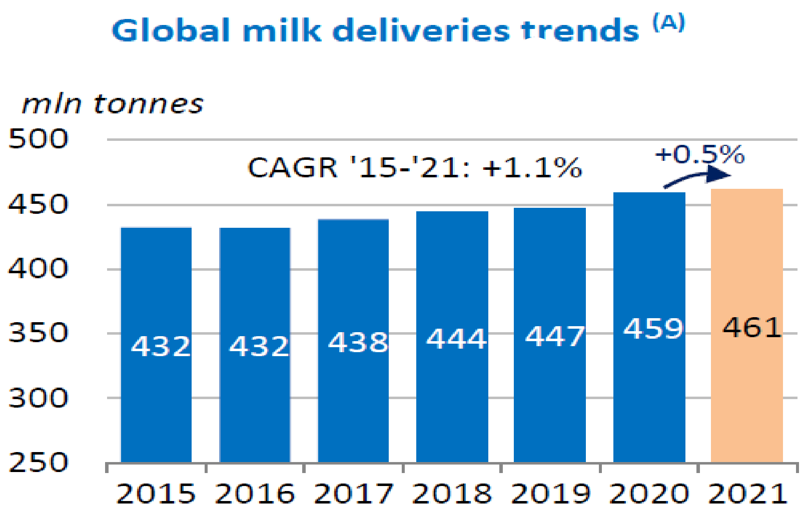
| Country | 'mln' Tonnes | Growth 2020 – 2021 (%) |
|---|---|---|
| Argentina | 11.9 | 4.0 |
| Australia | 8.8 | -3.9 |
| Belarus | 7.8 | 0.7 |
| Brazil | 35.9 | -1.7 |
| Canada | 10.5 | 1.7 |
| Colombia | 8.1 | 5.8 |
| China | 36.8 | 7.1 |
| EU-27 | 154.0 | -0.3 |
| Iran | 7.5 | 0.0 |
| Japan | 7.6 | 2.1 |
| New Zealand | 22.0 | 0.1 |
| Russia | 32.3 | 0.4 |
| Turkey | 21.4 | -1.7 |
| Ukraine | 8.5 | -5.9 |
| USA | 102.6 | 1.3 |
| Uzbekistan | 11,2 | 2.9 |
| South Africa | 3,4 | -0,7 |

Source: IDF World Dairy Situation 2022

## Dairy processing

Global cow's milk deliveries to the industry increased by 0.5% in 2021, sharply down from the 2,5% increase in 2020, and more in line with the increases registered in 2018 to 2019. Four hundred and sixty-one million tonnes of cow's milk (61.5% of total cow's milk production) were delivered to dairies for further processing. The EU-27 processes the largest quantity of milk (31%), followed by the United States (21%), China (7%), Brazil (6%), with India not being ranked.

**World: cow's milk deliveries (2015-2021)** (Source: IDF World Dairy Situation 2022)



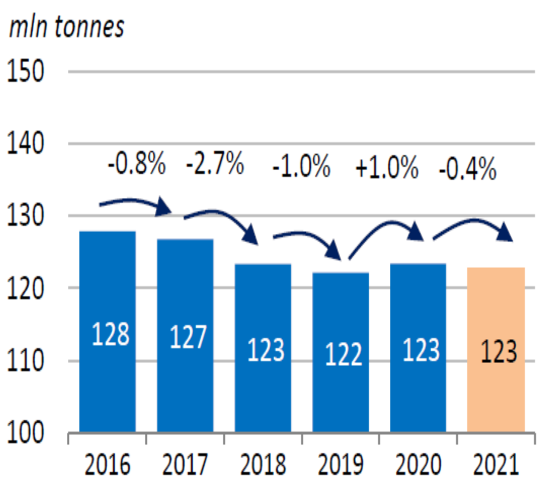
The aggregate dairy production statistics used to indicate dairy product output represent between 75% and 90% of the estimated total world production. Fresh dairy products are an exception, as a large proportion of these come from and are marketed via the informal global market or are simply excluded from official statistics. Overall, processors preferred producing cheese, cream and whey powder, while the production of milk powders, butter and butter oil, liquid milk and fermented products moved sideways or declined.

The production of **packaged milk (liquid milk)** was down by 0.4% in 2021, after an increase of 1,3% in 2020. China's production continued to rise sharply in 2021 by 4.6% on the back of a 5.6% increase in 2020 to cater for the growing demand after three years of lower production. The same trend is evident in India, with 2021 increasing by 7.1% after a decrease in 2020 of 3.0% in the production of packaged milk. In the EU27, packaged milk production decreased by 2.8% due to a decline in consumption.  This trend was also seen in the USA (-2.6%), and Brazil (-4.6%), while Russia remained fairly stable at +0.5%. Lockdown measures have changed consumption in many countries depending on what stage of lockdown was applicable and played in on 2020 and 2021 trends. Packaged milk is less traded than concentrated products and consumption tend to follow population growth and income trends.

