

PERSPECTIVE

October 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! October 2020

Recently Fonterra announced our **2020 Annual Results**. As an essential business, we are proud of how our people have come together to keep going during a year of global uncertainty due to COVID-19. Our results are a testament to the three key pillars of our refreshed strategy; healthy people, healthy business & healthy environment.

Our healthy environment pillar is one that we often talk about in NZMP Perspective. In particular, how we continue to strive to reduce our green-house-gas emissions. Due to our farming practices, New Zealand is already a world-leader in low emissions per litre of milk produced, but there is still more to be done. This month we interview Mark Piper, Director of Category Strategy and Innovation at Fonterra, on how his team are looking to reduce methane emissions on farm with an innovative new concept called, Kowbucha[™].

For the latest information on how Fonterra is responding to COVID-19 please refer to the webpage **here**.

Four key movements for the month:



Production – Favourable start to the New Zealand season. Beginning of new season in Australia. EU and US production improves.



Exports – Strong increase in US and EU monthly exports. New Zealand and Australia monthly exports decrease.



Imports – China, Latin America and Asia show strong increase in monthly imports.



Prices – **GDT Event 268** resulted in the GDT price index increasing +3.6% to USD \$3,092/MT. The largest movements came from SMP, Cheddar & WMP which moved +8.4%, +7.2% & +3.2% 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



In	th	IS	issu	Je

0	Feature article	4
	Global production	8
T	Fonterra milk collection	9
6F	Global exports	10
()	Global imports	11
	Tracking the global dairy market	12
	Global indicators	13
(¹	Commodity prices	14
P	GDT results	15
9	Industry commentary	16
	Glossary	20



3

Kowbucha[™] A Potential Methane-Reducing Method for Cows



Mark Piper

Director of Category Strategy & Innovation at Fonterra



In the 27 years Mark has been with Fonterra he has worked in the manufacture of casein and cheese, coordinated supply chain activities for sales into Japan and Korea, managed a technical team for Fonterra Japan and was a Product Group Manager for Fonterra's global cheese business. Mark moved to Chicago in 2010 and was the Regional Director Ingredients Americas for Fonterra before relocating back to New Zealand in January 2016 to head up the Transformation Office for Fonterra.

In February 2017, Mark relocated to Palmerston North to head up Fonterra's Global Research & Development teams. Mark was appointed to a new role of Director Category, Strategy and Innovation in December 2019. Mark and his team work closely with Fonterra's regional teams to deliver on our strategy through category management and innovation.

Mark has a Diploma in Dairy Technology and has completed the Global Advanced Management Program at Kellogg Business School (Northwestern University). In recent years there has been a huge increase in the popularity of Kombucha, a fermented, often flavoured, tea-based drink. Consumers flock to Kombucha for its perceived health benefits. However, Mark Piper and his team at Fonterra, are researching how Kowbucha[™] could be the next methane-reducing method for farmers.

Fonterra trademarked, Kowbucha[™], to describe the work they are doing using dairy fermentation and cultures to attempt to reduce methane production in cows, and it's so far showing promising results.

We interview Mark Piper, Director of Category Strategy and Innovation at Fonterra, to further explain this Kowbucha[™] initiative.

What does sustainability mean to you, and how does your team work to support Fonterra's sustainability goals?

Personally, sustainability is something that is very front of mind for me and something that we focus on at home and with our kids. From a Fonterra perspective, sustainability is critical to us and is a core part of Fonterra's overall strategy. Our strategy integrates sustainability into our thinking and takes a triple-bottom-line approach to our Co-operative way of doing things; Healthy People, Healthy Environment, Healthy Business.

Strong, healthy local environments and communities are the foundation for sustainable, profitable dairy farming.

Fonterra & NZMP are committed to making a positive impact by having a regenerative mindset, reducing environmental impacts and working in partnership with others.

