

PERSPECTIVE

April 2019

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!

April 2019

The record smashing New Zealand Summer heat has come to an end as we head into Autumn. With the changing seasons, I reflect on the 2019 consumer trend predictions and how these have tracked in reality over the year so far. It's clear that the holistic wellbeing approach to health through diet is going from strength to strength as consumers are no longer treating health issues in isolation, shifting focus from short-term 'magic-fixes' to longer term health maintenance. An example of this is that probiotics are now mainstream, with FMCG Gurus reporting that 51% of global consumers have purchased a probiotic product in the last 6 months.

To further explore this probiotic phenomenon, we approached this month's feature writer, Pramod Gopal, a science group leader for the Food Nutrition and Health Group at Plant & Food Research. Pramod dives into the evolution of probiotic scientific research and discusses the range of benefits they can provide consumers. Click [here](#) to read the full article.

Four key movements for the month:

1. Production – Production growth in New Zealand and the US is easing, with EU and Australian production also declining.
2. Exports – New Zealand exports increased in January. Exports from Australia and the EU continue to grow while US exports are beginning to ease.
3. Imports – Imports into Asia and China show strong growth. Latin America increased but the Middle East and Africa region is declining.
4. Prices – GDT auction event 233 saw price increase for all products except Lactose and Whole Milk Powder, resulting in the GDT price index up +0.8% to USD \$3,483/MT. The largest increase coming from Rennet Casein (+7.5%), Butter (+5.8%) and Butter Milk Powder (+5.0%) which continues a steady price growth trend.

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,

Alex Turnbull
Director, NZMP Marketing

In this issue

	Feature article	4
	Global production	8
	Fonterra milk collection	9
	Global exports	10
	Global imports	11
	Tracking the global dairy market	12
	Global indicators	13
	Commodity prices	14
	GDT results	15
	Industry commentary	16
	Glossary	18



The evolution of probiotic research



Dr Pramod Gopal

Science Group Leader,
Food Nutrition and Health Group,
Plant & Food Research

Dr Pramod Gopal's current research interests include understanding of the role of gut microbiota in human health particularly food-microbiota interactions and downstream effects on health, development of evidence based functional foods.

Prior to joining Plant & Food Research, Dr Gopal worked as a Principal Research Scientist at Fonterra Research and Development Centre in Palmerston North. Dr Gopal's research in probiotics is well-recognised internationally. He was invited by WHO/FAO to join a panel of experts to define and set guidelines for usage of 'probiotics' in food applications. He has served on the industry advisory board of International Scientific Association for Probiotics and Prebiotics and the Scientific Advisory Board of International Probiotic Association. Dr Gopal received his PhD in Biochemistry from University of Otago, Dunedin and spent four years as a post-doctoral researcher at University of California, Berkeley.

The concept of probiotics is not new. In fact, more than 100 years ago, Nobel Prize winning Russian scientist Eli Metchnikoff first identified an association between regular consumption of fermented dairy products and healthy aging and longevity in Bulgarian peasants. In his book, 'Prolongation of Life', published in 1907, Metchnikoff hypothesised that lactic acid bacteria present in 'sour milk (yoghurt)' promoted the health of consumers by inhibiting the growth of 'putrefactive bacteria' present in the large intestine.

Since Metchnikoff's early observations, probiotic science has made significant progress. Particularly over the past 25 years, there has been a growing interest in both the basic and clinical science of probiotics which has resulted in more than 8000 publications in the biomedical literature. One of the reasons for this interest is a rapid increase in our understanding of the role of the gut microbiome in human health.

It is well known that in healthy adults, the gastrointestinal tract contains 10 times as many bacteria as eukaryotic cells in the entire body; the combined genome of intestinal flora is estimated to be 50-100 times the size of the human genome. As these organisms are metabolically active and interact continuously with their environment - including the mucosal immune system, central nervous system and endocrine system - they are able to exert a significant influence on host physiology and metabolic activity.

Scientific evidence suggests that dysbiosis (imbalance) of gut microbiota is associated with number of health conditions and the administration of certain strains of microorganisms can be used to optimise the balance of gut microbiome and impact human health positively.

These microorganisms, mostly lactic acid bacteria and bifidobacteria, are known as 'probiotics'.

The most recent definition of probiotics as adapted by the WHO/FAO expert panel is “live microorganisms that, when administered in adequate amounts, confer a health benefit on the host”.

There are number of health benefits attributed to consumption of probiotics (Figure 1); however, the level of available evidence for different probiotic strains is variable. It is important to note that health benefits of probiotic are strain specific and cannot be extrapolated from one strain to another. There is only a limited number of well-documented probiotic strains which are supported by scientific and clinical evidence based on well designed and well conducted randomized double blind clinical trials for specific health benefits.

