



**FEBRUARY 2023**

# Global Dairy UPDATE



- New Zealand monthly production volumes up. US and EU monthly production increases. Australia monthly production continues to decline.

- Fonterra and MAN Energy Solutions enter into partnership for the use of decarbonisation technology.
- Plantain partnership delivers promising results.



- New Zealand and US monthly exports up. Australia and EU monthly exports decline.



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



- How Fonterra is supporting farmers and communities after Cyclone Gabrielle.



- Fonterra New Zealand milk collections for January were 161.4 million kgMS, 2.1% higher than January in the prior season but down 1.6% for the season to date.
- Fonterra Australia milk collections for January were 9.5 million kgMS, 1.9% up on January in the prior season but down 2.1% for the season to date.

## Key Dates



16 March 2023  
FY23 Interim Results Announcement

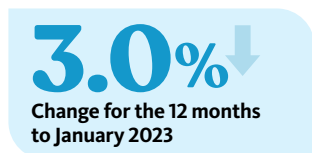
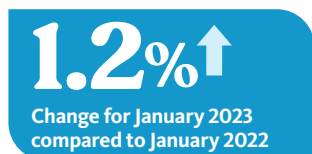
May 2023  
FY23 Q3 Business Update



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

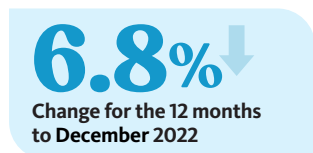
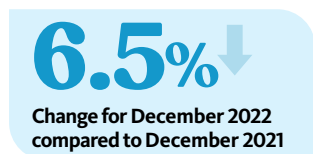
## New Zealand monthly production up. US and EU monthly production increases. Australia monthly production continues to decline

### NEW ZEALAND



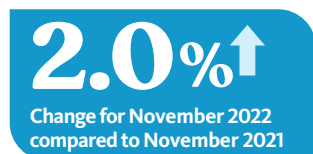
**New Zealand<sup>1</sup> milk production** was up 1.2% on a litres basis, (up 1.9% on milk solids basis) in January compared to the same period the year prior. Wet and warm weather across the North Island had a favourable impact on pasture conditions while very dry conditions in the south constrained milk production. New Zealand milk production for the 12 months to January was down 3.0% on the year prior. Fonterra New Zealand collections are reported for January, see page 5 for details.

### AUSTRALIA



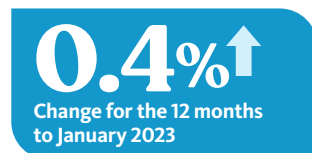
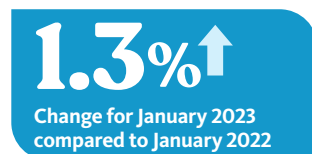
**Australia milk production** decreased 6.5% in December compared to the same period the year prior. Australia recorded its second wettest Spring, materially impacting the availability and quality of pasture, silage and hay. Summer conditions have been more favourable and milk production is stabilising, however it is likely to remain down year-on-year with poorer quality conserved fodder entering the diet. Australia milk production for the 12 months to December was 6.8% lower than the year prior. Fonterra collections in Australia are reported for January, see page 5 for details.

### EUROPEAN UNION



**EU milk production<sup>2</sup>** increased 2.0% in November year-on-year, and for the third consecutive month. The production increase was driven primarily by Germany, the Netherlands, Poland and Belgium and partially offset by sustained declines in Spain and Italy. EU milk production for the 12 months to November decreased 0.2% compared to the same period the year prior, driven by declines in France, Italy, Germany and Spain and partially offset by increases in Poland and Austria.

### USA



**US milk production** increased by 1.3% in January, compared to the same period the year prior. This is the seventh consecutive month of increases. Herd sizes have continued to grow and are supporting growth in production in the near term. Milk production for the 12 months to January increased 0.4% compared to the same period the year prior.

1 New Zealand production is measured in litres.

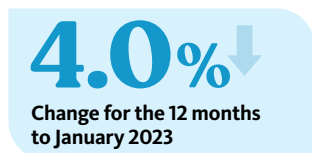
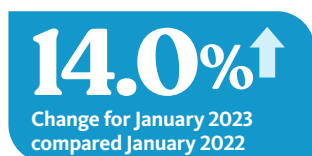
2 Excludes UK.



