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Report Highlights:

Drought conditions in the North Island are impacting milk supply in New Zealand, with milk production now forecast in 2020 at 21.7 million metric tons (MMT), down a little under 1 percent from 2019. So far COVID-19 has not impacted milk supply but is likely to disrupt export supply chains during the year. Total combined 2020 exports for whole milk powder, cheese, skim milk powder, and butter/AMF are now forecast at 2.68 MMT, a 2.7 percent reduction on the 2.75 MMT recorded in 2019.

Executive Summary

FAS/Wellington forecasts New Zealand total milk production in 2020 at 21.7 million metric tons (MMT), which is 1.2 percent less than the USDA official forecast and 0.7 percent less than 2019. The reason for the decline is that drought conditions over the whole of the North Island has reduced pasture growth significantly. Many farmers in the North Island are drying off their herds up to 40 days earlier than normal because of the lack of pasture. In addition, farmers have already used up a large proportion of the supplementary feed they had purchased or conserved to last them through the winter. This is expected to impact on milk supply during the second half of the year. The advent of the COVID-19 pandemic early in 2020 has not impacted milk supply yet.

Actual milk production for 2019 was 21.85 MMT, which was 0.7 percent less than 2018. This result was better than expected as a dry period in early 2019 impacted production during the first half of the year. Production in the second half of the year, however, was the third highest on record, with daily percow production averages close to historical highs.

As 2020 milk supply is only forecast to be marginally below 2019, the combined total of whole milk powder, cheese, skim milk powder, and butter/AMF (Anhydrous Milk Fat) production is only forecast to be 0.4 percent below 2019, at 2.78 MMT. Whole Milk Powder (WMP) will remain the go-to product for New Zealand processors and is now forecast to reach 1.53 MMT, up 1.7 percent on 2019. The revised estimate for 2019 WMP production is 1.5 MMT, 3.4 percent above 2018.

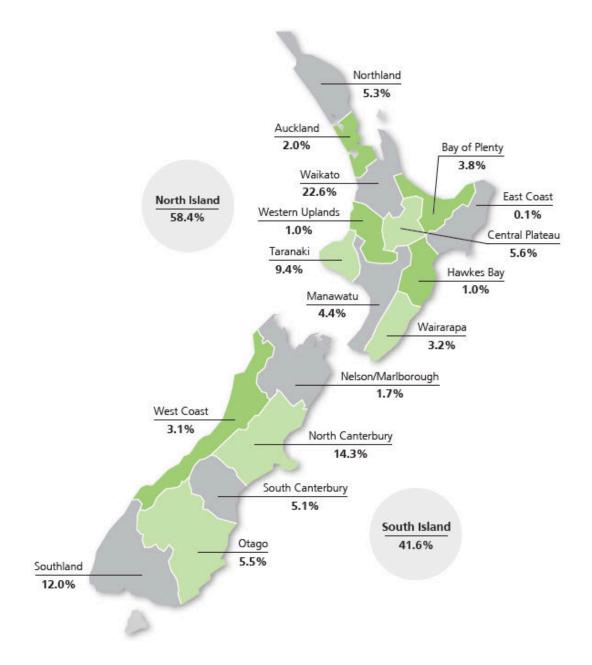
While the COVID-19 pandemic has not affected dairy processing in New Zealand yet, it is expected to cause disruption to export supply chains into destination countries especially for food service products and ingredients. This is expected to impact sales for nearly all dairy products, except perhaps Infant Milk Formula (IMF). Most IMF is consumer-ready when shipped from New Zealand or is further processed in Australia and is unlikely to suffer the same supply chain disruptions as products destined for the food service sector.

Total combined 2020 exports for whole milk powder, cheese, skim milk powder, and butter/AMF are now forecast at 2.68 MMT, a 2.7 percent reduction on the 2.75 MMT recorded in 2019. In addition to some impact to export demand as a result of COVID-19, the other major reason for the year-on-year decline is that 2019 exports were inflated by a sell down of inventory. This inventory had been built up in late 2018 and then shipped in early 2019.

For 2020, nearly all the product categories are forecast to have reduced export volumes except for a marginal 1.5 percent increase for cheese.

1/Note: The GAIN Dairy Marketing Year (MY) is the same as the calendar year (CY), January 1 to December 31.

Regional Distribution Dairy Cows 2018/2019 Season



Source: LIC, DairyNZ

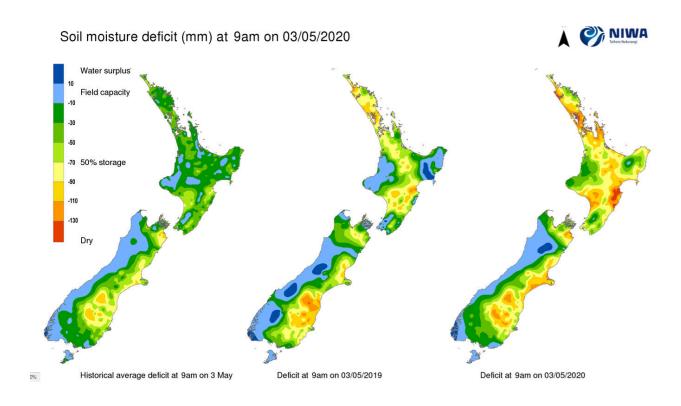
Seasonal Weather and Pasture Production

Normal seasonal dryness over the North Island during January 2020 deepened into a drought, which even in late April was still affecting around 50 percent of the dairying areas in the North Island. In contrast to the same point in 2019, North Island pasture levels are low and the volume of bulk supplementary feed such as conserved pasture or forage crops on hand is also low. Anecdotal reporting suggests cows in the North Island are perhaps in lower body condition than optimum. This will increase

cow winter feed intake demand if cows are to milk optimally in the spring or run the risk of reduced milk production in the new season.