One such strain is *Bifidobacterium animalis subsp lactis* HN019 (also known as DR10TM). Clinical evidence-based research has shown that this strain can effectively shorten colonic transit time¹ in constipated adults (Figure 2), reduce or prevent functional constipation symptoms, and improve other bowel disorders such as bowel discomfort, nausea, diarrhea and bloating. On a mechanistic basis this effect has also been demonstrated in a more recent study². Although obtaining an approved 'health claim' for a probiotic product from regulatory authorities has proven to be difficult for



Bone health

Calcium absorption

Metabolic health

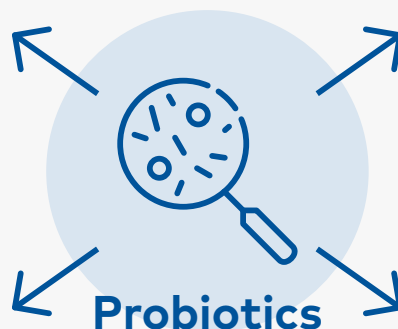
Diabetes, obesity

Women's health

Vaginitis

Digestive health

Functional digestive disease, production of vitamins, colonic transit time



Immune health

Allergic disease, infections

Mental health

Anxiety, depression, mood

Gut health

IBD, IBS, Diarrhoea

Infant health

Colic, softer stool, eczema

Figure 1: Health benefits of probiotics



most strains, *Bifidobacterium lactis* HN019 became the first probiotic strain with a digestive health claim in Switzerland. The health claim specifically says '*Bifidobacterium lactis* HN019 improves regularity by reducing transit time.

A new and exciting area of probiotic research is emerging that suggests probiotics may be useful in management or treatment of some common mental health conditions, including depression and anxiety.

The connection between gut and brain via the gutbrain axis is well recognised, however the role of gut microbiome in this two-way communication has become evident only recently.

Research shows that many gut bacteria can impact brain function via number of mechanisms, including the production of neurotransmitters or precursors for substances like dopamine and serotonin. Neurotransmitters are important signaling molecules involved in controlling psychiatric conditions such as depression and anxiety.

Strong evidence, largely from pre-clinical studies, has emerged in the last few years to demonstrate that certain probiotic strains can alleviate symptoms of depression and anxiety in animal models. Translation of these findings into humans requires more research, although promising data from a few human studies has been reported. For example, recent data from a randomised, double blind, placebo-controlled study³ showed that consumption of the probiotic *Lactobacillus rhamnosus* HN001 significantly lowered scores of depression and anxiety in women postpartum.

Both probiotic strains *Bifidobacterium lactis* HN019 and *Lactobacillus rhamnosus* HN001 were developed by Fonterra Research and Development Center.

Our understanding of probiotics has improved dramatically since Metchnikoff's early observations. Though there are many more questions remain unanswered, major advancement in the tool box of human microbiome research promises an exciting potential of 'probiotics' for our overall health.



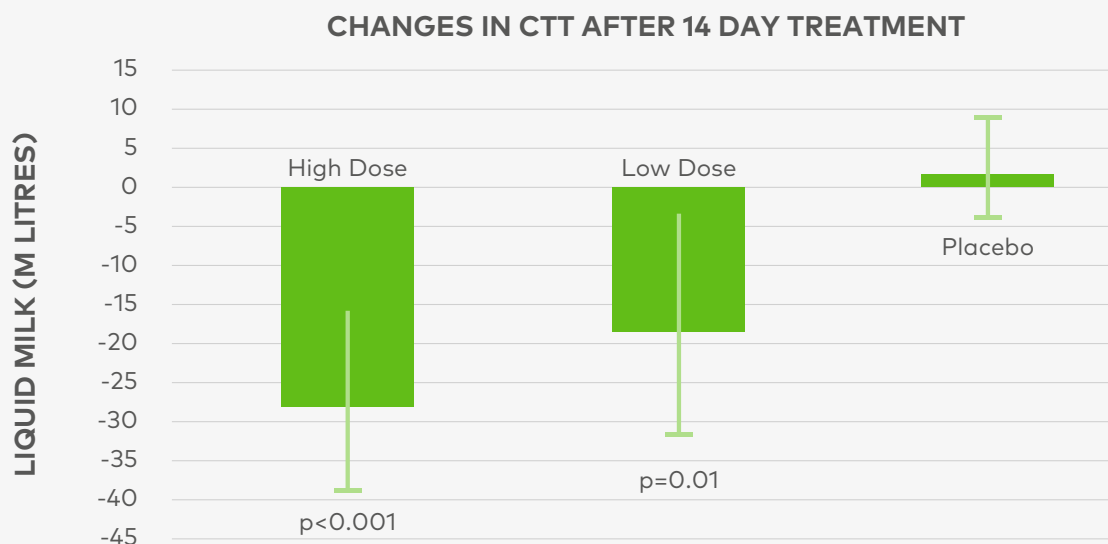


Figure 2

¹Waller PA et al (2011) Dose-response effects of *Bifidobacterium lactis* HN019 on whole gut transit time and functional gastrointestinal symptoms adults. *Scan J Gastroenterology* 46: 1057-1064.

