

# GLOBAL DAIRY UPDATE



- Significant monthly production decline in Australia. New Zealand finished season up on weak prior season. Steady growth in the EU and growth easing in the US.



- Exports from New Zealand, Australia and the EU continue to grow. Large decline in monthly US exports.



- Monthly imports into China and Asia show strong growth. Latin America and Middle East & Africa down in March.



- Fonterra's New Zealand milk collection for the season ended 31 May 2019 was 1,523 million kgMS, 1% up on weak prior season.
- Forecast milk collection for the 2019/20 season is 1,520 million kgMS.



- Fonterra offers farmers new pricing tool with Fixed Milk Price.
- Going organic: new paediatrics powder launched in China.



- Celebrated brothers turn brains to dairy problems.

## KEY DATES



September 2019  
FY19 Annual Results  
Announcement.

11 November 2019  
Fonterra Shareholders' Fund  
Annual Meeting

December 2019  
FY20 Q1 Business Update

20 April 2020  
Share Standard Compliance  
2019/20 Season



To view a chart that illustrates year-on-year changes in production –

# SIGNIFICANT MONTHLY PRODUCTION DECLINE IN AUSTRALIA. NEW ZEALAND FINISHED SEASON UP ON WEAK PRIOR SEASON. STEADY GROWTH IN THE EU AND GROWTH EASING IN THE US

## NEW ZEALAND

**0.1%** ↓

Change for May 2019 compared to May 2018

**2.2%** ↑

Change for the 12 months to May 2019

**New Zealand milk production** was down 0.1% in May compared to the same period last year.

New Zealand weather improved in May with temperatures above average across the country and rainfall near or above average in the Waikato, Taranaki and most of the South Island.

New Zealand milk production for the 12 months to May was 2.2% higher than last year, which was considered a weak production year due to unfavourable weather.

Fonterra collections are reported for May, see page 5 for details.

## AUSTRALIA

**13.7%** ↓

Change for April 2019 compared to April 2018

**6.1%** ↓

Change for the 12 months to April 2019

**Australia milk production** decreased 13.7% in April compared to the same period last year.

Production for the 12 months to April is down 6.1% on the previous 12 months.

High input costs have led to lower milk production and low farmer confidence. Reduced supplemental feeding, increased cow cull rates and farm exits continue to impact production.

Fonterra collections in Australia are reported for May, see page 5 for details.

## EUROPEAN UNION

**1.2%** ↑

Change for April 2019 compared to April 2018

**0.4%** ↑

Change for the 12 months to April 2019

**EU milk production** increased 1% in April compared to the same period last year.

Growth continues in Ireland, up 15.0% in April 2019, supported by favourable weather relative to the same period last year which was impacted by poor spring weather.

Key exporting countries where production declined were Austria, France, Germany and the Netherlands, at 1.6%, 1.0%, 0.5% and 1.7% respectively.

EU milk production for the 12 months to April was up 0.4% compared to the same period last year.

## USA

**0.4%** ↓

Change for May 2019 compared to May 2018

**0.5%** ↑

Change for the 12 months to May 2019

**US milk production** decreased 0.4% in May, compared to the same period last year.

Poor profitability is leading to an increase in culling which is likely to continue to impact growth over the next few months.

Milk production for the 12 months to May was 0.5% higher compared to the same period last year.



# EXPORTS FROM NEW ZEALAND, AUSTRALIA AND THE EU CONTINUE TO GROW. LARGE DECLINE IN MONTHLY US EXPORTS

To view a chart that illustrates year-on-year changes in exports –

## NEW ZEALAND

**13.6%↑**

Change for April 2019 compared to April 2018

**5.4%↑**

Change for the 12 months to April 2019

**Total New Zealand dairy exports** increased by 13.6%, or 37,100 MT, in April compared to the same period last year. This was primarily driven by WMP and fluid milk products, up 32,400 MT. Butter had the largest decline in volume, down 3,100 MT for the month.