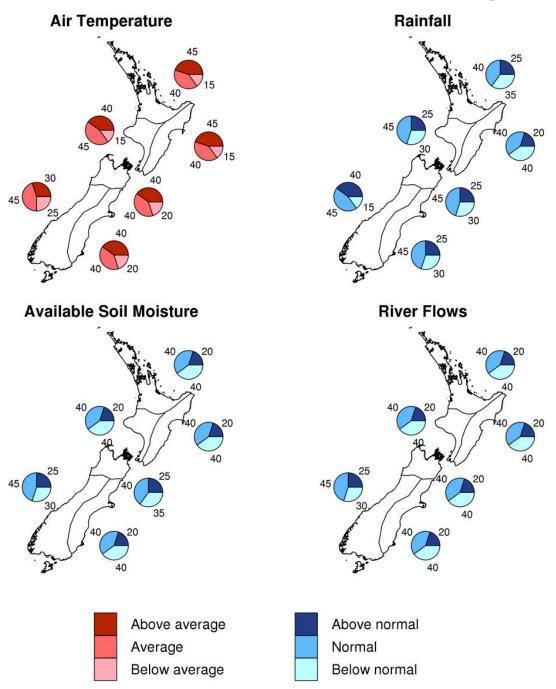
The National Institute for Water and Atmospheric Research's (NIWA) three month climate outlook forecast for April to June 2020 is for there to be normal rainfall over the western North Island as well as the South Island, but a stronger probability for below-normal rainfall in the north and east of the North Island. NIWA is forecasting air temperatures to be average to warmer than average over the dairy areas for April to June.

There are no public long-range weather forecasts for the second half of 2020, so this report is assuming normal weather conditions for the period. However, any widespread deviations to colder than normal conditions in the spring will negatively affect milk production.



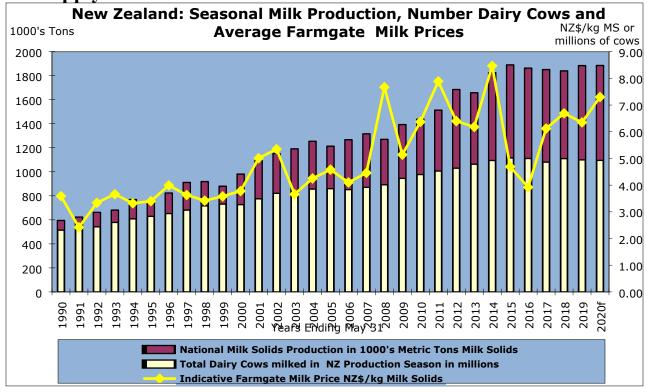
Outlook for April - June 2020



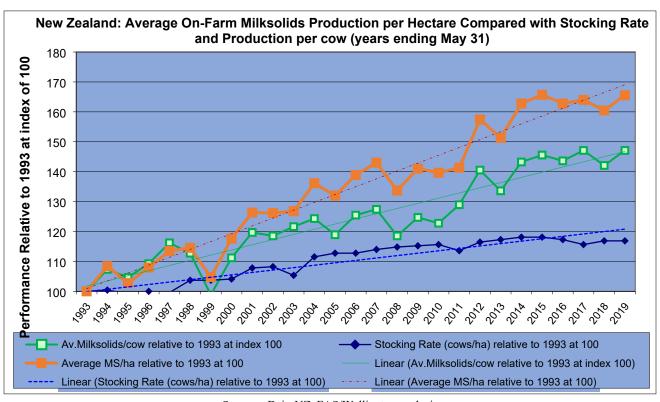


Source: NIWA NZ Seasonal Outlook April to June 2020

Milk Supply



Sources: MPI, LIC, DairyNZ, FAS/Wellington own estimates, StatsNZ



Sources: DairyNZ, FAS/Wellington analysis

2020

The revised forecast for 2020 milk production is now 21.7 million metric tons (MMT), 1.2 percent less than the USDA Official forecast and 0.7 percent less than 2019 production. The year started well with milk production in the first quarter being just marginally less than 2019 on a milk-volume basis, and marginally ahead on a milk-solids basis. However, as the drought conditions in the North Island intensified, farmers used a lot of supplementary feed, originally planned for winter and spring use, to maintain lactating cows. Many whole herds in the North Island are being dried off up to 40 days earlier than normal because of the low pasture growth. As a result, North Island milk production is slumping in the second quarter of the year. Even though the South Island is having a good season, being well ahead of 2019 so far, this increased production is not likely to be enough to offset the reduction in the North Island.

The milk industry has benefited from the strong growth of milk production in the South Island during recent decades (especially 2000 to 2014), and it now accounts for around 45 percent of total milk production. This has given the sector a geographical spread which buffers overall milk production against weather disruptions impacting part of the country, such is now occurring in the North Island.

For the second half of the year, even though climatic conditions are assumed to be normal, production is still forecast to be behind the same period in 2019 for the following reasons:

- > Slightly lower cow numbers as a result of the drought in the North Island and the prospect of coming environmental regulations.
- ➤ Cow conditions, especially in the North Island, are lower than optimum going into winter and will be difficult to rectify before the onset of calving in the spring. This will likely have a negative effect on production.
- ➤ With pasture levels low going into winter, any period of poorer than anticipated weather over the next four to five months will especially have a downside risk to subsequent milk production.
- ➤ All dairy sector commentators and Fonterra are warning farmers the milk price will fall over the next twelve months. The banks especially are signaling a drop of between 10 to 25 percent. This will have a negative effect on farmer confidence and a reluctance or reduced capacity to spend on additional supplementary feed in the spring, putting negative pressure on potential production.

2019

Actual milk production for 2019 was 21.85 MMT, which was 0.7 percent less than 2018. This result was better than expected as a dry period in early 2019 impacted production during the first half of the year. Production in the second half of the year, however, was third highest on record, with daily percow production averages close to historical highs.

Production Supply, and Demand – Liquid Milk

| Dairy, Milk, Fluid | 201 | 8 | 201 | 9 | 202 | 0 |
|------------------------|---------------|----------|---------------|----------|---------------|----------|
| Market Begin Year | Jan 20 | 018 | Jan 2 | 019 | Jan 20 |)20 |
| New Zealand | USDA Official | New Post | USDA Official | New Post | USDA Official | New Post |
| Cows In Milk | 4993 | 4993 | 4937 | 4946 | 4935 | 4928 |
| Cows Milk Production | 22017 | 22017 | 21855 | 21852 | 21950 | 21695 |
| Other Milk Production | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Production | 22017 | 22017 | 21855 | 21852 | 21950 | 21695 |
| Other Imports | 3 | 3 | 3 | 4 | 0 | 3 |
| Total Imports | 3 | 3 | 3 | 4 | 0 | 3 |
| Total Supply | 22020 | 22020 | 21858 | 21856 | 21950 | 21698 |
| Other Exports | 245 | 245 | 290 | 269 | 300 | 240 |
| Total Exports | 245 | 245 | 290 | 269 | 300 | 240 |
| Fluid Use Dom. Consum. | 500 | 515 | 500 | 520 | 500 | 525 |
| Factory Use Consum. | 21205 | 21190 | 21003 | 21002 | 21085 | 20868 |
| Feed Use Dom. Consum. | 70 | 70 | 65 | 65 | 65 | 65 |
| Total Dom. Consumption | 21775 | 21775 | 21568 | 21587 | 21650 | 21458 |
| Total Distribution | 22020 | 22020 | 21858 | 21856 | 21950 | 21698 |
| (1000 HEAD), (1000 MT) | <u> </u> | | | | | |