²Dalziel JE, et al (2017). Promotility action of the probiotic *Bifidobacterium lactis* HN019 extract compared with Prucalopride in isolated rat large intestine. *Frontiers in Neuroscience*. 2017;11. doi:10.3389/fnins.2017.00020

³Slykerman RF et al (2017) Effect of *Lactobacillus rhamnosus* HN001 in pregnancy on postpartum symptoms of depression and anxiety: a randomized double-blind placebo controlled trial. *EBioMedicine* 24:159-165 doi:10.1016/j.ebiom.2017.09.013

Plant & Food RESEARCH

RANGAHAU AHUMARA KAI



About Plant & Food Research

Plant & Food Research believes that science can create a better world; that by working together we can create a smart green future, delivering economic, environmental and social prosperity for the agrifood sector and for the world.

Based in New Zealand, with offices in Australia and the USA, Plant & Food Research has more than 700 scientists, as well as an established global research network, that enables the creation of world-leading teams to deliver fit-for-purpose R&D for partners in the plant and marine-based food industries. With research experience across the food value chain – from new cultivars to systems that ensure sustainable, safe food production - Plant & Food Research delivers knowledge, intellectual property and products that add value to the horticultural, arable, seafood, and food and beverage sectors. Research that develops new whole food, food and ingredient products is supported by fundamental science and clinical research dedicated to understanding how food components influence human health and wellbeing and how these can best be delivered in foods with high consumer appeal.



Production growth in New Zealand and the US is easing. EU growth and Australia production is declining

NEW ZEALAND

+4%

Production change
for the 12 months
to February 2019

New Zealand milk production for the 12-months to February 2019 was 4% higher than last year.

Total New Zealand milk production in February was broadly flat compared to the same period last year.

Dry conditions continued for most of February. Soil moisture has dropped to below normal, impacting key North Island dairy regions. Drought conditions prevail in the upper South Island but dairy regions in the lower part of the South Island have not been greatly impacted.

Fonterra collections are reported for February, see page 9 for details.

AUSTRALIAN COLLECTION

-3%

Production change
for the 12 months
to January 2019

Production for the 12 months to January is down 3% on the previous 12 months.

High input costs, increased cow cull rates, and farm exits continue to severely impact milk production. Dairy Australia has forecast a milk production decline of between 7% and 9% for the season.

Australian milk production decreased 11% in January 2019 compared to the same period last year.

Fonterra collections in Australia are reported for February, see page 9 for details.

EUROPEAN UNION

0%

Production change
for the 12 months
to January 2019

Production for the 12 months to January was up less than 1% compared to the same period last year.

EU milk production decreased 1% in January compared to the same period last year. This is the fifth consecutive monthly decline on a year-on-year basis.

Growth continued to slow through the second half of 2018. Austria, The Netherlands, France and Germany saw negative monthly growth. This was offset by growth in Poland, UK, Denmark and Belgium. Ireland was broadly flat after an extended period of strong growth.

UNITED STATES

+1%

Production change
for the 12 months
to February 2019

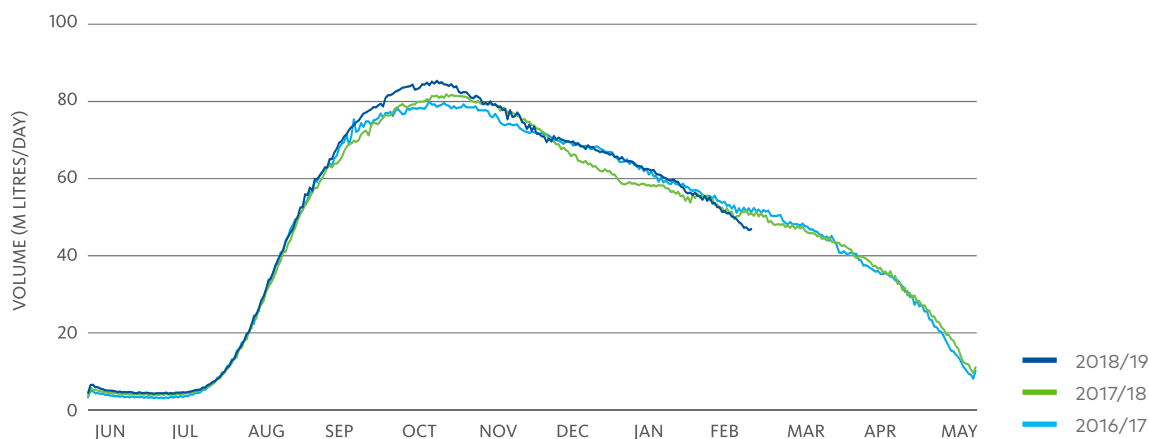
Milk production for the 12 months to February was just under 1% compared to the same period last year.

