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Milk SA foreword

The purpose of this publication is to provide information on the structure and performance of the dairy industry, to promote optimal development for the benefit of the South African dairy industry and consumers.

Milk South Africa (Milk SA) is proud to present this publication, which was made possible through the contributions of the persons and entities sharing their information via statutory regulations. The SA Milk Processors' Organisation (SAMPRO) and the Milk Producers' Organisation (MPO) are the two members of Milk SA, and the Milk SA work group comprises Messrs Nico Fouché, De Wet Jonker, Alwyn Kraamwinkel, and Bertus van Heerden.

Executive summary

The International Monetary Fund's (IMF) April 2023 World Economic Outlook presented the lowest medium-term forecast in decades. Global economic growth for 2023 is forecast at 2,8% (down from 3,4% in 2022), to settle at 3% for the next five years. Advanced economies are expected to see an especially pronounced growth slowdown, from 2,7% in 2022 to 1,3% in 2023. Food and energy prices decreased but underlying price pressures remain, with tight labour markets causing inflation to decline more slowly, skewing the outlook heavily to the downside risk, which could see global economic growth slumping to 2,5% in 2023, with the growth of advanced economies falling below 1%.

The FAO Food Price Index (FFPI) fell by 20,5% from March 2022 to March 2023 but is still some 30% above pre-COVID-19 levels. The magnitude of these percentages provides some insight into the phrases "inflation stays stubbornly high" and "inflation will recede slowly in the coming years".

According to the *OECD-FAO Agricultural Outlook 2022-2031* report, demand for dairy products will continue to grow, supported by population growth, increasing incomes, and dietary changes. On a global level, growth over the above period may be more consistent for fresh dairy products (+29%) and butter (+29%), with stronger progression expected in developing countries (+39% for both categories). The growth will be more sustained in developing countries due to the increase in both population and income per capita.

In 2022, from January to December, the unprocessed milk price in Europe increased by 36,5%. In January 2022, the average price was €0,41 (R7,10) per litre, based on real fat and protein, and in December 2022, €0,56 (R10,16) per litre. During 2022, the average unprocessed milk price in Europe was €0,48 (R8,35) per litre, based on real fat and protein, while the average unprocessed milk price in South Africa was R6,40 per litre, an increase of 10,3%. In South Africa, the unprocessed milk price increased by 14,6% from January 2022 to December 2022.

During 2022, the international free-on-board (FOB) prices for butter, skimmed milk powder (SMP), full-cream milk powder (FMP), and Cheddar cheese reached all-time high levels. The effect of these high levels, coupled with certain logistical challenges, resulted in the mass of imported dairy products into South Africa decreasing by 30%, when comparing 2022 with 2021. From the all-time high in March 2022, to March 2023, prices dropped significantly, with butter down by 30%, SMP down by 52%, FMP south by 29%, and Cheddar cheese down by 22%.

In South Africa, the good performance of dairy products experienced in the retail market in 2020 did not continue into 2021 or 2022. Lower quantities of retail sales of most of the different types of dairy products and lower sales quantities of unprocessed milk were experienced in 2022. Annual unprocessed milk production shows a steady linear upward trend over time, but for the last three years, unprocessed milk production has been suppressed compared to the overall trend.

Total unprocessed milk to market for 2022 was 3 349 100 t, down 1,56% from the previous year. The faltering demand in the dairy value chain can be attributed to erratic electricity supply, decaying infrastructure, low to negative economic growth, and dwindling disposable income of consumers, to name a few.

In the period from January 2021 to March 2023, the producer price index (PPI) of dairy products and unprocessed milk increased by 30,5% and 36,3%, respectively, and the consumer price index (CPI) of milk, cheese, and eggs registered an increase of 20,5%. These increases represent higher percentages than the market norm. The result of the higher-than-normal increases in the value chain is that in 2022, fewer dairy products (as monitored by Nielsen) were sold when compared to sales volumes in 2021, except for maas, pre-packaged cheese, and ultra-high treatment (UHT) processed milk, where

volumes increased but only marginally. Fresh milk and cream account for the greatest sales volume drop. Prices of the dairy products being monitored by Nielsen, for the period December 2021 to December 2022, increased by more than the inflation rate, except for UHT processed milk, but less than the inflation rate for processed food.



Author:
Bertus van Heerden for Milk SA

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This is a publication of Milk SA.

Lacto Data is compiled from sources that are deemed to be reliable. However, the compilers and publisher accept no responsibility for any errors or the effect of any decisions based on this publication.

INTERNATIONAL SITUATION



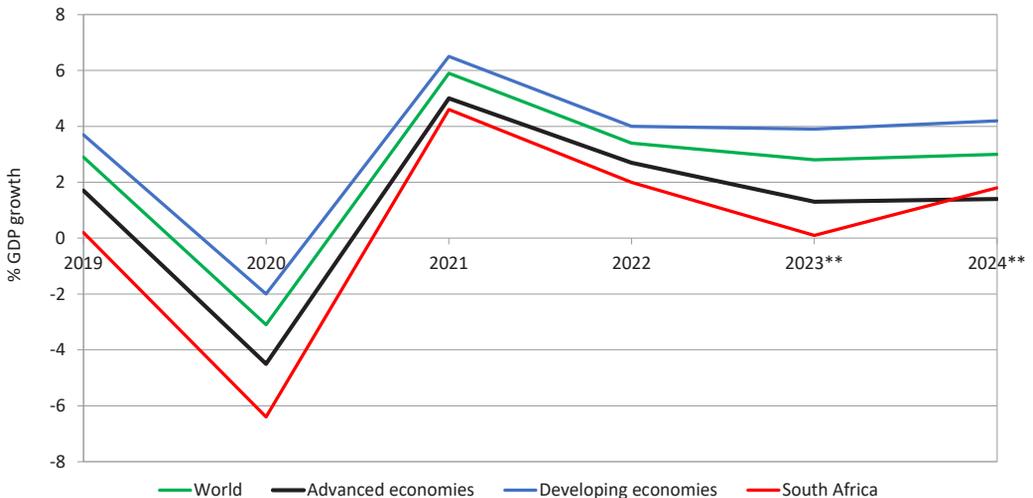
Global economic growth – a rocky recovery

The IMF's April 2023 World Economic Outlook, which assumes that the recent financial sector stresses are contained, predicts that global economic growth will fall from 3,4% in 2022 to 2,8% in 2023, before rising slowly and settling at 3% five years out – the lowest medium-term forecast in decades. Advanced economies are expected to see an especially pronounced growth slowdown, from 2,7% in 2022 to 1,3% in 2023. In a plausible alternative scenario with further financial sector stress, global growth declines to about 2,5% in 2023, with advanced economy growth falling below 1%. Global headline inflation is set to fall from 8,7% in 2022 to 7% in 2023 on the back of lower commodity prices but underlying (core) inflation is likely to decline more slowly. Inflation's return to target is unlikely before 2025 in most countries. Once inflation rates are back to targets, deeper structural drivers will likely reduce interest rates toward their pre-pandemic levels.

Early in 2023, developing economic indicators strongly suggested a soft landing for the world economy was possible – inflation coming down and growth steady

– but these indicators have recently receded amid stubbornly high inflation and recent financial sector turmoil. Although inflation has declined, as central banks have raised interest rates and food and energy prices have come down, underlying price pressures are proving sticky, with labour markets tight in several economies. Risks to the outlook are heavily skewed to the downside, with the chances of a hard landing having risen sharply. Financial sector stress could amplify, spreading to other sectors of the world economy, weakening the real economy through a sharp deterioration in financing conditions, and compelling central banks to reconsider their policy paths.

Figure 1 International economic growth and expected growth, 2019–2024
(source: IMF, 2023** and 2024** projections)



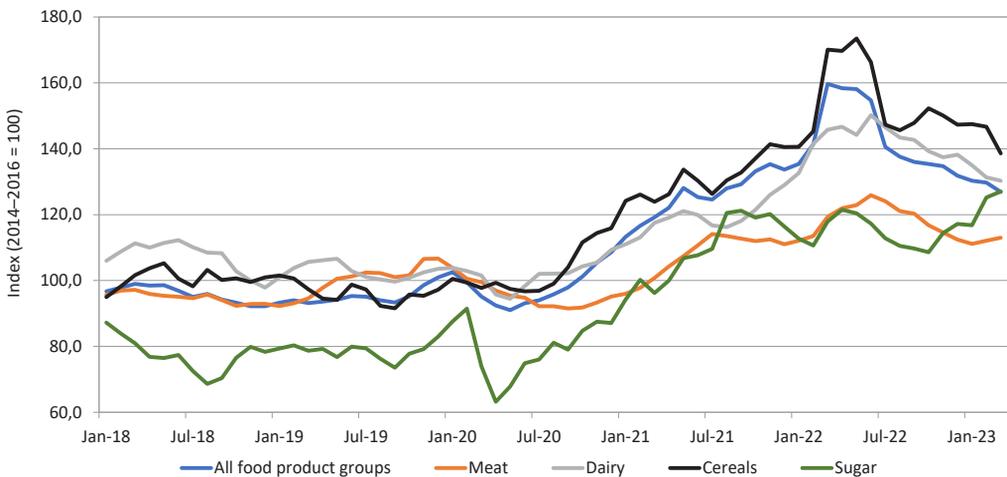
FAO Food Price Index falls sharply but remains high

From March 2022 to March 2023, the FAO Food Price Index (FFPI) fell by 20,5% but is still around 30% above pre-COVID-19 levels. The magnitude of these percentages provides some insight into the phrases “inflation stays stubbornly high” and “will only recede slowly in the coming months”. The FFPI averaged 126,9 points in March 2023, down 2,8 points (-2,1%) from February, marking the twelfth consecutive monthly decline since reaching its peak one year ago. The decline in the index in March 2023 was led by drops in the cereal, vegetable oil, and dairy price indices, while those of sugar and meat increased.

In March 2023, year-on-year, the FAO Dairy Price Index dropped by 10,7% but is still approximately 18% above pre-COVID-19 levels. The index averaged 130,3 points in March, down 1,1 points (-0,8%) from February 2023. The decline in March was driven by lower price quotations for cheese and milk powders, while butter prices increased. The price of dairy products is analysed in detail in the section: International dairy product prices.

The FAO Cereal Price Index averaged 138,6 points in March, down 8,2 points (-5,6%) from February and 31,6 points (-18,6%) below its price one year ago. This month’s decrease reflects a fall in international prices of all major cereals. International wheat prices fell the most, by 7,1%, driven by ample global supplies and strong competition among exporters. The extension of the Black Sea Grain Initiative, allowing Ukraine to continue to export from its Black Sea ports, also contributed to the decline. Strong competition from the Russian Federation, where high supplies continue to support competitive prices, also sustained the downward pressure on markets.

