

INTRODUCTION

1. This paper provides an overview of how the Cream Group, as discussed in our June 2015 stakeholder consultation, works¹.
2. The Cream Group extends Global Dairy Trade's (GDT) current practice of grouping multiple product specifications into sales groups.
3. Introduction of the Cream Group was based on the fact that AMF and Butter both primarily consist of milkfat (cream) and water. The pooling of these two sales groups was a logical step as they share the same milk component (milkfat).
4. Fonterra confirmed it would adopt and implement the Cream Group functionality through a phased approach which started from Trading Event 165 on 1 June 2016. The first phase implemented the cream grouping for contracts 4 to 6. The second phase extended the cream grouping to contracts 1 to 3 from Trading Event 169 on 2 August 2016.

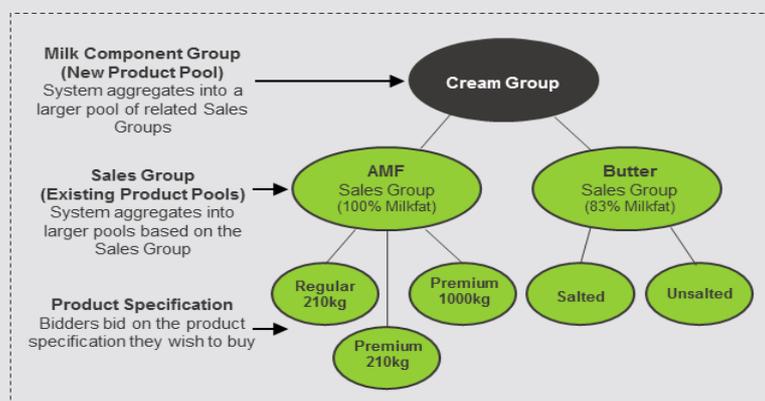
KEY BENEFITS

5. The Cream Group provides a "win/win" for both buyers and sellers:
 - a. Improved liquidity by enabling GDT bidders of AMF and butter to change their bid quantities with less impact on prices;
 - b. Lower price volatility, through individual demand fluctuations being smoothed out in a larger group.
 - c. Improved security of supply through buyers having greater assurance of being able to access the products they bring demand for (within the Cream Group)
 - d. Product allocations are more responsive to market demand, through flexibility to sell to where demand is strongest;

HOW CREAM GROUPING WORKS

6. The Cream Group is an extension of the practice of aggregating product specifications into sales groups. Figure 1 illustrates how cream grouping aggregates the demand and supply into a higher level milk component group called the Cream Group.

Figure 1: Aggregation of AMF and Butter into a Cream Group

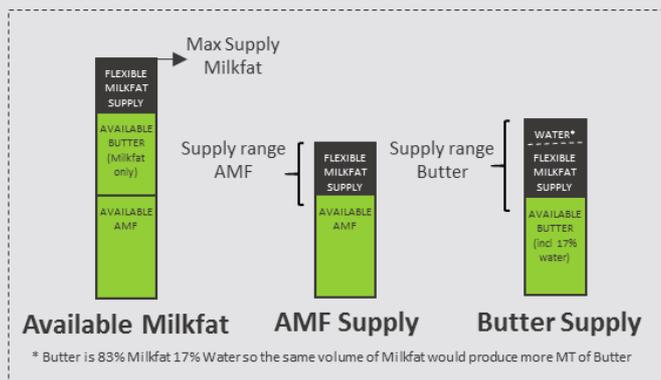


¹ Referred to as milkfat sales group through the submission process
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7. The Cream Group operates as follows:

