



**SUMMARY OF KEY MARKET SIGNALS FOR THE DAIRY
INDUSTRY,
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SYNOPSIS

In 2019, and thus far in 2020, the international supply of and demand for dairy products were fairly in balance, and thus far, COVID-19 did not impact negatively on the demand for and supply of dairy products in the international market. However, the unfolding, very negative impact of COVID-19 on the level of economic activity in the world and its impact on consumer behaviour, as well as increasing COVID-19 infection rates in, for example the USA and particular countries in Europe, can disrupt the balance between the supply of and the demand for dairy products.

The main challenge for the international dairy industry in the immediate future, is to adjust the supply of dairy products to meet any change in demand which may be caused by the lower level of economic activity and changed consumer behaviour, resulting from COVID-19, and, to a lesser extent, to deal with increased production and distribution costs, resulting from measures aimed at minimizing the risk of disruption of production and distribution of dairy products by COVID-19. The uncertainty regarding development in respect of COVID-19 and its future impact on the world economy, is high and, as a result, the uncertainty regarding the future demand in the world for dairy products, is also high.

In the quarter which ended in June 2020, and in the situation created by COVID-19 and the lockdown measures of the Government, the performance in the South African retail market of:

- *UHT milk, yoghurt, pre-packaged cheese, cream cheese, butter and cream, increased significantly relative to its performance in the previous nine months;*
- *Maas did not increase relative to the previous nine months; and*
- *The performance of fresh milk and flavoured milk weakened.*

In the quarter which ended in September 2020, the retail sales quantities in South Africa of:

- *UHT milk, yoghurt, maas, pre-packaged cheese, cream cheese, butter and cream increased relative to the same quarter of 2019, but with the exception of butter, the rates of increase slowed down relative to the rates of increase in the previous quarter; and that of*
- *Fresh milk and flavoured milk decreased, which indicates a continuation of the previously observed trends.*

In the quarter which ended in September 2020, the retail sales prices in South Africa of:

- *Fresh milk, UHT milk, flavoured milk, maas, pre-packaged cheese, cream cheese and cream, decreased; and that of*
- *Yoghurt and butter, increased.*

SYNOPSIS (continue)

The increased performance of the specific dairy products in the South African retail market, as referred to above, cannot be ascribed to the macro-economic fundamentals namely, an increase in the gross domestic product of South Africa and increased consumer income, as in the quarters concerned, there was a significant drop in economic activity due to COVID-19 and measures to curb the spread of COVID-19. Clearly, the exceptional performance of the specific dairy products concerned in the quarter which ended in June 2020 and the performance in the quarter which ended in September 2020 (which includes higher retail sales quantities and decreased retail prices in respect of seven of the nine dairy products concerned, which means that increased sales quantities were, to some extent, at the expense of price), amidst the very unusual situation created by COVID-19, is the result of changed behaviour and preferences of significant segments of the consumer market. Obviously, it is not reasonable to assume that:

- The changed consumer behaviour and preferences will continue unaltered, as the circumstances which created, or contributed to the changes in consumer behaviour and preferences, will likely diminish over time, but the speed at which it will diminish, is unknown; and that*
- The lower level of economic activity in South Africa resulting from COVID-19 and of which the full extent will only be known later, will not impact negatively on the demand for food products like dairy products.*

In the first nine months of 2020, the production of raw milk in South Africa was 0.31 percent lower than in the same months of 2019. This should be seen against the background of the issues explained in paragraph 33 of this report. The recent unexpected sharp increases in the prices of feed for dairy cattle (maize and soya), is a significant discouragement for the production of raw milk. The future demand for dairy products will significantly influence the encouragement offered through price for the production of raw milk. Optimistic views about the future demand for dairy products, are discouraged by uncertainty about the impact of the lower consumer income resulting from COVID-19, on the demand for dairy products.

The challenge to the South African dairy industry, in the immediate future, is especially to deal with:

- Production cost increases and especially recent increase of the production cost of raw milk, due to the unexpected sharp increases in the prices of maize and soya, which discourage raw milk production in South Africa;*
- The high uncertainty regarding the future demand for dairy products in South Africa, amidst lower consumer income resulting from COVID-19; and*
- The position that increases of the prices of raw milk and dairy products, will most likely influence the quantity of the sales thereof.*

Clearly it will be very challenging for the South African dairy industry to deal with these issues, in a way that enable supply to follow demand.

It is expected that in the foreseeable future, COVID-19 will continue to significantly impact on matters such as human health, human behaviour (including consumer behaviour) as well as the level of economic activity – which influence, amongst other, consumer spending, service delivery by the public sector and international trade. As these issues will shape the performance of the dairy industry and due to the high level of uncertainty regarding future developments, the issues concerned should be closely monitored in order to ensure that the supply of raw milk and dairy products in South Africa, follows the demand for these products.

Introduction

1. This report presents a summary of information regarding market signals for the dairy industry and more comprehensive information is available from the Office of SAMPRO.
2. This report is a quarterly publication of SAMPRO and is prepared by the Office of SAMPRO independently from the commercial interests of role players in the dairy industry.
3. The purpose of this report is, like the other regular reports of SAMPRO, to make market signals available to all interested parties in order to promote the effective working of the markets for raw milk and the different dairy products as envisaged by the Competition Act, and which is in the interest of the consumer, the dairy industry and optimum use of national resources.

The International Markets for Dairy Products and Raw Milk Markets in Major Dairy Countries

4. The FAO¹⁾ price index for dairy products traded internationally (See Graph 1 of Annexure A) is an important indicator of the macro conditions in the international markets for dairy products. This index measures the changes of the prices achieved in the international market in respect of a basket of dairy products consisting of butter, cheese, skimmed milk powder and full cream milk powder, and the other dairy products like UHT milk, yoghurt, maas and whey powder, are not included in the basket.
5. In 2018, the FAO dairy price index increased with 5.94 percent from 106.0 percent in January to 112.3 in June, and from June to December, it decreased with 12.9 percent to 97.8.
6. From December 2018 to May 2019, the price index of the FAO dairy price index increased with 8.9 percent to a level of 106.6 percent and from May 2019 to September 2019, it decreased with 6.5 percent to a level of 99.6. According to the FAO, this decrease was the result of lower cheese prices which offset the higher prices of milk powders.

1) *Food and Agricultural Organization of the United Nations.*

7. From September 2019 to January 2020, the FAO dairy price index increased with 4.2 percent from 99.6 percent to 103.8 percent, and from January 2020 to May 2020, it decreased with 9.0 percent to 94.4 percent. According to the FAO, this decrease reflected “increased export availabilities and mandatory inventories amid weak import demand”. The FAO also stated that:

“With milk production in the northern hemisphere normally rising at this time of the year, diminished restaurant sales and reduced demand from food manufacturers also weighs on prices. By contrast, price quotations for cheese rebounded moderately on account of limited spot supplies from Oceania, where production is seasonally declining.”

8. From May 2020 to October 2020 (the latest available information is in respect of October), the FAO dairy price index increased with 10.5 percent from 94.4 to 104.4, which is 3.5 percent higher than in October 2019, 1.5 percent higher than in October 2018 and 9.5 percent lower than in October 2017. In respect of the increase from May 2020 to October 2020, the FAO stated on 5 November 2020:

“In October, price quotations for all dairy products represented in the index rose, with cheese rising the most, followed by skim milk powder, whole milk powder and butter. Price increases in October reflected some degree of market tightening for near-term deliveries, underpinned by robust import demand from Asian and Middle Eastern markets amidst expectations for less export availabilities from Oceania later this year when production will be declining seasonally. In addition, increases in internal demand for future deliveries in Europe, where production is nearing its seasonal low, also contributed to spot market tightening and price strengthening.”

9. As shown in the previous four paragraphs, the price index for dairy products of the FAO frequently changed.
10. In the last twenty years (2000 to 2019) the extent to which the highest monthly FAO dairy price index in a year exceeded the lowest, varied from 3.4 percent in 2005, to 82.8 percent in 2007, and the average difference in the twenty years is 27.1 percent. (See Table 1 of Annexure A)
11. In the last ten years (2010 to 2019) the extent to which the highest monthly FAO dairy price index in a year exceeded the lowest, varied from 7.0 percent in 2019, to 58.8 percent in 2014. The low extent of volatility in 2019 of 7.0 percent and in the first ten months of 2020 of 10.5 percent, are indicative that in the recent past, the supply of dairy products in the international market, was, to a high extent, in balance with the demand for dairy products.
12. The FAO price index for dairy products reflects the changes in the prices of a basket of dairy products traded internationally and thus not the movements of the prices in the international trade of individual dairy products. Due to different supply and demand situations in respect of the different dairy products, the price movements of the different dairy products differ. The considerable difference between the prices of the different dairy products, which occurred in 2017, 2018 and the first half of 2019, disappeared due to especially the reduction of the prices of butter and cheese and increase in the price of skimmed milk powder. (See Graph 2 of Annexure A).

13. Regarding the future prices for dairy products achieved at the Global Dairy Trade Auction on 3 November 2020, the following:
- The price of full cream milk powder decreases marginally from December 2020 to January 2021 with 0.3 percent and from January 2021 to April 2021, it increases with 2.5 percent to a level 2.28 percent higher than in December 2020;
 - The price of skimmed milk powder moves sideways from December 2020 to April 2021, within a band of prices of which the highest is 1.5 percent higher than the lowest;
 - The price of cheddar cheese decreases from December 2020 to January 2021 with 3.4 percent and from January 2021 to April 2021, it increases with 1.0 percent to a level which is 2.4 percent lower than in December 2020; and
 - The price of butter decreases from December 2020 to March 2021, with 3.5 percent and from March 2021 to April 2021, it increases with 0.2 percent to a level of 3.3 percent lower than in December 2020. (See Table 2 of Annexure A).
14. The expectations regarding future prices of dairy products in the USA of the Department of Agriculture of the USA, published on 16 October 2020, indicates in respect of cheddar cheese, a drop from the third quarter to the second quarter of 2021, followed by a sideways movement in the third quarter of 2021. In respect of butter, the expectation is that the price will increase from the fourth quarter of 2020, to the third quarter of 2021, but it will remain lower than the prices recorded in 2019 and the first quarter of 2020. The expectation in respect of skimmed milk powder is that the price will move sideways from the fourth quarter of 2020, to the third quarter of 2021. (See Graph 3 of Annexure A).
15. Different factors exist which can impact, in the coming months, on the international supply and demand of dairy products and thus on the prices of dairy products, such as:
- The developments in respect of COVID-19, which can influence the supply and demand for dairy products in the world and which can disrupt the international trade in respect of dairy and other products;
 - Future weather conditions and its impact on the supply of raw milk and thus on the supply of dairy products. In the next few months, weather conditions in the Southern hemisphere, will be very important, as the peak production season of the Southern hemisphere, commenced in the third quarter of the year;
 - The international trade and other disputes; and
 - The withdrawal of the United Kingdom from the European Union (EU) and the arrangement in respect of trade in dairy products which will be the result.

16. The outbreak of COVID-19 infections in the world is at present and it will in at least the next year or two, influence the world via its influence on:
 - Human health;
 - Human behaviour including consumer behaviour and preferences;
 - Consumer spending as shaped by the level of economic activity;
 - Service delivery by the public sector; and
 - International trade.

17. While uncertainty exists regarding the duration of the COVID-19 pandemic and the extent of its impact on the world, it is at this stage, a certainty that it will result in a drop in economic activity (reduction in gross domestic product of countries) and this will result in a drop in the demand, which can include a drop in the demand for dairy products.

18. In light of the previous paragraph:
 - Predictions regarding price movements in the near future, should be viewed with great caution; and
 - Information and expectations regarding new developments in respect of the international supply and demand of raw milk and dairy products, can in the coming months, result in volatile price movements in the international dairy market.

19. Raw milk production in the world is seasonal as production in the winter is lower than the production in the summer. The extent to which raw milk production in different countries is seasonal, differs and, for example, the production in New Zealand is much more seasonal than in the member countries of the EU. (See Graph 4 of Annexure A).

20. The average price of raw milk in the EU in September 2020 (the latest available information is in respect of September 2020), is lower than in not only the same month of 2018 and 2019, but also lower than the average price in the years from 2013 to 2017, while the price of raw milk in the USA is lower than in most months of 2019 (See Graph 5 and Graph 6 of Annexure A).

The South African Markets for Dairy Products and Raw Milk

21. The performance of each of the six types of dairy products, in terms of imports and exports by South Africa, differs and the performance of any particular dairy product differs from year to year. Also, the performance of the total imports and exports of dairy products by South Africa, differs from year to year (See Table 3 and Table 4 of Annexure A).
22. According to the import and export figures of South Africa in respect of dairy products in 2019:
- The mass of exports was 0.8 percent lower than in 2018, due to the lower exports of four of the six types of dairy products, namely concentrated milk (0402), buttermilk and yoghurt (0403), butter (0405) and cheese (0406). The two types of dairy products of which the exports were higher, are milk and cream (0401) and whey (0404);
 - The average free on board (f.o.b.) export prices of four of the six types of dairy products, were higher, namely milk and cream (0401), concentrated milk (0402), buttermilk and yoghurt (0403) and cheese (0406), while the export prices of whey (0404) and butter (0405), were lower;
 - The mass of imports was 10.0 percent higher than in 2018, due to the higher imports of three of the six types of dairy products, namely milk and cream (0401), concentrated milk (0402) and whey (0404);
 - The average f.o.b. import prices of four of the six types of dairy products, namely milk and cream (0401), concentrated milk (0402), buttermilk and yoghurt (0403), and cheese (0406), were higher than in 2018, while the import prices of whey (0404) and butter (0405), were lower;
 - The exposure of the South African dairy industry to foreign competition (through imports and exports) in 2019, was higher than in 2018, but lower than the record high exposure recorded in 2017; and
 - In terms of mass, South Africa was in 2019, a net exporter of milk and cream (0401) and buttermilk and yoghurt (0403).
23. In respect of 2020, information regarding the import and export of dairy products by South Africa, is available for the period January to September and according thereto:
- The estimated mass of exports²⁾ in 2020, is 6.0 percent lower than exports in 2019, due to the lower exports of three of the six types of dairy products, namely milk and cream (0401), concentrated milk (0402) and buttermilk and yoghurt (0403). The products of which the estimated exports are higher, are whey (0404), butter (0405) and cheese (0406);

2) *The estimated figures were calculated on the assumption that the level of exports in the first nine months of 2020 will be maintained in the rest of 2020. These estimated figures should be considered with great caution as the patterns of imports and exports (distribution of imports and exports per month during a year) differ significantly from year to year.*

