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Report Highlights:

In 2023, dairy product imports are forecast to remain near 2022 levels but a number of factors, including high global dairy prices, increased domestic production, and a weak economic outlook could weigh heavily on trade. Raw milk production in 2023 is expected to reach nearly 41.7 million metric tons (MMT). Production will support increases in whole milk powder (WMP), which is estimated to rise to nearly 1.1 MMT in 2023. In China, skim milk powder (SMP), cheese and butter are produced in limited quantities. The volume of production for these products is unlikely to change much in 2023. Import prices for fluid milk, WMP, SMP, butter and cheese in combination with a weak economic outlook are expected to weigh on imports in 2023, as they have in 2022.

EXECUTIVE SUMMARY

The forecasts and revised estimates provided in this report are issued by the FAS China office and are not official USDA data.

Fluid milk: In 2023, China's raw milk production is forecast at nearly 41.7 million metric tons (MMT). Fluid milk imports are forecast at 1.1 MMT owing to large domestic production, a slowing economy, and relatively high global dairy prices.

Whole milk powder: In 2023, whole milk powder (WMP) production is forecast to increase by 3 percent, compared to 2022, reaching nearly 1.1 MMT. Imports are forecast to remain stable at 750 thousand metric tons (TMT) due to competition from domestically produced WMP. In 2023, demand is expected to remain tempered for certain sectors, like the bakery sector, but food processors are expected to substitute WMP for skim milk powder as an ingredient due to additional domestic supplies – supporting marginal consumption growth compared to estimated consumption in 2022.

Skim milk powder: Skim milk powder (SMP) imports are forecast to decline in 2023 to 340 TMT on higher SMP import prices and increased domestic production of WMP from surplus raw milk. Imports dominate SMP consumption in China, with production forecast to remain stable at 25 TMT in 2023.

Cheese: Cheese demand and consumption in 2023 are forecast to decline, lowering imports to 150 TMT as prolonged COVID-19 restrictions impact hotel, restaurant, and institutional (HRI) sector demand. Imported cheese dominates cheese consumption in China. Domestic production is forecast to grow to 22 TMT as local dairy companies expand production.

Butter: In 2023, weak demand, tight global supplies and high import butter prices are estimated to cause butter imports to decline to 130 TMT. Butter consumption is also expected to decline as imported butter dominates butter consumption in China. Butter production in China in 2023 is forecast to decline to 12 TMT on tepid demand from food manufacturers.

FLUID MILK

Table 1. China: Production, Supply, and Distribution for Fluid Milk

Dairy, Milk, Fluid	2021		2022		2023	
Market Begin Year	Jan 2021		Jan 2022		Jan 2023	
China	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
(1,000 head), (1,000 MT)						
Cows In Milk	6200	6200	6400	6400	0	6600
Cows Milk Production	34600	36830	38500	39200	0	40500
Other Milk Production	1100	1120	1150	1150	0	1180
Total Production	35700	37950	39650	40350	0	41680
Other Imports	1300	1268	1300	1075	0	1100
Total Imports	1300	1268	1300	1075	0	1100
Total Supply	37000	39218	40950	41425	0	42780
Other Exports	23	23	25	25	0	25
Total Exports	23	23	25	25	0	25
Fluid Use Dom. Consum.	14501	15595	16925	16250	0	16600
Factory Use Consum.	22476	23600	24000	25150	0	26155
Feed Use Dom. Consum.	0	0	0	0	0	0
Total Dom. Consumption	36977	39195	40925	41400	0	42755
Total Distribution	37000	39218	40950	41425	0	42780

Not Official USDA Data

PRODUCTION

In 2023, China's raw milk production is expected to reach nearly 41.7 MMT a 3 percent increase in production over 2022. However, historically high input costs for feed, weak consumer demand for dairy products and declines in domestic raw milk prices (see CHART 1) are expected to weigh on producers profit margins and limit production growth in 2023.

The growth in China's raw milk production can be attributed to government policies supporting dairy production, large scale investments by dairy companies and the importation of over 1.2 million head of quality cattle during the last five years. Sources indicate that nearly 80 percent of cattle imports are for dairy production.

