



Dairy for life

# Farmgate Milk Price Statement

FOR THE SEASON ENDED 31 MAY 2019

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# 2019 Season Farmgate Milk Price

The primary purpose of this Statement is to help Fonterra farmer shareholders, unitholders in the Fonterra Shareholders' Fund and other interested parties better understand the Farmgate Milk Price.

The Farmgate Milk Price is the average price paid by Fonterra for each kilogram of milk solids (kgMS) supplied by Fonterra's farmer shareholders under Fonterra's standard terms of supply. It is calculated in accordance with the Farmgate Milk Price Manual. The Manual is maintained by the Fonterra Board in accordance with the Dairy Industry Restructuring Act (DIRA) and the Fonterra Constitution.

The 2019 season Farmgate Milk Price of **\$6.35** per kgMS is:

- The Aggregate Farmgate Milk Price of \$9.676 billion; *divided by*
- New Zealand milk supplied to Fonterra in the 2019 season of 1.523 billion kgMS.

The Aggregate Farmgate Milk Price is calculated as revenue less costs.

Revenue assumes:

- The entire volume of milk collected is processed into commodity specifications of the five Reference Commodity Products (RCPs) which are Whole Milk Powder (WMP) and Skim Milk Powder (SMP), and their by-products Butter, Anhydrous Milk Fat (AMF) and Buttermilk Powder (BMP).<sup>1</sup>
- The RCPs are sold in USD on and off GDT.
- USD sales revenue is converted into NZD at exchange rates achieved by Fonterra.

Costs comprise:

- Cash Costs: costs of collecting raw milk, efficiently manufacturing the five RCPs, delivering finished product to New Zealand export ports, and selling and administration expenses.
- Capital Costs: depreciation of fixed assets, an appropriate return on investment including on working capital, and corporate tax.
- Additional Commodity Milk Payments and Standard Supply Adjustments: adjustments for milk quality issues and additional payments or deductions for milk not supplied on standard terms, to the extent these would apply to the Farmgate Milk Price business.

Numbers in this Statement have been rounded and, as a result, some tables may not exactly total or sum to 100%.

## 2019 SEASON FARMGATE MILK PRICE

**\$6.35** per kgMS

<sup>1</sup> Almost all additional milk collected over the past decade in New Zealand by Fonterra and its competitors has been used to manufacture milk powders. As returns from the sale of milk powders and their by-products represent the marginal returns that would drive the price of milk in a competitive market in New Zealand, the Farmgate Milk Price is based on these products.

# 2019 Season Farmgate Milk Price CONTINUED

Changes in revenue drive most of the movements in the Farmgate Milk Price between seasons. Figure 1 shows this.

**FIGURE 1: CHANGES IN THE FARMGATE MILK PRICE BETWEEN SEASONS**

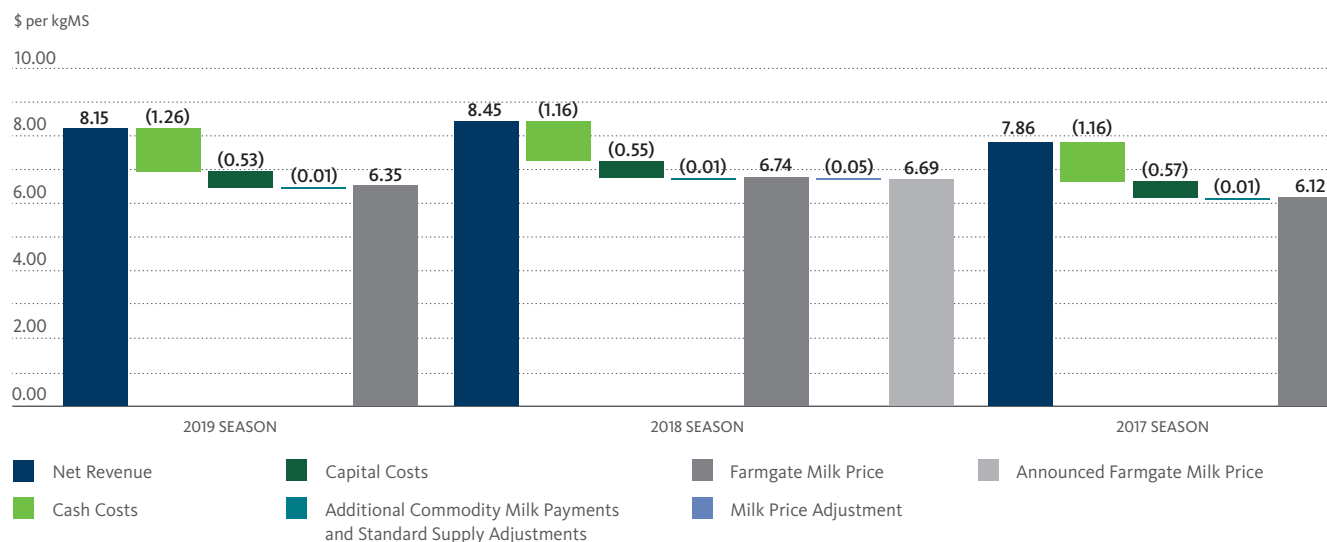


Table 1 shows the summary Farmgate Milk Price calculation for the last three seasons.

**TABLE 1: FARMGATE MILK PRICE SUMMARY**

SEASON	2019 \$ MILLION	2018 \$ MILLION	2017 \$ MILLION
Farmgate Milk Price Revenue	12,831	13,164	12,400
Lactose	(423)	(441)	(415)
<b>Net Revenue</b>	<b>12,408</b>	<b>12,723</b>	<b>11,985</b>
Farmgate Milk Price Cash Costs	(1,915)	(1,749)	(1,763)
Farmgate Milk Price Capital Costs	(803)	(822)	(873)
Additional Commodity Milk Payments and Standard Supply Adjustments	(14)	(11)	(13)
<b>Aggregate Farmgate Milk Price</b>	<b>9,676</b>	<b>10,142</b>	<b>9,336</b>
Million kgMS	1,523	1,505	1,526
<b>Farmgate Milk Price calculated under the Manual (\$ per kgMS)</b>	<b>6.35</b>	<b>6.74</b>	<b>6.12</b>

In the 2018 season, Fonterra's Board adjusted the Farmgate Milk Price calculated under the Manual downwards by 5 cents per kgMS resulting in an Announced Farmgate Milk Price for the season of \$6.69.

The following sections provide more detail on revenue, costs and drivers of change between seasons.

# Farmgate Milk Price Revenue

Farmgate Milk Price Revenue uses a combination of actual Fonterra results and key assumptions:

- 1.523 billion kgMS of milk actually supplied to Fonterra during the 2019 season.
- All milk supplied is converted into the five RCPs based on Fonterra's actual mix of those products.
- Sales volumes are assumed to reflect Fonterra's actual shipments of RCPs.
- Selling prices reflect relevant prices achieved by Fonterra for RCPs on and off GDT.