My team have 2 key areas of focus:



When we look at GHG mitigation in particular, our fundamental principles are that it has to be good for the cow, good for people and have a true positive impact to our environment.

You and your team are currently looking into ways to reduce methane production in cows – why is this important?

Due to our farming practices, New Zealand is already a world-leader in low emissions per litre of milk produced. Cows in New Zealand produce only a tiny fraction of global greenhouse gas production, at less than 0.04%.

However, despite the efficiency of New Zealand's dairy production, animal agriculture has a comparatively larger impact on New Zealand's emissions at a country level. If we can solve the problem of cows producing methane, then New Zealand could reduce its total footprint by up to a further 20%. Animal agriculture emissions is a challenge for every country globally and scientists all around the world are working on ideas to reduce the methane produced by livestock, with Fonterra collaborating on a number of these.

Any breakthrough we have in New Zealand would also greatly benefit the global industry – and further reduce emissions globally.

Why do you think it's important for industry leaders, like Fonterra, to share our practices & knowledge with the wider industry?

Overall climate change and sustainability is a global challenge and to really make a difference in the world we need to work across boundaries to collaborate on solutions.

As Fonterra already produces comparably lowemission dairy in New Zealand, we want to lean into this, learn more about it, and share best practices globally.

So, what is Kowbucha™ and why do you think it could reduce methane emissions?

To explain Kowbucha™ I must firstly explain what Methanogens are.



Methanogens are the microorganisms found in the guts of animals that produce methane.

These microorganisms in a cow's digestive system are the core reason cows produce methane over their lifetime. If we target these 'bad-bugs', we can target the root of the problem.

Kowbucha[™] is the name we have given to the fermentations we are developing to attempt to "switch-off" these bad bugs and stop the process of methane production within the cow itself.

The concept of Kowbucha[™] was a result of our team combining consumer insights, our extensive knowledge of dairy fermentation, and our massive library of cultures to see if we could come up with something new.

In recent years we have seen a rise in consumer demand for fermented beverages and products with 'good-bacteria' cultures and 'gut-health promoting' claims. Consumers flock to these products to help them (and their pets) lead a healthier life. We thought, if dairy cultures & fermentation are valuable in the consumer market for gut-health, how can we use Fonterra's one-hundred years of dairy fermentation expertise to leverage these benefits for our cows' gut-health?

We also have one of the world's largest dairy culture collections to call on, developed over decades of innovating and producing our cheeses, yoghurts, probiotics and flavours. So, we had a really good foundation to work from on this new project.

All of this has led our scientists to work with AgResearch Ltd and the Pastoral Greenhouse Gas Research Consortium. Collectively we are working to optimise Kowbucha™ to try to create a cost effective and practical solution to reduce methane production in cows.

Can you tell us a bit about the process of producing Kowbucha™, or is this top secret?

This is still top secret sorry, but what I can tell you is that we are approaching this in a way that we hope will continue to improve overall animal health and wellbeing.

How do you see this work benefitting NZMP customers?

We need to take responsibility as food & beverage manufacturers to play a positive role in the future of our environment, through sustainable actions.





Globally, consumers are increasingly concerned about the environmental impact of the products they purchase and use.

Food & Beverage manufacturers are looking to make and validate claims on their carbon footprint and adopt more sustainable practices.

Fonterra already has fantastic sustainability credentials and we can provide sustainability claims on pack today which provide brands with a commercial advantage. As we continue to improve our environmental footprint these claims will get stronger and stronger.

What have the initial results been, and what's next?

Our primary focus has to been to identify fermentations that may have a positive impact, so we have started with very controlled lab-based research.

It's very early days but initial results with Kowbucha™ have been promising, with a few fermentations showing good results in the lab.

The next step for us is to test these in an artificial rumen (cow's stomach) to see if we can repeat any success. We are getting results every month as we continue to do testing, but it is likely to be 12 months before we are in a position to introduce this to live cows. On a research basis as we need to ensure that anything, we introduce has an overall positive impact for the cow. As mentioned at the very start, our fundamental principles are that it has to be good for the cow, good for people and have a true positive impact to our environment.