Exports for the 12 months to April were up 5.4%, or 176,500 MT, on the previous comparable period. This was primarily driven by WMP, fluid milk products, AMF, and infant formula, up a combined 224,900 MT. SMP was down 43,000 MT.

## AUSTRALIA

**5.6%↑**

Change for April 2019 compared to April 2018

**3.9%↑**

Change for the 12 months to April 2019

**Australia dairy exports** increased by 5.6%, or 3,500 MT, in April compared to the same period last year. This was primarily driven by infant formula, fluid milk products and cheese, up 7,400 MT. The increase was offset by declines in WMP and SMP, down a combined 4,700 MT.

Exports for the 12 months to April were up 3.9%, or 29,400 MT, on the previous comparable period.

Infant formula, fluid milk products, and whey powder made up most of the growth in Australian exports, up a combined 47,800 MT.

## EUROPEAN UNION

**5.7%↑**

Change for March 2019 compared to March 2018

**1.9%↑**

Change for the 12 months to March 2019

**EU dairy exports** increased by 5.7%, or 26,700 MT, in March compared to the same period last year. This was primarily driven by SMP, and fluid milk products up a combined 49,700 MT. This was partially offset by declines in WMP, cheese, whey powder, and infant formula, of a combined 22,700 MT.

Exports for the 12 months to March were up 1.9%, or 101,300 MT, on the previous comparable period. SMP, lactose, WPC, MPC and infant formula were up a combined 196,900 MT. This was offset by a 100,100 MT decline in WMP, butter, AMF, and fluid milk products.

## USA

**21.2%↓**

Change for April 2019 compared to April 2018

**1.9%↓**

Change for the 12 months to April 2019

**US dairy exports** declined 21.2%, or 51,400 MT, in April compared to the same period last year. This was primarily driven by base commodities of SMP, whey powder, lactose, WMP and WPC, down a combined 46,400 MT.

Exports for the 12 months to April 2019 were down 1.9%, or 45,100 MT on the previous comparable period.

The US has seen a more than 100,000 MT decline in whey products to China in the last 12 months. This was partially offset by increases in SMP to Mexico and fluid milk products to Canada and Taiwan.



# MONTHLY IMPORTS INTO CHINA AND ASIA SHOW STRONG GROWTH. LATIN AMERICA AND MIDDLE EAST & AFRICA DOWN IN MARCH

To view a chart that illustrates year-on-year changes in imports –

## LATIN AMERICA

**1.1%** ↓

Change for March 2019 compared to March 2018

**5.0%** ↑

Change for the 12 months to March 2019

**Latin America dairy import volumes<sup>1</sup>** decreased 1.1%, or 1,900 MT, in March compared to the same period last year. This was driven by declines in infant formula, and whey powder, down a combined 3,900 MT. This was offset by lactose, up 2,400 MT.

Imports for the 12 months to March 2019 were up 5.0%, or 94,400 MT, compared to the same period the previous year. Increases were recorded across a broad range of products with SMP, fluid milk products, and WMP up a combined 81,400 MT.

## ASIA

**5.3%** ↑

Change for March 2019 compared to March 2018

**6.7%** ↑

Change for the 12 months to March 2019

**Asia (excluding China) dairy import volumes<sup>1</sup>** increased 5.3% or 22,600 MT, in March compared to the same period last year. Increases were recorded across a broad range of products with SMP up 21,600 MT.

Imports for the 12 months to March were up 6.7%, or 309,100 MT, compared to the same period the previous year. Growth continues across a broad range of products with fluid milk products, SMP, WMP and lactose up a combined 232,800 MT.

## MIDDLE EAST & AFRICA

**6.0%** ↓

Change for March 2019 compared to March 2018

**7.9%** ↓

Change for the 12 months to March 2019

**Middle East and Africa dairy import volumes<sup>1</sup>** decreased 6.0% or 22,400 MT in March 2019 compared to the same period last year. Declines were recorded principally in cheese, SMP, butter, and WMP down a combined 37,700 MT. This was partly offset by growth in SMP of 20,200 MT.