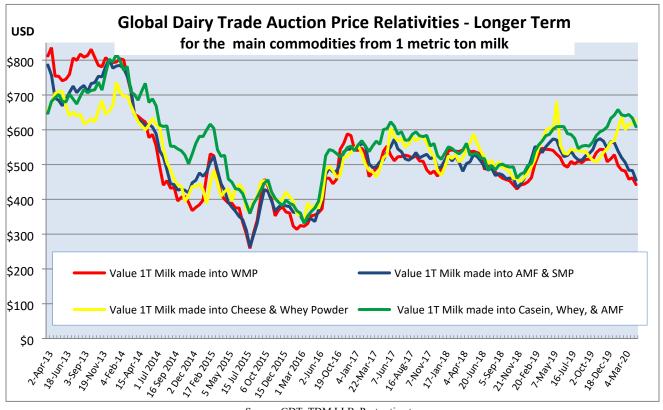
Not official USDA estimates

Production and Trade Overview

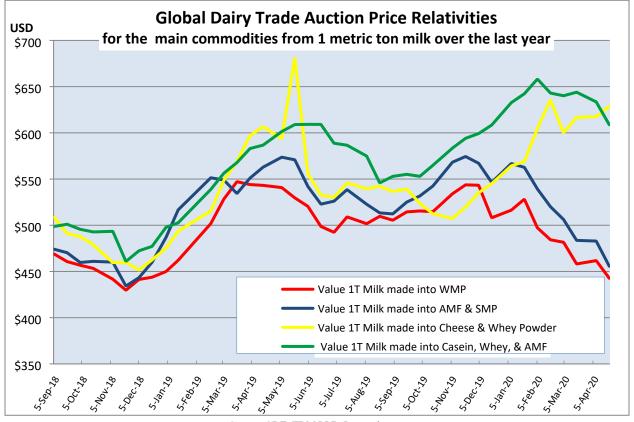
Dairy Production at a Glance

| New Zealand Summ | nary Table 1 | for Estimat | ed Dairy Pr | oduct Prod | uction |
|---------------------------|------------------|------------------|--------------------------------|-----------------|--------------------------------|
| Commodity Group | 2018 | 20 | 19 | 20 | 20 |
| (1000s Metric Tons) | Firm Estimate | Firm Estimate | % change from prev. year | New Forecast | % change from prev. year |
| WMP | 1,450 | 1,500 | 3.4% | 1,525 | 1.7% |
| SMP | 410 | 375 | -8.5% | 370 | -1.3% |
| Butter/AMF | 550 | 525 | -4.5% | 520 | -1.0% |
| Cheese | 370 | 365 | -1.4% | 360 | -1.4% |
| Sub-Total PSD Commodities | 2,780 | 2,765 | -0.5% | 2,775 | 0.4% |
| Casein & Caseinates | 87 | 88 | 1.1% | 80 | -9.1% |
| Whey Products | 37 | 32 | -13.5% | 30 | -6.3% |
| Milk Protein Concentrates | 79 | 78 | -1.3% | 70 | -10.3% |
| Cream Products | 97 | 126 | 29.9% | 100 | -20.6% |
| Other Products | 54 | 51 | -5.6% | 50 | -2.0% |
| Infant Milk Formula | 97 | 117 | 20.6% | 130 | 11.1% |
| Sub-Total Rest of Dairy | 451 | 492 | 9.1% | 460 | -6.5% |
| Total Production | 3,231 | 3,257 | 0.8% | 3,235 | -0.7% |

Source: Post estimates Note: Butter/AMF line has the AMF adjusted to butter equivalents



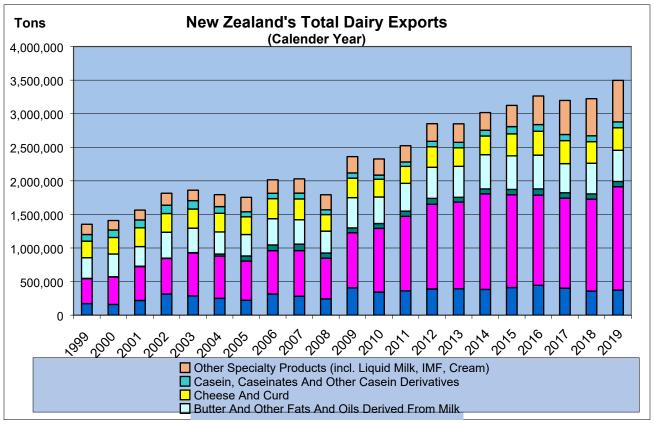
Source: GDT, TDM LLB, Post estimates



Dairy Exports at a Glance

| New Zealand Summary | Table fo | r Dairy P | roduct Ex | port Quan | itities |
|------------------------------------|----------|-----------|--------------------------------|-----------------|--------------------------------|
| Commodity Group | 2018 | 20 | 19 | 20 | 20 |
| (1000s Metric Tons) | Actual | Actuals | % change from prev. year | New Forecast | % change from prev. year |
| WMP | 1,369 | 1,536 | 12.2% | 1,500 | -2.3% |
| SMP | 358 | 373 | 4.2% | 350 | -6.2% |
| Butter/AMF | 501 | 509 | 1.6% | 490 | -3.7% |
| Cheese | 322 | 335 | 4.0% | 340 | 1.5% |
| Sub-Total PSD Exports | 2,550 | 2,753 | 8.0% | 2,680 | -2.7% |
| Casein | 87 | 88 | 1.1% | 80 | -9.1% |
| Whey Products | 37 | 32 | -13.5% | 30 | -6.3% |
| Milk Protein Concentrates | 79 | 78 | -1.3% | 70 | -10.3% |
| Cream Products-Food Service | 97 | 126 | 29.9% | 100 | -20.6% |
| Other Products | 54 | 51 | -5.6% | 50 | -2.0% |
| Infant Milk Formula | 97 | 117 | 20.6% | 130 | 11.1% |
| Sub-Total Non PSD Exports | 451 | 492 | 9.1% | 460 | -6.5% |
| Total Exports | 3,001 | 3,245 | 8.1% | 3,140 | -3.2% |