## MILK SUPPLY, PRODUCTION AND SALES VOLUMES

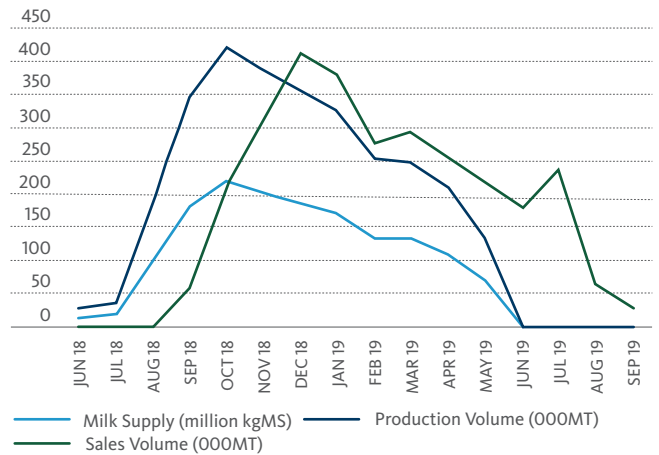
Figure 2 shows the relationship between:

- Milk collected during a season (the light blue line). This shows very little milk is supplied in June and July and that supply peaks in late October / early November.
- Volume of products manufactured from that milk (the dark blue line).
- When that product is sold (the green line). There is typically a lag of between one to three months between when milk is collected and manufactured into RCPs and when those RCPs are sold.

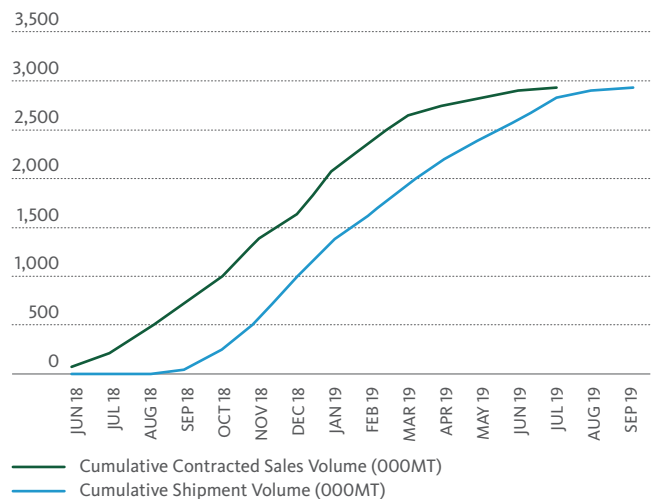
Sales of product manufactured in a season do not normally start until August and are normally complete by October of the following year.

Revenue is recognised when sales are invoiced, which is at the time of shipment. Sales prices are always struck before the month of shipment. Figure 3 shows the average lag between when prices are struck and when products are shipped. This lag matches Fonterra's actual average lag for relevant sales.

**FIGURE 2: TIMING OF SUPPLY, PRODUCTION AND SALES VOLUMES**



**FIGURE 3: AVERAGE LAG BETWEEN WHEN PRICES WERE STRUCK AND SHIPMENT**



# Farmgate Milk Price Revenue CONTINUED

## PRICES

The Farmgate Milk Price uses weighted average monthly prices achieved by Fonterra on relevant sales of RCPs on and off GDT. The Manual outlines the criteria which Fonterra's sales must meet to inform the Farmgate Milk Price which include:

- Only arm's length sales at current market prices to customers in freely contestable global markets can be included. Sales to Fonterra subsidiaries are excluded.
- Only sales contracted by Fonterra between one and five months before shipment are included.
- Off GDT sales are only included when they are of commodity products with similar specifications to products sold on GDT.

Between the 2012 and 2016 seasons, GDT was the sole source of prices for WMP, SMP and AMF whereas both on and off GDT prices were used for Butter and BMP. Since the 2017 season, certain off GDT sales of all RCPs inform the Farmgate Milk Price. In the 2019 season, the inclusion of certain off GDT sales of WMP, SMP and AMF in the Farmgate Milk Price resulted in an increase of 10 cents per kgMS.<sup>2</sup>

Table 2 shows weighted average selling prices for each RCP for the last three seasons. It shows that weighted average USD selling prices per metric tonne (MT) were 5.9% lower for the 2019 season than last season.

### *Impact of NZD/USD foreign exchange rate movements*

As RCPs are sold in USD, Fonterra enters into foreign exchange hedge contracts to reduce volatility and exposure to movements in NZD/USD rates. The average rates Fonterra achieves through its hedging programme are used to convert Farmgate Milk Price USD receipts to NZD.<sup>4</sup>

Fonterra's hedging programme resulted in an average NZD/USD conversion rate for the 2019 season of 0.6905, against an average spot rate of 0.6721. Table 3 shows this across the last three seasons.

## LACTOSE

Lactose is used as an ingredient in the production of WMP, SMP and BMP. Raw milk supplied contains lactose. The Farmgate Milk Price has further lactose requirements to achieve a standard product composition in line with internationally recognised standards. The Farmgate Milk Price assumes this further lactose is purchased on global markets. Lactose is shown in Table 1 as a deduction from Farmgate Milk Price Revenue.

Table 4 shows volume and average purchase prices of lactose over the past three seasons.

**TABLE 2: WEIGHTED AVERAGE USD CONTRACT PRICE 2017-2019 SEASONS<sup>3</sup>**

WEIGHTED AVERAGE PRICE (USD) PER MT	2019	2018	2017	2019/2018 % CHANGE	2018/2017 % CHANGE
WMP	<b>2,907</b>	3,091	2,854	<b>-6.0%</b>	8.3%
SMP	<b>2,216</b>	1,968	2,216	<b>12.6%</b>	-11.2%
Butter	<b>4,448</b>	5,575	4,221	<b>-20.2%</b>	32.1%
AMF	<b>5,540</b>	6,474	5,076	<b>-14.4%</b>	27.5%
BMP	<b>3,032</b>	2,057	2,211	<b>47.4%</b>	-6.9%
				<b>-5.9%</b>	9.7%

**TABLE 3: IMPACT ON THE FARMGATE MILK PRICE OF FONTERRA'S HEDGING, RELATIVE TO NOT HEDGING**

SEASON	2019	2018	2017
Average Hedged Rate (NZD/USD)	0.6905	0.7074	0.6924
Average Spot Rate (NZD/USD)	0.6721	0.7014	0.7137
<b>Impact on Milk Price of hedging, relative to not hedging (\$ per kgMS)</b>	<b>-0.23</b>	<b>-0.08</b>	<b>+0.24</b>

**TABLE 4: PURCHASED LACTOSE AND PRICE**

SEASON	2019	2018	2017	2019/2018 % CHANGE	2018/2017 % CHANGE
Purchased Lactose (000 MT)	<b>348</b>	342	351	<b>1.7%</b>	-2.6%
Average Price (USD per MT)	<b>851</b>	908	809	<b>-6.3%</b>	12.3%
Total Lactose Purchases (USD m)	<b>296</b>	311	284	<b>-4.7%</b>	9.5%

<sup>2</sup> Relative to not including off GDT sales of WMP, SMP and AMF for the 2019 season.

