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**Country:** China - People's Republic of

**Post:** Beijing

**Report Category:** Dairy and Products

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**Report Highlights:**

Improved production efficiency and a larger cattle inventory are expected to increase China's raw milk production by four percent, to over 42 million metric tons (MMT), in 2023. Strong raw milk production is forecast to support higher whole milk powder (WMP) production. Domestic WMP production will weigh on imports of both WMP and skim milk powder. However, imports of other dairy products such as cheese and butter are expected to rise in 2023 due to the end of zero-COVID restrictions.

## 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:** Total milk production in 2023 is forecast over 42 MMT, a 4 percent increase over 2022 from production efficiency gains and a larger cattle inventory. Fluid milk imports in 2023 are expected to slightly exceed 2022 levels, as the consumption recovers but domestic production weighs on imports.

**Whole Milk Powder (WMP):** WMP production forecast for 2023 is increased to nearly 1.8 MMT as excess raw milk is processed into WMP. WMP imports are reduced to 600 thousand MT (TMT) as some food processors increase usage of domestically produced WMP.

**Skim Milk Powder (SMP):** In 2023, SMP production is forecast at 25 TMT, but imports are reduced to 330 TMT similar to 2022 due to higher domestic WMP production. WMP and SMP are considered interchangeable ingredients for certain products.

**Cheese:** Domestic cheese production remains minimal but is expected to increase to 25 TMT on lower milk prices. In 2023, cheese imports are forecast at 150 TMT higher than 2022 rates as cheese consumption in the hotel, restaurant, and institutional (HRI) sector rebounds.

**Butter:** The butter imports in 2023 are forecast higher at 140 TMT as domestic demand rebounds following the end of COVID-19 restrictions. However, high import prices could weigh on imports.

**Policy:** At the end of 2022, the People's Republic of China (PRC) ended its COVID-19 testing and disinfection measures on imported cold chain products. This is expected to improve importation and distribution of imported dairy products.

## 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
Unit: (1,000 head), (1,000 MT)						
Cows In Milk	6200	6200	6400	6400	6600	6500
Cows Milk Production	36830	36830	39200	39320	40900	41000
Other Milk Production	1120	1120	1150	1150	1200	1180
Total Production	37950	37950	40350	40470	42100	42180
Other Imports	1268	1268	1075	977	1100	1000
Total Imports	1268	1268	1075	977	1100	1000
Total Supply	39218	39218	41425	41447	43200	43180
Other Exports	23	23	25	24	25	25
Total Exports	23	23	25	24	25	25
Fluid Use Dom. Consum.	15595	15595	16250	16263	16700	16700
Factory Use Consum.	23600	23600	25150	25160	26475	26455
Feed Use Dom. Consum.	0	0	0	0	0	0
Total Dom. Consumption	39195	39195	41400	41423	43175	43155
Total Distribution	39218	39218	41425	41447	43200	43180

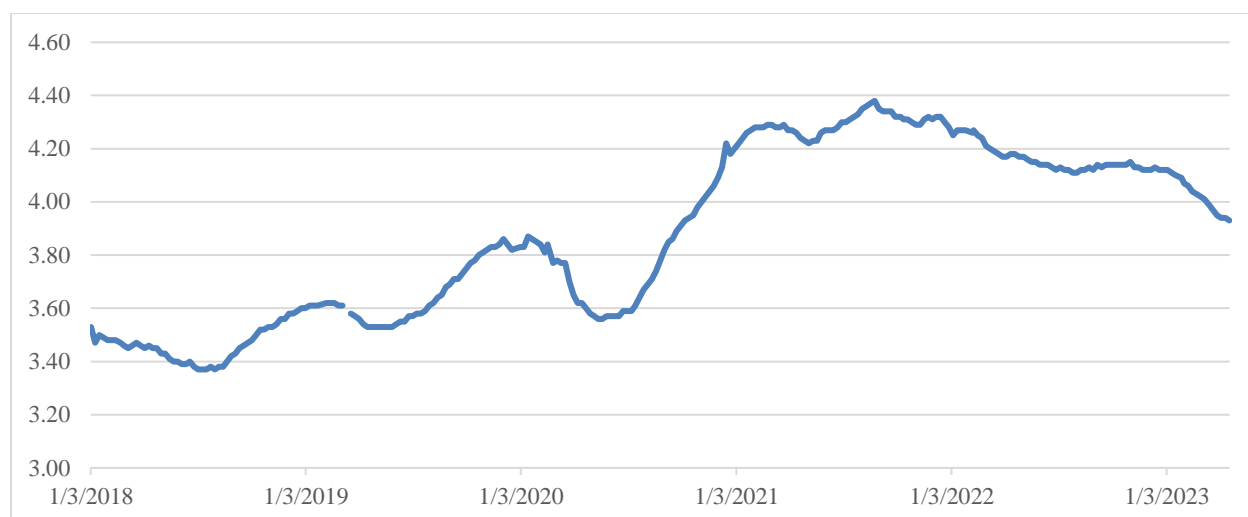
**Not Official USDA Data**

### PRODUCTION

Total milk production is forecast to exceed 42 MMT in 2023, a 4 percent increase over 2022. A larger inventory of high-quality dairy cows and improvements in farm management and technology will contribute to production gains. China's National Bureau of Statistics (NBS) first quarter (Q1) 2023 data noted an increase in raw milk production of 8.5 percent compared to last year.

China's milk production for 2022 has been updated based on NBS published data.