US milk production was up less than 1% in February compared to the same period last year. Cow numbers have continued to decline with the small monthly growth on a year-on-year basis driven by increased yield per cow.

Margins continue to be squeezed and in many cases were negative in the last quarter of 2018. Growth is likely to remain constrained until some improvement in margin is achieved.



FONTERRA MILK COLLECTION 2018/19 SEASON

NEW ZEALAND
COLLECTION**+4%**Increase for the season
from 1 June to 28 February

Fonterra's milk collection across New Zealand for the current season from 1 June to 28 February was 1,216 million kgMS, up 4% on the same period last season.

Low rainfall and above average temperatures continued through February, slowing milk production across most regions but particularly in the North Island and upper South Island. Collections in February were 133m kgMS, 2% down on the same month last season, the first month this season where total New Zealand production was below the equivalent month last season.

AUSTRALIAN
COLLECTION**-17%**Decrease for the season
from 1 July to 28 February

Fonterra's milk collection across Australia for the eight months to 28 February reached 91 million kgMS, down 17% on the same period last season.

Fonterra collections in February was 8 million kgMS, down 28% on February last season.

Fonterra's share of monthly collection continues to reduce due to adverse on-farm conditions, cull cow rates, retirements in key regions, and milk collection losses in a highly competitive market.

FORECAST FONTERRA MILK
COLLECTION ACROSS NEW ZEALAND**1,510M** KGMS

Fonterra has reduced its full season forecast milk collection for the 2018/19 season to 1,510 million kgMS, down from 1,530 million kgMS announced in February.

Whilst collections are 4% ahead on a season to date basis, the influence of prolonged dry weather, particularly in the North Island, has had an adverse impact on on-farm conditions and therefore production in the second half of the season.

On farm conditions will continue to be an important factor on the milk supply for the remainder of the season.

We will continue to provide updates as the season progresses.



New Zealand exports increased in January. Exports from Australia and the EU continue to grow. US exports begin to ease

NEW ZEALAND

+2%

Export change
for the 12 months to
January 2019

Exports for the 12 months to January were up 2%, or 51,000 MT, on the previous comparable period. This was primarily driven by WMP, up 26,000 MT. AMF, fluid products, butter and SMP were up a combined 26,000 MT.

Total New Zealand dairy exports increased by 16%, or 51,000 MT, in January compared to the same period last year. This was primarily driven by WMP, up 27,000 MT. AMF, fluid products, and butter were up a combined 22,000 MT.

AUSTRALIA

+8%

Export change
for the 12 months to
January 2019

Exports for the 12 months to January were up 8%, or 59,000 MT, on the previous comparable period.

Infant formula, SMP, fluid products and whey powder make up most of the growth in Australian exports, up a combined 55,000 MT.

Australian dairy exports increased 32%, or 16,000 MT, in January compared to the same period last year. This growth was due to SMP, infant formula, fluid products and whey powder up a combined 18,000 MT. This was offset by a decline in WMP of 3,000 MT.

EUROPEAN UNION

+1%

Export change
for the 12 months to
December 2018

Exports for the 12 months to December were up 1%, or 48,000 MT, on the previous comparable period. Infant formula alone was up 46,000 MT to 586,000 MT.

There was continued growth in a broad range of products, led by infant formula, SMP, and lactose offset by declines in fluid products and WMP.

EU dairy exports increased by 4%, or 15,000 MT, in December compared to the same period last year. This was primarily driven by SMP, lactose, whey powder, and WPC up a combined 31,000 MT. This was offset by declines in WMP, cultured products, fluid products and cheese of a combined 15,000 MT.

UNITED STATES

+9%

Export change
for the 12 months to
December 2018

Exports for the 12 months to December were up 9%, or 208,000 MT, on the previous comparable period.

US dairy exports declined by 18%, or 36,000 MT, in December compared to the same period last year. This was primarily driven by whey powder, SMP, lactose and WPC, down a combined 37,000 MT.

Although SMP was down in December compared to the same period last year, it was up 108,000 MT, for the 12 months to December.

Imports into Asia and China show strong growth. Latin America increased but the Middle East and Africa region is declining

LATIN AMERICA

+3%

Import change for the 12 months to December 2018

Imports for the 12 months to December were up 3%, or 65,000 MT, compared to the same period the previous year. SMP, lactose, fluid products and MPC were up a combined 73,000 MT offset by declines in AMF and WMP of 18,000 MT.

Latin American dairy import volumes¹ increased 2%, or 3,000 MT, in December compared to the same period last year. The increase was primarily SMP and infant formula, up a combined 7,000 MT. This was offset by a decline in WMP and whey powder.