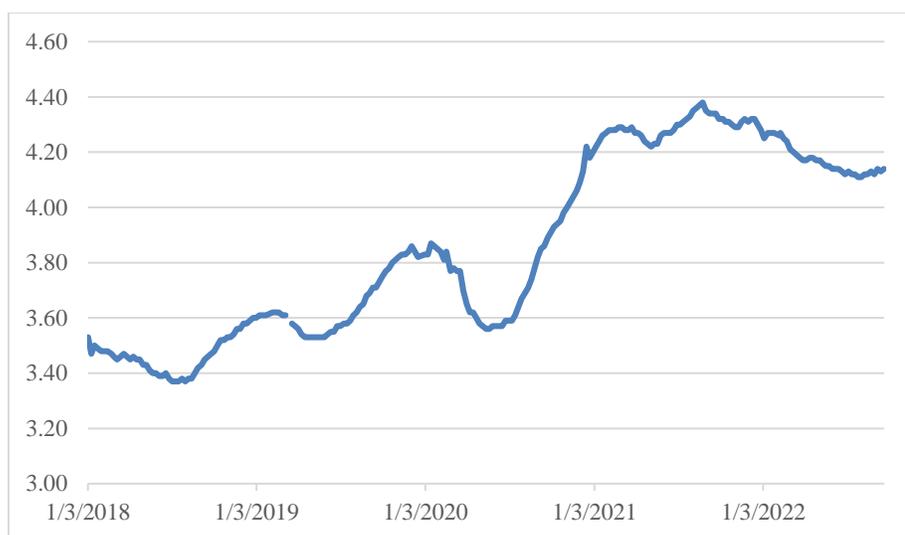
The Ministry of Agriculture and Rural Affairs (MARA) in the February 2022 *14th Five Year Plan – Action Plan for Improving the Competitiveness of the Dairy Industry* set a goal that China's total raw milk production¹ should reach 41 MMT by 2025. MARA has previously adjusted their estimates

¹ Total raw milk production includes mainly cow milk production, as well as other milk production such as goat milk, among others.

upwards following strong growth in China’s dairy industry. FAS China forecasts total raw milk production to exceed 41 MMT in 2023, well before the 2025 goal.

MARA’s plan, sends a political signal to provincial and local governments to continue to support dairy production in their regions. Provincial governments in China’s Northeast such as Heilongjiang and Jilin – have established subsidies for cattle breeding, and the production, processing, and marketing of fresh milk products in response to MARA’s announcement. Additionally, Liaoning province aims to invest in cold chain logistics networks across the province to support perishable products including dairy products by 2025.

CHART 1. China: Average Milk Prices (RMB/KG) ²



Source: Ministry of Agriculture and Rural Affairs (MARA)

Reports indicate that small scale dairy producers may face increasing challenges as some processors are phasing out collection of raw milk from farms that produce less than 10 MT of milk per day. Growth among large scale dairy producers (with tens of thousands of milking cows per farm) will more than offset the number of small scale dairy producers exiting the market.

CONSUMPTION

In 2023, raw milk consumption is estimated at around 42.8 MMT. The expansion of dairy ingredient production, such as WMP, is expected to slow in 2023. Fluid use and factory use are both expected to rise – with stronger growth in factory usage. Investments by small scale high-end dairy processors in low temperature dairy and processed dairy products (such as yogurt, and ice cream) will also support demand for raw milk in 2023.

Fluid milk is typically consumed in the form of ultrahigh temperature (UHT) milk products, which are shelf-stable and do not require refrigeration. Raw milk production is concentrated in Northern China while consumption also occurs in southern and eastern China. For milk products requiring refrigeration, such as pasteurized and extended shelf-life milk, ongoing COVID-19 restrictions and logistical

² Based on November 4, 2022 USD to RMB exchange rate of U.S. \$1 to RMB 7.26

disruptions are likely to reduce growth. However, pasteurized milk and yogurt were added to the National School Milk program in 2021, which will support demand for these products.

The production of other milk products, including goat and camel milk is growing slowly. This market, a minimal share of the overall milk market, is an opportunity for local niche producers.

