7 Dairy and dairy products

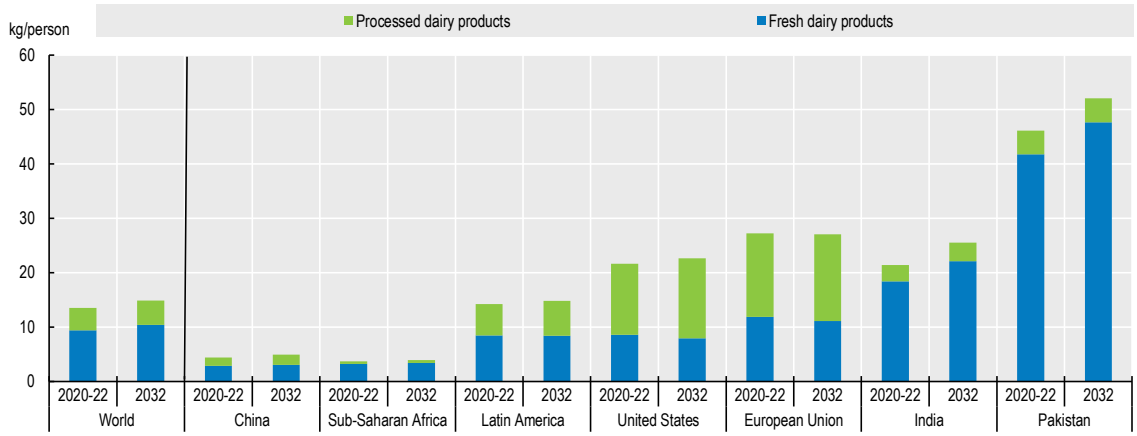
This chapter describes market developments and medium-term projections for world dairy markets for the period 2023-32. Projections cover consumption, production, trade and prices for milk, fresh dairy products, butter, cheese, skim milk powder and whole milk powder. The chapter concludes with a discussion of key risks and uncertainties which could have implications for world dairy markets over the next decade.

7.1. Projection highlights

Buoyant dairy sectors in South Asia and Africa

Milk and dairy products are vital sources of nutrition and provide livelihoods for millions of people in dairy value chains across the world. As income and population increase, more dairy products are expected to be consumed over the medium term. The key locations of this strong demand growth are India, Pakistan, and several African countries. Overall, per capita consumption is projected to increase 0.8% p.a. to 15.7 kg (milk solids equivalent, excluding the water content of milk or dairy products) by 2032. Most dairy production is consumed in the form of fresh dairy products, which are unprocessed or only slightly processed (i.e. pasteurised or fermented) and their share in world consumption is expected to increase over the next decade. In low- and middle-income countries, fresh dairy products comprise over two-thirds of the average per capita dairy consumption (milk solids), while consumers in high-income countries tend to consume more processed products (Figure 7.1).

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



Note: Milk solids are calculated by adding the amount of fat and non-fat solids for each product; Processed dairy products include butter, cheese, skim milk powder and whole milk powder.
Source: OECD/FAO (2023), "OECD-FAO Agricultural Outlook", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-outl-data-en.

StatLink 2 https://stat.link/nk2pvj

Cheese is the most important processed dairy product consumed in terms of milk solids, which primarily occurs in Europe and North America and is increasing in both regions. In Asia, butter is not only the most consumed processed dairy product, accounting for almost half of all processed dairy consumption in terms of milk solids, but it also has the strongest projected growth. In Africa, cheese and whole milk powder (WMP) account for the majority of processed dairy consumption. Over the coming decade, however, skim milk powder (SMP) is expected to record the highest growth, although from a lower base.

World milk production (roughly 81% cow, 15% buffalo, and 4% for goat, sheep and camels combined) is projected to grow at 1.5% p.a. over the next decade (to 1 039 Mt in 2032), faster than most other main agricultural commodities. Over half of the increase in total milk production is anticipated to come from India and Pakistan, which will jointly account for over 32% of world production in 2032. Production in the second largest global milk producer, the European Union, is expected to decline slightly in response to stagnating domestic demand due to low population growth and declining per capita consumption of fresh dairy

products, policies targeted to a transition to sustainable production, the expansion of organic production, and pasture-based production systems. Globally, the projected growth in the number of milk-producing animals is expected to be strong, especially in regions with low yields such as Sub-Saharan Africa and in major milk-producing countries such as India and Pakistan. Over the projection period, yields across the world are expected to grow steadily with the strongest growth expected in Southeast Asian countries.

Milk is traded internationally mainly in the form of processed dairy products. The People's Republic of China (hereafter "China") is expected to remain the most important importer of milk products despite a stronger increase in domestic milk production relative to the past decade. The projected increase in import demand for dairy products in Southeast Asian countries will be driven by population as well as income growth, which favours more livestock products in diets. However, their per capita consumption is projected to remain low relative to traditional dairy consumer markets. The Russian Federation (hereafter "Russia"), Mexico and countries in the Near East and North Africa (NENA), especially Saudi Arabia, will also continue to be important net importers of dairy products. Over the medium term, the European Union, New Zealand, and the United States will remain the key exporters of processed dairy product and are projected to jointly account for around 65% of cheese, 70% of WMP, 70% of butter, and 80% of SMP exports in 2032.

Since 2015, the unit price of butter has been considerably higher than for SMP. This development is attributed to stronger demand for milk fat compared to other milk solids on the international market. It is expected that this gap will persist throughout the projection period. Overall, prices are expected to develop in line with other major agricultural commodities experiencing a slight nominal increase following a downward adjustment in the first years of the *Outlook*.

Although the growth rate of plant-based replacements is strong in many regions, including East Asia, Europe, Oceania and North America, contested views regarding their environmental impact and health benefits lead to uncertainties about their long-term impact on dairy demand. Over the projection period the per capita consumption of fresh dairy products is expected to decline in Europe, Oceania and North America, partly at the expense of an increasing consumption of plant-based replacements.

The introduction of new sustainable production policies or consumer acceptance issues of dairy products will impact the projections for the dairy sector. In some countries, dairy production accounts for a substantial share of overall greenhouse gas emissions (GHG), resulting in considerations of how adjustments to dairy production scale and technology could contribute to reducing such emissions.

Only a relatively small share of global milk production is traded internationally in the form of processed products, mainly powders and cheese. In addition, trade in dairy products is often covered specifically in regional trade agreements. Consequently, new or changed trade agreements tend to alter the global dairy trade. Any entry of India, the world's largest dairy producer and consumer, into the international market could have a strong impact. Currently, some Indian dairy companies are showing interest in exporting to neighbouring countries.

7.2. Current market trends

Dairy prices reached record highs in 2022 but then started to decline

In 2022 the FAO Dairy Price Index value increased by 20% across all dairy products, reaching a new record high. International dairy prices reached their peak around mid-2022 and have started to decline slowly since. Nevertheless, domestic milk prices peaked later and only started to decline towards the end of 2022. The main drivers of prices were energy and feed costs, both showing a similar pattern, but with larger swings compared to those for dairy and milk.

World milk production grew by 0.7% in 2022 to about 897 Mt. In India, production increased by 2.2% to 194 Mt., but with little impact on the world dairy market as they trade only marginal quantities of milk and dairy products. Focusing on the three major exporters, the production of the European Union remained unchanged during 2022 but declined in New Zealand and increased in the United States.

The world dairy trade in 2022 declined due to considerably smaller import demand from China, especially for whole milk powder (WMP). On the other hand, other major importers of dairy products – Saudi Arabia, Indonesia and Mexico - increased their imports. Of the large exporters, the United States would be a strong beneficiary of any additional exports.

7.3. Market projections

7.3.1. Consumption

Strong demand in India and Pakistan is leading increased global dairy consumption

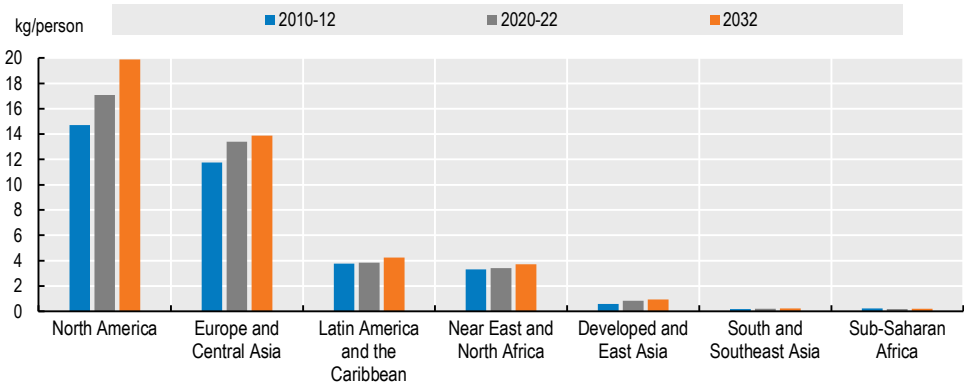
Although milk is a highly perishable product which must be processed shortly after collection, most milk is consumed in the form of fresh dairy products,[1] including those fermented and pasteurised. The share of fresh dairy products in global consumption is expected to increase over the coming decade due to stronger demand growth in India and Pakistan, which in turn is driven by income and population growth. World per capita consumption of fresh dairy products is projected to increase by 1.0% p.a. over the coming decade, slightly faster than over the past ten years, primarily driven by higher per-capita income growth.

Milk consumption per capita (in terms of milk solids) will vary largely worldwide (Figure 7.1), driven by varying growth in incomes and regional preferences. In low- and lower middle-income countries most of the production is consumed in the form of fresh dairy products. The consumption of fresh dairy products per capita is expected to be high in India and Pakistan, but low in China.

In Europe and North America, overall per capita demand for fresh dairy products is stable to declining but the composition of demand has been shifting over recent years towards dairy fat such as full-fat drinking milk and cream. Plant-based dairy replacements are increasingly established and competing more with fresh dairy products than with processed dairy products.

The share of processed dairy products, especially cheese, in overall consumption of milk solids is expected to be closely related to incomes, with variations due to local preferences, dietary constraints, and urbanisation. The largest share of total cheese consumption, the second most consumed dairy product, occurs in Europe and North America, where per capita consumption is expected to continue to increase over the projection period (Figure 7.2). Consumption of cheese will also increase in regions where it has not been traditionally part of the national diet. In Southeast Asian countries, urbanisation and income increases have resulted in more away-from-home eating, including fast food such as burgers and pizzas.

Figure 7.2. Per capita consumption of cheese in selected regions



Source: OECD/FAO (2023), "OECD-FAO Agricultural Outlook", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-outl-data-en.

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Butter consumption has seen a recovery in Europe and North America due to shifting preferences. Consumers may be influenced by recent studies that have shed a more positive light on the health impact from butter consumption, contrary to earlier messaging.

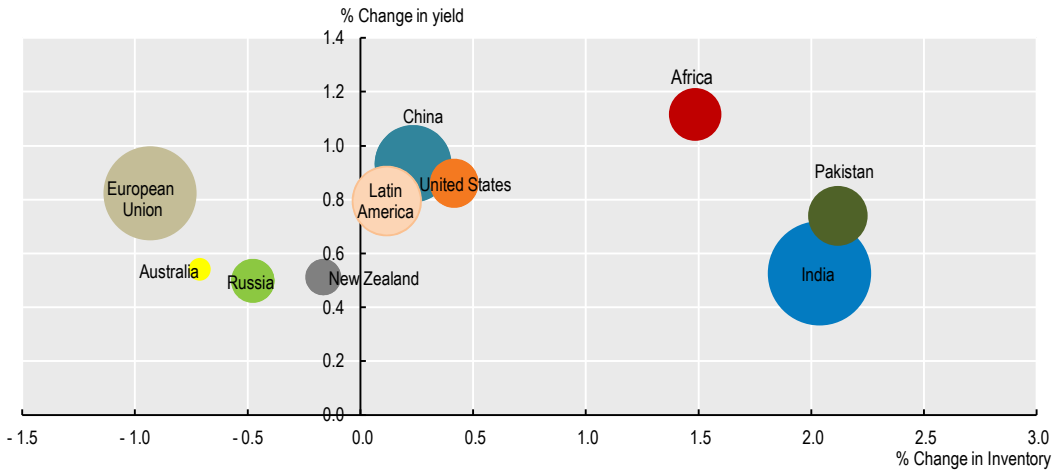
The dominant use of SMP and WMP will continue to be in the manufacturing sector, notably in confectionery, infant formula, and bakery products. A small share of dairy products, especially SMP and whey powder, are used in animal feed. Whey powders are gaining prominence globally because of their use in the processing of nutritional products, especially of clinical, infant, and elderly preparations.

7.3.2. Production

Greater efficiency in milk production from yield growth

World milk production is projected to grow at 1.5% p.a. (to 1 039 Mt by 2032) over the next decade, faster than most other main agricultural commodities. Growth in the number of milk-producing animals is expected to be strong (1.3% p.a.), especially in Sub-Saharan Africa and in major milk-producing countries such as India and Pakistan – where yields are low. Yields across the world are expected to grow steadily over the next decade. Nevertheless, in most regions of the world, yield growth is expected to contribute more to production increases than herd growth (Figure 7.3), the drivers of which include optimising milk production systems, improved animal health and feed efficiencies, and improved genetics.

Figure 7.3. Annual changes in inventories of dairy herd and yields between 2022 and 2032



Note: The size of the bubbles refers to the total milk production in the base period 2020-22.
Source: OECD/FAO (2023), "OECD-FAO Agricultural Outlook", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-outl-data-en.