**CHART 1. China: Average Raw Milk Prices (Unit: RMB/KG)<sup>1</sup>**



Source: Ministry of Agriculture and Rural Affairs (MARA)

Post expects a slower rate of growth in production for the rest of 2023. The price of feed in China declined recently but remains generally high. Declines in raw milk prices (see **CHART 1**) and high feed costs reduce profit margins and will limit expansion in raw milk production.

As noted in previous reports, some small dairy farms with lower production efficiency and limited relationships with dairy processors are exiting the market. Even larger more efficient dairy farms are being impacted by low milk prices and are forced to reduce costs by culling inefficient dairy cows. According to media reports, in some areas, the cattle inventory has already shown slight declines compared to last year. However, growth among large scale dairy producers will more than offset the small-scale dairy producers exiting the market.

In 2022, the construction of new dairy farms continued with central and local government support programs. Some of these farms completed construction in 2022. However, new farms have slowed the pace of filling their farms with dairy cattle due to low milk prices. Cattle imports in Q1 2023 has also declined by nearly 50 percent, even as New Zealand live cattle imports are expected to end after April 30, 2023<sup>2</sup>.

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<sup>1</sup> The Average Raw Milk Prices refer to the average prices from the 10 major raw milk production provinces and autonomous regions of Hebei, Shanxi, Inner Mongolia, Liaoning, Heilongjiang, Shandong, Henan, Shaanxi, Ningxia, Xinjiang.

<sup>2</sup> As announced in July 2021, New Zealand will cease exports of livestock by sea by April 30, 2023, which will lower the supply of available cattle imports unless the PRC provides market access to other suppliers. Sources indicate that dairy cattle account for nearly 80 percent of total cattle imports.

**PICTURE 1: A Cross-bred Cattle Farm Run by A Family in Jilin Province**



## **CONSUMPTION**

Raw milk consumption is estimated to exceed 43 MMT in 2023, with growth in fluid and industrial use. Fluid use is expected to rise mainly due to consumption of ultra-high temperature (UHT) milk products, which account for most of the fluid milk consumed in China. Industry data showed growth of liquid milk, with consumption growth in UHT and fluid milk products requiring refrigeration. The uptick in refrigerated fluid milk consumption is an indicator of a gradual rebound in consumption following the end of COVID-19 restrictions.

Production of refrigerated milk products, such as pasteurized and extended shelf-life milk, is also expected to grow in 2023. This is a niche market with a minimal share of the fluid milk market. These products provide an opportunity for local niche producers to expand usage of domestically produced fresh raw milk. However, this industry also faces challenges. Raw milk production is concentrated in Northern China while consumption occurs mostly in southern and eastern China. Most of the new dairy farms are in Northern China - creating a disconnect between producing and consuming regions.

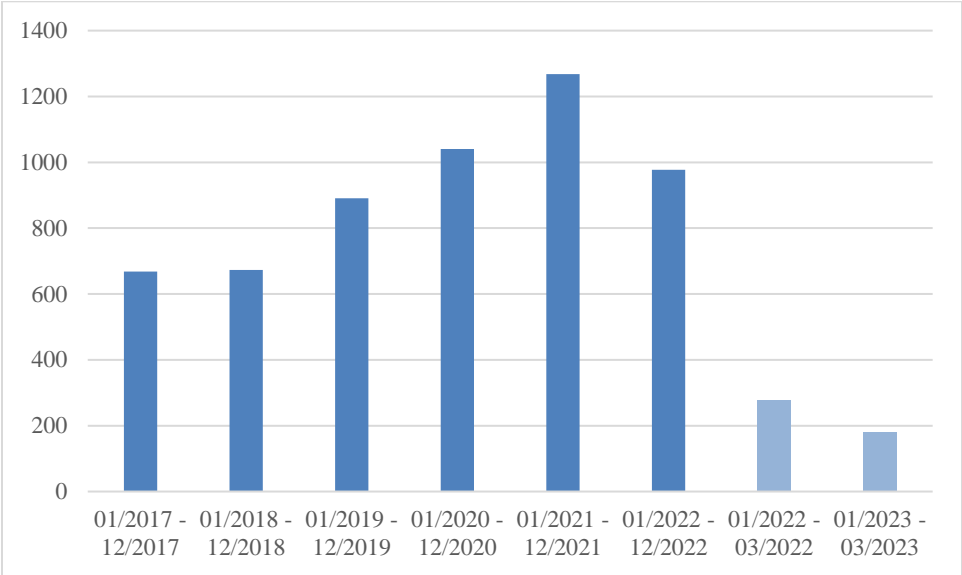
In 2023, factory usage is expected to show strong growth as increased raw milk production drives processors to convert raw milk into WMP.

## **TRADE**

Forecast fluid milk imports are reduced to 1 MMT. Despite the gradual recovery in consumption of fluid milk products imports will be lower due to by increased domestic production, lower domestic milk prices and high fluid milk import prices. In the first quarter of 2023, imports of