Figure 2 FAO food price indices of internationally traded product groups, 2018-2023
(source: FAO Food Price Index, 2023)



International dairy product prices

During 2022, dairy product prices softened due to adequate supply, with better export availability being reinforced by the seasonal increase in production in Europe.

The trading price range for butter was between US\$4 731/t (R81 567/t) and US\$6 975/t (R104 416/t), a 47% variance between the highest and lowest prices. The butter price in March 2023 decreased to US\$4 914/t (R89 866/t), a drop of 30% on March 2022.

Figure 3a International FOB dairy product prices, US\$/t, Jan 2013–Mar 2023 (source: USDA)

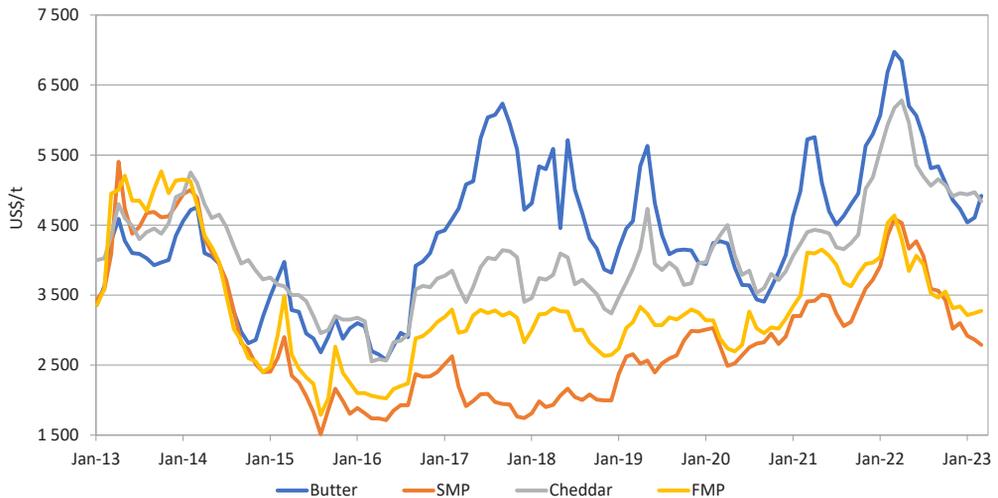
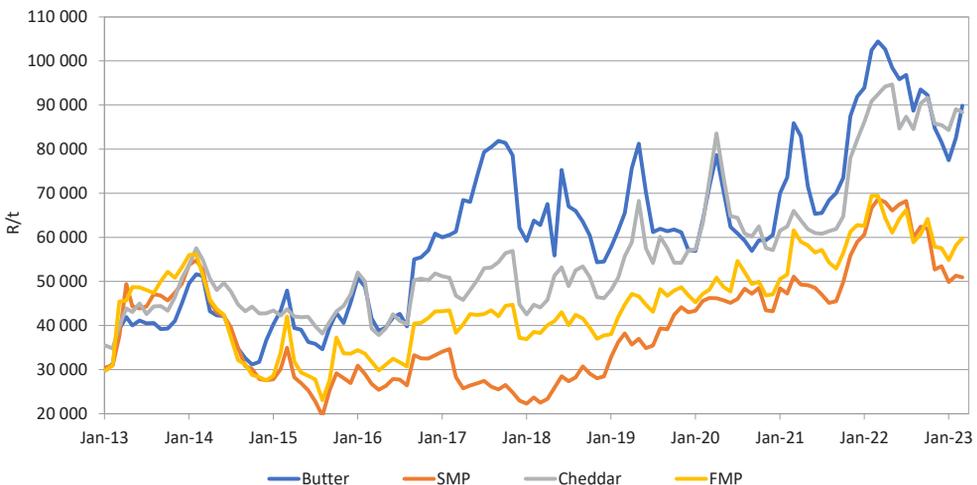


Figure 3b International FOB dairy product prices, R/t, Jan 2013–Mar 2023 (source: USDA, Reserve Bank)



Through 2022, the trading price of skimmed milk powder (SMP) was between US\$3 019/t (R52 707/t) and US\$4 588/t (R68 675/t), a 52% variance between the highest and lowest prices. The SMP price in March 2023 decreased to US\$2 788/t (R62 865/t), a drop of 39% on March 2022.

The trading price range of full-cream milk powder (FMP) during 2022 was between US\$3 313/t (R57 836/t) and US\$4 638/t (R69 423/t), a 40% variance between the highest and lowest prices. The FMP price in March 2023 decreased to US\$3 275/t (R59 834/t), a decline of 29% on March 2022.

During 2022, the trading price range of Cheddar was between US\$4 913/t (R85 772/t) and US\$6 281/t (R94 219/t), a 28% variance between the highest and lowest prices. The Cheddar price in March 2023 decreased to US\$4 838/t (R88 381/t), a reduction of 23% on March 2022.

10,3%. In South Africa, the unprocessed milk price increased by 14,6% from January 2022 to December 2022.

During 2021, global annual unprocessed milk production (cow's milk 80%; buffalo milk 16%; and goat's, sheep's, and camel's milk 4% combined) showed a below-average growth of 2,1%, totalling a volume of 931 million tonnes solid-corrected milk (SCM). This partly reflects the difficult supply situation, especially in the exporting regions, caused by the sharply increased cost of energy, animal feed, and fertiliser. The average annual growth rate for unprocessed milk production, all species, over the period 2015 to 2021, is 2,4%.

The two underlying growth engines are the milk-deficient regions like Asia and other emerging dairy markets and the second growth engine is buffalo milk production, with an annual growth rate of 5% over the period 2015 to 2021.

International unprocessed milk production and prices

During 2022, the average unprocessed milk price in Europe was €0,48 (R8,35) per litre, based on real fat and protein. There was a significant increase in the average unprocessed milk price in Europe from January 2022 to December 2022. In January 2022, the price was €0,41 (R7,10) per litre and in December 2022, €0,56 (R10,16) per litre. Over the same period, the average unprocessed milk price in South Africa was R6,40 per litre, an increase of

Table 1 International calculated standardised unprocessed milk producer prices, 2019–2023 (R/L) (source: European Commission. Based on real fat and protein content paid to milk producers. Exchange rates: Reserve Bank monthly average rates)

Country	Feb 2019	Feb 2020	Feb 2021	Feb 2022	Feb 2023
Belgium	5,46	5,25	5,00	7,59	9,72
Germany	5,70	5,40	5,28	6,77	10,70
Denmark	5,53	5,55	5,23	6,87	11,35
France	5,84	5,70	5,55	6,40	9,88
Ireland	5,56	5,41	5,67	7,76	11,74
Netherland	5,91	5,67	5,33	7,07	11,08
South Africa*	4,40	4,70	5,55	5,86	7,18

*Based on MPO price survey, Feb 2023 preliminary

Figure 4 Global production of unprocessed milk per species, 2015–2021
(source: IDF Bull. 518/2022)

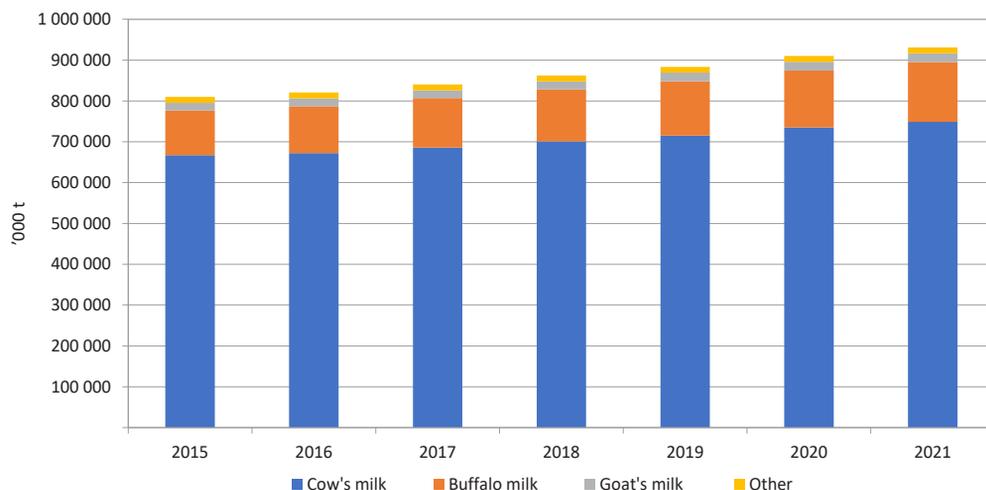


Figure 5 Cow's milk production per region, 2015–2021 (source: IDF Bull. 518/2022)

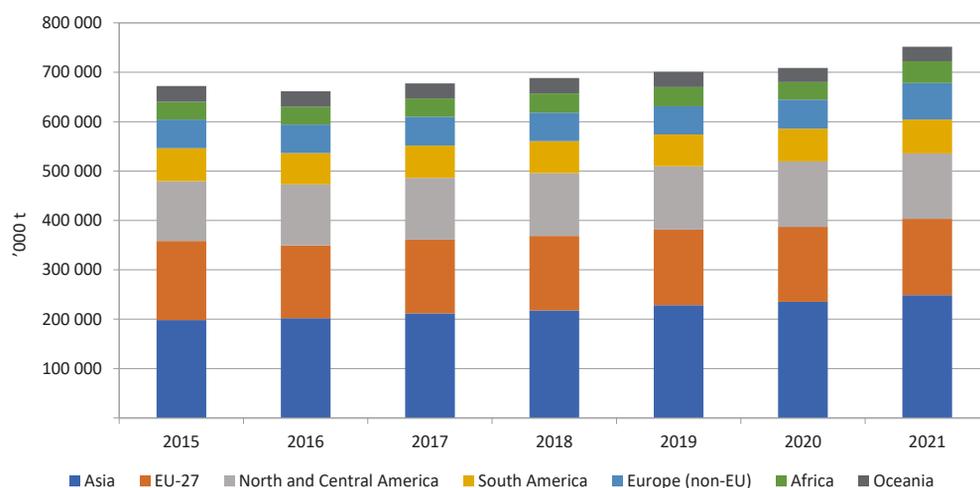


Table 2 Change in the production of unprocessed milk, selected countries: 2018 compared to 2017, 2019 compared to 2018, 2020 compared to 2019, 2021 compared to 2020, and 2022 compared to 2021 (source: CLAL, 2023)

Country	2018/2017	2019/2018	2020/2019	2021/2020	2022/2021
Australia	+2,7%	-6,6%	+2,8%	-0,8%	-6,8%
European Union	+1,8%	+0,5%	+1,6%	-0,2%	0,0%
New Zealand	-0,6%	-0,7%	+0,4%	+0,8%	-3,8%
United States	+1,1%	+0,4%	+2,1%	+1,5%	+0,1%
Uruguay	+6,3%	-4,2%	+5,8%	+1,9%	-1,4%
Argentina	+6,8%	-1,8%	+7,4%	+4,0%	0,0%

Manufacturing of dairy products globally

Notwithstanding the invasion of Ukraine by Russia and the resultant geopolitical and trade tensions, global cow's milk deliveries are stable and rose by 0,5% in 2021. Global production of liquid milk reduced slightly by 0,4% in 2021. China's production rose sharply (+4,6%) to face the growing demand, and in the EU-27, liquid milk production fell by 2,8%, after a strong increase in 2020.

