Food and Agriculture Organization of the United Nations

December 2021

DAIRY MARKET REVIEW

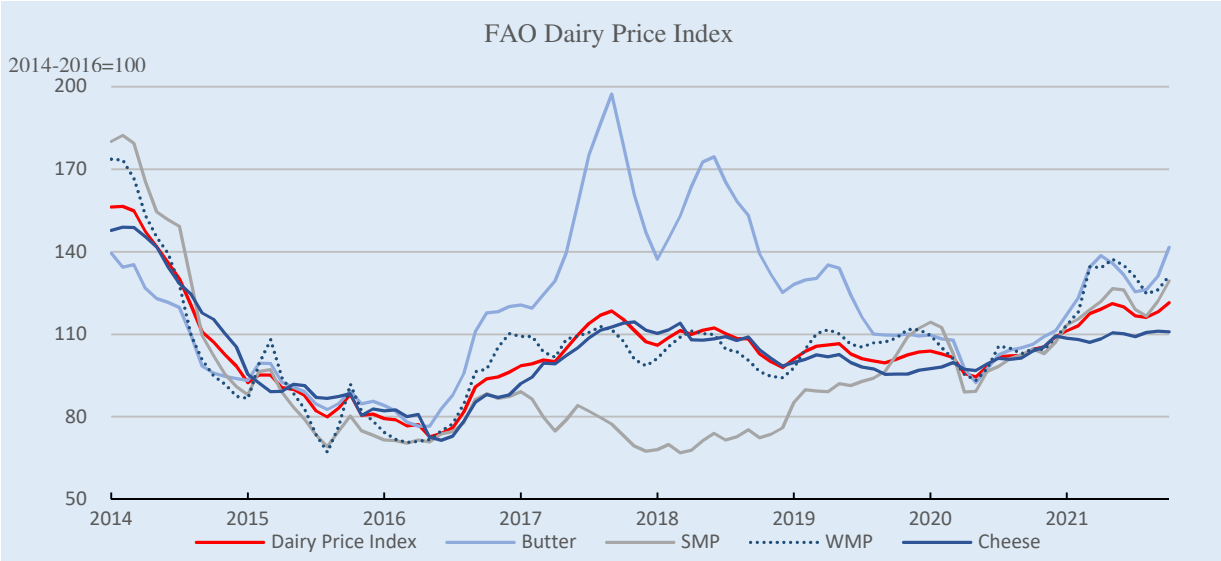
Emerging trends and outlook

Highlights

- Tight global supplies and sustained import demand underpin rising global dairy prices
- Global milk production is rising, with significant expansions expected in Asia and North America
- World dairy trade in 2021 is likely to reach a new high amid a sharp increase in imports by China

Global dairy prices

Except for a short spell of three months from June to August this year, the **FAO Dairy Price Index** registered increases since mid-2020, reaching 125.5 points in November, up 20.2 points (19.1 percent) above its level in the corresponding month last year. These dairy price increases were primarily underpinned by sustained import demand, especially from Asia, and generally tight exportable supplies from the world's major producing regions. China remained the largest dairy importer, and in 2021, imports surged significantly due to rising demand from consumers and the food processing industry and increased food services activities. Increased in Chinese imports were highly concentrated in milk powders and whey products. Import demand also rose in several other countries, including Mexico, Indonesia, Viet Nam and Bangladesh, reflecting increased market activities and consumer demand.



On the supply side, tight supplies compared to import demand characterized global milk availability most of this year. At the beginning of the year, milk deliveries in Western Europe fell below the previous year, constraining export availability. Although milk deliveries in Western Europe increased above 2020 levels during the peak production months – March to June – export availabilities did not rise significantly due to seasonally high internal demand. Expectations for a busy summer amidst some relaxation on social distancing was also behind increased internal demand. By July, however, inventories in Western Europe rose as internal sales hardly materialized as expected, reflecting the limited increase in food services sales, weighing on global dairy prices from July to August. Since then, prices continued to increase, driven by tight global export availabilities, as milk deliveries fell below their average seasonal levels in several large milk-producing countries in Western Europe, coinciding with lower-than-anticipated

