

PERSPECTIVE

February 2020

The latest insights into global dairy markets

Your regular global overview of the dairy industry along with trends in milk production, commodity prices and dairy trade.





Welcome back to Perspective! February 2020

Welcome back to our first edition of Perspective for the new decade!

As is human nature, a new year (and even more so a new decade) inspires us to reflect on what has been, and what is to come. The dairy industry is one of the oldest food & beverage categories in the world, historians say there is evidence of cattle being used for milk in seventh millennium BC. In a nut shell, our industry has been around a long time, and with that comes history, experience and tradition.

However - the world is always evolving, and the consumers demands along with it. This creates both challenges and opportunities for dairy, and where you land depends on your willingness to adapt and keep informed on the insights. What space is there for dairy beyond traditional meal times? How can dairy bridge the gap between health and indulgence? What ways can we transform the consumption experience?

These are the questions Roshena De Leon, Fonterra's Global Insights Manager – AMENA, seeks to ask and answer. This month we look to the next decade of dairy and asked Roshena to share her expert opinion on 3 key ways dairy can break tradition and thrive in 2020.

Four key movements for the month:



Production – Monthly production in New Zealand, EU and US relatively flat on last year. Australia continues to decline.



Exports – Exports from New Zealand and the EU show strong growth and increase in monthly US exports. Australia monthly exports continue to decline.

Imports - Imports into China continue to grow. Asia, Latin America and Middle East & Africa monthly imports down.

Prices – GDT Event 253 had mixed movements, resulting in the GDT price index dropping -4.7% to USD \$3,226/MT. The largest changes came from Cheddar, AMF, Butter Milk Powder and WMP, moving +6%, -4.5%, -5.2% and -6.2% respectively.

If you have suggestions for topics you would like to read about in Perspective, or any other general feedback, we would love to hear from you. You can contact us at nzmpbrand@fonterra.com or through your account manager.

Kind Regards,

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Gillian Munnik Director of Sales and Marketing Services



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3 ways dairy can break tradition and thrive in 2020



Roshena De Leon Global Insights Manager, Fonterra (AMENA)

Roshena joined Fonterra in early 2015, and as the Global Insights Manager for Fonterra (AMENA) she is responsible for communicating her in-depth understanding of global markets, categories and consumer trends through strategic initiatives and opportunities. Roshena has a passion for telling the story behind the data and working with NZMP and their customers on which innovations and actions can bring insights to life.

Roshena has 20 years of experience in both qualitative and quantitative research with a strong focus on the FMCG category.

Prior to Fonterra, Roshena has held roles in various global market research and media agencies and MNCs.

It is an exciting time to be in the dairy industry!

Now, one can be forgiven for thinking this opening statement is over enthusiastic with some of the negative sentiments towards the dairy industry, especially in western markets. Yet if you look beyond the headlines, consumer trends, present growth opportunities for dairy. For those who are willing to adapt their innovation to the continuously evolving market, there is a myriad of possibilities.

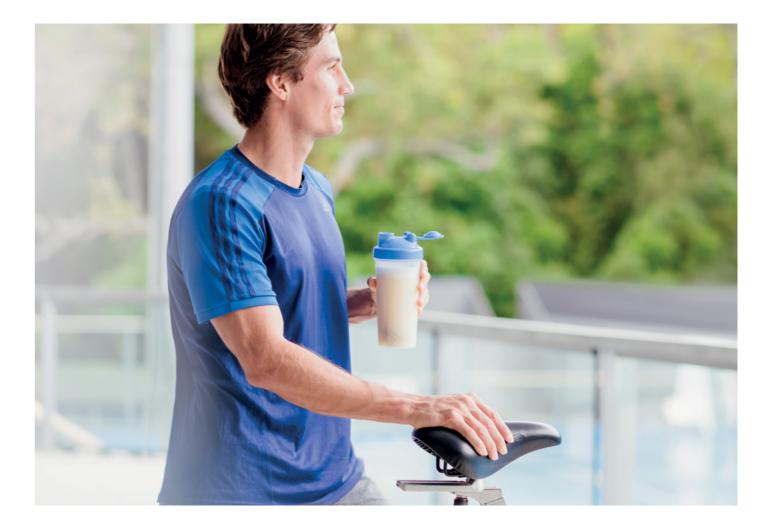
Globally, FMCG Gurus' consumer survey shows that 78% of consumers still eat or drink dairy as a source of protein (Protein Survey 2019) demonstrating that it remains in favour among consumers.