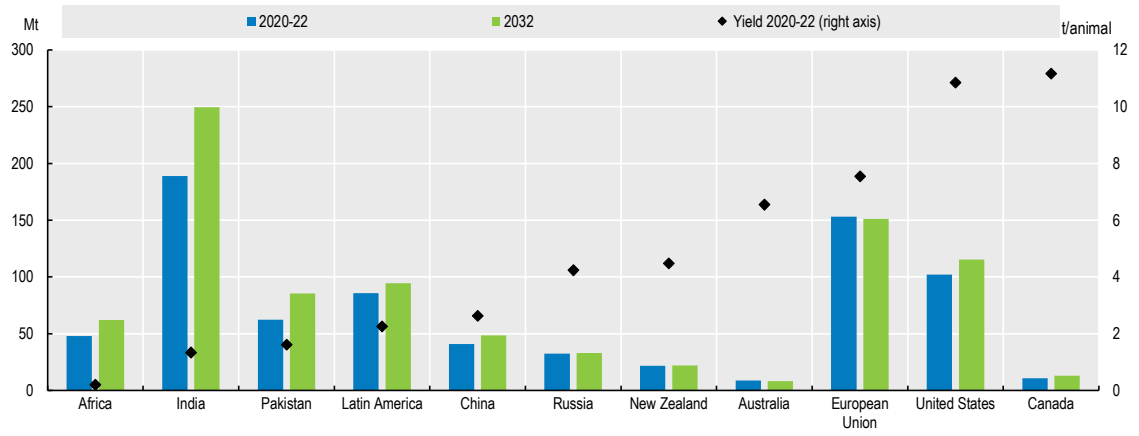
StatLink 2 https://stat.link/duc1rw

India is the largest producer of milk and is expected to experience a continued strong production growth. Production is based on small households connected to cooperatives for processing and distribution. This integration into the wider supply chains is also important for the value attached to dairying in India. The growth is expected to come from more milking cows and buffaloes as well as from yield increases.

Production in the European Union is projected to decline with fewer dairy herds and slower yield growth. Production originates from a mix of grass- and feed-based production systems. In addition, a growing share of milk is expected to be organic or from other non-conventional production systems. At present, more than 10% of dairy cows are within, but not limited to, organic systems located in Austria, Denmark, Greece, Latvia, and Sweden. Germany and France have also seen an increase in organic dairy production. However, as organic yields are about a quarter lower than in conventional production systems, and higher production costs, they need to command a substantial price premium.

North America has some of the highest average yields per cow, as the share of grass-based production is low, and feeding is focused on high yields from specialised dairy herds (Figure 7.4). Dairy herds in the United States and Canada are expected to remain largely unchanged and production growth to originate from further yield increases. As domestic demand is projected to remain stronger for milk fats, the United States will continue to expand SMP exports.

Figure 7.4. Milk production and yield in selected countries and regions



Note: The yield is calculated per milking animal (mainly cows but also buffaloes, camels, sheep and goats).
Source: OECD/FAO (2023), "OECD-FAO Agricultural Outlook", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-outl-data-en.

StatLink 2 https://stat.link/pcnb83

Although the share of New Zealand in world milk production is only 2.5%, it is the most export-orientated country. After expanding milk production strongly over the last twenty years, milk output growth has stalled in recent years, and is projected to grow at 0.4% p.a. over the next decade. Milk production is mainly grass-based, and yields are considerably lower than in North America and Europe. The cost efficiency of grass management, however, allows New Zealand to be competitive. The main constraining factors for growth are land availability and increasing environmental restrictions and the pricing of enteric methane from 2025 (Zero Carbon Amendment Act of 2019 to the Climate Change Response Act of 2002), but a shift to a more feed-based production is not likely.

Strong production growth is expected in Africa, mostly due to larger herds. These will usually have low yields, and a considerable share of milk production will come from goats and sheep. Most cows, goats and sheep graze, and are used for other purposes including meat production, traction, and as capital assets (savings). Additional grazing occurs on the same pasture, leading to a more intensive use which may lead to local over-grazing. Over the projection period, about a third of the worldwide herd population is projected to be in Africa and to account for around 6% of world milk production.

Globally, around 30% of milk will be further processed into products such as butter, cheese, SMP, WMP, or whey powder in the coming decade. However, there is notable regional dispersion. In high-income countries, most of the milk production is transformed into dairy products. Given the considerable direct food demand for butter and cheese, these presently account for a large share of consumption of milk solids in Europe and North America. SMP and WMP are largely produced for trade, for use in the food processing sector, notably in confectionery, infant formulae, and bakery products. In low- and lower middle-income countries most of the milk production goes into fresh dairy products.

7.3.3. Trade

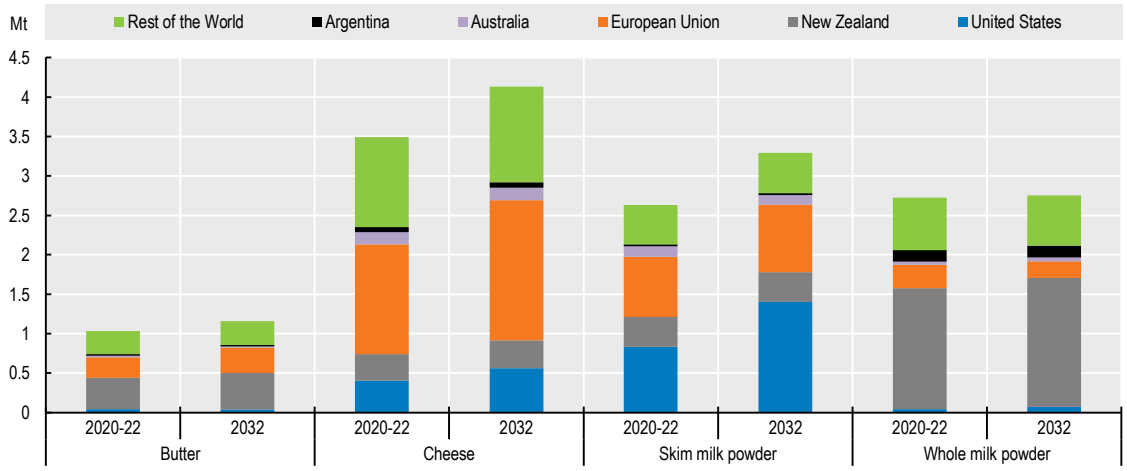
Trade will expand from a few major exporting to many dispersed importing countries

Only around 7% of world milk production is traded internationally, primarily due to its perishability and high-water content (more than 85%). Over 50% of world production of WMP and SMP is traded since these

products are often produced only to store and trade milk over a longer time period or distance. Fresh dairy products are very lightly traded as small amounts of fermented milk products between neighbouring countries (Canada and the United States, the European Union and Switzerland). An exception is imports of liquid milk by China from the European Union and New Zealand, due to Ultra-High Temperature milk and cream products able to be shipped long distances, but also favourable Chinese freight rates in some cases. China's net imports of fresh dairy products over the base period reached 1.2 Mt, and this is not projected to increase much over the next decade.

World dairy trade is projected to expand over the next decade to reach 14.2 Mt in 2032, 11% higher than during the base period. Most of this growth will be met by increased exports from the United States, the European Union and New Zealand. These three countries are projected to jointly account for around 65% of cheese, 70% of WMP, 70% of butter, and 80% of SMP exports in 2032 (Figure 7.5). Australia, another exporter, has lost market shares although it remains a notable exporter of cheese and SMP. In the case of WMP, Argentina is also an important exporter and is projected to account for 5% of world exports by 2032. In recent years, Belarus has become an important exporter, orienting its exports primarily to the Russian market due to the Russian embargo as of 2015 on several major dairy exporting countries.

Figure 7.5. Exports of dairy products by region



Source: OECD/FAO (2023), "OECD-FAO Agricultural Outlook", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-outl-data-en.

StatLink 2 https://stat.link/fcuezv

The European Union will continue to be the main world cheese exporter, followed by the United States and New Zealand. The United Kingdom, Japan, Russia, the European Union, and Saudi Arabia are projected to be the top five cheese importers in 2032. These countries are often also exporters of cheese and international trade is expected to increase the choice of cheeses for consumers.

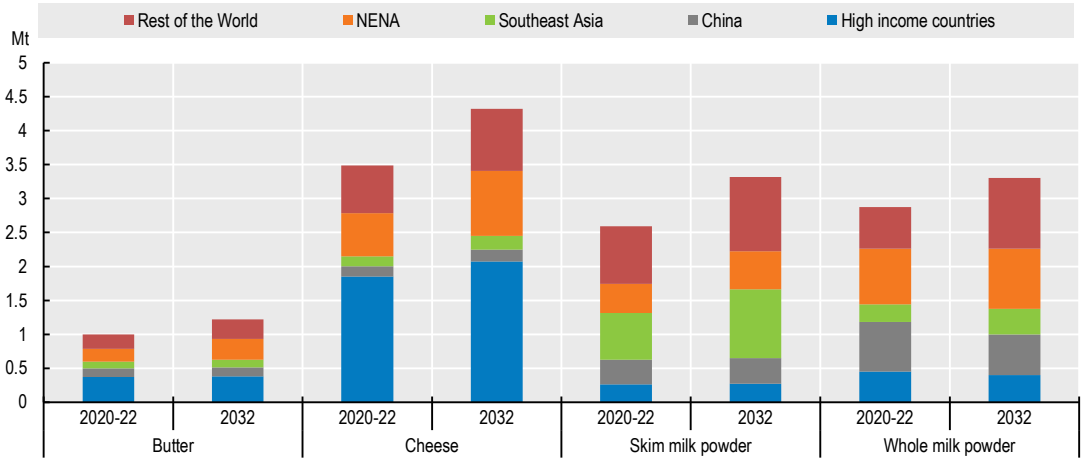
New Zealand remains the primary source for butter and WMP on the international market, and its market shares are projected to be around 40% and 60%, respectively, by 2032. China is the principal importer of WMP from New Zealand, but trade between the two countries is projected to be less dynamic over the projection period. The expected growth in domestic milk production in China will limit the growth in WMP imports. It is expected that New Zealand will diversify and slightly increase its production of cheese over the outlook period.

The United States is expected to be the most dynamic large exporter over the next decade and expand SMP exports especially. This would require growth in drying capacity which is beyond current investments. SMP imports are disperse globally as it is often the easiest dairy product to trade for use in food processing.

Imports are spread more widely across countries, with the dominant destinations for all dairy products being the NENA, high-income countries, Southeast Asia, and China (Figure 7.6). China is expected to continue to be the world's major dairy importer, especially for WMP with imports from China projected to represent 21% of global imports in 2032. Per capita consumption of dairy products in China is relatively low compared to traditional markets, but there have been significant increases in demand over the past decade, with growth projected to continue. Most of its dairy imports are sourced from Oceania, although in recent years the European Union has increased its exports of butter and SMP to China.

While some regions are self-sufficient, such as India and Pakistan, total dairy consumption in Africa, Southeast Asian countries, and the NENA is expected to grow faster than production, leading to an increase in dairy imports. As liquid milk is expensive to trade (high volume/value ratio), this additional demand growth is expected to be met with milk powders, where water is added for final consumption or further processing. Imports by NENA are expected to originate primarily from the European Union, while the United States and Oceania are expected to be the main suppliers of powders to Southeast Asia.

Figure 7.6. Imports of dairy products by region



Note: NENA stands for Near East and North Africa, and is defined as in Chapter 2. Southeast Asia contains Indonesia, Malaysia, Philippines, Thailand and Viet Nam.
Source: OECD/FAO (2023), "OECD-FAO Agricultural Outlook", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-outl-data-en.

StatLink 2 https://stat.link/3aiylt

7.3.4. Prices

Real international dairy prices will trend downward

International dairy prices are of processed products of the main exporters in Oceania and Europe. The two main reference prices are butter and SMP, where butter is the reference for milk fat and SMP for other milk solids. Milk fat and other milk solids together account for about 13% of the overall weight of milk, the remainder being water.

Since 2015, the price of butter has increased considerably more than SMP. Increased demand for milk fat resulted in a price gap emerging between the two products and the price of butter will continue to be supported by stronger demand for milk fat compared to other milk solids on the international market. Therefore, the gap between the price of butter and SMP is assumed to remain a defining feature over the coming decade (Figure 7.7). Prices of butter and SMP are foreseen to slightly decline over the projection period as supplies respond to current price incentives. World prices for WMP and cheese are expected to be affected by butter and SMP price trends, in line with the respective content of fat and non-fat solids.

Figure 7.7. Dairy product prices, 2002-2032

Note: Butter, FOB export price, 82% butterfat, Oceania; Skim Milk Powder, FOB export price, non-fat dry milk, 1.25% butterfat, Oceania; Whole Milk Powder, FOB export price, 26% butterfat, Oceania; Cheese, FOB export price, cheddar cheese, 39% moisture, Oceania. Real prices are nominal world prices deflated by the US GDP deflator (2022=1).
Source: OECD/FAO (2023), "OECD-FAO Agricultural Outlook", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-outl-data-en.

StatLink 2 https://stat.link/mqa0jk

The strong volatility of international dairy prices stems from its small trade share, the dominance of a few exporters, and a widely restrictive trade policy environment. Most domestic markets are only loosely connected to those prices as fresh dairy products dominate consumption, and only a small share of milk is processed as compared to that which is fermented or pasteurised.