Favourable start to the New Zealand season. Beginning of new season in Australia. EU and US production improve.

NEW ZEALAND AUSTRALIA EUROPEAN UNION/UK USA +2% Change for August 2020 Change for July 2020 Change for July 2020 Change for August 2020 compared to August 2019 compared to July 2019 compared to July 2019 compared to August 2019 Change for the 12 months to August 2020 to July 2020 to July 2020 to August 2020 New Zealand milk production Australia milk production for EU milk production for the Milk production for the for the 12 months to August the 12 months to July was 0.6% 12 months to July was down 12 months to August was 1.6% was 0.2% lower than last year. higher than last year. by 0.2% compared to the same higher compared to the same period last year. period last year. New Zealand milk production¹ Australia milk production increased 2.9% in July compared EU (including UK) milk was up 5.3% on a litres basis in US milk production increased to July last year. production increased by 1.5% August compared to August by 1.8% in August, compared to last year. in July compared to the same the same period last year. A mild winter for much of period last year. Mild conditions have Australia and across key dairy Increasing herd size contributed to the favourable regions in Victoria and Tasmania The increase in production was and milk per cow gains start of the season's have improved the milk led by France (up 2.7%) and are contributing to the yearon-year improved US milk

production. However, it is still early in the season and seasonto-date production represents only around 9% of full year production.

production outlook for FY21. Dairy Australia has forecast a 1% to 3% increase in production from Italy. for the 2020/21 season.

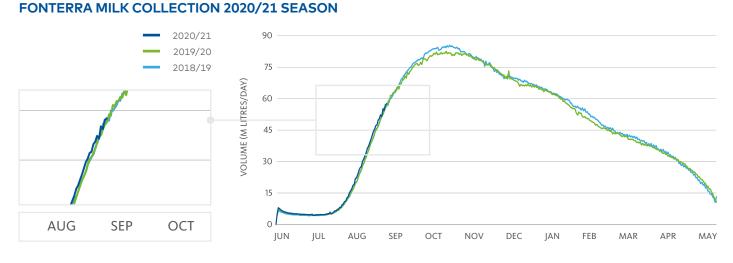
Ireland (4.4%) and partially offset by continuing declines

production in August.

1: New Zealand production is measured in litres.

Note: 2020 production numbers include one extra day of production in February as 2020 is a leap year

Source: Data from Global Trade Information Services and from government and industry websites, including



NEW ZEALAND COLLECTION



Change for August 2020 compared to August 2019



Season to date 1 June to 31 August

Fonterra's New Zealand collection for August was 100.7 million kgMS, 3.2% ahead of the same month last season.

Season-to-date collection was 134.6 million kgMS, up 3.3% on the same point last season. These volumes are small in the context of the full season, as is usual at this time of the year.

Generally mild conditions continued across the country through August, with New Zealand experiencing its warmest winter on record.

Combined with a useful amount of rain towards the end of the month, this allowed good pasture growth and condition, and supported good collections for August.

AUSTRALIAN COLLECTION

+4%

Change for August 2020 compared to August 2019

-0%

Season to date 1 June to 31 August

Fonterra's Australia collection in August, the second month of the 2020/21 season, was 7.3 million kgMS, a 4.1% increase on August last year.

After a dry start to winter, the La Niña system developing for August and into spring has contributed to the favourable start to the season.





Strong increase in US and EU monthly exports. New Zealand and Australia monthly exports decrease.

NEW ZEALAND



Change for July 2020 compared to July 2019



Change for the 12 months to July 2020

Exports for the 12 months to July were down by 1.3%, or 45,866 MT, on the previous comparable period. This was primarily driven by SMP, AMF, fluid milk products and cheese.

Total New Zealand dairy exports decreased by 6.1%, or 16,413 MT, in July compared to the same period last year.