ASIA

+6%

Import change for the 12 months to December 2018

Imports for the 12 months to December were up 6%, or 285,000 MT, compared to the same period the previous year. This growth continues to be driven by fluid products, WMP, SMP, lactose and whey powder of 277,000 MT. The market remains in a solid growth phase.

Asia (excluding China) dairy import volumes¹ increased 12%, or 44,000 MT in December compared to the same period last year. SMP, WMP and fluid products were up but offset by declines in ice cream and cheese.

MIDDLE EAST & AFRICA

-5%

Import change for the 12 months to December 2018

Imports for the 12 months to December were down 5%, or 222,000 MT, compared to the same period the previous year. The reduction was driven by fluid products and cheese, down a combined 212,000 MT. This was offset by a small increase in SMP.

Middle East and Africa dairy import volumes¹ decreased 10% or 35,000 MT in December compared to the same period last year. Small growth in infant formula and AMF was offset by declines in most other products, principally cheese, WMP and butter, down a combined 31,000 MT.

CHINA

+6%

Import change for the 12 months to January 2019

Imports for the 12 months to January were up 6%, or 162,000 MT, compared to the same period last year. Strong demand continued with imports across key categories, particularly WMP, SMP and infant formula which were up a combined 128,000 MT.

China dairy import volumes increased 17%, or 64,000 MT in January compared to the same period last year. This was driven by increases across a broad range of products, particularly WMP, SMP, and infant formula up a combined 64,000 MT. WMP imports reached a record peak of 182,000 MT.

RUSSIA

-15%

Import change for the 12 months to January 2019

Imports for the 12 months to January 2019 were down -15% or -176,000 MT compared to the same period the previous year. This was mainly driven by Fluid and fresh dairy, Whey Powder, SMP, Cultured Products and WMP down a combined -218,000 MT. Offset by Cheese being up 41,000 MT.

Russia import volumes were down -9% or -7000 MT for January 2019 compared to the same month the previous year. This was primarily led by Fluid and Fresh Dairy, Whey Powder, Cultured Products down a combined -16,000 MT. Offset by Butter, Cheese and WMP up a combined 7,000 MT.



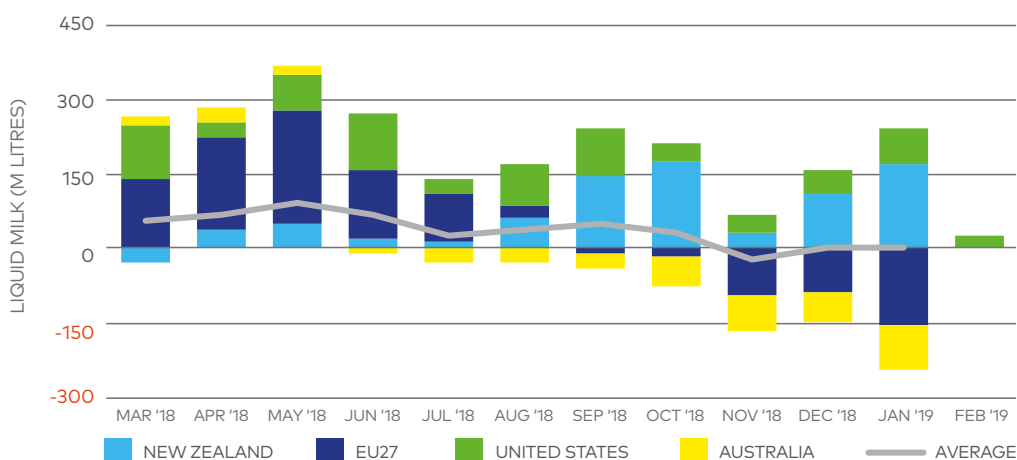
Global Dairy Market

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.

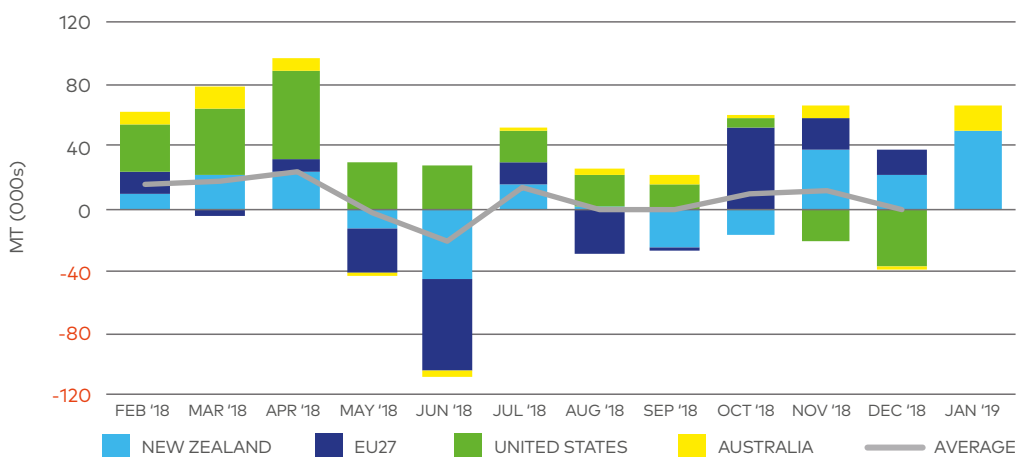
The absolute size of the bars represents the change in imports, exports or production, relative to the same period the previous year.