# New Zealand and US monthly exports up. Australia and EU monthly exports decline

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

## NEW ZEALAND



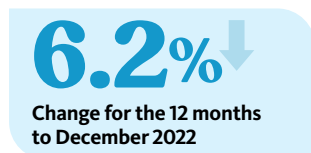
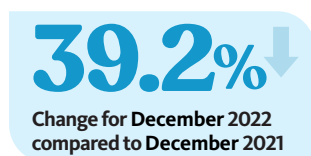
**Total New Zealand dairy exports** increased 14.0%, or 40,999 MT, in January compared to the same period the year prior.

The increase was driven by an increase in SMP shipments to China, and WMP to United Arab Emirates and Singapore.

Exports for the 12 months to January were down by 4.0%, or 141,725 MT, on the previous comparable period.

This was primarily driven by decreases in WMP and partially offset by increases in SMP, AMF and butter.

## AUSTRALIA



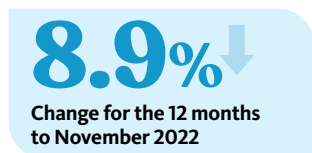
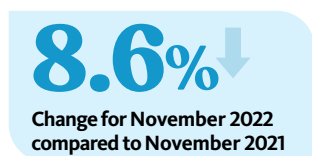
**Australia dairy exports** decreased 39.2%, or 39,188 MT, in December compared to the same period the year prior, which was a very strong export month to China.

This monthly year-on-year decrease is driven by lower volumes of fluid milk products to China as well as a decrease in SMP and WMP.

Exports for the 12 months to December were down 6.2%, or 53,610 MT, on the previous comparable period.

This was predominantly driven by decreases in fluid milk products, WMP and cheese.

## EUROPEAN UNION

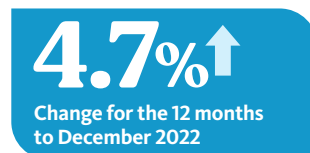
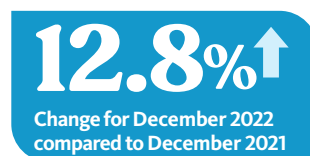


**EU dairy exports** decreased 8.6%, or 49,124 MT, in November compared to the same period the year prior.

The decline in exports volumes continues to be driven by lower fluid milk products shipments to China. The decrease was partially offset by an increase in cultured products and SMP to Algeria.

Exports for the 12 months to November were down 8.9%, or 645,012 MT, on the previous comparable period, driven by declines in fluid milk products, SMP, whey and WMP and partially offset by increases in cultured products and infant formula.

## USA



**US dairy exports** increased 12.8%, or 24,940 MT, in December compared to the same period the year prior.

Stronger demand for lactose, cheese, SMP and WPC by Canada, WPC by China and cheese by Mexico were partially offset by lower shipments of fluid milk products.

Exports for the 12 months to December were up 4.7%, or 128,747 MT, on the previous comparable period, driven by lactose, cheese and WPC, and partially offset by declines in SMP.



## Latin America imports continue to grow. China, Middle East & Africa and Asia monthly imports decline

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

### LATIN AMERICA

**9.0%**↑

Change for November 2022 compared to November 2021

**9.5%**↑

Change for the 12 months to November 2022

**Latin America dairy import volumes<sup>1</sup>** increased 9.0%, or 16,181 MT, in November compared to the same period the year prior. The increase was driven by stronger demand for WMP by Brazil, and SMP by Mexico and partially offset by lower imports of fluid milk products by Dominican Republic and Chile. Imports for the 12 months to November were up 9.5% on the previous comparable period, driven by higher volumes of cheese, SMP, infant formula and WMP.

### ASIA

**7.7%**↓

Change for November 2022 compared to November 2021

**0.2%**↑

Change for the 12 months to November 2022

**Asia (excluding China) dairy import volumes<sup>1</sup>** decreased 7.7%, or 30,909 MT, in November compared to the same period the year prior. The decrease was driven by lower demand for SMP by Malaysia, lactose by Pakistan and Indonesia, and infant formula by Vietnam. Imports for the 12 months to November were up 0.2%, or 10,587 MT, on the previous comparable period, driven by increases in lactose, WPC, ice cream, SMP and cultured products and partially offset by a decline in fluid milk product.