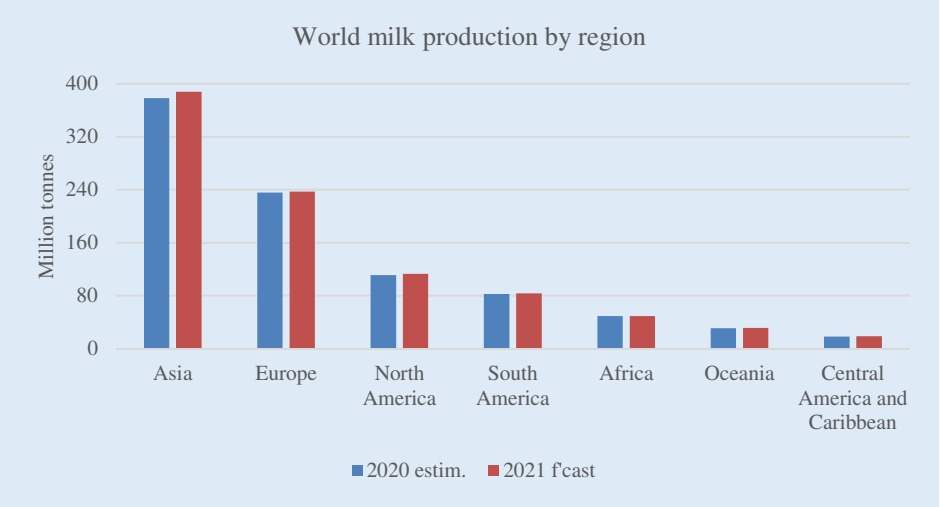
output in Oceania. Strong global import demand persisted amidst buyers' efforts to secure spot supplies in anticipation of tightening markets, adding further upward pressure on prices, notwithstanding market uncertainty over near-term demand caused by increased COVID-19-related social restrictions.

Across dairy commodities, from January to November, butter registered the steepest price increase (+32.6 percent), followed by skim milk powder (SMP) (+20.7 percent), whole milk powder (WMP) (+20.5 percent) and cheese (+2.6 percent).

Global milk production

Global milk output continues to rise led by Asia and North America

World milk production is forecast to reach nearly 928 million tonnes in 2021, up by 1.5 percent from 2020, with significant expansions expected in Asia and North America and moderate expansions in Europe, Oceania, Central America and the Caribbean, and Africa. By contrast, South America is likely to register a slight decline in milk output.



In *Asia*, milk output in 2021 is forecast at 398 million tonnes, up 2.8 percent year-on-year, mainly due to anticipated expansions in **India**, **China**, **Pakistan** and **Turkey**, **Uzbekistan**, **Kazakhstan**, the **Islamic Republic of Iran** and **Japan**. By contrast, milk production may fall in the **Republic of Korea**, the **Syrian Arab Republic** and **Saudi Arabia**, among others. **India**'s milk output is likely to reach 207 million tonnes, up 2.2 percent year-on-year, underpinned by an increase in dairy cattle numbers, increased feed and fodder availability, helped by favourable monsoon rains (June to September) along with rising disposable incomes. In **China**, expanding domestic production capacity and increasing productivity of large-scale dairy farms are behind the 7.5 percent output growth expected in 2021. In **Pakistan**, milk production is anticipated to surge mainly due to increased dairy cattle numbers. In **Turkey**, government subsidies and growing cattle numbers are likely to sustain a milk output expansion. In **Japan**, the increased dairy herd is behind the anticipated milk production growth, partly reflecting government assistance for farmers to raise dairy cattle numbers.

In *Europe*, milk output is forecast to reach 237 million tonnes in 2021, registering a slight increase (0.3 percent) from 2020, with anticipated production expansions in, the **European Union**, the **Russian Federation** and **Belarus**. Despite falling below 2020 levels at the beginning and towards the tail end of the milk production season this year, annual milk production in the **European Union** is expected to register a 0.6 percent growth, adding close to 100 000 tonnes,

principally driven by continued yield increases, compensating for the continued decline in dairy cattle numbers for the fifth consecutive year. Good rains received in May also improved pastures, supporting the European Union to sustain the milk production expansion. In the **Russian Federation**, milk production is anticipated to rise due to rising dairy cattle numbers, especially in large-scale, modern farms. In **Belarus**, higher yields and productivity improvements are behind the output expansion. By contrast, **Ukraine**'s milk production may fall amidst the declining dairy cattle numbers, unfavourable weather and lower producer margins.