The challenge the industry faces is how to maintain these positive feelings with consumers and reengage those people who might be looking elsewhere.

Good news is there are new narratives where dairy can look to thrive in 2020.

1 The health and wellness movement open new positioning territories for dairy to expand in its heartland

Health and wellness (HW) is a megatrend that continues to dominate conversations in the food and beverage industry. Euromonitor projects the health and wellness packaged food segment to be US\$ 994.5Bn by 2024 thanks to the growing health consciousness of consumers globally.



Dairy has the nutritional credentials to meet the rapid growth driven by this health & wellness revolution.

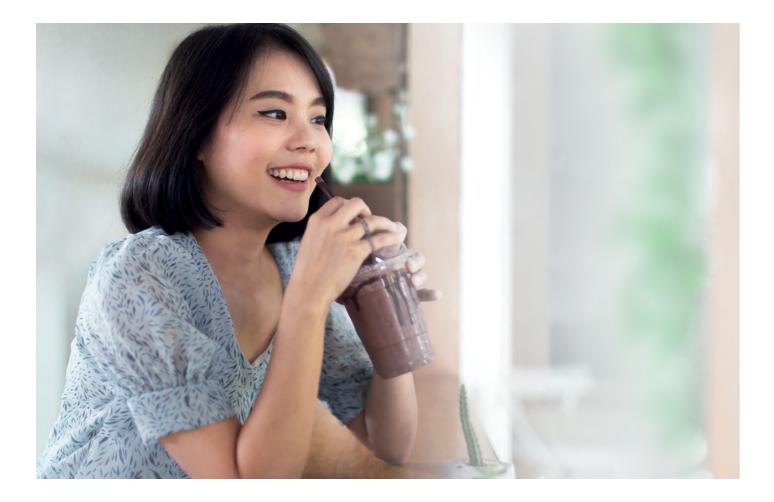
This in turn provides opportunities for dairy to extend into new positioning territories, and further evolve its nutrition story. Traditionally in the HW space consumers have seen dairy primarily as a calcium source that is good for bone health however these emerging narratives show dairy has even more to offer in the HW space:

 Protein fortified foods: Consumers will continue to put emphasis on the combination of a healthy diet and active lifestyle in achieving total wellness and protein will be the main ingredient that will support it. Dairy, and animal proteins still

dominate this segment with still plenty of room to grow. 61% of global consumers get their protein from animal-based foods including dairy (FMCG Gurus Protein survey 2019).

- Digestive Wellness: Consumers are seeking digestive benefits across a broader range of food and drinks. Dairy products, such as yogurt, have demonstrated the digestive benefits dairy can have, which has created a leap-pad for ingredients such as pre and probiotics. This creates a potential to extend pre and probiotics to a wider range of categories beyond yogurt.
- **Brain:** Interest in mental wellness goes beyond western markets. NPDs in markets like Nigeria and South Korea are growing at pace albeit from small bases.





Dairy creates the link between health and indulgence

A question that often gets asked whenever we talk about health and wellness is what happens to indulgence categories. "Does a growing need for health equals the demise of indulgent products?"

In the age of heightened consciousness on health and wellness, consumers say they still like to enjoy moments of indulgence where they pay little or no attention to the nutritional content of what they eat or drink.

Health and wellness and indulgence can and do coexist.

Consumers are increasingly in mindful of 'better for you' choices within indulgent categories.

Consumers are making the most of those indulgent moments. They demand 'experiences' from what they eat and drink. Indulgence does not only require better tastes but also a way to engage all the senses.

Dairy is no stranger to indulgent categories and manufacturers should continue to push the limits in creativity when it comes to this segment. Moreover, with its credentials in nutrition, dairy is in a strong position to offer a bridge between health and indulgence and enhance the permissibility of indulgent categories.