Imports for the 12 months to March 2019 were down 7.9%, or 329,000 MT, compared to the same period the previous year. The reduction was driven by cheese, fluid milk products, SMP, butter and WMP down a combined 300,800 MT.

## CHINA

**31.5%** ↑

Change for April 2019 compared to April 2018

**9.8%** ↑

Change for the 12 months to April 2019

**China dairy import volumes<sup>1</sup>** increased 31.5%, or 64,100 MT, in April compared to the same period last year. This was driven by increases in WMP, fluid milk, infant formula and SMP products up a combined 76,300 MT but offset by whey powder which was down 11,500 MT.

Imports for the 12 months to April were up 9.8%, or 268,900 MT, compared to the same period last year.

Strong demand out of China continued with imports across all key categories, notably WMP, SMP, infant formula, fluid products and lactose, which were up a combined 277,200 MT.

<sup>1</sup> Estimates are included for those countries that have not reported data.

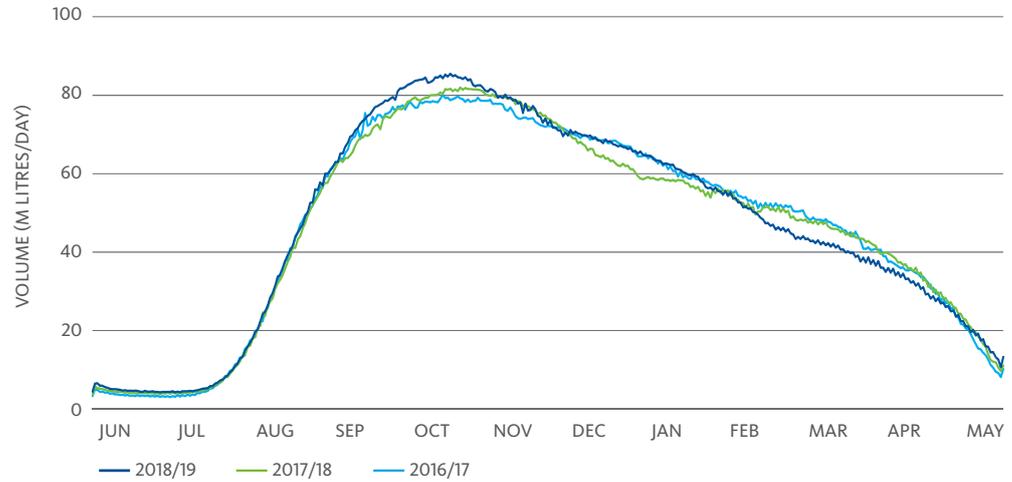
# OUR MARKETS

# FONTERRA MILK COLLECTION 2018/19 SEASON



To view a table that shows our detailed milk collection in New Zealand and Australia compared to the previous season –

## NEW ZEALAND MILK COLLECTION



### NEW ZEALAND

**3.5%↓**

Decrease for May 2019 compared to May 2018

**1.2%↑**

For the 2018/19 Season compared to Previous Season

Total collections for the season were 1,523 million kgMS, up 1.2% on last season which was a weak production season.

Conditions in May were more favourable across many regions compared to recent months, but overall still 3.5% behind the same month last season. May production last season was stronger on the back of favourable autumn conditions.

Forecast Milk Collection for the 2019/20 season is 1,520 million kgMS.

### NORTH ISLAND

**10.7%↓**

Decrease for May 2019 compared to May 2018

**0.1%↑**

For the 2018/19 Season compared to Previous Season

Conditions recovered in the Upper North regions by the end of May, but too late to provide meaningful impacts on volumes.

Collections in May were 31 million kgMS, 10.7% behind the same month last season, with full season collections reaching 893 million kgMS. This is in line with last season's 892 million kgMS.