Source: TDM LLB, Post estimates. Note: Butter/AMF line has the AMF adjusted to butter equivalents



Source: TDM LLB

| | New Zealand Dairy Product Export Destinations by Value (USD) | | | | | | | | | | | |
|------------------------|--|---------------------|----------------|----------------|----------------|---------------|---------------|---------------|--|--|--|--|
| Destination | | Annual Total | Value (USD) fo | r | Year-To-l | Date January- | March | | | | | |
| Destination Country | 2015 | 2016 | 2017 | 2018 | 2019 | 2019 | 2020 | %Δ 2020/19 | | | | |
| China | 1,900,091,762 | 2,108,383,836 | 3,312,050,750 | 3,451,462,536 | 4,096,291,689 | 794,314,879 | 1,010,305,497 | 27.2% | | | | |
| Australia | 427,959,475 | 571,573,031 | 740,882,989 | 841,584,835 | 832,347,827 | 210,065,005 | 210,091,067 | 0.0% | | | | |
| United States | 797,433,359 | 663,641,805 | 583,773,270 | 485,884,800 | 568,207,991 | 132,258,520 | 169,176,103 | 27.9% | | | | |
| Japan | 440,304,138 | 399,511,906 | 497,607,672 | 521,293,537 | 517,013,837 | 116,643,421 | 140,828,261 | 20.7% | | | | |
| Malaysia | 403,756,425 | 310,468,541 | 452,834,830 | 422,380,610 | 424,818,226 | 121,719,313 | 125,692,408 | 3.3% | | | | |
| Philippines | 334,334,927 | 316,810,672 | 377,226,348 | 393,330,378 | 420,355,323 | 139,181,787 | 112,228,101 | -19.4% | | | | |
| Indonesia | 282,525,214 | 300,250,692 | 374,890,492 | 357,662,844 | 379,777,131 | 107,849,883 | 140,893,213 | 30.6% | | | | |
| U.A.E. | 438,488,335 | 287,003,146 | 474,237,149 | 403,178,974 | 359,558,993 | 105,858,526 | 121,997,523 | 15.2% | | | | |
| Hong Kong | 118,419,073 | 168,240,417 | 233,492,591 | 281,279,677 | 355,991,697 | 86,354,085 | 70,055,630 | -18.9% | | | | |
| Thailand | 280,683,498 | 242,970,732 | 311,809,609 | 321,797,009 | 331,158,590 | 121,004,299 | 112,476,897 | -7.0% | | | | |
| Rest of World | 4,084,089,597 | 3,830,519,830 | 4,209,640,377 | 4,157,247,215 | 4,115,876,051 | 1,373,772,164 | 1,250,980,728 | -8.9% | | | | |
| World Total | 9,508,085,803 | 9,199,374,608 | 11,568,446,077 | 11,637,102,415 | 12,401,397,355 | 3,309,021,882 | 3,464,725,428 | 4.7% | | | | |

Source: TDM LLB

Product Specific Production and Trade

Production, Supply, and Demand –Whole Milk Powder (WMP) 2020

WMP remains New Zealand dairy processors go-to product and by far the largest product manufactured by volume (47 percent of total). For 2020, it is forecast that 1.53 MMT of WMP will be made, which is 1.7 percent ahead of 2019.

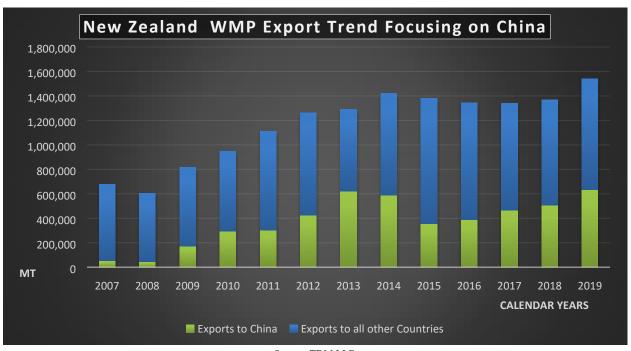
While prices for WMP will not be immune to what is likely to be a general downturn in internationally traded dairy commodity prices over the next twelve months, New Zealand's comparative advantages in the WMP category probably means it will still be able to sell whatever it produces. If pricing for all the commodities trend downward, WMP will remain the most profitable for New Zealand processors for large volumes. It seems likely dairy ingredients for food service or dairy ingredients used in complex processing supply chains will be subject to disruption due the Covid-19 lockdowns around the globe. For New Zealand this may include: UHT cream, fresh cheeses, mozzarella, processed cheese, casein, whey proteins, and milk protein concentrate. Even if total sales of these products are not impacted, there will likely be interruptions to individual supply chains to different countries. If sales in any category drop significantly then any surplus milk is likely to be diverted to the manufacture of WMP.

FAS/Wellington expects this level of WMP production to translate into an export volume of 1.5 MMT, which is 2.6 percent less than the USDA official forecast, and 2.3 percent less than 2019. A slightly

lower export volume than 2019 is expected because of market/supply chain disruptions caused by the Covid-19 pandemic. This is likely to mean year-end inventories will increase because of the slightly larger production volume.

2019

For 2019, WMP production is now estimated at 1.5 MMT, 3.5 percent greater than 2018. Exports reached 1.54 MMT, 12.2 percent above 2018 and an all-time high. New Zealand has carved out a niche as the world's largest exporter of WMP, contributing close to 64 percent of internationally traded WMP. Undoubtedly this is profitable for the processors who now have world-leading scale and expertise in this field. In addition, because WMP has been focused on since the 1980s, there are reliable supply chains into the markets.