3 Evolving consumer eating habits create additional consumption occasions for dairy

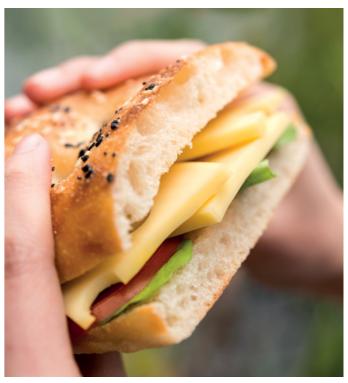
Consumers are changing the way they eat and traditional dairy consumption occasions, particularly breakfast, are not exempt.

As people get busier, we see more consumers eating on-the-go or skipping meals altogether giving way to snacking more during the day.

This creates both challenges and opportunities for dairy. On the one hand, this behaviour can lead to substitution of traditional dairy categories as consumers look for more convenient, on the go solutions. On the other, this creates an opportunity for dairy to enter new consumption moments using the right formats and formulations.

The good news is consumers are receptive to dairy as both an ingredient in a snack (protein, probiotics, calcium) and a standalone snack (Cheese, Yoghurts, RTD **Beverages**).





And as consumers pay more attention to the nutritional value of products they snack on, dairy's health credentials give it a strong right to win in this space. With the right product offering, the growth of the snacking segment can grow dairy's consumption frequency as well as protect potential consumption decline with the increasing meal skipping behaviours.

So, what do these mean?

These opportunities are giving dairy a window to drive growth in 2020 and reinforce its relevance to consumers. However, food and beverage manufacturers must look beyond dairy's traditional business models.

Dairy players need to be excited and bold to capture these emerging opportunities. They need to reimagine and broaden their thinking of possibilities for positioning territories, customer and consumer base.

It is an exciting time to be in the dairy industry. At least for those who are willing to adapt to a continuously evolving market and embrace the challenge of reimagining what dairy can be in the future.



Monthly production in New Zealand, EU and US relatively flat on last year. Australia continues to decline.



1: New Zealand production is measured in litres

FONTERRA MILK COLLECTION 2019/20 SEASON

IAN

NOV

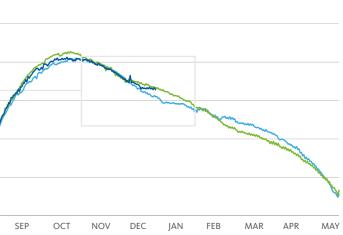
DEC

100

40

intense competition for milk.