This decrease in exports was spread across most products categories and regions except for increased volumes of WMP (up 9,479 MT) to China and South East Asia.

AUSTRALIA



Change for July 2020 compared to July 2019



Change for the 12 months to July 2020

Exports for the 12 months to July were down 8.4%, or 66,391 MT, on the previous comparable period.

Declines were recorded across a broad range of products with SMP, infant formula, cheese, WMP, whey, and butter, down a combined 64,594 MT and partially offset by fluid milk products, up 11,170 MT.

Australia dairy exports decreased by 1.4%, or 836 MT, in July compared to the same period last year.

This was primarily driven by infant formula, SMP and WMP, down a combined 3,248 MT, and partially offset by fluid milk products, up a combined 1,422 MT.

EUROPEAN UNION/UK



Change for June 2020 compared to June 2019



Change for the 12 months to June 2020

Exports for the 12 months to June were up 5.9%, or 323,745 MT, on the previous comparable period. Butter, cheese, fluid milk products and whey were the main drivers of this growth, up a combined 292,954 MT. It was partially offset by a decline in SMP of 61,324 MT.

EU (including UK) dairy exports increased by 17.8%, or 80,757 MT, in June compared to the same period last year.

This was driven by increases across most product categories but more specifically in lactose (up 59%), butter (73.8%), fluid milk products (25%) and cheese (15.9%).

USA



Change for July 2020 compared to July 2019



Change for the 12 months to July 2020

Exports for the 12 months to July 2020 were up 9.8%, or 220,143 MT on the previous comparable period, driven by SMP, WPC and lactose, up a combined 205,435 MT.

US dairy exports increased 21.5%, or 38,845 MT, in July compared to the same period last year.

Growth in exports volumes were driven by increased shipment of SMP to South East Asia (up 52.8%), and whey to China (up 25.8%).

China, Latin America and Asia show strong increase in monthly imports.

LATIN AMERICA



compared to June 2019



Change for the 12 months to June 2020

Imports for the 12 months to June 2020 were down 1.6%, or 28,272 MT, compared to the same period the previous year.

Decreases were driven primarily by infant formula, WMP and butter, down a combined 49,224 MT but partially offset by increases in SMP, up 25,783 MT.

Latin America dairy import volumes¹ increased 20.4%, or 27,568 MT, in June compared to the same period last year. This was driven by higher volumes of cheese and fluid milk products to Mexico and Chile, SMP to Cuba and Columbia, and WMP to Chile, up a combined 22,435 MT.

ASIA



Change for June 2020 compared to June 2019



Change for the 12 months to June 2020

Imports for the 12 months to June were down 3.7%, or 185,372 MT, compared to the same period the previous year.

Decreases were recorded across WMP, SMP and fluid milk products, down a combined 234,188 MT and offset partially by increased volumes of lactose, up 33,973 MT.

Asia (excluding China) dairy import volumes¹ increased 13.7% or 53,032 MT, in June compared to the same period last year. Increases were recorded primarily in SMP to South East Asia, lactose to South East Asia and Pakistan and WPC to Malaysia, up a combined 50,358 MT.

MIDDLE EAST & AFRICA



Change for June 2020 compared to June 2019



Change for the 12 months to June 2020

Imports for the 12 months to June 2020 were down 8.8%, or 357,763 MT, compared to June last year, driven by decreases in fluid milk products, infant formula and cheese, down a combined 378,555 MT and offset by increases in SMP.

Middle East and Africa dairy import volumes¹ increased 1.4%, or 4,562 MT, in June 2020 compared to the same period last year. Increases were driven principally by increased volumes of WMP and SMP to Algeria and Nigeria, up a combined 39,561 MT and largely offset by lower volumes of fluid milk products and infant formula.

CHINA



Change for July 2020 compared to July 2019

+**8**%

Change for the 12 months to July 2020

Imports for the 12 months to July were up 8.0% driven by fluid milk products, whey and WMP.