7.4. Risks and uncertainties

Environmental and health concerns are becoming more significant

The role of plant-based replacements for dairy (e.g. soya, almond, rice, and oat drinks) in the fluid milk sector has increased in many regions, especially in North America, Europe and East Asia. Available replacements have continued to expand beyond the more traditional options, branching into various sources from nuts, legumes and other crops. Key drivers of the expansion include health and consumer concerns regarding the environmental impact of dairy production, and lactose intolerance. The growth rates of plant-based replacements for dairy products are strong, albeit from a low base, although the evidence regarding their environmental impact and relative health benefits is contested. The sustainability

of popular replacements such as almond and soya drinks have been questioned as more consumers consider other environmental issues in addition to GHG emissions, such as water usage and deforestation. Similarly, lactose intolerance is a concern for some consumers with a range of lactose-free dairy products becoming available for those who do not prefer plant-based replacements. Overall, there is uncertainty surrounding the long-term impact of plant-based replacements on the dairy sector.

Environmental legislation could have a strong impact on the future development of dairy production. GHG emissions from dairy activities make up a high share of total emissions in some countries (e.g. New Zealand and Ireland) and more stringent environmental policies and initiatives such as the Pathways to Dairy Net Zero launched in September 2021 by the dairy sector could affect the level and nature of dairy production to curb such emissions. The increasing trend towards sustainable practices such as water access and manure management are associated areas where policy changes could impact on dairy. European dairy sector experts assume decreasing dairy exports caused by the European Union Farm-to-Fork-Strategy. Nevertheless, stricter environmental legislation could also lead to innovative solutions that improve the long-term competitiveness of the sector. Overall, the global level of GHG emissions will largely depend on efficiency gains in India and other countries with high cattle populations and extensive production. In addition, climate change and extreme weather events, already experienced in some countries and regions, could aggravate the viability of milk production in the affected countries.

Russia's war against Ukraine has significantly heightened the uncertainty of energy, fertiliser and other agricultural supplies and may slow down economic growth. Market impacts could be felt in related sectors such as dairy through increased input costs for these products. It could also increase the interest in circular agriculture with a focus on using fewer external inputs, an option available and widely used in dairy production.

Changes in domestic polices remain an uncertainty. Under USMCA, Canada has capped SMP exports, allowed increased market access, and eliminated their Class 7 designation, which was initially introduced to comply with the World Trade Organization Nairobi Decision on the removal of export subsidies. In the European Union, intervention buying of SMP and butter at fixed prices remains possible under certain circumstances, and this already had a considerable market impact in recent years.

Dairy trade flows could be substantially altered by changes in the trade environment. Modifications to existing, or the creation of new, trade agreements would affect dairy demand and trade flows. In addition, India and Pakistan, the big dairy consuming countries, have not been integrated into the international dairy market as domestic production is projected to expand fast to respond to growing home demand. Future investment in cold chain infrastructure in these regions will contribute to an increase their degree of dairy self-sufficiency.

Note

[1] Fresh dairy products contain all dairy products and milk which are not included in processed products (butter, cheese, skim milk powder, whole milk powder, whey powder and, for few cases casein). The quantities are in cow milk equivalent.

ANNEX C

Table C.5. World dairy projections: Milk, butter and cheese

Calendar year

		Average 2020-22est	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
MILK												
World												
Production	kt pw	888 412	910 964	925 166	938 077	952 326	966 819	981 706	995 842	1 010 318	1 024 868	1 039 320
Inventory	000 hd	719 741	745 900	756 334	764 822	774 130	785 660	797 002	808 143	819 249	830 106	840 875
Yield	t/head	1.23	1.22	1.22	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.24
Developed countries												
Production	kt pw	409 280	410 315	412 987	414 948	417 603	420 163	422 978	425 120	427 617	430 084	432 483
Inventory	000 hd	72 878	72 803	72 703	72 573	72 496	72 500	72 499	72 484	72 475	72 456	72 433
Yield	t/head	5.62	5.64	5.68	5.72	5.76	5.80	5.83	5.87	5.90	5.94	5.97
Developing countries												
Production	kt pw	479 131	500 649	512 179	523 128	534 723	546 656	558 728	570 722	582 701	594 784	606 837
Inventory	000 hd	646 864	673 098	683 631	692 249	701 634	713 161	724 503	735 659	746 774	757 650	768 442
Yield	t/head	0.74	0.74	0.75	0.76	0.76	0.77	0.77	0.78	0.78	0.79	0.79
OECD[1]												
Production	kt pw	372 557	373 357	375 527	377 128	379 586	382 032	384 759	386 808	389 244	391 654	394 010
Inventory	000 hd	80 849	82 017	82 067	82 118	82 305	82 757	83 228	83 670	84 137	84 593	85 051
Yield	t/head	4.61	4.55	4.58	4.59	4.61	4.62	4.62	4.62	4.63	4.63	4.63
FRESH DAIRY PRODUCTS												
World												
Consumption	kt pw	460 865	476 845	485 199	493 249	501 841	510 746	519 743	528 528	537 275	546 176	554 984
Developed countries												
Consumption	kt pw	141 204	141 533	141 414	141 446	141 495	141 555	141 515	141 443	141 390	141 518	141 533
Developing countries												
Consumption	kt pw	319 661	335 312	343 785	351 803	360 345	369 191	378 228	387 085	395 885	404 658	413 451
OECD[1]												
Consumption	kt pw	106 923	106 615	106 340	106 426	106 454	106 594	106 601	106 600	106 608	106 666	106 607
BUTTER												
World												
Production	kt pw	12 643	12 902	13 101	13 286	13 471	13 638	13 803	13 979	14 151	14 329	14 504
Consumption	kt pw	12 592	12 915	13 112	13 295	13 471	13 636	13 802	13 979	14 151	14 329	14 504
Stock changes	kt pw	18	-12	-10	-10	0	2	1	0	0	0	0
Price[2]	USD/t	4 925	4 637	4 765	4 866	5 027	5 130	5 213	5 336	5 433	5 557	5 673
Developed countries												
Production	kt pw	4 928	4 851	4 887	4 926	4 968	4 994	5 020	5 051	5 078	5 104	5 132
Consumption	kt pw	4 404	4 354	4 372	4 387	4 403	4 413	4 426	4 451	4 469	4 493	4 517
Developing countries												
Production	kt pw	7 715	8 051	8 215	8 360	8 503	8 644	8 783	8 928	9 074	9 224	9 372
Consumption	kt pw	8 189	8 561	8 740	8 908	9 068	9 223	9 376	9 527	9 682	9 836	9 988
OECD[1]												
Production	kt pw	4 835	4 780	4 820	4 859	4 900	4 931	4 962	4 997	5 027	5 057	5 089
Consumption	kt pw	4 289	4 254	4 282	4 305	4 322	4 333	4 347	4 372	4 390	4 415	4 440
Stock changes	kt pw	18	-12	-10	-10	0	2	1	0	0	0	0
CHEESE												
World												
Production	kt pw	25 227	25 702	26 048	26 335	26 663	27 013	27 368	27 664	27 995	28 317	28 647
Consumption	kt pw	25 218	25 633	26 014	26 321	26 653	27 002	27 354	27 659	27 986	28 308	28 638
Stock changes	kt pw	9	69	34	14	10	12	14	5	9	9	9
Price[3]	USD/t	4 611	4 590	4 658	4 719	4 808	4 892	4 960	5 046	5 123	5 211	5 300
Developed countries												
Production	kt pw	20 754	21 174	21 446	21 668	21 931	22 206	22 485	22 706	22 958	23 201	23 449
Consumption	kt pw	19 664	19 881	20 141	20 334	20 550	20 779	21 007	21 191	21 394	21 596	21 805
Developing countries												
Production	kt pw	4 473	4 528	4 602	4 667	4 732	4 807	4 883	4 958	5 036	5 115	5 198
Consumption	kt pw	5 555	5 752	5 873	5 987	6 103	6 223	6 347	6 468	6 591	6 712	6 833
OECD[1]												
Production	kt pw	20 032	20 439	20 681	20 878	21 108	21 358	21 623	21 829	22 068	22 299	22 536
Consumption	kt pw	19 123	19 360	19 617	19 809	20 009	20 222	20 436	20 606	20 798	20 987	21 186
Stock changes	kt pw	9	69	34	14	10	12	14	5	9	9	9

Note: Calendar Year; except year ending 30 June for New Zealand in aggregates. Average 2020-22est: Data for 2022 are estimated. Prices are in nominal terms.

1. Excludes Iceland and Costa Rica but includes all EU member countries.
2. FOB export price, butter, 82% butterfat, Oceania.
3. FOB export price, cheddar cheese, 39% moisture, Oceania.

Source: OECD/FAO (2023), "OECD-FAO Agricultural Outlook", *OECD Agriculture statistics* (database). dx.doi.org/10.1787/agr-outl-data-en

ANNEX C

Table C.6. World dairy projections: Powders and casein

Calendar year

		Average 2020-22est	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
SKIM MILK POWDER												
World												
Production	kt pw	4 541	4 593	4 718	4 817	4 918	5 015	5 110	5 206	5 300	5 393	5 488
Consumption	kt pw	4 486	4 594	4 717	4 816	4 918	5 015	5 110	5 206	5 300	5 393	5 489
Stock changes	kt pw	6	-1	0	1	0	0	0	0	0	-1	-1
Price[1]	USD/t	3 340	3 116	3 112	3 122	3 147	3 199	3 256	3 312	3 369	3 432	3 498
Developed countries												
Production	kt pw	3 807	3 802	3 905	3 985	4 068	4 148	4 224	4 302	4 378	4 453	4 530
Consumption	kt pw	1 673	1 652	1 680	1 691	1 706	1 721	1 733	1 747	1 761	1 772	1 786
Developing countries												
Production	kt pw	734	791	813	832	850	868	886	904	922	940	958
Consumption	kt pw	2 814	2 942	3 038	3 125	3 212	3 295	3 377	3 459	3 539	3 621	3 703
OECD[2]												
Production	kt pw	3 632	3 655	3 761	3 845	3 929	4 009	4 087	4 166	4 244	4 319	4 398
Consumption	kt pw	1 858	1 843	1 867	1 876	1 893	1 910	1 923	1 939	1 955	1 968	1 985
Stock changes	kt pw	6	-1	0	1	0	0	0	0	0	-1	-1
WHOLE MILK POWDER												
World												
Production	kt pw	5 055	5 091	5 191	5 292	5 386	5 471	5 562	5 652	5 742	5 835	5 929
Consumption	kt pw	5 084	5 089	5 190	5 292	5 385	5 470	5 561	5 651	5 742	5 835	5 928
Stock changes	kt pw	-3	2	1	1	1	1	1	1	1	1	1
Price[3]	USD/t	3 554	3 344	3 380	3 426	3 478	3 537	3 598	3 667	3 736	3 813	3 890
Developed countries												
Production	kt pw	2 540	2 411	2 428	2 443	2 455	2 463	2 473	2 485	2 493	2 504	2 514
Consumption	kt pw	665	597	589	593	593	583	581	577	575	575	576
Developing countries												
Production	kt pw	2 515	2 680	2 763	2 849	2 931	3 008	3 088	3 167	3 249	3 332	3 415
Consumption	kt pw	4 419	4 493	4 601	4 699	4 792	4 887	4 980	5 074	5 167	5 260	5 352
OECD[2]												
Production	kt pw	2 784	2 664	2 687	2 709	2 723	2 733	2 746	2 761	2 772	2 785	2 799
Consumption	kt pw	974	917	914	923	928	922	923	923	924	928	932
Stock changes	kt pw	-3	2	1	1	1	1	1	1	1	1	1
WHEY POWDER												
Price[4]	USD/t	1 143	1 003	1 014	1 025	1 032	1 047	1 061	1 078	1 093	1 108	1 124
CASEIN												
Price[5]	USD/t	9 234	9 279	8 971	8 914	8 983	9 122	9 263	9 406	9 551	9 697	9 847

Note: Calendar Year; except year ending 30 June for New Zealand in aggregates. Average 2020-22est: Data for 2022 are estimated. Prices are in nominal terms.

1. FOB export price, non-fat dry milk, 1.25% butterfat, Oceania.
2. Excludes Iceland and Costa Rica but includes all EU member countries.
3. FOB export price, WMP 26% butterfat, Oceania.
4. FOB export price, sweet whey non-hygroscopic, Western Europe.
5. Export price, New Zealand.