In *North America*, milk output is forecast to reach 113 million tonnes in 2021, up 1.7 percent year-on-year. In the **United States of America** (**United States**), milk production is forecast to rise, primarily resulting from the higher dairy catlle numbers in the first half of the year. However, since July, dairy catlle slaughter increased, caused by declined profit margins, notwithstanding assistance received from the government under the *Dairy Margin Coverage Program* by 75 percent of all dairy farms with established production history. **Canada**'s output is anticipated to rise, benefitting from high dairy cattle numbers and increased milk prices under the Canadian supply management system. However, COVID-19 related production disruptions and increases in feed, energy and fertilizer costs are likely to reduce profit margins, moderating production expansion.

In *Central America and the Caribbean*, milk production is likely to reach 18.5 million tonnes, rising by 0.8 percent from 2020. Milk production in **Mexico** –the largest producer in the region – is anticipated to rise by 1.1 percent, mainly driven by increased dairy herd numbers, improving animal genetics and manufacturing technologies, despite the COVID-19-related economic challenges, rising feed costs and subdued consumer demand.

In *South America*, milk production is forecast at 82 million tonnes in 2021, registering a slight decline (0.3 percent), reflecting expansions expected in **Brazil, Argentina** and **Uruguay**, offset by a contraction in **Colombia**. Despite higher input costs and unfavourable weather conditions, **Brazil**'s milk output is likely to rise by 1.0 percent year-on-year due to increasing dairy cattle numbers, increased herd sizes, improved genetics, and high yields in large-scale farms. A production expansion in **Argentina** is driven by favourable weather, buoyant overseas demand and farmers' efforts to increase output to keep profit margins intact amidst rising feed costs and domestic price controls. In **Uruguay**, solid overseas demand from neighbouring countries and increased sales to Asian destinations sustain milk production improvements. By contrast, in **Colombia,** unfavourable weather conditions, COVID-19 related economic impacts, and high input costs may lead to a decline in milk production.

Following a production recovery last year, *Oceania*'s milk output is likely to increase again this year by 1.5 percent to 31.5 million tonnes. In **Australia,** milk production is expected to rise slightly for the second year in a row, given good rainfall received in the major producing regions. Assistance to farmers affected by drought and other market disruptions continued through the federal and state governments. These programs took the form of immediate assistance to those already facing drought-related stress and long-term support to increase resilience through *the Future Drought Fund*, established in September 2019. Despite a slow start to the 2021/22 production season, milk production in **New Zealand** is likely to increase by 1.8 percent in 2021, driven mainly by favourable weather supporting pasture growth, expanding overseas demand and higher milk prices offered by the leading dairy cooperative. However, in recent months, output expansions have fallen below expectations due to excessive rains that deteriorated pasture quality in the Northern Island.

In *Africa*, milk production is forecast at 49 million tonnes in 2021, virtually unchanged from last year, as moderate expansions in many countries are likely to be offset by anticipated declines in several large producing countries. In **South Africa**, milk output is expected to decline due to a combination of factors, including prolonged drought, high

feed cost, and lower domestic demand. Milk output is likely to decrease in **Kenya** due to drought conditions and warmer weather affecting the sustainability of pastoral systems.