China dairy import volumes increased by 17.6%, or 46,993 MT, in July compared to the same period last year.

The increase was the result of higher volumes of whey, fluid milk products and cheese, up a combined 41,184 MT. China is rebuilding its stocks of whey following the impact of last year's African Swine Flu on whey consumption as animal feed.

RUSSIA



Change for July 2020 compared to July 2019

+**0**[%]

Import change for the 12 months to July 2020

Imports for the 12 months to July 2020 have increased +0.3% or +3,564 MT compared to the same period the previous year. This was mainly driven by AMF, Butter, Casein, Caseinate, Cheese, Dairy Spreads, Fresh, Ice cream, Lactose, and Whey being up a combined +63,346 MT. Offset by Infant Formula, SMP, MPC, Cultured Products, WMP and WPC being down a combined -59,782 MT.

Russia import volumes were down -3.4% or -3,159 MT for July 2020 compared to the same month the previous year.

Estimates are included for those countries that have not reported data.
Sources: Data from Global Trade Information Services; EU Milk Market Observatory; FAO; Highground Trading Group

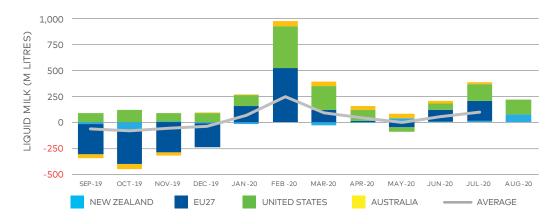
Global Dairy Market

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.

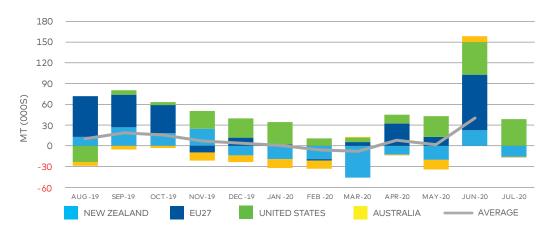
The absolute size of the bars represent the change in imports, exports or production, relative to the same period the previous year.

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

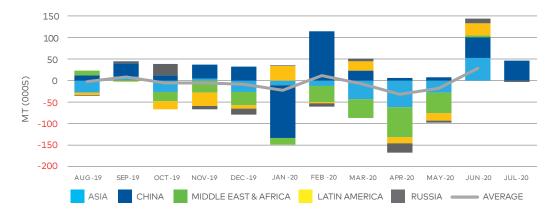
PRODUCTION



EXPORTS







The FAO Food Price Index* (FFPI) averaged 97.9 points in September 2020, 4.6 points (5.0 percent) higher than its value a year ago. The September value, the highest since February 2020, represented the fourth consecutive monthly increase. Much firmer prices of vegetable oils and cereals were behind the latest rise. Dairy products remained generally stable, while sugar and meat retreated from August levels.

The FAO Dairy Price Index averaged 102.2 points in September, almost unchanged from August and up 2.5 points (2.5 percent) from the same month last year. Moderate increases in price quotations for butter, cheese and skim milk powder (SMP) reflected an expanded internal demand in Europe. These rises were offset by a fall in those of whole milk powder (WMP), as import demand eased, resulting in a nearly stable index in September.



Composite leading indicators (CLIs) continue to strengthen from Covid-19 crisis lows, but at a slowing pace.

Moderation in the pace of growth was seen across all OECD major economies, especially France, improving only marginally in recent months. A similar moderation has occurred in all major emerging economies, except China and Brazil, where CLI is stable or strengthening.

It should be noted again that the CLIs should be interpreted with care, with uncertainty persisting around the possibility of future mitigation measures.