<sup>3</sup> Average shipment prices include an allowance for lower prices received for downgrade product. These are products that do not meet standard manufacturing specifications, some of which may only be suitable for stock feed.

<sup>4</sup> Fonterra's hedging policies are outlined in Fonterra's annual financial statements.

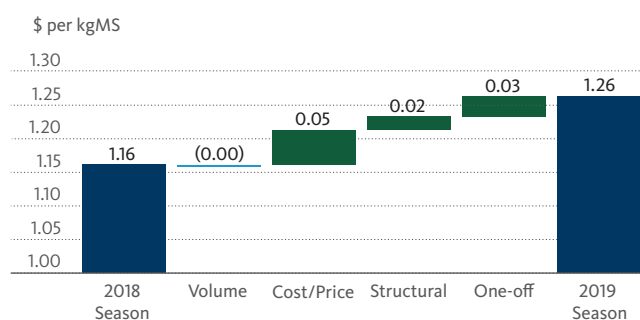
# Farmgate Milk Price Cash Costs

Farmgate Milk Price Cash Costs reflect:

- Fonterra's actual collection costs, and supply chain costs benchmarked from Fonterra's actual costs.
- Costs of operating modern plants capable of processing the same volume of milk Fonterra collects, but only manufacturing the five RCPs. These are based on running those plants within manufacturers' specifications, Fonterra's per-unit costs, and include typical overhead costs associated with running these plants.
- Overhead and selling costs that would be incurred by a business selling the five RCPs from New Zealand. These are benchmarked from Fonterra's actual costs for undertaking those activities.

Figure 4 and Table 5 summarise major categories of cash costs and movements between the 2018 and 2019 seasons.

**FIGURE 4: SOURCES OF MOVEMENTS IN AVERAGE CASH COSTS**



**TABLE 5: SUMMARY OF MOVEMENTS IN CASH COSTS**

\$ MILLION	2018	VOLUME <sup>5</sup>	COST/PRICE <sup>6</sup>	STRUCTURAL <sup>7</sup>	ONE-OFF	% CHANGE- 2019 COST/PRICE	TOTAL % CHANGE	
Sales costs	106	-	4	-	-	110	3.8%	4.0%
Variable manufacturing and supply chain costs	652	10	26	4	-	692	4.0%	6.2%
Fixed manufacturing (including repairs and maintenance)/site overheads and supply chain costs	405	-	7	-	36	448	1.7%	10.6%
Collection costs	339	4	11	4	15	372	3.4%	9.9%
Other costs	248	-	32	21	(8)	293	12.7%	18.2%
<b>Total Cash Costs</b>	<b>1,749</b>	<b>13</b>	<b>80</b>	<b>29</b>	<b>43</b>	<b>1,915</b>	<b>4.6%</b>	<b>9.5%</b>
% movement		0.8%	4.6%	1.7%	2.5%			

Movements in cash costs between the seasons were due to:

- An increase in milk collected to 1.523 billion kgMS from 1.505 billion kgMS in the 2018 season. This drove a decrease in average cash costs per kgMS, because fixed costs are spread over higher volumes.
- Inflationary adjustments and higher than inflationary increases in the costs of a range of production inputs including collection costs, packaging, energy, repairs and maintenance, and overheads.
- Structural increases in costs due to changes in the external environment, including changing sustainability requirements, and in the characteristics of the notional Farmgate Milk Price business, including the inclusion in 2016/17 of additional off GDT sales.
- Non-recurring, or one-off costs, including costs arising from a higher than expected intake of milk in the peak period of October / November.

The Manual requires a review of the overhead structure of the Farmgate Milk Price business every four years, with the review results generally implemented in the following season. This comprehensive review assesses the adequacy of the overhead cost base, and updates it where necessary for changes in the operating environment.

The latest four-yearly review commenced in the 2019 season. This identified some additional activities the Farmgate Milk Price business is required to undertake and that some costs have increased by more than inflation. To reflect this, the 2019 season Farmgate Milk Price includes a 3 cents per kgMS uplift in cash costs. 1.6 cents was for costs that have increased faster than inflation. 1.4 cents was mainly for costs of increased compliance, digital and sustainability activities.

<sup>5</sup> Considers only the change to the cost base due to the change in milk solids collected between the seasons.

<sup>6</sup> Captures the impact of inflation and movements in market prices of inputs.

<sup>7</sup> Reflects changes in the structure of the notional cost base e.g. change in regulations and corporate structure.

# Farmgate Milk Price Capital Costs

Farmgate Milk Price Capital Costs provide for:

- Depreciation of manufacturing and other assets.
- A return at a benchmark Weighted Average Cost of Capital (WACC) on the book value of those assets.
- A WACC return on net working capital balances from the sale and manufacture of the RCPs and on the phasing of milk payments to suppliers.
- Corporate income tax.

The Farmgate Milk Price business manufactures RCPs in modern plants with current industry-standard technology. These plants have manufacturing capacity that approximates the average capacity of Fonterra's RCP plants. The average daily processing capacity of the standard WMP and SMP plants installed prior to the 2013 season is approximately 1.9 million litres. Incremental and replacement WMP and SMP plants incorporated in the asset base since the 2013 season have an average daily processing capacity of approximately 2.5 million litres, equivalent to the plants installed by Fonterra at Darfield in 2011 and Pahiatua in 2015.

Table 6 shows capital costs and total book value of the Farmgate Milk Price fixed asset base and average net working capital for the last three seasons.

WACC incorporates the rolling five-year average of the five-year New Zealand Government bond rate. WACC has been falling over the last three seasons because historic average government bond rates have fallen. The 2020 season WACC will be 5.0%.

For the 2019 season the lower WACC, in isolation, resulted in:

- A decrease of \$7 million in the capital charge on fixed assets.
- A decrease of \$1 million in the capital charge on net working capital.
- A decrease of \$3 million in the provision for corporate tax.
- Higher depreciation of \$2 million.

Changes in the average age of the asset base do not result in material season on season movements in the capital charge. This is because the capital charge is calculated so that growth each season is approximately in line with capital goods inflation as long as WACC does not change. This methodology means that a decrease in the WACC will, other things being equal, result in an increase in depreciation.

