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Report Highlights:

Taiwan's MY 2021 fluid milk consumption is expected to decrease to 521,000 MT due to import delays resulting from the Covid-19 pandemic. MY 2021 domestic production of cow's milk is estimated flat at 437,000 MT while imports are estimated to fall to 72,000 MT. In April 2021, Taiwan reported the first case of lumpy skin disease (LSD) on the main island of Taiwan and subsequently vaccinated all cattle for LSD. The United States remains the largest exporter of fluid milk to Taiwan. However, New Zealand saw another significant increase in market share this year as it moves toward full duty-free access for dairy products in 2025 under the ANZTEC agreement.

Abbreviations and Acronyms Used in this Report Include:

AIT: American Institute in Taiwan

AMS: Agricultural Marketing Service, USDA

ANZTEC: Agreement Between New Zealand and the Separate Customs Territory of Taiwan

APHIS: Animal and Plant Health Inspection Service, USDA

COA: Council of Agriculture, Taiwan

CY: Calendar Year

EAST: Environment and Animal Society of Taiwan

FAS: Foreign Agricultural Service, USDA

HA: Hectare

HS: Harmonized Commodity Description and Coding System (tariff codes)

MOEA: Ministry of Economic Affairs, Taiwan

MT: Metric Tons

MY: Marketing Year

NAIF: National Animal Industry Foundation

PSD: Production, Supply, and Distribution

TFDA: Taiwan Food and Drug Administration

WTO: World Trade Organization

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Commodities:

Dairy, Milk, Fluid

Production:

MY 2021 cow's milk production is estimated flat at 437,000 MT. MY 2022 cow's milk production is forecast up slightly at 440,000 MT. MY 2020 cow's milk production was 437,155 MT according to official statistics. In the second quarter of 2021, Taiwan had 556 dairy cattle farms with average of 224 head per farm (including milking cows and unborn cows) and 217 dairy goat farms with average of 176 head per farm (including milking goats and unborn goats).

In April 2021, the Taiwan Council of Agriculture (COA) reported the first case of lumpy skin disease (LSD) on the main island of Taiwan, found at New Taipei City. (Taiwan's outlying Kinmen Islands reported cases in July 2020.) By mid-May 2021, all cattle on Taiwan (the main island and outlying areas) were vaccinated against LSD. Post-vaccination, there was no significant reported decrease in production.

Taiwan's domestic dairy industry relies heavily on imported feed with only one quarter of hay supplied domestically. Due to the ongoing effects of the Covid pandemic on the shipping industry, delayed shipments continue to be a problem for Taiwan's dairy producers. Dairy farms typically hold about one month of feed stock, and local producers report that they remain concerned over the possibility of feed shortages.

Taiwan has four standard levels of raw milk quality based on Somatic Cell Count (SCC) from Grade A to Grade D. The higher the SCC count, the lower the quality. Milk processors will purchase only Grades A and B. Grade A milk accounts for over 95 percent of total milk production for past five years while Grade B makes up two to three percent. In 2020, the average SCC was 222,000/mL in raw milk. Thanks to Taiwan's ongoing improvements in dairy technology, milk yield per head continues to increase, with an average of 19.04 kg/cow/day in 2020. Dairy cows account for 97 percent of domestic milk production in Taiwan with the other three percent supplied by dairy goats.

Taiwan Raw Milk Standard

	A GRADE	B GRADE	C GRADE	D GRADE
SCC (THOUSAND/ML)	<300	300-500	600-800	800-1000

Source: COA

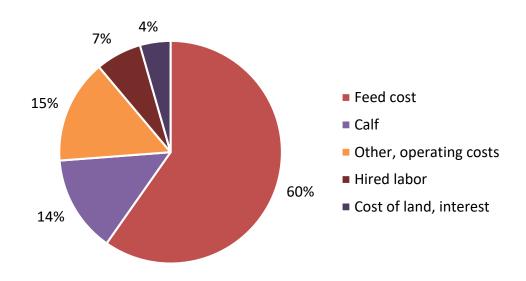
Taiwan Raw Milk Quality (2011-2020)

YEAR	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
SOMATIC CELL COUNT	26.1	27.1	27.4	27.5	25.6	24.8	23.5	22.6	22.7	22.2
TOTAL PLATE COUNT	1.6	1.7	1.7	1.6	1.6	1.6	1.6	1.5	1.4	1.4
A & B GRADE (%)	99.4	99.1	99	99	99.3	99	99.3	99.6	99.6	99.8

Source: Taiwan Diary Industry Association

According to COA's annual livestock cost of production analysis report, the cost of milk production in 2020 remained stable at US\$ 87.7/100 kg raw milk (NTD 2421/100 kg raw milk), or about 1.7 percent lower than 2019. The dairy farm input-output ratio is 1.32.