### MIDDLE EAST & AFRICA

**1.5%**↓

Change for November 2022 compared to November 2021

**6.1%**↑

Change for the 12 months to November 2022

**Middle East and Africa dairy import volumes<sup>1</sup>** decreased 1.5%, or 6,657 MT, in November compared to the same period the year prior. The decrease was driven by lower volumes of fluid milk products to Libya and Iraq, butter to Morocco, and cheese to Iraq. This was partially offset by an increase in SMP to Algeria. Imports for the 12 months to November were up 6.1%, or 306,522 MT, on the previous comparable period, driven by increases in, SMP, cheese, whey and butter and partially offset by a decline in fluid milk product.

### CHINA

**7.2%**↓

Change for December 2022 compared to December 2021

**16.9%**↓

Change for the 12 months to December 2022

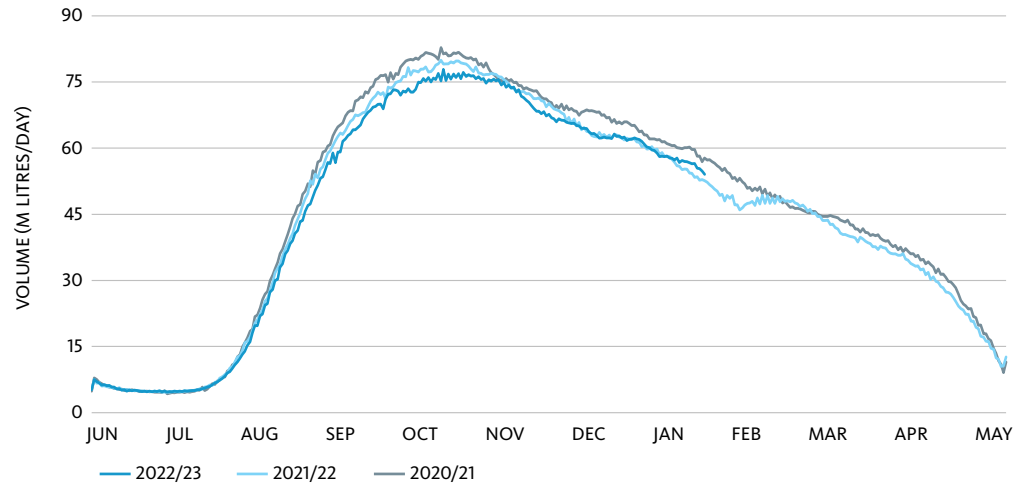
**China dairy import volumes** decreased by 7.2%, or 20,328 MT, in December compared to the same period the year prior. Lockdown restrictions continue to have an impact on volumes, particularly fluid milk products and infant formula. This was partially offset by an increase in demand for whey. SMP from New Zealand and WMP also increased and it was the first month of year-on-year increase following nine consecutive months of declines. Imports for the 12 months to December were down 16.9%, or 698,156 MT, driven by fluid milk products, WMP, whey, and SMP.

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



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

## New Zealand Milk Collections



### NEW ZEALAND

**2.1%↑**  
Change for January 2023 compared to January 2022

**1.6%↓**  
Season-to-date 1 June to 31 January

**Fonterra's New Zealand collections** for January were 161.4 million kgMS, 2.1% higher than last January.

Season-to-date collections were 1,016.2 million kgMS, 1.6% behind last season.

January showed a recovery in milk volumes compared to last season with strong North Island production offset by slightly unfavourable South Island milk supply.

In general, North Island farms are well set up for late summer/autumn with strong pasture covers and good animal condition. Over the next month, there is a drought risk for Southland and Canterbury regions.

### NORTH ISLAND

**4.4%↑**  
Change for January 2023 compared to January 2022

**2.9%↓**  
Season-to-date 1 June to 31 January

**North Island** milk collections in January were 90.6 million kgMS, 4.4% ahead of January last season.

Season-to-date collections were 611.4 million kgMS, 2.9% behind last season.

January weather was very wet and warm in the North Island, conducive to strong pasture growing conditions. Continued wet weather throughout the month caused some disruption to milk volumes however farms are well set up for late summer/autumn with strong pasture covers and good animal condition.