- The average f.o.b. export prices in January to September 2020, of five of the six types of dairy products, are higher than in 2019;
 - The estimated mass of imports³⁾ is 41.0 percent lower than the imports in 2019 due to the lower imports of three of the six types of dairy products, namely milk and cream (0401), whey (0404) and cheese (0406). The products of which the estimated imports are higher, are concentrated milk (0402), buttermilk and yoghurt (0403) and butter (0405);
 - The average f.o.b. import prices in January to September 2020, of each of the six types of dairy products, are higher than in 2019; and
 - In terms of mass, South Africa will be a net exporter of milk and cream (0401) and buttermilk and yoghurt (0403).
24. The production of raw milk in South Africa is just like in other countries seasonal, with high production in summer and low production in winter. In South Africa, in the twelve years from 2008 to 2019:
- The highest production per day per month was in October (ten years), or November (two years);
 - The lowest production per day per month was in April (three years), May (three years), or June (six years); and
 - The highest production per day per month was on average 33.5 percent higher than the lowest. The highest difference of 39.5 percent was recorded in 2017, whilst the lowest of 26.9 percent, was recorded in 2015 (See Graph 7 of Annexure A).
25. The mass of the production of raw milk in South Africa, which is indicative of the production of dairy products in South Africa, increased with an average annual growth rate of:
- 1.20 percent in the three years from 2008 to 2011;
 - 3.12 percent in the three years from 2011 to 2014;
 - 2.94 percent in the three years from 2014 to 2017;
 - 2.65 percent in the ten years from 2008 to 2018; and
 - 2.47 percent in the eleven years from 2008 to 2019. (See Table 5 of Annexure A)
26. From 2008 to 2019, the total raw milk purchases per annum in South Africa increased with 30.8 percent, but the pattern of raw milk purchases during each of the years of the last decade, as measured by the distribution of the total annual raw milk purchases per quarter and per half year of each year, did not change in any particular direction, as is evident from Table 6 and Table 7 of Annexure A. For example:

3) *The estimated figures were calculated on the assumption that the level of imports in the first nine months of 2020 will be maintained in the rest of 2020. These estimated figures should be considered with great caution as the patterns of imports and exports (distribution of imports and exports per month during a year) differ significantly from year to year.*

- The contribution of the production of raw milk in the last quarter of 2019, to the total production in 2019, is 28.435 percent while the average contribution of the last quarter in the five years 2009 to 2013, and in the five years 2014 to 2018, were respectively 28.535 percent and 28.637 percent; and
 - The contributions of the production in the first and second half of 2019, to the total production in 2019, are respectively 45.855 percent and 54.145 percent while:
 - The average contribution of the first half of the five years 2009 to 2013 and the five years 2014 to 2018, were respectively 45.864 percent and 45.778 percent; and
 - The average contribution of the second half of the five years 2009 to 2013 and the five years 2014 to 2018, were respectively 54.136 percent and 54.222 percent.
27. The production of raw milk in South Africa in 2016, was 0.45 percent lower than in 2015, but 5.9 percent higher than in 2014. (See Table 5 of Annexure A). The fact that the production of raw milk was lower in 2016, than the production in 2015, was the result of the lower production in the first seven months of 2016, as the production in the last five months of 2016, was higher than in the same months of 2015. (See Graph 7 of Annexure A).
28. The production of raw milk in South Africa in 2017, was 3.02 percent higher than the production in 2016 (See Table 5 of Annexure A), due to higher production in eleven of the twelve months, but mainly due to the higher production in August 2017 to December 2017, which was respectively 5.2 percent, 3.7 percent, 3.5 percent, 7.9 percent and 8.0 percent higher than in the same months of 2016. (See Graph 7 and Table 8 of Annexure A).
29. The higher production of raw milk from August to December 2017, as described in the previous paragraph, took place notwithstanding the extremely serious drought conditions which existed in the Western and Eastern Cape in 2017. The higher production was the result of the favourable relationship between the prices of raw milk and feed for dairy animals and also, according to a number of experts, higher production per cow in particular regions due to favourable weather conditions in the regions concerned and more use of concentrated feed and lucerne in drought-stricken regions. The lower feed prices were the result of especially the low maize price as a consequence of the record high maize production in the 2016/2017 production season and the good production in the 2017/2018 production season.

30. The production of raw milk in South Africa, in 2018, was 4.82 percent higher than in 2017, and it was the result of the higher production in eleven of the twelve months of 2018. The increase of 4.82 percent from 2017 to 2018, is the second highest year-on-year increase recorded in the eleven years 2008 to 2018. The highest increase of 6.37 percent was recorded in 2015, the third highest of 4.81 percent was recorded in 2010 and the fourth highest of 4.50 percent, was recorded in 2012. (See Table 5 of Annexure A).
31. The production of raw milk in South Africa in 2019, was 0.65 percent higher than the previous record high production that was recorded in 2018, and 5.1 percent higher than in 2017 (See Table 5 of Annexure A). The lower growth in production in 2019, is the result of lower production in five months, namely January, February, April, July and December. (See Table 8 of Annexure A).
32. In the first nine months of 2020, the estimated production of raw milk in South Africa, was 0.31 percent lower than in the first nine months of 2019, 0.42 percent higher than in the first nine months of 2018 and 6.56 percent higher than in the first nine months of 2017. The decrease from the first nine months of 2019, to the first nine months in 2020, is the result of lower production in February 2020 to July 2020, as the production in January 2020 and the estimated production in September 2020, are higher than in the same months of 2019. Note that the figures in respect of August 2020 and September 2020, are estimated figures. (See Table 8 of Annexure A)
33. The lower production of raw milk in the first nine months of 2020, relative to the same months of 2019, should be seen against the background of especially the following:
 - The lack of economic growth in South Africa in the period before the outbreak of COVID-19 in South Africa and its negative impact on the demand for dairy products, which determines the demand for raw milk;
 - The uncertainty about the impact of COVID-19 on the demand for dairy products and thus the demand for raw milk, which existed especially in the second quarter of 2020 and uncertainty about the impact in the near future on the demand for dairy products and thus the demand for raw milk, of lower consumer income resulting from COVID-19. Essentially this position discouraged, and is discouraging, optimistic views about the future demand for dairy products and the demand for raw milk, and thus the justification for stimulation of production of raw milk through price increases; and
 - The recent unexpected sharp increases of the prices of maize and soya, which are important ingredients of feed for dairy cattle and which eliminated the positive impact of the increase of the prices of raw milk which occurred.

34. Regarding the seasonal decrease in the production of raw milk in South Africa, the following:

- The decrease from October 2019 to February 2020, was 17.7 percent, which is higher than the average decrease of 15.6 percent recorded in the years from 2008/2009 to 2018/2019, and the third highest recorded in the years 2008/2009 to 2018/2019. The highest decrease from October to February in the years from 2008/2009 to 2019/2020 of 18.0 percent, was recorded in 2013/2014 and the decrease from October to February 2016/2017 of 17.8 percent, is the second highest decrease;
- The decrease from October 2019 to April 2020, of 24.8 percent, is higher than the average decrease of 21.1 percent in the years 2008/2009 to 2018/2019 and it is also the highest decrease recorded in the years from 2008/2009 to 2018/2019. The second and third highest decrease of 24.4 percent and 23.4 percent were recorded in respectively 2008/2009 and 2010/2011; and
- The decrease from October 2019 to June 2020, was 26.9 percent which is not only higher than the average decrease of 22.4 percent in the years from 2008 to 2019, but it is also the highest in the years concerned. The second highest decrease of 25.6 percent, was recorded in 2018/2019 and the third highest decrease of 25.4 percent in 2008/2009. (See Table 9 of Annexure A).

35. The seasonal increase in the production of raw milk in South Africa, from July 2020 to September 2020 (the production in September 2020 is an estimated figure), was 29.5 percent which is:

- Lower than the record high increase of 31.7 percent, recorded in the same period of 2017;
- The second highest increase in the same periods of the twelve years 2008 to 2019; and
- Higher than the average increase from July to September of 24.4 percent, in the eleven years 2008 to 2018 (See Table 10 of Annexure A).

36. In 2018, the producer price index of raw milk:

- Increased with 1.7 percent from January to March; and
- Decreased with 15.3 percent from March to December to a level 14.5 percent lower than in December 2017, and 13.0 percent lower than in December 2016. (See Graph 8 of Annexure A).

The decrease in the producer price index of raw milk, from March 2018 to December 2018, was the result of the high production of raw milk and the downward pressure on the demand for dairy products due to the low economic growth rate of South Africa.

37. The significant decrease of the producer price index of raw milk of 5.9 percent from March 2018 to April 2018, is unusual, as it is not typical that raw milk prices decrease significantly in the low production season of South Africa. Reduction of raw milk prices in the season of low production has less impact on highly seasonal producers of raw milk, than on producers of whom the production does not decrease significantly in the winter.

38. In 2019, the producer price index of raw milk did not change in January, July and October, but increased in February, March, April, June and December and decreased in May, August, September and November. The net result of the changes is that the producer price index of raw milk in December 2019, was 9.7 percent higher than in December 2018. This increase was from a low level and the index figure in December 2019, is lower than the index figures of the first seven months of 2018, and 6.3 percent lower than in December 2017.

39. From January 2020 to August 2020, the producer price index of raw milk increased with 8.5 percent and from August 2020 to September 2020, it decreased with 1.7 percent. The net result of these price movements is that the price index of raw milk in September 2020 was 6.6 percent higher than in January 2020

40. The producer price index of raw milk was in September 2018, 8.6 percent lower than the producer price index of dairy products, in September 2019, the producer price index of raw milk was 8.7 percent lower than the producer price index of dairy products, while in September 2020, the producer price index of raw milk was 4.3 percent lower than that of dairy products. (See Graph 11 of Annexure A).

41. The producer price index of raw milk in September 2020, was 3.3 percent higher than the producer price index of “cereals and other crops” while in September 2019, the producer price index of raw milk was 14.5 percent higher than the producer price index of “cereals and other crops” (See Graph 8 of Annexure A). On a macro level, the comparison between these two indices is one of the indicators of the level of encouragement to produce raw milk. More specific and relevant comparisons are the comparisons of the producer price index of raw milk with the price indices of yellow maize and soya prices and it shows the following:

- In 2019, and due to the price movements of raw milk, yellow maize and soya, the level of encouragement for the production of raw milk, was generally lower than in 2018. The favourable downward movement of the price of maize in 2019, was offset by the increase in the price of soya, resulting in an increase in the index of the feed price which is calculated as the sum of 70 percent of the maize price and 30 percent of the soya price; and
- From the second quarter of 2020, the prices of maize and soya increased sharply. As a result, the index of the feed price indicate more to a level higher than that of raw milk, which previously happened in 2016, when the production of raw milk was 0.65 percent lower than in the previous year. (See Graph 9 of Annexure A)

42. Regarding the future price movements of maize and soya, the following:

- The prices of maize achieved on 11 November 2020, for delivery in December 2020 to July 2021, are from 11.4 percent to 20.0 percent higher than the prices achieved 24 August 2020;
- The prices of maize achieved on 11 November 2020, for delivery in December 2020 to July 2021, decreases with 11.1 percent from December 2020 to July 2021 and from July 2021 to August 2021, it increases with 1.6 percent to a level 10.4 percent lower than the price in December 2020; (See Table 11 of Annexure A)
- The prices of soya achieved on 11 November 2020, for delivery in December 2020 to May 2021, are from 15.2 percent to 21.5 percent higher than the prices achieved on 24 August 2020; and
- The prices of soya achieved on 11 November 2020, for delivery in December 2020 to May 2021, decrease with 13.9 percent and from May 2021 to September 2021, an increase with 2.7 percent to a level of 12.9 percent lower than in December 2020. (See Table 12 of Annexure A)

43. From the previous paragraph, it is clear that raw milk producers who concluded contracts in respect of maize on 24 August 2020, for delivery in December 2020 to July 2021, are in a much better position than those who concluded contracts on 11 November 2020.

44. The view of the Food and Agricultural Organisations of the United Nations (FAO) regarding grain prices, are reflected in the following abstracts from a report of the FAO dated 10 November 2020:

“International prices of grains increased sharply again in October, driven by reduced production prospects, tighter inventories and strong import demand. By contrast, international prices of rice fell further with the start of the main crop harvests and lackluster demand.”

And

“In South Africa, wholesale prices of maize grain continued to trend upwards in October and were 25 percent above their year-earlier values. The strong increase in recent months partly result from rising international prices, which have more than negated the dampening effects of a large domestic harvest; the 2020 maize output was estimated to

be the second biggest on record. Robust export demand provided additional upward support, particularly demand for yellow maize from East Asian countries. Prices of wheat in South Africa, by contrast, fell in October, reflecting favourable production prospects for the 2020 domestic crop, currently being harvested.”

45. Regarding the producer price index of dairy products, it should be noted that it measures the changes in the prices of a basket of dairy products consisting of milk, yoghurt and cheddar cheese and the basket does not include the other dairy products like milk powder, maas, flavoured milk, butter and cheese other than cheddar cheese.
46. In 2018, the producer price index of dairy products moved within a band of index figures of which the highest, which was recorded in May 2018, was 3.9 percent higher than the lowest which was recorded in October 2018. The index figure in December 2018, was the same as the figure in January 2018 (See Graph 10 of Annexure A).
47. In 2019, the producer price index of dairy products moved within a band of index figures of which the highest, which was recorded in September 2019, was 3.2 percent higher than the lowest, which was recorded in April 2019. The producer price index of dairy products in December 2019, was 0.98 percent higher than in December 2018, and 0.35 percent higher than in December 2017.
48. In January 2020 to September 2020, the producer price index of dairy products:
 - Decreased in four months and increased in five months;
 - The highest index was recorded in May 2020 and it is 4.8 percent higher than the lowest, which was recorded in February 2020; and
 - Decreased from August 2020 to September 2020, with 1.8 percent to a level 0.6 percent higher than in January 2020.
49. The performance (quantity sold and price) of the different dairy products in the South African retail market differs, and often changes within a short period.
50. The key characteristics of the markets for the different dairy products differ. Changes in the prices of the different types of dairy products and the level of economic growth of South Africa, influences the quantities sold.
51. Key observations in respect of the performance of the nine dairy products, of which the performance in the South African retail market is monitored and which is shown in Table 13, Table 14 and Table 15 of Annexure A, are as follows:
 - a) In the year which ended in September 2020, relative to the year which ended in June 2019:
 - The retail sales quantities of two of the nine dairy products, namely fresh milk, and flavoured milk, were respectively 6.2 percent, and 10.6 percent lower; and
 - The retail sales quantities of seven of the dairy products, were higher, namely UHT milk (5.5 percent), yoghurt (10.1 percent), maas (9.6 percent), pre-

packaged cheese (14.0 percent), cream cheese (3.6 percent), butter (7.8 percent) and cream (6.4 percent).

b) In the quarter which ended in June 2020, relative to the quarter which ended in June 2019:

- The retail sales quantities of two of the nine dairy products namely fresh milk and flavoured milk, were respectively 9.3 percent and 11.9 percent lower; and
- The retail sales quantities of seven of the dairy products were higher, namely UHT milk (12.6 percent), yoghurt (18.1 percent), maas (11.2 percent), pre-packaged cheese (22.4 percent), butter (15.4 percent) and cream (22.7 percent).

c) The percentage increases in the retail sales quantities of six of the nine dairy products in the quarter which ended in June 2020, relative to the same quarter of 2019, were higher than the increases in the year which ended in June 2020, relative to the previous year. The products are UHT milk (12.6 percent versus 0.01 percent), yoghurt (18.1 percent versus 10.0 percent), pre-packaged cheese (22.4 percent versus 11.0 percent), cream cheese (12.4 percent versus 1.7 percent), butter (15.4 percent versus 3.5 percent) and cream (22.7 percent versus 1.2 percent). The opposite is true in respect of fresh milk (minus 9.3 percent versus minus 4.0 percent), flavoured milk (minus 11.9 percent versus minus 6.7 percent) and maas (11.2 percent versus 12.7 percent).

d) In the quarter which ended in September 2020, the retail sales quantities of:

- UHT milk, yoghurt, maas, pre-packaged cheese, cream cheese, butter and cream increased relative to the same quarter of 2019, but with the exception of butter, the rates of increase slowed down relative to the rates of increase in the previous quarter. The slowdown in the rates of increase is as follows:
 - UHT milk – 12.6 percent to 12.3 percent;
 - Yoghurt – 18.1 percent to 9.5 percent;
 - Maas – 11.2 percent to 5.4 percent;
 - Pre-packaged cheese – 22.4 percent to 16.4 percent;
 - Cream cheese – 12.4 percent to 7.7 percent;
 - Cream – 22.7 percent to 15.3 percent; and the retail sales quantities of
- Fresh milk and flavoured milk were respectively 8.5 percent and 17.8 percent lower than in the same quarter of 2019.