Taiwan 2020 Milk Production: Cost Breakdown



Source: COA

Taiwan's domestic milk industry has been watchful of the competitiveness of its fluid milk supply due to the increasing impact of the Agreement Between New Zealand and the Separate Customs Territory of Taiwan (ANZTEC, see Trade section). Taiwan's dairy industry has stopped importing dairy cattle in preparation of the expected trade flow adjustment in the near future. Milk processors will now specify only Grade A grade for new contracts. Industry expects more wasted raw milk and is actively developing more diverse products to adjust to the changing market.

In April 2021, COA and the Environment and Animal Society of Taiwan (EAST) created a <u>guidebook for a friendly milk production system</u> (Chinese only) to enhance animal welfare. Although this is only the first version of an animal welfare-focused dairy production system, the guidebook may push the dairy industry to become more

involved in animal welfare and corporate social responsibility. EAST also certified the first Animal Welfare Approved milk this year (pictured below).



First "Animal Welfare Approved" (Certified by EAST)

Taiwan Fresh Milk Production (2016-2020)

	YEAR	2016	2017	2018	2019	2020
	Dairy cattle farm	545	553	553	559	560
DAIRY	Total dairy cow (head)	129,071	130,413	132,995	115,685	118,408
CATTLE	Milking cow (head)	59,601	60,523	61,967	61,813	62,916
CATTLE	Milk production (MT)	378,488	386,362	419,342	431,879	437,155
	Milk yield kg/cow/day	17.4	17.49	18.54	19.14	19.04
	Dairy goat farm	269	264	244	233	223
DAIRY	Total dairy goat (head)	47,269	45,365	42,793	43,132	38,543
GOAT	Milking goat (head)	28,491	27,384	26,336	25,764	23,014
	Milk production (MT)	14,846	14,200	13,975	14,000	13,199

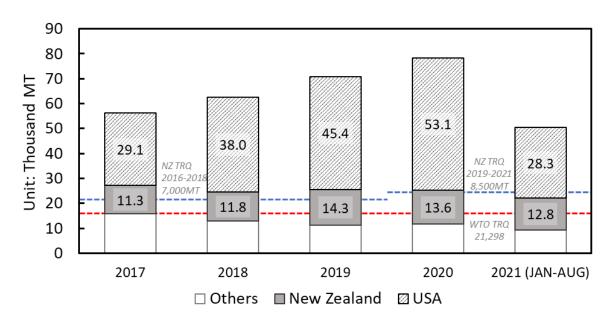
Source: COA

Trade:

MY 2021 imports are expected down to 72,000 MT, mainly due to delayed shipments during the COVID pandemic, as available supply failed to meet demand in recent months. Total fluid milk imports for the first eight months of 2021 reached 50,714 MT, a 10 percent decline from the same period past year. Because fluid milk demand remains strong, MY 2022 fluid milk import are forecast back up to 80,000 MT, factoring in a return to pre-pandemic shipping levels.

The United States remains the largest exporter of fluid milk to Taiwan while New Zealand saw another significant increase market share this year. Fluid milk volume from New Zealand for the first eight months of 2021 has nearly surpassed the complete 2020 volume. In 2021 to date, the United States has 65 percent market share and New Zealand has 21 percent. Under ANZTEC, New Zealand's progressively larger duty-free quota for fluid milk is 8500 MT in 2021 and will become unlimited in 2025. New Zealand's competitive and tariff advantage will have significant effects on domestic production and import competition. As Taiwan consumers continue to warm up to extended shelf life (ESL) milk, Taiwan will also likely see new export entrants into this emerging piece of the market.