**TABLE 6: CAPITAL COSTS, BOOK VALUE OF FIXED ASSET BASE AND AVERAGE NET WORKING CAPITAL**

\$ MILLION	2019	2018	2017
<b>WACC % (post-tax)</b>	<b>5.30%</b>	<b>5.40%</b>	<b>5.60%</b>
Depreciation	260	262	265
WACC Charge – Fixed Assets	358	374	398
WACC Charge – Net Working Capital <sup>8</sup>	47	41	55
Tax	138	144	155
<b>Total Capital Costs</b>	<b>803</b>	<b>822</b>	<b>873</b>
Total Fixed Assets (Book Value)	6,832	7,021	7,195
Average Net Working Capital	791	729	913

<sup>8</sup> Certain 2018 season funding costs have been reclassified from cash to capital costs to better reflect their nature.



# Appendix 1: Independent Assurance Report

TO THE DIRECTORS OF FONTERRA CO-OPERATIVE GROUP LIMITED



## Opinion

We have undertaken a reasonable assurance engagement in respect of the compliance, in all material respects, of the Milk Price Group (MPG), with the Principles, Methodologies and Detailed Rules as defined in the Farmgate Milk Price Manual of 1 August 2018 (the Manual) in deriving the Aggregate Farmgate Milk Price for the season ended 31 May 2019 of NZ\$9.676 billion.

We have confirmed the balances contained in the Farmgate Milk Price Statement for the season ended 31 May 2019 (the Farmgate Milk Price Statement) are correctly extracted, in all material respects, from the calculation of the Aggregate Farmgate Milk Price.

In our opinion the MPG has complied, in all material respects, with the Principles, Methodologies and Detailed Rules in the Manual in deriving the Aggregate Farmgate Milk Price for the season ended 31 May 2019 of NZ\$9.676 billion, and the balances contained in this Farmgate Milk Price Statement for the season ended 31 May 2019 are correctly extracted, in all material respects, from the Aggregate Farmgate Milk Price calculation.

## Basis for Opinion

We have conducted our engagement in accordance with Standard on Assurance Engagements SAE 3100 (Revised) *Assurance Engagements on Compliance*, issued by the New Zealand Auditing and Assurance Standards Board.

We believe the evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

## Information other than our scope and the assurance report

The Directors of Fonterra Co-operative Group Limited (the Directors) are responsible for the Farmgate Milk Price Statement. Our opinion on the Farmgate Milk Price Statement does not cover information other than the balances we confirm have been correctly extracted from the calculation of the Aggregate Farmgate Milk Price and we do not express any form of assurance conclusions on the other information.

In connection with our scope, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the Farmgate Milk Price Statement or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If, based on the work we have performed on the other information that we obtained prior to the date of this assurance report, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

## Milk Price Group's Responsibilities

The MPG are responsible for the calculation of the Aggregate Farmgate Milk Price based upon the Manual, ensuring the Aggregate Farmgate Milk Price has been derived in accordance with the Principles, Methodologies and Detailed Rules set out in the Manual. The MPG is also responsible for the preparation of the Farmgate Milk Price Statement.

## Our Independence and Quality Control

We have complied with the independence and other ethical requirements of Professional and Ethical Standard 1 (Revised) issued by the New Zealand Auditing and Assurance Standards Board, which is founded on the fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

The firm applies Professional and Ethical Standard 3 (Amended) and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards, and applicable legal and regulatory requirements.

Bruce Hassall was appointed an Independent Director and Chair of the Audit and Finance Committee of Fonterra Co-operative Group Limited (Fonterra) on 2 November 2017 and appointed a member of the Milk Price Panel on 7 December 2017. Bruce Hassall was Chief Executive Officer of PricewaterhouseCoopers to 30 September 2016 when he retired from the firm.

Brent Goldsack was appointed as a Farmer-elected Director of Fonterra on 2 November 2017 and a member of the Milk Price Panel on 13 December 2017. Brent Goldsack retired as a partner of PricewaterhouseCoopers on 22 September 2017. Brent Goldsack was not involved in the provision of any audit services to Fonterra during his time as a partner of PricewaterhouseCoopers.

Bruce Hassall and Brent Goldsack had no financial relationship with PricewaterhouseCoopers upon their appointment as Directors of Fonterra and members of the Milk Price Panel. The engagement partner on the audit has direct access to the Chair of the Milk Price Panel, Scott St John, to address any actual or perceived auditor independence threats.

During the year, our firm provided services to Fonterra including: assistance with collation of information for a vendor due diligence process; advice on a sale and purchase agreement; facilitation and administration support for the Fonterra Strategic review including board strategy workshops and programme management support; corporate tax advice to an equity accounted investee; access to generic training and technical accounting websites; as well as other assurance and attestation services provided in our capacity as auditors. Partners and employees of our firm may deal with Fonterra on normal terms within the ordinary course of trading activities of Fonterra.

These matters have not impaired our independence as auditor of Fonterra.

# Appendix 1: Independent Assurance Report CONTINUED

## **Independent Auditor's Responsibilities**

Our responsibility is to express an independent opinion on whether, with respect to the preparation of the Farmgate Milk Price Statement, the MPG has complied, in all material respects, with the Principles, Methodologies and Detailed Rules set out in the Manual in deriving the Aggregate Farmgate Milk Price, and that the balances, in all material respects, in the Farmgate Milk Price Statement have been correctly extracted from those calculations.

SAE 3100 (Revised) requires that we plan and perform our procedures to obtain reasonable assurance about whether, the MPG has complied, in all material respects, with the Principles, Methodologies and Detailed Rules of the Manual in deriving the Aggregate Farmgate Milk Price, and that the balances, in all material respects, in the Farmgate Milk Price Statement have been correctly extracted from those calculations. The procedures selected depend on our judgement, including the identification and assessment of risks of material non-compliance.

## **Inherent Limitations**

Our engagement includes examining, on a test basis, evidence relevant to the amounts used to derive the Aggregate Farmgate Milk Price and the balances in the Farmgate Milk Price Statement. It also includes assessing the significant assumptions, estimates and judgements made by the MPG in the calculation of the Aggregate Farmgate Milk Price and ensuring the Principles, Methodologies and Detailed Rules applied are consistent with those set out in the Manual. Because of the inherent limitations of an assurance engagement, together with the internal control structure, it is possible that fraud, error or non-compliance may occur and not be detected. As the procedures performed for this engagement were not performed continuously throughout the period and were undertaken on a test basis, our assurance engagement cannot be relied on to detect all instances where the Principles, Methodologies and Detailed Rules set out in the Manual have not been complied with. Our opinion expressed in this report has been formed on the above basis.