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

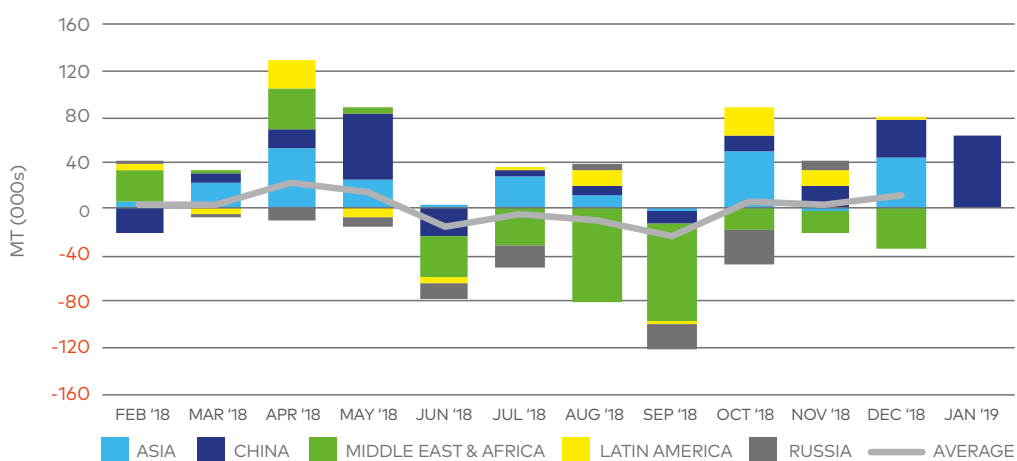
PRODUCTION



EXPORTS



IMPORTS





Food Price

The March 2019 FAO Food Price Index (FFPI) held steady and averaged 167 points, still hovering around its highest value since August 2018. This pause in growth is attributed to a sharp increase in dairy prices and firmer meat prices with declining cereal, sugar and oil price quotations.

The Dairy Price Index in March averaged 204.3 points, up 11.9 points from February, for a third consecutive increase. This sharp continued rebound in price is attributed to the increased demand ahead of predicted seasonal tightening of exports available from Oceania.

Source: FAO



Economic

Composite leading indicators (CLIs) continue to point towards easing growth momentum in the most major economies.

The early signs of easing growth momentum in the USA and Germany displayed in December 2018 have been confirmed in January 2019. Easing growth momentum also remains the assessment for the United Kingdom, Canada, Brazil, Russia and the wider euro area (including Italy and France).

Japan and the industrial sectors of China and India all present a stable growth momentum.

Source: OECD



Consumer

The EIU has lowered its outlook for global growth from 2.8% to 2.7%, primarily due to weaker than expected data in Germany, France, Brazil and Mexico. Euro zone growth is predicted to slow to 1.2%, with Latin America dropping to 1.4% from 1.8%. The outlook on US-China trade relations has improved creating upside risk to the global growth forecast, offset by a high chance of US introduced tariffs on auto imports.

Source: Economist Intelligence Unit



Weather

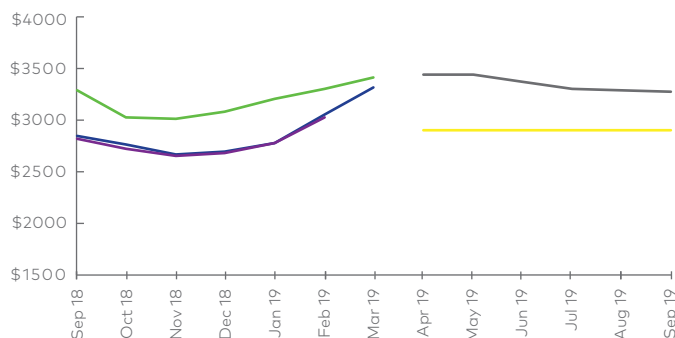
This March was New Zealand's equal 2nd warmest March on record with rainfall below normal, or well below normal across much of the North Island. The South Island was the same in the east and south while the north and west were above normal or well above normal. Australia's frequently hot and exceptionally dry weather persisted has been relieved with some welcome showers.

Europe is experiencing continued dry and mild weather with drought intensifying in the south, also affecting crops in the west of northern Africa. With unseasonable warmth being a common theme across significant parts of the globe.