Taiwan Fluid Milk Imports by Country 2017-2021



Source: COA (Includes HS codes: 0401, 04029910, 04029920,04029992, 04039029, 04039040, 04039059, 04039090, 18069053, 18069055, 19019025, 19019027)

Consumption:

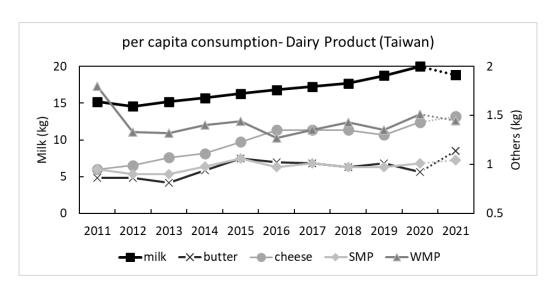
2020 per capita consumption of fluid milk in Taiwan reached a record high of 19.99 kg. The ongoing Westernization of Taiwan's diet, health-conscious consumers, and the popularity of added-milk beverages (such as Taiwan's now globalized bubble tea) are all drivers of increasing consumption. Fresh milk and extended shelf-life (ultra-pasteurized, refrigerated) milk has gradually been replacing long-life milk's market share as a result of Taiwan's expanded cold chains in transportation and retails, as well as popularity fresh milk's wider availability.

Taiwan has an ever-increasing number of convenience stores, coffee shops, and bubble tea shops pushing higher demand of fluid milk. During the summer of 2021, Taiwan entered Level 3 pandemic alert for three months, which saw a significant decline in sales for these drink industries. However, it was substantially offset by an increase in at-home demand and overall demand continues to increase.

According to the dairy market research from CLAL, Taiwan's per capita dairy product consumption (milk equivalence) also continues to climb. It was 54.77 kg in 2020, which is still lower than Japan and Korea. Although the plant-based milk market is growing, to date it does not show significant impact on fluid milk market.



California ESL milk in the supermarket (left) /plant-based milk and long-life milk (right)



Source: CLAL NOTE: The 2021 estimate is based on 2011-2020 consumption trends

Taiwan per capita Dairy Consumption with Selected Comparisons (fluid milk equivalence)

Taiwan Consumption	2016	2017	2018	2019	2020	2021 (Est.)	2020 Japan	2020 US	2020 China	2020 South
Milk Equivalence (kg)#	48.60	50.08	50.74	50.75	54.77	53.91	64.83	225.69	22.71	Korea 67.7

Source: CLAL

Products included: Milk, SMP, WMP and Cheese. 1 kg SMP=10.72 kg milk; 1 kg WMP=7.81 kg milk; 1kg cheese=8.5 kg milk

Marketing and Price Data:

The five largest domestic dairy processors in Taiwan are Uni-president(統一), Kuang Chuan(光泉), WeiChuan(味全), I-Mei(義美) and Fresh Delight/Standard Food(福樂). Kirkland, Standard Food and I-Mei are the three largest fresh milk importers. Some companies promote fresh milk from single-origin or regional dairy farms to promote identity preservation or regional differentiation. One such product is produced by Milk House, a crowdfunded social enterprise whose primary funder is a veterinarian. In recent times, it's not unusual to find at least 10 brands of fresh milk on a Taiwan supermarket shelf.



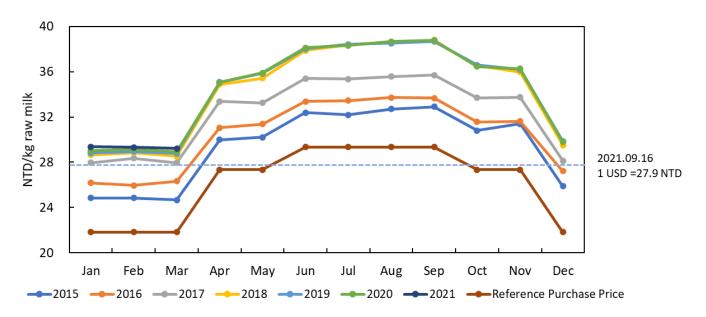
The management team of Milk House and their product.

COA sets reference prices for raw milk based on fat percentage, non-fat solids percentage, and raw milk standards. The reference raw milk purchase price is divided into three seasons, with the hot summer season (June-September) having the highest price. The actual purchase price is about 0.2 USD/kg higher than reference price since 2018.

Reference Purchase Price	NTD/kg	USD/kg
(2016.1-2021.08 / Median Level)	NTD/kg	(2021.09.16 1USD=27.6NTD)
December-March (Cold)	21.84	0.79
April-May &October-November (Warm)	27.34	0.99
June-September (Hot)	29.34	1.06

Source: Animal Product Price Searching System (COA) http://price.naif.org.tw/Query/Query_now.aspx

Taiwan Raw Milk Average Price 2015-2021



Source: Taiwan Dairy Manufacturers' Association

Policy:

After Taiwan's WTO accession in January 2002, fluid milk imports are subject to Tariff Rate Quota (TRQ) and Special Safeguard (SSG) controls. Sheep and goat milk are not included in the TRQ and SSG controls.