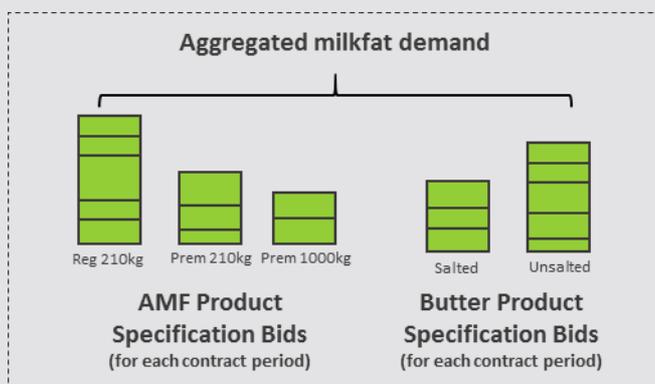
- a. Prior to the start of a trading event, each seller using the Cream Group provides additional data specifying the minimum and maximum supply range for milkfat in each contract period. These will be included on the pre-event page where the minimum and maximum supply ranges for AMF and Butter are displayed.
- b. The seller still specifies supply ranges for AMF and Butter sales groups as they always have. The sales group maximums are higher than prior to having a cream group as both the AMF and Butter maximums now include the flexible milkfat supply, i.e. milkfat that could be supplied as either AMF or Butter.
- c. In practice sellers are unlikely to ever have 100% production flexibility between AMF and Butter. Sellers publish their milkfat supply flexibility prior to each trading event.

Figure 2: Supply ranges for Milkfat, AMF and Butter



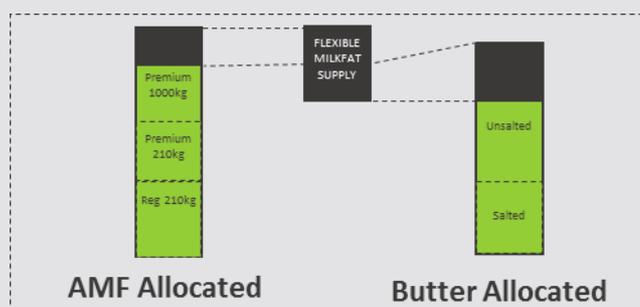
- d. The maximum supply quantities for AMF and Butter account for different milkfat utilisation rates. AMF is approximately 100% milkfat whereas Butter is around 83% milkfat and 17% water. This results in the flexible milkfat supply increasing the maximum supply of Butter more than it does for AMF.
- e. Sellers also specify variable costs for AMF and Butter to enable the auction system to calculate equivalent milkfat marginal returns per product.
- f. During the trading event, bidders still continue to view the existing bidding screens and continue to enter their MT bid quantities against the particular product specifications they are willing to buy at the announced price for that product.
- g. After the end of each bidding round, the auction system aggregates the bids received across AMF and Butter to derive the total demand for milkfat.

Figure 3: Aggregated milkfat demand



- h. For each bidding round, the system seeks (wherever possible) to set incremental prices for AMF and Butter that maintain milkfat equivalence – for example, a \$100 increase in the milkfat price would see a \$100 increase in the AMF price, but only a \$83 increase in the Butter price (due to Butter consisting of 83% milkfat).
- i. Bidding rounds continue (with bidders adjusting their bids) until the demand for cream products equals supply.
- j. At the close of the trading event the system determines the quantity sold of each product specification. The result of the cream grouping process is that the quantity sold of each product is determined by the relative strength of bidding demand, subject to satisfying the various minimum and maximum supply constraints.

Figure 4: Allocation of flexible milkfat to AMF and B



- k. Individual prices for AMF and Butter products continue to be published as they always have.

ADDITIONAL PRE-EVENT AND POST-EVENT INFORMATION PROVIDED

8. GDT continues to provide all price and quantity information provided before and after each trading event.
9. GDT also provides additional information to ensure bidders and financial market participants have full visibility of milkfat supply and other relevant information. This includes a table showing how the level of supply flexibility is expected to vary across the season and a forecast of milkfat supply.
10. Following the completion of a trading event, GDT provides a milkfat reconciliation table through the GDT Insight subscription service. This table provides the total quantity of milkfat sold, milkfat offer quantities and the actual quantities of AMF and Butter sold.

FURTHER INFORMATION

11. For further information please refer to the public GDT website
 - a. The Cream Group White Paper (GDT Events>How GDT Events work>Reference material)
 - b. Rules relating to Milk Component Groups in the GDT Trading Event Rules (GDT Events>Governance)

FREQUENTLY ASKED QUESTIONS

1. **When was the Cream Group implemented?**

The Cream Group went live at TE165 on 1 June 2016 with contracts 4 to 6 being allocated a flexibility of 25%. Contracts 1 to 3 were subsequently deployed from TE169 on 2 August 2016.

2. **Why was the implementation of the Cream Group phased in?**

The Cream Group was deployed in two stages to allow the market time to understand its impact and adjust accordingly.