Source: TDM LLB

| New Zealand Whole Milk Powder Export Destinations by Quantity (MT) | | | | | | | | | | |
|--|---------|-----------|------------|------------|---------|---------|-----------|---------------|--|--|
| | Annual | Total Qua | ntity (MT) | for Calend | ar Year | YTD Jan | -Mar by Q | ty (MT) | | |
| Destination Country | 2015 | 2016 | 2017 | 2018 | 2019 | 2019 | 2020 | %Δ 2020/19 | | |
| China | 354,291 | 389,079 | 467,620 | 506,707 | 632,131 | 131,319 | 137,208 | 4.5% | | |
| Algeria | 121,129 | 166,570 | 96,403 | 96,595 | 91,419 | 53,941 | 28,464 | -47.2% | | |
| Sri Lanka | 57,764 | 67,137 | 85,027 | 83,893 | 84,831 | 23,091 | 24,258 | 5.1% | | |
| United Arab Emirates | 125,488 | 96,769 | 108,503 | 91,979 | 84,624 | 22,752 | 32,113 | 41.1% | | |
| Bangladesh | 39,039 | 42,876 | 59,599 | 66,506 | 76,153 | 30,778 | 24,666 | -19.9% | | |
| Indonesia | 32,242 | 36,392 | 35,768 | 42,856 | 52,526 | 15,595 | 13,135 | -15.8% | | |

| Thailand | 44,921 | 42,522 | 43,082 | 49,874 | 52,526 | 26,395 | 17,262 | -34.6% |
|--------------------------|-----------|-----------|-----------|-----------|-----------|---------|---------|--------|
| Malaysia | 82,358 | 51,111 | 57,798 | 49,748 | 50,383 | 17,138 | 13,487 | -21.3% |
| Vietnam | 49,340 | 38,708 | 37,248 | 40,585 | 44,000 | 17,495 | 12,898 | -26.3% |
| Singapore | 40,031 | 38,438 | 41,627 | 38,309 | 37,695 | 9,677 | 10,292 | 6.4% |
| Rest of World | 433,811 | 374,055 | 309,432 | 301,989 | 329,421 | 115,091 | 102,663 | -10.8% |
| Total for World | 1,380,414 | 1,343,657 | 1,342,107 | 1,369,041 | 1,535,709 | 463,272 | 416,446 | -10.1% |
| Average FOB price US\$/T | \$2,551 | \$2,361 | \$3,143 | \$3,096 | \$3,082 | \$2,817 | \$3,282 | 16.5% |

Source: TDM LLB

| Dairy, Dry Whole Milk Powder | 201 | 18 | 201 | 19 | 202 | 0 |
|------------------------------|---------------|----------|---------------|----------|---------------|----------|
| Market Begin Year | Jan 2 | 018 | Jan 2 | :019 | Jan 2 | 020 |
| New Zealand | USDA Official | New Post | USDA Official | New Post | USDA Official | New Post |
| Beginning Stocks | 149 | 149 | 212 | 212 | 102 | 160 |
| Production | 1450 | 1450 | 1460 | 1500 | 1525 | 1525 |
| Other Imports | 2 | 2 | 3 | 4 | 3 | 3 |
| Total Imports | 2 | 2 | 3 | 4 | 3 | 3 |
| Total Supply | 1601 | 1601 | 1675 | 1716 | 1630 | 1688 |
| Other Exports | 1369 | 1369 | 1550 | 1536 | 1540 | 1500 |
| Total Exports | 1369 | 1369 | 1550 | 1536 | 1540 | 1500 |
| Human Dom. Consumption | 2 | 2 | 3 | 2 | 3 | 2 |
| Other Use, Losses | 18 | 18 | 20 | 18 | 18 | 18 |
| Total Dom. Consumption | 20 | 20 | 23 | 20 | 21 | 20 |
| Total Use | 1389 | 1389 | 1573 | 1556 | 1561 | 1520 |
| Ending Stocks | 212 | 212 | 102 | 160 | 69 | 168 |
| Total Distribution | 1601 | 1601 | 1675 | 1716 | 1630 | 1688 |
| (1000 MT) | | | <u> </u> | | | |

Not official USDA PSD estimates

Production, Supply, and Demand – Cheese 2020

The production forecast for cheese in 2020 has been revised to 360,000 MT, 5,000 MT or 1.4 percent less than the USDA official forecast and 1.4 percent lower than 2019. Approximately 50 percent of cheese produced still consists of hard natural cheese such as cheddar. Cheese is primarily only produced during the peak milk supply months (October to December) when all other processing is at full capacity. As milk supply wanes slightly in 2020, cheese production is likely to follow suit.

Exports are now forecast at 340,000 MT, 2.9 percent less than the USDA official forecast but 1.5 percent above 2019. Exports for the first three months of 2020 are 2 percent above the same period in 2019 and this pace of shipping is not expected to increase as the year progresses. Around 50 percent of New Zealand's cheese production is fresh or mozzarella cheese and is most likely destined for food service. It is food service industries which are being the most affected by the Covid-19 lockdowns around the world, which is expected to limit any further rise in the final volume of exports.

On a positive note, although exports to China (which is a big purchaser of cheese for the food service sector) plummeted in February, by March they had substantially recovered and were tracking well in April. In addition, the GDT auction prices for cheddar are still relatively high compared with milk powders. If there is a swift recovery in food service markets in Asia it could help support exports.

| New Zea | New Zealand Cheese Export Destinations by Quantity (MT) | | | | | | | | | | |
|---------------------|---|-------------|------------|---------------------------------|---------|--------|---------------|--------|--|--|--|
| Destination Country | Annua | l Total Qua | ntity (MT) | Year-To-Date January-March (MT) | | | | | | | |
| Destination Country | 2015 | 2016 | 2017 | 2018 | 2019 | 2019 | %Δ 2020/19 | | | | |
| China | 39,550 | 51,668 | 56,409 | 54,572 | 71,702 | 11,855 | 15,882 | 34.0% | | | |
| Japan | 55,045 | 61,345 | 63,552 | 64,630 | 66,087 | 16,347 | 15,950 | -2.4% | | | |
| Australia | 51,294 | 61,959 | 61,618 | 47,983 | 47,805 | 14,065 | 12,178 | -13.4% | | | |
| South Korea | 14,929 | 19,730 | 18,957 | 19,402 | 22,871 | 5,732 | 10,100 | 76.2% | | | |
| Saudi Arabia | 12,122 | 11,190 | 12,754 | 12,189 | 14,741 | 4,257 | 3,658 | -14.1% | | | |
| Philippines | 15,654 | 15,805 | 13,807 | 13,410 | 13,834 | 4,380 | 4,660 | 6.4% | | | |
| Indonesia | 14,122 | 15,935 | 17,738 | 15,572 | 13,368 | 5,272 | 4,937 | -6.4% | | | |
| Taiwan | 8,883 | 9,208 | 9,551 | 7,950 | 8,719 | 1,968 | 2,628 | 33.5% | | | |
| Malaysia | 9,044 | 8,607 | 12,389 | 8,745 | 7,949 | 1,955 | 3,093 | 58.2% | | | |
| Trinidad and Tobago | 5,990 | 5,998 | 6,136 | 6,573 | 7,105 | 1,686 | 1,584 | -6.0% | | | |
| Rest of World | 100,137 | 93,660 | 69,799 | 70,872 | 60,717 | 20,600 | 15,169 | -26.4% | | | |
| World Total | 326,770 | 355,105 | 342,710 | 321,898 | 334,898 | 88,117 | 89,839 | 2.0% | | | |