More than 12,6 million tonnes of butter and other milk fats, such as butter oil and ghee (expressed in butter equivalent), are produced around the world annually. In 2021, the output growth reached 0,9%, which is lower than the 3% average growth rate experienced since 2010.

Total global cheese production is estimated at just over 25 million tonnes in 2021 (excluding processed cheese, to avoid double counting). Cow's milk cheese accounts for about 90% of total natural cheese production. The remainder is composed of cheese from other species (buffalo, goats, and sheep) as well as homemade and farmstead cheeses, which are not included in national statistics. In 2021, cheese production grew by 2,9%, above the average annual growth rate of 2,2% since 2010. Most countries increased their production in 2021. In the EU-27, cheese production rose by 1,5%, reaching almost 9,4 million tonnes and in the United States (US), the second

largest producer after the European Union, production increased by 3,5%, which is higher than the annual average growth rate of 2,5% since 2010. Cheese output growth in the US was stimulated by a strengthening demand from Canada and Mexico.

Whole and semi-skimmed milk powder production increased in 2021, up to 4,95 million tonnes (+1,3%), surpassing the 2014 record level. The main producer, New Zealand, increased its production by 1,9%, to meet the structural growing demand in China. Chinese production also grew in 2021 (+5,3%), but it is still below the level of 2018. EU-27 production declined sharply (-9%), reaching its lowest level since 2016. Whole milk powder production especially dropped in the Netherlands (-34,5%) and in Belgium (-49,9%). The world's SMP production decreased by 1,5% in 2021, up to 4,9 million tonnes, because of the shift in orientation to channel more milk into cheese and WMP production. Global condensed milk production declined by 1,5% to 4,2 million tonnes. The market is dominated by the US and the EU, which represent almost 50% of the world's output. As cheese production went up, it is no surprise that whey powder production (being a by-product of cheese manufacturing) increased by 2,8%. At 2,1 million tonnes, the EU-27 is by far the world's top producer of whey powder, representing 68% of production from the countries included in this report.

Table 3 Major dairy companies, 2021 (source: IDF Bull. 518/2022)

Rank	Company name	Country	Dairy turnover US\$ billion	
1	Lactalis	France	26,0	
2	Dairy Farmers of America	United States	19,3	
3	Yili	China	17,1	
4	Danone (B) (C)	France	15,5	
5	Fonterra (D)	New Zealand	14,8	
6	Mengniu	China	13,7	
7	Friesland Campina	Nederland	13,6	
8	Arla Foods	Denmark	13,2	
9	Saputo	Canada	12,9	(A) Kerry, Unilever, PepsiCo, and Mondelez not ranked.
10	Nestlé	Switzerland	11,7	(B) Infant formula excluded.
11	Savencia	France	6,6	(C) Including plant-based substitutes.
12	DMK	Germany	6,5	(D) Year finishing in July.
13	Amul (E)	India	6,2	(E) Year finishing in March of the following year.
14	Agropur (F)	Canada	5,8	(F) Year finishing in October.
15	Sodiaal	France	5,5	(G) Including desserts and beverages.
16	Müller (e)	Germany	5,1	(e) Estimate.
17	Froneri International	United Kingdom	5,0	
18	Schreiber (e)	United States	5,0	
19	Glanbia	Ireland	5,0	
20	Conagra Foods (e)	United States	4,6	

Consumption of dairy products

The world population grew by 75 million people (by less than 1%), bringing the total to 7,87 billion in 2021. In 2021, the average calculated per capita consumption of dairy products was 118,2 kg (+1,6 kg) in milk equivalents (stock changes included in the calculation are based on the non-fat solid content milk-equivalent methodology). Despite a strong global demand for dairy, the increase remained close to the average annual growth since 2015 (+1,4%), as it was limited by the lower supply growth in the second half of the year.

The publication *OECD-FAO Agricultural Outlook 2022–2031* predicts demand for dairy products will continue to grow, supported by population growth, increasing incomes,

and dietary changes. The Organisation for Economic Co-operation and Development (OECD) and the Food and Agriculture Organization (FAO) of the United Nations expect a per-annum increase of 0,4% in per capita consumption, taking per capita consumption in 2031 to 21,9 kg (milk solids equivalent) in high-income countries compared to 2% per annum and 1,5% in low-middle income and low-income countries, respectively. On a global level, growth may be more consistent for fresh products (+29%) and butter (+29%), with stronger progression projected in developing countries (+39% for both categories). The growth will be more sustained in developing countries due to the increase in both population and income per capita.

Figure 6 World population and per capita consumption of dairy products (unprocessed milk equivalent), 2012–2021 (source: IDF Bull. 518/2022)

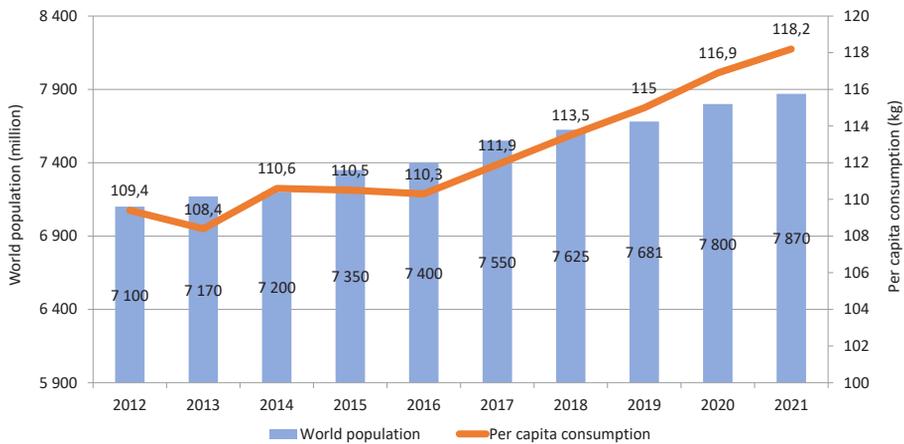


Figure 7 Annual change in world dairy product sales (unprocessed milk equivalent), 2012–2021 (source: IDF Bull. 518/2022)

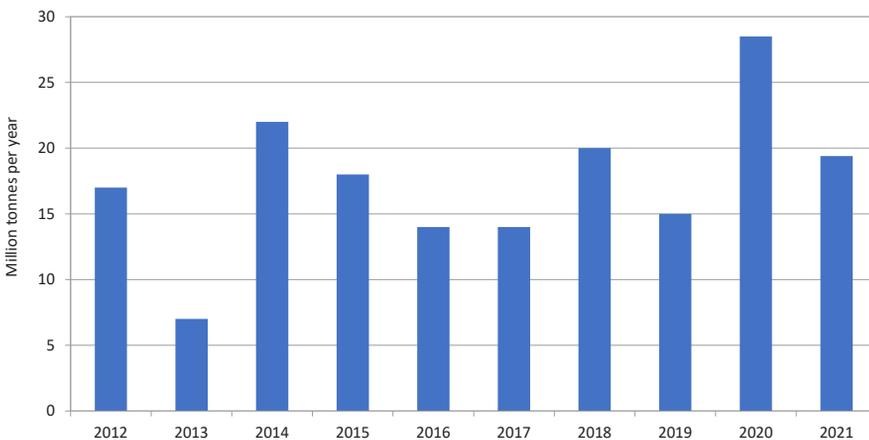
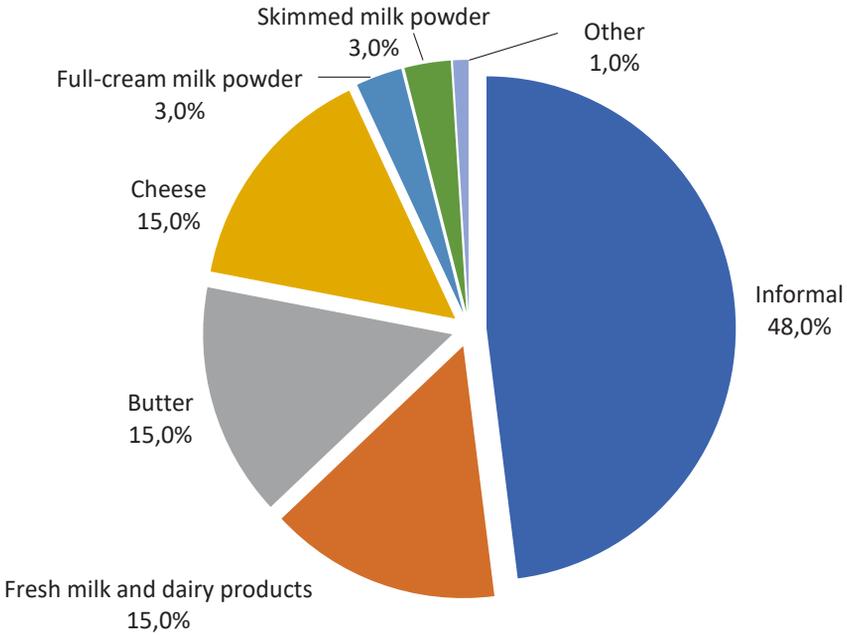


Figure 8 Percentage breakdown of global dairy products consumption, 2021
(source: IDF Bull. 518/2022)



“The average per capita consumption of dairy products was 118,2 kg in milk equivalents in 2021, which is an increase of 1,4% compared to the previous year.”



International dairy trade

The United Kingdom (UK) formally left the EU on 31 January 2020. The country remained within the EU common market for the rest of that year, only to officially cut ties from 1 January 2021. Since then, the UK is a separate trade territory outside the EU. In this report, for the analysis of the historical development of the world dairy trade, the UK is also viewed as a separate trade territory in the past years.

The overall global trade expansion for the

full year 2021 increased only by a limited 1,3%, ending up in a world trade volume of about 93,3 million tonnes (expressed in milk equivalents). Dairy exports from Europe, in particular from the EU-27 and the UK, developed relatively sluggishly in the first half of 2021. Apart from the fact that this was in line with the only moderate growth in available milk supply, it also reflected the impact of the shaping of a new relationship between the EU-27 and the UK.