## **Restriction on Distribution or Use**

This report is made solely to the Directors. Our report has been prepared at the request of the Directors and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the Directors and Fonterra for this report, or for the opinions we have formed.

The logo for PricewaterhouseCoopers, featuring the company name in a stylized, cursive script.

**PricewaterhouseCoopers**

Auckland, New Zealand

25 September 2019

## Appendix 2:

# Updates to the Farmgate Milk Price Manual and Calculation

Minor refinements to address practical issues in a timely and efficient way have regularly been made to the Manual since it was introduced in the 2009 season. These refinements play an important part in ensuring the Farmgate Milk Price methodology continues to be robust. Refinements to the Manual must be consistent with the Milk Price Principles.

Adjustments can be made to a number of parameters and inputs without any change being required to the Manual. An example is the rule that allows for new RCPs to be added if certain criteria are met. The Manual also provides for reviews of important aspects to be carried out at least every four years, and the Milk Price Panel may initiate additional reviews if circumstances warrant.

### FARMGATE MILK PRICE MANUAL UPDATES

The Fonterra Board approved a number of minor amendments to the Manual for the 2020 season. Those amendments do not impact the outcome of the Farmgate Milk Price calculation. The Manual for the 2020 season is available at:

[https://www.fonterra.com/content/dam/fonterra-public-website/fonterra-new-zealand/documents/pdf/milk-prices/2020/F20\\_Milk\\_Price\\_Manual\\_1August2019.pdf#](https://www.fonterra.com/content/dam/fonterra-public-website/fonterra-new-zealand/documents/pdf/milk-prices/2020/F20_Milk_Price_Manual_1August2019.pdf#)

As part of its oversight role, the Commerce Commission reviews and reports annually on whether the Manual is consistent with ensuring Fonterra is operating efficiently, and whether it allows for competition in the market for farmers' milk. The Commerce Commission's final report on the 2018/19 Manual was released on 15 December 2018. That report can be found at:

[https://comcom.govt.nz/\\_\\_data/assets/pdf\\_file/0021/110496/Final-report-Review-of-Fonerras-2018-19-milk-price-manual-14-December-2018.pdf](https://comcom.govt.nz/__data/assets/pdf_file/0021/110496/Final-report-Review-of-Fonerras-2018-19-milk-price-manual-14-December-2018.pdf)

### CHANGES IN APPROACH TO THE CALCULATION OF THE FARMGATE MILK PRICE

There were no changes in the application of the Manual for the 2019 season that resulted in materially different values of inputs into the Farmgate Milk Price calculation.

# Appendix 3:

## Farmgate Milk Price Overview

### RATIONALE FOR A FARMGATE MILK PRICE

Fonterra currently collects around 81% of New Zealand's milk production. Because Fonterra purchases such a large proportion of New Zealand's total milk, there is no market price for milk that is independent of the price paid by Fonterra. As a result, since its formation in 2001, Fonterra has calculated a Farmgate Milk Price that enables total returns to be allocated between payments for milk and returns on the capital invested by Fonterra farmer shareholders and by unit holders in the Fonterra Shareholders' Fund.

The Aggregate Farmgate Milk Price is different from the cost of New Zealand-sourced milk disclosed in Fonterra's financial statements due to:

- The financial statements report the cost of milk for the 12 months to 31 July whereas the Aggregate Farmgate Milk Price relates to milk supplied in the 12 months of the season ending 31 May;
- Differences between what Fonterra is willing to pay in premiums for value-added products such as organic milk which a commodity-only processor would not pay;
- The higher premium that Fonterra pays for Winter Milk;
- The amount of Additional Commodity Milk Payments and Standard Supply Adjustments.

### RATIONALE FOR REFERENCE COMMODITY PRODUCTS

Manufacture of the RCPs comprised approximately 71% of Fonterra's total New Zealand ingredients production in the 2019 season.

Almost all additional milk collected over the past decade in New Zealand by Fonterra and its competitors has been used to make milk powders. As returns from the sale of milk powders and their by-products represent the marginal returns that would drive the price of milk in a competitive market in New Zealand, the Farmgate Milk Price is based on these products. Returns from non-powder commodities, such as cheese and casein, have largely been irrelevant in driving investment in the dairy industry over the past 10 years and are therefore not taken into account in determining the Farmgate Milk Price.

The Farmgate Milk Price approach does not include any returns earned by Fonterra from specialised ingredients and consumer branded products. These types of products earn premiums over the returns to standard commodity ingredients. It is therefore appropriate that these premiums are recognised in Fonterra's earnings rather than in the Farmgate Milk Price.

### BASIS FOR THE WACC CALCULATION

The WACC used to determine the Fixed Asset Capital Charge and the Net Working Capital Charge is calculated using the simplified Brennan Lally methodology employed by the Commerce Commission.<sup>9</sup>

The methodology applied through to the 2011 season provided for input parameters into the WACC to be updated every four years. Consequently, the WACC was held constant at 8.5 per cent between the 2009 and 2011 seasons, and reflected market interest rates as of mid-2008.

From the 2012 season, the methodology was revised to be based

on rolling five-year averages of market interest rates, including the five-year New Zealand Government stock rate, resulting in a reduction in the WACC from 7.7% for the 2012 season to 6.8% for the 2014 season.

In the 2015 season, the WACC methodology was changed to incorporate a specific risk premium of 0.15% and a reduction in the asset beta from 0.45 to 0.38, on the basis of a review by an independent expert, Associate Professor Alastair Marsden of the University of Auckland. At the request of the Commerce Commission, Dr Marsden undertook further analysis in the 2016, 2017 and 2018 seasons, the result of which was to confirm his previous recommendation.

The 2019 season WACC was 5.3% and the 2020 season WACC as calculated under the existing methodology and assumptions will be 5.0%, both reflecting further reductions in five-year average government stock rates.

### FARMGATE MILK PRICE GOVERNANCE

The Fonterra Board sets the total amount to be paid by Fonterra for all milk supplied to it in New Zealand in each season.

Both Fonterra's Constitution and DIRA require Fonterra to maintain the Manual, which sets out Fonterra's policies and methodology for determining the Farmgate Milk Price. The Manual must reflect the Milk Price Principles set out in Fonterra's Constitution. The Farmgate Milk Price has been calculated in accordance with the Manual since the start of the 2009 season.

The Fonterra Board has established a robust governance structure to oversee the setting of the Farmgate Milk Price, which comprises the elements illustrated in the diagram at the end of this Appendix.