- e) In the year which ended in September 2020, the retail sales prices of the nine dairy products increased as follows:
- Fresh milk 2.4 percent;
 - UHT milk 2.9 percent;
 - Flavoured milk 0.5 percent;
 - Yoghurt 3.2 percent;
 - Maas 0.8 percent;
 - Pre-packaged cheese 2.4 percent;
 - Cream cheese 6.4 percent;
 - Butter 7.9 percent; and
 - Cream 2.4 percent.
- f) In the quarter which ended September 2020, the retail sales prices of two of the nine dairy products, namely yoghurt and butter increased with respectively 1.5 percent and 2.2 percent and the retail prices of the other seven dairy products decreased as follows:
- Fresh milk 0.5 percent;
 - UHT milk 1.1 percent;
 - Flavoured milk 2.0 percent;
 - Maas 1.6 percent;
 - Pre-packaged cheese 0.9 percent;
 - Cream cheese 1.9 percent; and
 - Cream 0.4 percent.
- g) The extent to which the average retail price of UHT milk exceeded that of fresh milk, decreased from 10.0 percent in 2014, to 3.9 percent in 2016. In 2017 and 2018, the average retail price of UHT milk was respectively 0.2 percent and 3.7 percent lower than that of fresh milk while in 2019 and 2020 (January to September), the average retail price of UHT milk was respectively 0.2 percent and 2.8 percent higher than that of fresh milk (See Table 16 of Annexure A); and
- h) The interaction between the average price per year and the retail sales quantity per year of UHT milk, is illustrated in Graph 15 of Annexure A against the background of the increase of the quantity of raw milk purchases in each of the years 2009 to 2019. From the Graph concerned, it is clear that lower prices for UHT milk coincided with higher sales quantities and that high production of raw milk coincide with lower prices for UHT milk.

52. The information contained in the previous paragraphs, justifies the following general and important conclusions:

- a) In the quarter which ended in June 2020 and in the situation created by COVID-19 and the lockdown measures of the Government, the performance in the retail market of specific dairy products namely, UHT milk, yoghurt, pre-packaged cheese, cream cheese, butter and cream, increased significantly relative to the performance in the previous nine months;
- b) In the quarter which ended in September 2020:
 - The retail sales quantities of seven of the nine dairy products were higher than in the same quarter of 2019, but the rates of increase were lower than in the quarter which ended in June 2020; and
 - The retail sales prices of seven of the nine dairy products, decreased which means that to some extent, the increased sales quantities were at the expense of price;
- c) The position described under (a) and (b), cannot be ascribed to the macro-economic fundamentals namely an increase in the gross domestic product of South Africa and increased consumer income, as in the quarter concerned, there was a significant drop in economic activity due to COVID-19 and measures to curb the spread of COVID-19. Clearly, the exceptional performance of specific dairy products in the very unusual situation created by COVID-19, is the result of changed behaviour and significant segments of the consumer market and, in this regard, the role of the organised dairy industry to position dairy products as healthy, nutritious, safe and tasty foods, and as foods with integrity, should be acknowledged. Obviously, it is not reasonable to assume that:
 - The changed consumer behaviour and preferences will continue as the circumstances which created, or contributed to, the changes in consumer behaviour and preferences will likely diminish, but the speed at which it will diminish, is unknown; and
 - The lower level of economic activity in South Africa resulting from COVID-19 and of which the extent will only be known later, will not impact negatively on the demand for food products like dairy products.
- d) The retail sales quantity of fresh milk continued to decline notwithstanding the fact that the average retail price of UHT milk, was in the first nine months of 2020 slightly (2.8 percent) higher than that of fresh milk. The extent to which the average retail price per month of UHT milk differed from that of fresh milk in the first nine months of 2020, varied from 5.6 percent higher to 0.6 percent lower. (See Table 16 of Annexure A) This downward trend in the retail sales of fresh milk is visible in respect of a number of years and it indicates that increasingly consumers give preference to UHT milk, at the expense of the retail sales of fresh milk; and

53. The relative movements of the retail prices of particular dairy products in the eight years and nine months, from 2012 to September 2020, are shown in Graph 12 of Annexure A. This graph shows, amongst other:
- The retail price index of butter is, since the middle of 2016, much higher than the retail price indices of the other dairy products;
 - The retail price index of fresh milk is, since the middle of 2016, lower than that of butter, but much higher than the retail price indices of the other dairy products;
 - The retail price index of maas is, since the end of 2018, at lower levels than that of the other dairy products; and
 - The retail price index of UHT milk fluctuated more during meaningful periods, than that of the other dairy products.
54. The relative movements of the retail price of fresh milk, the retail price of UHT milk and the producer price of raw milk, from 2012 to September 2020, against the background of the increase in raw milk purchases per annum, are shown in Graph 13 of Annexure A. This graph shows that:
- The prices concerned typically moved in the same direction but that the magnitude of the changes of the prices concerned, differ;
 - The retail price of fresh milk is less volatile than the retail price of UHT milk and the producer price of raw milk. Due to limited shelf life of fresh milk, it cannot, as is the case with UHT milk, be stored in order to adjust supply to be in balance with the demand;
 - The increase from January 2012 to September 2020, of the retail price of fresh milk was higher than the increase in the price of raw milk, while the increase in the retail price of UHT milk was lower than the increase in the price of raw milk;
 - The index of the retail price of UHT milk was in the period of eight years and nine months, with the exception of one month, lower than the producer price index of raw milk; and
 - The movements of the prices concerned are influenced by the total raw milk purchases.
55. The relative movements of the retail prices of yoghurt, maas and pre-packaged cheese as well as the price of raw milk, against the background of the increase in the quantity of raw milk purchased in each of the years 2009 to 2019, and in the first nine months of 2020, are shown in Graph 14 of Annexure A. This Graph shows that:
- The price of raw milk is much more subject to change than the retail prices of the three dairy products concerned;

- The relationship between the movements of the retail prices of the three dairy products concerned and the movements of the price of raw milk, is weaker than is the case in respect of the retail price of UHT milk and the price of raw milk as shown in Graph 13. In this regard, it should be noted that the contribution of the price of raw milk to the prices of UHT milk and maas are much higher than the contribution of the price of raw milk to the retail price of yoghurt, due to considerable higher value-adding required by the manufacturing of yoghurt. Also, it should be taken into account that recombined and reconstituted milk⁴⁾ instead of raw milk, can be used to manufacture maas and yoghurt; and
- In the eight years and nine months from 2012 to September 2020, the price of raw milk increased more than the retail prices of the three dairy products concerned and that the increase in the retail price of maas, is considerably lower than that of yoghurt and pre-packaged cheese.

56. **In summary**, the position of the South African dairy industry is as follows:

- a) The increased performance of the specific dairy products in the South African retail market, in especially the quarter which ended in June 2020, cannot be ascribed to the macro-economic fundamentals namely an increase in the gross domestic product of South Africa and increased consumer income, as in the quarter concerned, there was a significant drop in economic activity due to COVID-19 and measures to curb the spread of COVID-19. Clearly, the exceptional performance of specific dairy products concerned in the quarter which ended in June 2020, and the performance in the quarter which ended in September 2020 (which includes higher retail sales quantities and decreased retail prices in respect of seven of the nine dairy products concerned which means that the increased sales quantities were, to some extent, at the expense of price) amidst the very unusual situation created by COVID-19, is the result of changed consumer behaviour and preferences. In this regard, the work in the last decade of the Consumer Education Project of Milk SA and the Dairy Standard Agency to position dairy products as healthy, nutritious, tasty and safe foods, and as foods with integrity, should be acknowledged. Obviously, it is not reasonable to assume that:
- The changed consumer behaviour and preferences will continue unaltered, as the circumstances which created, or contributed to the changes in consumer behaviour and preferences, will likely diminish over time, but the speed at which it will diminish, is unknown; and that
 - The lower level of economic activity in South Africa resulting from COVID-19 and of which the full extent will only be known later, will not impact negatively on the demand for food products like dairy products;

4) *The definitions of recombined milk and reconstituted milk, as stated in Regulation 1510, are as follows: "Recombined milk product" means milk or a milk product resulting from the combination of milk fat and milk-solids-non-fat in their preserved forms with or without the addition of water to achieve the appropriate milk product composition"; and "Reconstituted milk product" means milk or a milk product resulting from the addition of water to the dried or concentrated form of the product in the amount necessary to re-establish the appropriate water to solid ratio".*

- b) The production of raw milk in South Africa in the first nine months of 2020 is 0.31 percent lower than in the same months of 2019, the relationship between the index of the indicator of feed price and the raw milk price index weakened considerably due to the recent and unexpected sharp increases in the prices of maize and soya and it was in September 2020, more or less the same as in 2016, when the production of raw milk was 0.45 percent lower than in 2015. The future price of maize, achieved on 11 November 2020, decreases from December 2020 to July 2021, with 11.8 percent, but the decrease from December 2020 to March 2021, is only 0.43 percent. The future price of soya decreases from December 2020 to July 2021, with 13.5 percent, but the decrease from December 2020 to March 2021, is only 3.7 percent.

57. The challenge to the South African dairy industry in the immediate future, is especially to deal with:

- Production cost increases and especially recent increase of the production cost of raw milk, due to the recent unexpected sharp increases in the prices of maize and soya, which discourage raw milk production in South Africa;
- The high uncertainty regarding the future demand for dairy products in South Africa, amidst lower consumer income resulting from COVID-19; and
- The position that increases of the prices of raw milk and dairy products, will most likely influence the quantity of the sales thereof.

Clearly it will be very challenging for the South African dairy industry to deal with these issues, in a way that enable supply to follow demand.

58. It is expected that in the foreseeable future, COVID-19 will continue to significantly impact on matters such as human health, human behaviour (including consumer behaviour) as well as the level of economic activity which influence, amongst other, consumer spending, service delivery by the public sector and international trade. As these issues will shape the performance of the dairy industry and due to the high level of uncertainty regarding future developments, the issues concerned should be closely monitored in order to ensure that the supply of raw milk and dairy products in South Africa, follows the demand for these products.

Alwyn P Kraamwinkel (M.Com)
CEO: SAMPRO
17 November 2020

<i>The following contributions to this report are acknowledged:</i>	
<i>De Wet Jonker (B.Econ/BCom Hons) and Marietjie le Roux (BCom)</i>	<i>Collecting information, compiling of tables and graphs and assessment of information.</i>
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<i>Yvonne Steyn and Sonja van Jaarsveld</i>	<i>Typing of draft versions of the report and typing of final report</i>

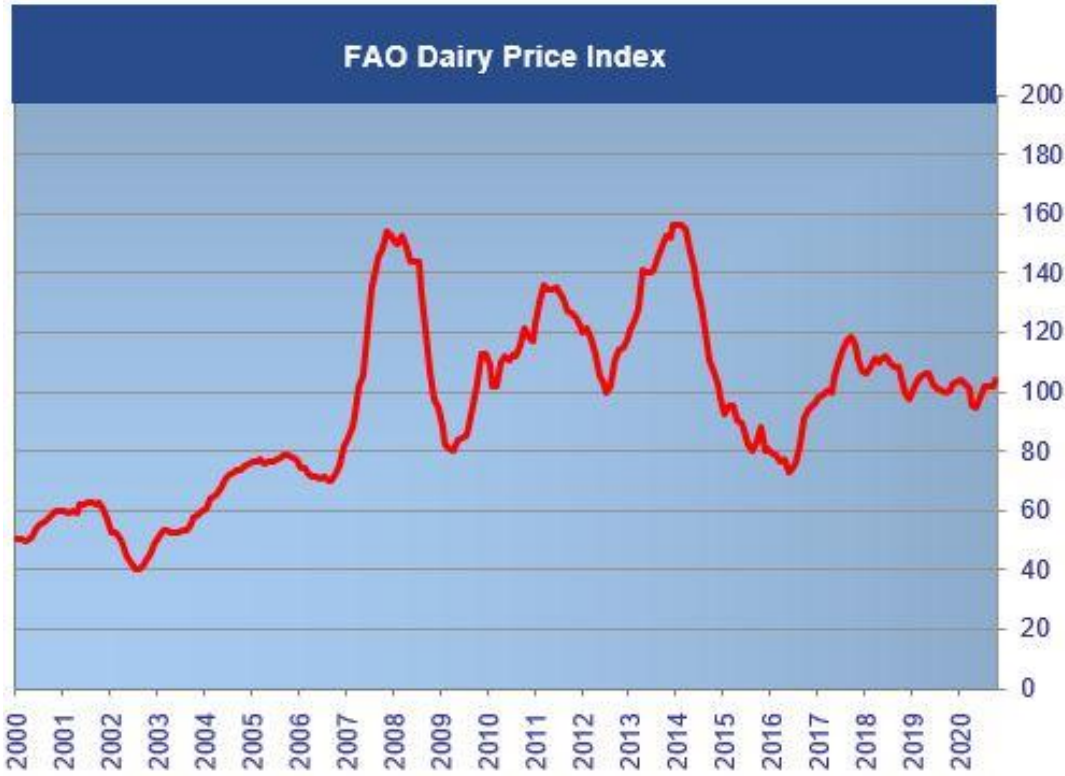
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Graph 1¹⁾

PRICE INDEX OF DAIRY PRODUCTS IN THE INTERNATIONAL MARKET UP TO OCTOBER 2020, AS PUBLISHED BY THE FAO



The FAO Dairy Price Index consists of butter, SMP, WMP, cheese, casein price quotations; the average is weighted by world average export trade shares for 2014-2016.