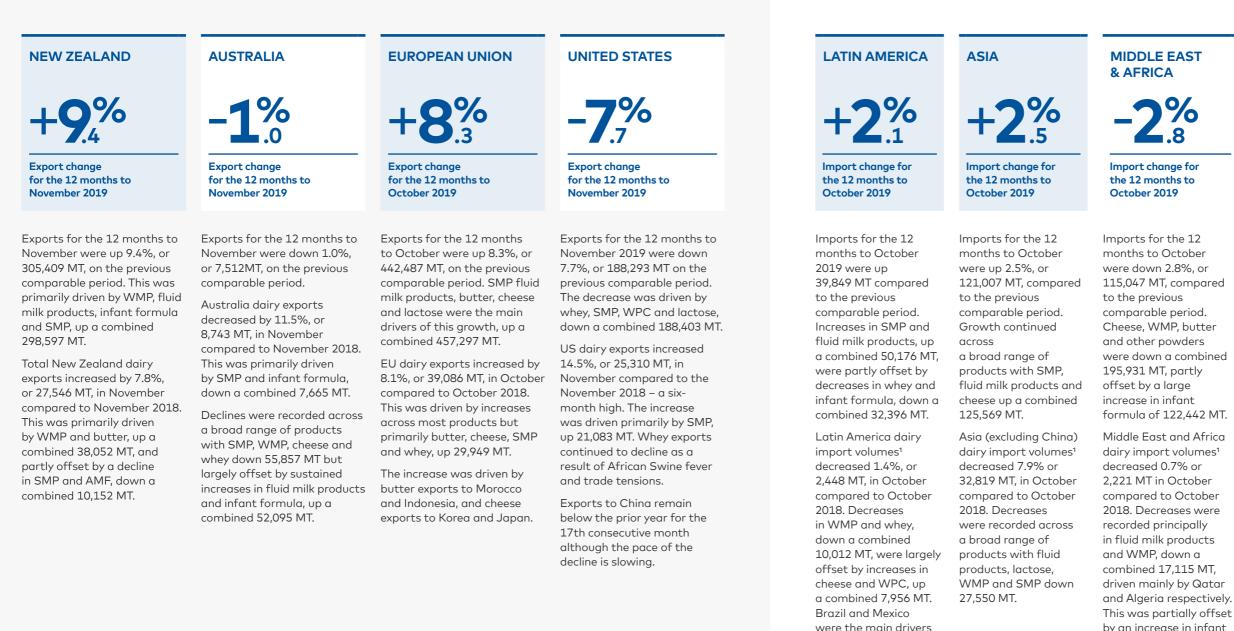






Exports from New Zealand and the EU show strong growth and increase in monthly US exports. Australia monthly exports continue to decline.

Imports into China continue to grow. Asia, Latin America and Middle East & Africa monthly imports down.



behind WMP and whey

declines.

GLOBAL IMPORTS

by an increase in infant formula and SMP to Nigeria, up 16,864 MT.

CHINA



Import change for the 12 months to November 2019

Imports for the 12 months to November were up 11.4%, or 319,070 MT compared to the previous comparable period. Strong demand out of China continued across all key categories. Fluid milk products, WMP, SMP and infant formula were up a combined 469,153 MT. This was partially offset by a continuing decline in whey imports, down 105,554 MT.

China dairy import volumes continued to increase, up 31,556 MT in November compared to November 2018. This is driven primarily by increases in WMP from New Zealand, and fluid milk products, up a combined 29,210 MT

RUSSIA

1% +5%

Import change for the 12 months to November 2019

Imports for the 12 months to November 2019 were up +5.3% or +55,129 MT compared to the same period the previous year. This was mainly driven by AMF, Butter, Casein, Cheese, Cultured Products, Ice cream, Whey and WMP being up a combined +90,931 MT. Offset by Fluid and Fresh Dairy, Infant Formula, Lactose, SMP, MPC and WPC being down a combined -36,577 MT.

Russia import volumes were down -7.6% or -6,990 MT for November 2019 compared to the same month the previous year.



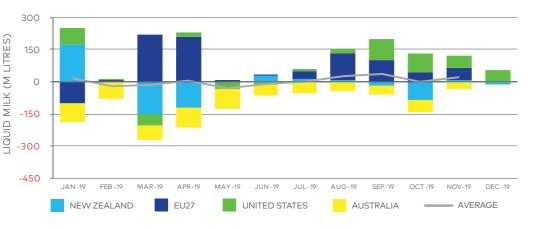
Global Dairy Market

The charts on the right illustrate the year-on-year changes in imports, exports and production for a range of countries that are important players in global dairy trade.

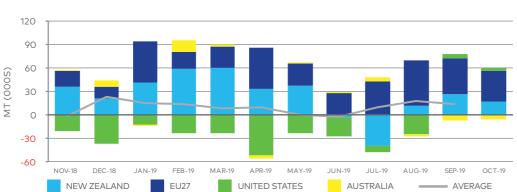
The absolute size of the bars represent the change in imports, exports or production, relative to the same period the previous year.

Averages are shown where data is complete for the regions presented.

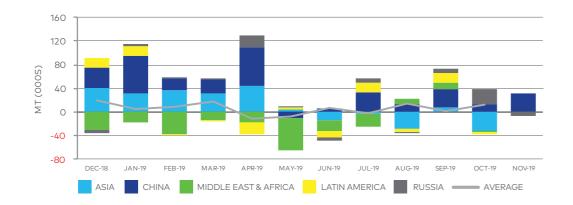
PRODUCTION











Food Price

The FAO Food Price Index (FFPI) reached a five-year high in December 2019. Averaging 181.7 points, it was up 4.4 points on November and marked a third straight month of increases. However, across 2019 as a whole, the FFPI averaged 171.5 points - just three points higher than 2018.

Meanwhile, the Dairy Price Index averaged 198.9 points in December 2019, an increase of 6.3 points (3.3%) on November. Cheese prices surged the most (up 8%), with skim milk powder quotations also continuing to point higher. Conversely, weak global demand saw lower prices for butter and whole milk powder.