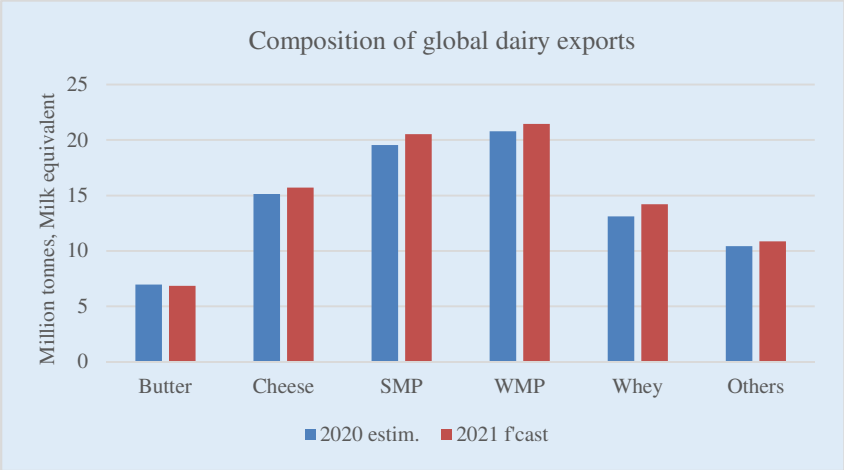
World trade in dairy products

World dairy trade is expanding, with a heavy import concentration in Asia

World trade in milk products is forecast to reach a new high of 89.6 million tonnes (milk equivalent) in 2021, up 4.2 percent from last year, primarily underpinned by high imports by **China**, reflecting rising consumer demand for milk products. Imports are also expected to expand significantly in **Mexico**, **Indonesia**, **Viet Nam**, **Bangladesh, Peru** and the **Republic of Korea**. By contrast, particularly substantial volume declines are forecast in the **European Union, the United Kingdom of Great Britain and Northern Ireland** (**United Kingdom**), **Japan**, **United Arab Emirates, Saudi Arabia** and **Algeria**, among many others with moderate to small contractions, caused by the continued economic downturns, COVID-19 related market disruptions and lower food services sales.

Trade performance of dairy products

Among the leading dairy products, international trade in SMP is forecast to register the highest growth rate of 5.0 percent in 2021, followed by cheese and WMP, by 3.8 and 3.2 percent, respectively. Whey powder exports, which accounts for 16 percent of global milk trade by volume, is likely to expand by 8.3 percent. By contrast, global butter trade could fall by nearly 2.0 percent.



Butter

World butter trade is likely to contract amid widespread import curtailments

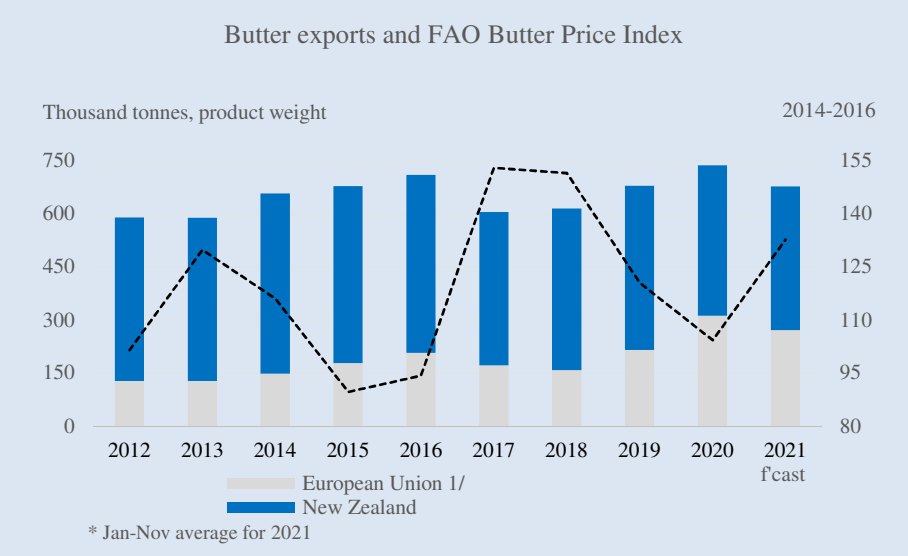
Butter exports are forecast to drop by 2.0 percent year-on-year to 1 million tonnes in 2021. The decrease mainly reflects the anticipated import declines in the **United Kingdom**, **Mexico**, the **United States, Egypt**, **Saudi Arabia** the **Russian Federation** and the **European Union**. Unresolved customs clearance issues continued to hamper smooth trade flows between the **United Kingdom** and the **European Union**. Elsewhere, higher export prices, logistical difficulties and economic downturns lead many countries to cut butter imports.

By contrast, firm import purchases are forecast for **China**, the **Philippines**, the **Republic of Korea** and **Canada**. Despite the expected decline in world trade in butter, imports by **China** are likely to exceed by nearly 21 percent from last year,

registering a new record of 176 000 tonnes, principally driven by increasing consumer demand among high-income consumers. The **Philippines** expects a recovery in butter imports this year, given that imports from January to July rose by 23 percent, compared with the same period last year. Imports by the **Republic of Korea** are also expected to increase in 2021 as diets become more westernized while domestic butter production is on the decline. In **Canada**, consumer demand for butter continued to surge amid rising baking and home cooking demand, inducing a likely increase in butter imports by over 18 percent. However, purchases by the **Russian Federation** could decrease by 1.5 percent due to higher prices and currency depreciation.