The EIU expects global output to contract by 5.2% this year, a reversal from previously forecast growth of 2.3%, pre-pandemic. Longer term, advanced economies will experience low growth, low inflation and high levels of debt, as in Japan, with the outlook for emerging economies gloomier. Global GDP will not recover to pre-coronavirus levels before at least 2022, with Asian countries fastest to recover in 2021, major economies in 2022 and emerging markets in 2024. This is based upon the assumption that the worst of the pandemic is felt in 2020 with an effective vaccine rolled out end-2021.





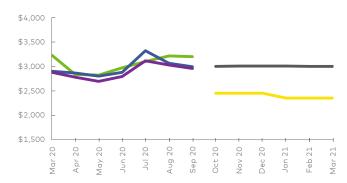
New Zealand has just experienced its warmest winter on record, with 2020 sitting at 1.14°C above average. The highest recorded winter 2020 temperature was 25.1°C on August 30 in Timaru. A generally dry winter has seen much of the South Island at well below normal rainfall totals, and with little snow fall.

After a dry start to winter, timely rain has benefitted Australian crops, particularly in the Southeast. Much needed rain in France and eastern parts of Europe has eased drought concerns. Drier weather remains a common theme across significant parts of the globe.





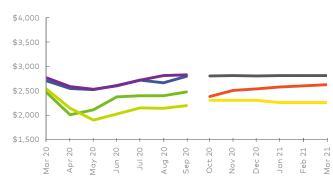
WMP



WMP prices dropped across the board in September. Dutch Dairy Board dropped -0.5% to USD \$3,198/ MT. USDA Oceania & GDT dropped both dropped-2.3% to USD \$2,956/MT, USD \$2,994/MT respectively.

Futures and forecasts for the next six-months have shown mixed results. Rabobank Oceania has dropped -2% to an average of USD \$2,400/MT. NZX Futures has increased theirs +2.5% from last perspective to an average USD \$3,004/MT.

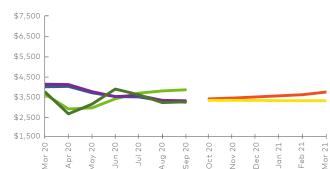
SMP



SMP prices have increased across the board for September. Dutch Dairy Board & USDA NASS have increased 3.5% and 2.3% respectively. USDA Oceania increased a further +0.7% to USD \$2,825/MT. GDT increased +5.2% to USD \$2,795/MT.

The Forecast and futures have also shown some mixed results. Rabobank Oceania has dropped -0.7% from previous projections to an average of USD \$2,275/MT. CME Futures has increased its 6-month average +4.8% to USD \$2,536/ MT. NZX Futures has increased +5.8% to USD \$2,805/MT.

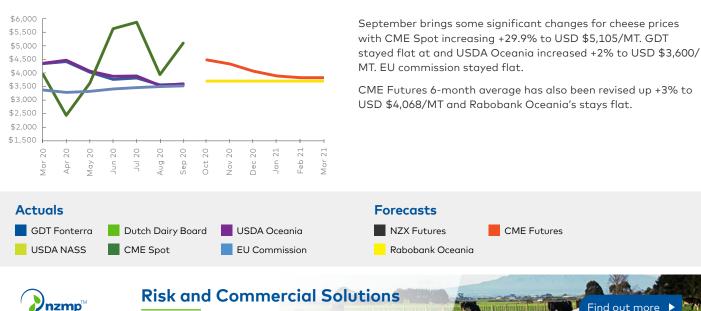
BUTTER



There were mixed movements again this month in the Butter prices. USDA Oceania showed a -0.9% decrease to USD \$3,406/MT and GDT both dropped again to USD \$3,334/ MT. CME Spot increased +0.9% to USD \$3,344/MT. Dutch Dairy Board increased a further +1.3% to USD \$4,001/MT

As a result, we see CME Futures hold flat at USD \$3,659/MT and Rabobank Oceania average prices have revised down -1% to USD \$3,413MT.