Source: TDM LLB

| Dairy, Cheese | 20 | 18 | 201 | 19 | 202 | 20 |
|-------------------------------|---------------|----------|---------------------|----------|--|----------|
| Market Begin Year | Jan 2 | 018 | Jan 2 | 019 | Jan 2020 | |
| New Zealand | USDA Official | New Post | USDA Official | New Post | USDA Official | New Post |
| Beginning Stocks | 46 | 46 | 51 | 68 | 47 | 73 |
| Production | 355 | 370 | 360 | 365 | 365 | 360 |
| Other Imports | 12 | 12 | 14 | 13 | 14 | 13 |
| Total Imports | 12 | 12 | 14 | 13 | 14 | 13 |
| Total Supply | 413 | 428 | 425 | 446 | 426 | 446 |
| Other Exports | 322 | 322 | 340 | 335 | 350 | 340 |
| Total Exports | 322 | 322 | 340 | 335 | 350 | 340 |
| Human Dom. Consumption | 40 | 38 | 38 | 38 | 40 | 38 |
| Other Use, Losses | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Dom. Consumption | 40 | 38 | 38 | 38 | 40 | 38 |
| Total Use | 362 | 360 | 378 | 373 | 390 | 378 |
| Ending Stocks | 51 | 68 | 47 | 73 | 36 | 68 |
| Total Distribution | 413 | 428 | 425 | 446 | 426 | 446 |
| | | (100 | <u> </u> 0 MT) | | <u> </u> | |

Not official USDA PSD estimates

2019

Cheese production for 2019 is now estimated at 365,000 MT, 1.4 percent below 2018. Exports for 2019 totaled 335,000 MT, four percent above 2018. With record milk production in 2018 it is likely that more cheese was made in the peak of the milk flush and the 2018 production has been revised upward to 370,000 MT. The extra production in 2018 and 2019 has increased year end inventories which are likely to have peaked at around 73,000 MT at the end of 2019.

Production, Supply, and Demand – Skim Milk Powder (SMP) 2020

Production of SMP in 2020 is now forecast at 370,000 MT, 1.3 percent less than the 2019 estimate. The dynamics at play with regards to SMP production and exports are listed below. It is expected that the negative influences will be greater than the positive influences, and that exports will be reduced to 350,000 MT. This is 10.3 percent below the USDA Official forecast and would be 6.2 percent less than 2019 exports.

Negative factors:

- > Total protein supply in milk production is likely to be slightly down as the milk supply is likely to contract slightly.
- ➤ It is expected the European Union may increase SMP production to cope with the surplus of milk that would have gone into food service products now disrupted by the Covid-19 lockdowns. This is likely to disrupt current international trade flows of SMP.
- ➤ While New Zealand processors have long standing customers for a reasonably reliable volume of SMP, there are always a group of potential customers who are very cost conscious and are likely to switch origins as pricing options change.
- SMP is mainly the co-product of the manufacture of butter or AMF. If demand in the short term for fat-based products drops, or if WMP becomes significantly more profitable as a result of the Covid-19 disruptions for other products, then SMP production will trend down.
- > January-March exports are already running at 6.4 percent less than the same period 2019.

Positive factors:

➤ Production of SMP is a precursor to production of many other protein products including the food ingredients, casein and whey protein products, milk protein concentrate. If sales of these protein products are disrupted by Covid-19, milk processing of the protein stream will likely end at the SMP stage. Also, SMP can be stored for longer than WMP because of the lower fat content.

At the peak milk flow in October, November some SMP/ butter or AMF has to be made to be able to process all the milk being received each day.

2019

The 2019 production estimate has been revised to 375,000 MT, eight percent less than 2018. The marginally lower milk supply and the increase in production of higher value products that use protein or have SMP as a precursor or ingredient limited SMP production as a final product. Actual exports of SMP in 2019 rose by 4.2 percent over 2018 to reach 373,000 MT.

| New Zeal | New Zealand Skim Milk Powder Export Destinations by Quantity | | | | | | | | | | |
|----------------------|--|-------------|------------|-------------------------------------|---------|---------|---------|---------------|--|--|--|
| Doctination Country | Annua | l Total Qua | ntity (MT) | Year-to-Date January-March Qty (MT) | | | | | | | |
| Destination Country | 2015 | 2016 | 2017 | 2018 | 2019 | 2019 | 2020 | %Δ 2020/19 | | | |
| China | 122,926 | 107,627 | 129,535 | 126,229 | 131,410 | 30,339 | 30,388 | 0.2% | | | |
| Malaysia | 31,272 | 39,439 | 34,168 | 31,727 | 29,547 | 8,594 | 8,117 | -5.6% | | | |
| Philippines | 32,668 | 41,247 | 26,208 | 25,590 | 28,516 | 11,450 | 7,324 | -36.0% | | | |
| Thailand | 25,838 | 27,078 | 23,952 | 23,525 | 24,009 | 9,686 | 9,911 | 2.3% | | | |
| Singapore | 35,266 | 24,038 | 23,975 | 19,405 | 22,256 | 6,090 | 5,674 | -6.8% | | | |
| Taiwan | 20,655 | 18,476 | 18,658 | 17,612 | 20,755 | 5,545 | 4,963 | -10.5% | | | |
| Indonesia | 24,021 | 32,470 | 19,815 | 20,600 | 19,977 | 6,476 | 12,156 | 87.7% | | | |
| Vietnam | 18,483 | 19,373 | 22,582 | 12,520 | 14,864 | 9,629 | 6,449 | -33.0% | | | |
| United Arab Emirates | 7,622 | 10,574 | 6,654 | 5,294 | 9,503 | 2,728 | 3,169 | 16.2% | | | |
| Australia | 3,828 | 3,115 | 4,426 | 6,415 | 8,355 | 1,635 | 1,906 | 16.6% | | | |
| Rest of World | 88,735 | 120,620 | 91,029 | 69,295 | 63,717 | 24,872 | 19,476 | -21.7% | | | |
| World Total | 411,314 | 444,057 | 401,002 | 358,212 | 372,909 | 117,044 | 109,533 | -6.4% | | | |