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



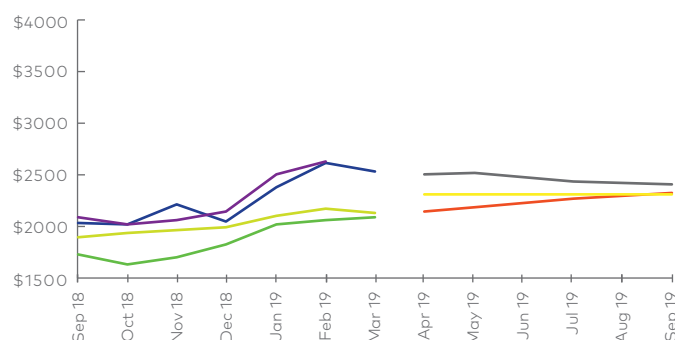
WMP



March WMP price changes were positive with Dutch Dairy Board (DDB) was up by +3.5% to USD 3,417/MT and GDT price rose by +8.3% to USD 3,309/MT.

Average futures and forecasts for the next six-months period are relatively stable with NZX Futures and Rabobank Oceania average prices over the 6 months at USD 2900/MT and USD 3353/MT respectively.

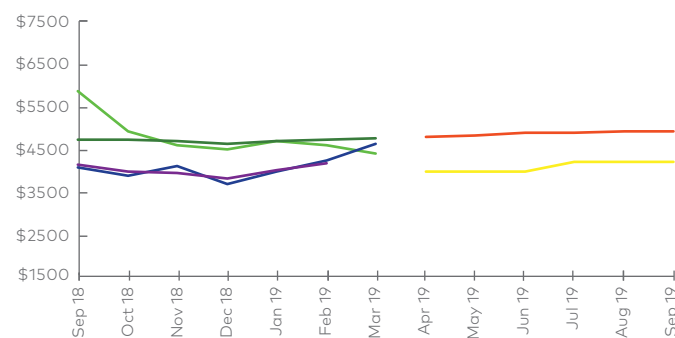
SMP



SMP price changes for cheddar cheese were mixed. Dutch Dairy Board (DDB) up by +1.5% to USD 2,086/MT. GDT decreased -3.3% to USD 2,517/MT.

Forecast/futures are pricing lower than the market with prices between USD 2,231/MT and USD 2,448/MT. NZX Futures forecasts the strongest declines in price whilst other forecasts and futures present a more stable view.

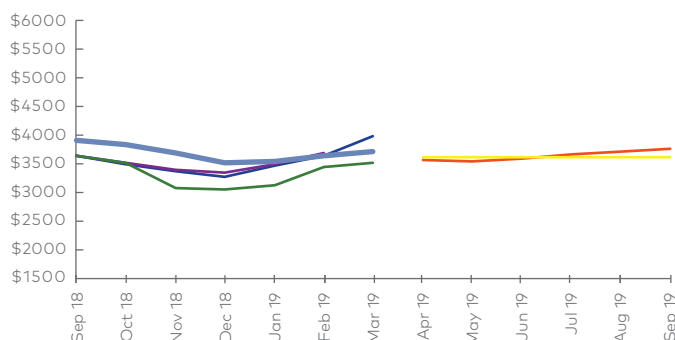
BUTTER



March butter price were mixed. DDB is up -4.4% to USD 4,617/MT. GDT was up +9.4% to USD 4,894/MT, and CME Spot stayed flat at USD 5,021/MT.

Butter Forecast/futures present a more stable view for the next six months period with prices between USD 4,275/MT and USD 5,147/MT.

CHEESE



All Cheddar cheese prices increased during March. GDT increased +9.3% to USD 3,978/MT, CME spot price increased +2.0% to USD 3,507/MT and EU Commission also up +1.7% to USD 3,692/MT.

Futures and forecasts are stable. CME Futures prices increased for the six months from April to September 2019, up +3.1% to an average price of USD 3,630/MT and Rabobank averages USD 3,600/MT.

Actuals

■ GDT Fonterra ■ Dutch Dairy Board ■ USDA Oceania
■ USDA NASS ■ CME Spot ■ EU Commission

Forecasts

■ NZX Futures ■ CME Futures
■ Rabobank Oceania

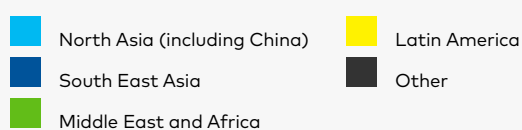
GDT Results

TRADING EVENT 233

+0.8% Change in GDT Price Index from previous event		USD 3,483 Average price (USD/MT, FAS)	
WMP -1.3% \$3,287	AMF +3.7% \$5,867	SMP +1.8% \$2,468	BUTTER +5.8% \$5,374
RENNET CASEIN +7.5% \$6,703	CHEDDAR +3.2% \$4,248	LACTOSE -5.3% \$948	BMP +5.0% \$3,548