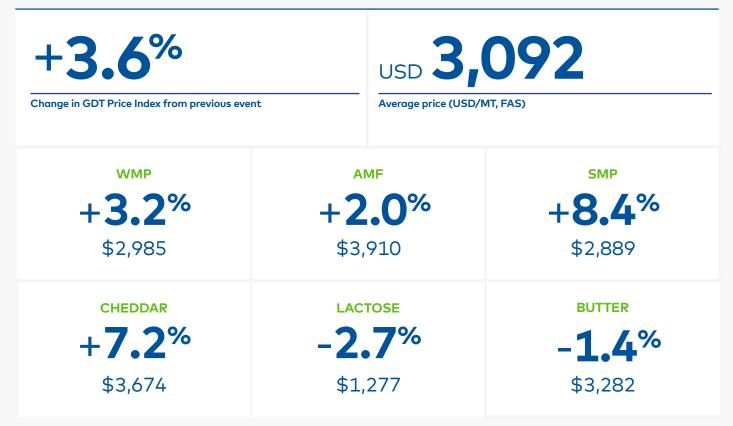
CHEESE



solutions Take control of price and supply.

GDT Results

TRADING EVENT 268



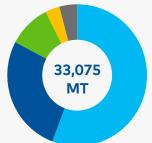
GDT SALES BY DESTINATION

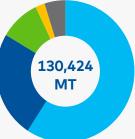


North Asia (including China) Lo South East Asia O Middle East and Africa

Latin America Other Trade Event 267



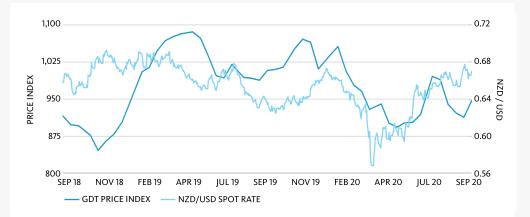




The next trading event will be held on 6 October 2020. Visit **www.globaldairytrade.info** for more information.

Dairy commodity prices and New Zealand dollar trend

Ongoing fiscal support, combined with accommodative monetary policies have provided an environment supportive of growth. Globally, financial markets stabilised further, including currencies, resulting in the NZD to trading in a relatively narrow band of between 66 and 68 US cents.



15

USDA, Dairy Outlook

Published September 17, 2020



Recent Development

Milk production forecasts for both 2020 and 2021 are raised from last month to 222.0 billion pounds and 225.4 billion pounds, respectively, on stronger growth in milk per cow. Prices for butter, cheese, and whey are reduced from last month as supplies remain large. However, lower prices for butter and cheese help the competitiveness of U.S. products internationally. Strong international demand for skim milk powders underpin high forecasts for 2020 and 2021.The all-milk price forecast is lower at \$17.75 per cwt in 2020 and \$17.00 per cwt in 2021. From the week ending August 1 to the week ending August 29, all major dairy product wholesale prices fell, with declines for Cheddar cheese especially large. The price for 40-pound blocks fell 92.3 cents to \$1.8419 per pound. The price for 500-pound barrels fell 88.5 cents to \$1.5959 per pound. Butter, non-fat dry milk (NDM), and dry whey fell to \$1.4988 (-25.5 cents), \$0.9464 (-2.9 cents), and \$0.3203 (-2.9 cents) per pound, respectively.

Year-over-year milk production growth has been increasing since May. In May, milk production was 0.5 percent below the same period last year, as dairy farmers reduced production in response to pricing terms formulated to discourage milk production growth. In June, milk production was 0.8 percent higher than June 2019. In July, milk production was 18.645 billion pounds, 1.5 percent higher than the previous year. In July, the milking herd averaged 9.352 million head, 2,000 higher than June. Milk per cow in July averaged 1,994 pounds, 21 pounds higher than July 2019.