Tariff Rate Quota (TRQ): The annual TRQ volume for fluid milk is 21,298 MT with 15 percent in-quota tariff while the out-of-quota is NT\$15.6/kg. Import quota rights are auctioned once a year. All importers registered with Taiwan's Board of Foreign Trade are eligible to bid on quota rights. The Bank of Taiwan administers the TRQ allocations through the competitive process. The minimum quantity for bidding is 250 MT and the maximum quantity is 4,259 MT. The auction time of fluid milk is in November for the following year and March for the remaining quota for the year.

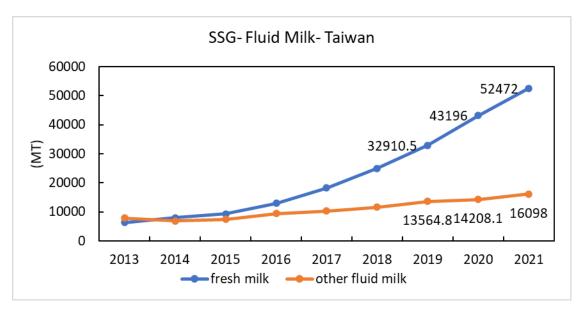
In 2021, as specified under ANZTEC, 8500 MT of fluid milk from New Zealand is eligible to enter Taiwan duty free. From 2022-24, the fluid milk tariff quota of New Zealand will increase to 10,000 MT. All tariff restrictions for New Zealand dairy products will end by 2025.

Special Safeguard (SSG): Taiwan also adopted an SSG to control the volume and price of fluid milk. The SSG volume/price will be announced at the beginning of each year and the volume is measured by the 3-year average consumption change and import volume. The 2021 SSG volume for fluid milk is 52,742 MT for fresh milk and 16,098 MT for other fluid milk with a total of 68,840 MT. If fluid milk imports exceed the notified SSG volume, an additional 33.3% tariff rate is imposed. The SSG price trigger for fluid milk is NTD 17 CIF/liter.

Fresh Milk: 04011010, 04012010, 04014010, 04015010, 04029910

Other Fluid Milk: 04011020, 04012020, 04014020, 04015020, 04029920, 04029992, 04039029, 04039040, 04039059, 04039090, 18069053, 18068055, 19019025, 19019027

Because of the strong demand for fluid milk, imports of fresh milk hit the SSG volume between July and September for the past 5 years, while other fluid milk reached the volume in October or November.



Source: Customs Administration, Ministry of Finance

Sanitation Standard and Import Regulation:

The "Sanitation Standard for Milk and Milk products" was repealed on July 1st 2021 and the current regulations are in "<u>Sanitation Standard for General Foods</u>", "<u>Sanitation Standard for Microorganism in Foods</u>" and "<u>Standards for Specification, Scope, Application and Limitation of Food additives</u>". Since May 2020, TFDA requires dairy products for food use under HS code 0401, 0402, 0403, 0404, 0405 and 0406 to be accompanied by official sanitary certificates. (<u>G/SPS/N/TPKM/519</u>). The official certificates should be issued by the competent authority of the exporting country indicating that the attested products are suitable "for human consumption", or "in compliance with relevant food safety and sanitary regulations".

Melamine and veterinary drug residues are prohibited in milk and milk products. Taiwan requires that imports of U.S.-origin fresh milk and milk products be accompanied by a Veterinary Service (VS) 16-4 export certificate for animal products.

For additional information, please see the instructions in the <u>latest international regulations (IRegs)</u> for animal product exports from USDA APHIS and the <u>worksheet of dairy product sanitary certificate</u> from USDA AMS.

Labeling:



Fresh milk on the shelf (left: TAP label; right: fresh milk seal example)

Domestic registered processing plants under the contracted dairy producer scheme are eligible to apply for COA's Fresh Milk Seal for their products (current including 19 dairy processors). Because the major dairy purchase 80 percent of domestic raw milk, it is difficult to instill traceability measures for raw milk, which may be sourced from more than farms. COA now encourages small or medium dairy farms to apply the Traceable Agricultural Product (TAP) label to enhance the food safety of milk (currently 15 dairy farms participate).

According to Taiwan's Act Governing Food Safety and Sanitation, if milk is fortified with nutrients that are not inherent in raw milk itself, such as oligosaccharide or calcium, it cannot be labeled as "fresh" milk.