Source: IDF World Dairy Situation 2021; (F) is based on 55 countries (G) all cheese types.

**Liquid milk output**

Global production (C)




Trends in leading producing countries

| mln tonnes | 2021 | Annual growth '20-'21 (%) |
|---|---|---|
| EU 27 | 23.0 | -2.8% |
| USA | 20.1 | -2.6% |
| China | 18.6 | +4.6% |
| India (D) | 14.5 | +7.1% |
| Brazil | 7.9 | -4.6% |
| United Kingdom | 6.3 | -1.5% |
| Russia | 5.7 | +0.5% |

Source: IDF World Dairy Situation 2022; (C) is based on 55 countries (D) figures for co-operatives only.

The production of **fermented dairy products** in 2021, declined slightly by 0,8%, far from the 10-year average upward trend of 2,8%. Production was stable in the EU27 (+0.1%) despite a strong decline in France (5.7%). The output of fermented products in China declined by 7.0% despite the high consumption level of this type of product. Packaged milk consumption may have replaced some of the fermented products in the case of China. In the USA and Turkey, the production of fermented products rose sharply by 5.2% and 8.5% respectively.

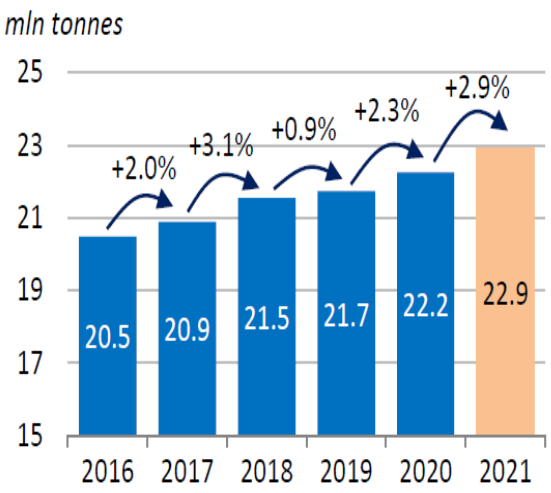
The production of fresh packaged milk and fresh dairy products is expected to keep growing in developing countries, following the trend toward the improvement of nutritional intake in consumption habits.

**Global cheese** production increased by 2,9% to 25 million tonnes, which is above the annual growth rate of 2,2% since 2010. The following market analysis is done on cow's milk cheese, which constitutes 90% of total natural cheese production. In the EU27, the world's largest producer of cheese (9.4 million tons), production increased by 1,5%, in the USA, the second largest producer the increase was more pronounced at 3.5% and in Brazil the third largest producer of cheese, production increased by 1.1%. In Turkey, which is off the podium at number four, production stayed flat in 2021 after an 8,6% increase in 2020.

Significant increased production of cheese was registered in Argentina (+9.0%) due to strong demand from Chile and Brazil, and in Australia (+21.9%) and New Zealand (+8.6%), both supported by increasing demand from China and the Philippines.

## Cheese output

### Global cheese production (F)




### Trends in leading producing countries

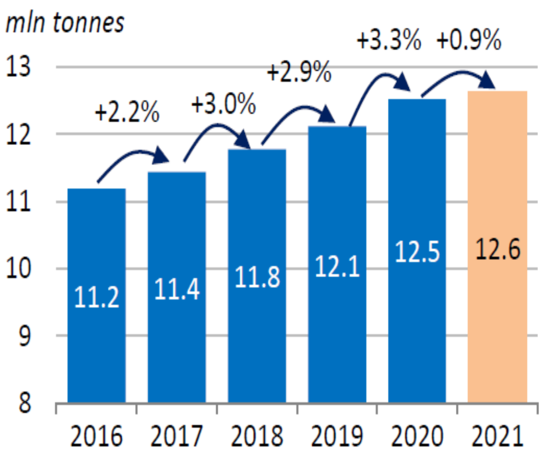
| mln tonnes | 2021 | Annual growth '20-'21 (%) |
|---|---|---|
| EU 27 | 9.4 | +1.5% |
| USA | 6.2 | +3.5% |
| Brazil | 1.1 | +1.1% |
| Türkiye (G) | 0.8 | -0.2% |
| Mexico | 0.5 | +5.9% |
| Argentina | 0.5 | +9.0% |
| Canada | 0.5 | +0.0% |

Source: IDF World Dairy Situation 2022; (F) is based on 55 countries (G) all cheese types.