IMAGE 1. China: Refrigerated shelf for low-temperature milk in retail

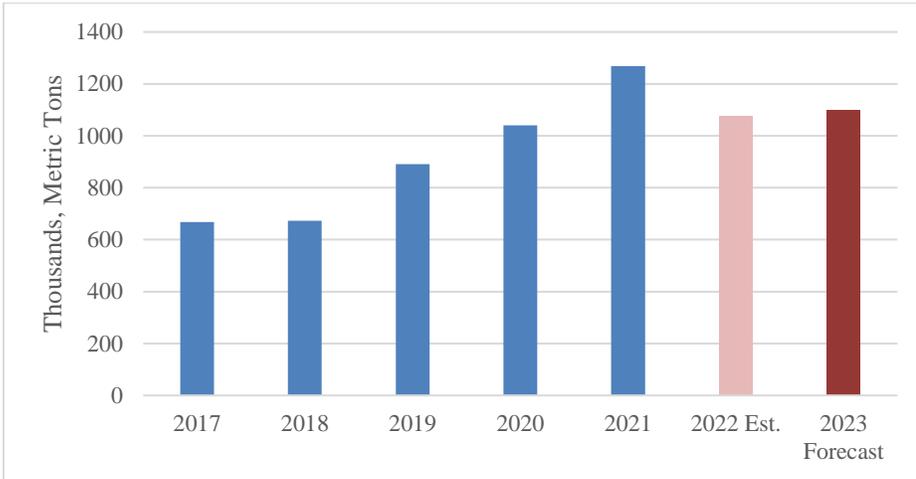


TRADE

In 2023, imports of fluid milk products are forecast at around 1.1 MMT but a slowdown in China's economy will weigh on stronger growth (see CHART 2). Consumption in China's affluent cities will continue to drive demand for imports of UHT fluid milk.

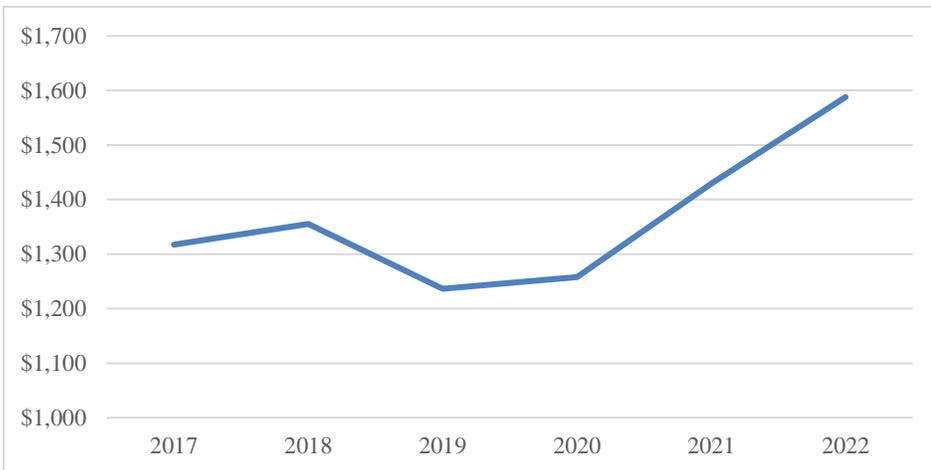
In the first three quarters of 2022, imports of fluid milk products declined by over 20 percent, year on year as average prices, based on Chinese import data, rose by nearly 15 percent. Australia and the United Kingdom were the only exporters (from China's top ten export markets) to show year over year growth during this period. The global average unit price for imports of fluid milk rose sharply following the COVID-19 pandemic as international logistic disruptions increased shipping costs and global supplies tightened (see CHART 3).

CHART 2. China: Imports of Fluid Milk



Source: China Customs, Trade Data Monitor (TDM) and FAS China estimates

CHART 3: Imported Fluid Milk Prices (U.S. \$/Metric Ton)



Source: China Customs (TDM)

WHOLE MILK POWDER

TABLE 2: PRODUCTION, SUPPLY AND DISTRIBUTION FOR WHOLE MILK POWDER

Dairy, Dry Whole Milk Powder	2021		2022		2023	
Market Begin Year	Jan 2021		Jan 2022		Jan 2023	
China	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
1000 MT						
Beginning Stocks	100	100	150	150	0	170
Production	1010	1010	1050	1050	0	1080
Other Imports	849	849	800	750	0	750
Total Imports	849	849	800	750	0	750
Total Supply	1959	1959	2000	1950	0	2000
Other Exports	2	2	3	3	0	5
Total Exports	2	2	3	3	0	5
Human Dom. Consumption	1807	1807	1827	1777	0	1795
Other Use, Losses	0	0	0	0	0	0
Total Dom. Consumption	1807	1807	1827	1777	0	1795
Total Use	1809	1809	1830	1780	0	1800
Ending Stocks	150	150	170	170	0	200
Total Distribution	1959	1959	2000	1950	0	2000

Not Official USDA Data

PRODUCTION

WMP production in 2023 is forecast to increase 3 percent and reach nearly 1.1 MMT. In 2023, dairy processors are expected process more seasonal surplus raw milk into WMP. However, WMP production is less cost effective than producing fluid milk products. In response to increased WMP production, news reports note that major production regions such as Inner Mongolia extended subsidies for WMP production through 2023.