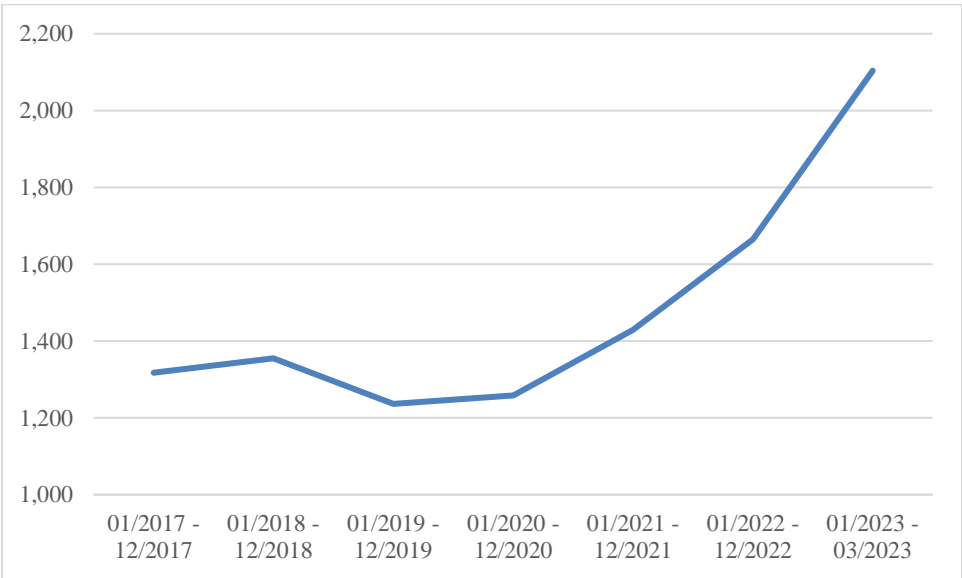
fluid milk products declined by nearly 35 percent, by volume (see **CHART 2**). Average prices, based on Chinese import data, rose by 34 percent (see **CHART 3**).

**CHART 2. China: Imports of Fluid Milk (Unit: 1,000 MT)**



Source: Trade Data Monitor

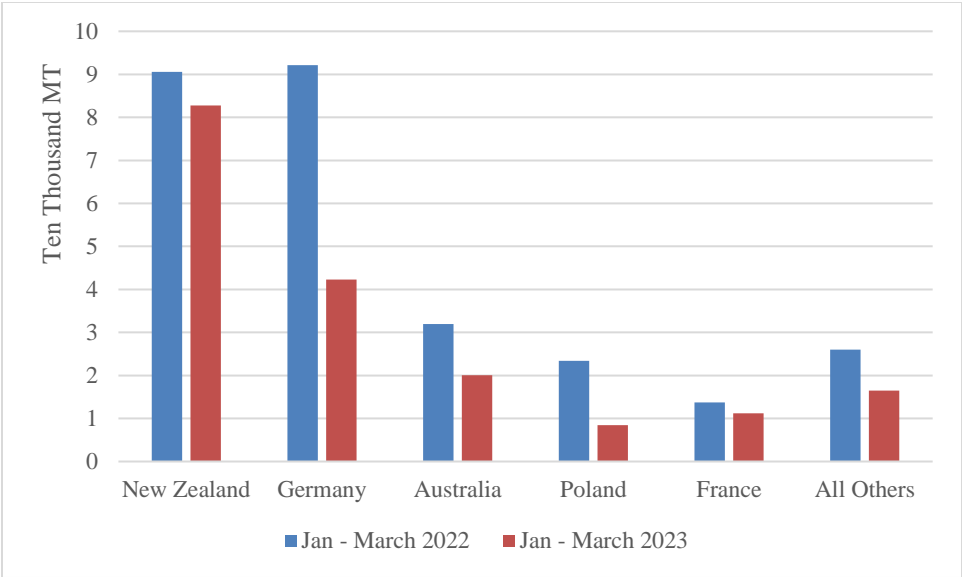
**CHART 3: China: Imported Fluid Milk Prices (Unit: USD/MT)**



Source: Trade Data Monitor

In Q1 2023, fluid milk imports continue to be dominated by New Zealand. China’s top five suppliers accounted for over 90 percent of total import volume (see **CHART 4**) all declined during this period.

**CHART 4. China: Imports of Fluid Milk in Q1 2023 (by Origin)**



Source: Trade Data Monitor

## 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
Unit: 1000 MT						
Beginning Stocks	100	100	150	150	150	170
Production	1010	1010	1050	1050	1125	1175
Other Imports	849	849	700	700	700	600
Total Imports	849	849	700	700	700	600
Total Supply	1959	1959	1900	1900	1975	1945
Other Exports	2	2	3	3	5	5
Total Exports	2	2	3	3	5	5
Human Dom. Consumption	1807	1807	1747	1727	1795	1740
Other Use, Losses	0	0	0	0	0	0
Total Dom. Consumption	1807	1807	1747	1727	1795	1740
Total Use	1809	1809	1750	1730	1800	1745
Ending Stocks	150	150	150	170	175	200
Total Distribution	1959	1959	1900	1900	1975	1945

**Not Official USDA Data**

### PRODUCTION

The WMP production forecast for 2023 is increased to nearly 1.18 MMT due to producers processing surplus raw milk into WMP. Local governments of major dairy production regions, including Inner Mongolia and Hebei, have indicated they will continue to provide subsidies for WMP production in 2023.

In 2023, WMP ending stocks are also expected to exceed 2022 levels due to higher WMP production. Reportedly, certain WMP storage facilities are already at full capacity.

### CONSUMPTION

In 2023, WMP consumption is expected to reach 1.74 MMT. In Q1 2023, usage of WMP in the bakery sector is gradually recovering. With larger domestic inventories of WMP, food processors are expected to substitute domestically produced WMP for imported WMP, dependent on product specifications.