**Butter and other milk fat** production increased by 0.9% to 12.6 million tons in 2021, well below the average growth rate of 3.0% since 2010. Butter production was generally down in the exporting countries, while production continued to grow in most other countries. In 2021, most butter-producing countries preferred cheese production instead of butter and SMP. Production is dominated by India, which alone accounts for half of the world's dairy fat production. Indian butter and ghee output grew by 3.3% in 2021. In 2021, butter output in EU27, the second largest producer, decreased by 1.9%. The same trend is observed in the USA and New Zealand where production declined by 3.5% and 6.0% respectively. The decline in New Zealand is on the back of a 4.1% decline in 2020.

## Butter and butteroil output

Global production (E)




Trends in leading producing countries

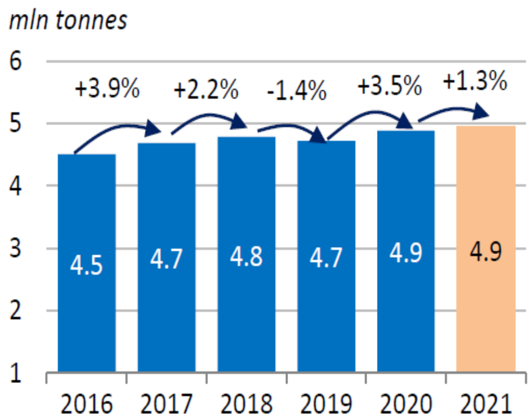
| mln tonnes | 2021 | Annual growth '20-'21 (%) |
|---|---|---|
| India | 6.3 | +3.3% |
| EU 27 | 2.2 | -1.9% |
| Pakistan | 1.2 | 0.0% |
| USA | 0.9 | -3.5% |
| New Zealand | 0.5 | -6.0% |
| Russia | 0.3 | -1.1% |
| United Kingdom | 0.2 | +6.3% |

Source: IDF World Dairy Situation 2022; (E) is based on 56 countries

The production of **whole and semi-skimmed milk powder** increased by 1.3% in 2021 to 4.95 million tonnes. The main producer of whole and semi-skimmed milk powder, New Zealand, increased its production by 1.9%, choosing to channel more milk into this product category to supply exports to China. In China production increased by 5.3% in 2021 on the back of a 3.6 % increase in 2020. In the EU27, production declined sharply by 9.0%, reaching the lowest level since 2016. WMP production dropped in the Netherlands by 34.5% and in Belgium by 49.9% in 2021. Increased WMP production was registered in Russia and Belarus and more notably in Brazil (+4.9%), Argentina (+9.8%) and Uruguay (+4.2%).

## WMP output

Global WMP production (I)




Trends in leading producing countries

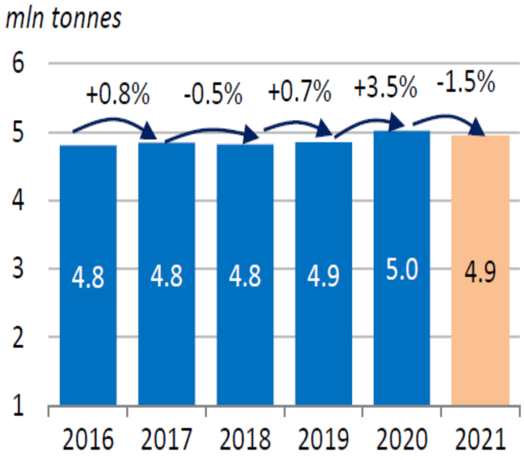
| mln tonnes | 2021 | Annual growth '20-'21 (%) |
|---|---|---|
| New Zealand | 1.6 | +1.9% |
| China (J) | 0.9 | +5.3% |
| EU 27 | 0.8 | -9.0% |
| Brazil | 0.5 | +4.9% |
| Argentina | 0.3 | +9.8% |
| Uruguay | 0.2 | +4.2% |
| Mexico | 0.1 | -6.5% |

Source: IDF World Dairy Situation 2022; (I) is based on 51 countries

The world **skim milk powder** production decreased by 1.5% to 4.9 million tonnes in 2021, mainly due to the shift in orientation to channel more milk into cheese and WMP. EU27 SMP production dropped significantly by 6.3%, with the biggest decline in Germany (-15.1%). The USA had a strong presence in the SMP market for the second year in a row and increased production by 2.4% in 2021. The same trend was registered in Argentina (+4.6%) and Uruguay (+13.1%) while for the third year in a row SMP production in Australia and New Zealand decreased aggressively by 8.6% and 8.8% respectively.