### SOUTH ISLAND

**0.7%↓**  
Change for January 2023 compared to January 2022

**0.5%↑**  
Season-to-date 1 June to 31 January

**South Island** milk collections in January were 70.8 million kgMS, 0.7% behind than last January.

Season-to-date collections were 404.8 million kgMS, 0.5% ahead of last season.

More dry and warm weather in the South Island caused lower milk production throughout the month.

There is a drought risk for Southland and Canterbury regions over the late summer/early Autumn period.

### AUSTRALIA

**1.9%↑**  
Change for January 2023 compared to January 2022

**2.1%↓**  
Season-to-date 1 July to 31 January

**Fonterra's Australia collections** for January were 9.5 million kgMS, a 1.9% increase from January last season.

Farm collections increased 0.3 million kgMS and third-party collections decreased 0.1 million kgMS year-on-year.

Season-to-date collections reached 66.2 million kgMS, 2.1% behind last season.

### Outlook for Fonterra in New Zealand

As updated 24 February 2023

NZD per kgMS **8.20-8.80**  
Forecast Farmgate Milk Price for the 2022/23 season

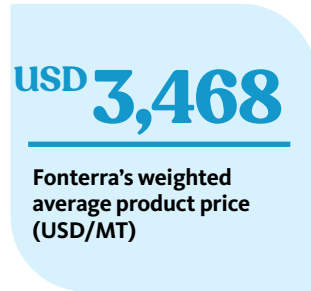
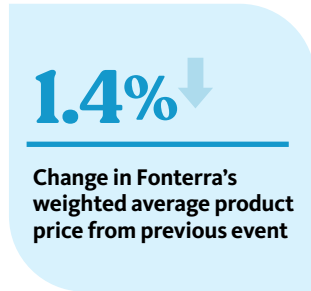
**1,465 m kgMS** ↓ from 1,480m kgMS  
Forecast milk collections for the 2022/23 season

OUR MARKETS

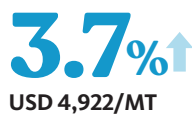
# Fonterra Global Dairy Trade Results



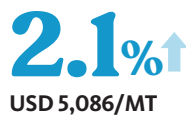
Fonterra GDT results at last trading event  
**21 February 2023:**



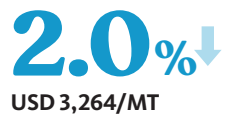
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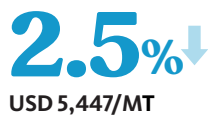
**CHEDDAR**



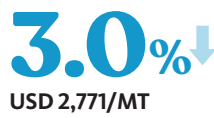
**WMP**



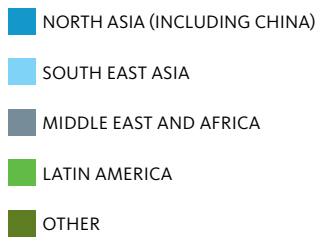
**AMF**



**SMP**

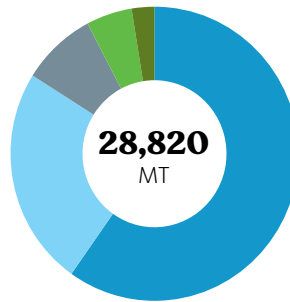


Fonterra GDT sales by destination:

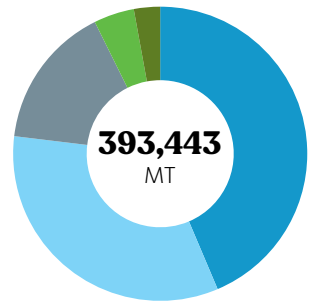


To view more information, including a snapshot of the rolling year-to-date results –

**LATEST AUCTION**



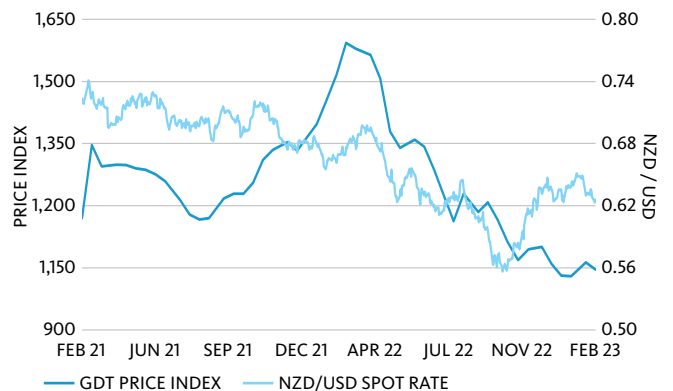
**FINANCIAL YEAR-TO-DATE**



▶ The next trading event will be held on 7 March 2023. Visit [www.globaldairytrade.info](http://www.globaldairytrade.info) for more information.