1) Graph as published by the Food and Agricultural Organization (FAO) of the United Nations.

Table 1²⁾

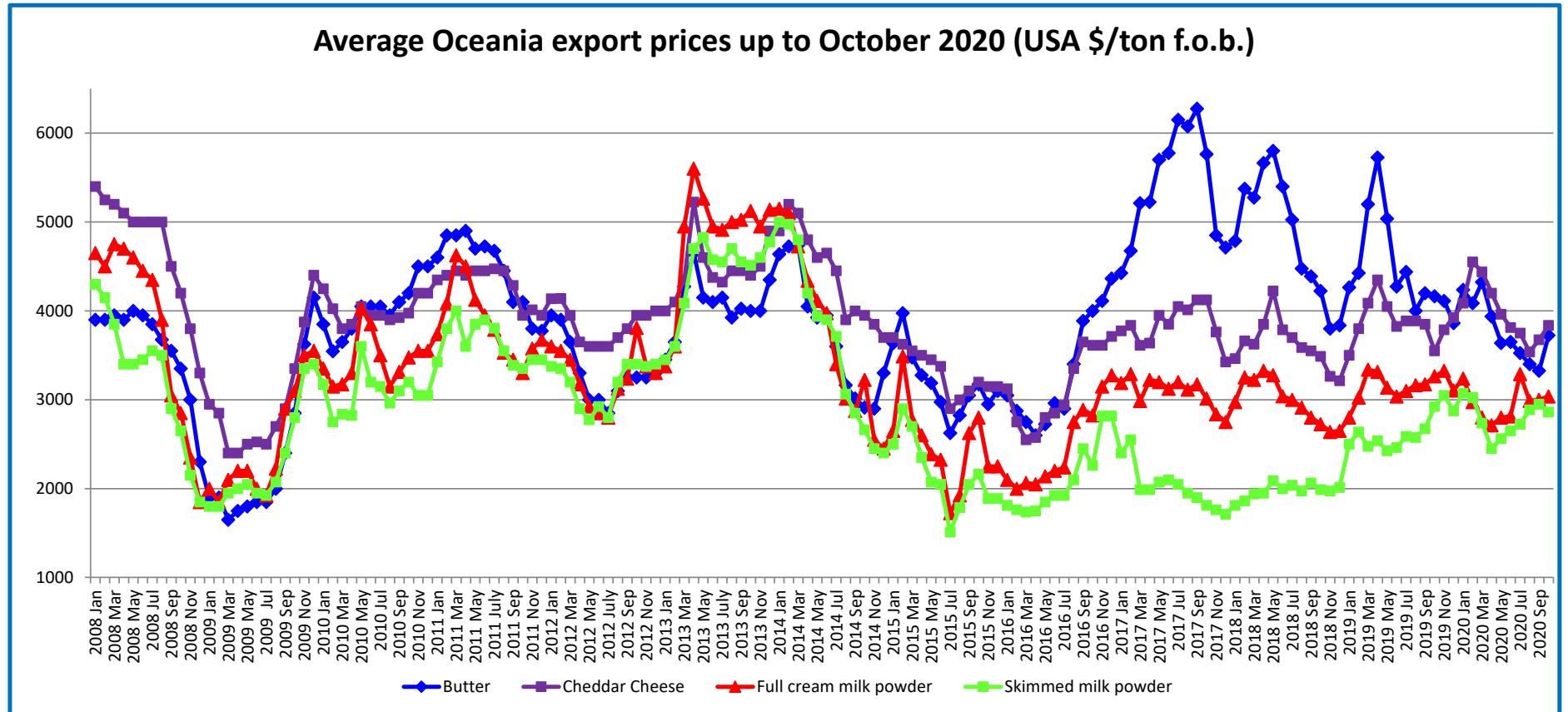
VOLATILITY PER YEAR OF THE PRICE INDEX OF THE FAO OF DAIRY PRODUCTS IN THE INTERNATIONAL MARKET

Index: 2014-2016=100

YEAR	A Highest Monthly Index	B Lowest Monthly Index	A Higher than B Percent
2000	60.1	50.1	20.0
2001	62.9	56.9	10.6
2002	53.0	40.1	32.2
2003	59.7	51.3	16.5
2004	75.8	60.9	24.4
2005	78.7	76.2	3.4
2006	81.7	70.3	16.2
2007	154.0	84.2	82.8
2008	152.6	94.9	60.9
2009	113.1	80.4	40.7
2010	121.4	101.6	19.5
2011	135.8	122.0	11.3
2012	121.2	99.7	21.6
2013	156.5	121.0	29.3
2014	156.4	98.5	58.8
2015	95.2	79.9	19.0
2016	96.2	72.7	32.3
2017	118.4	98.6	20.1
2018	112.3	97.8	14.7
2019	106.6	99.6	7.0
Average	105.6	82.8	27.1
2020 (Jan – Oct)	104.4	94.4	10.5

2) Table prepared by the Office of SAMPRO based on information published by the FAO.

Graph 2³⁾



3) Graph prepared by the Office of SAMPRO based on information published by the USDA on 26 October 2020.

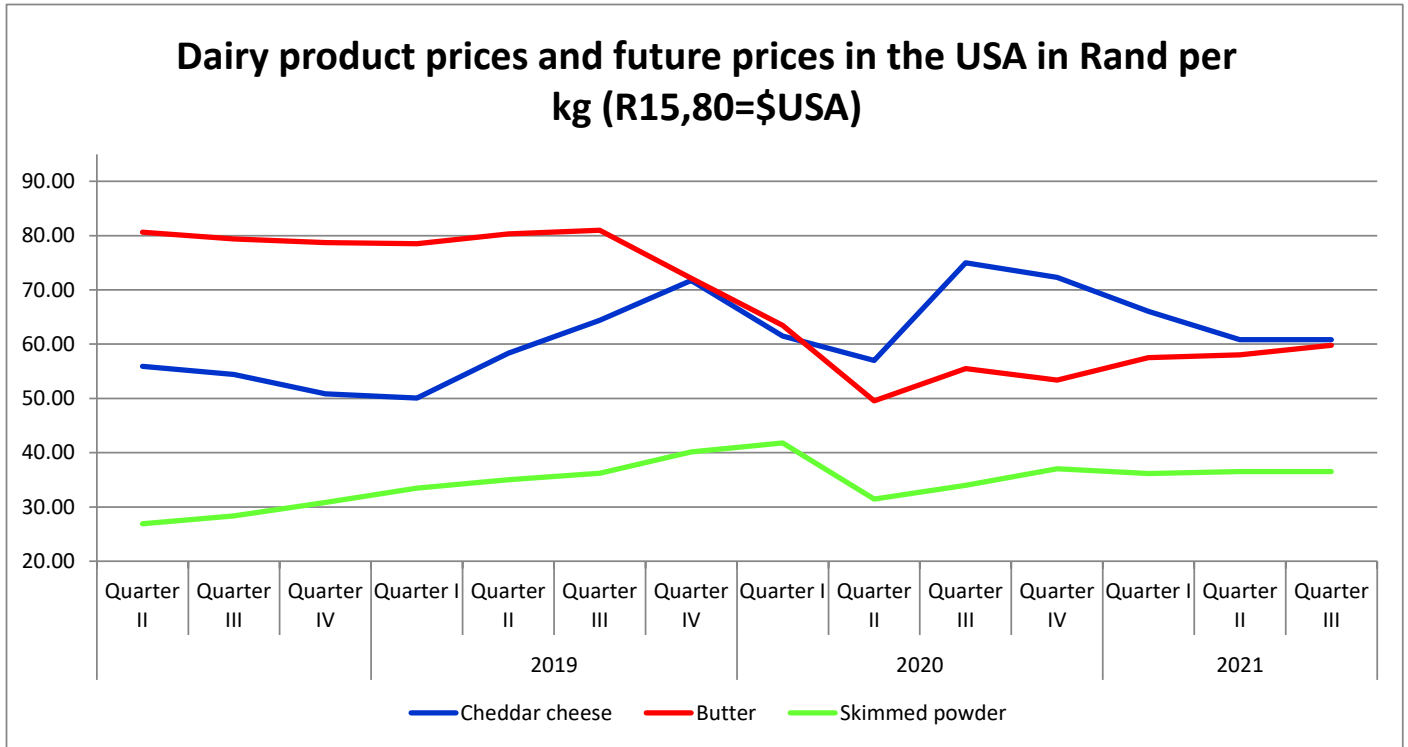
Table 2⁴⁾

PRICES IN US\$ AND RAND (\$=R15.80) PER TON ACHIEVED AT GLOBAL DAIRY TRADE AUCTION ON 3 NOVEMBER 2020, FOR DELIVERY IN DECEMBER 2020 TO APRIL 2021

	Dec	Jan	Feb	Mar	Apr
Whole Milk Powder					
PRICE: \$	2 974	2 965	2 989	3 015	3 042
PRICE: R	46 989	46 847	47 226	47 637	48 064
Index	100.0	99.7	100.5	101.4	102.3
Skimmed Milk Powder					
PRICE: \$	2 748	2 706	2 731	2 732	2 742
PRICE: R	43 418	42 755	43 150	43 166	43 324
Index	100.0	98.5	99.4	99.4	99.8
Cheddar					
PRICE: \$	3 879	3 747	3 780	3 773	3 785
PRICE: R	61 288	59 203	59 724	59 613	59 803
Index	100.0	96.6	97.4	97.3	97.6
Butter					
PRICE: \$	3 920	3 845	3 815	3 781	3 790
PRICE: R	61 936	60 751	60 277	59 740	59 882
Index	100.0	98.1	97.3	96.5	96.7

4) Table prepared by the Office of SAMPRO based on the prices as published by "Global Dairy Trade" on 3 November 2020

Graph 3⁵⁾



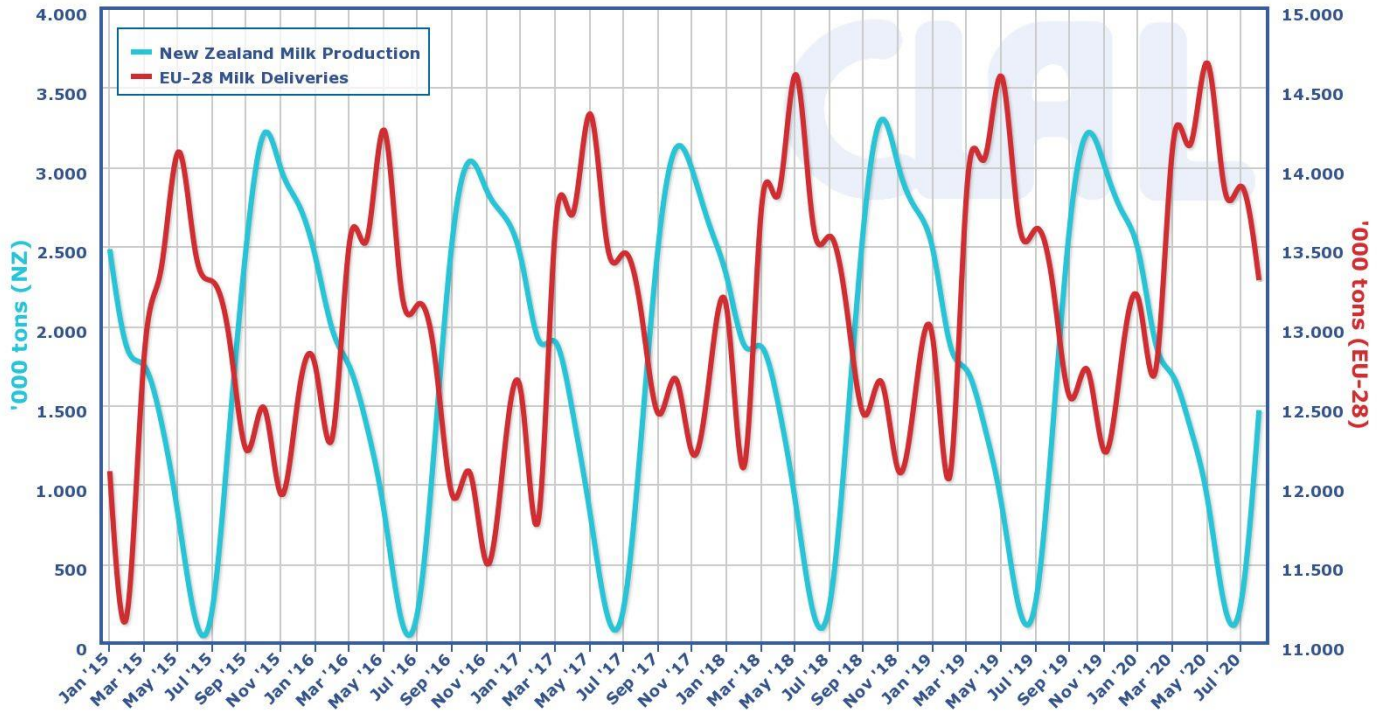
5) Graph prepared by the Office of SAMPRO based on information contained in the United States Department of Agriculture, Livestock, Dairy, and Poultry Outlook, 16 October 2020

Graph 4⁶⁾

SEASONALITY OF RAW MILK PRODUCTION IN THE NORTHERN AND SOUTHERN HEMISPHERES

Production season overview in Europe and in New Zealand

Processed by CLAL on data sourced Eurostat and Dcanz



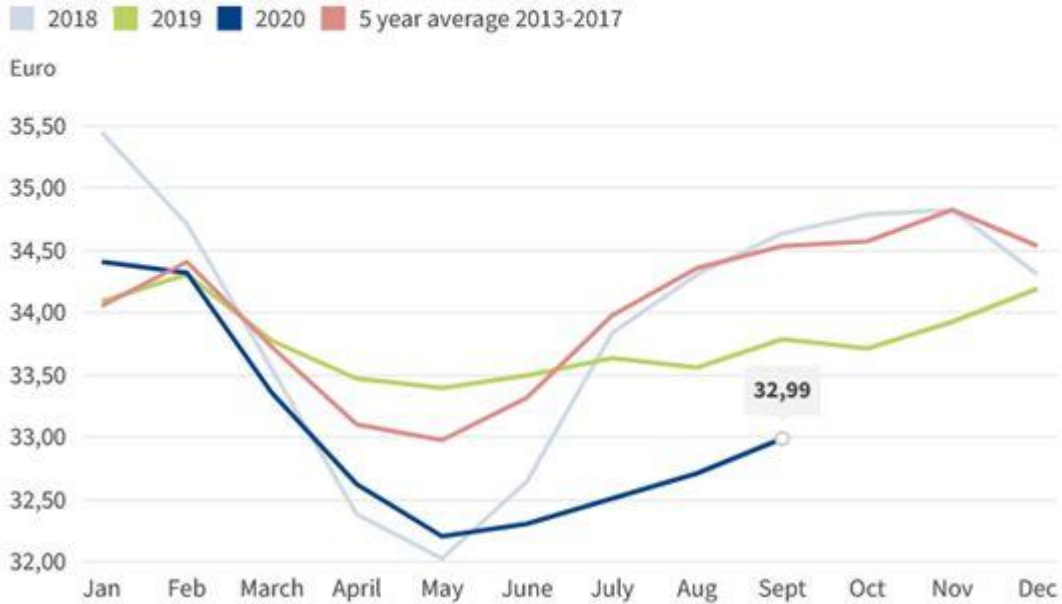
6) Graph as published by CLAL.it

Graph 5⁷⁾

AVERAGE PRICE OF RAW MILK IN THE EUROPEAN UNION

Average milk price September 2020

In euro per 100 kg standard milk with 4.2% fat, 3.4% protein, 1,000,000 kg per year, tbc 24,999 per ml and scc 249,999 per ml, VAT excluded