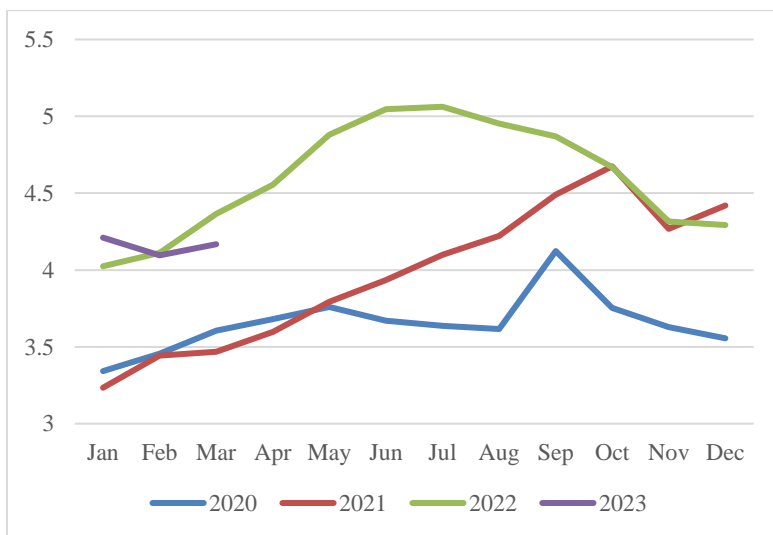


## TRADE

Imported WMP is perceived as a higher quality product with longer shelf life compared to domestically produced WMP. In 2023, importers note that international logistics and customs clearance returned to normal. However, WMP imports forecast in 2023 is reduced to 600 TMT on relatively strong imported WMP prices (see **CHART 5**) and as production of domestically produced WMP expands. For these reasons, the WMP import volume is expected to decline in 2023 (**CHART 6**).

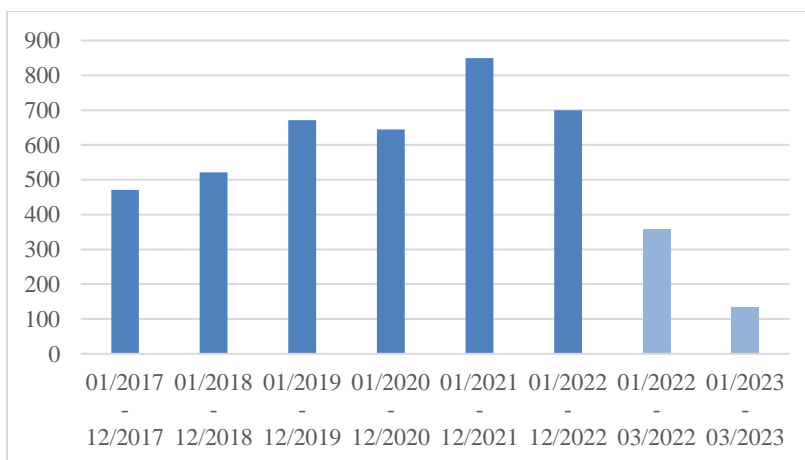
New Zealand remains the dominant supplier of WMP, accounting for over 90 percent of imports. New Zealand is followed by Australia.

**CHART 5: China: Imported WMP Prices (Unit: USD/MT)**



Source: Trade Data Monitor

**CHART 6. China: Imports of WMP (Unit: 1,000 MT)**



Source: Trade Data Monitor

## **China's Imports of New Zealand WMP Decline**

In December 2022, [GACC announced](#) that New Zealand milk powder products in transit had almost exhausted the preferential tariff quotas for 2023. This, combined with the high supply of domestic produced WMP appears to have caused WMP imports from New Zealand to decline over 60 percent in the first quarter.

The 2008 Free Trade Agreement between China and New Zealand gradually reduces tariffs on dairy products imported by China from New Zealand to zero by 2019. However, special safeguard measures have been adopted for milk, milk powder, butter, and cheese. Once the import volume exceeds the import trigger level, the agreed tariff rate no longer applies, but the rate snaps back to the most-favored-nation tariff. The applicable period for special safeguard measures for milk, butter and cheese products is from 2009 to 2021, and the applicable period of special safeguard measures for milk powder is from 2009 to 2023. Milk powder includes WMP and SMP. The HS Codes include: 04021000, 04022100, 04022900, and 04029100.

## SKIM MILK POWDER

**TABLE 4: 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
Unit: 1000 MT						
Beginning Stocks	0	0	0	0	0	0
Production	22	22	24	25	25	25
Other Imports	426	426	330	335	320	330
Total Imports	426	426	330	335	320	330
Total Supply	448	448	354	360	345	355
Other Exports	2	2	1	1	2	2
Total Exports	2	2	1	1	2	2
Human Dom. Consumption	446	446	353	359	343	353
Other Use, Losses	0	0	0	0	0	0
Total Dom. Consumption	446	446	353	359	343	353
Total Use	448	448	354	360	345	355
Ending Stocks	0	0	0	0	0	0
Total Distribution	448	448	354	360	345	355

**Not Official USDA Data**

### PRODUCTION

In 2023, SMP production forecast remains at 25 TMT. China's SMP supply mainly comes from imports. Domestic SMP production is minimal and is expected to remain stable. Domestic SMP production is based on advanced orders from food processors and manufacturers.