Regarding exports, much of the decline in world trade in butter is expected to reflect significantly lower butter shipments from several leading exporters, mainly the **European Union**, **New Zealand**, the **United Kingdom** and **Uruguay**. In the **European Union**, producers are likely to allocate the limited milk available to producing cheese –the most profitable option under the current prices– limiting butter supplies to fulfil long-term contracts and regular customers, mainly within the 27-country bloc. Therefore, butter exports may fall by 13 percent, or over 40 000 tonnes, to just over 271 000 tonnes. In **New Zealand**, the volume of butter production is expected to decrease in 2021, given that milk production is anticipated to be lower than expected in the current season and producers' preference to allocate the available milk to producing WMP when supplies are limited.

Amidst the current global demand and supply conditions, exports from the **United States**, **Argentina** and **Australia** are expected to register significant increases. The **United States** is likely to benefit from increased purchases by Canada and a few countries in the Middle East and Asia. Mexico's butter imports from the United States also registered an increase from January to September, although country's total butter imports declined by nearly 50 percent during the same period. **Argentina** may ship more butter, driven by higher demand, despite possible declines by some traditional trading partners, including the Russian Federation. In **Australia**, exports are anticipated to increase by 66.5 percent, benefitting from strong import demand, especially from China. In **Belarus**, trade may expand slowly amid a similar decline in purchases by the Russian Federation but compensated by increases to other destinations, especially Ukraine.



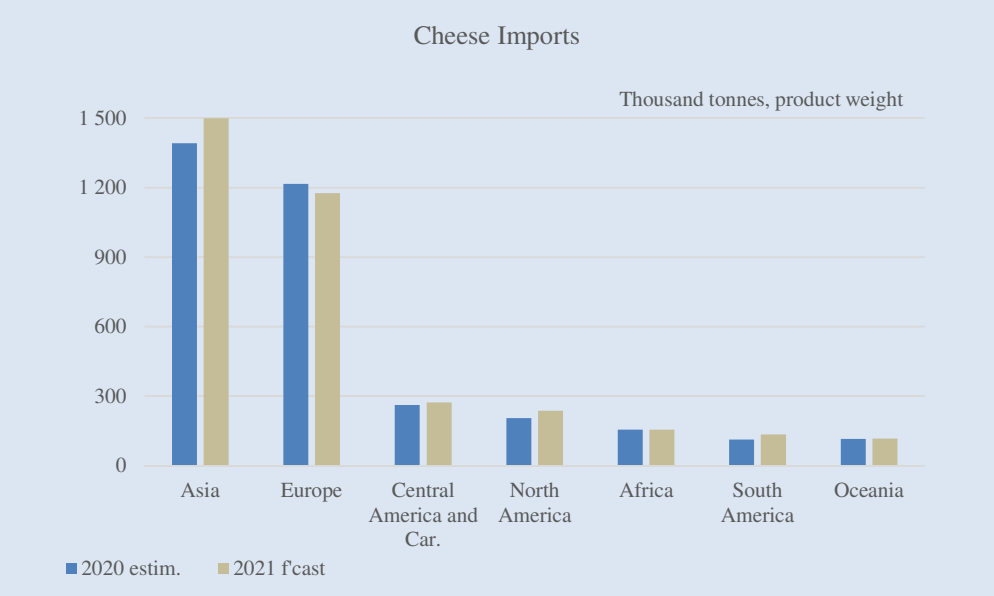
1/ From 2020, the United Kingdom of Great Britain and Northern Ireland is treated as a separate country from the European Union when aggregating trade data

Cheese

Economic recoveries in some countries may foster expansion in global cheese trade

Global cheese trade is forecast to rise by nearly 4.0 percent to a record level of 3.6 million tonnes in 2021, driven by significant import expansions in **China**, the **Russian Federation** and the **United States**. In **China**, economic growth and increasing consumer demand underpin the 34 percent anticipated growth in cheese imports, to around 240 000 tonnes. Cheese purchases by the **Russian Federation** are likely to increase by nearly 10 percent, reaching an eight-year high. Meanwhile, rising domestic consumption may increase **United States** cheese imports by 15 percent. By contrast, the **United Kingdom**, the **European Union**, **Japan** and **Australia** are likely to reduce chesse imports this year.

Much of the increased exports are anticipated to come from the **European Union**, **New Zealand**, **Islamic Republic of Iran**, **Belarus**, and the **United States,** but partially offset by declines from the **United Kingdom**, **Saudi Arabia** and **Egypt**. The **European Union** is anticipated to benefit from increased demand, especially from the United States, Switzerland, and Ukraine. Competitive prices and ample export availabilities are likely to drive export expansion from the **United States** and **Belarus**. Meanwhile, lower demand from some neighbouring countries amid market uncertainty over the revival of food services amid ongoing social restrictions may lower exports from **Saudi Arabia**.