<sup>9</sup> For example, <http://www.comcom.govt.nz/regulated-industries/input-methodologies-2/input-methodologies-review/cost-of-capital-im-review/>

# Appendix 3: Farmgate Milk Price Overview CONTINUED

## 1 MILK PRICE PANEL

The Milk Price Panel plays a key role in overseeing the integrity of the Farmgate Milk Price. It has five members: two are Fonterra appointed directors (one of whom is the Chair); one is a Fonterra farmer-elected director; and two are appropriately qualified nominees of the Fonterra Shareholders' Council.

The current members of the Panel are: Scott St John (Chair) and Bruce Hassall, who are appointed Fonterra directors; Brent Goldsack, who is a farmer-elected Fonterra director; and Andrew Wallace and Bill Donaldson, who are nominees of the Fonterra Shareholders' Council.

The Panel oversees the governance of the Farmgate Milk Price and the Manual, including changes to the Manual and verification by independent external experts of key parameters (such as resource usage rates, product yields and fixed manufacturing costs).

The Panel is responsible for:

- Overseeing the calculation of the Farmgate Milk Price and making a recommendation on it to the Fonterra Board.
- Providing recommendations to the Fonterra Board on changes to the Manual.
- Providing assurance to the Fonterra Board that the Farmgate Milk Price has been calculated each year in accordance with the Manual.

The Fonterra Board is responsible for the forecast of the annual Farmgate Milk Price.

## 2 MILK PRICE GROUP

The Milk Price Group is a working group established by Fonterra. The Head of the Milk Price Group is independent of Fonterra's management and reports directly to the Chair of the Milk Price Panel. The role of the Milk Price Group includes:

- Ensuring that the Farmgate Milk Price is calculated in accordance with the Manual and making recommendations in respect of the Farmgate Milk Price to the Panel.
- Considering any proposed amendments to the Manual, including those the Milk Price Group itself considers are appropriate, and ensuring they are in accordance with the Milk Price Principles in Fonterra's Constitution.
- Providing assurance to the Fonterra Board over the calculation of the forecast of the Farmgate Milk Price.
- Managing engagement with external reviewers.

- Engaging with the Commerce Commission, including to ensure full disclosure of all material aspects of the Farmgate Milk Price derivation each year.

The functions of the Milk Price Group are contracted out to EY and other technical experts who are not employees of Fonterra.

## 3 EXTERNAL REVIEWERS

External reviewers provide expert advice on various inputs, as well as assurance over the accuracy of financial models. In addition, they participate in reviews of key parameters of the Farmgate Milk Price at regular intervals (which can be up to four years).

## 4 EXTERNAL AUDITOR

The external auditor audits the Farmgate Milk Price each year and provides assurance that the Farmgate Milk Price has been determined in accordance with the Milk Price Principles, Methodologies and Detailed Rules of the Farmgate Milk Price Manual. Fonterra's external auditor is PwC.

## 5 COMMERCE COMMISSION

Subpart 5A of DIRA, which was passed into law in July 2012, gives the Commerce Commission an oversight role with respect to Fonterra's Farmgate Milk Price.

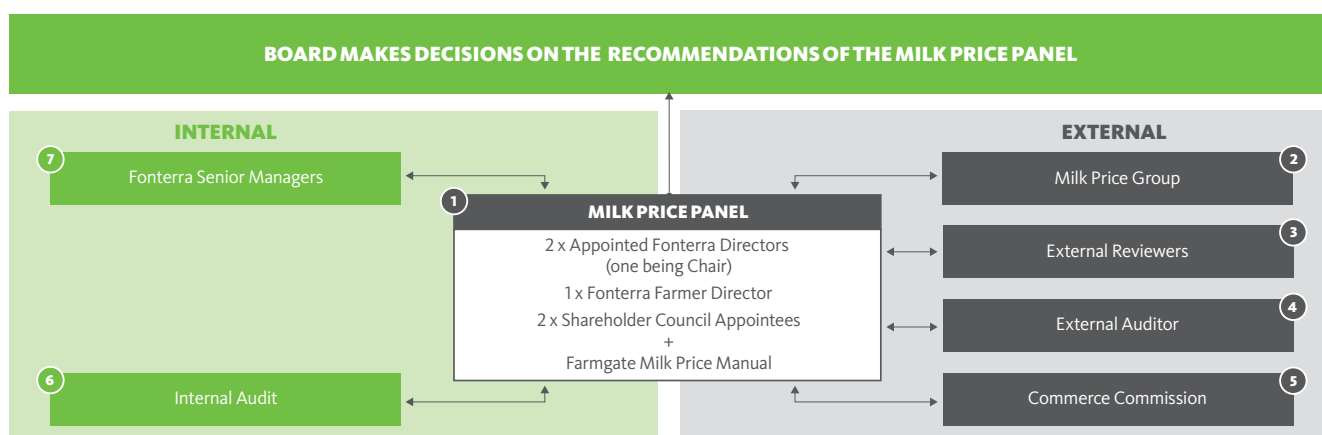
The purpose of Subpart 5A is to promote the setting of a Farmgate Milk Price that provides an incentive to Fonterra to operate efficiently, while providing for contestability in the market for the purchase of milk from farmers (section 150A). Each year the Commission is required to review and report on the extent to which the Manual and Fonterra's actual Farmgate Milk Price are consistent with this purpose.

## 6 INTERNAL AUDIT

Fonterra's internal audit team provides assurance over the processes and controls relating to Fonterra data used in the calculation of the Farmgate Milk Price.

## 7 FONTERRA SENIOR MANAGERS

Fonterra senior managers provide internal oversight of the calculation of the actual and forecast Farmgate Milk Price in accordance with the Manual and detailed models and procedures.



Source: Fonterra

## Appendix 4: Milk Supplied and Production Volumes

2019 SEASON	MILK SUPPLIED (MILLION kgMS)	PRODUCTION (000 MT) OF FINISHED PRODUCT					TOTAL
		WMP	SMP	BUTTER	AMF	BMP	
Jun 18 to Aug 18	128	195	26	11	10	3	246
Sep 18 to Nov 18	601	756	229	89	59	22	1,154
Dec 18 to Feb 19	487	578	202	91	44	20	935
Mar 19 to May 19	307	337	140	49	43	16	585
<b>Total</b>	<b>1,523</b>	<b>1,867</b>	<b>597</b>	<b>239</b>	<b>155</b>	<b>61</b>	<b>2,920</b>

2018 SEASON	MILK SUPPLIED (MILLION kgMS)	PRODUCTION (000 MT) OF FINISHED PRODUCT					TOTAL
		WMP	SMP	BUTTER	AMF	BMP	
Jun 17 to Aug 17	122	152	48	15	15	5	235
Sep 17 to Nov 17	579	714	228	101	50	21	1,114
Dec 17 to Feb 18	470	537	204	96	42	20	899
Mar 18 to May 18	334	452	98	47	28	13	639
<b>Total</b>	<b>1,505</b>	<b>1,856</b>	<b>577</b>	<b>258</b>	<b>136</b>	<b>59</b>	<b>2,886</b>