### SOUTH ISLAND

**3.5%↑**

Increase for May 2019 compared to May 2018

**2.7%↑**

For the 2018/19 Season compared to Previous Season

Stronger production from Central South Island continued through May, with a higher number of farms than usual milking through to the end of the season.

Collections in May were 37 million kgMS, 3.5% higher than the same month last season, with full season collections reaching 629 million kgMS. This was up 2.7% on last season.

### AUSTRALIA

**31.4%↓**

Decrease for May 2019 compared to May 2018

**19.8%↓**

Season to date 1 July to 31 May

Fonterra's milk collection across Australia for the eleven months to 31 May reached 115 million kgMS, down 19.8% on the same period last season.

Fonterra collections in May were 8 million kgMS, down 31.4% on May last season.

Fonterra's share of monthly collection continues to reduce due to poor seasonal conditions and high input costs, leading to an increase in cow cull rates, farm exits in key regions, and declining share in a highly competitive market.

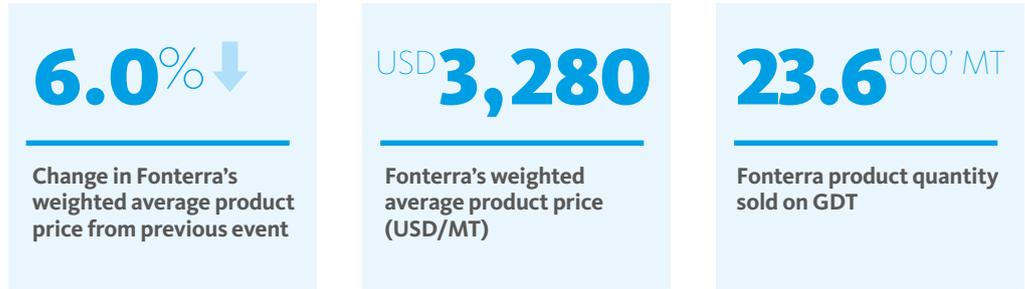
Dairy Australia continues to forecast a milk production decline of between 7% and 9% for the 2018/19 season.

# OUR MARKETS

## FONTERRA GLOBAL DAIRY TRADE RESULTS



Fonterra GDT results at last trading event  
**18 June 2019:**



### RENNET CASEIN

## 4.1% ↑

USD 7,494/MT

### SMP

## 3.5% ↓

USD 2,360/MT

### AMF

## 3.9% ↓

USD 5,531/MT

### WMP

## 4.2% ↓

USD 3,006/MT

### CHEDDAR

## 4.3% ↓

USD 3,781/MT

### BUTTER

## 5.2% ↓

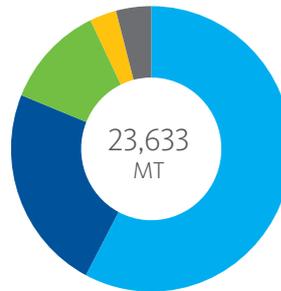
USD 4,553/MT

### Fonterra GDT sales by destination:

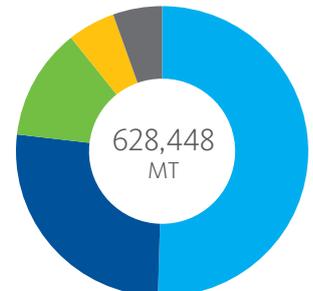
To view more information, including a snapshot of the rolling year-to-date results –