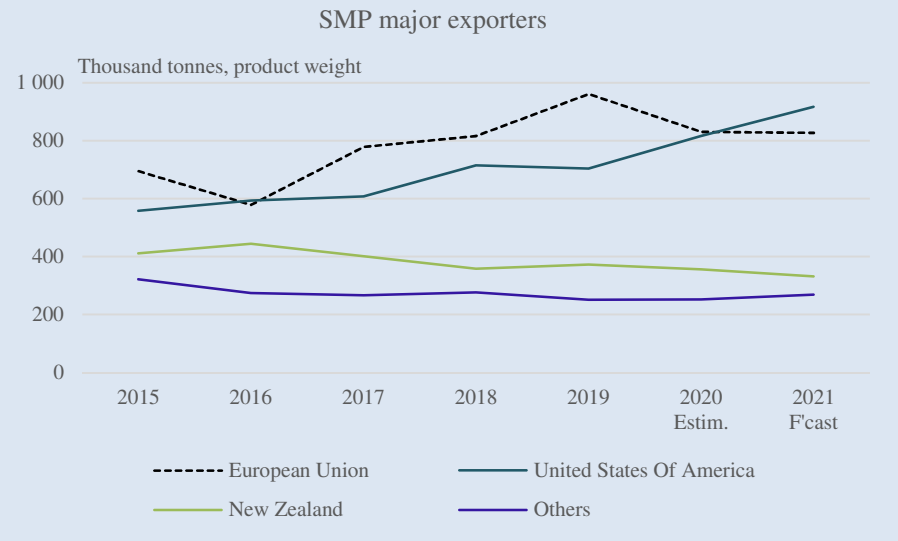
Skim milk powder

Asia's robust demand is likely to drive SMP trade expansion

SMP exports are anticipated to increase by 5.0 percent in 2021, reaching a record high of 2.7 million tonnes due to strong demand, especially from **China**, **Mexico, Viet Nam, Peru**, **Bangladesh** and **Indonesia**.

In **China**, imports are likely to rise by as much as 36 percent demand for low-fat dairy ingredients from the food processing industry, including bakery products, and efforts to increase stocks amid the global supply chain uncertainty. In **Mexico**, rising consumption and the revival of economic activities underpin a robust pace of imports, reaching 351 000 tonnes, but remain slightly below the 2019 pre-pandemic import level. By contrast, purchases from the

Philippines are likely to decrease, reflecting lower consumer demand stemming from COVID-19 and currency deprecation.



The **United States** is likely to benefit from competitive prices and ample supply availabilities and increased demand from Mexico – the largest market for US SMP – and from other destinations, especially the Philippines, Indonesia, Malaysia, Viet Nam and China. **Australia**'s SMP export prospects remain highly positive with increasing demand from the country's major trading partners in Asia, especially China. In **Turkey** and **the Islamic Republic of Iran** exports are likely to surge mainly due to purchases from neighbouring countries. By contrast, a combination of declined imports by main trading partners and constrained production may reduce exports from **New Zealand**, the **United Kingdom**, **Canada**, **Belarus, United Arab Emirates** and the **European Union**. Despite the declines, these countries are likely to remain among the top-10 SMP exporters globally.

Whole milk powder

Economic rebound in China is likely to drive WMP trade expansion

Global WMP trade is anticipated to increase by 3.2 percent for the fourth consecutive year, driven primarily by imports from **China**, with significant expansion anticipated in **Indonesia** and **Bangladesh**. However, many countries are likely to lower purchases due to lower incomes, constrained foreign exchange availabilities, reduced food services sales and, more recently, market uncertainty over new social-distancing requirements.

In **China**, faster economic growth has fuelled a significant expansion in WMP imports. China imports much of the country's WMP import requirements from New Zealand. Besides, the trade agreement signed in January 2021, upgrading the 2008 China-New Zealand Trade Agreement, has allowed greater access to the milk powder market in New Zealand, securing over 30 percent more WMP, of which New Zealand supplies over 90 percent. Despite the COVID-19 challenges, WMP demand in **Indonesia** continues to grow, primarily due to inadequate growth in domestic production amid rising consumer demand leading to an anticipated increase of 34 percent to about 68 000 tonnes in 2021. By contrast, **Saudi Arabia**, **Algeria**, **United Arab Emirates**, **Australia** and **Sri Lanka** may reduce WMP imports.