Composite leading indicators (CLIs) point to growth stabilising in most major economies, but below long-term trends.

The CLIs continue to point to stable growth momentum in Canada, Japan and the euro area. Meanwhile, earlier signs of stabilisation in the US, UK and Germany have been confirmed.

Among the major emerging economies, stable growth momentum is expected for Russia and China's industrial sector. The CLIs also point to growth gaining momentum in Brazil, however growth momentum is expected to ease in India.

Source: OECD



The EIU now estimates global growth stood at 2.2% in 2019 (down from 2.3%), due to downward revisions in estimates for Japan, India, Iran and Saudi Arabia.

They have also sharply revised down their estimates for trade growth in 2019 – from 1.5% previously to 0.8%. This is in light of the latest trade data and continued tensions in global trade.

The EIU's growth profile for global trade in 2020 is unchanged at 2.3%, while estimates for 2021 are sitting at 3.5% (down from 3.6% previously).

Source: Economist Intelligence Unit



Weather conditions were varied across New Zealand in December, with excellent conditions in the South Island, and warmer and drier weather in the North Island, particularly in Waikato and Bay of Plenty.

Meanwhile, Australia's wheat belt continued to experience drier-than-normal weather throughout December. Those hot, dry and windy conditions also significantly contributed to the bush fires that devastated parts of the country that month.

In Europe, near- to above-normal temperatures and precipitation through December made for favourable conditions for dormant winter crops in western and central areas. However, pockets of drought persisted in north-eastern Europe and the lower Danube River Valley.

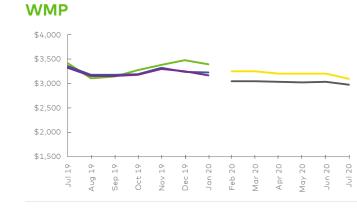
Source: World Agricultural Weather Highlights USDA oCOE, Fonterra Ingredients Australi









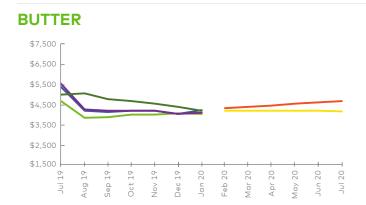


WMP prices dropped across the board for January. Dutch Dairy Board & USDA Oceania both showed a -2.4% drop to USD \$3,390/MT and \$3,171/MT respectively. GDT showed a minor decrease of -0.7% to USD \$3221/MT.

Futures and forecasts for the next six-months are tracking similar to the current market. Rabobank Oceania has increased its average +9.7% to USD \$3,200/MT. NZX Futures has decreased theirs -8.6% from last perspective to an average USD \$3,027/MT.

Prices for January are again up across the board, continuing the long-running trend. USDA Oceania increased +1.6% to USD \$3,029/MT and Dutch Dairy Board showed a +0.6% uplift to USD \$2,835/MT. USDA NASS increased +1.8% to USD \$2,734/MT. GDT showed a +2.1% uplift to USD \$3,104/MT

Forecast and futures are mixed, Rabobank Oceania has shown a moderate +21.7% average uplift since the last edition of perspective, with their average 6-month price now at USD \$3,042/MT.



Results are mixed this month as butter prices become very tight across the four key indexes in January, with only USD \$209/MT between them. USDA Oceania increased +2% to USD \$4,042/MT and Dutch Dairy Board dipped -0.8% to USD \$3,952/MT. CME Spot dropped a further -4.6% to USD \$4,149/MT. GDT uplifted +5.4% to USD \$4,161/MT

Average futures and forecasts for the next six-month period are mixed as CME Futures drops their average another -2.3% to USD \$4,464/MT and Rabobank Oceania average prices increase +2.3% to USD \$4,142.

CHEESE

SMP

\$4,000

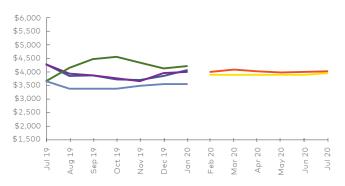
\$3,500

\$3,000

\$2,500

\$2.000

\$1,500



January shows increases across the board in January, the largest coming from GDT which has continued its 3 month climb with a +5.7% increase to USD \$4,066/MT.