### LATEST AUCTION



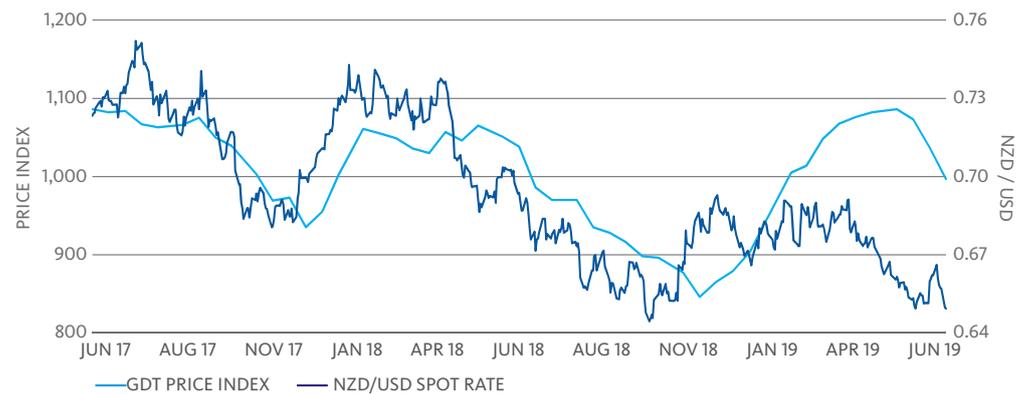
### FINANCIAL YEAR-TO-DATE



► The next trading event will be held on 2 July 2019. Visit [www.globaldairytrade.info](http://www.globaldairytrade.info) for more information.

### Dairy commodity prices and New Zealand dollar trend

The New Zealand dollar declined in May as the Reserve Bank of New Zealand lowered interest rates, with additional weakness ensuing as increasing global trade tensions led to general safe-haven buying of the US dollar.



# OUR PERFORMANCE



## Fonterra offers farmers new pricing tool with Fixed Milk Price

June 2019 marked the first opportunity for farmers to use the new Fixed Milk Price tool announced by Fonterra late last year.

Farmer interest was strong with 215 farmers participating and applying to fix just over 11 million kgMS.

The Fixed Milk Price offered to farmers was \$6.75 (less the 10c service fee), and a total volume of 15 million kgMS was available.

Fixed Milk Price joins seven other financial tools that support farmers in sharing up and investing on farm.

It also enables the Co-op to provide more price certainty to its customers with fixed price contracts.

Richard Allen, Group Director of Farm Source, says “as a Co-operative owned by 10, 000 farming families, we are committed to finding solutions that will help our farmers make their businesses more sustainable for the long term.”

“While most farms can operate with some volatility, some farmers can’t or aren’t willing to take on as much risk. Without a way to reduce their risk, these farmers may not enter dairy or may leave the industry.

“If we can help them reduce their exposure and stay in the Co-op, while providing greater price certainty for the Co-op as well, it’s a win-win.”

Farmers will have up to 10 opportunities in a season (excluding January and February) to fix up to 50 per cent of their individual total estimated milk production for the season.

Fonterra will make up to five per cent of its total forecast New Zealand milk collection available to Fixed Milk Price.

The next application period is expected to be 8-9 July.

## Going organic: new paediatrics powder launched in China

Fonterra through NZMP China has launched an organic milk powder for children to meet the rising demand for organic products in the world’s most populous country.

The new premium SureStart™ Organic Formulated Paediatric Base Powder is made from high-quality organic milk from certified New Zealand farms. Our base powder ingredients contain whey enriched with vitamins, minerals and other essential nutrients to help support growth and development in babies.

Teh-han Chow, President of NZMP Greater China and South & East Asia, says demand for organic products in China is growing fast.

“Chinese consumers are particularly concerned about where their food came from,

how it was made, and if it was sustainably produced. Many are choosing organic products to help meet these needs for themselves and their families.”

While organic foods were once viewed as a luxury item, they have become more accessible to middle-class Chinese consumers with rising incomes.

The organic food segment in China has tripled since 2007, but still makes up only a relatively low proportion of the whole food market. This means it has room to grow and Fonterra (NZMP) is positioning itself to make the most of the opportunities this budding market brings.

Teh-han says Chinese consumers are increasingly seeking the assurance of organic certification, especially for their children.