2017 SEASON	MILK SUPPLIED (MILLION kgMS)	PRODUCTION (000 MT) OF FINISHED PRODUCT					TOTAL
		WMP	SMP	BUTTER	AMF	BMP	
Jun 16 to Aug 16	122	134	59	16	19	5	234
Sep 16 to Nov 16	573	668	250	98	59	23	1,098
Dec 16 to Feb 17	500	604	200	88	46	20	957
Mar 17 to May 17	331	421	110	54	30	14	630
<b>Total</b>	<b>1,526</b>	<b>1,826</b>	<b>619</b>	<b>256</b>	<b>154</b>	<b>63</b>	<b>2,918</b>

## Appendix 5: Sales Volumes

2019 SEASON	SHIPMENTS (000 MT) OF FINISHED PRODUCT					TOTAL SALES
	WMP	SMP	BUTTER	AMF	BMP	
Aug 18 to Oct 18	163	61	18	20	6	268
Nov 18 to Jan 19	731	234	69	50	22	1,106
Feb 19 to Apr 19	526	157	85	40	17	825
May 19 to Jul 19	394	137	49	40	11	631
Aug 19 to Oct 19	53	8	19	5	5	90
<b>Total</b>	<b>1,867</b>	<b>597</b>	<b>239</b>	<b>155</b>	<b>61</b>	<b>2,920</b>

2018 SEASON	SHIPMENTS (000 MT) OF FINISHED PRODUCT					TOTAL SALES
	WMP	SMP	BUTTER	AMF	BMP	
Aug 17 to Oct 17	217	81	18	15	9	340
Nov 17 to Jan 18	654	227	77	31	19	1,007
Feb 18 to Apr 18	476	146	69	32	16	739
May 18 to Jul 18	448	104	73	52	13	691
Aug 18 to Oct 18	61	19	22	5	2	109
<b>Total</b>	<b>1,856</b>	<b>577</b>	<b>258</b>	<b>136</b>	<b>59</b>	<b>2,886</b>

2017 SEASON	SHIPMENTS (000 MT) OF FINISHED PRODUCT					TOTAL SALES
	WMP	SMP	BUTTER	AMF	BMP	
Aug 16 to Oct 16	257	104	27	30	2	419
Nov 16 to Jan 17	616	222	86	50	17	991
Feb 17 to Apr 17	405	115	62	29	16	628
May 17 to Jul 17	485	155	59	39	24	761
Aug 17 to Oct 17	62	24	23	6	3	118
<b>Total</b>	<b>1,826</b>	<b>619</b>	<b>256</b>	<b>154</b>	<b>63</b>	<b>2,918</b>

## Appendix 6: Average Number of Months Prior to Shipment that Prices were Struck

2019 SEASON	AVERAGE NUMBER OF MONTHS PRIOR TO SHIPMENT				
	WMP	SMP	BUTTER	AMF	BMP
Aug 18 to Oct 18	2.5	3.0	2.3	2.7	2.7
Nov 18 to Jan 19	2.5	3.2	2.7	3.2	2.9
Feb 19 to Apr 19	2.8	3.1	3.0	3.4	3.0
May 19 to Jul 19	2.9	2.5	3.0	2.6	2.5
Aug 19 to Oct 19	3.2	3.7	2.8	3.2	3.0
	<b>2.7</b>	<b>3.0</b>	<b>2.8</b>	<b>3.0</b>	<b>2.8</b>

2018 SEASON	AVERAGE NUMBER OF MONTHS PRIOR TO SHIPMENT				
	WMP	SMP	BUTTER	AMF	BMP
Aug 17 to Oct 17	2.9	3.1	3.2	2.8	3.6
Nov 17 to Jan 18	2.7	3.0	2.7	2.8	2.6
Feb 18 to Apr 18	3.0	3.1	2.7	2.5	3.2
May 18 to Jul 18	2.5	2.8	2.5	2.4	2.4
Aug 18 to Oct 18	2.9	3.1	2.7	3.1	4.0
	<b>2.7</b>	<b>3.0</b>	<b>2.7</b>	<b>2.6</b>	<b>2.9</b>

2017 SEASON	AVERAGE NUMBER OF MONTHS PRIOR TO SHIPMENT				
	WMP	SMP	BUTTER	AMF	BMP
Aug 16 to Oct 16	2.9	3.2	3.0	2.8	2.7
Nov 16 to Jan 17	3.1	3.1	3.2	3.1	2.6
Feb 17 to Apr 17	2.6	2.9	2.9	2.8	2.4
May 17 to Jul 17	2.6	2.5	2.5	2.6	2.7
Aug 17 to Oct 17	3.7	3.8	3.1	3.7	3.6
	<b>2.9</b>	<b>3.0</b>	<b>2.9</b>	<b>2.9</b>	<b>2.7</b>



## Appendix 7: Average % of Sales Contracted in Each Month Prior to Shipment

2019 SEASON	AVERAGE % OF SALES CONTRACTED IN EACH OF MONTHS 1-5 PRIOR TO SHIPMENT				
	WMP	SMP	BUTTER	AMF	BMP
1	14%	8%	7%	10%	13%
2	38%	32%	42%	29%	33%
3	22%	27%	25%	27%	25%
4	16%	18%	18%	18%	16%
5	10%	15%	9%	16%	13%

2018 SEASON	AVERAGE % OF SALES CONTRACTED IN EACH OF MONTHS 1-5 PRIOR TO SHIPMENT				
	WMP	SMP	BUTTER	AMF	BMP
1	12%	7%	16%	16%	12%
2	35%	33%	36%	35%	36%
3	25%	27%	22%	29%	23%
4	18%	21%	18%	13%	12%
5	9%	13%	10%	7%	17%

2017 SEASON	AVERAGE % OF SALES CONTRACTED IN EACH OF MONTHS 1-5 PRIOR TO SHIPMENT				
	WMP	SMP	BUTTER	AMF	BMP
1	11%	9%	9%	10%	11%
2	31%	31%	29%	29%	33%
3	29%	27%	29%	32%	37%
4	18%	19%	18%	20%	18%
5	11%	13%	14%	9%	1%

## Appendix 8: Average USD Prices

2019 SEASON		USD PER MT OF FINISHED PRODUCT				
SHIPMENT PERIOD	WMP	SMP	BUTTER	AMF	BMP	
Aug 18 to Oct 18	3,011	2,056	4,938	5,886	2,483	
Nov 18 to Jan 19	2,811	2,051	4,336	5,418	2,707	
Feb 19 to Apr 19	2,788	2,214	4,085	5,200	3,131	
May 19 to Jul 19	3,163	2,553	4,882	5,821	3,630	
Aug 19 to Oct 19	3,198	2,541	4,902	5,851	3,388	
	<b>2,907</b>	<b>2,216</b>	<b>4,448</b>	<b>5,540</b>	<b>3,032</b>	
<b>Full season GDT-only prices</b>	<b>2,870</b>	<b>2,164</b>	<b>4,355</b>	<b>5,507</b>	<b>2,959</b>	