CME Futures 6-month average has dropped -3.7% to USD \$4,023/MT and Rabobank Oceania average prices uplift +3.3% to USD \$3,908/MT.



solutions Take control of price and supply.



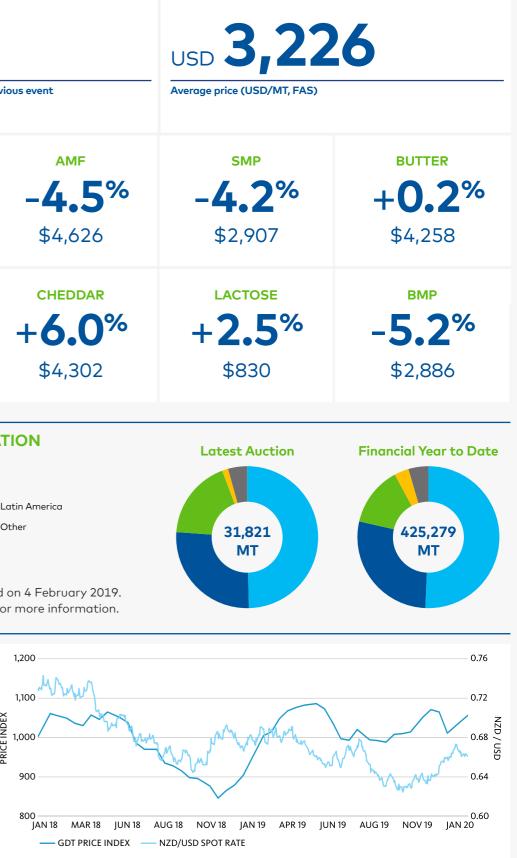
GDT Results

TRADING EVENT 253









GDT RESULTS



USDA, Dairy Outlook

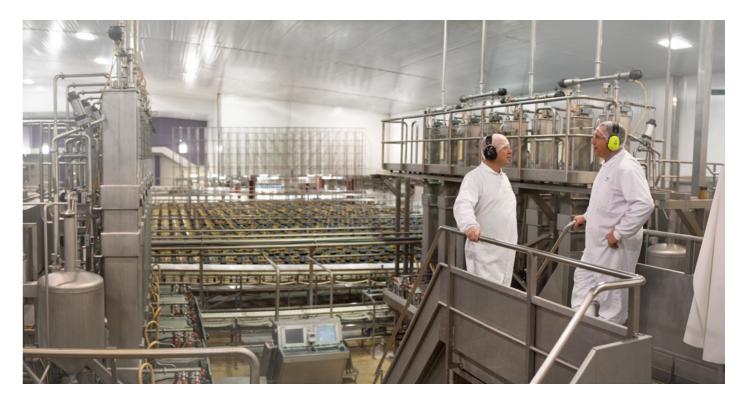
Published January 2020



Price directions were mixed from the week ending December 7 to the week ending January 4. While the prices for nonfat dry milk (NDM) and dry whey increased, the prices for butter and cheddar cheese fell. The all-milk price for 2019 is estimated at \$18.60 per cwt, unchanged from last month, while the all-milk forecast for 2020 has been lowered to \$19.25 per cwt, down \$0.15. USDA National Agricultural Statistics Service (NASS) estimated November US milk production at 17.440 billion pounds, up 0.5% on the same time the previous year. Estimates for the average size of the milking herd for November remain unchanged at 9.331 million head. However, the average daily milk per cow was 62.3 pounds per day in November, down 0.1% on October. This represented the first time since 2004 that average daily milk per cow declined from October to November.

Dairy exports on a milk-fat milk-equivalent basis totalled 699 million pounds in November, down 1 million on October and 118 million on the same time the previous year. However, November exports on a skim-solids milk-equivalent basis were 3.670 billion pounds, up 28 million on October and 554 million on November 2018. Notably, exports of nonfat dry milk/ skim milk powder (NDM/SMP) were 148.6 million pounds in November, down 7.3 million on October, but up 42.7 million on November 2018. Cheese exports totalled 62.7 million pounds in November, up 0.1 million on October and 4.3 million higher than November the previous year.