Source: OECD/FAO (2023), "OECD-FAO Agricultural Outlook", *OECD Agriculture statistics* (database). dx.doi.org/10.1787/agr-outl-data-en

ANNEX C

Table C.31.1. Butter projections: Production and trade

Calendar year

	PRODUCTION (kt)		Growth (%)[4]		IMPORTS (kt)		Growth (%)[4]		EXPORTS (kt)		Growth (%)[4]	
	Average 2020-22est	2032	2013-22	2023-32	Average 2020-22est	2032	2013-22	2023-32	Average 2020-22est	2032	2013-22	2023-32
WORLD	**12 643**	**14 504**	**2.02**	**1.29**	**1 002**	**1 158**	**0.59**	**0.85**	**1 035**	**1 158**	**-0.10**	**0.85**
NORTH AMERICA	1 055	1 148	1.76	1.21	67	60	20.27	-3.02	43	40	-1.82	-1.86
Canada	116	143	4.13	2.19	23	28	15.30	-1.33	0	0	-38.26	..
United States	939	1 004	1.50	1.08	44	33	23.75	-4.25	43	40	-1.45	-1.86
LATIN AMERICA	445	512	0.52	1.19	57	72	-1.58	1.21	42	45	-2.27	-0.50
Argentina	31	34	-5.37	1.25	0	0	..	..	16	20	4.74	0.40
Brazil	107	111	2.53	0.42	2	9	5.62	5.49	1	1	-3.39	-4.54
Chile	24	30	1.33	2.12	5	5	4.78	-3.67	2	2	-11.44	3.61
Colombia	22	29	0.29	2.99	0	1	..	64.73	1	0	..	..
Mexico	207	244	1.17	1.50	28	36	-4.09	0.99	4	2	-8.00	0.00
Paraguay	1	1	-0.01	2.22	0	0	..	..	1	1	12.26	1.74
Peru	6	8	5.59	1.89	8	7	1.80	0.50	0	0	..	..
EUROPE	3 098	3 171	1.62	0.39	249	243	-2.10	0.23	434	501	2.45	1.90
European Union[1]	2 332	2 361	1.62	0.31	34	36	-0.80	-0.05	273	318	2.68	2.28
United Kingdom	208	224	5.36	0.45	67	67	-5.97	0.26	57	61	2.42	0.49
Russia	305	317	3.30	0.33	125	122	-0.92	0.46	4	4	-0.56	0.00
Ukraine	55	60	-9.19	2.87	7	1	-1.75	-4.48	11	19	5.73	4.69
AFRICA	324	368	0.02	1.28	78	142	-7.18	4.64	8	7	-8.61	2.12
Egypt	99	98	-2.92	-0.24	28	68	-9.21	7.24	1	1	-7.10	-1.44
Ethiopia	18	25	1.73	3.23	0	0	..	..	0	3	..	22.61
Nigeria	12	16	-0.60	2.78	3	3	-9.85	-0.46	0	0	..	..
South Africa	14	16	-1.38	1.56	6	6	7.33	1.37	3	2	-7.41	-1.35
ASIA	7 195	8 763	2.84	1.70	510	601	2.41	0.80	72	85	8.38	-1.68
China[2]	91	104	-1.10	1.47	125	127	8.99	-0.19	2	2	3.74	1.00
India	4 889	6 025	3.23	1.77	0	0	-22.55	49.60	30	2	21.85	-31.64
Indonesia	0	0	..	..	22	31	0.19	0.81	0	1	..	0.00
Iran	212	243	0.88	1.25	6	1	-27.10	-10.89	2	4	-4.36	3.38
Japan	70	66	0.85	-0.50	14	10	6.68	-0.31	0	0	..	..
Kazakhstan	21	30	3.97	3.87	7	4	-4.71	-8.88	2	3	31.09	9.73
Korea	59	55	-2.56	-0.44	23	34	20.83	1.61	0	0	..	..
Malaysia	0	0	..	..	21	24	3.16	0.82	4	4	-4.60	0.00
Pakistan	1 197	1 452	2.31	1.65	0	1	0.45	7.68	0	0	..	..
Philippines	0	0	..	..	32	34	8.04	1.13	1	1	..	0.00
Saudi Arabia	8	10	1.89	1.65	53	59	-0.97	0.79	11	13	14.16	-0.78
Thailand	3	3	5.06	0.95	13	15	0.85	0.00	1	1	-1.54	2.80
Türkiye	269	326	3.43	1.68	5	1	-25.11	-4.94	7	47	21.24	9.39
Viet Nam	0	0	..	..	14	13	0.35	0.59	0	0	..	..
OCEANIA	527	543	-2.42	0.63	42	40	6.92	0.32	437	480	-2.49	0.68
Australia	74	55	-6.59	-1.80	38	35	7.95	0.00	18	18	-10.31	1.27
New Zealand	452	488	-1.56	0.94	1	1	2.39	12.35	419	462	-1.97	0.66
DEVELOPED COUNTRIES	**4 928**	**5 132**	**1.23**	**0.62**	**417**	**412**	**1.32**	**-0.23**	**924**	**1 028**	**-0.41**	**1.13**
DEVELOPING COUNTRIES	**7 715**	**9 372**	**2.54**	**1.68**	**585**	**746**	**0.11**	**1.49**	**111**	**130**	**2.31**	**-1.23**
LEAST DEVELOPED COUNTRIES (LDC)	298	343	2.79	1.60	11	33	-6.29	7.46	3	0	-13.78	-6.88
OECD[3]	**4 835**	**5 089**	**1.23**	**0.69**	**295**	**300**	**1.76**	**-0.37**	**824**	**949**	**-0.70**	**1.35**
BRICS	**5 406**	**6 572**	**3.11**	**1.67**	**258**	**264**	**2.91**	**0.29**	**39**	**11**	**11.33**	**-17.41**

.. Not available

Note: Calendar year; except year ending 30 June for New Zealand and Australia. Average 2020-22est: Data for 2022 are estimated.

1. Refers to all current European Union member States.
2. Refers to mainland only. The economies of Chinese Taipei, Hong Kong (China) and Macau (China) are included in the Asia aggregate.
3. Excludes Iceland and Costa Rica but includes all EU member countries.
4. Least-squares growth rate (see glossary).

Source: OECD/FAO (2023), "OECD-FAO Agricultural Outlook", *OECD Agriculture statistics* (database). dx.doi.org/10.1787/agr-outl-data-en

Table C.31.2. Butter projections: Consumption, food

Calendar year

	CONSUMPTION (kt)		Growth (%)[4]		FOOD (kg/cap)		Growth (%)[4]	
	Average 2020-22est	2032	2013-22	2023-32	Average 2020-22est	2032	2013-22	2023-32
WORLD	**12 592**	**14 504**	**2.10**	**1.28**	**1.6**	**1.7**	**0.99**	**0.44**
NORTH AMERICA	1 078	1 167	2.59	1.06	2.9	2.9	1.88	0.53
Canada	143	171	5.92	1.49	3.7	4.1	4.79	0.69
United States	935	997	2.14	0.99	2.8	2.8	1.48	0.49
LATIN AMERICA	460	538	0.56	1.34	0.7	0.8	-0.33	0.68
Argentina	15	14	-12.82	2.55	0.3	0.3	-13.52	1.96
Brazil	109	119	2.76	0.74	0.5	0.5	2.01	0.28
Chile	28	33	3.40	0.95	1.4	1.7	2.26	0.73
Colombia	22	30	-0.06	3.28	0.4	0.6	-1.31	2.77
Mexico	230	278	0.59	1.44	1.8	2.0	-0.35	0.80
Paraguay	0	0	..	..	0.0	0.0	-68.08	0.00
Peru	13	15	3.37	1.24	0.4	0.4	1.89	0.39
EUROPE	2 913	2 913	1.16	0.14	3.9	3.9	1.07	0.30
European Union[1]	2 093	2 079	1.47	0.04	4.7	4.7	1.35	0.18
United Kingdom	218	231	1.36	0.38	3.2	3.3	1.04	0.09
Russia	426	435	1.89	0.36	2.9	3.1	1.81	0.66
Ukraine	51	42	-10.84	1.92	1.2	1.0	-10.37	2.64
AFRICA	394	503	-1.54	2.12	0.3	0.3	-4.02	-0.15
Egypt	125	166	-4.61	2.24	1.2	1.3	-6.57	0.64
Ethiopia	19	23	1.87	2.24	0.2	0.1	-0.85	0.00
Nigeria	15	19	-2.76	2.13	0.1	0.1	-5.75	-0.28
South Africa	17	20	2.55	1.92	0.3	0.3	1.13	0.92
ASIA	7 628	9 279	2.75	1.68	1.6	1.9	1.82	1.11
China[2]	214	229	3.65	0.52	0.1	0.2	3.29	0.64
India	4 859	6 023	3.15	1.86	3.5	3.9	2.06	1.05
Indonesia	22	30	-0.02	0.83	0.1	0.1	-1.07	0.00
Iran	216	240	-1.46	1.15	2.5	2.5	-2.78	0.29
Japan	79	76	1.19	-0.48	0.6	0.6	1.52	0.10
Kazakhstan	26	32	0.55	0.70	1.3	1.5	-0.79	-0.16
Korea	81	89	0.96	0.29	1.5	1.7	0.60	0.45
Malaysia	17	20	5.90	1.00	0.5	0.5	4.54	0.00
Pakistan	1 198	1 454	2.31	1.65	5.3	5.4	0.26	0.00
Philippines	32	34	7.89	1.15	0.3	0.3	6.54	0.00
Saudi Arabia	50	56	-2.53	1.33	1.4	1.4	-4.38	0.24
Thailand	16	17	1.68	0.01	0.2	0.2	1.38	0.00
Türkiye	267	280	2.02	0.78	3.1	3.1	0.65	0.23
Viet Nam	14	13	0.29	0.59	0.1	0.1	-0.56	0.00
OCEANIA	119	103	0.74	-0.93	2.8	2.1	-0.83	-2.00
Australia	92	72	0.14	-1.67	3.5	2.5	-1.27	-2.55
New Zealand	24	27	11.87	0.91	4.7	4.9	9.89	0.22
DEVELOPED COUNTRIES	**4 404**	**4 517**	**1.63**	**0.39**	**3.0**	**3.1**	**1.25**	**0.25**
DEVELOPING COUNTRIES	**8 189**	**9 988**	**2.35**	**1.71**	**1.3**	**1.4**	**1.07**	**0.72**
LEAST DEVELOPED COUNTRIES (LDC)	306	376	2.56	2.03	0.3	0.3	0.22	-0.11
OECD[3]	**4 289**	**4 440**	**1.70**	**0.45**	**3.0**	**3.1**	**1.20**	**0.24**
BRICS	**5 625**	**6 826**	**3.05**	**1.69**	**1.7**	**2.0**	**2.31**	**1.35**

.. Not available

Note: Calendar year; except year ending 30 June for New Zealand and Australia. Average 2020-22est: Data for 2022 are estimated.

1. Refers to all current European Union member States.
2. Refers to mainland only. The economies of Chinese Taipei, Hong Kong (China) and Macau (China) are included in the Asia aggregate.
3. Excludes Iceland and Costa Rica but includes all EU member countries.
4. Least-squares growth rate (see glossary).

Source: OECD/FAO (2023), "OECD-FAO Agricultural Outlook", *OECD Agriculture statistics* (database). dx.doi.org/10.1787/agr-outl-data-en

ANNEX C

Table C.32.1. Cheese projections: Production and trade

Calendar year

	PRODUCTION (kt)		Growth (%)[4]		IMPORTS (kt)		Growth (%)[4]		EXPORTS (kt)		Growth (%)[4]	
	Average 2020-22est	2032	2013-22	2023-32	Average 2020-22est	2032	2013-22	2023-32	Average 2020-22est	2032	2013-22	2023-32
WORLD	**25 227**	**28 647**	**1.61**	**1.21**	**3 491**	**4 131**	**2.82**	**1.51**	**3 491**	**4 131**	**2.07**	**1.51**
NORTH AMERICA	6 675	8 289	2.52	2.03	188	224	1.36	0.37	412	570	2.85	2.01
Canada	496	600	2.70	2.01	48	65	9.89	0.50	9	8	-4.20	0.43
United States	6 179	7 689	2.51	2.03	140	159	-0.61	0.32	403	562	3.05	2.03
LATIN AMERICA	2 322	2 711	0.15	1.55	419	508	4.73	1.69	185	179	2.07	-0.64
Argentina	451	539	-1.26	1.58	3	1	2.99	0.00	65	69	2.52	-0.16
Brazil	775	909	0.67	2.01	31	30	2.12	1.90	4	6	6.22	2.92
Chile	103	120	1.95	1.19	62	69	12.74	1.05	7	6	0.90	-1.02
Colombia	63	70	0.29	1.18	6	9	11.71	2.31	1	1	19.93	-0.59
Mexico	324	394	-0.77	1.34	132	169	3.15	2.22	12	13	14.18	0.00
Paraguay	0	0	..	..	4	5	9.68	0.98	0	0	..	..
Peru	27	30	2.50	1.12	9	17	15.15	4.31	0	0	..	..
EUROPE	12 555	13 473	1.63	0.68	1 186	1 187	1.14	0.35	2 000	2 524	2.89	2.19
European Union[1]	10 685	11 235	1.53	0.49	206	214	1.85	1.00	1 391	1 782	2.20	2.47
United Kingdom	500	577	2.85	1.11	462	447	-0.24	-0.18	174	188	3.75	0.02
Russia	556	660	2.08	1.48	322	338	0.17	1.25	34	23	4.44	-3.02
Ukraine	103	105	-7.85	3.78	47	37	21.33	-2.04	6	6	-17.52	1.99
AFRICA	923	1 100	-1.10	1.77	133	253	-2.28	6.79	66	20	-13.79	-1.94
Egypt	522	605	-2.42	1.52	21	89	-7.84	13.10	50	2	-16.37	-11.58
Ethiopia	5	7	-0.17	3.23	0	0	..	..	0	1	..	29.45
Nigeria	9	9	-0.86	-0.50	1	7	7.80	11.12	0	0	..	..
South Africa	54	65	-2.01	1.97	8	7	-3.34	-0.74	11	12	3.06	0.75
ASIA	1 966	2 232	1.47	1.33	1 453	1 839	4.78	1.91	334	331	3.41	-0.10
China[2]	191	227	-0.88	1.70	151	164	13.04	1.11	0	0	..	..
India	6	3	8.13	-7.07	2	4	6.46	2.57	8	6	10.25	-2.50
Indonesia	0	0	..	..	31	47	6.03	2.87	2	2	15.32	-2.79
Iran	305	322	-0.47	0.47	0	0	..	..	97	84	8.66	-1.52
Japan	166	180	2.62	1.28	287	331	2.72	1.46	1	0	15.34	..
Kazakhstan	34	40	5.05	1.32	33	40	5.73	1.76	3	3	21.68	-1.71
Korea	44	44	3.37	0.49	153	183	6.62	1.74	1	1	23.32	0.00
Malaysia	0	0	..	..	37	52	10.32	2.29	1	1	24.42	-2.24
Pakistan	0	0	..	..	2	2	-5.38	1.96	0	0	..	..
Philippines	0	0	..	..	46	73	11.90	4.30	1	1	1.28	-4.12
Saudi Arabia	135	164	-2.07	2.03	197	239	3.90	0.71	83	74	-3.75	-0.70
Thailand	2	2	-9.45	0.95	19	20	8.50	0.00	1	1	..	2.00
Türkiye	255	319	2.97	2.59	9	5	-3.88	-6.98	47	80	1.17	7.50
Viet Nam	0	0	..	..	10	11	11.91	0.54	1	1	..	0.00
OCEANIA	786	842	2.45	0.20	112	120	2.71	0.57	493	507	1.03	-0.04
Australia	410	452	3.13	-0.06	97	103	1.93	0.40	154	157	-0.49	-1.14
New Zealand	376	390	1.78	0.51	13	15	11.13	1.68	340	350	1.81	0.52
DEVELOPED COUNTRIES	**20 754**	**23 449**	**2.01**	**1.14**	**1 849**	**1 986**	**1.60**	**0.71**	**2 930**	**3 621**	**2.57**	**1.80**
DEVELOPING COUNTRIES	**4 473**	**5 198**	**-0.07**	**1.54**	**1 642**	**2 145**	**4.39**	**2.31**	**561**	**510**	**-0.22**	**-0.34**
LEAST DEVELOPED COUNTRIES (LDC)	442	537	1.83	1.87	27	88	4.81	10.86	0	0	..	..
OECD[3]	**20 032**	**22 536**	**1.90**	**1.09**	**1 723**	**1 896**	**2.31**	**0.84**	**2 623**	**3 236**	**2.16**	**1.81**
BRICS	**1 582**	**1 864**	**0.81**	**1.76**	**514**	**543**	**2.55**	**1.22**	**57**	**47**	**4.96**	**-1.45**

.. Not available

Note: Calendar year; except year ending 30 June for New Zealand and Australia. Average 2020-22est: Data for 2022 are estimated.