CONSUMPTION

In 2023, WMP consumption is expected to reach nearly 1.8 MMT above estimated 2022 consumption but fall below 2021 consumption. Some bakeries suffered losses in 2022 due to prolonged COVID-19 restrictions and a slowing economy. In 2023, demand from the bakery sector is not expected to quickly recover. In the food processing sector, demand for WMP is expected to grow as domestic production volume increases and global SMP prices stay relatively strong. For this reason, consumption in 2023 is expected to exceed estimated consumption in 2022.

TRADE

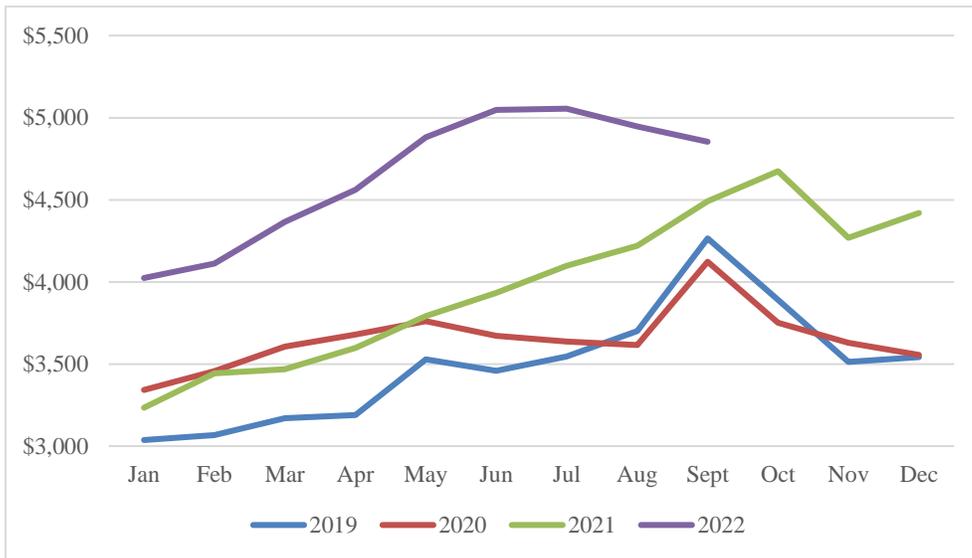
In 2023, WMP imports are forecast to remain at the same level as 2022 at 750 TMT, as domestic WMP production and stocks weigh on growth. Traders note that imported WMP is considered a better-quality

product with a longer shelf life compared to domestically produced WMP. However international logistics challenges and exchange rate changes and volatility have made traders increasingly nervous about purchasing imported WMP. High import prices for WMP in 2022 are expected to persist into 2023.

In the first half of 2022, import prices for WMP on average rose by nearly 20 percent year over year on already high rates (see CHART 4).

In 2023, New Zealand is expected to remain the dominant supplier, followed by Uruguay and Australia.

CHART 4: China: Average WMP Import Price (U.S. \$/Metric Ton)



Source: China Customs (TDM)

SKIM MILK POWDER

TABLE 3: PRODUCTION, SUPPLY AND DISTRIBUTION FOR SKIM MILK POWDER

Dairy, Skim Milk Powder	2021		2022		2023	
Market Begin Year	Jan 2021		Jan 2022		Jan 2023	
China	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
1000 MT						
Beginning Stocks	0	0	0	0		0
Production	22	22	24	25		25
Other Imports	426	426	350	350		340
Total Imports	426	426	350	350		340
Total Supply	448	448	374	375		365
Other Exports	2	2	1	3		2
Total Exports	2	2	1	3		2
Human Dom. Consumption	446	446	373	372		363
Other Use, Losses	0	0	0	0		0
Total Dom. Consumption	446	446	373	372		363
Total Use	448	448	374	375		365
Ending Stocks	0	0	0	0		0
Total Distribution	448	448	374	375		365

Not Official USDA Data

PRODUCTION

In 2023, SMP production is forecast at 25 TMT. Production is expected to remain stable on demand from food processors and manufacturers for domestic SMP. Dairy processors can produce SMP based on orders. However, the usage and production of domestic SMP ingredients remain minimal compared to overall domestic SMP consumption.