## Dairy commodity prices and New Zealand dollar trend

The US economy has proven to be more resilient in the face of higher interest rates than forecasters and investors had previously expected, and so resulted in US interest rates increasing over the past month or so. This, together with heightened geopolitical risks, saw increasing demand for the USD. The NZD/USD exchange rate declined to below 63 US cents.





# Our Performance



## Fonterra and MAN Energy Solutions enter into partnership for the use of decarbonisation technology

Fonterra and MAN Energy Solutions (MAN ES) are entering a strategic partnership to reduce CO<sub>2</sub> emissions in dairy production using climate-friendly heat pump technology for steam generation.

The partnership between Fonterra and MAN ES, world-leading provider of engines and turbo machinery solutions, will trial the design and implementation of an industrial-scale heat pump technology to replace non-renewable energy in raising steam.

This project could result in a reduction of 60,000 metric tons of CO<sub>2</sub> annually for the Co-operative, the equivalent of taking 25,000 cars off New Zealand roads.

Powered by electricity, the high temperature MAN Heat Pump solution would allow Fonterra to produce steam to dry dairy ingredients using renewable electricity from sources such as hydro, solar, geothermal and wind. After integration into Fonterra's production infrastructure, the heat pump could produce more than 30 metric tons of process steam per hour, equivalent to a thermal output of 25 megawatts.

The first step will be to carry out an engineering study to develop the integration of the heat pump solution into the Co-operative's existing milk powder production. This study is expected to be completed by the end of April 2023. The findings will then be used to design a heat pump system at one of Fonterra's manufacturing sites.

Fonterra Chief Operating Officer, Fraser Whineray says "Improving energy



An at-scale illustration of the type of heat pump the MAN and Fonterra team will be looking to use

efficiency and trying a range of fuels in our manufacturing operations remains a vital part of our decarbonisation strategy. We're working to meet the expectations of our customers, consumers, and stakeholders here in New Zealand and around the world, who are increasingly wanting us to accelerate progress to reduce our emissions".

"A key contributor to this reduction is the Co-operative's transition away from coal by 2037. By the end of the year, it is expected that only six out of 29 sites will be using coal".

"We see huge value in collaborating with innovative partners to achieve this ambitious goal. MAN ES will provide a resilient and efficient heat pump solution for our sites producing nutrient-rich dairy products."

Uwe Lauber, CEO of MAN ES, says "We have put technology solutions to lower greenhouse gas emissions from industry at the heart of our strategy. MAN's heat pump technology brings the economic and climate-friendly benefits of heat pumps to a crucial sector such as the industrial food and beverage industry.

"With Fonterra being the third biggest milk ingredient producer in the world, we are very much looking forward to supporting their decarbonisation journey with our expertise and cutting-edge technology solutions. Innovations that arise from such strong partnerships are key in the decarbonisation of industrial processes."

The heat pump project is a result of work to find innovative energy solutions between Fonterra and its engineering partner Aurecon to support the Co-operative's long-term commitment to sustainability. Fonterra has an ambition to be at net zero emissions by 2050 with an interim target of a 30% absolute reduction in manufacturing emissions by 2030 based on its FY18 level.

Last year the Co-operative announced the installation of a biomass boiler to replace a coal boiler at its Waitoa site in the Waikato region, this is expected to be up and running in November 2023. Similar sustainable fuel switching projects have taken place at Fonterra's Te Awamutu and Stirling sites, the latter due to be operational in April this year.



## Plantain partnership delivers promising results

A research partnership our Co-op is a key member of has found that feeding cows plantain could reduce nitrogen leaching from dairy farms by 20-60%.

The results, from the Plantain Potency and Practice (PPP) programme, prove using Ecotain plantain in pasture can significantly reduce nitrogen entering waterways.