1. Refers to all current European Union member States.
2. Refers to mainland only. The economies of Chinese Taipei, Hong Kong (China) and Macau (China) are included in the Asia aggregate.
3. Excludes Iceland and Costa Rica but includes all EU member countries.
4. Least-squares growth rate (see glossary).

Source: OECD/FAO (2023), "OECD-FAO Agricultural Outlook", *OECD Agriculture statistics* (database). dx.doi.org/10.1787/agr-outl-data-en

Table C.32.2. Cheese projections: Consumption, food

Calendar year

	CONSUMPTION (kt)		Growth (%)[4]		FOOD (kg/cap)		Growth (%)[4]	
	Average 2020-22est	2032	2013-22	2023-32	Average 2020-22est	2032	2013-22	2023-32
WORLD	**25 218**	**28 638**	**1.72**	**1.23**	**3.2**	**3.3**	**0.62**	**0.39**
NORTH AMERICA	6 428	7 933	2.47	2.05	17.1	19.9	1.76	1.52
Canada	536	656	3.50	1.87	14.0	15.7	2.39	1.07
United States	5 892	7 277	2.38	2.07	17.4	20.4	1.72	1.56
LATIN AMERICA	2 556	3 040	0.67	1.72	3.9	4.3	-0.22	1.05
Argentina	389	470	-1.75	1.86	8.5	9.6	-2.55	1.28
Brazil	802	933	0.68	2.00	3.7	4.1	-0.06	1.53
Chile	157	183	5.23	1.22	8.1	9.3	4.07	1.00
Colombia	68	78	0.82	1.33	1.3	1.4	-0.43	0.83
Mexico	444	550	0.04	1.63	3.4	4.0	-0.90	0.98
Paraguay	4	4	11.42	1.02	0.6	0.5	9.92	0.00
Peru	36	46	4.59	2.19	1.1	1.2	3.10	1.33
EUROPE	11 760	12 136	1.41	0.36	15.7	16.4	1.30	0.52
European Union[1]	9 521	9 667	1.49	0.17	21.3	21.8	1.37	0.32
United Kingdom	788	836	0.78	0.65	11.7	12.0	0.23	0.36
Russia	844	976	0.91	1.53	5.8	6.9	0.83	1.83
Ukraine	144	137	-1.86	1.90	3.3	3.4	-1.34	2.62
AFRICA	991	1 333	-0.05	2.64	0.7	0.7	-2.57	0.36
Egypt	493	692	-1.11	2.59	4.7	5.5	-3.15	0.99
Ethiopia	5	7	-0.27	2.24	0.0	0.0	-2.93	0.00
Nigeria	11	16	-0.13	3.31	0.0	0.1	-3.20	0.87
South Africa	51	60	-3.18	1.86	0.8	0.9	-4.51	0.87
ASIA	3 084	3 741	2.71	1.75	0.7	0.7	1.79	1.18
China[2]	341	391	3.41	1.45	0.2	0.3	3.05	1.58
India	0	0	..	..	0.0	0.0	-67.82	4.34
Indonesia	29	45	5.55	3.25	0.1	0.1	4.45	2.40
Iran	207	238	-3.01	1.28	2.4	2.5	-4.31	0.41
Japan	450	510	2.62	1.40	3.6	4.3	2.96	1.98
Kazakhstan	64	78	4.89	1.66	3.4	3.7	3.50	0.80
Korea	195	226	5.76	1.50	3.7	4.3	5.39	1.66
Malaysia	36	51	9.99	2.46	1.1	1.4	8.58	1.45
Pakistan	2	2	-5.39	1.96	0.0	0.0	-7.28	0.30
Philippines	45	72	12.84	4.43	0.4	0.6	11.44	3.25
Saudi Arabia	249	328	3.25	1.71	7.0	8.2	1.29	0.61
Thailand	20	22	4.83	0.01	0.3	0.3	4.52	0.00
Türkiye	217	244	2.99	1.18	2.5	2.7	1.61	0.62
Viet Nam	9	10	11.00	0.59	0.1	0.1	10.06	0.00
OCEANIA	400	454	3.61	0.57	9.3	9.4	1.99	-0.52
Australia	349	398	3.67	0.54	13.4	13.8	2.20	-0.36
New Zealand	49	54	3.30	0.79	9.6	9.7	1.47	0.11
DEVELOPED COUNTRIES	**19 664**	**21 805**	**1.89**	**1.02**	**13.6**	**14.8**	**1.50**	**0.87**
DEVELOPING COUNTRIES	**5 555**	**6 833**	**1.11**	**1.93**	**0.9**	**0.9**	**-0.15**	**0.94**
LEAST DEVELOPED COUNTRIES (LDC)	469	624	1.97	2.77	0.5	0.5	-0.36	0.63
OECD[3]	**19 123**	**21 186**	**1.91**	**0.99**	**13.6**	**14.7**	**1.40**	**0.78**
BRICS	**2 039**	**2 359**	**1.06**	**1.71**	**0.6**	**0.7**	**0.34**	**1.37**

.. Not available

Note: Calendar year; except year ending 30 June for Australia and 31 May for New Zealand. Average 2020-22est: Data for 2022 are estimated.

1. Refers to all current European Union member States.
2. Refers to mainland only. The economies of Chinese Taipei, Hong Kong (China) and Macau (China) are included in the Asia aggregate.
3. Excludes Iceland and Costa Rica but includes all EU member countries.
4. Least-squares growth rate (see glossary).

Source: OECD/FAO (2023), "OECD-FAO Agricultural Outlook", *OECD Agriculture statistics* (database). dx.doi.org/10.1787/agr-outl-data-en

ANNEX C

Table C.33.1. Skim milk powder projections: Production and trade

Calendar year

	PRODUCTION (kt)		Growth (%)[4]		IMPORTS (kt)		Growth (%)[4]		EXPORTS (kt)		Growth (%)[4]	
	Average 2020-22est	2032	2013-22	2023-32	Average 2020-22est	2032	2013-22	2023-32	Average 2020-22est	2032	2013-22	2023-32
WORLD	**4 541**	**5 488**	**1.01**	**1.96**	**2 583**	**3 295**	**2.58**	**2.24**	**2 632**	**3 295**	**2.46**	**2.24**
NORTH AMERICA	1 286	1 895	2.05	3.84	8	9	10.46	1.09	864	1 438	5.98	4.63
Canada	86	148	0.06	3.90	5	7	9.65	1.53	29	36	11.28	0.02
United States	1 199	1 747	2.21	3.84	2	2	12.37	0.00	834	1 402	5.80	4.78
LATIN AMERICA	294	347	-0.18	1.51	484	553	5.67	1.02	70	83	2.23	0.11
Argentina	39	44	1.35	1.05	0	0	..	..	24	27	-0.30	2.06
Brazil	161	201	0.64	2.06	21	20	-3.57	0.00	0	0	..	2.03
Chile	16	15	-4.25	-0.56	11	14	5.93	2.98	1	1	9.95	-2.43
Colombia	0	0	..	..	31	34	28.33	0.49	0	0	..	..
Mexico	45	48	-0.32	0.69	337	387	6.08	0.89	22	32	17.87	0.00
Paraguay	0	0	..	..	0	0	0.55	0.00	0	0	..	0.00
Peru	0	0	..	..	22	25	1.10	2.25	0	0	..	..
EUROPE	1 825	1 957	1.30	0.95	130	150	-5.53	0.92	976	1 063	3.50	1.39
European Union[1]	1 441	1 590	2.09	1.10	33	27	-1.45	-0.51	763	856	4.51	1.61
United Kingdom	55	66	-5.63	1.95	24	24	-6.71	-0.46	61	66	-0.98	1.73
Russia	90	76	4.16	-1.15	60	74	-8.06	0.57	2	2	-3.66	0.00
Ukraine	66	42	-8.09	0.15	3	13	14.60	20.94	15	1	-5.45	-17.31
AFRICA	14	13	3.22	0.32	417	572	1.93	3.26	23	19	3.73	-2.02
Egypt	0	0	..	..	70	100	-0.67	3.13	0	0	-33.02	..
Ethiopia	0	0	..	..	3	4	43.97	2.24	0	0	..	..
Nigeria	0	0	..	..	81	100	9.45	6.60	0	0	..	-4.05
South Africa	3	1	-6.15	-1.89	13	10	6.60	0.20	9	9	0.53	-0.20
ASIA	590	757	3.78	1.89	1 524	1 990	2.78	2.45	187	194	-0.29	-0.59
China[2]	22	36	-11.58	4.18	364	371	7.08	1.26	2	3	8.58	0.00
India	301	412	5.07	2.75	0	0	-2.40	..	33	3	-10.35	-20.41
Indonesia	0	0	..	..	202	301	4.38	3.07	1	1	-5.01	-2.98
Iran	45	83	20.41	1.15	5	5	-4.60	0.00	50	88	17.74	1.08
Japan	149	149	1.94	-0.23	25	15	-6.07	-3.19	0	0	..	..
Kazakhstan	1	0	-4.81	..	23	29	1.73	1.24	1	1	16.51	-1.22
Korea	14	18	-5.27	1.15	16	13	-3.46	-0.73	0	0	..	..
Malaysia	0	0	..	..	124	177	0.17	2.44	2	1	-32.76	-2.38
Pakistan	0	0	..	..	18	21	-5.48	3.17	0	0	..	..
Philippines	0	0	..	..	189	366	6.87	4.65	1	1	..	-4.44
Saudi Arabia	0	0	..	..	16	19	-17.95	0.47	9	8	-8.78	-0.47
Thailand	0	0	..	..	65	68	0.29	0.03	5	6	26.88	0.25
Türkiye	47	52	15.07	2.54	3	3	17.26	0.00	41	54	23.63	2.40
Viet Nam	0	0	..	..	103	96	4.91	0.59	1	1	-0.29	0.00
OCEANIA	533	519	-3.43	0.27	22	21	9.01	0.68	512	497	-2.48	0.01
Australia	151	134	-5.95	-0.75	14	13	11.85	0.18	135	118	-3.11	-1.84
New Zealand	382	385	-2.24	0.65	4	3	-4.01	0.00	377	379	-2.24	0.65
DEVELOPED COUNTRIES	**3 807**	**4 530**	**0.75**	**1.93**	**238**	**266**	**-2.87**	**0.81**	**2 367**	**3 010**	**2.66**	**2.53**
DEVELOPING COUNTRIES	**734**	**958**	**2.44**	**2.12**	**2 345**	**3 029**	**3.30**	**2.37**	**265**	**284**	**0.52**	**-0.48**
LEAST DEVELOPED COUNTRIES (LDC)	6	7	25.37	0.70	122	206	1.20	4.80	13	10	11.94	-3.37
OECD[3]	**3 632**	**4 398**	**0.86**	**2.03**	**510**	**550**	**3.87**	**0.58**	**2 278**	**2 962**	**3.04**	**2.64**
BRICS	**578**	**726**	**2.33**	**2.12**	**458**	**475**	**2.96**	**1.06**	**47**	**17**	**-7.08**	**-8.92**

.. Not available

Note: Calendar year; except year ending 30 June for New Zealand and Australia. Average 2020-22est: Data for 2022 are estimated.

1. Refers to all current European Union member States.
2. Refers to mainland only. The economies of Chinese Taipei, Hong Kong (China) and Macau (China) are included in the Asia aggregate.
3. Excludes Iceland and Costa Rica but includes all EU member countries.
4. Least-squares growth rate (see glossary).