Source: TDM LLB

| Dairy, Milk, Nonfat Dry | 201 | 8 | 201 | 9 | 202 | 0 |
|-------------------------|---------------|----------|---------------|----------|---------------|----------|
| Market Begin Year | Jan 20 | 018 | Jan 2 | 019 | Jan 20 | 20 |
| New Zealand | USDA Official | New Post | USDA Official | New Post | USDA Official | New Post |
| Beginning Stocks | 67 | 67 | 117 | 117 | 129 | 116 |
| Production | 410 | 410 | 385 | 375 | 370 | 370 |
| Other Imports | 3 | 3 | 3 | 4 | 3 | 2 |
| Total Imports | 3 | 3 | 3 | 4 | 3 | 2 |
| Total Supply | 480 | 480 | 505 | 496 | 502 | 487 |
| Other Exports | 358 | 358 | 370 | 373 | 390 | 350 |
| Total Exports | 358 | 358 | 370 | 373 | 390 | 350 |
| Human Dom. Consumption | 5 | 5 | 6 | 7 | 6 | 9 |
| Other Use, Losses | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Dom. Consumption | 5 | 5 | 6 | 7 | 6 | 9 |
| Total Use | 363 | 363 | 376 | 381 | 396 | 359 |
| Ending Stocks | 117 | 117 | 129 | 116 | 106 | 129 |
| Total Distribution | 480 | 480 | 505 | 496 | 502 | 487 |
| | | | | | | |
| (1000 MT) | | | | | | |

Not official USDA PSD estimates

Production, Supply, and Demand – Butter and Anhydrous Milk Fat (AMF)

Note: All the tonnages in the PSD table and the narrative below are expressed in butter equivalents.

2020

The production forecast for 2020 for the total AMF and butter in butter equivalents is now 520,000 MT, one percent less than the USDA official forecast and one percent down on the 2019 estimate. Exports in butter equivalents are now forecast at 490,000 MT, two percent less than the USDA official forecast and 3.7 percent below 2019. The factors influencing butter exports and production are listed below, with the negative impacts expected to outweigh the positive.

Negative factors:

- Exports for the period January to March 2020 are running at 15 percent below the same period in 2019, with butter down 21 percent.
- ➤ It is likely one of the Covid-19 effects in Europe will be more butter being produced surplus to domestic requirements, which will flow into the international trade.
- All around the globe Covid-19 lockdowns are disrupting food service. AMF is a major ingredient in many food service products and demand is likely to be disrupted. The extent to which this will occur cannot be determined at this point.
- The total milkfat supply is likely to be marginally down as the milk supply is also down slightly.
- > The continued emphasis on WMP production will restrict the amount of butter/AMF that can be produced.

Positive factors:

- Since 2017, production of butter and AMF has been limited by higher profit UHT cream production. This UHT cream goes primarily to the food service sector in Asia (especially China) and sales are being disrupted during 2020. As a result, any milkfat saved from producing this cream could be processed into butter or AMF.
- At the peak milk flow in October and November some butter or AMF and SMP has to be made to be able to process all the milk being received each day.
- ➤ There are some long standing customers who New Zealand processors will be committed to supply regardless of price declines.

2019

Butter and AMF production for 2019 is estimated at 525,000 MT (butter equivalent), 4.6 percent less than 2018. UHT cream exports for food service in Asia continued to grow quickly, which limited

milkfat being processed to butter or AMF. Exports for 2019 reached 509,000 MT, 1.6 percent higher than the 2018 volume.

New Zealand Butter & AMF Export Destinations by Quantity (MT Butter Equivalents) Annual Total Quantity (MT Butter Eq.) for Year-to-Date January-March **Calendar Year** Qty (MT But.Eq) **Destination Country** %Δ 2017 2015 2016 2018 2019 2019 2020 2020/19 China 71,886 72,056 87,849 104,584 89,671 17,126 22,666 32.3% 36,314 **Philippines** 30,334 31,589 33,031 33,529 14,003 9,541 -31.9% Australia 20,370 29,443 30,017 36,940 36,050 9,514 11,390 19.7% **United States** 20,122 12,111 7,287 14,324 32,668 10,679 9,247 -13.4% Mexico 36,271 59,482 25,757 23,191 26,214 7,472 7,305 -2.2% 8,766 22,971 15,018 8,926 26,171 7,195 26.9% Russia 9,133 22,766 Saudi Arabia 23,760 26,837 23,058 22,568 6,747 5,805 -14.0% Vietnam 16,570 14,803 18,039 16,515 20,587 5,802 4,506 -22.3% 40,050 Egypt 42,853 16,254 19,642 19,095 5,105 7,545 47.8% 16,079 16,509 16,581 17,500 5,050 5,225 3.5% Malaysia 16,352 Rest of World -37.9% 264,862 228,586 203,026 204,118 182,005 70,298 43,628 500,887 508,843 158,991 135,991 **World Total** 551,873 554,437 475,917 -14.5%

Source: TDM LLB

| Dairy, Butter | 201 | 8 | 201 | 9 | 2020 | 0 |
|-----------------------------|---------------|----------|---------------|----------|---------------|----------|
| Market Begin Year | Jan 20 | 018 | Jan 20 | 019 | Jan 2020 | |
| New Zealand | USDA Official | New Post | USDA Official | New Post | USDA Official | New Post |
| Beginning Stocks | 84 | 84 | 86 | 105 | 93 | 93 |
| Production | 530 | 550 | 530 | 525 | 525 | 520 |
| Other Imports | 1 | 1 | 1 | 1 | 1 | 1 |
| Total Imports | 1 | 1 | 1 | 1 | 1 | 1 |
| Total Supply | 615 | 635 | 617 | 631 | 619 | 614 |
| Other Exports | 501 | 501 | 495 | 509 | 500 | 490 |
| Total Exports | 501 | 501 | 495 | 509 | 500 | 490 |
| Domestic Consumption | 28 | 29 | 29 | 29 | 30 | 29 |
| Total Use | 529 | 530 | 524 | 538 | 530 | 519 |
| Ending Stocks | 86 | 105 | 93 | 93 | 89 | 95 |
| Total Distribution | 615 | 635 | 617 | 631 | 619 | 614 |
| (1000 MT) | | | | | | |

Not official USDA PSD estimates

Imports

New Zealand imported a total of US\$411 million worth of dairy products in 2019, up 29 percent on the total for 2018. The leading import was lactose used in the manufacture of WMP. The volume imported reached 117,976 MT of lactose, up 37 percent from 2018.