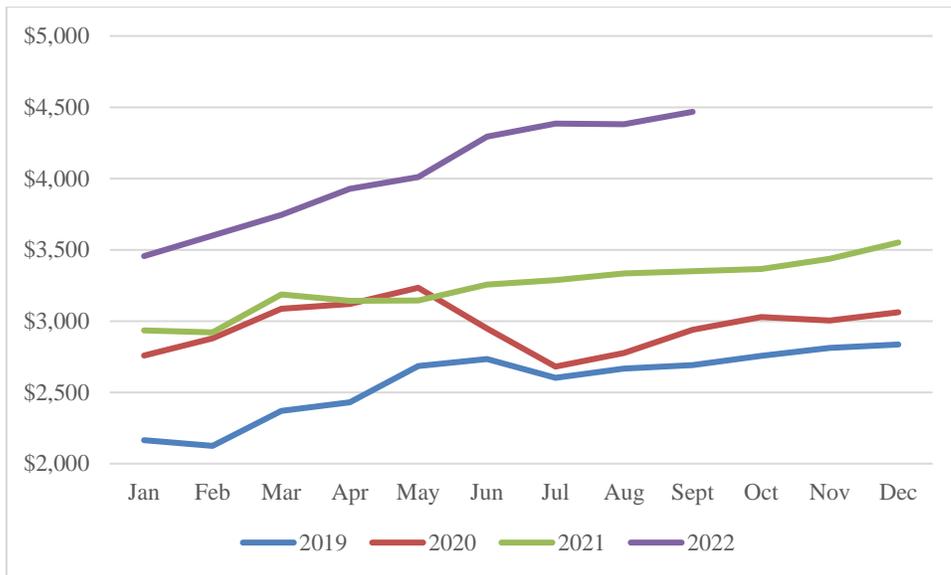
CONSUMPTION

SMP consumption in 2023 is forecast at 363 TMT, a 2 percent decline on higher imported SMP prices (see CHART 5) and increased domestic production of WMP. Chinese industry can often interchange WMP and SMP in their food processing enterprises. However, certain processors (such as low fat or nonfat dairy beverage and processed product manufacturers) prefer to use SMP.

TRADE

In 2023, SMP imports are expected to decline to 340 TMT, a year on year decline of 3 percent, on higher SMP import prices and increased domestic production of WMP. Domestic production of SMP is unlikely to affect imports as domestically produced SMP is made to order and minimal. New Zealand, Australia and the United States continue to dominate China's SMP imports; they accounted for nearly 70 percent of SMP imports in the first half of 2022.

CHART 5: China: Average SMP Import Price (U.S. \$/ Metric Ton)



Source: China Customs (TDM)

CHEESE

TABLE 4: PRODUCTION, SUPPLY AND DISTRIBUTION FOR CHEESE

Dairy, Cheese	2021		2022		2023	
Market Begin Year	Jan 2021		Jan 2022		Jan 2023	
China	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
1000 MT						
Beginning Stocks	0	0	0	0	0	0
Production	18	18	20	20	0	22
Other Imports	176	176	160	155	0	150
Total Imports	176	176	160	155	0	150
Total Supply	194	194	180	175	0	172
Other Exports	0	0	0	0	0	0
Total Exports	0	0	0	0	0	0
Human Dom. Consumption	194	194	180	175	0	172
Other Use, Losses	0	0	0	0	0	0
Total Dom. Consumption	194	194	180	175	0	172
Total Use	194	194	180	175	0	172
Ending Stocks	0	0	0	0	0	0
Total Distribution	194	194	180	175	0	172

Not Official USDA Data

PRODUCTION

Domestic cheese production in 2023 is forecast at 22 TMT as local producers continue to expand production at around the same pace as 2021. Generally, cheese production in China is focused on processed cheese products which incorporate imported cheese as an ingredient. China's top cheese producers' market processed cheese products for children. Some local dairy companies have also expanded into fresh mozzarella production.

The People's Republic of China and dairy associations are encouraging the development of a domestic cheese industry. The industry forecasts that over the next few years China's cheese production and retail consumption are expected to expand dramatically. FAS China is uncertain that the forecasted growth can be achieved in such a short period of time. This growth may be possible only if China's cheese manufacturers make substantial investments in new production lines. For more information on policies related to cheese production please refer to MARA's *14th Five-Year Plan Action Plan to Enhance the Competitiveness of Dairy Industry* and the 2022 China Dairy Semi-Annual Report (FAS GAIN [CH2022-0058](#)).