Source: OECD/FAO (2023), "OECD-FAO Agricultural Outlook", *OECD Agriculture statistics* (database). dx.doi.org/10.1787/agr-outl-data-en

Table C.33.2. Skim milk powder projections: Consumption, food

Calendar year

	CONSUMPTION (kt)		Growth (%)[4]		FOOD (kg/cap)		Growth (%)[4]	
	Average 2020-22est	2032	2013-22	2023-32	Average 2020-22est	2032	2013-22	2023-32
WORLD	**4 486**	**5 489**	**1.53**	**1.96**	**0.5**	**0.6**	**0.27**	**1.10**
NORTH AMERICA	432	467	-3.14	1.66	1.1	0.9	-3.79	0.20
Canada	64	119	-1.32	5.26	0.9	0.7	0.89	0.48
United States	368	347	-3.45	0.68	1.1	1.0	-4.08	0.18
LATIN AMERICA	708	817	3.18	1.32	0.8	0.9	3.17	0.42
Argentina	16	18	6.57	-0.30	0.3	0.4	5.71	-0.87
Brazil	182	220	0.04	1.86	0.1	0.1	-2.89	-0.44
Chile	26	28	-1.40	1.17	1.4	1.4	-2.48	0.95
Colombia	31	34	28.44	0.50	0.6	0.6	26.84	0.00
Mexico	360	403	4.56	0.94	2.8	2.9	3.58	0.29
Paraguay	0	0	..	..	0.0	0.0	-13.15	0.00
Peru	22	25	1.10	2.26	0.6	0.7	-0.35	1.40
EUROPE	978	1 044	0.02	0.51	1.1	1.3	-1.26	0.86
European Union[1]	710	761	1.89	0.49	1.2	1.5	0.37	0.90
United Kingdom	18	24	-17.12	0.04	0.3	0.3	-17.57	-0.25
Russia	148	148	-2.09	-0.36	1.0	1.0	-2.17	-0.06
Ukraine	54	54	-8.11	3.53	1.2	1.3	-7.62	4.25
AFRICA	408	566	1.85	3.41	0.3	0.3	-0.87	1.06
Egypt	70	100	-0.49	3.13	0.7	0.8	-2.53	1.52
Ethiopia	3	4	46.61	2.24	0.0	0.0	42.71	0.00
Nigeria	81	100	9.42	6.61	0.3	0.3	6.05	4.09
South Africa	7	3	3.78	0.34	0.1	0.0	2.35	-0.64
ASIA	1 919	2 552	3.46	2.55	0.4	0.5	2.56	1.99
China[2]	384	404	4.92	1.49	0.3	0.3	4.56	1.62
India	269	409	11.22	3.54	0.2	0.3	10.05	2.72
Indonesia	201	300	4.47	3.09	0.7	0.9	3.37	2.24
Iran	0	0	-72.05	..	0.0	0.0	-74.87	0.00
Japan	167	164	-0.19	-0.54	1.1	1.1	-0.32	-0.52
Kazakhstan	23	28	0.89	1.38	1.2	1.3	-0.45	0.52
Korea	29	31	0.12	0.31	0.5	0.6	-0.23	0.47
Malaysia	122	175	4.48	2.49	3.7	4.7	3.14	1.48
Pakistan	18	21	-5.19	3.23	0.1	0.1	-7.09	1.55
Philippines	188	365	6.82	4.69	1.6	2.8	5.49	3.50
Saudi Arabia	7	11	-23.22	1.26	0.2	0.3	-24.67	0.17
Thailand	60	62	-0.67	0.01	0.8	0.9	-0.96	0.00
Türkiye	9	1	22.50	0.55	0.1	0.0	23.05	0.00
Viet Nam	102	95	5.02	0.59	1.0	0.9	4.13	0.00
OCEANIA	42	43	-9.80	3.91	1.0	0.9	-11.23	2.77
Australia	29	29	-13.40	5.30	1.1	1.0	-14.62	4.36
New Zealand	9	9	-2.61	0.64	1.8	1.6	-4.33	-0.05
DEVELOPED COUNTRIES	**1 673**	**1 786**	**-1.10**	**0.82**	**1.0**	**1.1**	**-2.24**	**0.53**
DEVELOPING COUNTRIES	**2 814**	**3 703**	**3.42**	**2.56**	**0.4**	**0.5**	**2.32**	**1.58**
LEAST DEVELOPED COUNTRIES (LDC)	115	204	1.00	5.22	0.1	0.2	-1.31	3.01
OECD[3]	**1 858**	**1 985**	**0.24**	**0.81**	**1.2**	**1.2**	**-0.82**	**0.47**
BRICS	**990**	**1 183**	**3.58**	**1.96**	**0.2**	**0.3**	**3.55**	**1.60**

.. Not available

Note: Calendar year; except year ending 30 June for New Zealand and Australia. Average 2020-22est: Data for 2022 are estimated.

1. Refers to all current European Union member States.
2. Refers to mainland only. The economies of Chinese Taipei, Hong Kong (China) and Macau (China) are included in the Asia aggregate.
3. Excludes Iceland and Costa Rica but includes all EU member countries.
4. Least-squares growth rate (see glossary).

Source: OECD/FAO (2023), "OECD-FAO Agricultural Outlook", *OECD Agriculture statistics* (database). dx.doi.org/10.1787/agr-outl-data-en

Table C.34.1. Whole milk powder projections: Production and trade

Calendar year

	PRODUCTION (kt)		Growth (%)[4]		IMPORTS (kt)		Growth (%)[4]		EXPORTS (kt)		Growth (%)[4]	
	Average 2020-22est	2032	2013-22	2023-32	Average 2020-22est	2032	2013-22	2023-32	Average 2020-22est	2032	2013-22	2023-32
WORLD	**5 055**	**5 929**	**-0.40**	**1.69**	**2 752**	**2 753**	**0.69**	**0.60**	**2 726**	**2 753**	**0.93**	**0.60**
NORTH AMERICA	71	83	16.70	1.28	13	14	-3.85	0.00	45	72	19.71	4.37
Canada	8	7	-2.24	-1.68	3	3	-0.46	0.00	1	1	3.41	1.26
United States	62	76	23.34	1.60	10	11	-4.57	0.00	44	71	20.25	4.41
LATIN AMERICA	1 370	1 646	0.65	1.68	295	293	-4.51	0.67	342	359	1.07	1.17
Argentina	187	213	-2.93	1.17	0	0	..	..	146	154	-0.89	2.36
Brazil	578	735	0.00	2.30	66	52	2.59	-1.10	4	15	-20.73	8.46
Chile	104	119	2.15	0.97	7	3	-1.81	-2.63	4	12	-17.08	2.12
Colombia	45	41	0.57	-0.76	20	43	17.82	5.09	2	0	-8.11	-4.70
Mexico	229	272	1.04	1.41	31	36	-3.25	0.17	17	18	7.73	0.00
Paraguay	0	0	..	..	7	7	25.11	0.00	7	7	25.16	0.00
Peru	0	0	..	..	27	33	8.15	1.81	0	0	..	..
EUROPE	801	678	-1.44	-0.71	61	67	-7.08	1.51	389	304	-2.78	-1.29
European Union[1]	650	517	-1.08	-1.09	17	12	-9.53	0.00	299	213	-3.72	-2.00
United Kingdom	33	38	-6.92	1.18	15	12	-7.90	-0.02	33	28	-4.65	0.58
Russia	58	60	-0.26	0.18	25	37	-6.32	2.71	20	21	54.42	0.00
Ukraine	6	3	-7.46	-1.60	1	2	..	8.14	3	1	15.38	-7.52
AFRICA	23	22	-4.42	0.03	558	702	-0.22	2.62	18	13	-8.06	-1.65
Egypt	0	0	..	..	31	52	-8.70	4.11	5	1	-1.06	-3.95
Ethiopia	0	0	..	..	2	2	22.58	2.21	0	0	..	..
Nigeria	0	0	..	..	57	55	-4.36	1.46	0	0	-4.53	..
South Africa	6	7	-2.99	0.86	4	3	6.45	-0.23	6	6	-4.22	0.23
ASIA	1 193	1 801	-3.16	3.72	1 779	1 647	2.32	-0.15	360	323	2.92	-0.51
China[2]	1 017	1 596	-3.92	3.90	731	578	4.56	-1.84	2	4	-8.45	0.31
India	4	5	0.51	1.22	0	0	..	3.78	2	2	-5.41	1.78
Indonesia	94	137	3.82	3.10	63	94	3.95	2.16	1	1	-20.02	-0.41
Iran	1	1	-0.85	0.64	4	5	11.76	0.00	5	6	17.60	0.08
Japan	35	13	-0.83	0.23	2	3	57.80	0.00	0	0	..	..
Kazakhstan	28	33	4.40	1.17	2	5	-8.25	2.39	0	0	..	..
Korea	1	1	-9.41	0.94	6	6	14.61	-0.57	0	0	..	..
Malaysia	0	0	..	..	45	46	6.79	0.89	29	19	8.09	-0.88
Pakistan	0	0	..	..	0	0	-25.74	3.23	0	0	-38.08	..
Philippines	0	0	..	..	20	16	-4.32	1.38	8	6	-8.58	-1.36
Saudi Arabia	0	0	..	..	124	118	1.78	0.63	11	15	-7.08	-0.63
Thailand	0	0	..	..	64	70	7.35	0.03	3	3	-1.99	0.46
Türkiye	2	2	288.23	2.54	0	0	-26.80	0.00	2	2	10.16	2.16
Viet Nam	0	0	..	..	40	39	-0.76	0.40	14	12	27.85	0.00
OCEANIA	1 598	1 698	1.41	0.89	47	30	14.70	-1.44	1 571	1 682	1.42	0.98
Australia	45	35	-10.78	-1.18	39	22	22.11	-2.31	40	45	-9.00	2.31
New Zealand	1 553	1 664	2.04	0.94	3	3	6.45	0.00	1 530	1 636	1.86	0.94
DEVELOPED COUNTRIES	**2 540**	**2 514**	**0.68**	**0.45**	**132**	**125**	**-0.96**	**0.46**	**2 011**	**2 064**	**0.68**	**0.71**
DEVELOPING COUNTRIES	**2 515**	**3 415**	**-1.39**	**2.71**	**2 619**	**2 628**	**0.78**	**0.61**	**715**	**689**	**1.66**	**0.30**
LEAST DEVELOPED COUNTRIES (LDC)	8	5	-7.47	-2.28	262	348	2.34	3.38	6	4	-14.76	-3.27
OECD[3]	**2 784**	**2 799**	**0.82**	**0.52**	**160**	**160**	**1.00**	**0.71**	**1 972**	**2 026**	**0.54**	**0.71**
BRICS	**1 664**	**2 403**	**-2.56**	**3.26**	**826**	**671**	**3.65**	**-1.58**	**35**	**49**	**-0.60**	**2.12**

.. Not available

Note: Calendar year; except year ending 30 June for New Zealand and Australia. Average 2020-22est: Data for 2022 are estimated.

1. Refers to all current European Union member States.
2. Refers to mainland only. The economies of Chinese Taipei, Hong Kong (China) and Macau (China) are included in the Asia aggregate.
3. Excludes Iceland and Costa Rica but includes all EU member countries.
4. Least-squares growth rate (see glossary).

Source: OECD/FAO (2023), "OECD-FAO Agricultural Outlook", *OECD Agriculture statistics* (database). dx.doi.org/10.1787/agr-outl-data-en

Table C.34.2. Whole milk powder projections: Consumption, food

Calendar year

	CONSUMPTION (kt)		Growth (%)[4]		FOOD (kg/cap)		Growth (%)[4]	
	Average 2020-22est	2032	2013-22	2023-32	Average 2020-22est	2032	2013-22	2023-32
WORLD	**5 084**	**5 928**	**-0.51**	**1.69**	**0.6**	**0.7**	**-1.55**	**0.84**
NORTH AMERICA	39	25	4.91	-5.30	0.1	0.1	4.19	-5.79
Canada	10	9	-3.74	-1.43	0.3	0.2	-4.77	-2.20
United States	29	16	9.16	-7.06	0.1	0.0	8.45	-7.52
LATIN AMERICA	1 322	1 579	-0.76	1.60	2.0	2.2	-1.62	0.93
Argentina	40	59	-7.65	-1.45	0.9	1.2	-8.40	-2.01
Brazil	641	772	0.56	1.95	3.0	3.4	-0.18	1.48
Chile	107	110	3.64	0.72	5.5	5.6	2.50	0.51
Colombia	63	84	4.27	1.86	1.2	1.5	2.97	1.35
Mexico	243	290	0.04	1.33	1.9	2.1	-0.90	0.68
Paraguay	0	0	..	..	0.0	0.0	-23.59	0.00
Peru	27	33	8.16	1.81	0.8	0.9	6.61	0.96
EUROPE	472	441	-1.19	0.04	0.6	0.6	-1.30	0.20
European Union[1]	368	316	0.90	-0.37	0.8	0.7	0.79	-0.23
United Kingdom	15	22	-12.84	1.26	0.2	0.3	-13.31	0.97
Russia	63	75	-6.15	1.39	0.4	0.5	-6.22	1.69
Ukraine	3	4	-15.55	3.53	0.1	0.1	-15.10	4.26
AFRICA	562	711	-0.06	2.63	0.4	0.4	-2.57	0.36
Egypt	26	51	-13.66	4.29	0.2	0.4	-15.44	2.66
Ethiopia	2	2	23.09	2.24	0.0	0.0	19.80	0.00
Nigeria	56	55	-4.27	1.47	0.2	0.2	-7.22	-0.93
South Africa	4	4	14.11	0.95	0.1	0.1	12.54	-0.04
ASIA	2 611	3 124	-0.59	1.95	0.5	0.6	-1.43	1.37
China[2]	1 746	2 170	-1.20	2.03	1.2	1.4	-1.54	2.16
India	3	3	11.87	0.80	0.0	0.0	10.69	0.00
Indonesia	156	230	4.43	2.72	0.5	0.7	3.34	1.87
Iran	0	0	-66.54	..	0.0	0.0	-69.92	0.00
Japan	37	16	0.03	0.19	0.3	0.1	0.36	0.76
Kazakhstan	30	37	2.86	1.32	1.6	1.8	1.50	0.46
Korea	6	6	4.84	0.60	0.1	0.1	4.47	0.76
Malaysia	16	27	4.22	2.34	0.5	0.7	2.88	1.33
Pakistan	0	0	3.39	3.24	0.0	0.0	1.33	0.00
Philippines	12	9	5.02	3.76	0.1	0.1	3.72	2.59
Saudi Arabia	113	103	3.44	0.83	3.2	2.6	1.47	-0.26
Thailand	61	66	8.04	0.01	0.9	0.9	7.73	0.00
Türkiye	0	0	..	0.55	0.0	0.0	-1.76	0.00
Viet Nam	26	27	-4.74	0.59	0.3	0.2	-5.54	0.00
OCEANIA	77	47	7.30	-3.12	1.8	1.0	5.64	-4.18
Australia	44	12	4.87	-9.88	1.7	0.4	3.39	-10.69
New Zealand	29	30	20.33	0.52	5.6	5.4	18.24	-0.17
DEVELOPED COUNTRIES	**665**	**576**	**0.27**	**-0.44**	**0.5**	**0.4**	**-0.12**	**-0.59**
DEVELOPING COUNTRIES	**4 419**	**5 352**	**-0.63**	**1.94**	**0.7**	**0.7**	**-1.83**	**0.95**
LEAST DEVELOPED COUNTRIES (LDC)	264	349	2.78	3.38	0.3	0.3	0.41	1.22
OECD[3]	**974**	**932**	**1.35**	**0.15**	**0.7**	**0.6**	**0.84**	**-0.06**
BRICS	**2 456**	**3 025**	**-0.90**	**1.99**	**0.7**	**0.9**	**-1.54**	**1.65**

.. Not available

Note: Calendar year; except year ending 30 June for New Zealand and Australia. Average 2020-22est: Data for 2022 are estimated.