Figure 9 Share of key exporting countries in total trade in dairy products (milk-equivalent basis), 2017, 2018, 2019, 2020, and 2021 (source: IDF Bull. 518/2022)

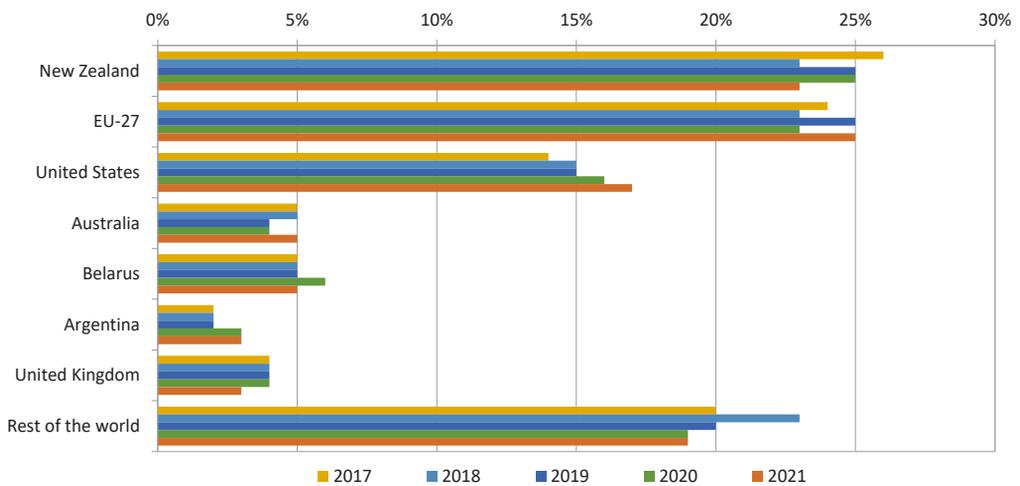


Table 4 Average herd size, selected countries, 2020 (source: IFCN 2021)

Country	Average number of cows in herd (cows in herd = cows in milk plus dry cows)
Saudi Arabia	3 850
South Africa	453
New Zealand	440
United States	296
Australia	279
Czech Republic	248
Denmark	210
Israel	196
United Kingdom	157
Argentina	152
Uruguay	124
Canada	97
Kenya	3
Uganda	2
India	2

Table 5 Unprocessed milk production for the top 10 milk-producing countries and South Africa, 2021 (source: IFCN, 2022)

	Country	Milk produced (million tonnes SCM)
1	India	237
2	United States	102
3	Pakistan	50
4	China	35
5	Brazil	34
6	Germany	33
7	France	25
8	New Zealand	25
9	Turkey	20
10	Russian Federation	19
	South Africa*	3,4

*not SCM

International primary sector

There are 116 million dairy farms worldwide, with more than 57% of these in South Asia. With an average per-farm population of five, this implies that 580 million people live on dairy farms. Globally, the average dairy farmer milks three cows. Some of the largest average herd sizes are found in Saudi Arabia, New Zealand, and South Africa. In South Africa, the average number of cows in a herd was 453 in 2020. Average herd sizes (cows in a herd) for various countries are shown in Table 4. After increasing to 125 million in 2013, dairy farm numbers are now decreasing at a rate of 1,4% per year.

In 2020, 57% of all dairy animals were kept on household farms, 24% on family farms, and 19% on larger commercial farms. Household farms are the dominant type in South Asia and Africa. In Latin America, East Asia, and the EU, family farms predominate, with the larger commercial farms the dominant type in Oceanic countries, South Africa, and the US.

Cost of milk production internationally

This section is based on the analysis of typical dairy farms within the International Farm Comparison Network (IFCN). The IFCN is a network of dairy experts in many countries who strive to create a better understanding of milk production worldwide.

Scientists from 54 countries and 66 dairy regions contributed to the work of the IFCN in 2022. The organisation analysed the production and cost of 178 typical dairy farms in 54 countries and published the results in the *IFCN Dairy Report 2022*. The comparison of farms is based on the actual income and cost figures for 2021. The MPO's participation in the work of the IFCN is financially supported by Milk SA as part of their economics and markets project.

The IFCN's cost comparisons are based on full economic cost. Farm-produced feed is valued at a farm-gate price and not at production cost levels, and the farmer's own labour and management time is valued at comparable industrial rates.

MORE INFO

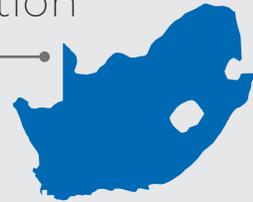
World unprocessed milk production 2021

931 million tonnes SCM

[96% = cow's milk + buffalo milk]



SA produces
0,4% of
global milk
production



Main producing countries (IFCN, 2022)

-  **INDIA** (237 MILLION TONNES SCM)
-  **UNITED STATES** (102 MILLION TONNES SCM)
-  **PAKISTAN** (50 MILLION TONNES SCM)
-  **BRAZIL** (34 MILLION TONNES SCM)
-  **GERMANY** (33 MILLION TONNES SCM)

Figure 10 Estimated unprocessed milk production cost (US\$/100 kg SCM) per average farm in participating countries, 2021 (source: IFCN, 2022)

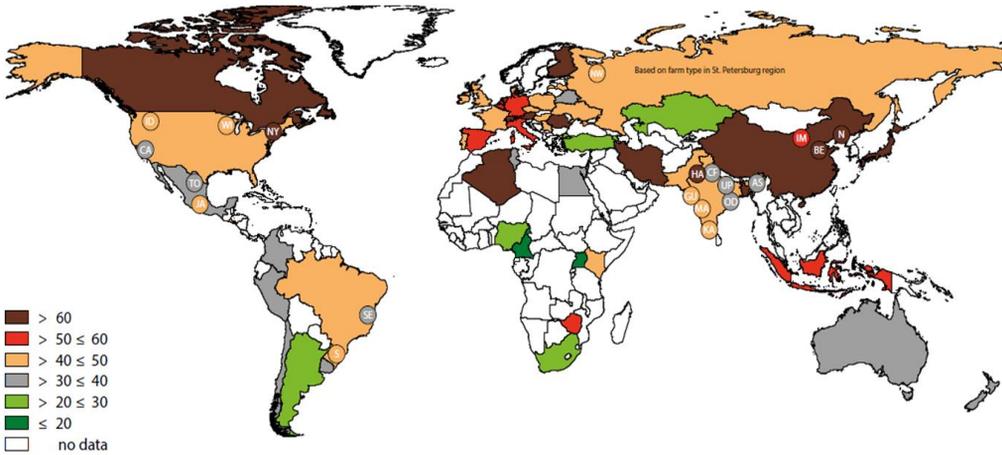
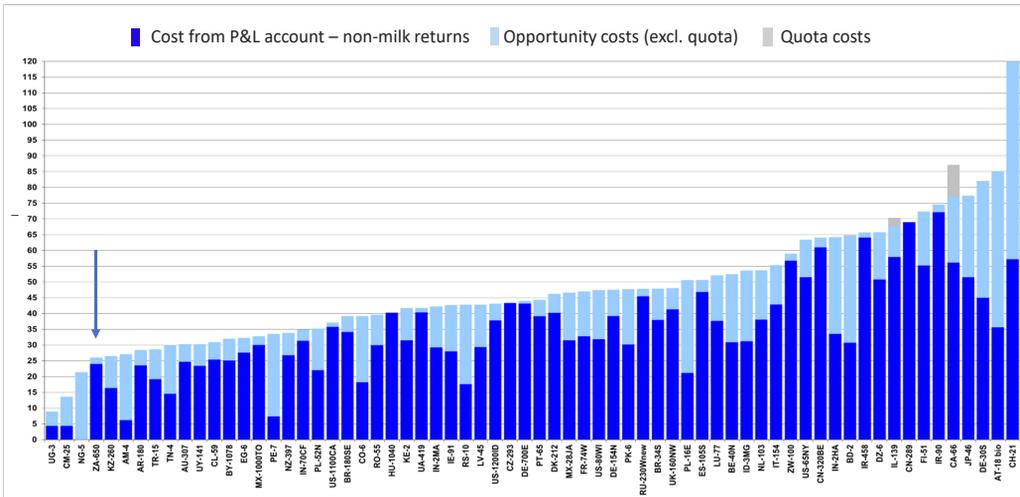


Figure 11 Estimated cost of unprocessed milk production per farm in US\$/100 kg SCM for average and large farms in IFCN analysis, 2021 (source: IFCN, 2022)



P&L – profit and loss account

Country by international country code and herd size, ZA 650 + ZA 800-cow herd



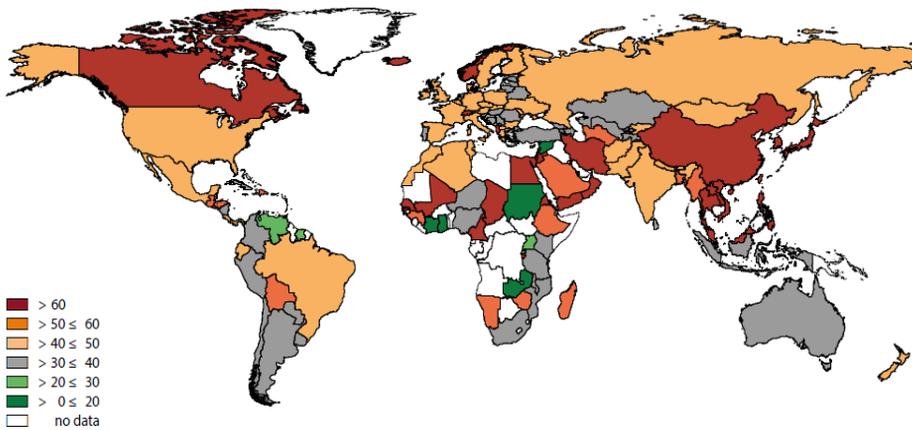
The inclusion of opportunity costs creates a bias towards countries with very little or no opportunity costs for labour and without a viable market for feed.

The average cost level of the 132 farms evaluated by the IFCN in 2021 stood at US\$44,80 (R662,59) per 100 kg SCM, which is 7,7% higher than in 2020.

Feed is the highest single-cost component, contributing about 60% to the total cost. Feed costs and the efficient management of

feeding practices have a big impact on total costs and play a huge role in determining cost competitiveness. Milk production costs for typical dairy farms, as analysed by the IFCN, are shown in Figure 11. In countries with very low milk production costs, low opportunity costs of labour and lower feed prices are the main drivers of cost competitiveness. In most of these cases, milk is produced for own use and not for the market.