July's U.S. dairy exports remained strong. On a milk-fat milk-equivalent basis, they totalled 819 million pounds, 146

lower than the previous month, but 106 million higher than July last year. On a skim-solids milk-equivalent basis, July exports totalled 4.169 billion pounds, 94 million lower than June but 825 million higher than July 2019. Cheese exports dropped to 64.5 million pounds in July after peaking at 84.7 million pounds in June, the highest, monthly level to date. Butter exports in July dropped to 4.4 million pounds in July from 4.8 million pounds in June. However these two months were the two highest for U.S. 2020 butter exports. Dry whey and whey protein concentrate, WPC, exports were higher in July than in June. Dry whey exports increased from 40.0 to 40.7 million pounds; WPC increased from 24.1 to 27.8 million pounds.

U.S. dairy imports on a milk-fat basis were 627 million pounds in July, 127 million lower than June and 22 million lower than July last year. On a skim-solids basis, July imports totalled 526 million pounds, up 44 million on June, but 70 million lower than the same time last year. More competitive U.S. butter prices led to lower imports. July 2020 imports were 7.6 million pounds, 4.5 million pounds lower than June 2020's 12.1 million pounds of imports.







Dairy forecasts for 2020

The dairy production forecast for 2020 was raised on higher-than-expected milk per cow. Revised second-quarter milk per cow was increased by 10 pounds for the last two quarters of this year, giving an annual average of 23,710 pounds of milk per cow. Cow numbers are forecast to grow at a slow pace, and the forecast is unchanged from last month at 9.365 million head.

Strong exports in July and expectations of continued strength in foreign demand led to increases in forecast exports. The forecast for 2020 exports on a milk-fat basis is raised 200 million pounds, on firm demand for butter, cheese, and whey products. Skim-solids exports for 2020 are raised 1 billion pounds for skim milk powder and whey products. Annual 2020 forecasts for exports are 9.4 billion pounds on a milk-fat basis and 47.2 billion pounds on a skim-solids basis. Lower-than-expected butter and cheese imports led to lower forecasts for third- and fourth-quarter milkfat equivalent imports. Milk-fat equivalent import forecasts for the second half are 200 million pounds lower than last month's forecasts. The forecast for 2020 milk-fat equivalent imports is 6.9 billion pounds. Third- and fourth-quarter domestic use forecasts are slightly lower than last month's forecasts on both a skim-solids and a milk-fat basis.

Dairy product price forecasts for cheese, butter, and dry whey are lower this month compared to last, but the forecast for non-fat dry milk is unchanged. The lower prices for the three products result in lower Class III and Class IV price forecasts. The Class III 2020 annual price forecast is \$17.25 per cwt and the Class IV forecast is \$13.40 per cwt. The annual average all-milk price forecast is \$17.75 dollars per hundredweight, \$0.20 lower than the August forecast.

Blimling, Forecast Update

Published September 5, 2020

Blimling says that volatility around cheese prices will remain, creating a 'saw-toothed' pattern on the U.S cheese market price chart. This is to be expected as buyers pick up product as prices dip, then retreat as prices climb. It expects ample supply and diminished food service demand will continue to keep fresh cheese available. However exports, Blimling notes, remain a wildcard.

Butter supplies appear plentiful today, however a stronger than expected pull on print butter in the fourth quarter could leave some short-handed. Weaker school milk sales and a shift of milk into Class III in the Mideast could inhibit availability of cream for butter churns into year-end. After recent lukewarm months, the NDM/SMP market is generating some buzz, as low U.S prices and a weaking USD stir up demand, particularly into Asia. Blimling's outlook remains 'friendly', but not bullish, with Mexico's ongoing economic struggles a factor - plus, the expectation for more milk in the U.S and elsewhere.

Finally, dry whey prices remain choppy in the mid-30 cent range and are expected to hold there for the near-medium term. Export demand, particularly from China, remains strong and is likely to help moderate oversupply. Further deterioration in high protein values coupled with higher cheese output should keep a steady flow of solids heading into dry whey plants.





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

WMP Whole Milk Powder

YOY Year-on-year

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.

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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.