| New Zealand Import Statistics For All Dairy Products | | | | | | | | | | | |
|--|------|---|-----------|-----------|-----------|--------------------------|---------|-------------|--|--|--|
| Description | Unit | Annual Total by Qty for Calendar Years | | | | Year-to-Date Jan-Mar Qty | | | | | |
| | | 2016 | 2017 | 2018 | 2019 | 2019 | 2020 | %Δ 20/19 | | | |
| Milk And Cream, Nt Concntrd, Nt Sweetd, Nov 1% Fat | Т | 271 | 205 | 200 | 259 | 43 | 43 | 0.0% | | | |
| Milk/Cream Nt Cnctrd/Swt, Fat Content Ov 1% Nov-6% | L | 769,161 | 1,350,124 | 1,817,541 | 2,910,768 | 468,968 | 258,145 | -45.0% | | | |
| Milk/Cream Nt Cnctrd/Swt, Fat Content Ov 1% Nov-6% | Т | 1 | 16 | 1 | 47 | 0 | 0 | | | | |
| Milk & Cream Fat Cont 6-10% Not Concent Or Sweeten | Т | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| Milk & Cream Fat Cont Gt 10%, Not Concent Or Sweet | L | 0 | 0 | 0 | 170 | 0 | 0 | | | | |
| Milk & Cream Fat Cont Gt 10%, Not Concent Or Sweet | Т | 935 | 1,114 | 1,205 | 1,179 | 139 | 156 | 12.2% | | | |
| Mlk & Crm,Cntd,Swt,Powdr,Gran/Solids,Nov 1.5% Fat - SMP | Т | 2,730 | 1,992 | 2,704 | 3,990 | 444 | 994 | 123.9% | | | |
| Mlk/Cream Cnctrd Nt Swtn Pwd/Oth Solids Ov 1.5% Fat - WMP | T | 3,799 | 1,690 | 1,551 | 3,621 | 168 | 194 | 15.5% | | | |
| Mlk & Crm,Cntd,Swtnd,Powdr/Solids, Over 1.5% Fat - WMP | Т | 199 | 35 | 201 | 38 | 1 | 119 | 11800.0% | | | |
| Milk And Cream, Concentrated, Not Sweetened, Nesoi | Т | 92 | 108 | 150 | 184 | 40 | 32 | -20.0% | | | |
| Milk And Cream, Sweetened, Concen Or Not Nesoi | L | 2,756 | 14,314 | 114,743 | 138,371 | 0 | 96 | | | | |
| Milk And Cream, Sweetened, Concen Or Not Nesoi | Т | 3,329 | 3,723 | 3,175 | 3,741 | 448 | 595 | 32.8% | | | |
| Yogurt, W/N Sweetened, Flavored Or Cntg Fruit/Coco | Т | 427 | 252 | 209 | 84 | 7 | 10 | 42.9% | | | |
| Buttermilk/Kephir/Curdled Fermntd Acidfd Mlk & Crm | Т | 107 | 310 | 481 | 533 | 81 | 87 | 7.4% | | | |
| Whey & Modfd Whey Whet/Nt Cncntrtd Cntg Add Sweetn | Т | 16,449 | 23,489 | 31,219 | 20,861 | 5,741 | 3,523 | -38.6% | | | |
| Products Of Natural Milk Constituents, Nesoi - MPC | Т | 3,468 | 3,037 | 4,614 | 5,844 | 1,658 | 270 | -83.7% | | | |
| Butter | Т | 1,877 | 578 | 311 | 713 | 153 | 16 | -89.5% | | | |
| Dairy Spreads | Т | 16 | 2 | 4 | 24 | 0 | 1 | | | | |
| Fats And Oils Derived From Milk, N.E.S.O.I AMF | Т | 301 | 228 | 406 | 241 | 17 | 11 | -35.3% | | | |
| Cheese, (Unripened Or Uncured) Fresh (Including Whey Cheese), And Curd | Т | 2,410 | 2,250 | 1,819 | 1,759 | 150 | 207 | 38.0% | | | |
| Cheese Of All Kinds, Grated Or Powdered | Т | 504 | 514 | 432 | 434 | 112 | 449 | 300.9% | | | |
| Cheese, Processed, Not Grated Or Powdered | Т | 1,314 | 1,354 | 1,389 | 1,111 | 220 | 148 | -32.7% | | | |
| Cheese, Blue-Veined, Nesoi | Т | 221 | 222 | 201 | 230 | 45 | 26 | -42.2% | | | |
| Cheese, Nesoi, Including Cheddar And Colby, incl Mozzarella | Т | 6,016 | 7,088 | 7,842 | 9,202 | 1,360 | 510 | -62.5% | | | |
| Lactose & Lactose Syrup Cont 99% More Lactse By Wt | Т | 74,692 | 90,470 | 85,916 | 117,976 | 22,785 | 18,160 | -20.3% | | | |
| Lactose In Solid Form And Lactose Syrup, Nesoi | Т | 1,881 | 98 | 1,352 | 410 | 0 | 0 | | | | |
| Ice Cream And Other Edible Ice, With Cocoa Or Not | L | 693 | 9,078 | 369,861 | 189,907 | 19,422 | 43,988 | 126.5% | | | |
| Ice Cream And Other Edible Ice, With Cocoa Or Not | Т | 4,301 | 4,976 | 7,817 | 7,189 | 1,258 | 1,204 | -4.3% | | | |
| Casein | LPA | 0 | 0 | 0 | 0 | 0 | 0 | | | | |

| Caseinates & Other Casein Derivatives; Casein Glue | Т | 1 | 1 | 4 | 1 | 0 | 0 | |
|---|---|-------|-------|-------|-------|-----|-----|--------|
| Caseinates And Other Casein Derivatives; Casein Glues | Т | 38 | 10 | 21 | 37 | 32 | 1 | -96.9% |
| Milk Albumin,Inc Concen Of 2 Or More Whey Proteins | Т | 1,407 | 166 | 2,530 | 1,948 | 464 | 183 | -60.6% |
| Albumins, Albuminates And Other Albumin Derivatives, Nesoi | Т | 7 | 35 | 18 | 29 | 0 | 1 | |
| Peptones And Derivatives; Other Proteins And Derivatives, Nesoi; Hide Powder, Chromed Or Not | Т | 667 | 930 | 834 | 924 | 139 | 206 | 48.2% |
| Rennet And Concentrates Thereof | Т | 11 | 27 | 14 | 9 | 0 | 2 | |
| Enzymes And Prepared Enzymes, Nesoi | Т | 436 | 407 | 451 | 432 | 80 | 96 | 20.0% |
| IMF | Т | 1,000 | 1,099 | 1,193 | 1,351 | 242 | 226 | -6.6% |

Attachments:

No Attachments