**SMP output**

Global SMP production (H)




Trends in leading producing countries

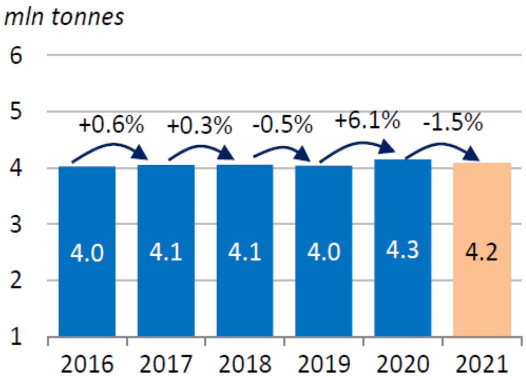
| *mln tonnes* | 2021 | Annual growth '20-'21 (%) |
|---|---|---|
| EU 27 | 1.5 | -6.3% |
| USA | 1.2 | +2.4% |
| India | 0.7 | +3.0% |
| New Zealand | 0.3 | -8.8% |
| Brazil | 0.2 | 0.0% |
| Japan | 0.2 | +8.9% |
| Australia | 0.1 | -8.6% |

Source: IDF World Dairy Situation 2022; (H) is based on 54 countries

Global production of **condensed milk** declined by 1.5% to 4.2 million tonnes. Most of the important countries reduced their production. The USA and the EU27 dominate the market and represent almost 50% of the total market. In the EU27 production decreased by 1.3% and in the USA by 4.5% in 2021. The only major producer that increased production was China with an increase of 21.5%.

**Condensed milk output**

Global condensed milk production (K)




Trends in leading producing countries

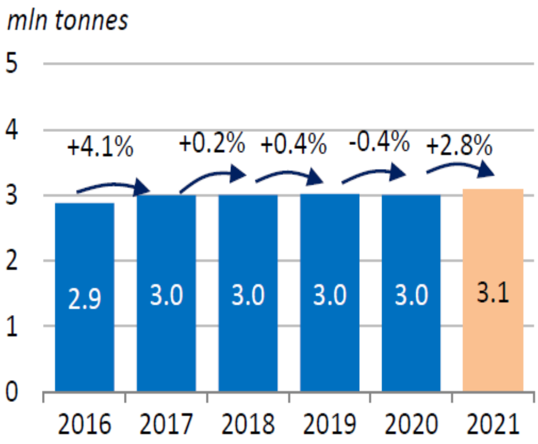
| *mln tonnes* | 2021 | Annual growth '20-'21 (%) |
|---|---|---|
| EU 27 | 1.0 | -1.3% |
| USA | 1.0 | -4.5% |
| Brazil | 0.8 | 0.0% |
| Peru | 0.5 | -1.1% |
| Russia | 0.3 | -6.3% |
| China | 0.2 | +21.5% |
| United Kingdom | 0.1 | -2.3% |

Source: IDF World Dairy Situation 2022; (K) is based on 45 countries

**Liquid whey** is mostly a cheese manufacturing by-product (more than 80%, the rest derived from casein production). It is therefore mainly produced in the leading cheese-producing regions such as the EU27 and the USA. As cheese production increased it is no surprise that whey powder production increased by 2.8% in 2021. The EU is by far the world's top producer of whey powder, representing 68% of whey powder produced in the world. Whey ingredients are a growing market worldwide due to usage in infant formula, nutrition foods and medical use. The Chinese demand for whey powder increased again in 2021 on the back of the 2020 recovery and strong demand from China due to its re-establishment of the pig herd.

**Whey powder output**

Global whey powder production(M)