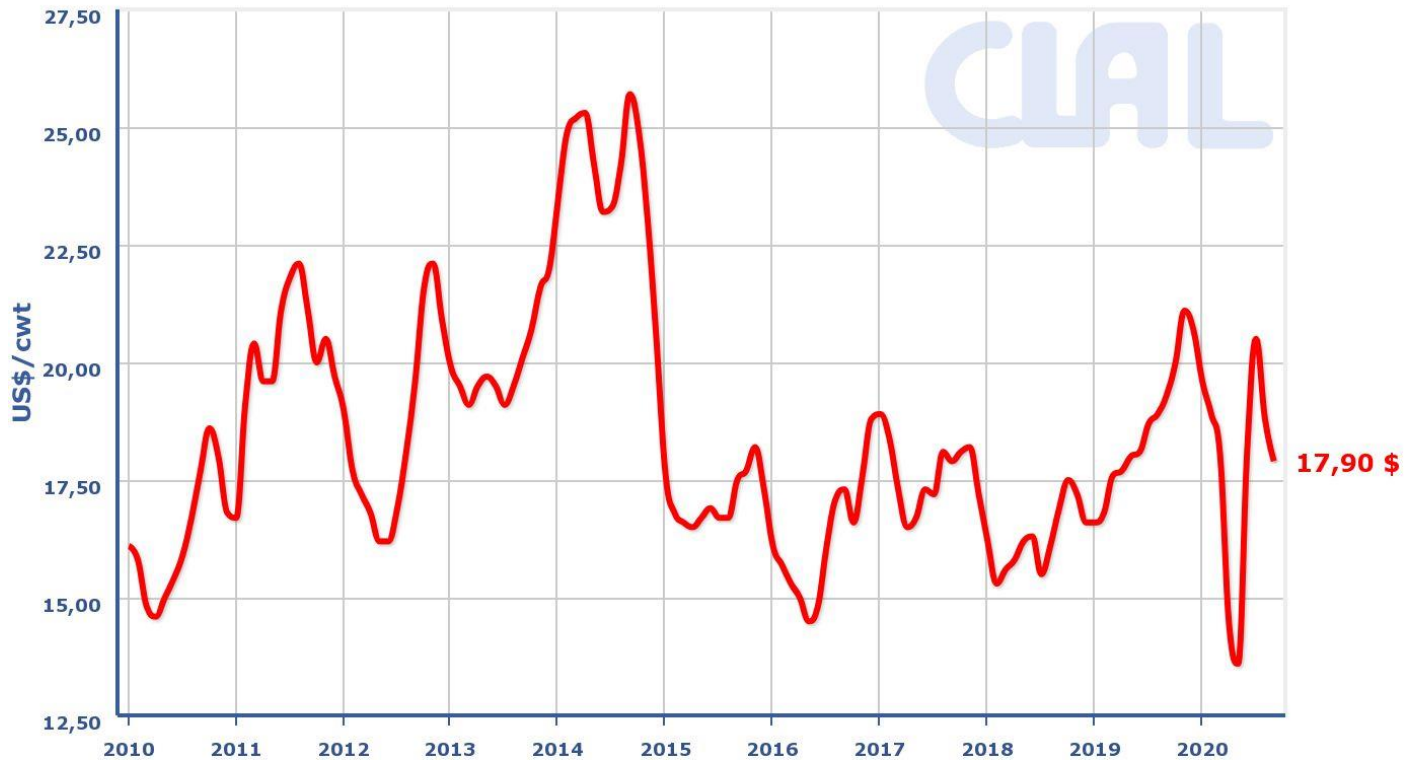
7) Graph as published by LTO Nederland.

Graph 6⁸⁾

RAW MILK PRICES IN THE USA

US - Farm-gate All Milk prices

Source: AMS USDA Dairy Markets News



8) Graph as published by CLAL.it

Table 3⁹⁾

TOTAL IMPORTS AND EXPORTS OF DAIRY PRODUCTS BY SOUTH AFRICA AND THE EXPOSURE OF THE SOUTH AFRICAN DAIRY INDUSTRY TO INTERNATIONAL COMPETITION (*THE SUM OF THE MASS OF IMPORTS AND EXPORTS*), IN THE YEARS 2002 TO 2020

Index: 2002 = 100)

YEAR	IMPORT		EXPORT		IMPORT PLUS EXPORT	
	TON	INDEX	TON	INDEX	TON	INDEX
2002	24 617.40	100.0	34 328.20	100.0	58 945.60	100.0
2003	24 458.80	99.4	22 905.20	66.7	47 364.00	80.4
2004	18 289.50	74.3	23 508.10	68.5	41 797.60	70.9
2005	30 771.40	125.0	17 216.00	50.2	47 987.40	81.4
2006	30 878.60	125.4	26 543.30	77.3	57 421.90	97.4
2007	44 313.00	180.0	18 516.50	53.9	62 829.50	106.6
2008	34 009.40	138.2	42 781.00	124.6	76 790.40	130.3
2009	32 373.40	131.5	41 770.70	121.7	74 144.10	125.8
2010	35 061.20	142.4	33 950.60	98.9	69 011.80	117.1
2011	37 714.40	153.2	41 817.10	121.8	79 531.50	134.9
2012	59 012.55	239.7	52 500.96	152.9	111 513.49	189.2
2013	35 673.76	144.9	70 481.90	205.3	106 155.66	180.1
2014	40 199.03	163.3	71 098.95	207.1	111 297.98	188.8
2015	69 353.98	281.7	61 296.87	178.6	130 650.85	221.6
2016	58 000.35	235.6	50 247.54	146.4	108 247.89	183.6
2017	83 504.44	339.2	48 626.69	141.7	132 131.13	224.2
2018	68 652.58	278.9	45 257.49	131.8	113 910.08	193.2
2019	75 596.08	307,1	45 051.75	131.2	120 647.83	204.7
2020 Est	62 154.71	252.5	42 338.41	123.33	104 488.12	177.3

9) *Table prepared by the Office of SAMPRO on the basis of information obtained from SARS. Estimated figures calculated on the assumption that the levels of import and export in the first nine months of 2020 will be maintained during the rest of 2020. The estimated figures for 2020 should be considered with great caution as the pattern of imports and exports (distribution of import and export per month during a year) differ significantly from year to year.*

Table 4¹⁰⁾**MASS OF IMPORT AS PERCENTAGE OF THE MASS OF EXPORT OF DAIRY PRODUCTS BY SOUTH AFRICA**

Heading	Description	2012	2013	2014	2015	2016	2017	2018	2019	2020 Jan-Sep
04.01	Milk and cream, unsweetened	54.3	14.7	21.4	92.5	84.3	217.1	103.7	90.2	24.2
04.02	Milk, concentrated	199.3	46.5	117.3	197.7	196.3	146.4	159.5	227.9	290.9
04.03	Buttermilk powder, yoghurt	16.6	8.2	9.2	16.5	19.7	28.4	27.9	31.7	45.7
04.04	Whey, whey powder, etc	669.5	452.7	507.4	221.3	185.9	192.9	1 741.3	2 917.9	1 484.6
04.05	Butter, butter spreads and butter oil	591.1	266.7	111.4	344.1	396.7	491.2	735.1	355.5	547.8
04.06	Cheese and curd	536.5	286.6	281.2	314.2	330.3	338.7	272.5	252.7	151.9
TOTAL		90.2	112.6	50.6	56.5	115.4	171.7	151.7	167.8	146.8

10) Table prepared by the Office of SAMPRO based on information obtained from SARS.

Table 5¹¹⁾

TOTAL QUANTITY OF RAW MILK PURCHASED IN SOUTH AFRICA DURING THE YEARS 2008 TO 2019

YEAR	RAW MILK KILOGRAM	PERCENTAGE CHANGE FROM PREVIOUS YEAR	INDEX 2008 = 100
2008	2 624 511 678	2.50	100.00
2009	2 586 868 067	-1.43	98.57
2010	2 711 236 032	4.81	103.30
2011	2 720 402 147	0.34	103.65
2012	2 842 810 159	4.50	108.32
2013	2 905 811 947	2.22	110.72
2014	2 982 734 569	2.65	113.65
2015	3 172 655 770	6.37	120.89
2016	3 158 466 390	-0.45	120.34
2017	3 253 682 081	3.02	123.97
2018	3 410 535 904	4.82	129.95
2019	3 432 802 396	0.65	130.80

11) Table prepared by the Office of SAMPRO based on information obtained from Milk SA

Table 6¹²⁾

RAW MILK PURCHASES PER QUARTER OF EACH OF THE ELEVEN YEARS 2009 to 2019 ¹²⁾ AND IN EACH OF THE FIRST THREE QUARTERS OF 2020

Year	Quarter 1		Quarter 2		Quarter 3		Quarter 4		Total	
	Kg	%	Kg	%	Kg	%	Kg	%	Kg	%
2009	620 043 005	23,969	560 531 455	21,668	658 577 140	25,458	747 716 467	28,904	2 586 868 067	100
2010	640 933 409	23,640	595 998 091	21,983	699 002 502	25,782	775 302 030	28,596	2 711 236 032	100
2011	654 701 438	24,066	597 343 799	21,958	694 671 935	25,536	773 684 975	28,440	2 720 402 147	100
2012	676 129 726	23,784	638 011 059	22,443	725 458 007	25,519	803 211 367	28,254	2 842 810 159	100
2013	683 707 219	23,529	646 811 485	22,259	746 796 407	25,700	828 496 836	28,512	2 905 811 947	100
Total (2009-2013)	3 275 514 797	23,792	3 038 695 889	22,072	3 524 505 991	25,601	3 928 411 675	28,535	13 767 128 352	100

Year	Quarter 1		Quarter 2		Quarter 3		Quarter 4		Total	
	Kg	%	Kg	%	Kg	%	Kg	%	Kg	%
2014	683 060 914	22,900	650 998 523	21,826	766 083 031	25,684	882 592 129	29,590	2 982 734 597	100
2015	770 769 019	24,294	726 975 249	22,914	799 968 233	25,214	874 943 269	27,578	3 172 655 770	100
2016	752 226 598	23,816	701 859 008	22,222	806 386 965	25,531	897 973 819	28,431	3 158 446 390	100
2017	756 689 792	23,256	703 893 532	21,634	837 867 145	25,751	955 231 612	29,358	3 253 682 081	100
2018	814 831 903	23,892	750 437 490	22,004	873 519 325	25,612	971 747 186	28,493	3 410 535 904	100
2019	816 208 186	23,777	757 906 127	22,078	882 584 853	25,710	976 103 230	28,435	3 432 802 396	100
Total (2014-2019)	4 593 786 412	23,666	4 292 069 929	22,112	4 966 409 552	25,586	5 558 591 245	28,637	19 410 857 138	100

Total (2009-2019)	7 869 301 209	23,718	7 330 765 818	22,095	8 490 915 543	25,592	9 487 002 920	28,594	33 177 985 490	100
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Year	Quarter 1		Quarter 2		Quarter 3		Quarter 4		Total	
	Kg	%	Kg	%	Kg	%	Kg	%	Kg	%
2020 ¹³⁾	828 201 856		741 068 661		879 867 589					

12) Table prepared by the Office of SAMPRO based on information obtained from Milk SA.

Quarters of which the percentage contribution to the total raw milk purchases in the specific year were the highest relative to the contributions of the same quarters of the other years, are printed in red and the quarters with the lowest contributions, are printed in green

13) The figure in respect of the third quarter of 2020, is an estimated figure.

Table 7¹⁴⁾

RAW MILK PURCHASES PER HALF YEAR OF EACH OF THE YEARS 2009 TO 2020

Year	First Half		Second Half		Total	
	Kg	%	Kg	%	Kg	%
2009	1 180 574 460	45,637	1 406 293 607	54,363	2 586 868 067	100,00
2010	1 236 931 500	45,622	1 474 304 532	54,378	2 711 236 032	100,00
2011	1 252 045 237	46,024	1 468 356 910	53,976	2 720 402 147	100,00
2012	1 314 140 785	46,227	1 528 669 374	53,773	2 842 810 159	100,00
2013	1 330 518 704	45,788	1 575 293 243	54,212	2 905 811 947	100,00
Total (2009-2013)	6 314 210 686	45,864	7 452 917 666	54,136	13 767 128 352	100,00

Year	First Half		Second Half		Total	
	Kg	%	Kg	%	Kg	%
2014	1 334 059 437	44,726	1 648 675 160	55,274	2 982 734 597	100,00
2015	1 497 744 268	47,208	1 674 911 502	52,792	3 172 655 770	100,00
2016	1 454 085 606	46,038	1 704 360 784	53,962	3 158 446 390	100,00
2017	1 460 583 324	44,890	1 793 098 757	55,110	3 253 682 081	100,00
2018	1 565 269 393	45,895	1 845 266 511	54,105	3 410 535 904	100,00
2019	1 574 114 313	45,855	1 858 688 083	54,145	3 432 802 396	100,00
Total (2014-2019)	8 885 856 341	45,778	10 525 000 797	54,222	19 410 857 138	100,00
2020 ¹⁴⁾	1 569 270 517					

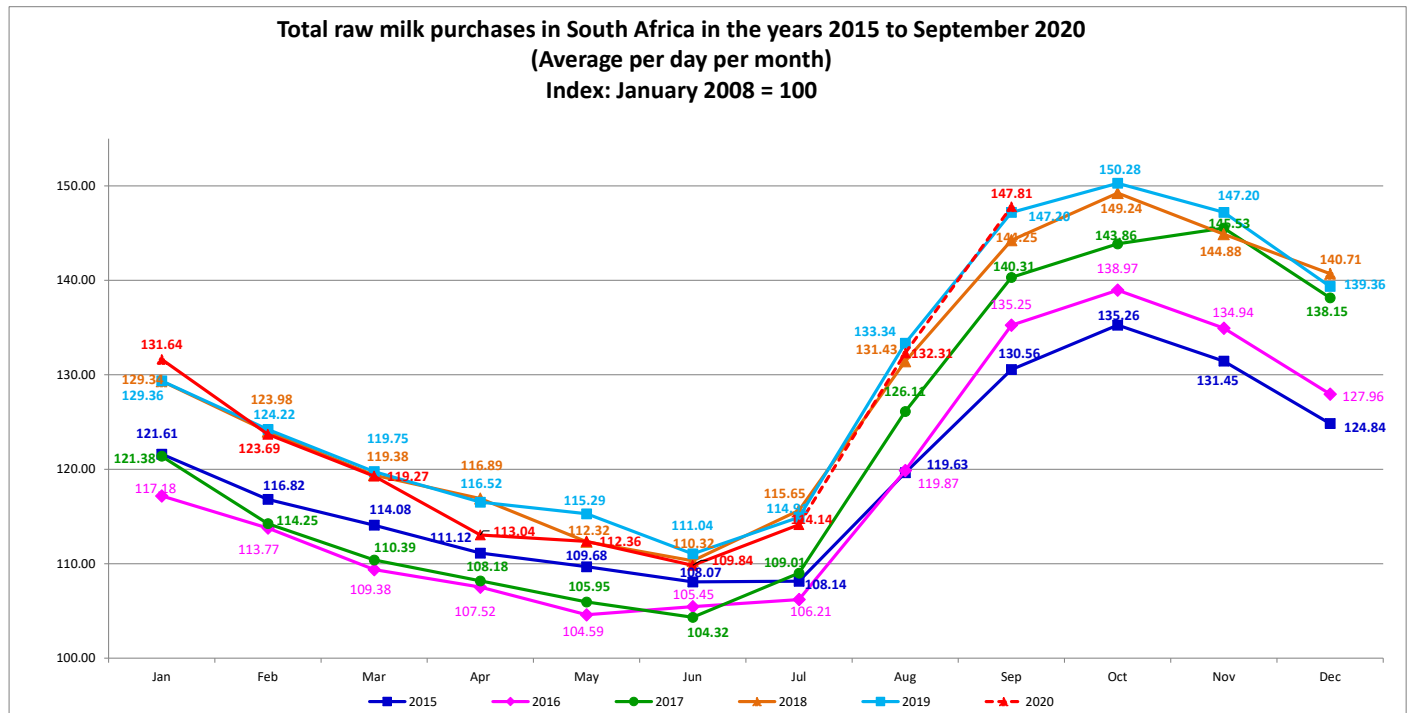
Total (2009-2019)	13 625 952 714	45,809	16 119 230 380	54,191	29 745 183 094	100,00
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14) Table prepared by the Office of SAMPRO based on information obtained from Milk SA.