Figure 12 Estimated producer milk prices in various regions (US\$/100 kg SCM), 2021
(source: IFCN, 2022)



International producer price of unprocessed milk

The IFCN world milk price indicator of unprocessed milk stood at an average level of US\$45,1 (R667,03) per 100 kg SCM in 2021, which is an increase of 23,6% over the previous year. During 2021, the price indicator went from US\$40,5 (R599,00) per 100 kg SCM in January 2021 to US\$51,3 (R758,73) in December 2021.

During 2021, the milk price performance suggested that the market was shifting to another phase in the global dairy market. The December 2021 versus January 2021 price difference of +US\$10,80 (R159,73) per 100 kg SCM represented a volatility of 27% in the twelve months, and that could be the start of a period of high milk prices.



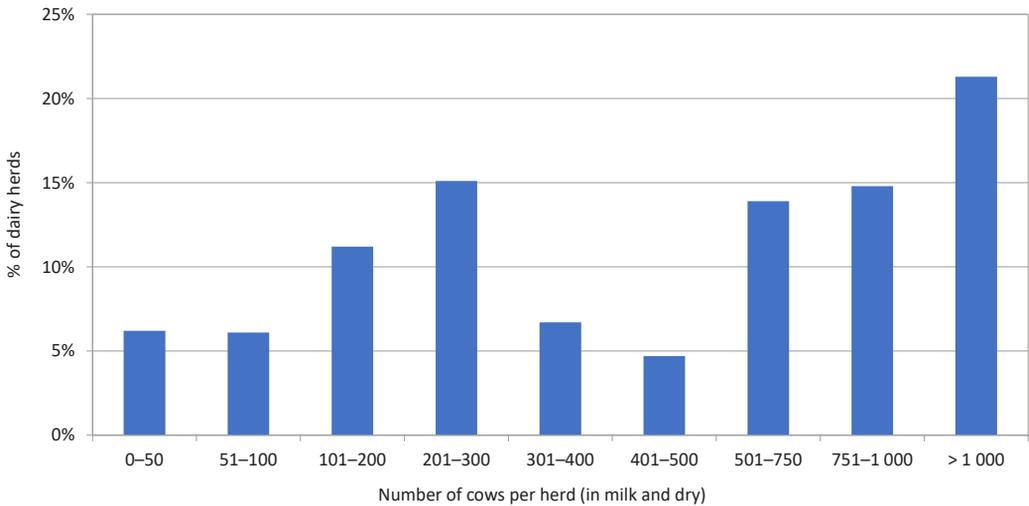
SOUTH AFRICAN SITUATION



The good performance of dairy products in the South African retail market in 2020 did not continue in 2021 and 2022. Lower quantities of retail sales of most of the different types of dairy products, as well as lower sales quantities of unprocessed milk, were experienced in 2021 and 2022. Consumer purchasing power was eroded by especially widespread increases in the prices of consumer goods and services and weak economic growth. In 2021, South Africa's gross domestic product (GDP) started to recover from the effects of the COVID-19 pandemic. The value of GDP in 2021 (at 2015 prices and annualised) was R4 504 billion compared with pre-pandemic GDP in 2019 of

R4 584 billion, which is 1,7% less than in 2019. In 2022, GDP came in at R4 584 billion, level with the 2019 GDP value. The recovery was contracted and seriously hampered by major disruption in the supply of electricity and poor service delivery by the public sector. Higher-than-normal increases in prices in the retail space of different types of dairy products and unprocessed milk negatively affected retail sales and production. Sharp increases over a broad spectrum of input product prices reduced profitability levels in the secondary and primary dairy industries, hence reducing output.

Figure 13 Size distribution of dairy cows per herd, 2022 (source: MPO October 2022 statutory survey)



South African primary dairy sector

Structure of the primary dairy sector

The number of milk producers in South Africa decreased from 984 in January 2022 to 891 in January 2023. The number of producers per province is shown in Table 6. From January 2022 to January 2023, the number of milk producers decreased by 9,5%.



NEED TO KNOW



Number of producers

(↓44%)

Jan 2017

1 593

Jan 2023

891

Milk production

(↑2,9%)



2017

3 254 000 t

2022

3 350 000 t

Milk production per producer

(↑84%)



2017

2 042 t

2022

3 760 t

Table 6 Number of producers of unprocessed milk per province, January month, 2017–2023 (source: MPO)

Province	2017	2018	2019	2020	2021	2022	2023
Western Cape	481	419	402	379	348	324	301
Eastern Cape	244	212	201	206	172	166	155
Northern Cape	7	7	6	4	4	4	3
KwaZulu-Natal	247	221	212	208	207	202	186
Free State	249	206	165	145	130	117	95
North West	165	135	117	100	84	70	61
Gauteng	98	84	83	65	56	52	46
Mpumalanga	87	69	56	50	46	44	39
Limpopo	15	12	11	7	6	5	5
TOTAL	1 593	1 365	1 253	1 164	1 053	984	891

The production of unprocessed milk is concentrated in the coastal regions of South Africa. In total, 85,8% of production originates from the Western Cape (29,3%), Eastern Cape (28,5%), and KwaZulu-Natal (28,0%). Milk production per province, according to the MPO's estimates, considering the results of the October 2022 statutory survey, is shown in Table 7.

Cow numbers vary widely among producers. The percentage distribution of herd size is shown in Figure 13.

The average number of cows in milk per producer in the different provinces is shown in Table 7.

The average milk production per cow per day was 16,1 L in 2022. Ninety-nine per cent of unprocessed milk was delivered to the market. The balance was used for on-farm consumption. The distribution of herds on a production basis is shown in Figure 14.

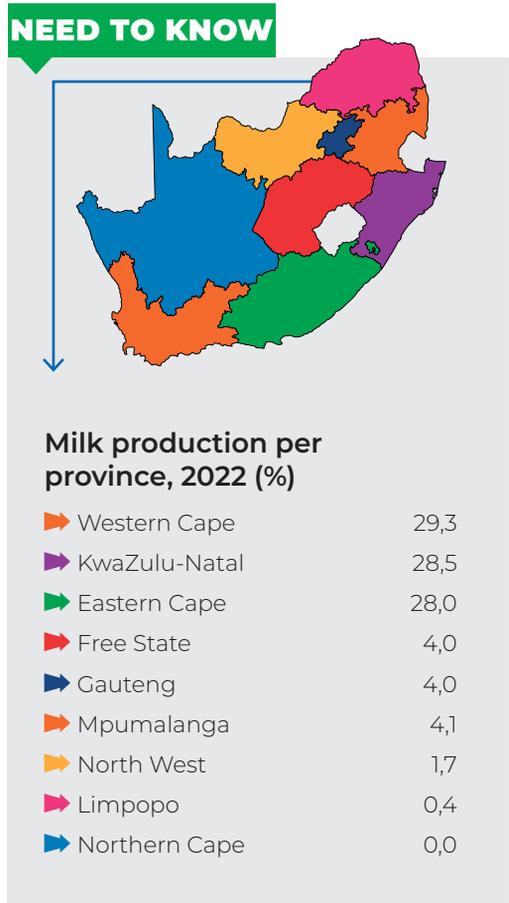
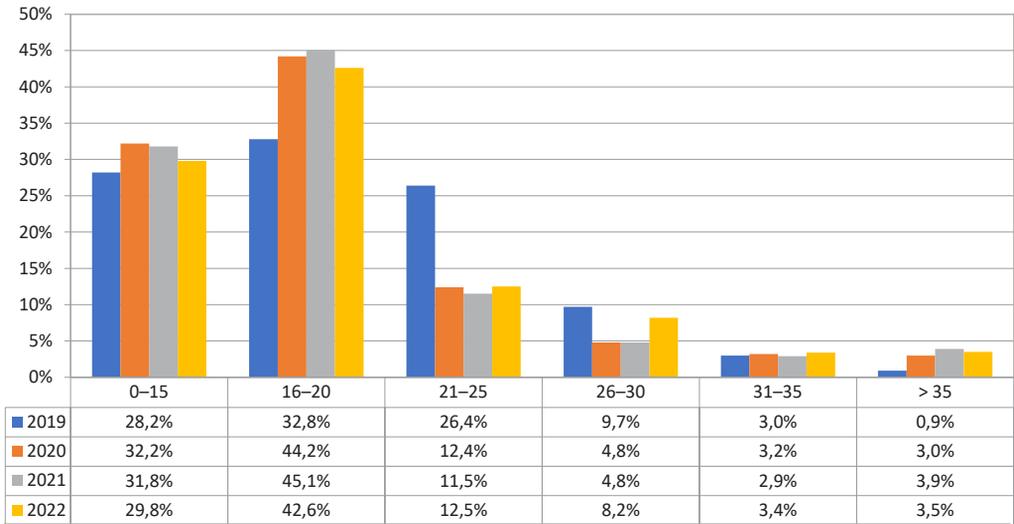


Table 7 Unprocessed milk production in South Africa per province and cows in herd (in milk and dry cows) per producer, specific month in a specific year (source: MPO October 2022 statutory survey)

Province	Percentage distribution of milk production		Number of cows in herd per producer, 2022
	Oct 2021	Oct 2022	Average
Western Cape	30,6	29,3	564
Eastern Cape	27,0	28,5	1 121
Northern Cape	0,0	0,0	95
KwaZulu-Natal	27,8	28,0	1 000
Free State	4,8	4,0	444
North West	1,7	1,7	164
Gauteng	4,0	4,0	415
Mpumalanga	3,6	4,1	368
Limpopo	0,5	0,4	309
Total	100,0	100,0	622 (weighted average)

Figure 14 Distribution of herds based on daily production per cow in herd, 2019-2022
 (source: MPO October 2022 statutory survey)



Photograph by Ilse Hugo.