Trends in leading producing countries

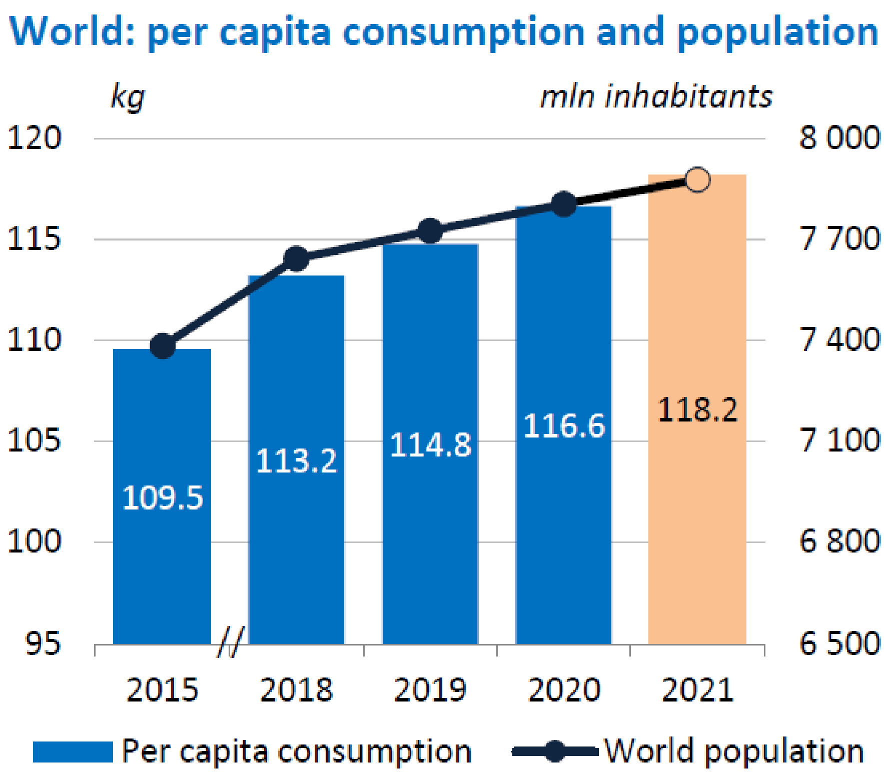
| *mln tonnes* | 2021 | Annual growth '20-'21 (%) |
|---|---|---|
| EU 27 | 2.1 | +4.3% |
| USA(N) | 0.4 | -6.0% |
| Russia | 0.2 | +6.2% |
| Argentina | 0.1 | +9.1% |
| Australia | 0.1 | +4.0% |
| Türkiye | 0.1 | +45.0% |
| Ukraine | 0.0 | -20.0% |

Source: IDF World Dairy Situation 2022; (M) is based on 43 countries

## Dairy consumption

The world population grew by 75 million people (+1%) in 2021 bringing the world population to 7.87 billion people. On average, the calculated per capita consumption of dairy products was 118.2 kg (+1.6kg) in milk equivalent. Despite a strong global demand for dairy, the increase remained close to the annual average growth rate since 2015 of 1.4%, as it was limited by the lower supply growth in the second half of 2021.

The increase in per capita consumption is mainly driven by disposable income, consumer perception and preference and value for money. Regional differences in consumption patterns are very prominent. In Africa, dairy per capita consumption was 45kg per year in 2021 and in Europe 283kg per year while Asia came in at 94kg per capita per year on average.




Source: IDF World Dairy Situation 2022

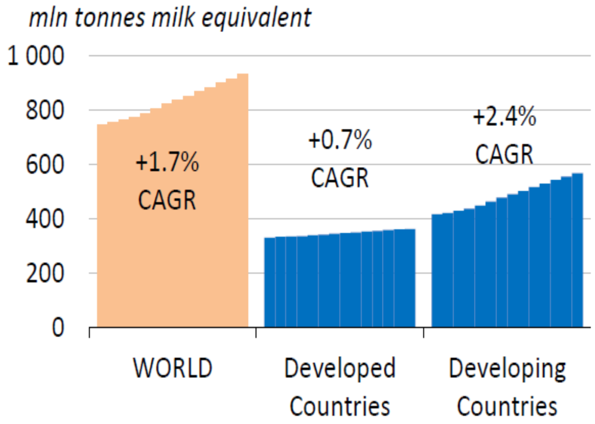
In 2021, global per capita consumption of milk has been boosted by the sharp rise in Asian demand. However, as dairy products are widely consumed in the catering industry in Asia, their partial closure has impacted negatively on demand. Asian consumption was mainly driven by the continued increase in Indian butter (ghee) consumption, which rose more than 3% in 2021 (200 000 tonnes). The demand for dairy products also increased in China, especially for cheese (+38%) and butter at 14%. In the EU27 the consumption of packaged milk declined by 2.7% in 2021, following the temporary surge in 2020 related to lockdowns that led to new home-cooking demand. Butter consumption increased by 0.6% and cheese by 1.2% in the EU27. In the USA, the trend was similar for packaged milk (-2.6%), but demand for butter increased by 2.8% and for cheese by 3.4%.

With the easing of the Covid-19 restrictions, and the gradual opening of food services outlets, packaged milk consumption fell everywhere, except in Asia. Global demand for cheese increased by 2.7%, driven by rises in the USA, EU27, China and Australia. The Asian demand for butter increased by 1.6%, mainly due to the continued growth in the consumption of ghee in India.