Half years of which the percentage contribution to the total raw milk purchases in the specific year, were the highest relative to the contributions of the same half years of the other years, are printed in red and the half years, with the lowest contributions, are printed in green.

Graph 7¹⁵⁾

AVERAGE RAW MILK PURCHASES PER DAY PER MONTH IN SOUTH AFRICA IN THE YEARS 2012 TO SEPTEMBER 2020



15) Table 4 and Graph 7 prepared by the Office of SAMPRO on the basis of information obtained from MILK SA. The information in respect of 2012 to September 2020 is in respect of the total raw milk purchased by all registered milk buyers declared in terms of Regulation 1396 of the Marketing of Agricultural Products Act and previous similar regulations. The figures for August 2020 and September 2020 are estimated figures.

Table 8¹⁶⁾

MASS OF RAW MILK PURCHASES IN PARTICULAR MONTHS, RELATIVE TO THE PURCHASES IN THE SAME MONTHS OF PARTICULAR PREVIOUS YEARS

	Percentage increase
October 2017 relative to October 2016	3.5
November 2017 relative to November 2016	7.9
December 2017 relative to December 2016	8.0
January 2018 relative to January 2017	6.6
February 2018 relative to February 2017	8.5
March 2018 relative to March 2017	8.1
April 2018 relative to April 2017	8.1
May 2018 relative to May 2017	6.0
June 2018 relative to June 2017	5.7
July 2018 relative to July 2017	6.1
August 2018 relative to August 2017	4.2
September 2018 relative to September 2017	2.8
October 2018 relative to October 2017	3.7
November 2018 relative to November 2017	-0.4
December 2018 relative to December 2017	1.9
January 2019 relative to January 2018	-0.1
February 2019 relative to February 2018	-2.2
March 2019 relative to March 2018	0.1
April 2019 relative to April 2018	-0,8
May 2019 relative to May 2018	2.3
June 2019 relative to June 2018	0.5
July 2019 relative to Jul 2018	-0.8
August 2019 relative to August 2018	1.2
September 2019 relative to September 2018	1.8
October 2019 relative to October 2018	0.5
November 2019 relative to November 2018	1.6
December 2019 relative to December 2018	-1.0
January 2020 relative to January 2019	1.8
February 2020 relative to February 2019	-0.4
March 2020 relative to March 2019	-0.4
April 2020 relative to April 2019	-3.0
May 2020 relative to May 2019	-2.5
June 2020 relative to June 2019	-1.1
July 2020 relative to July 2019	-0.7
August 2020 relative to August 2019 (est)	-0.8
September 2020 relative to September 2019 (est)	0.4

16) Table prepared by the Office of SAMPRO based on information obtained from Milk SA.

Table 9¹⁷⁾

DECREASE IN THE MONTHLY MILK PURCHASES IN SOUTH AFRICA, FROM OCTOBER TO DECEMBER, OCTOBER TO FEBRUARY, OCTOBER TO APRIL AND OCTOBER TO JUNE, IN THE YEARS 2008 TO 2020

Year	October to December percent	October to February percent	October to April percent	October to June percent
2008/9	5.5	16.9	24.4	25.4
2009/10	3.9	14.6	20.4	21.2
2010/11	5.0	15.6	23.4	23.7
2011/12	5.6	14.5	19.5	18.2
2012/13	6.6	14.9	20.9	20.5
2013/14	5.3	18.0	22.9	21.8
2014/15	4.2	12.9	17.1	19.4
2015/16	7.7	15.9	20.5	22.0
2016/17	7.9	17.8	22.2	24.9
2017/18	4.0	13.8	18.7	23.3
2018/2019	5.7	16.8	21.9	25.6
Average 2008/9 to 2018/19	5.6	15.6	21.1	22.4
2019/2020	7.3	17.7	24.8	26.9

17) Table prepared by the Office of SAMPRO based on information obtained from MILK SA.

Table 10¹⁸⁾

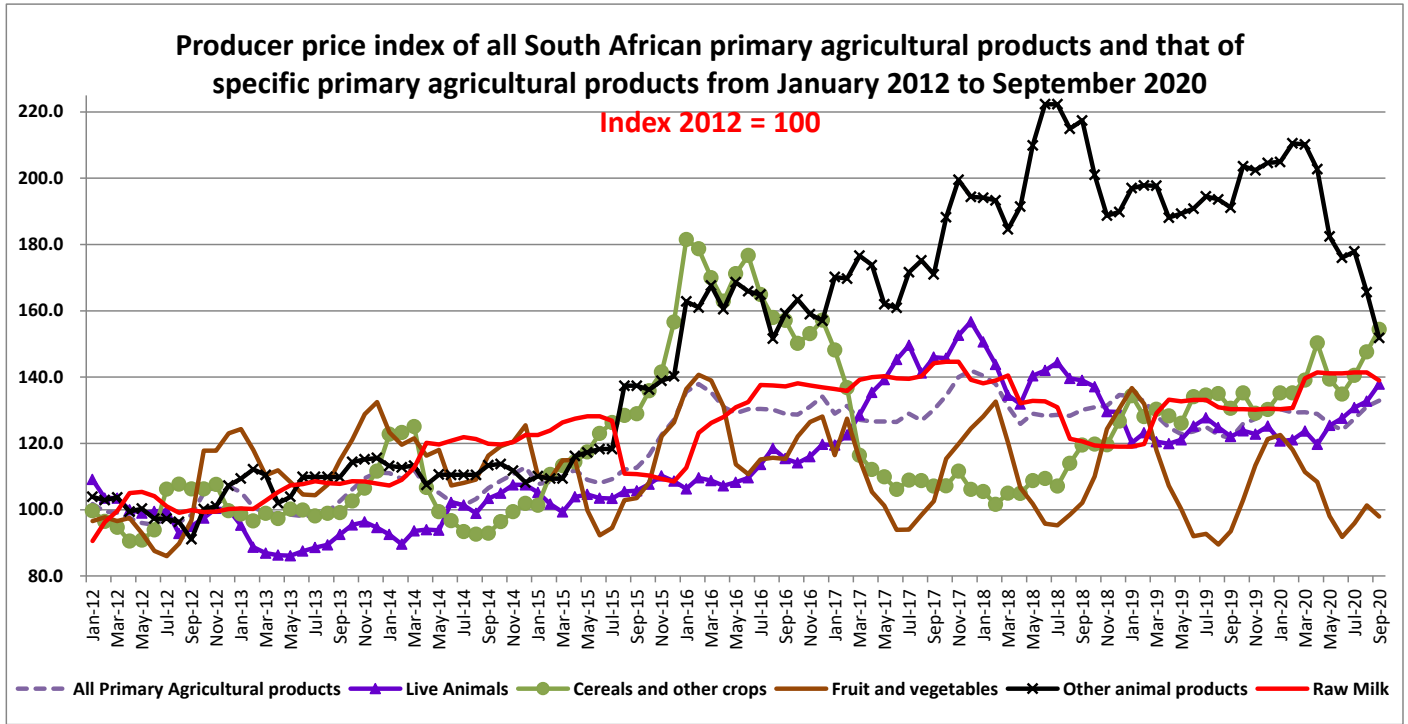
INCREASE IN THE MASS OF MONTHLY RAW MILK PURCHASES IN SOUTH AFRICA, FROM JULY TO AUGUST, JULY TO SEPTEMBER AND JULY TO OCTOBER IN EACH OF THE YEARS 2008 TO 2020

Year	July to August Percent	July to September Percent	July to October Percent
2008	10.7	22.2	24.6
2009	12.4	24.5	29.3
2010	9.7	19.8	24.2
2011	10.6	26.3	28.2
2012	10.3	21.8	25.6
2013	11.4	23.0	26.3
2014	13.0	27.2	32.9
2015	10.6	20.7	25.1
2016	12.7	27.2	30.7
2017	15.9	31.7	34.3
2018	13.7	24.7	29.0
Average 2008 to 2018	11.7	24.4	28.1
2019	16.0	28.1	30.8
2020	15.9	29.5	

18) Table prepared by the Office of SAMPRO on the basis of information obtained from MILK SA. The information in respect of 2008 to 2019 is in respect of the total raw milk purchased by all registered milk buyers declared in terms of Regulation 1396 of the Marketing of Agricultural Products Act and previous similar regulations. The figures in respect of 2020 are estimated figures.

Graph 8¹⁹⁾

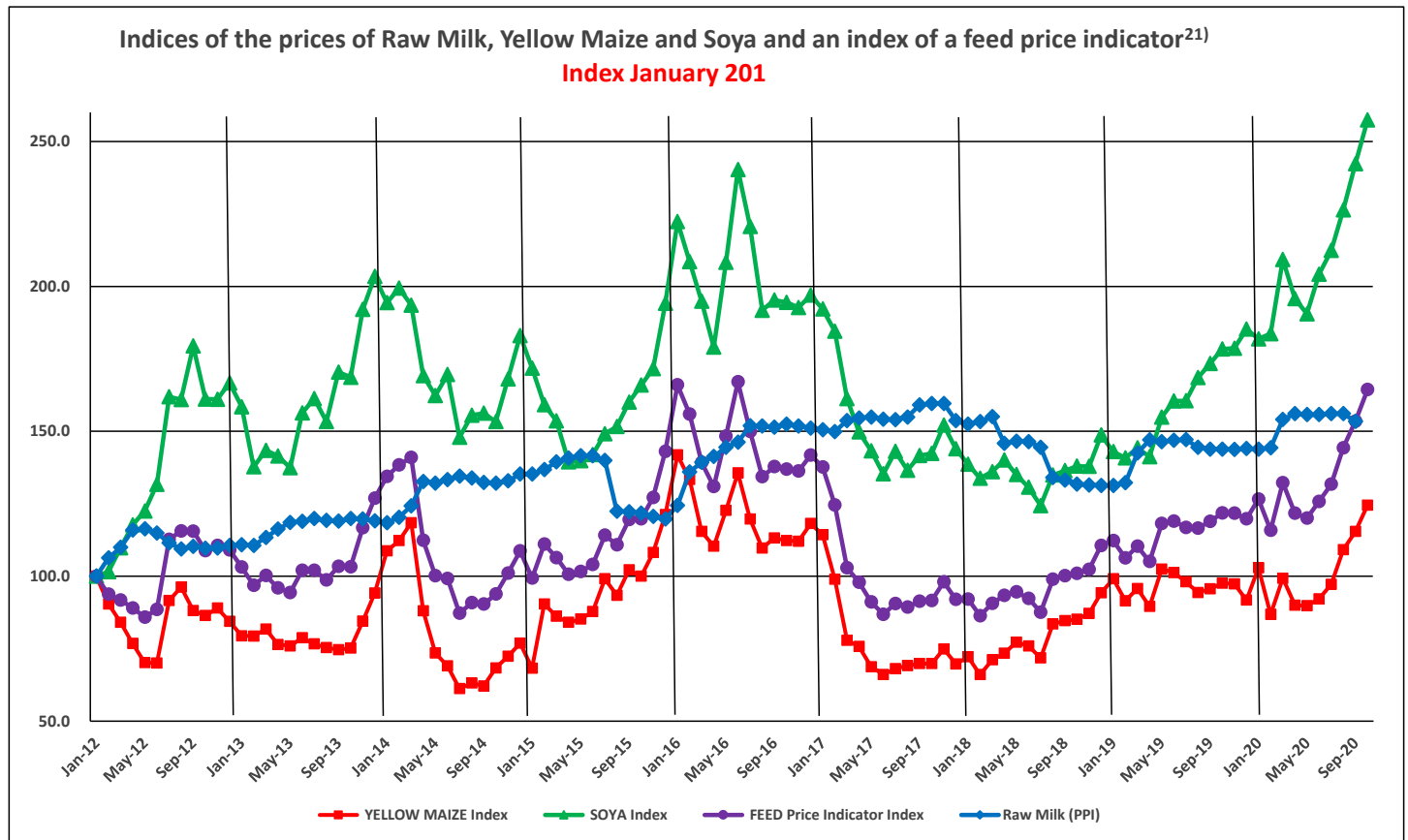
PRODUCER PRICE INDICES OF PRIMARY AGRICULTURAL PRODUCTS IN SOUTH AFRICA FROM JANUARY 2012 TO SEPTEMBER 2020



19) Graph prepared by the Office of SAMPRO based on information published by Statistics SA

Graph 9²⁰⁾

INDICES OF THE PRICES OF RAW MILK IN THE PERIOD JANUARY 2012 TO SEPTEMBER 2020 AND THAT OF, YELLOW MAIZE AND SOYA AND AN INDEX OF A FEED PRICE INDICATOR²¹⁾ IN THE PERIOD JANUARY 2012 TO OCTOBER 2020



**INCREASE IN RAW MILK PURCHASES RELATIVE TO PREVIOUS YEAR
(PERCENT)²²⁾**

2012	2013	2014	2015	2016	2017	2018	2019
4.5	2.22	2.65	6.32	-0.45	3.02	4.82	0.65

20) Graph prepared by the Office of SAMPRO based on information obtained from Statistics SA and SAFEX middle of the month prices.