### CONSUMPTION

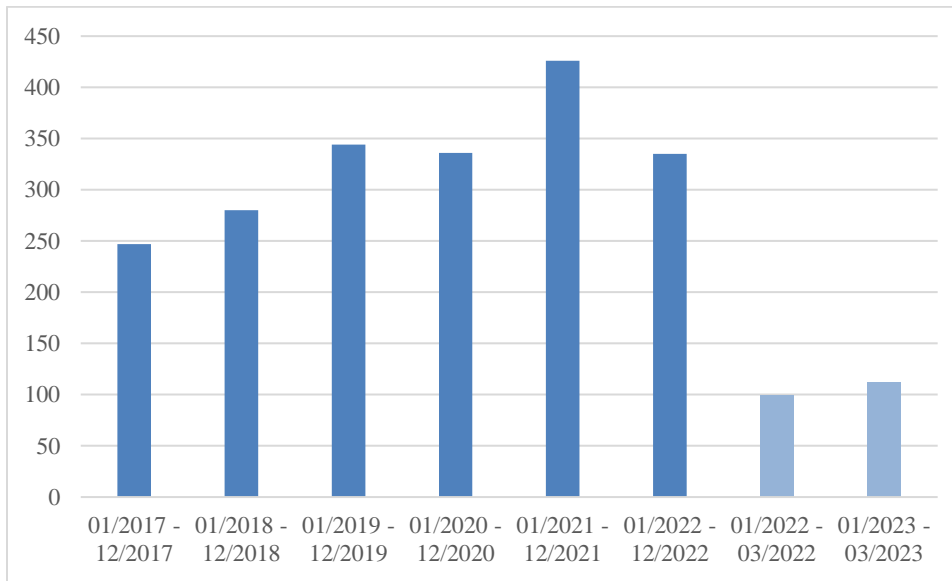
China's SMP consumption forecast for 2023 is revised down to 353 TMT, similar to 2022. WMP and SMP are often interchangeable in food processing - except for use in low fat or nonfat dairy beverage and processed food. The declining price of domestic WMP this year is expected to encourage food processors to use WMP.

China's SMP supply is dominated by imported products. In the first quarter of 2023, as imported SMP prices declined (see TRADE Section below, **CHART 7** and **CHART 8**) consumption increased over the same period of last year.

## TRADE

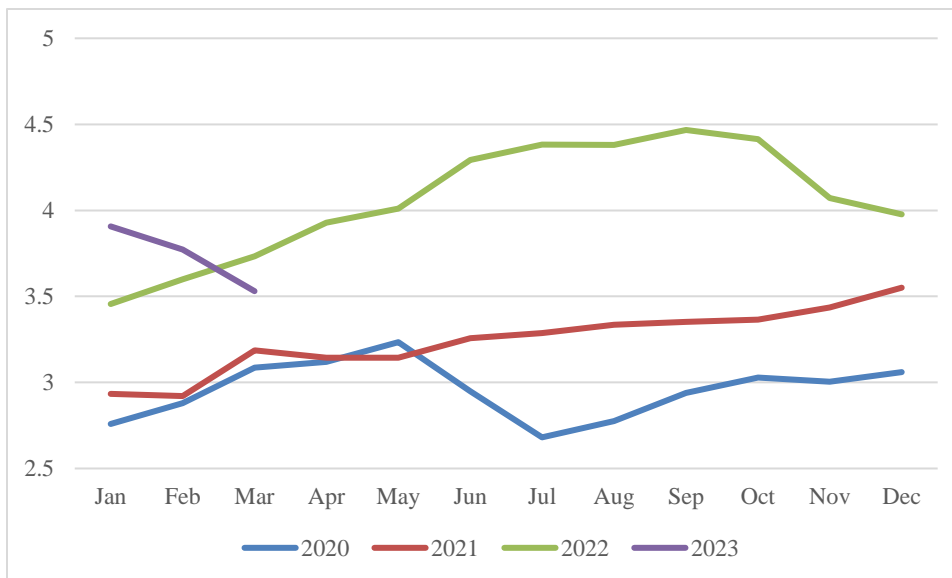
SMP imports forecast in 2023 is reduced to 330 TMT, similar to 2022. Domestic SMP production remains minimal. Domestic production of WMP (at times interchangeable with SMP) is expected to reduce SMP imports. In Q1 2023, the declining price of imported SMP (see **CHART 8**) led to increased imports.

**CHART 7. China: Imports of SMP (Unit: 1,000 MT)**



Source: Trade Data Monitor

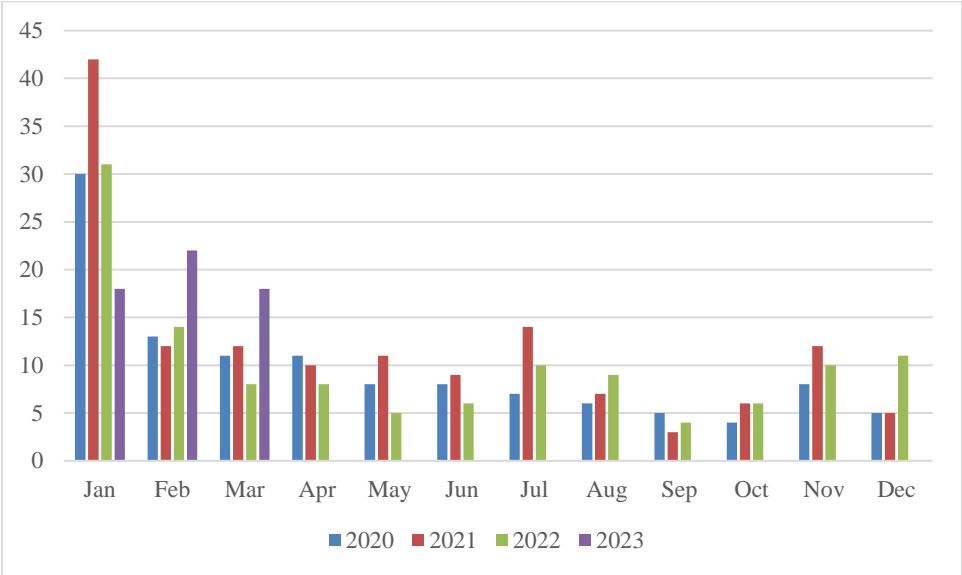
**CHART 8: China: Imported SMP Prices (Unit: USD/MT)**



Source: Trade Data Monitor

New Zealand continues to dominate the market for SMP imports, accounting for more than half of China’s SMP imports, followed by Australia and the United States.