Farm trials at Massey University and initial results from a trial at Lincoln University both show similar trends.

The trials are part of the nationwide PPP research and development programme that involves DairyNZ, the Government (through the Ministry for Primary Industries' Sustainable Food and Fibre Futures Fund) and PPG Wrightson Seeds, alongside our Co-op.

Ecotain environmental plantain reduces nitrogen leaching by increasing cows' urine volume, therefore diluting the nitrogen in urine and reducing the total amount of nitrogen excreted in urine. It also retains nitrogen in the soil, preventing it entering waterways.

Fonterra's Director of Sustainability Charlotte Rutherford says the results are promising.

"A key part of our strategy is to be a leader in sustainability. That's why we have been part of the PPP programme since it was launched two years ago. This has included providing technical expertise, primarily through our on-farm excellence environment and research and development teams.



"While New Zealand dairy farmers are already world leaders when it comes to sustainable milk production, this programme is key to further improving environmental performance on-farm by developing quality solutions that work for farmers, are achievable, can be applied at scale and fit well into New Zealand farming systems."

Charlotte's comments are echoed by DairyNZ Chief Executive Dr Tim Mackle.

"We now have robust scientific evidence that Ecotain plantain is an effective solution to help dairy farmers further reduce farm footprint and continue playing their part in improving water quality."

"Plantain can bring significant benefits to local waterways and communities – we all want healthy freshwater to swim and play in, and dairy farmers can confidently use Ecotain plantain on-farm to support that.

The trials also show feeding cows plantain has no impact on milk quality or volume and its use could save farmers more than \$1 billion per decade, by spending less on more expensive nitrogen reduction solutions.

- At the Massey University farm trial, scientists are measuring nitrogen leaching from paddocks grazed by 80 dairy cows. After two years, the trial results have shown reduced nitrogen leaching by 20-60% in perennial ryegrass and clover pastures containing 30-50% Ecotain plantain.
- Initial results from the programme's Lincoln University study in Canterbury, on lighter soils under irrigation, show similar trends, with a 38-50% reduction in nitrogen leaching from pasture containing 24% Ecotain plantain.





## How Fonterra is supporting farmers and communities after Cyclone Gabrielle

For many farmers and communities in the North Island of New Zealand, the impact of Cyclone Gabrielle has been significant and widespread.

While the worst of the weather is over, there's still a lot to do as part of the recovery. Teams across Fonterra have been working hard to support farmers and communities – both in the immediate response as well as looking at what we can do in the weeks ahead.

The Co-op's teams on the ground have been flat out getting in touch with farmers through any means possible to provide support.

Key areas of focus for Fonterra include re-establishing access to farms that have been cut off and helping to get generators and other supplies to those in need.

But there's also the mental toll that the cyclone has had. The Co-op has been encouraging farmers to get in touch with its partner the Rural Support Trust if they feel like they're struggling, and its Farm Source stores –

some of which were initially forced to close to ensure the safety of employees – have been providing all-day BBQs and hot meals.

Group Director of Farm Source Anne Douglas says it's times like this that the collective strength of the Co-operative is really put into action, with many team members supporting farmers while also trying to manage personal impacts.



“We've heard so many stories of farmers helping other farmers, and whole communities pulling together. Some farms are working together to share generator equipment and utilise their milking sheds and infrastructure to help each other out. Any still

struggling to get a generator can get in touch with our Farm Source team who will try to locate one for them” says Anne.

Farmers across the Hawke's Bay and Gisborne regions are among the hardest hit.

“Our people have recently been able to access some of these cut-off areas by helicopter to provide provisional supplies, assess

the damage and understand the immediate needs of these farmers.”

This includes members of Fonterra's operations and vet teams, who will be supporting farmers with any farm and animal well-being concerns they may have.

To support impacted communities, the Fonterra Brands New Zealand (FBNZ), Hapori and Emergency Response teams are still busy assessing what support they can provide.

“At this stage we are still trying to understand what food requirements are needed in food hubs across New Zealand. As a first step, multiple pallets of UHT and additional beverage products have been delivered to Civil Defence in the Hawkes Bay” says Community Engagement & Social Investment Manager, Shaheen Junge.