3. **Will this be extended to other sellers and/or products?**

The software changes required to implement the Cream Group have been completed and in future may be used by other sellers, and longer term potentially for other products.

There are currently no plans to introduce this concept for other products sold on GDT Events. If this situation was to change GDT would give the market appropriate warning.

4. **Has the Cream Group changed the auction process?**

The auction process has not changed from a bidder's perspective. Bidders continue to bid on the product specifications they require. The fundamentals of the auction process have not changed, with an independent Trading Manager overseeing the balancing of bidding demand against supply. Sellers continue to take no part in the auction process other than entering their supply data during the week before the trading event.

5. **What is the benefit of aggregating supply and demand of cream products offered on GDT Events?**

The Cream Group is a win/win for both buyers and sellers:

1. Better allocation of supply to meet demand. Improving a seller's ability to sell where demand is strongest and providing greater assurance for buyers that they can access product when they need it;
2. Individual demand fluctuations across AMF and Butter bidding are smoothed out in a larger cream group, thereby reducing price volatility;
3. Individual bids for AMF and Butter products have less impact on auction outcomes as demand is aggregated into a larger pool of supply.

6. **What impact does the Cream Group have on AMF and Butter prices?**

The Cream Group's functionality impacts prices within a trading event by bringing the underlying milkfat price of Butter and AMF closer together. It is difficult to assess the direction and magnitude of any long term price impacts that may arise from a Cream Group given all the other factors influencing supply and demand (Refer to the GDT Cream Group White Paper for a detailed explanation)

7. **Does the Cream Group lead to different price outcomes compared to the current auction process?**

Depending on the available flexibility for each contract period and the relative strength of demand across AMF and Butter prices, different prices may be achieved compared to the prices achieved in the usual auction process.

8. **Does the Cream Group increase the demand for Butter or AMF, therefore driving prices higher?**

It does not increase the demand for either product but does bring the demand for Butter and AMF together in one event. Depending on the market balance it might result in the price of AMF or Butter being higher than would be achieved without the cream group, but conversely the price for the alternative product will end up being lower as more supply is moved to the higher returning product.

9. **How do I know how much Butter or AMF is available for sale in an event given they are now part of a Cream Group?**

Forecasts and supply information for both Butter and AMF continue to be provided. In addition, supply and forecast information are provided for milkfat as well. The auction platform cannot sell more than the maximum quantity of milkfat specified by the seller prior to the event.

10. **Am I able to see a forecast of the milkfat available for sale on GDT?**

Yes, a forecast of milkfat is provided to bidders as well as to the NZX as per product forecasts today.

- 11. How do I know how much flex a seller has between Butter and AMF?**
The seller provides a 12 month forecast of its flexibility by month and contract period, which applies for events within that month.
- 12. Does the grouping of cream products cause GDT Events to take longer than previously?**
No.
- 13. Can I move my bids from Butter to AMF or vice versa given Butter and AMF are now in the same group?**
A bidder can continue to move their bids from product to product, round by round.
- 14. Does grouping increase the supply of Butter and AMF to the market?**
No, the underlying supply of milkfat does not change.
- 15. Why were Butter and AMF not part of a group when they were first introduced to GDT Events?**
AMF was introduced onto GDT in November 2009 and Butter was only added in February 2013. To assess the merits of a Cream Group it was necessary to accrue data over several years to see if there would be any benefits for buyers and sellers.
- 16. Is the seller involved in the auction process, given that AMF and Butter volumes change during the auction?**
No, trading events are operated by an independent Trading Manager. Sellers continue to take no part in the auction process other than entering their supply data during the week prior to the trading event.
- 17. How do I interpret the Demand/Supply Ratios issued after each round now that the volumes of Butter and AMF are flexible?**
There is no change to the interpretation of the Demand/Supply Ratios issued at the close of each round. They continue to show the strength of bidding for each product group.
- 18. Once the Cream Group is in place, can we still consider Butter and AMF prices to be representative of prices in the globally traded market?**
Yes, the trading event discovers the price at which demand is balanced against supply for the relevant products on the GDT Events platform. GDT Events provides a credible market-based reference price for the relevant products in the globally traded market.

GDT is only one part of the broader market and ultimately the global market price will be determined by the balance of total global market demand against total global market supply.