CONSUMPTION

Cheese consumption in 2023 is forecast at 172 TMT, a slight decline from estimated consumption in 2022, as prolonged COVID-19 restrictions weigh on the HRI sector. Imported cheese dominates natural cheese consumption in China. However, niche domestic cheese products have also appeared in the

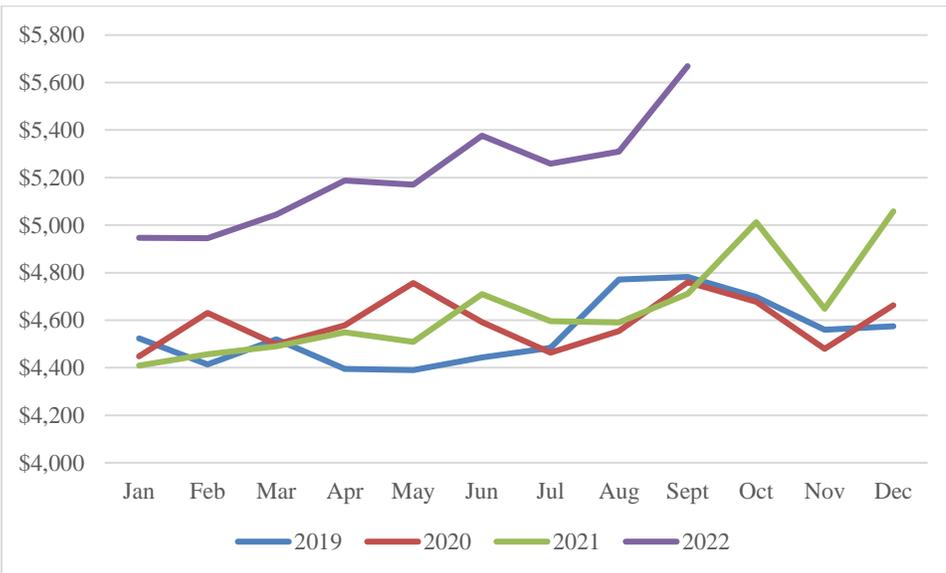
market and are advertised in supermarkets, e-commerce platforms and community buying groups. At the start of the COVID-19 pandemic, community buying groups flourished as a new way to purchase products online. These groups advertise select products for bulk purchases.

IMAGE 2. China: Refrigerated cheese shelf in a high-end retail market



In 2022, the average price of imported cheese rose sharply (see CHART 6) compared to prior years. Additionally, travel restrictions and lockdowns in China’s affluent cities continued throughout 2022. While traders and importers have become accustomed to logistics disruptions, reports indicate that these additional steps (including COVID-19 testing, disinfection, delayed customs clearance for imported cold-chain products) have increased costs.

CHART 6. China: Average Cheese Import Price (U.S. \$ / Metric Ton)



Source: China Customs (TDM)

TRADE

Cheese imports are forecast to decline to 150 TMT in 2023 from a reduced revised estimate of 155 TMT in 2022. As mentioned in the consumption section above and in the prior 2022 China Dairy Semi-Annual, cheese imports are primarily consumed in affluent cities in the South and Eastern provinces of China. Relatively high prices for imported cheese coupled with a slowdown in the economy, COVID-19 travel restrictions and logistical disruptions on cold chain products are expected to push imports lower.

New Zealand, Australia, Italy, Denmark, France, and the United States remain the top exporters of cheese products to China.

BUTTER

TABLE 5: PRODUCTION, SUPPLY AND DISTRIBUTION FOR BUTTER

Dairy, Butter	2021		2022		2023	
Market Begin Year	Jan 2021		Jan 2022		Jan 2023	
China	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
1000 MT						
Beginning Stocks	0	0	0	0	0	0
Production	109	11	109	13	0	12
Other Imports	145	139	170	140	0	130
Total Imports	145	139	170	140	0	130
Total Supply	254	150	279	153	0	142
Other Exports	2	2	2	2	0	1
Total Exports	2	2	2	2	0	1
Domestic Consumption	252	148	277	151	0	141
Total Use	254	150	279	153	0	142
Ending Stocks	0	0	0	0	0	0
Total Distribution	254	150	279	153	0	142

Unit: 1,000 MT. **Not Official USDA Data**

FAS China has proposed revisions to the data series for China's butter production, supply, and distribution to account for butter production.