21) The Feed price indicator index is an index of prices equal to 70 percent of the maize price, plus 30 percent of the soya price.

22) Table prepared by the Office of SAMPRO based on information obtained from Milk SA.

Table 11²³⁾

FUTURE PRICES OF YELLOW MAIZE IN SOUTH AFRICA (R/TON) ON 24 AUGUST 2020 AND 11 NOVEMBER 2020, ACCORDING TO THE JSE

	A CLOSING BID 24 August 2020 R/Ton	B CLOSING BID 11 November 2020 R/Ton	C Percentage increase from A to B
December 2020	2 860	3 433	20.0
March 2021	2 855	3 418	19.7
May 2021	2 678	3 080	15.0
July 2021	2 715	3 025	11.4
September 2021		3 074	

Table 12²³⁾

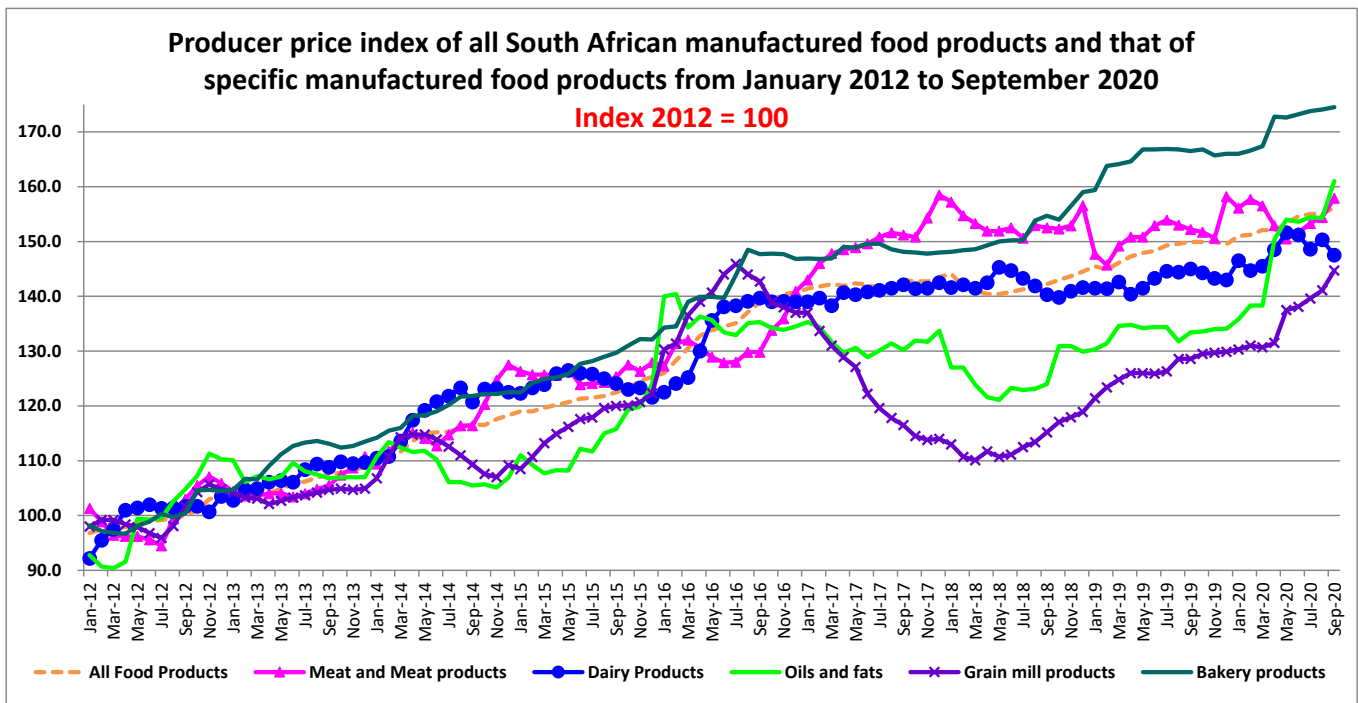
FUTURE PRICES OF SOYABEANS IN SOUTH AFRICA (R/TON) ON 24 AUGUST 2020 AND 11 NOVEMBER 2020, ACCORDING TO THE JSE

	A CLOSING BID 24 August 2020 R/Ton	B CLOSING BID 11 November 2020 R/Ton	C Percentage increase from A to B
December 2020	7 182	8 719	21.4
March 2021	6 908	8 394	21.5
May 2021	6 500	7 491	15.2
July 2021		7 541	
September 2020		7 591	

23) Table prepared by the Office of SAMPRO based on information as obtained from the JSE website on 11 November 2020.

Graph 10²⁴⁾

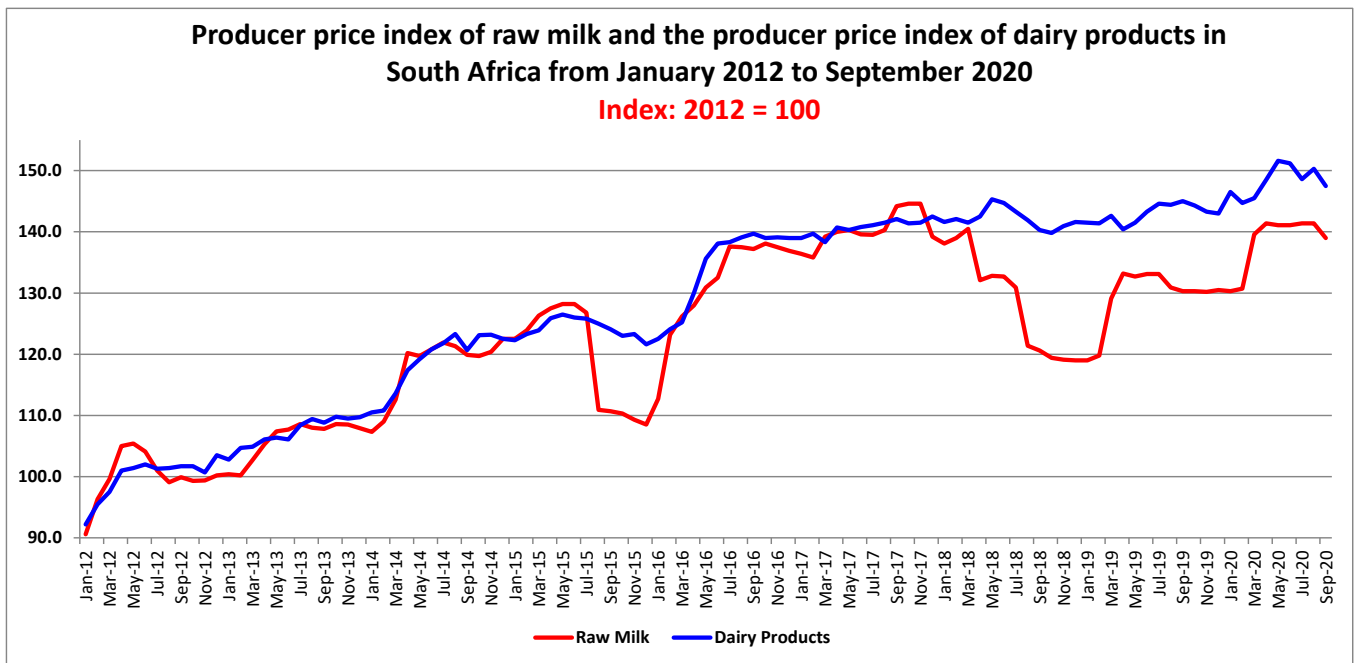
PRODUCER PRICE INDICES OF MANUFACTURED FOOD PRODUCTS IN SOUTH AFRICA FROM JANUARY 2012 TO SEPTEMBER 2020



24) Graph prepared by the Office of SAMPRO based on information obtained from Statistics SA. Note that the producer price index of dairy products measures the changes of the prices of a basket of dairy products consisting of fresh milk, UHT milk, yoghurt and cheddar cheese and products like cheese other than cheddar, maas, butter and milk powder are not included.

Graph 11²⁴⁾

PRODUCER PRICE INDEX OF RAW MILK AND THE PRODUCER PRICE INDEX OF DAIRY PRODUCTS IN SOUTH AFRICA, FROM JANUARY 2012 TO SEPTEMBER 2020



24) Graph prepared by the Office of SAMPRO based on information obtained from Statistics SA. Note that the producer price index of dairy products measures the changes of the prices of a basket of dairy products consisting of fresh milk, UHT milk, yoghurt and cheddar cheese and products like cheese other than cheddar, maas, butter and milk powder are not included.

Table 13²⁵⁾

CHANGES IN THE RETAIL SALES QUANTITIES FROM THE YEAR OCTOBER 2018 TO SEPTEMBER 2019, TO THE YEAR OCTOBER 2019 TO SEPTEMBER 2020, AND CHANGES IN THE RETAIL PRICES FROM SEPTEMBER 2019 TO SEPTEMBER 2020 OF SPECIFIC DAIRY PRODUCTS

PRODUCT	CHANGE IN DEMAND (QUANTITY)	CHANGE IN RETAIL PRICES
	PERCENT	PERCENT
FRESH MILK	-6.2	2.4
LONG LIFE MILK (UHT MILK)	5.5	2.9
FLAVOURED MILK	-10.6	0.5
YOGHURT	10.1	3.2
MAAS	9.6	0.8
PRE-PACKAGED CHEESE	14.0	2.4
CREAM CHEESE	3.6	6.4
BUTTER	7.8	7.9
CREAM	6.4	2.4

25) Table prepared by the Office of SAMPRO based on the results of surveys by “ACNielsen Marketing and Media”. Non-retail sales such as sales to industrial buyers are not part of the surveys.

Table 14²⁶⁾

CHANGES IN THE QUANTITIES OF RETAIL SALES OF SPECIFIC DAIRY PRODUCTS IN 2019 AND 2020 IN SOUTH AFRICA

PRODUCT	Sales in the month of September 2020 versus the sales in the month of September 2019	Sales in the 3 months from July 2020 to September 2020 versus the sales in the 3 months from July 2019 to September 2019	Sales in the 6 months from April 2020 - September 2020 versus the sales in the 6 months from April 2019 to September 2019	Sales in the 9 months from January 2020 to September 2020 versus the sales in the 9 months from January 2019 to September 2019	Sales in the 12 months from October 2019 to September 2020 versus the sales in the 12 months from October 2018 to September 2019
	percent		percent		percent
Fresh Milk	-10.5	-8.5	-8.9	-7.8	-6.2
UHT milk	9.5	12.3	12.4	9.6	5.5
Flavoured milk	-13.3	-17.8	-14.8	-12.7	-10.6
Yoghurt	5.1	9.5	13.7	10.9	10.1
Maas	3.6	5.4	8.3	9.1	9.6
Pre-packaged cheese	16.2	16.4	19.4	16.8	14.0
Cream cheese	3.8	7.7	10.1	5.9	3.6
Butter	13.0	16.6	16.0	10.9	7.8
Cream	14.8	15.3	19.1	11.0	6.4

*26) Table prepared by the Office of SAMPRO based on the results of surveys by "ACNielsen Marketing and Media".
Non-retail sales such as sales to industrial buyers, are not part of the surveys.*

Table 15²⁷⁾

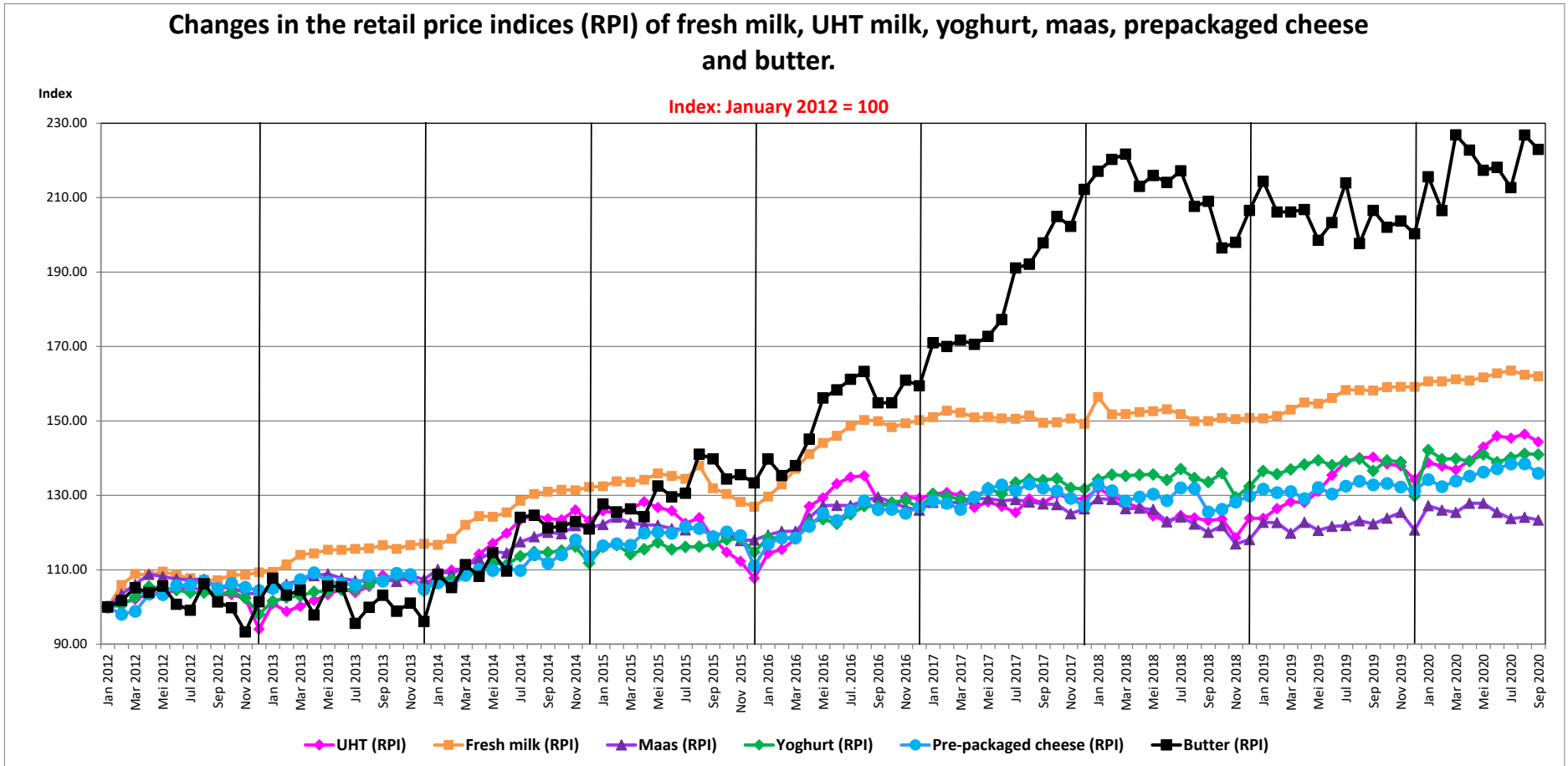
THE AVERAGE RETAIL PRICES OF SPECIFIC DAIRY PRODUCTS IN SEPTEMBER 2020 IN SOUTH AFRICA, COMPARED TO THE AVERAGE RETAIL PRICES OF THE PRODUCTS CONCERNED IN SPECIFIC MONTHS OF 2018 TO 2020.