**CHART 9. China: Monthly Imports of SMP from New Zealand (Unit: 1,000 MT)**



Source: Trade Data Monitor

As noted in the WMP trade section, New Zealand receives preferential tariffs up to a certain limit for milk powder products and 2023 is the last year for special safeguard measures on milk powder. Previously, importers had rushed to secure allocations of the safeguard quota at the beginning of the year. This caused imports to concentrate in January.

In December 2022, GACC announced that New Zealand milk powder products in transit had almost exhausted the preferential tariff quotas for 2023. For this reason, importers are not incentivized to import more SMP from New Zealand in January but are expected to import SMP at a relatively consistent level throughout the year (see **CHART 9**).

## CHEESE

**TABLE 5: 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
Unit: 1000 MT						
Beginning Stocks	0	0	0	0	0	0
Production	18	18	20	20	22	25
Other Imports	176	176	145	145	150	150
Total Imports	176	176	145	145	150	150
Total Supply	194	194	165	165	172	175
Other Exports	0	0	0	0	0	0
Total Exports	0	0	0	0	0	0
Human Dom. Consumption	194	194	165	165	172	175
Other Use, Losses	0	0	0	0	0	0
Total Dom. Consumption	194	194	165	165	172	175
Total Use	194	194	165	165	172	175
Ending Stocks	0	0	0	0	0	0
Total Distribution	194	194	165	165	172	175

**Not Official USDA Data**

### PRODUCTION

Domestic cheese production forecast in 2023 is increased to 25 TMT as low raw milk prices incentivize increased production. The decline in domestic raw milk prices is expected to encourage a small number of local producers to expand cheese production in 2023. Cheese consumption is expected to continue to grow - incentivizing further investment and expansion.

Cheese production from domestic raw milk remains limited. Most cheese produced in China incorporates imported cheese as an ingredient. To avoid double counting, domestic cheese production in this report refers only to cheese produced from domestic raw milk.

### CONSUMPTION

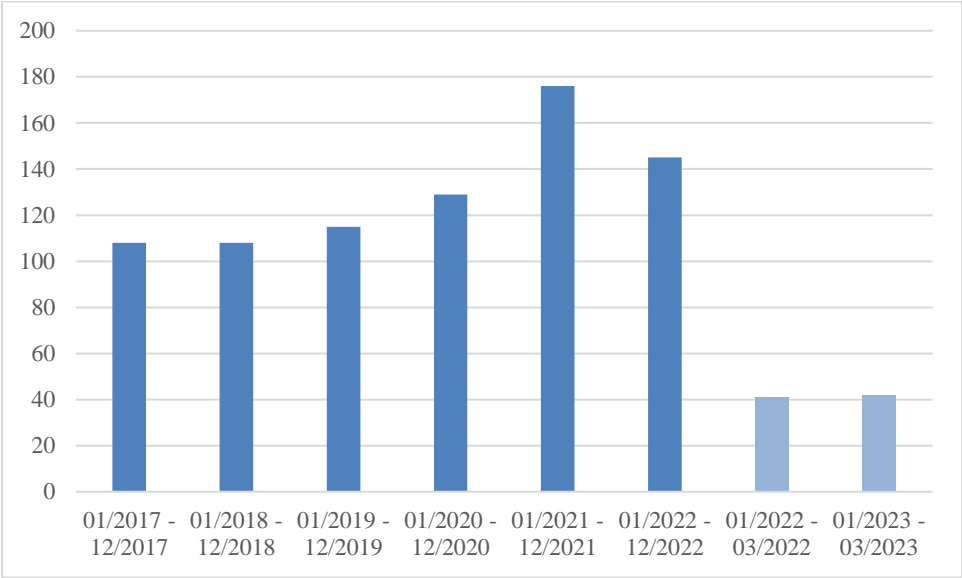
The cheese consumption forecast for 2023 is increased to 175 TMT due to growth in domestic supply. The gradual economic recovery is expected to boost demand for cheese products. E-commerce and community group buying are expected to remain popular and convenient. Cheese consumption is expected to remain concentrated in affluent cities in the southern and eastern provinces where high-income consumers are less affected by economic pressures.

However, high prices for imported cheese could curb the growth of cheese consumption in 2023 as the economy is only gradually recovering. For example, in Q1 2023, some off-line retailers such as supermarkets reported lower cheese sales.

**TRADE**

Cheese imports in 2023 are forecast at 150 TMT. Recovering cheese demand from HRI will support increased imports. Additionally, the PRC’s removal of COVID-19 testing and disinfection requirements for imported cold-chain products is expected to support the improved distribution of imported cheese products. In Q1 2023, cheese imports grew slightly (see **CHART 10**) despite higher import prices (see **CHART 11**) - indicating strong consumer demand for imported cheese products.