2018 SEASON		USD PER MT OF FINISHED PRODUCT				
SHIPMENT PERIOD	WMP	SMP	BUTTER	AMF	BMP	
Aug 17 to Oct 17	3,172	2,080	5,848	6,574	2,186	
Nov 17 to Jan 18	3,058	1,971	5,886	6,644	1,996	
Feb 18 to Apr 18	2,937	1,859	5,303	6,637	2,007	
May 18 to Jul 18	3,244	2,006	5,461	6,266	2,113	
Aug 18 to Oct 18	3,233	2,078	5,494	6,252	2,041	
	<b>3,091</b>	<b>1,968</b>	<b>5,575</b>	<b>6,474</b>	<b>2,057</b>	
<b>Full season GDT-only prices</b>	<b>3,056</b>	<b>1,951</b>	<b>5,464</b>	<b>6,422</b>	<b>2,038</b>	

2017 SEASON		USD PER MT OF FINISHED PRODUCT				
SHIPMENT PERIOD	WMP	SMP	BUTTER	AMF	BMP	
Aug 16 to Oct 16	2,271	1,919	2,936	3,840	1,767	
Nov 16 to Jan 17	2,709	2,236	3,589	4,655	2,338	
Feb 17 to Apr 17	3,250	2,576	4,388	5,497	2,656	
May 17 to Jul 17	3,005	2,135	5,016	6,073	1,900	
Aug 17 to Oct 17	2,951	2,102	5,601	6,270	1,909	
	<b>2,854</b>	<b>2,216</b>	<b>4,221</b>	<b>5,076</b>	<b>2,211</b>	
<b>Full season GDT-only prices</b>	<b>2,837</b>	<b>2,188</b>	<b>4,184</b>	<b>4,977</b>	<b>2,172</b>	

## Appendix 9: Average NZD/USD Conversion and Spot Rates

2019 SEASON	FONTERRA'S AVERAGE CONVERSION RATE	SPOT EXCHANGE RATE
Aug 18 to Oct 18	0.6919	0.6676
Nov 18 to Jan 19	0.6982	0.6805
Feb 19 to Apr 19	0.6895	0.6726
May 19 to Jul 19	0.6813	0.6626
Aug 19 to Oct 19	0.6809	0.6613 <sup>10</sup>
<b>Revenue-weighted annual average</b>	<b>0.6905</b>	<b>0.6721</b>

2018 SEASON	FONTERRA'S AVERAGE CONVERSION RATE	SPOT EXCHANGE RATE <sup>11</sup>
Aug 17 to Oct 17	0.6988	0.6968
Nov 17 to Jan 18	0.7097	0.7147
Feb 18 to Apr 18	0.7112	0.7172
May 18 to Jul 18	0.7050	0.6803
Aug 18 to Oct 18	0.7061	0.6580
<b>Revenue-weighted annual average</b>	<b>0.7074</b>	<b>0.7014</b>

2017 SEASON	FONTERRA'S AVERAGE CONVERSION RATE	SPOT EXCHANGE RATE
Aug 16 to Oct 16	0.6766	0.7156
Nov 16 to Jan 17	0.6830	0.7117
Feb 17 to Apr 17	0.6922	0.6978
May 17 to Jul 17	0.7071	0.7293
Aug 17 to Oct 17	0.7136	0.7173
<b>Revenue-weighted annual average</b>	<b>0.6924</b>	<b>0.7137</b>

As at 31 July 2019, Fonterra had hedged approximately 70% of the forecast cash flows related to the 2020 season Farmgate Milk Price. If the remaining 30% of the forecast cash flows were to be hedged at the 31 July spot rate, the average NZD/USD conversion rate would be around 67 cents.

<sup>10</sup> This Milk Price Statement presents the spot exchange rate for August to October 19 as the spot rate at 9am on 31 July 2019, which is the last day of Fonterra's financial year.

<sup>11</sup> Certain average spot exchange rate figures for the 2018 season differ from those disclosed in the 2018 Farmgate Milk Price Statement, as forecast exchange rates have been replaced with actual exchange rates.

# Glossary

In this Statement the following terms have the meanings as set out below:

**Additional Commodity Milk Payments** as defined in the Manual for the 2019 season.

**Aggregate Farmgate Milk Price** as defined in the Manual for the 2019 season.

**AMF** means anhydrous milk fat.

**BMP** means buttermilk powder.

**Detailed Rules** means the detailed rules for calculating the Farmgate Milk Price as set out in the Manual.

**DIRA** means the Dairy Industry Restructuring Act 2001, which authorised Fonterra's formation and regulates its activities.

**Farmgate Milk Price** means Fonterra's Farmgate Milk Price as determined under the Manual for the 2019 season.

**Farmgate Milk Price Capital Costs** as defined in the Manual for the 2019 season.

**Farmgate Milk Price Cash Costs** as defined in the Manual for the 2019 season.

**Farmgate Milk Price Manual** or **Manual** means Fonterra's Farmgate Milk Price Manual which is available on [www.fonterra.com](http://www.fonterra.com).

**Farmgate Milk Price Revenue** as defined in the Manual for the 2019 season.

**Financial year** means Fonterra's financial year, which runs from 1 August to the following 31 July.

**Fixed Asset Capital Charges** as defined in the Manual for the 2019 season.

**Fonterra** means Fonterra Co-operative Group Limited.

**Global Dairy Trade** or **GDT** means the electronic auction platform that is used to sell commodity dairy products.

**kgMS** means kilograms of milk solids.

**Methodology** means the methodology for calculating the Farmgate Milk Price as set out in the Manual.

**Milk Price Principles** or **Principles** means the Milk Price Principles set out in Fonterra's Constitution.

**MT** means metric tonnes.

**Net Working Capital Charges** as defined in the Manual for the 2019 season.

**NZD** means New Zealand dollars.

**Reference Commodity Products** or **RCP** means the commodity products used to calculate the Farmgate Milk Price, comprising WMP, SMP, BMP, AMF and butter.

**Season** means the 12-month period from 1 June to the following 31 May.

**SMP** means skim milk powder.

**Standard Supply Adjustments** as defined in the Manual for the 2019 season.

**USD** means United States dollars.

**Winter Milk** means milk supplied by farmers in the months of May, June and July.

**WMP** means whole milk powder.



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