WMP exports by **New Zealand** are anticipated to increase by 8 percent to a record high volume of 1.7 million tonnes in 2021, mainly destined for China. By contrast, shipments by the **European Union** are likely to decrease by 6 percent due to tight production.

Statistical annex

FAO Dairy Price Index [a]

	International prices [b] *(USD per tonne)*				FAO Dairy Price Index
PERIOD	**Butter**	**SMP**	**WMP**	**Cheddar cheese**	***(2014–2016=100)***
Annual					
(January/December)					
2010	4 268	2 971	3 499	3 739	112
2011	5 023	3 408	3 962	4 380	130
2012	3 740	3 063	3 336	3 877	112
2013	4 784	4 148	4 730	4 563	141
2014	4 278	3 606	3 854	4 542	130
2015	3 306	2 089	2 537	3 076	87
2016	3 473	1 986	2 481	2 807	83
2017	5 641	2 011	3 163	3 664	108
2018	5 587	1 834	3 060	3 736	107
2019	4 443	2 440	3 186	3 435	103
2020	3 844	2 606	3 041	3 506	102
Monthly					
2020 – November	4 021	2 635	3 091	3 664	105
2020 – December	4 098	2 744	3 219	3 801	109
2021 – January	4 316	2 900	3 353	3 771	111
2021 – February	4 542	2 957	3 497	3 758	113
2021 – March	4 952	3 045	3 979	3 720	117
2021 – April	5 106	3 123	3 971	3 765	119
2021 – May	5 003	3 240	4 061	3 840	121
2021 – June	4 848	3 228	3 993	3 829	120
2021 – July	4 624	3 048	3 868	3 792	117
2021 – August	4 651	2 985	3 687	3 846	116
2021 – September	4 834	3 124	3 731	3 861	118
2021 – October	5 220	3 314	3 887	3 854	121
2021 – November	5 722	3 501	4 042	3 871	126

Notes:

a) The FAO Dairy Price Index is derived from a trade-weighted average of a selection of representative internationally traded dairy products

b) All sub-component prices represent average FOB prices for Oceania and the European Union

Sources: Product prices are the mid-point price ranges reported by Dairy Market News (USDA) and European Commission-reported European Union prices (starting from 2008).