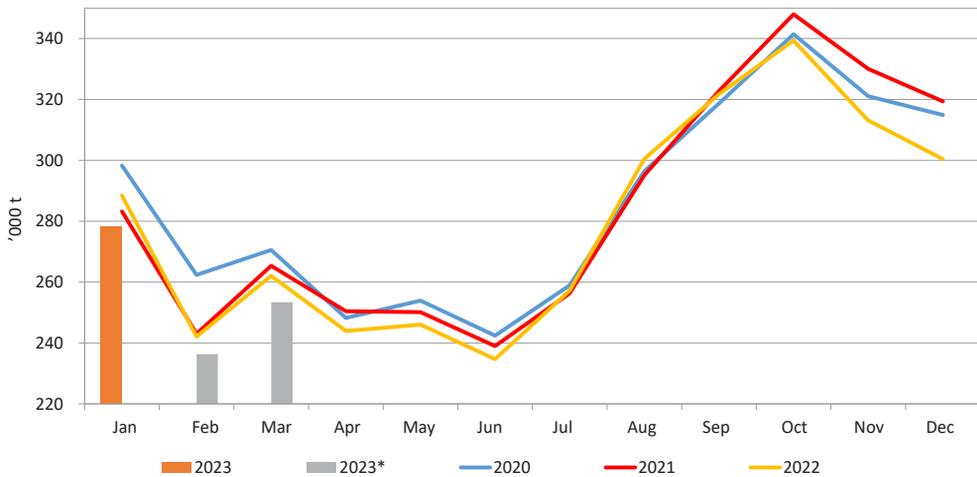


Production of unprocessed milk in South Africa

Annual unprocessed milk production shows a steady linear upward trend over time. For the last three years, unprocessed milk production has been suppressed compared to the overall trend. Total unprocessed milk to market for 2022 was 3 349 100 t, down 1,56% from the previous year. Monthly milk purchases from 2020 to March 2023 are shown in Figure 15. Annual milk purchases are indicated in Figure 16.

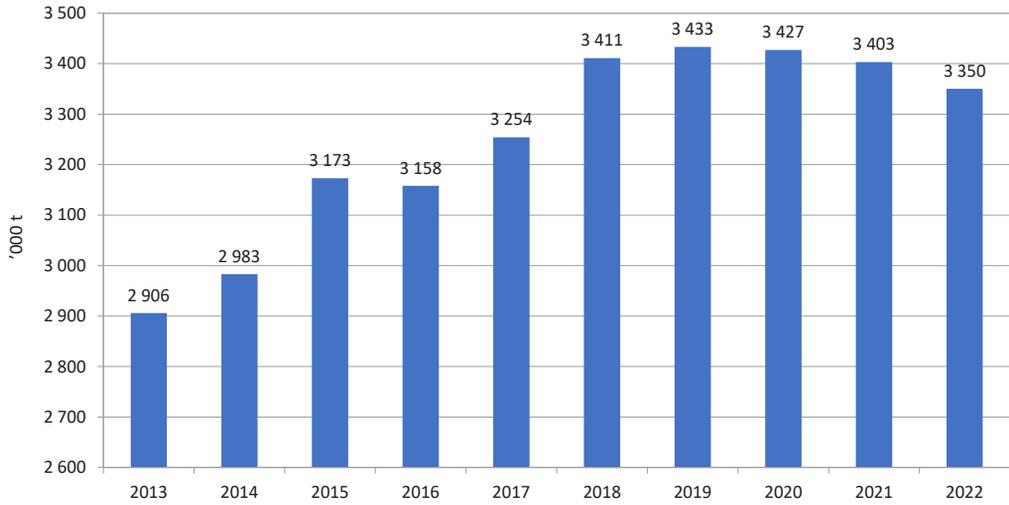
The growth in the intake of unprocessed milk for 2022 was subdued, due to lower retail sales quantities experienced during 2022, farm economics being under pressure, and adverse climatic conditions prevailing over certain parts of South Africa. The cost-price squeeze farmers experienced, due to high levels of grain prices (yellow maize and soya), lucerne, and fertiliser deepened the level of negative farm economics. The negative growth in unprocessed milk continued into 2023. The first three months saw a decline of 3,31%.

Figure 15 Daily average monthly unprocessed milk purchases per month, 2020-2023*
(source: Milk SA, last two months preliminary)



*Estimate based on Milk SA sample



Figure 16 Annual unprocessed milk purchases in South Africa, 2013–2022 (source: Milk SA)

Period	Machinery and implements	Material for fixed improvements	Intermediate goods and services	All farming requisites
2015	100	100	100	100
2016	106,2	107,4	105,7	105,8
2017	109,7	112	111,1	110,9
2018	113,9	118,3	117	116,7
2019	117,4	123,7	121,6	121,2
2020	120,8	128	125,1	124,8
2021	126,6	136	131,6	131,3
CAGR* 2015–2021	4,01%	5,26%	4,68%	4,64%
Jan '18	112,1	112,9	114,1	113,8
Apr '18	111,4	122,1	114,3	114,4
Jul '18	114,8	119,5	117,1	116,9
Oct '18	117,3	118,8	122,7	121,9
Jan '19	116,3	117,9	119,4	119
Apr '19	115,3	129,2	120,2	120
Jul '19	118,8	124,9	121,2	121,1
Oct '19	119,3	123	125,7	124,8
Jan '20	120,7	122,5	123,6	123,3
Apr '20	117,8	125,6	122,9	122,5
Jul '20	122,1	138,3	124	124,5
Oct '20	122,7	125,5	130	128,9
Jan '21	128	134,3	128,1	128,4
Apr '21	125	132	128,5	128,3
Jul '21	126	144,2	129,4	129,7
Oct '21	127,4	133,5	140,5	138,4
Jan '22	129,9	147,6	146,8	145,3
Apr '22	129,2	149	148,9	146,7
CAGR* Jan '18–Apr '22	0,84%	1,65%	1,58%	1,51%

*Compound annual growth rate

South African secondary dairy sector

Structure of the secondary dairy sector

The South African secondary dairy industry consists of a few large processors operating nationally, a growing number of processors who operate in more than one region, many smaller processors who operate in specific areas, and several milk producers who sell their own produce to retailers and consumers – known as producer-distributors (PDs). The number of PDs and milk buyers (processors) per province is shown in Table 9.

From January 2022 to January 2023, the number of PDs decreased from 67 to 62, a decrease of 7,4%; milk buyers decreased by 4,6% over the same period.

NEED TO KNOW



Number of producers-distributors
(↓42%)

Jan 2017
106

Jan 2023
62

Number of milk processors
(↓10%)



Jan 2017
145

Jan 2023
130

Dairy market composition: Estimate → 2022



61% liquid

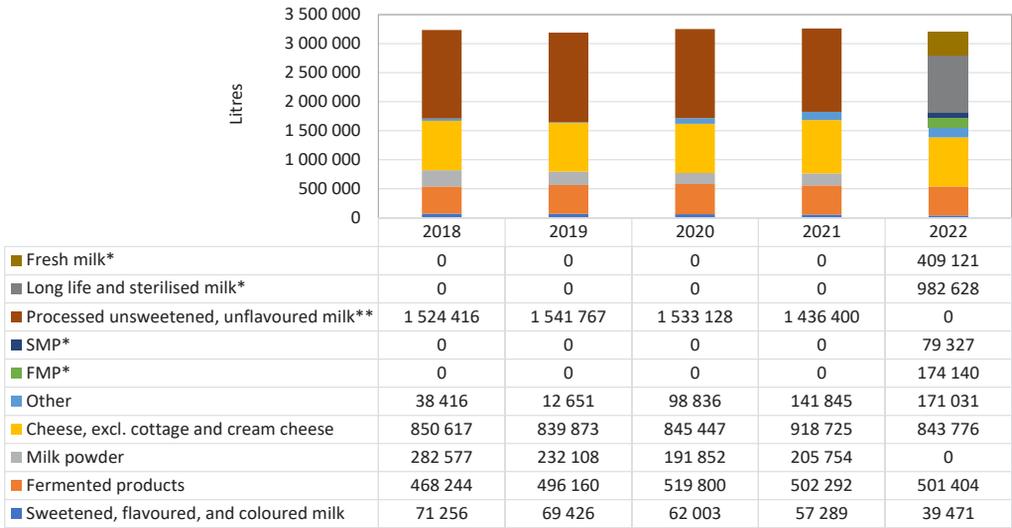
39% concentrated

Table 9 Number of PDs and processors (Proc) per province (indicated according to the geographical position of head office), as registered with Milk SA, Jan 2017-Jan 2023 (source: Milk SA)

Province	Jan 2017		Jan 2018		Jan 2019		Jan 2020		Jan 2021		Jan 2022		Jan 2023	
	Proc	PD	Proc	PD	Proc	PD	Proc	PD	Proc	PD	Proc	PD	Proc	PD
Eastern Cape	12	13	8	9	12	15	9	7	9	7	7	6	7	6
Free State	13	9	12	7	15	11	12	7	12	6	11	4	10	3
Gauteng	46	22	42	17	51	21	39	15	39	15	40	18	42	14
KwaZulu-Natal	21	10	20	8	161	9	20	7	20	7	20	7	20	7
Limpopo	4	9	4	10	4	7	3	10	3	10	4	10	4	9
Mpumalanga	6	8	5	9	6	9	4	8	4	8	3	7	3	7
North West	14	4	11	3	16	4	11	3	11	3	12	2	9	2
Northern Cape	1	8	1	7	1	9	2	6	2	6	2	2	1	2
Western Cape	38	23	35	18	39	25	31	14	31	14	37	11	34	12
Total	145	106	138	88	160	110	131	77	133	67	136	67	130	62

Milk processors refer to producers of processed milk and manufacturers of other dairy products
PDs refer to producers who sell their own produce to retailers and consumers

Figure 17 Unprocessed milk used for the manufacturing of dairy products in South Africa 2018–2022 (source: industry estimate supplied by Milk SA)



Other products: Products such as cream, ice cream, cottage cheese, cream cheese, condensed milk, evaporated milk, and desserts

*Milk SA only started collecting these data fields from January 2022

**2022 split between fresh milk and long life/sterilised milk possibly in 2022



Production and consumption of dairy products in South Africa

In 2022, the South African dairy products market was divided into approximately 60,8% liquid products and 39,2% concentrated products. Pasteurised liquid milk and UHT processed

milk were the major liquid products, with hard cheese being the main concentrated product. Figure 18 and Figure 19 show the estimated composition of the markets for concentrated and liquid products.