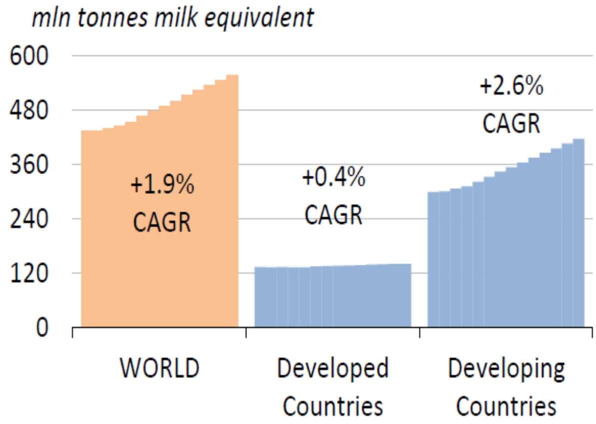
According to the OECD-FAO Agricultural Outlook 2020-2029, demand for dairy products will continue to grow, supported by population growth, increasing income and dietary changes. An increase of 24% is expected in total dairy consumption between 2018 and 2031, with a higher pace for fresh products (29%) and butter (29%) and stronger growth in developing countries (+39% for both categories).

## Annual total consumption growth rates between 2018 and 2031

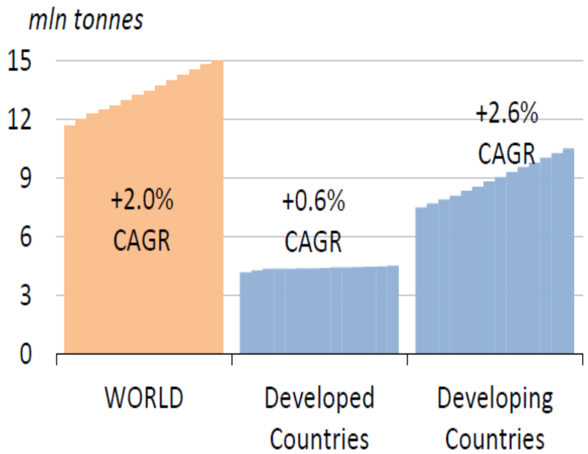
### All Dairy Products



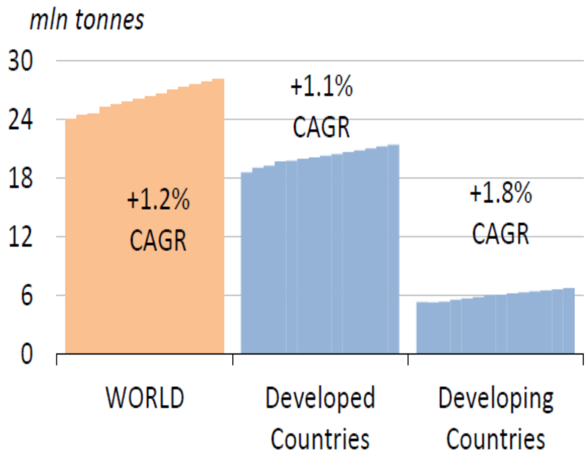

### Fresh Dairy Products [B]



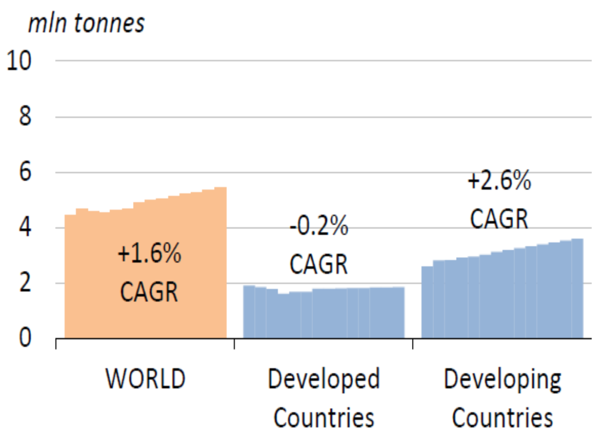

### Butter



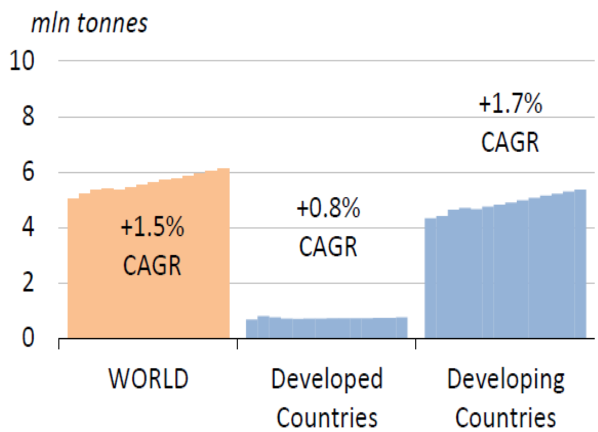

### Cheese




### SMP




### WMP



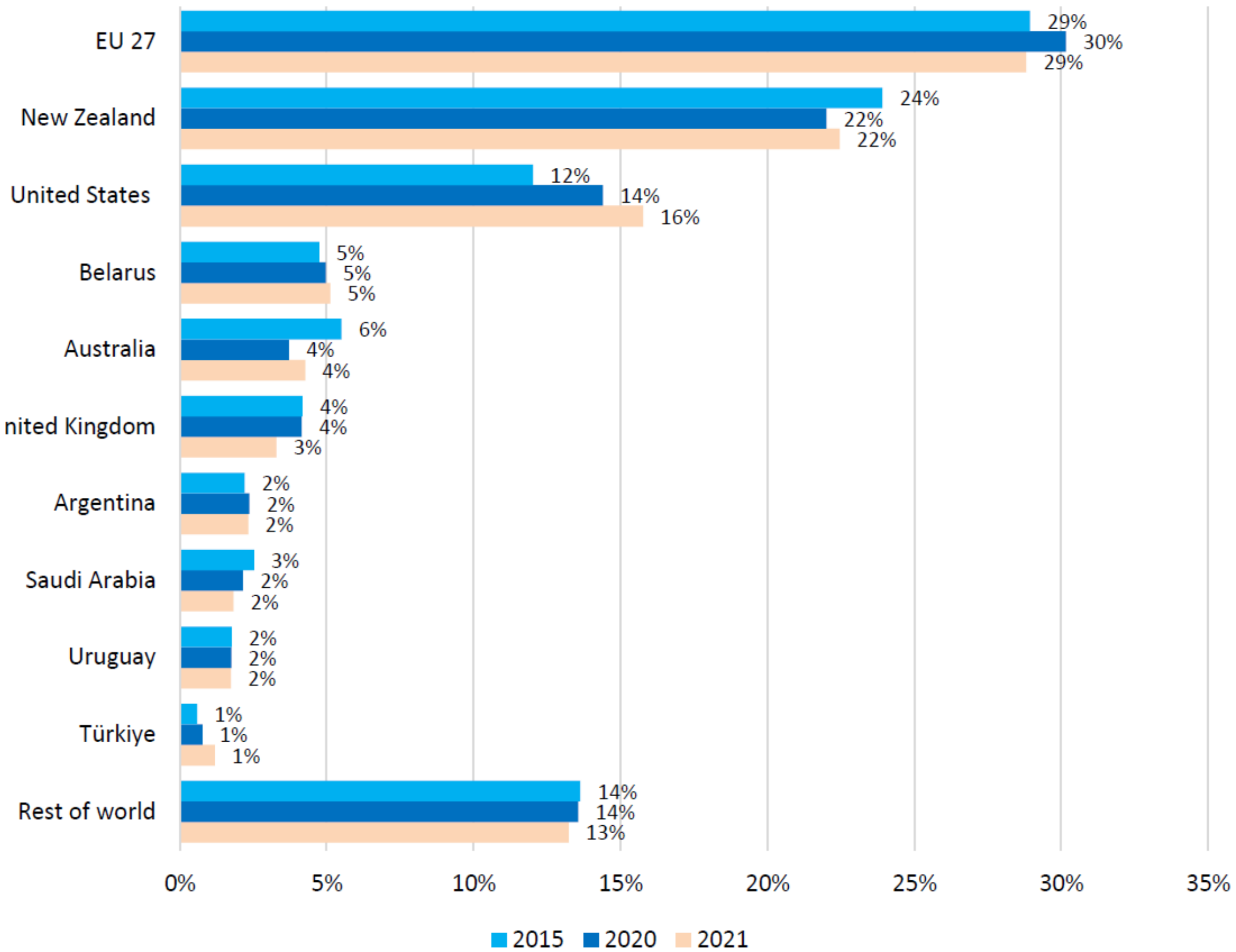

**Source:** Calculations based on OECD-FAO Agricultural Outlook 2022

## International dairy trade

The UK formally left the EU on 31 January 2020. The country remained within the EU common market for the rest of the year, only to leave the common market on 1 January 2021. In this report, for the analysis of the historical development of the world dairy trade, the UK is considered a separate trade territory for the past years.

In 2021 world trade grew by a limited 1,3% to a volume of 93.3 million tonnes in milk equivalent. The EU27 unprocessed milk production lagging behind expectations resulted in more limited availability of dairy products and increased price levels. The rising cost of transport and the scarcity of available container volume compounded the restrictive trade environment. The EU27 remains the world's largest dairy exporter, representing 29% of world trade, with the big players in Europe being the Netherlands, Germany and France. New Zealand is in second place with a share of 22%. Number three is the USA with a share of 16% of the world dairy trade. The USA has notably strengthened its position over the last four years. Belarus is in position number 4 at 5% of dairy world trade and it seems that Australian export (position 5) has stabilised at 4% of dairy world trade, after negative growth over the past few years. The overall picture of 2021 reconfirmed that dairy products supply of the international dairy market is highly concentrated and thus vulnerable with the top 5 exporting countries supplying 76% of the world export volume.