Exports of whey products totalled 74.1 million pounds in November, representing an increase of 8.1 million from



October, but down 8.1 million on November 2018. Exports of dry whey and WPC to China continued to be constrained by retaliatory tariffs.

November's dairy imports declined both year over year and month over month. On a milk-fat basis, dairy imports came to 504 million pounds, down 170 million on October and 27 million on November 2018. On a skim-solids basis, November's dairy imports totalled 484 million pounds, 1 million less than October and 18 million less than November the previous year. Butter imports sat at 4.4 million pounds in November, down 3.1 million on October and 2.9 million on November 2018. November's cheese imports totalled 26.3 million pounds, down 8.8 million on October and 3.8 million on November 2018.

On a milk-fat basis, November ending stocks were 13.495 billion pounds, up 180 million pounds on the same time the previous year. On a skim-solids basis, November ending stocks were 10.076 billion pounds, down 345 million than November 2018. Notably, manufacturers' stocks of NDM totalled 223.1 million pounds for the end of November, down 66.1 million on November 2018.





Dairy estimates for 2019 Published January 2020*

Based on November's cow numbers, the fourth-quarter estimate for the size of the milking herd has been increased to 9.330 million head, up 5,000 on the previous forecast. Fourth-quarter expectations for milk per cow have been lowered 40 pounds to 5,765 pounds, as November milk per cow was much lower than expected. Therefore, expected fourth-quarter 2019 milk production is now 53.8 billion pounds, down 0.3 billion pounds on last month's forecast. Milk production for the year is expected to be 218.3 billion pounds.

The estimate for imports on a milk-fat basis for 2019's fourth quarter has decreased 0.1 billion pounds to 1.8 billion. This is due to lower expected imports of butter and cheese. Estimated imports on a skim-solids basis are unchanged from last month at 1.5 billion pounds. Meanwhile, the estimate for 2019 fourth-quarter exports on a milk-fat basis has increased 0.1 billion pounds to 2.1 billion pounds. The expectation for exports on a skim-solids basis is also up by 0.4 billion pounds to 10.7 billion for the quarter.

The estimate for 2019 ending stocks on a milk-fat basis has decreased 0.1 billion pounds to 13.7 billion pounds. With falling stocks of NDM in November, the estimate for ending stocks on a skim-solids basis has also been lowered by 0.3 billion pounds to 10.3 billion. The estimate for domestic use on a milk-fat basis is sitting at 56.5 billion pounds for the fourth quarter, down 0.4 billion pounds on the previous month's forecast. Expectations for fourth-quarter domestic use on a skim-solids basis are also down 0.4 billion pounds at 44.7 billion pounds.

For the fourth quarter, the cheese price was slightly lower than expected last month, while prices for dry whey, butter, and NDM were slightly higher. Average prices for Cheddar cheese, dry whey, butter, and NDM in 2019 were \$1.759, \$0.380, \$2.243, and \$1.042 per pound, respectively. The 2019 Class III and Class IV prices were \$16.96 and \$16.30 per cwt, respectively. The 2019 all-milk price estimate is unchanged from last month's projection of \$18.60 per cwt.

Blimling, Forecast Update

Published January 30, 2020

Blimling says cheese risk managers should have a chance to improve their hedging precision now that the CME has launched new block cheddar futures and options contracts.

They say this is an important move, given most cheese in the US prices against CME spot blocks. The increasingly orders. volatile relationship between blocks and barrels over the NDM/SMP prices will continue to press higher following past few years has altered the correlation between CME the holiday season. Stronger milk supplies globally will blocks and the USDA "all cheese" price. Between 2017 and weigh on the upside by mid-year. 2019, the average r-squared between CME blocks and "all cheese" fell to 0.89, giving hedgers a lot of basis risk. By Finally, dry whey prices will struggle to find sustained lift, due to a lack of recovery in export demand. Blimling is comparison, the r-squared between USDA/NDSPR blocks picking prices will likely chop between 35 and 40 cents in and CME blocks has improved to 0.94 over the past three the near-to-medium term. years. Blimling says block cheese futures prices are trading at a premium to the old contract.