PRODUCT	September 2020 versus August 2020	September 2020 versus June 2020	September 2020 versus March 2020	September 2020 versus December 2019	September 2020 versus September 2019	September 2020 versus March 2019	September 2020 versus September 2018
	(1 month ago)	(3 months ago)	(6 months ago)	(9 months ago)	(12 months ago)	(18 months ago)	(24 months ago)
	Percent	Percent	Percent	Percent	Percent	Percent	Percent
FRESH MILK	-0.3	-0.5	0.5	1.8	2.4	5.8	8.0
UHT MILK	-1.4	-1.1	5.5	7.6	2.9	12.6	17.2
FLAVOURED MILK	-1.4	-2.0	1.2	12.0	0.5	6.6	9.6
YOGHURT	-0.1	1.5	0.8	8.6	3.2	2.9	5.6
MAAS	-0.6	-1.6	-1.6	2.2	0.8	3.0	2.8
PRE-PACKAGED CHEESE	-1.8	-0.9	1.5	3.5	2.4	3.7	8.3
CREAM CHEESE	-1.1	-1.9	4.5	5.4	6.4	9.6	9.6
BUTTER	-1.7	2.2	-1.7	11.3	7.9	8.2	6.7
CREAM	0.2	-0.4	0.5	0.6	2.4	10.8	11.4

27) Table prepared by the Office of SAMPRO based on the results of surveys by "ACNielsen Marketing and Media".
Non-retail sales such as sales to industrial buyers, are not part of the surveys.

Graph 12²⁸⁾

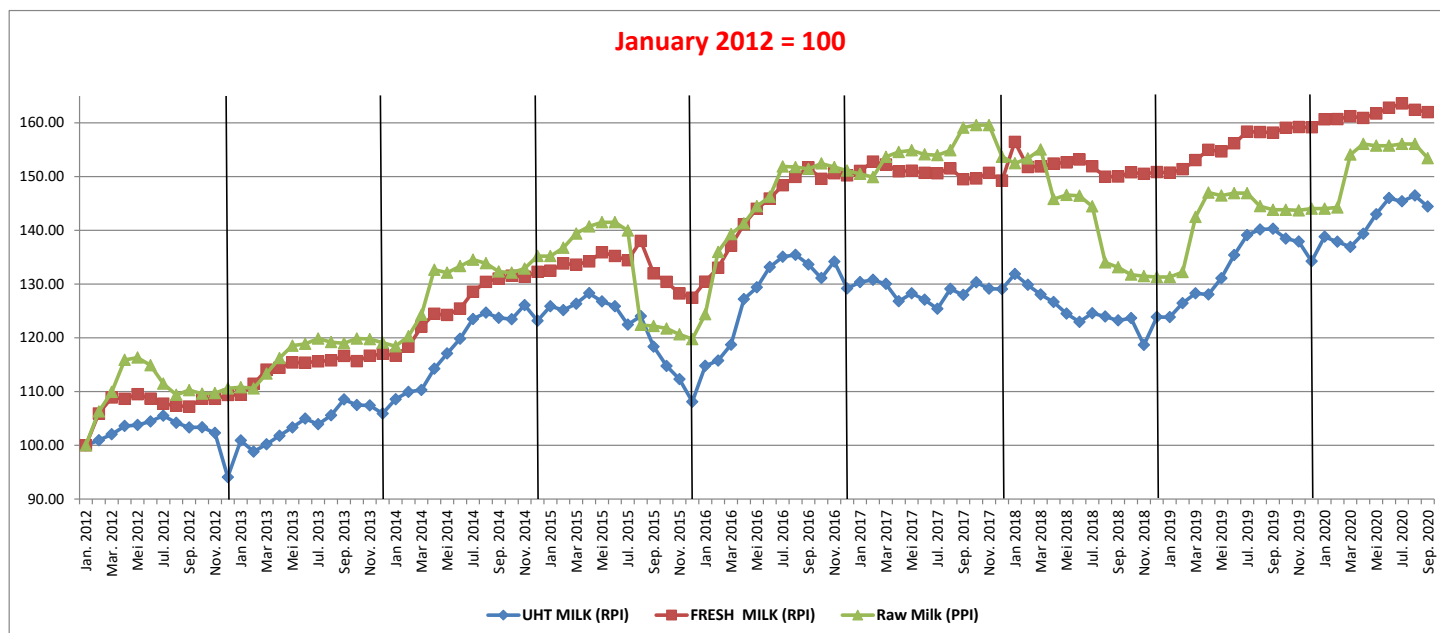
THE RETAIL PRICE INDICES (RPI) OF SPECIFIC DAIRY PRODUCTS, FROM JANUARY 2012 TO SEPTEMBER 2020



28) Graph prepared by the Office of SAMPRO based on the results of surveys by "ACNielsen Marketing and Media".
Non-retail sales such as sales to industrial buyers, are not part of the surveys.

Graph 13²⁹⁾

THE PRODUCER PRICE INDEX (PPI) OF RAW MILK AND THE RETAIL PRICE INDICES (RPI) OF FRESH MILK AND UHT MILK, FROM JANUARY 2012 TO SEPTEMBER 2020



INCREASE IN THE QUANTITY OF RAW MILK PURCHASES RELATIVE TO PREVIOUS YEAR (PERCENT)³⁰⁾

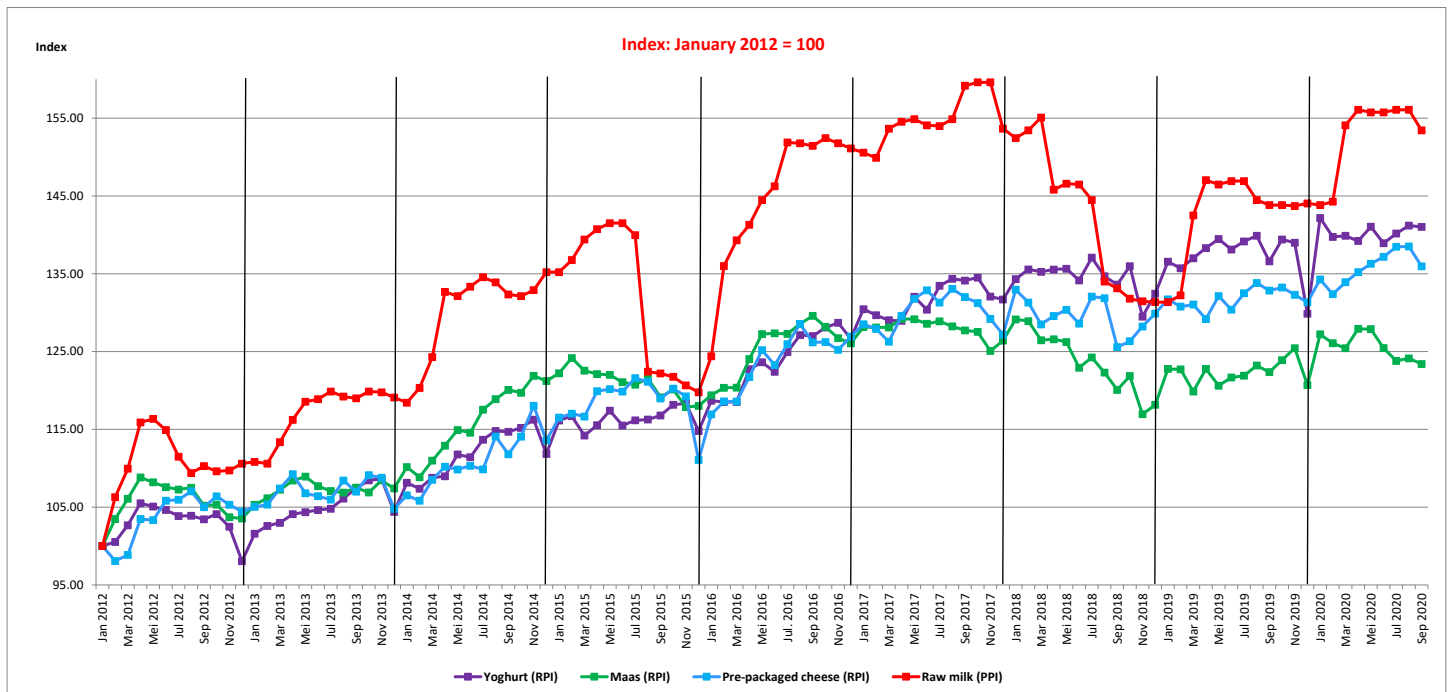
2012	2013	2014	2015	2016	2017	2018	2019
4.50	2.22	2.65	6.37	-0.45	3.02	4.82	0.65

29) Graph prepared by the Office of SAMPRO based on information obtained from AC Nielsen Marketing and Media and Statistics South Africa

30) Table prepared by the Office of SAMPRO based on information obtained from Milk SA.

Graph 14³¹⁾

THE PRODUCER PRICE INDEX (PPI) OF RAW MILK AND THE RETAIL PRICE INDICES (RPI) OF YOGHURT, MAAS AND PREPACKAGED CHEESE, FROM JANUARY 2012 TO SEPTEMBER 2020



INCREASE IN THE QUANTITY OF RAW MILK PURCHASES RELATIVE TO PREVIOUS YEAR (PERCENT)³²⁾

2012	2013	2014	2015	2016	2017	2018	2019
4.50	2.22	2.65	6.37	-0.45	3.02	4.82	0.65

31) Graph prepared by the Office of SAMPRO based on information obtained from AC Nielsen Marketing and Media and Statistics South Africa

32) Table prepared by the Office of SAMPRO based on information obtained from Milk SA.

Table 16³³⁾

THE HIGHEST AND LOWEST DIFFERENCES RECORDED BETWEEN THE AVERAGE MONTHLY RETAIL PRICES OF UHT MILK AND FRESH MILK AND THE DIFFERENCES BETWEEN THE AVERAGE ANNUAL RETAIL PRICES OF UHT MILK AND FRESH MILK, IN THE YEARS 2012 TO 2020 (JANUARY TO SEPTEMBER)

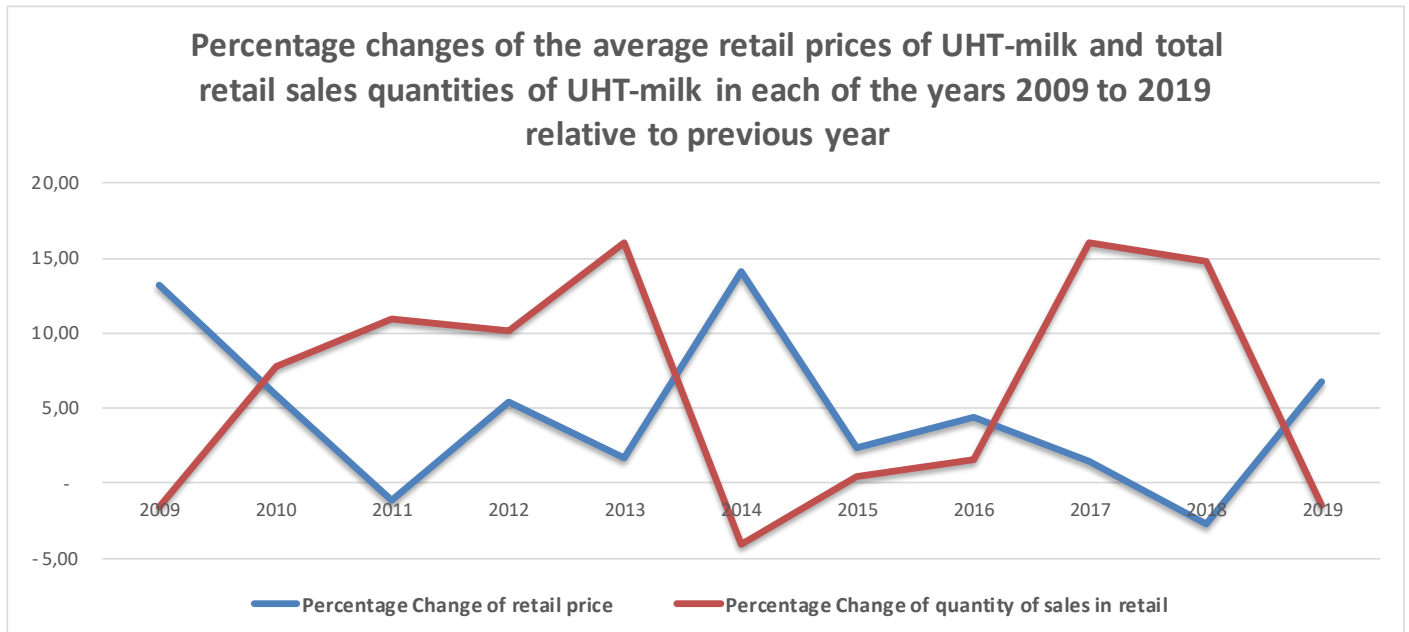
YEAR	Percentage difference ³⁴⁾		
	Highest monthly	Lowest monthly	Average annual
2012	17.1	0.7	11.4
2013	8.9	2.8	6.1
2014	12.5	5.8	10.0
2015	11.9	-0.7	7.0
2016	6.9	0.7	3.9
2017	1.8	-2.6	-0.2
2018	0.0	-7.9	-3.7
2019	3.8	-3.8	0.2
Average	7.9	-0.6	4.3
2020 (Jan-Sep)	5.6	-0.6	2.8

33) Table prepared by the Office of SAMPRO based on the results of surveys by AC Nielsen Marketing and Media. Non-retail sales such as sales to industrial buyers are not part of the surveys.

34) The percentages indicated are the percentages which the average retail prices of UHT-milk were higher than that of fresh milk

Graph 15³⁵⁾

PERCENTAGE CHANGES OF THE AVERAGE RETAIL PRICES OF UHT MILK AND TOTAL RETAIL SALES QUANTITIES OF UHT MILK, IN EACH OF THE YEARS 2009 TO 2019, RELATIVE TO PREVIOUS YEAR



INCREASE IN THE QUANTITY OF RAW MILK PURCHASES RELATIVE TO PREVIOUS YEAR (PERCENT)³⁶⁾

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
-1.43	4.81	0.34	4.50	2.22	2.65	6.37	-0.45	3.02	4.82	0.65

35) Graph prepared by the Office of SAMPRO based on information obtained from AC Nielsen Marketing and Media

36) Table prepared by the Office of SAMPRO based on information obtained from Milk SA.