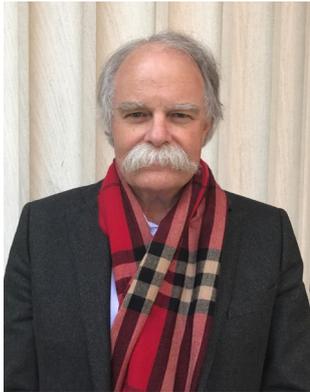
“Organic paediatric ingredients can be difficult to source. But our premium range of organic base powders allow infant formula manufacturers and brand owners to enter this fast-growing segment and differentiate their paediatric formula brand.

“Better still, our organic formulas are certified and produced in accordance with the organic standards, from cow to customer. This means manufacturers and consumers in China trust our products.

[To read more about NZMP and SureStart™ –](#)



## Serial Entrepreneur partners to solve Fonterra's sustainability challenges



PROFESSOR IAN HUNTER

Professor Ian Hunter is a serial entrepreneur. Born in New Zealand, he started his first company at age nine and published his first scientific paper at age 10.

Now living in Boston, he's the Professor of Mechanical Engineering at MIT, the co-founder of 25 companies, and has more than 100 patents to his name.

He's also working on a new project – a partnership with Fonterra to solve some of dairy farming's biggest sustainability challenges.

Specialising in micro instrumentation and micro robotics, Ian Hunter's most esteemed invention is that of needle-free injection, giving you the ability to medicate intravenously without breaking the skin. Further to this, it connects with an app on your smartphone, giving you real time diagnostics about blood composition and the dosage levels of medicine required.

His latest invention, Indigo, has got the world's biggest car manufacturers talking. In April, after 10 years of stealth, Ian came out to Forbes magazine showcasing his electrically powered, fully autonomous driving system that could redefine the way the world designs cars.

Ian believes that Indigo will revolutionise vehicle efficiency and drastically reduce the impact of transportation on the environment.

It was at the Indigo headquarters that Ian had his first interaction with Fonterra, on a Board trip in 2017.

Since then the relationship has gone from strength to strength, with Ian turning his mind to how he can improve farming systems in his home country of New Zealand.

"I made the decision about 10 years ago to only work on things whose mission statement is around sustainability and making the lives of animals and humans better."

"I've spent the last year and a half learning more about Fonterra - how to grow good quality grass, how to minimise pollution when fertilising. Also learning about cows, who I think of as machines that consume grass and produce milk, but also produce methane, urine and cow dung.

"I think that we can do something around these areas of pollution by rethinking a lot of on-farm production. We can have a future where the farm is a closed eco-system," says Ian Hunter.

It's early days but, alongside Fonterra, Ian is exploring how technologies he has already developed can be across our supply chain. Possibilities include:

- Agrobot - using micro instruments to analyse soil content, provide precision fertilising and allow direct response to nitrogen leeching concerns, all while increasing on-farm productivity.
- On-farm energy generation and storage – harvesting effluent to create biogas, which is then used to fuel farm operations.
- Redefining the way that we transport milk through a more efficient, environmentally sustainable tanker fleet.

Upon starting work with Fonterra, Ian Hunter was quick to suggest that we work with another world leading scientist based out of the University of

Auckland - his brother, Professor Peter Hunter.

Peter Hunter, currently the Director of the Auckland Bioengineering Institute, has a lengthy list of accolades to his name. Having received New Zealand's premier science award, the Rutherford medal in 2009, he was appointed to the New Zealand Order of Merit in 2010. He is also a Fellow of the Royal Society (London). Peter's speciality is computational modelling of human systems and his model of the human brain is widely reported to be world leading.

Peter's help has been enlisted to help crack one of our industry's most pressing challenges: the reduction of bovine methane emissions.

"Methane is very high on the agenda of what we want to look at. It's not yet possible to switch off methane production within a cow without there being an impact on the taste of the milk or on the cow."

The solution could be in better understanding the cow's rumen. With Peter, Ian plans to develop a digital model of the rumen. Data from sensors placed on a cow would feed into the digital model, allowing us to monitor the impacts on the rumen of various inputs such as feed.