They also add that the cheese market will be choppy in 2020, based on uneven supply in the Midwest and pipeline



refilling demand. Prices are expected to step lower midyear, as milk supplies recover.

Meanwhile, heavy supply will continue to have a bearish influence on butter. Blimling has also noted New Zealand production setbacks, limiting the ability to deliver on AMF orders.



Fonterra draws the information in this update from a variety of principally external sources listed below. Also included are defined acronyms for better understanding.

AMF Anhydrous Milk Fat

BMP Butter Milk Powder

CME Chicago Mercantile Exchange

DDB Dutch Dairy Board

EIU Economist Intelligence Unit

FAO United Nations Food and Agriculture Organisation

Farmgate Milk Price The price for milk supplied in New Zealand to Fonterra by farmer shareholders

Fluid and Fresh Dairy The Fonterra grouping of fluid milk products (skim milk, whole milk and cream pasteurised or UHT processed), concentrated milk products (evaporated milk and sweetened condensed milk) and yoghurt

FTA Free Trade Agreement

GDI Global Dairy Intelligence group, Fonterra Cooperative Group Limited. GDI provides insights to Fonterra management based on a model of the global dairy market developed by GDI and populated with publicly available data. The model outputs referenced in this report do not reflect Fonterra's non-public production or sales data

GDP Gross Domestic Product

GDT Global Dairy Trade auction platform

GDT Price Index is an index that provides a measure of the weighted average percentage change in the movement in price of all products sold on GDT. This provides a simple measure of changes in dairy price between trading events **IMF** International Monetary Fund

Informa Informa Economics Inc., Dairy Group, Global Dairy Market Report

LME Liquid Milk Equivalent

MAT Moving Annual Total (this is data averaged across the 12 month period)

MEA Middle East and Africa

NDM Non-fat Dry Milk

NZX NZ Stock Exchange

OECD Organisation for Economic Co-operation and Development

Q[1] [First] Quarter

Reference Products The dairy products used in the calculation of the Farmgate Milk Price, which are currently WMP, SMP, BMP, butter and AMF

SEA South East Asia

Season New Zealand: A period of 12 months to 31 May in each year. Australia: A period of 12 months to 30 June in each year

SMP Skim Milk Powder

TE GDT Trading Event

USDA NASS US Department of Agriculture National Agricultural Statistics Service

USDA Oceania US Department of Agriculture Agricultural marketing service price series for specific products in the Oceania region

 $\textbf{WMP} \hspace{0.1cm} \textbf{Whole Milk Powder}$

YOY Year-on-year

 $\textbf{YTD}\$ Year to date



Tracking the global dairy market Production, Export and Import charts

The production, export and import charts illustrate year-on-year changes in production, exports and imports for a range of countries that are important players in global dairy trade.

The absolute size of the bars represents the change in production, exports or imports compared to the same month the previous year. The portion of the bar below zero represents a year-on-year decrease and the portion above the line shows the year increase for that country. Where countries are not shown this is likely due to the data not yet being available.

Weather Source (Page reference – 13)

Comments on weather are obtained from various government weather sites as well as independent reports including Martell Crop Projections. Global milk production data is sourced from government and industry websites including US Department of Agriculture (USDA), EuroStat, Dairy Australia, Dairy Companies Association of New Zealand (DCANZ) and others.









Ingredients by **Fonterra**



Important note: The information and commentary contained in this 'Perspective from NZMP' is based on publicly available official government statistics; industry association reports; other published industry reports together with data and insights developed by Fonterra's Global Dairy Intelligence group ('GDI'). These sources are identified as appropriate in this 'Perspective from NZMP'. GDI insights and data are derived from a global dairy market model populated by publicly available data. The model inputs and outputs do not reflect Fonterra's non-public production, pricing or sales data. Fonterra Co-operative Group Limited and its group members involved in the manufacture or sale of NZMP branded products ('Fonterra') has provided this 'Perspective from NZMP' for informational purposes only. It does not constitute recommendations or advice for the purposes of making financial decisions regarding in dairy products or commodities, or dealing in financial instruments relating to dairy commodities. Although every effort is made to ensure the accuracy of reproducing and interpreting such information, no warranty or representation of such is made and Fonterra shall have no liability in respect of any reliance placed on such information in the formulation of any business decision.