1. Refers to all current European Union member States.
2. Refers to mainland only. The economies of Chinese Taipei, Hong Kong (China) and Macau (China) are included in the Asia aggregate.
3. Excludes Iceland and Costa Rica but includes all EU member countries.
4. Least-squares growth rate (see glossary).

Source: OECD/FAO (2023), "OECD-FAO Agricultural Outlook", *OECD Agriculture statistics* (database). dx.doi.org/10.1787/agr-outl-data-en

Table C.35. Whey powder projections: Production and trade

Calendar year

	PRODUCTION (kt)		Growth (%)[1]		IMPORTS (kt)		Growth (%)		EXPORTS (kt)		Growth (%)	
	Average 2020-22est	2032	2013-22	2023-32	Average 2020-22est	2032	2013-22	2023-32	Average 2020-22est	2032	2013-22	2023-32
WORLD	**3 383**	**3 699**	**1.79**	**0.77**	**1 615.2**	**1 844.5**	**2.62**	**1.47**	**1 979.5**	**2 169.9**	**1.14**	**1.23**
NORTH AMERICA	479	549	-1.19	1.28	6.4	6.8	0.96	0.21	222.0	281.0	-2.03	2.18
Canada	40	48	2.62	2.01	6.4	6.8	0.96	0.21	43.2	48.5	3.56	1.48
United States	439	500	-1.48	1.22	0.0	0.0	..	..	178.7	232.4	-3.05	2.33
LATIN AMERICA	161	191	0.26	1.42	101.1	173.8	-1.36	2.16	151.5	233.5	-2.62	2.06
Argentina	74	89	0.74	1.58	0.5	0.5	-18.12	0.00	50.8	60.6	-4.17	1.57
Brazil	0	0	..	..	17.5	19.0	-1.94	0.00	0.5	0.5	..	0.00
Chile	11	13	2.70	1.19	10.6	21.2	20.19	1.95	17.0	28.0	6.93	1.50
Colombia	0	0	..	..	13.2	15.7	5.80	1.41	13.2	15.7	5.80	1.41
Mexico	58	71	0.66	1.34	27.3	66.1	-7.95	3.79	27.3	65.9	-7.95	3.66
Paraguay	0	0	..	..	0.8	0.8	28.31	0.00	0.0	0.0	..	..
Peru	0	0	..	..	11.3	15.7	3.39	2.94	11.3	15.7	3.39	2.94
EUROPE	2 409	2 574	2.31	0.60	158.9	167.4	-3.02	0.55	962.1	1 043.6	1.74	0.79
European Union[2]	2 144	2 262	2.38	0.51	46.0	51.1	-4.43	1.32	688.2	728.0	3.20	0.60
United Kingdom	73	84	1.74	0.75	53.3	47.0	6.01	-1.51	59.0	54.9	2.89	-0.96
Russia	1	1	0.91	0.00	39.0	38.0	-8.93	0.00	39.0	38.0	-8.93	0.00
Ukraine	24	27	-1.76	1.11	5.1	13.9	20.60	8.99	26.7	38.5	1.16	3.39
AFRICA	4	5	6.71	1.97	80.8	119.6	8.30	3.57	46.6	69.7	4.73	3.87
Egypt	0	0	..	..	20.8	30.3	3.85	3.44	20.8	30.3	3.85	3.44
Ethiopia	0	0	..	..	0.9	0.9	18.84	0.00	0.0	0.0	..	..
Nigeria	0	0	..	..	3.4	0.4	-4.99	-18.08	3.4	0.4	-4.99	-18.09
South Africa	4	5	6.72	1.97	21.3	32.9	12.92	3.85	0.4	0.0	-25.56	..
ASIA	183	219	5.12	1.54	1 236.9	1 345.6	3.65	1.38	551.2	499.3	2.68	1.08
China[3]	85	100	1.20	1.10	641.0	810.1	5.40	1.80	0.8	0.8	2.15	0.00
India	1	2	5.16	1.31	13.0	17.9	10.28	2.68	0.3	0.8	..	8.68
Indonesia	0	0	..	..	114.2	113.6	1.48	-0.16	114.2	113.6	1.48	-0.16
Iran	9	9	0.94	0.47	5.3	5.9	9.67	-0.59	6.3	6.3	-2.95	-1.30
Japan	19	19	486.75	0.00	49.8	51.0	-0.47	0.00	0.4	0.0	..	..
Kazakhstan	0	0	..	..	10.6	16.3	6.95	3.94	10.6	16.3	6.95	3.94
Korea	0	0	..	..	35.7	34.7	1.02	-0.13	0.1	0.0	..	..
Malaysia	0	0	..	..	88.0	111.8	1.78	2.10	88.0	111.8	1.78	2.10
Pakistan	0	0	..	..	18.5	0.0	-1.50	-61.80	18.5	0.0	-1.50	-64.57
Philippines	0	0	..	..	57.1	97.2	9.82	4.97	57.1	97.2	9.82	4.97
Saudi Arabia	0	0	..	..	8.4	15.1	11.54	5.54	8.4	15.1	11.55	5.54
Thailand	0	0	..	..	68.3	0.0	1.97	..	68.3	0.0	1.97	..
Türkiye	69	89	7.34	2.59	1.3	2.2	4.71	5.08	68.0	88.3	10.91	2.67
Viet Nam	0	0	..	..	42.5	0.0	2.37	..	42.5	0.0	2.37	..
OCEANIA	148	161	2.58	0.05	31.1	31.3	4.38	0.09	46.2	42.8	1.05	0.17
Australia	116	128	2.57	-0.06	12.7	12.7	0.72	0.00	33.0	30.0	-0.36	0.05
New Zealand	31	32	2.64	0.51	18.2	18.4	8.09	0.15	13.2	12.8	6.92	0.43
DEVELOPED COUNTRIES	**3 059**	**3 308**	**1.79**	**0.68**	**289.8**	**322.3**	**-0.42**	**0.95**	**1 244.8**	**1 388.3**	**0.96**	**1.08**
DEVELOPING COUNTRIES	**325**	**391**	**1.74**	**1.56**	**1 325.4**	**1 522.2**	**3.40**	**1.58**	**734.8**	**781.6**	**1.46**	**1.52**
LEAST DEVELOPED COUNTRIES (LDC)	0	0	..	..	24.0	32.2	8.25	2.59	12.3	16.9	5.07	2.90
OECD[4]	**3 028**	**3 272**	**1.89**	**0.68**	**283.2**	**335.8**	**-0.13**	**0.80**	**1 154.6**	**1 318.8**	**1.65**	**1.11**
BRICS	**91**	**107**	**1.44**	**1.13**	**731.8**	**918.0**	**3.98**	**1.76**	**41.0**	**40.0**	**-8.90**	**0.11**

.. Not available

Note: Calendar year; except year ending 30 June for New Zealand and Australia. Average 2020-22est: Data for 2022 are estimated.

1. Least-squares growth rate (see glossary).
2. Refers to all current European Union member States.
3. Refers to mainland only. The economies of Chinese Taipei, Hong Kong (China) and Macau (China) are included in the Asia aggregate.
4. Excludes Iceland and Costa Rica but includes all EU member countries.

Source: OECD/FAO (2023), "OECD-FAO Agricultural Outlook", *OECD Agriculture statistics* (database). dx.doi.org/10.1787/agr-outl-data-en

Table C.36. Fresh dairy products projections: Production and food consumption

Calendar year

	PRODUCTION (kt)		Growth (%)[4]		FOOD CONSUMPTION (kg/cap)		Growth (%)[4]	
	Average 2020-22est	2032	2013-22	2023-32	Average 2020-22est	2032	2013-22	2023-32
WORLD	**461 674**	**554 996**	**1.94**	**1.70**	**58.3**	**63.9**	**0.85**	**0.87**
NORTH AMERICA	25 015	23 865	-1.28	-0.39	66.2	59.7	-1.95	-0.91
Canada	2 735	2 658	-1.03	-0.19	72.1	64.4	-2.03	-0.97
United States	22 280	21 207	-1.31	-0.42	65.5	59.2	-1.95	-0.91
LATIN AMERICA	45 183	47 783	0.13	0.43	67.7	66.6	-0.76	-0.22
Argentina	1 618	1 692	-0.03	0.39	28.5	28.1	-0.26	-0.12
Brazil	24 747	25 506	0.31	0.07	114.4	112.3	-0.45	-0.37
Chile	170	113	-13.92	-0.96	8.8	5.7	-14.86	-1.18
Colombia	5 663	6 388	-0.01	1.27	109.7	117.6	-1.25	0.77
Mexico	3 460	3 286	-0.26	-0.46	26.7	23.6	-1.37	-1.10
Paraguay	540	694	0.85	2.20	73.5	84.3	-0.51	1.17
Peru	1 896	2 207	2.03	1.42	56.1	59.5	0.57	0.57
EUROPE	86 247	80 267	-0.03	-0.68	113.8	107.3	-0.11	-0.51
European Union[1]	40 745	36 946	0.66	-1.06	88.4	80.9	0.35	-0.89
United Kingdom	8 576	8 002	-2.26	-0.13	127.8	115.2	-1.68	-0.44
Russia	22 773	21 867	0.90	-0.74	158.1	156.5	0.79	-0.44
Ukraine	6 480	5 847	-2.58	0.41	148.6	144.7	-2.06	1.11
AFRICA	37 028	49 208	1.58	2.86	26.7	27.7	-0.96	0.57
Egypt	1 329	1 804	-0.46	2.95	12.6	14.3	-2.50	1.34
Ethiopia	4 622	6 427	4.78	3.45	38.2	41.5	1.98	1.19
Nigeria	221	286	-0.71	2.46	0.9	0.9	-3.77	0.04
South Africa	3 101	3 390	2.85	0.96	51.2	50.0	1.44	-0.03
ASIA	264 472	350 288	3.45	2.55	56.5	70.2	2.55	1.99
China[2]	31 808	34 919	4.38	0.35	21.8	24.3	4.38	0.51
India	125 164	170 995	3.98	2.92	89.0	111.1	2.88	2.10
Indonesia	1 001	1 391	0.44	3.55	3.4	4.3	-0.62	2.69
Iran	2 410	2 802	2.78	1.46	27.9	29.3	1.40	0.59
Japan	4 643	4 456	-0.99	-0.51	37.0	37.8	-0.66	0.06
Kazakhstan	5 392	6 737	2.84	1.89	283.4	320.7	1.48	1.02
Korea	446	508	-0.66	1.12	8.7	9.8	-0.47	1.04
Malaysia	52	63	-5.60	1.64	1.6	1.7	-6.81	0.64
Pakistan	48 268	68 208	3.62	3.14	213.8	251.1	1.55	1.46
Philippines	17	20	-2.58	1.69	0.1	0.2	-3.79	0.54
Saudi Arabia	2 067	2 353	7.11	1.11	58.2	58.5	5.07	0.01
Thailand	1 149	1 304	1.32	0.89	16.3	18.4	1.02	0.88
Türkiye	14 595	19 029	1.96	2.84	171.1	210.0	0.59	2.28
Viet Nam	1 141	1 971	9.77	4.79	11.4	18.4	8.85	4.17
OCEANIA	3 729	3 585	2.14	0.70	68.1	63.8	-1.37	-0.93
Australia	3 142	2 973	1.89	0.78	102.8	98.7	-0.91	-0.72
New Zealand	576	597	3.57	0.24	45.7	42.5	-4.71	-0.82
DEVELOPED COUNTRIES	**142 938**	**142 792**	**0.06**	**0.00**	**97.6**	**95.9**	**-0.36**	**-0.15**
DEVELOPING COUNTRIES	**318 736**	**412 204**	**2.88**	**2.37**	**49.4**	**57.3**	**1.64**	**1.38**
LEAST DEVELOPED COUNTRIES (LDC)	22 022	30 540	1.48	3.16	23.9	26.2	-0.84	1.00
OECD[3]	**108 934**	**108 122**	**-0.05**	**0.02**	**76.0**	**73.9**	**-0.59**	**-0.19**
BRICS	**207 594**	**256 678**	**3.15**	**1.85**	**63.5**	**75.5**	**2.46**	**1.51**

Note: Calendar year; except year ending 30 June for New Zealand and Australia. Average 2020-22est: Data for 2022 are estimated.