Milk and milk product statistics

	Production ('000 tonnes)			Imports ('000 tonnes, milk equivalent[1])			Exports ('000 tonnes, milk equivalent[1])		
	2017-2019 avg.	2020 estim.	2021 f 'cast	2017-2019 avg.	2020 estim.	2021 f 'cast	2017-2019 avg.	2020 estim.	2021 f 'cast
ASIA	360 890	386 848	397 521	46 016	48 318	52 823	8 009	8 182	8 749
China	32 503	35 883	38 562	14 774	16 931	21 797	103	88	92
India[2]	187 555	202 368	206 820	106	121	106	438	234	407
Indonesia	1 571	1 644	1 649	2 974	3 062	3 296	45	59	66
Iran (Islamic Rep. of)	7 583	7 597	7 749	259	115	118	587	813	1 248
Japan	7 293	7 438	7 517	2 226	2 131	1 937	11	18	23
Republic of Korea	46	49	51	2 350	2 332	2 397	649	594	534
Malaysia	54 210	57 722	59 570	542	318	316	31	15	7
Pakistan	17	15	14	2 606	2 589	2 595	86	88	101
Philippines	2 061	2 115	2 055	1 252	1 332	1 414	31	39	40
Saudi Arabia	2 497	2 680	2 675	2 634	2 856	2 681	1 556	1 617	1 429
Singapore	-	-	-	1 548	1 449	1 414	445	405	378
Thailand	1 257	1 371	1 399	1 610	1 623	1 636	278	286	294
Turkey	21 927	23 763	24 566	222	160	106	1 014	957	1 293
AFRICA	48 521	49 055	49 122	9 934	9 846	9 590	1 461	1 250	1 259
Algeria	3 283	3 312	3 403	3 313	3 270	3 098	5	-	-
Egypt	5 089	4 654	4 677	1 144	1 145	1 132	627	527	472
Kenya	5 084	5 476	5 422	206	164	166	3	1	2
South Africa	3 725	3 771	3 707	349	362	363	371	380	410
Tunisia	1 445	1 452	1 467	128	114	90	57	30	24
CENTRAL AMERICA & THE CARIBBEAN	17 942	18 343	18 491	6 595	5 960	6 126	1 373	885	847
Costa Rica	1 165	1 197	1 207	59	68	59	136	141	131
Mexico	12 236	12 782	12 923	4 292	3 669	3 926	871	338	295
SOUTH AMERICA	79 319	82 338	82 106	2 882	3 111	3 187	3 740	4 290	4 486
Argentina	10 632	11 446	11 772	36	11	16	1 675	2 172	2 312
Brazil	35 319	36 934	37 298	1 033	1 172	1 230	87	87	149
Colombia	22 138	22 592	21 512	366	541	428	26	23	44
Uruguay	2 046	2 153	2 263	32	53	56	1 434	1 517	1 545
NORTH AMERICA	107 935	110 877	112 751	2 591	2 732	2 817	12 296	13 050	14 540
Canada	9 424	9 626	9 779	678	814	862	1 059	1 003	758
United States of America	98 511	101 251	102 972	1 913	1 918	1 955	11 238	12 047	13 782
EUROPE	230 479	235 882	236 622	6 212	13 224	12 260	27 086	35 763	35 707
Belarus	7 353	7 766	7 859	53	60	77	3 865	4 361	4 542
European Union	172 308	160 893	161 859	1 107	3 644	3 128	21 008	25 839	26 182
Russian Federation	30 719	32 226	32 323	3 916	3 865	3 789	262	342	431
United Kingdom of Great Britain and Northern Ireland	-	15 825	15 873	-	4 118	3 720	-	3 624	2 952
Ukraine	10 000	9 252	8 743	111	354	343	744	531	535
OCEANIA	31 006	30 980	31 443	1 692	1 822	1 706	22 243	22 567	24 014
Australia	9 253	9 087	9 151	1 164	1 276	1 187	2 958	2 693	3 134
New Zealand	21 731	21 871	22 271	306	302	297	19 281	19 869	20 875
WORLD	876 091	914 322	928 057	75 922	85 013	88 510	76 208	85 987	89 603
LIFDCs	54 421	56 260	56 709	4 804	4 732	4 663	660	660	684
LDCs	36 433	37 341	37 436	4 405	4 390	4 279	313	257	308

1 Trade values refer to milk equivalents, and they are derived by applying the following weights: butter (6.60), cheese (4.40), skim/whole milk powder (7.60), whole condensed/evaporated milk (2.10), yoghurt (1.0), cream (3.60), casein (7.40), skim milk (0.70), liquid milk (1.0), whey dry (7.6). The conversion factors cited refer to the solids content method. Refer to IDF Bulletin No. 390 (March 2004).

2 For production, the annual dairy cycle starting in April is applied.

Leading exporters of dairy products (000 tonnes product weight)

	AVG 17-19	2020 prelim.	2021 f'cast	Change 2021 over 2020
WHOLE MILK POWDER				
World	**2 541**	**2 735**	**2 822**	**3.2%**
New Zealand	1 416	1 533	1 659	8.3%
European Union*	342	345	324	-5.9%
Argentina	101	148	145	-2.4%
United Arab Emirates	135	141	118	-16.1%
SKIM MILK POWDER				
World	**2 514**	**2 572**	**2 702**	**5.0%**
United States of America	676	816	917	12.3%
European Union*	852	831	828	-0.4%
New Zealand	377	356	332	-7.0%
Australia	147	129	151	17.8%
BUTTER				
World	**924**	**1 056**	**1 036**	**-1.9%**
New Zealand	452	425	406	-4.6%
European Union*	181	312	271	-13.1%
Belarus	83	84	85	1.6%
United States Of America	38	29	59	104%
United Kingdom of Great Britain and Northern Ireland	-	61	50	-19.4%
CHEESE				
World	**2 593**	**3 442**	**3 573**	**3.8%**
European Union*	847	1 400	1 437	2.6%
United States Of America	351	358	379	6.0%
New Zealand	333	327	361	10.4%
Belarus	215	275	297	8.3%
United Kingdom of Great Britain and Northern Ireland	-	193	158	-18.0%

* From 2020, the United Kingdom of Great Britain and Northern Ireland is treated as a separate country from the European Union when aggregating trade data

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Previous reports are available at http://www.fao.org/economic/est/est-commodities/dairy/milk-and-milk-products/en

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