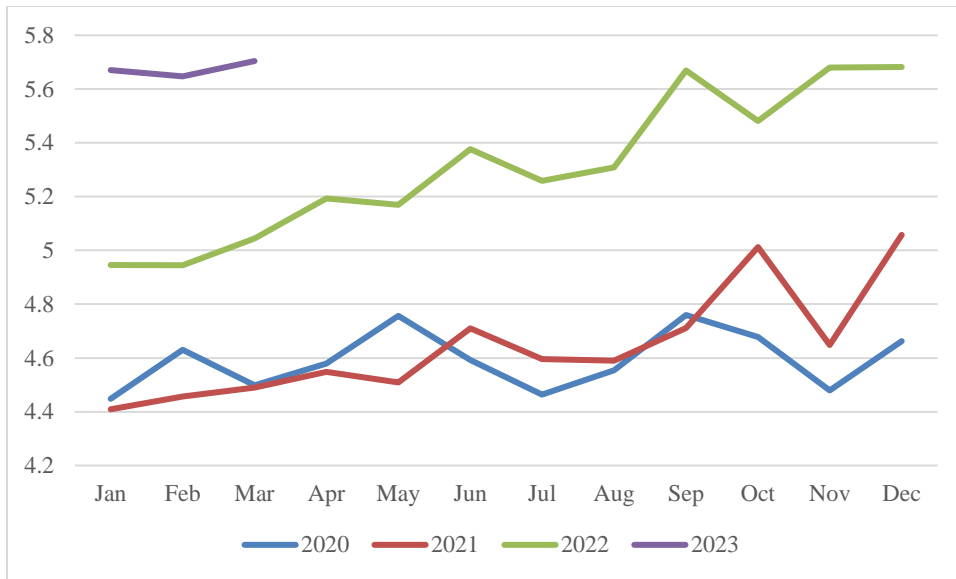
**CHART 10. China: Imports of Cheese (Unit: 1,000 MT)**



Source: Trade Data Monitor

New Zealand dominates the market, accounting for nearly 70 percent of all imports. Other major suppliers, including Australia, Italy, and the United States, exported less in Q1 2023 than in Q1 2022.

**CHART 11: China: Imported Cheese Prices (Unit: USD/MT)**



Source: Trade Data Monitor

## **POLICY**

National Food Safety Standard - Processed Cheese and Cheese Products GB 25192-2022 came into effect on December 30, 2022. The new national standard divides processed cheese products into processed cheese and processed cheese products according to the proportion of raw cheese ingredients. The raw cheese usage ratio of processed cheese is adjusted from more than 15 percent to more than 50 percent, and products with a cheese ratio between 15 percent and 50 percent can be called "cheese products". The new standard is expected to improve the overall quality of the processed cheese production in China. Cheese imports can also benefit from this new standard as more raw cheese is required to produce processed cheese.



## BUTTER

**TABLE 6: 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	11	11	13	13	17	17
Other Imports	139	139	153	153	140	140
Total Imports	139	139	153	153	140	140
Total Supply	150	150	166	166	157	157
Other Exports	2	2	2	2	2	2
Total Exports	2	2	2	2	2	2
Domestic Consumption	148	148	164	164	155	155
Total Use	150	150	166	166	157	157
Ending Stocks	0	0	0	0	0	0
Total Distribution	150	150	166	166	157	157

Not Official USDA Data

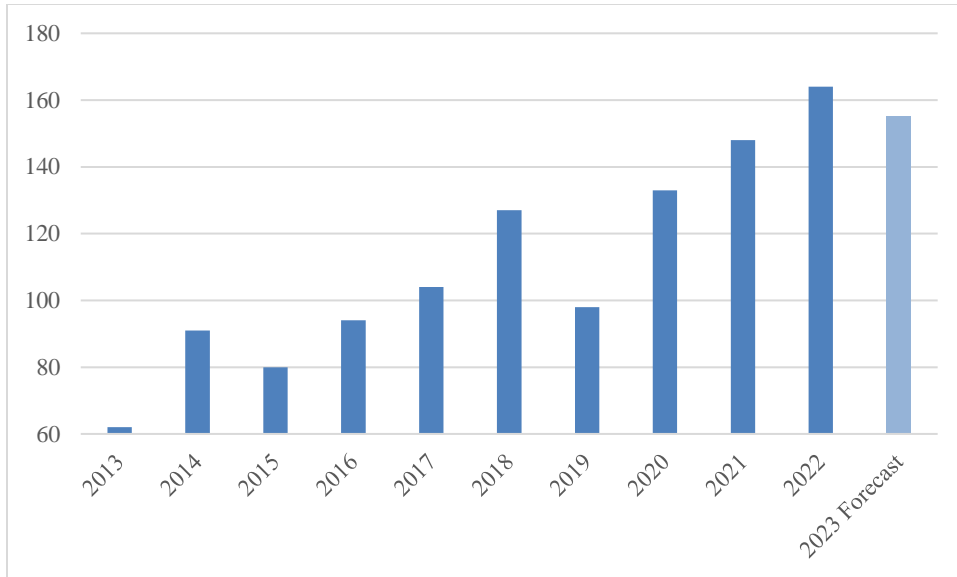
### PRODUCTION

The Butter production forecast is increased to 17 TMT as low domestic raw milk prices incentivize increased production. In the FAS [China 2022 Dairy Annual Report](#), Post proposed revisions to the data series for China's butter production, supply and distribution to account for butter production.

### CONSUMPTION

Imported butter dominates China's butter consumption. In 2023, butter consumption is expected to decline due to high import prices. Processors may choose to use plant based (or artificial) butter to manage price increases. China's domestic butter production is not expected to mitigate the decline in overall consumption. In 2023, demand from bakeries, the food processing sector, and retail is expected to lessen overall consumption decline due to high import prices. Despite the decline, butter consumption in 2023 remains historically high (see **CHART 12**).