Figure 18 Concentrated dairy products in South Africa: The mass of each product in relation to the total mass of concentrated dairy products in respect of 2022 (source: industry estimate supplied by Milk SA); the total mass of concentrated dairy products = 172 814 t

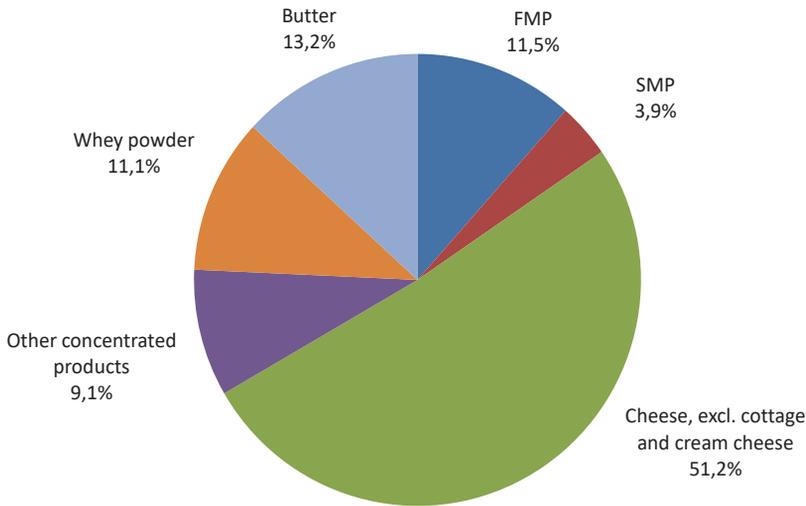


Figure 19 Liquid dairy products in South Africa: The mass of unprocessed milk used in the manufacturing of liquid dairy products in respect of 2022 (source: Milk SA); the total mass of unprocessed milk used = 2 001 586 t

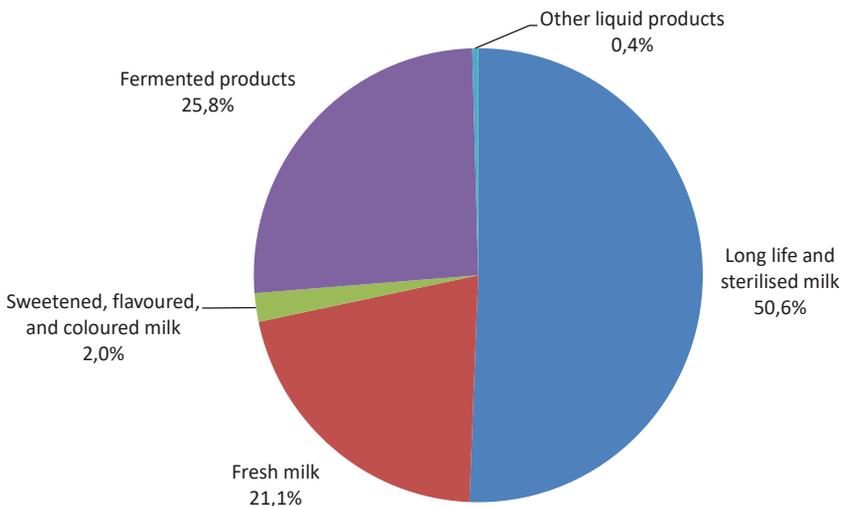


Figure 20 Concentrated dairy products in South Africa: The mass of unprocessed milk used in the manufacturing of concentrated dairy products in respect of 2022 (source: Milk SA); the total mass of unprocessed milk used for concentrate manufacturing = 1 291 669 t

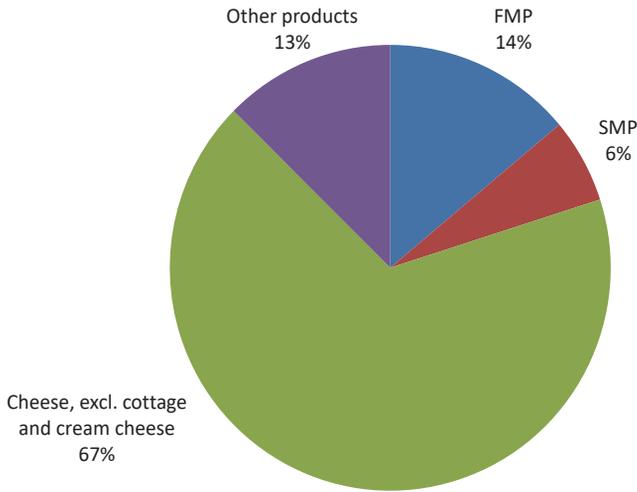
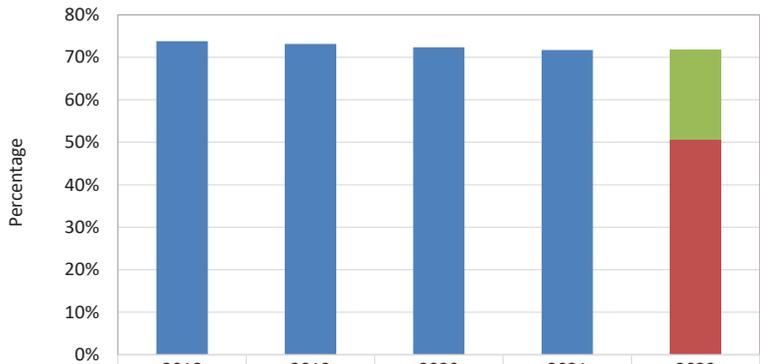


Figure 21 Mass of unsweetened and unflavoured milk processed in South Africa as a percentage of the total mass of liquid products produced per year



	2018	2019	2020	2021	2022
■ Fresh milk	0,0%	0,0%	0,0%	0,0%	21,1%
■ Long life and sterilised milk	0,0%	0,0%	0,0%	0,0%	50,6%
■ Processed unsweetened, unflavoured milk	73,8%	73,1%	72,3%	71,7%	0,0%



Figure 22 Mass of sweetened, flavoured, and coloured milk, manufactured in South Africa as a percentage of the total mass of liquid products produced per year

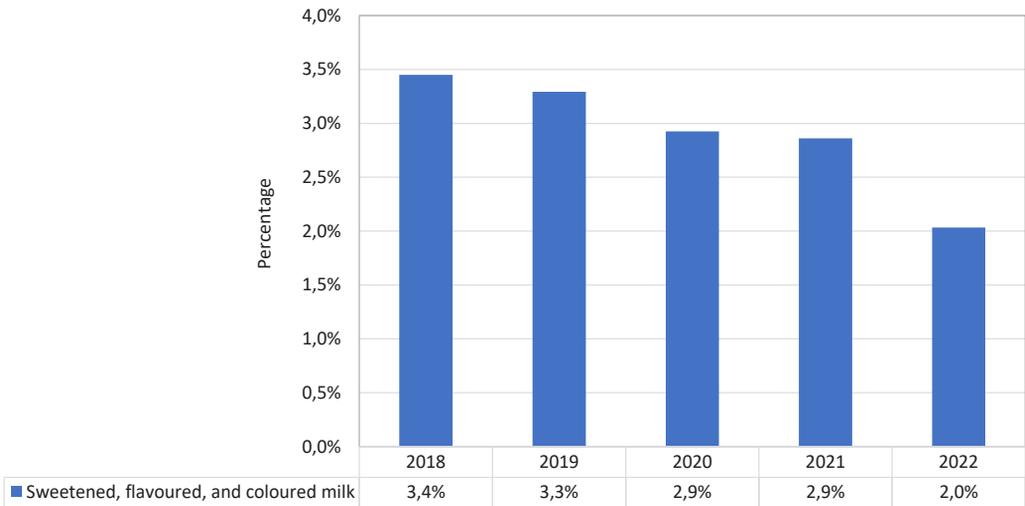


Figure 23 Mass of fermented products manufactured in South Africa as a percentage of the total mass of liquid products produced per year

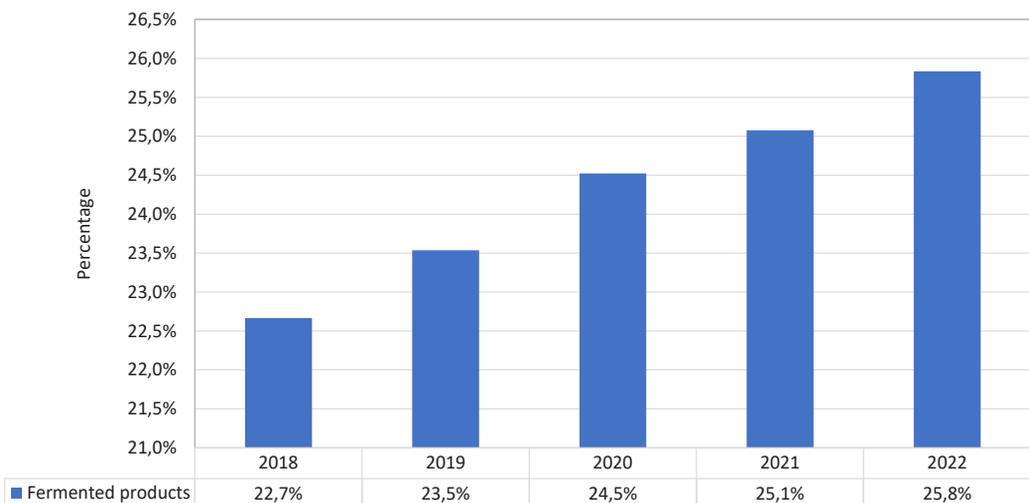


Figure 24 Mass of other liquid products manufactured in South Africa as a percentage of the total mass of liquid products produced per year

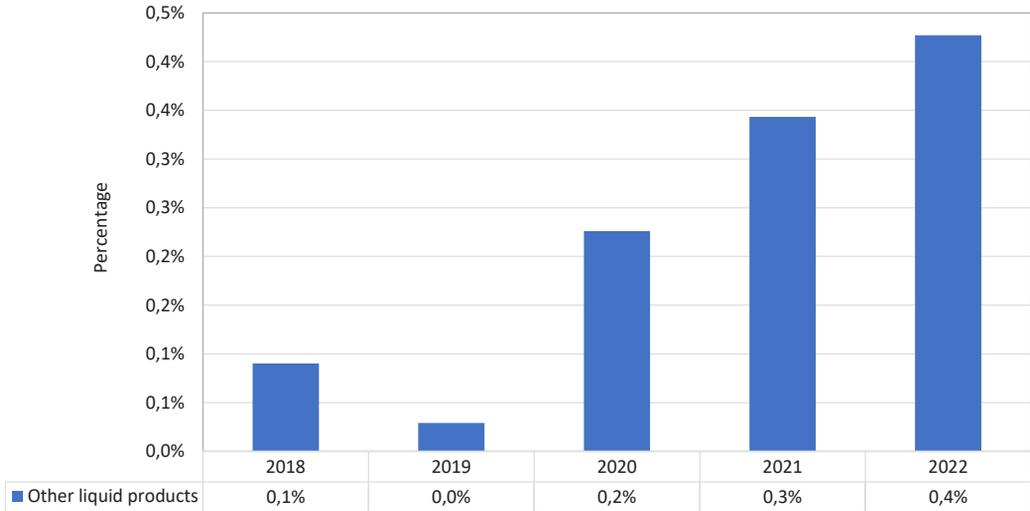


Figure 25 Mass of milk powder manufactured in South Africa as a percentage of the total mass of concentrated products produced per year