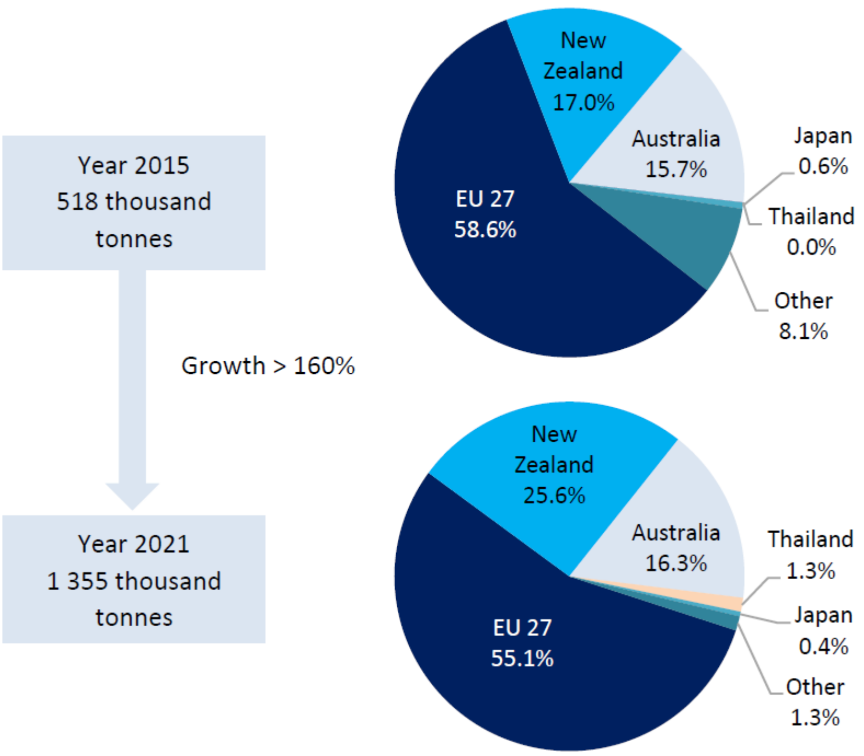
Export share of key exporting countries on the global dairy market (milk equivalent basis)



Growth opportunities in the international dairy market are increasingly being determined by developments in China, Australia, Mexico, the Philippines, Nigeria and Indonesia. The outlook for international dairy trade remains positive despite ongoing gains in self–sufficiency in various developing countries. **Population growth and increased demand for dairy products will make achieving self-sufficiency difficult in many developing countries.**

To provide some perspective on the demand growth in China, Hong Kong and Macao for milk and cream and the change in the export role players the following graph was developed.

**Evolution of exports of milk and cream (HS 0401) to China (including Hong Kong and Macao)**




Source: ZuivelNL. Comtrade

## Unprocessed milk prices

In 2021, farmgate prices recover further from the major impact on global markets caused by the COVID-19 pandemic in 2020. The recovery continued under the influence of rising market prices of various dairy products as a result of lagging global unprocessed milk production. In 2021, the average EU farmgate milk price increased by 12.6%, the US milk price by 1.5% and the Fonterra New Zealand price by 31.4%. In the table below, all prices increased although the magnitude of the increases differed widely.

| Table 2. World: average producer milk price | | |
|---|---|---|
| | 2021 | 2020/21 |
| | (USD/100kg) | % |
| **Argentina** | **31.72** | **20.3** |
| **Brazil** | **40.61** | **21.4** |
| **China** | **66.52** | **21.1** |
| **EU 27(B)** | **43.53** | **12.6** |
| ***France*** | **41.70** | **8.2** |
| ***Germany*** | **42.90** | **14.3** |
| ***Netherlands*** | **46.60** | **13.6** |
| ***Poland*** | **39.37** | **14.3** |
| **India (A)** | **43.22** | **5.7** |
| **New Zealand** | **52.72** | **31.4** |
| **Russia** | **37.27** | **3.8** |
| **USA** | **40.86** | **1.5** |
| A: Dairy years ending March of the following year. Mixed (cow and buffalo) milk; refers to cooperative dairies only<br>B: Weighted average (source: European Commission) | | |

## Conclusion

In 2020, global production of unprocessed milk, deliveries of unprocessed milk, trade volumes and consumption, all showed increased activity. This is remarkable when considering the effect in other commodity and product supply chains that were hugely disrupted due to the Covid-19 regulations and restrictions that were in operation in most parts of the world during 2021. This is an indication of the robustness and sophistication present in the world dairy value chain.