To promote domestic goat milk, there is also a Good Goat's Milk (GGM) label for goat milk applied by the goat farmer association.

Dairy, Milk, Fluid	20	20	20	21	2022		
Market Year Begins	Jan 2020		Jan 2	2021	Jan 2022		
Taiwan	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post	
Cows In Milk (1000 HEAD)	63	63	63	66	0	66	
Cows Milk Production (1000 MT)	437	437	436	437	0	440	
Other Milk Production (1000 MT)	13	13	13	12	0	11	
Total Production (1000 MT)	450	450	449	449	0	451	
Other Imports (1000 MT)	79	79	87	72	0	80	
Total Imports (1000 MT)	79	79	87	72	0	80	
Total Supply (1000 MT)	529	529	536	521	0	531	
Other Exports (1000 MT)	0	0	0	0	0	0	
Total Exports (1000 MT)	0	0	0	0	0	0	
Fluid Use Dom. Consum. (1000 MT)	476	476	482	471	0	480	
Factory Use Consum. (1000 MT)	53	53	54	50	0	51	
Feed Use Dom. Consum. (1000 MT)	0	0	0	0	0	0	
Total Dom. Consumption (1000 MT)	529	529	536	521	0	531	
Total Distribution (1000 MT)	529	529	536	521	0	531	
(1000 HEAD) ,(1000 MT)							

Commodities:

Dairy, Dry Whole Milk Powder (WMP) and Skim Milk Powder (SMP)

Production:

Taiwan does not produce milk powder in commercial quantities.

Consumption:

MY 2021 and MY 2022 WMP consumption are forecast at 37,000 MT based on year-to-date data and historical trends. MY 2020 WMP consumption is adjusted downward slightly at 35,188 based on customs data while SMP consumption was 23,921 MT. The popularity of price-competitive ESL milk will have a downward impact on retail milk powder consumption. However, demand from the bakery industry and nutrient supplements for the very young and very old should keep milk powder demand steady. The total consumption of milk powder is expected to fluctuate plus or minus three percent over the next few years.



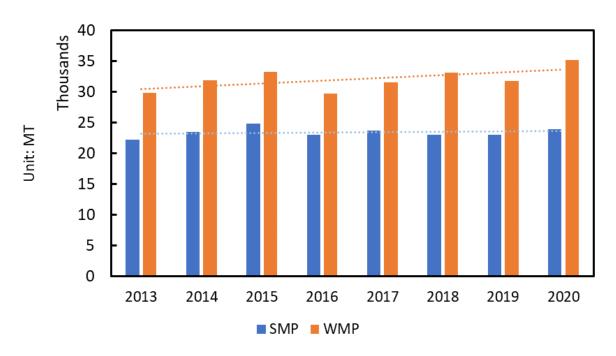
Calcium added milk powder from New Zealand in a supermarket

Trade:

Based on consumption trends, WMP import estimates are up slightly to 37,000 MT and SMP imports are flat at 24,000 MT. Compared to WMP, SMP import remains stable between 22,200 MT to 24,871 MT for the past 8

years. In the first seven months of 2021, WMP imports were 22,936 MT and SMP import were 16,801 MT, four percent higher than the same period last year. The MY 2022 forecast is left unchanged.

Taiwan Milk Powder Import (2013-2020)



Source: COA

Dairy, Dry Whole Milk Powder	20	2020		21	2022		
Market Year Begins	Jan 2020		Jan 2021		Jan 2022		
Taiwan	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post	
Beginning Stocks (1000 MT)	0	0	0	0	0	0	
Production (1000 MT)	0	0	0	0	0	0	
Other Imports (1000 MT)	36	35	35	37	0	37	
Total Imports (1000 MT)	36	35	35	37	0	37	
Total Supply (1000 MT)	36	35	35	37	0	37	
Other Exports (1000 MT)	0	0	0	0	0	0	
Total Exports (1000 MT)	0	0	0	0	0	0	
Human Dom. Consumption (1000 MT)	36	35	35	37	0	37	
Other Use, Losses (1000 MT)	0	0	0	0	0	0	
Total Dom. Consumption (1000 MT)	36	35	35	37	0	37	
Total Use (1000 MT)	36	35	35	37	0	37	
Ending Stocks (1000 MT)	0	0	0	0	0	0	
Total Distribution (1000 MT)	36	35	35	37	0	37	
(1000 MT)							