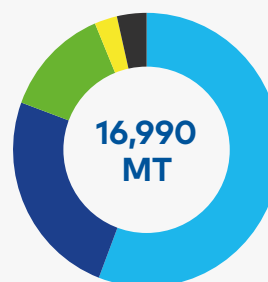
GDT SALES BY DESTINATION

TRADING EVENT 233

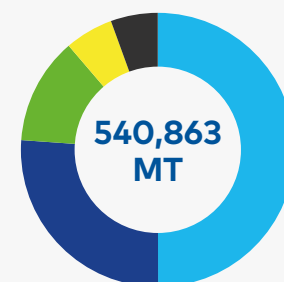


The next trading event will be held on 16 April 2019.
 Visit www.globaldairytrade.info for more information.

Last Auction



Financial Year to Date



Dairy commodity prices and New Zealand dollar trend

The New Zealand dollar declined marginally during February as the Reserve Bank signalled their intent to keep New Zealand interest rates on hold for the foreseeable future against a backdrop of global growth concerns.





USDA, Dairy Outlook

Published March 2019

Recent developments

During the month of February, movement of dairy product prices reported in the USDA National Dairy Products Sales Report (NDPSR) were mixed. The most significant change between the week ending February 2 and the week ending March 2 was in cheddar cheese prices, which increased 13.5 cents and 16.9 cents per pound for 40-pound blocks and 500-pound barrels, respectively. The dry whey price fell 4.5 cents per pound during the same period, while prices for butter and nonfat dry milk rose 2.6 cents and 0.5 cents per pound, respectively.

The most recent weekly average spot prices for cheddar cheese sold on the Chicago Mercantile Exchange (CME) were not much different from the NDPSR average prices for the week ending March 8. CME average prices of 40-pound blocks and 500-pound barrels of cheese were \$1.5615 and \$1.4205 per pound, respectively, for the trading week ending March 8. CME cheese prices usually lead NDPSR prices by 1 to 2 weeks. The CME butter price for the same trading week was \$2.2835 per pound, 2.2 cents higher than the NDPSR butter price for the week ending March 2.

CME butter prices usually lead NDPSR prices by 1 week. In the February 20, 2019, Milk Production report, USDA National Agricultural Statistics Service (NASS) estimated that U.S. milk production in December totaled 18.155 billion pounds, an increase of 0.5 percent from December 2017. This growth is in line with milk production growth in the 2 months prior.

Milk cows totaled 9.351 million head in December, as the size of the U.S. milking herd continued to slowly contract. Dairy cow slaughter rates have remained above year-ago levels over the past month. Milk per cow increased in December, growing 21 pounds year over year to 1,942. Cheese prices over the past month may have been bolstered by flagging growth in cheese stocks. While December cheese stocks were higher than December 2017, they did fall slightly from November to December, which has only happened in one other year since 2007. In contrast, domestic whey prices have fallen in recent weeks, likely due to the persistence of lower exports resulting from China's retaliatory tariffs as well as to competitive European whey prices.

Dairy forecasts for 2019

As milk production fell slightly below expectations in December and dairy cow slaughter levels remain above those of a year ago, milk production is forecast 0.4 billion pounds lower at 219.7 billion pounds for 2019. However, dairy exports also generally fell short of forecasts in December, and as a result, lower production should have a muted (but still positive) impact on prices. Exports for 2019 are forecast 1.0 billion pounds lower on a skim-solids milk-equivalent basis and 0.2 billion pounds lower on a milk-fat milk-equivalent basis. Forecasts for most dairy product prices have been raised slightly, with the exception of the dry whey price, which is forecast lower due to lower exports. The all-milk price forecast for 2019 is \$17.00-\$17.60 per cwt, a slight increase from February's forecast of \$16.90-\$17.60.



Blimling, Forecast Update

Published March 6, 2019

Blimling believes that cheese prices could find some seasonal support as Easter approaches but that the still ample supply will cap the potential upside through the rest of the season, with barrels staying at a larger than average discount to blocks. There are positive signs with lighter-than-anticipated US milk output and domestic demand growth balanced with declines in fluid milk sales keeping cheese plants full and increased cheese output in the EU.

Butter will continue to be rangebound until further notice, supported by top end pressure from seasonal demand,

and forward cover interest on the bottom. The NDP/SMP market is also settling into a range, with lighter global supply and hesitancy on the buying side as opposing forces with prices hovering around the dollar mark. They foresee the whey market continuing to weaken, pressured by lessening export opportunities and increased domestic dry whey production. African swine fever is continuing to spread cutting back orders from key customers in the region, with stronger than anticipated cheese output in the Midwest keeping stocks climbing.





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 – 11)

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.



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 trading 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.