**CHART 12. China: 10-Year Butter Consumption (Unit: 1,000 MT)**



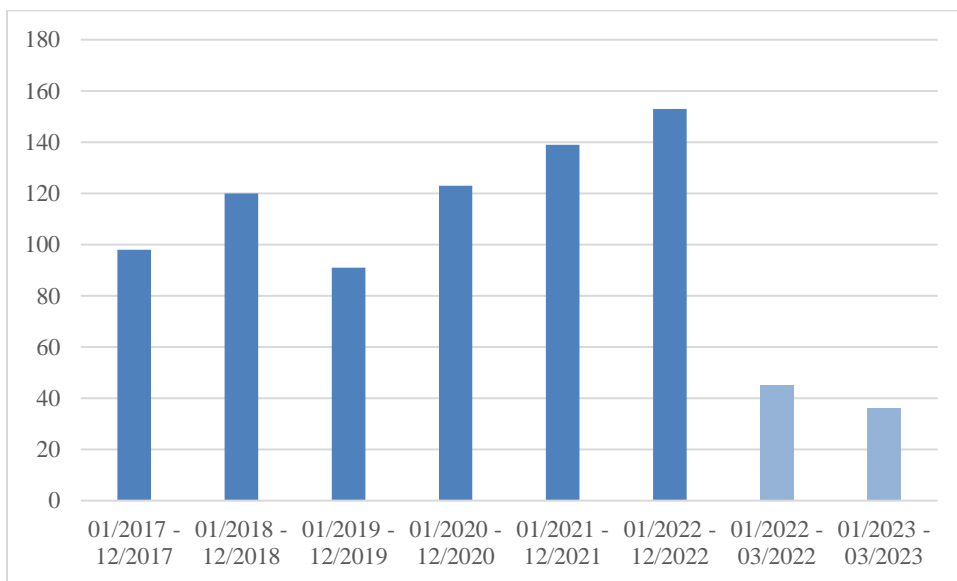
Source: FAS China Domestic Production Estimates and China Customs Data

**TRADE**

Forecast 2023 butter imports are expected to reach 140 TMT with gradual recovery in demand. They will remain below 2022 rates due to high global butter prices. In 2023 Q1, the import price and lower import volume remained in line with our forecast (see **CHART 13 & 14**).

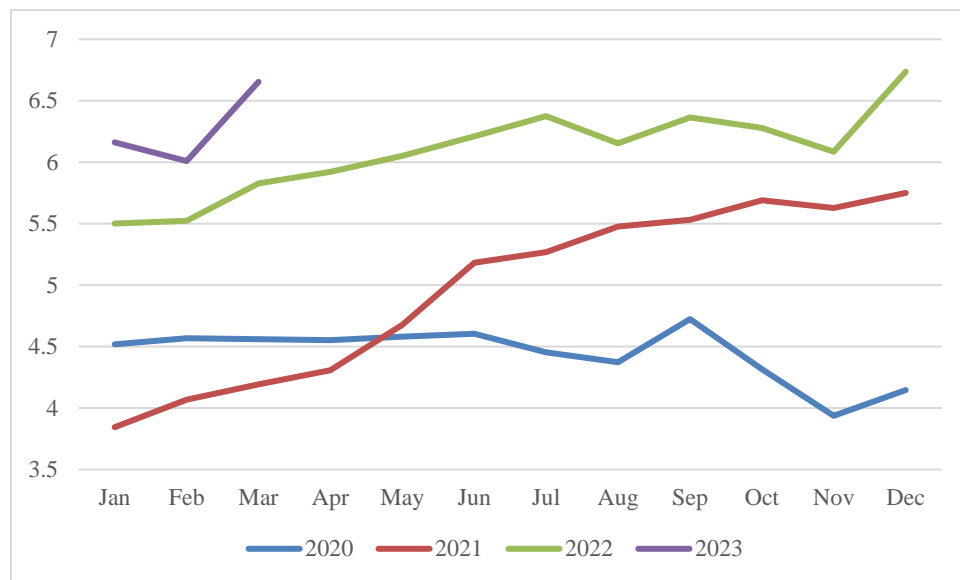
China’s imports of butter are expected to continue to be dominated by New Zealand which, in the first quarter of 2023, accounted for over 90 percent of all butter imports by China.

**CHART 13. China: Imports of Butter (Unit: 1,000 MT)**



Source: Trade Data Monitor

**CHART 14: China: Imported Butter Prices (Unit: USD/MT)**



Source: Trade Data Monitor

## WHEY AND WHEY PRODUCTS

Whey and whey related products showed different trends in early 2023. In the first quarter of 2023, imports of whey and modified whey products (HS040410) grew by over 57 percent, while the average import price (in U.S. \$ per metric ton) declined by 6 percent. Imports of whey related products (HS350220) products declined by nearly 15 percent, while the average import price increased by 23 percent.

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

### *Retaliatory Section 301 tariffs*

China maintains retaliatory Section 301 tariffs on most U.S. dairy products. On November, 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 May 31, 2023 (See GAIN [CH2022-0131](#) Report).

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
		Jan 1, 2023	Feb 14, 2020,	Jan 1, 2023
04011000	Milk & Cream, Fat ≤ 1%, Not Concentrated or Sweetened	15%	27.5%	42.5%
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%
04032010	Yogurt: Whether or not concentrated, other than the additives allowed to be added, only containing added sugar or other sweetened matter or flavored or containing added fruit, nuts or cocoa	10%	27.5%	37.5%
04032090	Yogurt, Nesoi	10%	25%	35%
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 from December 1, 2022 to May 31, 2023. See GAIN Report [CH2022-0131](#) for more information.

**Attachments:**

No Attachments