Dairy, Milk, Nonfat Dry	2020 Jan 2020		20	21	2022		
Market Year Begins			Jan 2021		Jan 2022		
Taiwan	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post	
Beginning Stocks (1000 MT)	0	0	0	0	0	0	
Production (1000 MT)	0	0	0	0	0	0	
Other Imports (1000 MT)	24	24	28	24	0	24	
Total Imports (1000 MT)	24	24	28	24	0	24	
Total Supply (1000 MT)	24	24	28	24	0	24	
Other Exports (1000 MT)	0	0	0	0	0	0	
Total Exports (1000 MT)	0	0	0	0	0	0	
Human Dom. Consumption (1000 MT)	24	24	28	24	0	24	
Other Use, Losses (1000 MT)	0	0	0	0	0	0	
Total Dom. Consumption (1000 MT)	24	0	28	24	0	24	
Total Use (1000 MT)	24	24	28	24	0	24	
Ending Stocks (1000 MT)	0	0	0	0	0	0	
Total Distribution (1000 MT)	24	24	28	24	0	24	
(1000 MT)							

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Butter

Production:

Taiwan does not produce butter in commercial quantities.

Consumption:

MY 2021 butter consumption is expected up to 23,000 MT, recovering from 2020 but still less than previous forecasts. MY 2022 butter consumption is forecast to rise again to 24,000 MT, assuming the global logistics problems are solved. MY 2020 butter consumption was adjusted downward to 20,756 MT based on customs statistics.

Trade:

MY 2021 imports will return to 2019 levels with 22,500 MT. MY 2022 imports are forecast to remain flat. During the first eight months of 2021 butter imports were 17,275 MT, an increase of 15 percent over the same period the previous year. This is largely due to delayed shipments affecting imports during 2020.

New Zealand is still the dominant butter supplier, while France's market share is forecast up to 15 percent in 2021. Only New Zealand and France supper over 1,000 MT of butter to Taiwan per year. Fonterra's Anchor brand butter leads the category through its established supply chain and strong public awareness of brand.

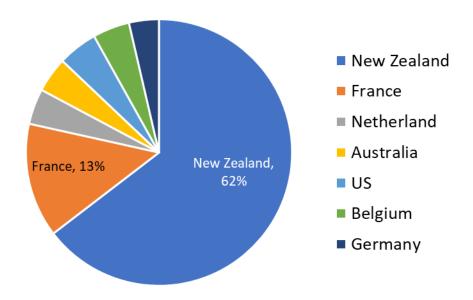
Labeling:

In 2017, Taiwan adopted <u>labeling regulations</u> for milk content in butter and cream. The regulation is accordance with Act Governing Food Safety and Sanitation Article.

Butter: more than 80 milk fat content Cream: 10 -80 percent milk fat content

Margarine: more than 80 percent edible oils content/ fat spread: 10-80% edible oil content

Butter Market Share (2020)





Butter products in Taiwan supermarket

Dairy, Butter	2020		20:	21	2022		
Market Year Begins	Jan 2	2020	Jan 2021		Jan 2022		
Taiwan	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post	
Beginning Stocks (1000 MT)	0	0	0	0	0	C	
Production (1000 MT)	0	0	0	0	0	C	
Other Imports (1000 MT)	22	21	25	23	0	24	
Total Imports (1000 MT)	22	21	25	23	0	24	
Total Supply (1000 MT)	22	21	25	23	0	24	
Other Exports (1000 MT)	0	0	0	0	0	0	
Total Exports (1000 MT)	0	0	0	0	0	0	
Domestic Consumption (1000 MT)	22	21	25	23	0	24	
Total Use (1000 MT)	22	21	25	23	0	24	
Ending Stocks (1000 MT)	0	0	0	0	0	0	
Total Distribution (1000 MT)	22	21	25	23	0	23	
(1000 MT)							

Appendix:

HS codes:

Fluid Milk under WTO TRQ and SSG

Fresh milk: 04011010,04012010,04014010,04015010,04029910

ESL milk: 04011020,04012020,04014020,04015020

Other fluid milk: 04029920, 04029992, 04039029, 04039040, 04039059, 04039090, 18069053,

18069055, 19019025, 19019027

Total Fluid Milk: 0401, 04029910, 04029920, 04029992, 04039029, 04039040, 04039059, 04039090, 18069053,

18069055, 19019025, 19019027

Milk Powder:

Dry whole milk powder: 040221, 040229

Dry Nonfat Milk powder: 040210

Butter: 0405

Attachments:

No Attachments