TABLE 6: China Revised 10-Year Butter Production, Supply and Distribution³

Dairy, Butter	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Market Begin Year	Jan 2012	Jan 2013	Jan 2014	Jan 2015	Jan 2016	Jan 2017	Jan 2018	Jan 2019	Jan 2020	Jan 2021	Jan 2022	Jan 2023
China	New Post											
Beginning Stocks	0	0	0	0	0	0	0	0	0	0	0	0
Production	6	6	6	6	8	8	9	10	11	11	13	12
Other Imports	54	57	88	75	87	98	120	91	123	139	140	140
Total Imports	54	57	88	75	87	98	120	91	123	139	140	140
Total Supply	60	63	94	81	95	106	129	101	134	150	153	152
Other Exports	3	1	3	1	1	2	2	3	1	2	2	2
Total Exports	3	1	3	1	1	2	2	3	1	2	2	2
Human Dom. Con.	57	62	91	80	94	104	127	98	133	148	151	150
Other Use, Losses	0	0	0	0	0	0	0	0	0	0	0	0
Total Dom. Consumption	57	62	91	80	94	104	127	98	133	148	151	150
Total Use	60	63	94	81	95	106	129	101	134	150	153	152
Ending Stocks	0	0	0	0	0	0	0	0	0	0	0	0
Total Distribution	60	63	94	81	95	106	129	101	134	150	153	152

Source: FAS China Analysis, Unit: 1,000 MT, Not Official USDA Data

³ China's domestic butter production includes processed butter production.

PRODUCTION

In 2023, China's butter production will be limited by overall capacity and the cost of production. Domestic butter production has grown as large food manufacturers (such as bakeries or the food processing sector) have relied on local butter ingredients to meet demand. However, domestic butter is generally not produced for retail sale. For this reason, as the bakery sector demand tempers in 2023 domestic butter production is expected to slightly decline.

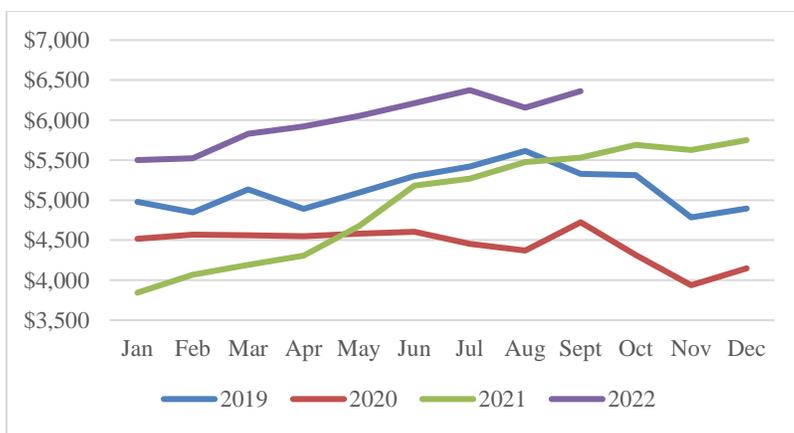
CONSUMPTION

In 2023, tight global dairy supplies and consequently high imported butter prices will lower imports (see CHART 7). Butter consumption in 2023 is expected to decline to 141 TMT, with imported butter accounting for 130 TMT of total consumption. Butter consumption is driven by large scale food manufacturers (such as bakery and food processing sector). Retail butter consumption is expected to continue to be supported by at-home baking, which grew in popularity during the COVID-19 pandemic.

IMAGE 3. China: Refrigerated cream and butter shelf in a high-end retail store



CHART 7. China: Average Butter Import Price (U.S. \$/ Metric Ton)



Source: China Customs (TDM)

TRADE

In 2023, butter imports are forecast to decline to 130 TMT on higher global butter prices (see CHART 7 above). China's imports of butter are dominated by New Zealand, which in the first nine months of 2022 accounted for over 87 percent of all butter imports by China.

WHEY AND WHEY PRODUCTS

The market outlook for whey and whey related products (HS040410, HS350220) appears to be on the decline. China Customs data indicates that in the first nine months of 2022, imports of whey and modified whey products (HS040410) saw an annual decline of over 26 percent, while HS350220 declined by nearly 6 percent. The average import price (in U.S. \$ per metric ton) for whey and modified whey products (HS040410) and HS350220 products, grew by 15 percent and 50 percent respectively

Importers of U.S. whey and whey related products are eligible for tariff exclusions under the Section 301 exclusion process (see Appendix section for more information).