“Our strategic partners Rural Support Trust and the New Zealand Food Network (NZFN) are both also prioritising support to communities that need it the most.”

The Co-op's FBNZ team donated 78 pallets of dairy products to NZFN following on from the Auckland Floods.

Its Hapori teams across the North Island have been offering support on a regional level – so far this has included organising care packages and hosting barbecues.

[For more –](#)

# Supplementary Information

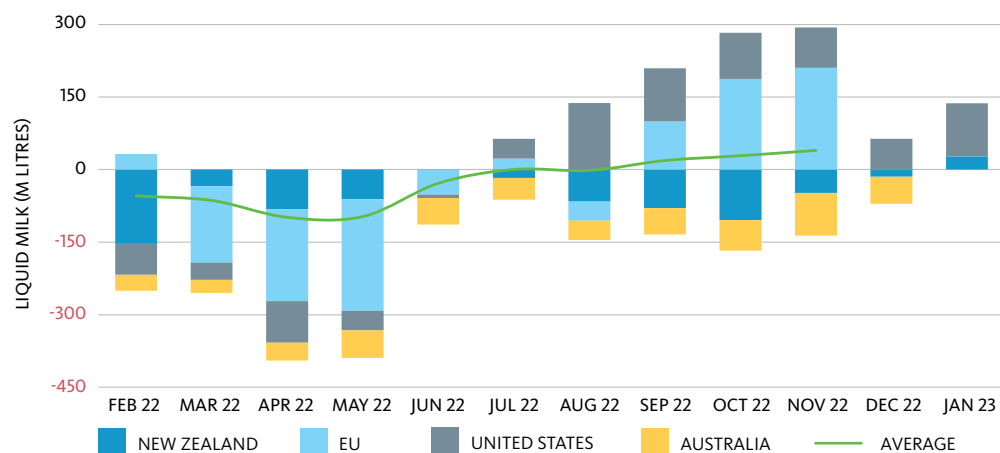
## Global Dairy Market

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.

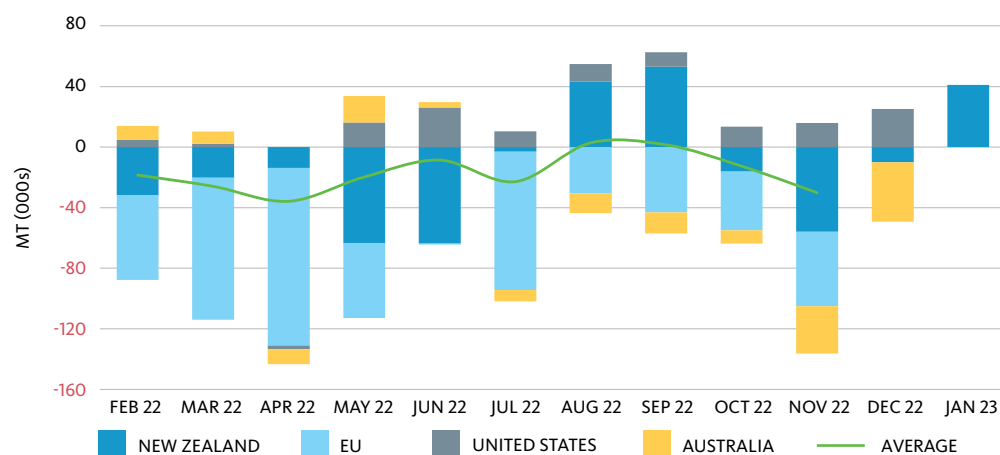
Averages are shown where data is complete for the regions presented.