It's fair to say a lot of work is required before these innovations are used in practice. But you may see an agrobot wandering the paddocks sooner than you may think.

"We hope to have the first prototype up and running before end of the year, and within the next 12 months we want to have our robot onto our first farm," says Ian Hunter.

# SUPPLEMENTARY INFORMATION

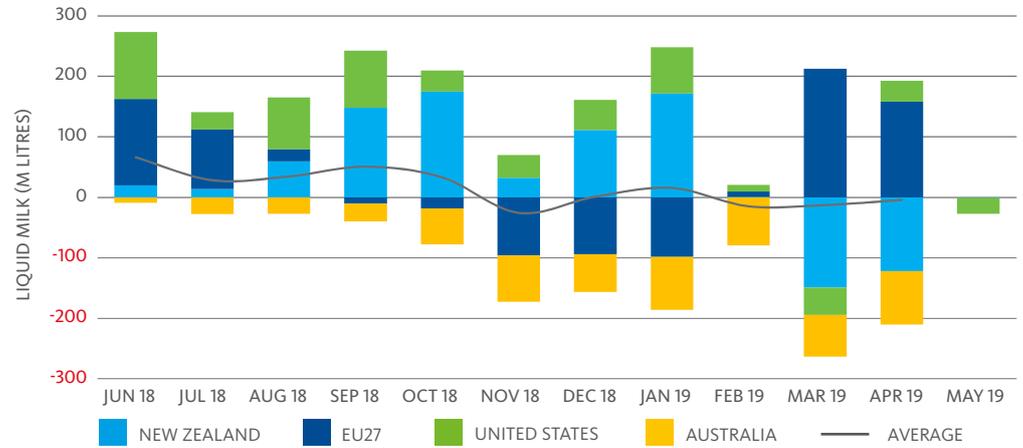
## Global Dairy Market

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.

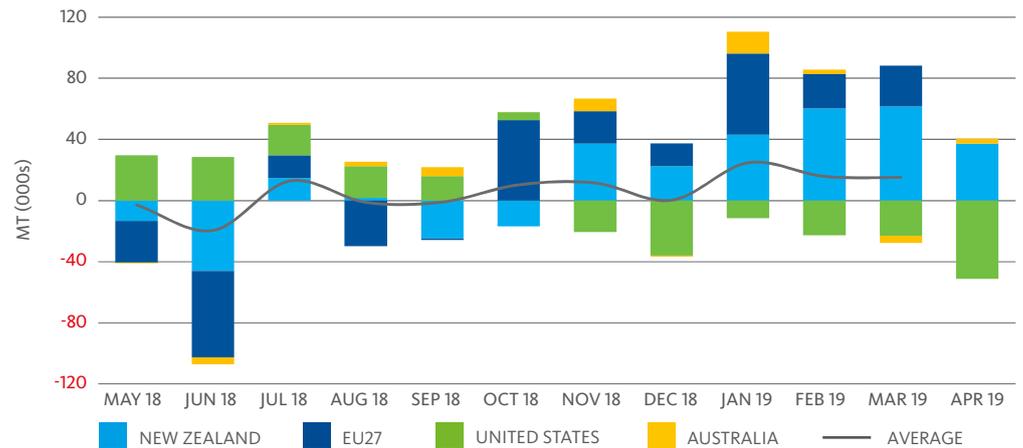
Averages are shown where data is complete for the regions presented.