APPENDIX

China's COVID-19 Testing and Disinfection Measures

In 2023, cold chain products, including certain dairy products, could face continued disruption challenges within China. On November 8, 2020, the State Council Task Force on Prevention and Control of COVID-19 issued a work plan for preventive disinfection of imported cold chain food. At the end of July 2021, local and provincial governments reacted to new COVID-19 outbreaks by implementing heightened inspections and/or testing for imported food, cold-chain products, port workers, and truck drivers.

Importers should be aware of China's COVID-19 testing and disinfection measures (see GAIN report [CH2022-0022](#)). These measures will require importers, ports and clearing officials to adapt. However, adjustments to changes will likely cause additional costs and delays for imported products.

Decree 248

On January 1, 2022, GACC began enforcing the Regulations on the Registration and Administration of Overseas Producers of Imported Food (Degree 248). The decree requires the registration of overseas food production and cold storage facilities that export most food, and a small number of animal feed, products to China. According to GACC Decree 248, dairy products are one of the 18 categories of products whose overseas producers must register with GACC through the competent authorities of their countries/regions. Exporters are encouraged to search for current information on Decree 248 and the facility registration process in the [GAIN system](#). FAS China is providing updates as information becomes available.

The current list of registered facilities is accessible on the [GACC website](#).

Retaliatory Section 301 tariffs

China maintains retaliatory Section 301 tariffs on most U.S. dairy products. On April 15, 2022 China extended tariff exclusions on whey for feed use (HS04041000, protein content by weight 2-7 percent and lactose content of 76-88 percent) through November 30, 2022 (See GAIN Report [CH2022-0050](#)).

On February 18, 2020, the State Council Tariff Commission (SCTC) announced a tariff exclusion process for U.S. agricultural commodities impacted by Section 301 retaliatory tariffs levied by China. Importers may apply for tariff exclusions which are approved on a case-by-case basis. These exclusions do not automatically extend to all importers. Please refer to GAIN Report [CH2020-0106](#) for more information on the exclusion process.

TABLE 7. China: Tariffs on U.S.-Origin Dairy Products

HS Code (8-digit)	Description	MFN Rate	Section 301	Total Applied Tariff
			Feb 14, 2020,	Feb 14, 2020
04011000	Milk & Cream, Fat ≤ 1%, Not	15%	27.5%	42.5%

	Concentrated or Sweetened			
04012000	Milk & Cream, 1%	15%	27.5%	42.5%
04014000	Milk & Cream,6%	15%	27.5%	42.5%
04015000	Milk & Cream, Fat > 10%, Not Concentrated or Sweetened	15%	27.5%	42.5%
04021000	Milk & Cream in Solid Forms, Fat ≤ 1.5%, Concentrated*	10%	25.0%	35.0%
04022100	Milk & Cream in Solid Forms Of >1.5% Fat, Concentra	10%	25.0%	35.0%
04022900	Milk & Cream in Solid Forms Of >1.5% Fat, Concentra	10%	25.0%	35.0%
04029100	Milk & Cream Not in Solid Form, Concentrated	10%	25.0%	35.0%
04029900	Milk & Cream Not in Solid Form, Concentrated, Sweetened	10%	25.0%	35.0%
04031000	Yogurt	10%	27.5%	37.5%
04039000	Buttermilk, Curdled/Fermented/Acidified Milk & Cream	20%	27.5%	47.5%
04041000	Whey and Modified Whey**	2%	25%	27.0%
04049000	Products Consisting of Natural Milk Constituents	20%	25.0%	45.0%
04051000	Butter	10%	25.0%	35.0%
04052000	Dairy Spreads	10%	25.0%	35.0%
04059000	Other Fats & Oils Derived from Milk	10%	25.0%	35.0%
04061000	Fresh Cheese, Incl. Whey Cheese, Curd	12%	27.5%	39.5%
04062000	Grated Or Powdered Cheese	8%	27.5%	35.5%
04063000	Processed Cheese, Not Grated or Powdered	8%	27.5%	35.5%
04064000	Blue-Veined Cheese, Other- Veined Cheese Prod. By P	8%	27.5%	35.5%
04069000	Cheese, Nesoi	8%	27.5%	35.5%

*SCTC enumerated Milk & Cream in Solid Form (HS04021000) and Whey for Feed Use (HS0404100), among other products, in the February 18, 2020 announcement.

**SCTC announced a tariff exclusion for Whey for Feed Use (HS0404100), among other products, effective April 15, 2022 to November 30, 2022. See GAIN Report [CH2022-0050](#) for more information.

Attachments:

No Attachments