### PRODUCTION



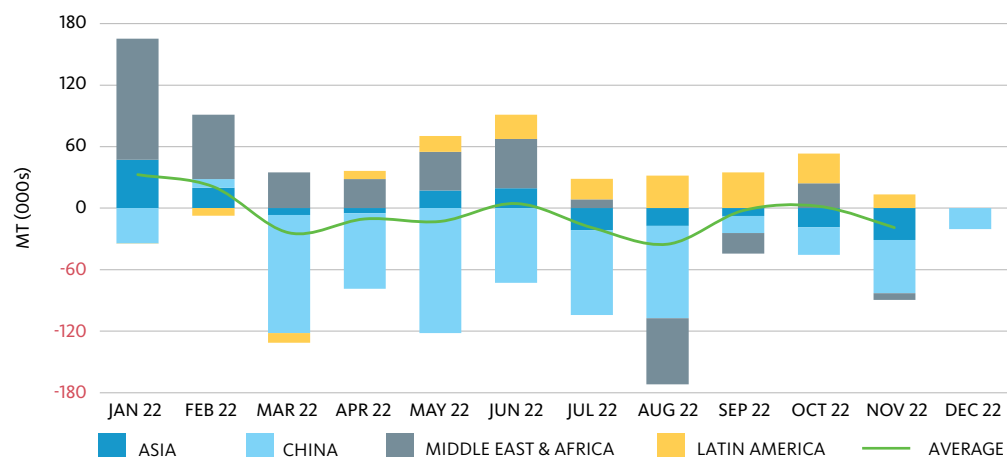
NOTE: Data for EU to November; Australia to December; New Zealand and US to January.

### EXPORTS



NOTE: Data for EU to November; US and Australia to December; and New Zealand to January.

### IMPORTS



NOTE: Data for Asia, Middle East & Africa and Latin America to November; China to December.

SOURCES: Government milk production statistics (DCANZ, Dairy Australia, Eurostat, USDA)/GTA 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)	JANUARY 2023	JANUARY 2022	MONTHLY CHANGE	SEASON-TO-DATE 2022/23	SEASON-TO-DATE 2021/22	SEASON-TO-DATE CHANGE
Total Fonterra New Zealand	161.4	158.1	2.1%	1,016.2	1,032.7	(1.6%)
North Island	90.6	86.8	4.4%	611.4	630.0	(2.9%)
South Island	70.8	71.3	(0.7%)	404.8	402.7	0.5%
Australia	9.5	9.3	1.9%	66.2	67.6	(2.1%)

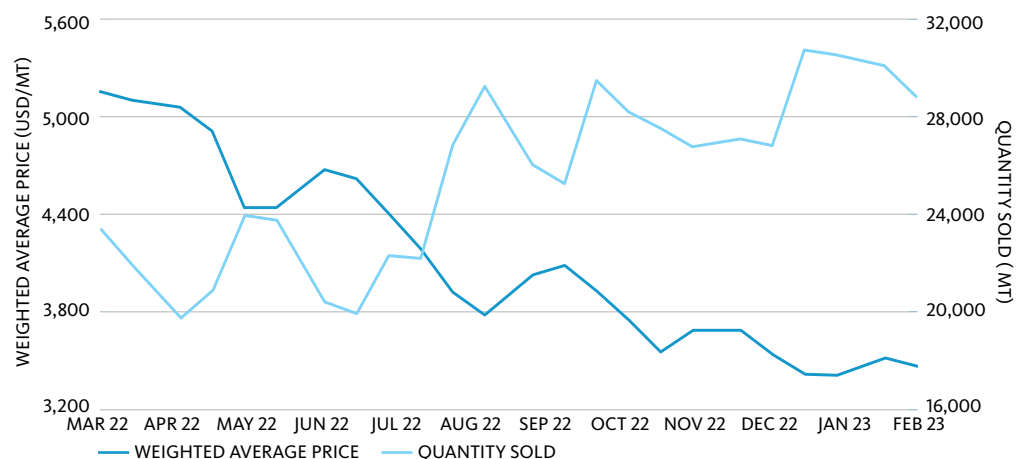
## Fonterra GDT results

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

	LAST TRADING EVENT (21 FEBRUARY 2023)	YEAR-TO-DATE (FROM 1 AUGUST 2022)
Quantity Sold on GDT (Winning MT)	28,820	393,443
Change in Quantity Sold on GDT over same period last year	7.7%	3.5%
Weighted Average Product Price (USD/MT)	3,468	3,690
Change in Weighted Average Product Price over same period last year	(28.9%)	(13.2%)
Change in Weighted Average Product Price from previous event	(1.4%)	-

## 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.

## Cultured Products

Fermented milks that are prepared by using starter cultures and controlled fermentation including yoghurt, yoghurt drinks, sour cream, crème fraîche.

## 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.

## MPC

Milk Protein Concentrate.

## Non-Reference Products

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

## 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.

## WPI

Whey Protein Isolate.