### PRODUCTION



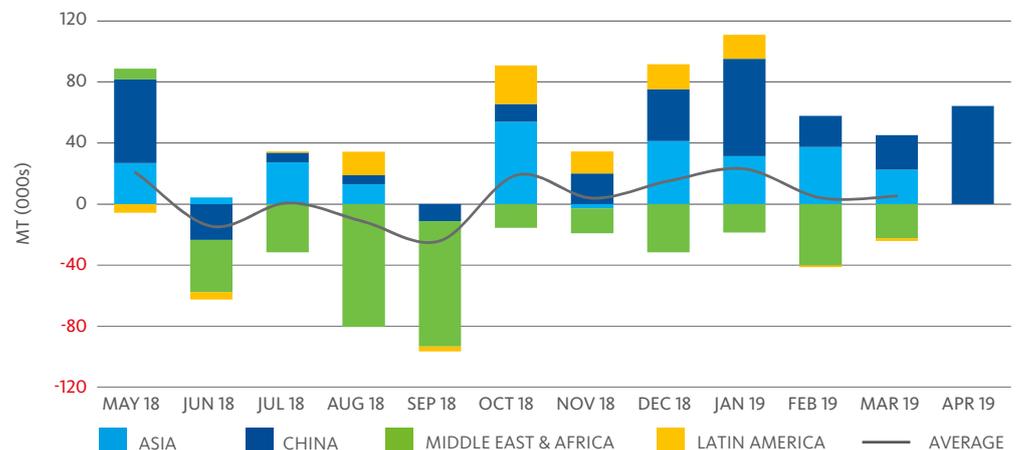
NOTE: Data for EU and Australia to April; New Zealand and US to May.

### EXPORTS



NOTE: Data for EU to March; New Zealand, Australia and US to April.

### IMPORTS



NOTE: Data for Latin America, Asia, Middle East & Africa to March; China to April.

SOURCE: Government milk production statistics/GTIS trade data/Fonterra analysis.

# SUPPLEMENTARY INFORMATION

## Fonterra milk production

The table on the right shows Fonterra milk solids collected in New Zealand and Australia compared to the previous season.

MILK COLLECTION (MILLION KGMS)	MAY 2019	MAY 2018	MONTHLY CHANGE	SEASON-TO-DATE 2018/19	SEASON-TO-DATE 2017/18	SEASON-TO-DATE CHANGE
Total Fonterra New Zealand	68.4	70.9	(3.5%)	1,522.7	1,505.1	1.2%
North Island	31.1	34.8	(10.7%)	893.3	892.0	0.1%
South Island	37.3	36.1	3.5%	629.5	613.1	2.7%
Fonterra Australia	8.1	11.8	(31.4%)	115.1	143.6	(19.8%)

## Fonterra GDT results

This table provides more information on the latest results, including a snapshot of the year-to-date results.

	LAST TRADING EVENT (18 JUNE 2019)	YEAR-TO-DATE (FROM 1 AUGUST 2018)
Quantity Sold on GDT (Winning MT)	23,633	628,448
Change in Quantity Sold on GDT over same period last year	15.5%	12.3%
Weighted Average Product Price (USD/MT)	3,280	3,089
Change in Weighted Average Product Price over same period last year	(8.7%)	(8.4%)
Change in Weighted Average Product Price from previous event	(6.0%)	-

## Fonterra GDT Results

This chart shows Fonterra GDT prices and volumes over the past 12 months.



# GLOSSARY

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## AMF

Anhydrous Milk Fat.

## BMP

Butter Milk Powder.

## DIRA

Dairy Industry Restructuring Act 2001 (New Zealand).

## Farmgate Milk Price

The price for milk supplied in New Zealand to Fonterra by farmer shareholders.

## Fluid Products

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.

## GDT

Global Dairy Trade, the online provider of the twice monthly global auctions of dairy ingredients.

## kgMS

Kilogram of milk solids, the measure of the amount of fat and protein in the milk supplied to Fonterra.

## LME (Liquid Milk Equivalent)

A standard measure of the amount of milk (in litres) allocated to each product based on the amount of fat and protein (“milk solids”) in the product relative to the amount of fat and protein in a standardised raw milk.

## MPC

Milk Protein Concentrate.

## Non-Reference Products

All dairy products, except for Reference Products, produced by the NZ Ingredients business.

## NZMP

New Zealand Milk Products (NZMP) is Fonterra’s global brand of dairy ingredients.

## Reference Products

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

## 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.

## WMP

Whole Milk Powder.

## WPC

Whey Protein Concentrate