1. Refers to all current European Union member States.
2. Refers to mainland only. The economies of Chinese Taipei, Hong Kong (China) and Macau (China) are included in the Asia aggregate.
3. Excludes Iceland and Costa Rica but includes all EU member countries.
4. Least-squares growth rate (see glossary).

Source: OECD/FAO (2023), "OECD-FAO Agricultural Outlook", *OECD Agriculture statistics* (database). dx.doi.org/10.1787/agr-outl-data-en

ANNEX C

Table C.37. Milk projections: Production, inventories, yield

Calendar year

	PRODUCTION (kt)		Growth (%)[1]		INVENTORIES ('000 hd)		Growth (%)		YIELD (t/head)		Growth (%)	
	Average 2020-22est	2032	2013-22	2023-32	Average 2020-22est	2032	2013-22	2023-32	Average 2020-22est	2032	2013-22	2023-32
WORLD	**888 412**	**1 039 320**	**1.77**	**1.48**	**719 741**	**840 875**	**1.10**	**1.35**	**1.23**	**1.24**	**0.66**	**0.12**
NORTH AMERICA	113 168	128 478	1.46	1.24	10 392	10 607	0.24	0.24	10.89	12.11	1.22	0.99
Canada	10 910	13 104	2.86	1.70	977	982	0.43	0.10	11.17	13.35	2.42	1.59
United States	102 258	115 375	1.32	1.19	9 415	9 626	0.22	0.26	10.86	11.99	1.09	0.93
LATIN AMERICA	85 833	94 612	0.60	0.91	37 945	38 655	-2.75	0.10	2.26	2.45	3.45	0.81
Argentina	10 873	12 143	-0.36	1.01	1 715	1 697	-0.59	-0.10	6.34	7.16	0.24	1.10
Brazil	36 829	40 188	0.48	0.81	16 117	15 758	-4.51	-0.19	2.29	2.55	5.23	1.00
Chile	2 037	2 304	-0.56	1.23	848	852	-3.22	-0.13	2.40	2.70	2.74	1.37
Colombia	6 826	7 718	0.06	1.31	3 508	3 506	-5.18	-0.04	1.95	2.20	5.52	1.35
Mexico	13 215	14 008	1.99	0.60	2 638	2 692	1.15	0.30	5.01	5.20	0.83	0.30
Paraguay	556	713	0.84	2.20	219	259	-0.36	1.48	2.54	2.75	1.20	0.71
Peru	2 186	2 566	2.23	1.43	1 181	1 330	0.04	0.83	1.85	1.93	2.19	0.59
EUROPE	226 854	226 982	0.70	0.06	38 910	35 927	-1.30	-0.69	5.83	6.32	2.03	0.75
European Union[2]	153 372	151 160	0.94	-0.11	19 983	17 999	-0.97	-0.94	7.55	8.24	1.97	0.83
United Kingdom	15 101	16 066	0.89	0.45	1 855	1 822	0.09	-0.17	8.14	8.82	0.80	0.62
Russia	32 533	33 089	1.21	0.02	7 673	7 246	-1.04	-0.48	4.24	4.57	2.27	0.50
Ukraine	8 328	7 790	-4.21	1.02	2 391	2 104	-4.41	-1.02	3.48	3.70	0.21	2.05
AFRICA	47 996	62 040	1.29	2.58	234 632	278 183	1.69	1.43	0.20	0.22	-0.39	1.13
Egypt	5 134	5 982	-0.78	1.46	4 305	4 562	-6.37	0.60	1.19	1.31	5.97	0.86
Ethiopia	5 021	6 977	4.49	3.43	13 243	17 016	-1.84	2.21	0.38	0.41	6.46	1.20
Nigeria	529	664	-0.68	2.31	2 258	2 704	-0.24	1.61	0.23	0.25	-0.44	0.69
South Africa	3 786	4 190	1.72	1.10	1 014	1 084	0.64	0.48	3.74	3.87	1.08	0.62
ASIA	383 749	496 819	3.06	2.33	391 563	471 493	1.53	1.64	0.98	1.05	1.51	0.68
China[3]	40 934	48 692	2.06	1.16	13 983	14 628	0.08	0.42	2.63	3.05	2.40	0.86
India	188 931	249 558	3.78	2.54	140 316	175 235	1.57	2.01	1.35	1.42	2.18	0.52
Indonesia	1 579	2 236	1.62	3.38	14 807	19 803	1.96	2.49	0.11	0.11	-0.33	0.86
Iran	8 488	9 620	1.06	1.15	20 259	20 033	-0.19	0.01	0.42	0.48	1.25	1.14
Japan	7 589	7 265	0.36	-0.25	834	790	-0.76	-0.47	9.11	9.19	1.13	0.22
Kazakhstan	6 234	7 838	3.02	1.99	3 033	3 407	1.70	1.06	2.06	2.30	1.30	0.92
Korea	1 968	1 939	-1.28	0.01	307	293	-0.82	-0.29	6.40	6.62	-0.47	0.31
Malaysia	52	63	-5.60	1.64	49	47	-5.07	-0.24	1.06	1.35	-0.56	1.89
Pakistan	62 533	85 511	3.34	2.82	38 650	49 029	2.35	2.11	1.62	1.74	0.97	0.70
Philippines	17	20	-2.58	1.69	5	6	-0.02	0.22	3.15	3.64	-2.56	1.47
Saudi Arabia	3 062	3 565	3.53	1.39	5 537	6 039	1.42	0.84	0.55	0.59	2.08	0.54
Thailand	1 225	1 389	1.31	0.89	222	226	-0.50	-0.09	5.53	6.13	1.82	0.99
Türkiye	21 555	27 518	2.40	2.54	32 994	39 292	4.41	1.44	0.65	0.70	-1.93	1.08
Viet Nam	1 141	1 971	9.77	4.79	368	538	5.34	3.40	3.10	3.66	4.21	1.34
OCEANIA	30 810	30 390	0.06	0.29	6 299	6 010	-0.96	-0.19	4.89	5.06	1.03	0.48
Australia	8 806	8 243	-1.66	-0.07	1 344	1 174	-2.82	-0.38	6.55	7.02	1.19	0.31
New Zealand	21 984	22 126	0.82	0.43	4 903	4 786	-0.45	-0.14	4.48	4.62	1.27	0.57
DEVELOPED COUNTRIES	**409 280**	**432 483**	**0.98**	**0.59**	**72 878**	**72 433**	**-0.64**	**-0.05**	**5.62**	**5.97**	**1.63**	**0.64**
DEVELOPING COUNTRIES	**479 131**	**606 837**	**2.48**	**2.17**	**646 864**	**768 442**	**1.31**	**1.50**	**0.74**	**0.79**	**1.15**	**0.66**
LEAST DEVELOPED COUNTRIES (LDC)	30 200	40 092	1.70	2.79	225 418	266 868	1.80	1.43	0.13	0.15	-0.09	1.34
OECD[4]	**372 557**	**394 010**	**1.06**	**0.61**	**80 849**	**85 051**	**0.91**	**0.43**	**4.61**	**4.63**	**0.15**	**0.17**
BRICS	**303 013**	**375 716**	**2.78**	**1.90**	**179 103**	**213 950**	**0.64**	**1.62**	**1.69**	**1.76**	**2.13**	**0.28**

Note: Calendar year; except year ending 30 June for New Zealand and Australia. Average 2020-22est: Data for 2022 are estimated.

1. Least-squares growth rate (see glossary).
2. Refers to all current European Union member States.
3. Refers to mainland only. The economies of Chinese Taipei, Hong Kong (China) and Macau (China) are included in the Asia aggregate.
4. Excludes Iceland and Costa Rica but includes all EU member countries.

Source: OECD/FAO (2023), "OECD-FAO Agricultural Outlook", *OECD Agriculture statistics* (database). dx.doi.org/10.1787/agr-outl-data-en

ANNEX C

Table C.38. Main policy assumptions for dairy markets

Calendar year

		Average 2020-22est	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
CANADA												
Milk target price[2]	CADc/litre	90.0	94.3	96.5	98.5	100.5	102.7	104.7	106.8	109.0	111.1	113.3
Butter support price	CAD/t	8 461.5	8 952.6	9 151.0	9 370.1	9 546.6	9 754.4	9 946.3	10 140.4	10 349.2	10 549.2	10 756.6
Cheese tariff-quota	kt pw	48.0	60.9	63.2	65.4	65.7	65.9	66.2	66.5	66.8	67.1	67.4
In-quota tariff	%	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Out-of-quota tariff	%	245.6	245.6	245.6	245.6	245.6	245.6	245.6	245.6	245.6	245.6	245.6
EUROPEAN UNION[3]												
Voluntary coupled support												
Milk and milk products[4]	mln EUR	722	814	817	823	827	813	813	813	813	813	813
Butter reference price[5]	EUR/t	2 217.5	2 217.5	2 217.5	2 217.5	2 217.5	2 217.5	2 217.5	2 217.5	2 217.5	2 217.5	2 217.5
SMP reference price	EUR/t	1 400.0	1 400.0	1 400.0	1 400.0	1 400.0	1 400.0	1 400.0	1 400.0	1 400.0	1 400.0	1 400.0
Butter tariff-quotas	kt pw	72.5	63.6	63.7	63.7	63.8	63.8	63.9	63.9	64.0	64.0	64.0
Cheese tariff-quotas	kt pw	109.3	104.7	105.0	105.3	105.6	106.0	106.3	106.6	106.9	106.9	106.9
JAPAN												
Direct payments[6]	JPY/kg	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2
Cheese tariff[7]	%	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8
Tariff-quotas												
Butter	kt pw	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
In-quota tariff	%	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0
Out-of-quota tariff	%	242.6	199.5	194.9	198.0	198.1	198.9	200.4	200.7	201.9	202.3	203.1
SMP	kt pw	82.2	82.2	82.2	82.2	82.2	82.2	82.2	82.2	82.2	82.2	82.2
In-quota tariff	%	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Out-of-quota tariff	%	210.0	210.0	210.0	210.0	210.0	210.0	210.0	210.0	210.0	210.0	210.0
MEXICO												
Butter tariff	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tariff-quotas												
Cheese	kt pw	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4
In-quota tariff	%	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
Out-of-quota tariff	%	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0
SMP	kt pw	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
In-quota tariff	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Out-of-quota tariff	%	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0
Liconsa social program	mln MXN	1 240.7	1 240.7	1 240.7	1 240.7	1 240.7	1 240.7	1 240.7	1 240.7	1 240.7	1 240.7	1 240.7
RUSSIA												
Butter tariff	%	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Cheese tariff	%	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
UNITED STATES[8]												
Butter tariff-quota	kt pw	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2
In-quota tariff	%	2.6	2.6	2.6	2.6	2.5	2.5	2.4	2.4	2.3	2.3	2.2
Out-of-quota tariff	%	32.2	32.6	32.2	32.0	31.4	30.8	30.2	29.6	29.0	28.5	27.9
Cheese tariff-quota	kt pw	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0
In-quota tariff	%	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1
Out-of-quota tariff	%	33.1	32.6	32.4	32.1	31.6	31.1	30.6	30.1	29.6	29.1	28.6
INDIA												
Butter tariff	%	36.7	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
Cheese tariff	%	32.5	33.8	33.8	33.8	33.8	33.8	33.8	33.8	33.8	33.8	33.8
Skim milk powder tariff	%	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
Whole milk powder tariff	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SOUTH AFRICA												
Butter tariff	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cheese tariff	%	23.9	23.9	23.9	23.9	23.9	23.9	23.9	23.9	23.9	23.9	23.9
Skim milk powder tariff	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Whole milk powder tariff	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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Note: Average 2020-22est: Data for 2022 are estimated.

1. Refers to all current European Union member States.
2. For manufacturing milk.
3. Since 2015 the Basic payment scheme (BPS) holds, which shall account for 68% maximum of the national direct payment envelopes. On top of this, compulsory policy instruments have been introduced: the Green Payment (30%) and young farmer scheme (2%).
4. Implemented in 19 Member States. The maximum quantity limit is 11.695 million dairy cow heads.
5. Buying-in when market prices go below the reference price for SMP and 90% of the reference price for butter is operable automatically for a maximum quantity of 109 000 tonnes for SMP and 50 000 tonnes for butter (before 2014, this ceiling was set at 30 000 tonnes). Above that ceiling intervention can take place only via tender. For 2018 due to a temporary measure the SMP buying in quantity at fixed prices of is set to 0. Buying in via a tendering procedure may still be possible.
6. In April 2017, in addition to skim milk powder, butter and cheese, milk used for fresh cream, concentrated skim mik and concentrated whole milk production became covered by the direct payments.
7. Excludes processed cheese.
8. A milk margin (all-milk price minus the average feed margin) protection program applies, which has been updated February 2018, and provides a dairy safety net to farmers. Farmers have to decide on enrolment and coverage levels.

Source: OECD/FAO (2023), "OECD-FAO Agricultural Outlook", *OECD Agriculture statistics* (database). dx.doi.org/10.1787/agr-outl-data-en