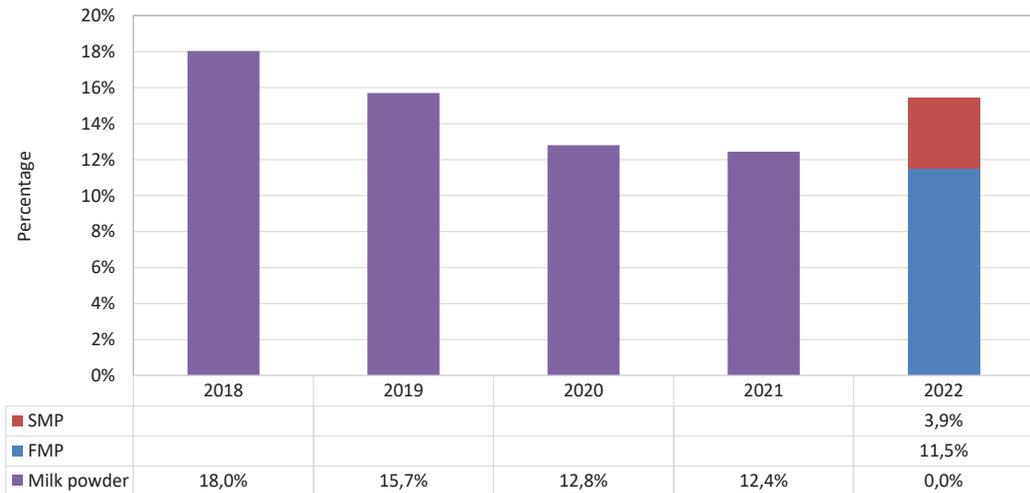




Figure 26 Mass of cheese, excluding cottage and cream cheese, manufactured in South Africa as a percentage of the total mass of concentrated products produced per year

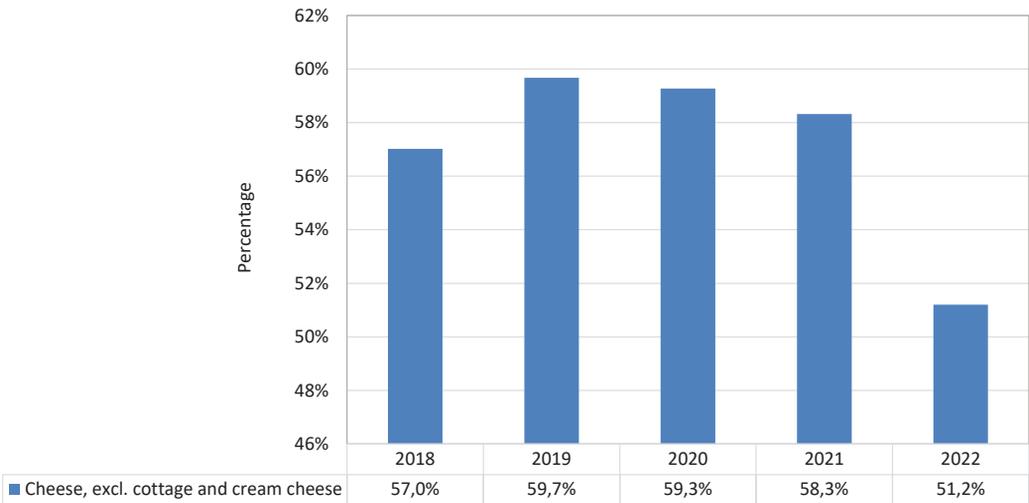


Figure 27 Mass of other concentrated products manufactured in South Africa as a percentage of the total mass of concentrated products produced per year

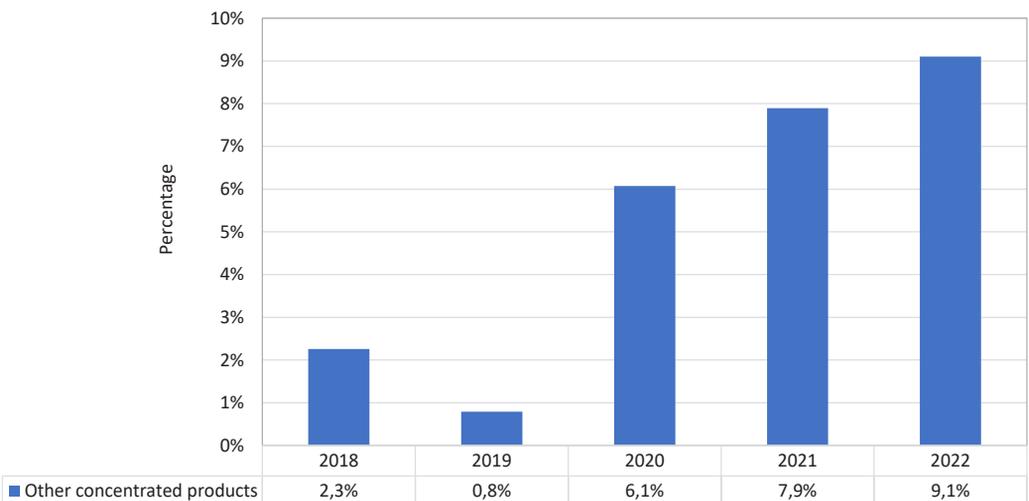


Figure 28 Mass of whey powder manufactured annually in South Africa

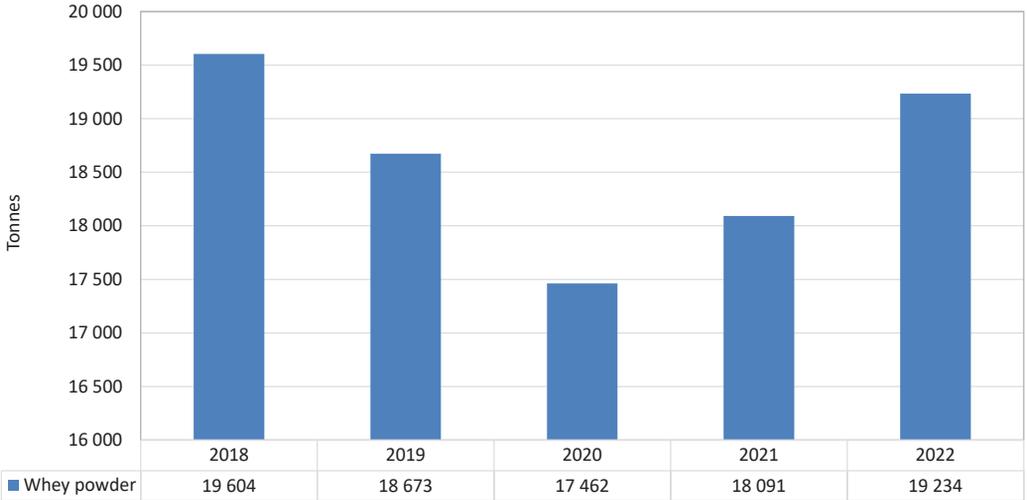
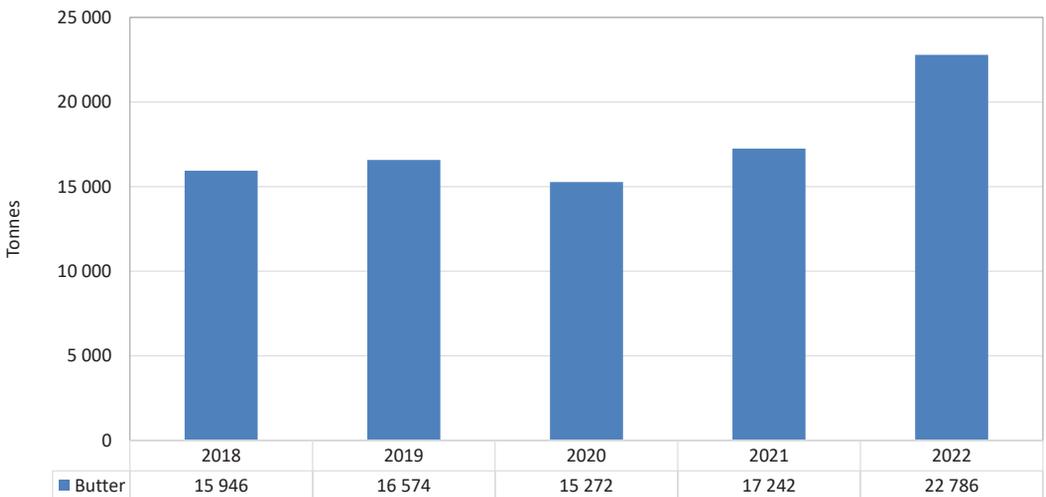


Figure 29 Mass of butter manufactured annually in South Africa



South African imports and exports

Total dairy product imports and exports are shown in Figure 30 and Figure 31. In 2022, a total of 53 000 t of products were imported, and 52 000 t exported. On a mass basis, imports

decreased by 30% in 2022, compared with 2021. The total composition of imports and exports in 2022 is shown in Figure 32 and Figure 33. On a mass basis, whey was the most imported product and milk and cream were the most exported products.

Figure 30 South African dairy product imports and exports, 2013-2022 (source: SARS data, as supplied by SAMPRO)

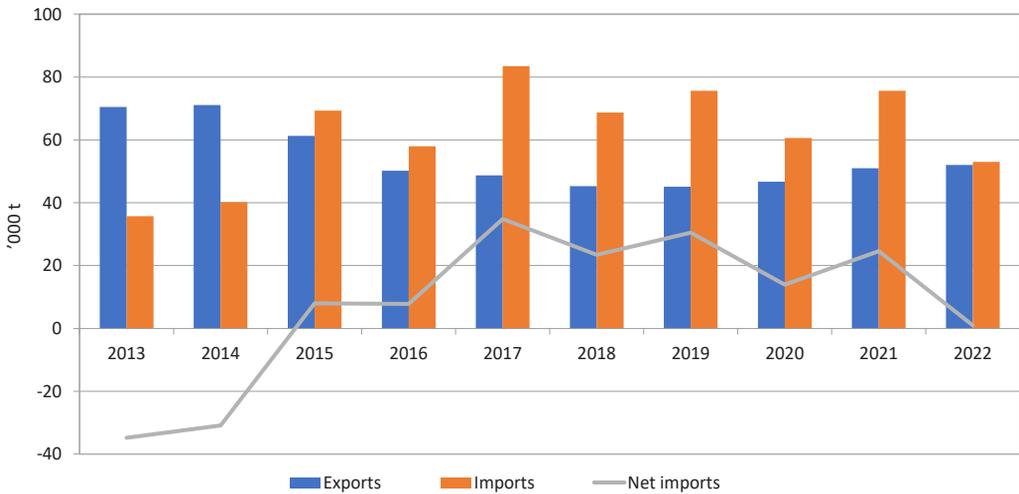


Figure 31 South African dairy product imports and exports on milk-equivalent basis, 2013-2022 (source: SARS data, as supplied by SAMPRO)

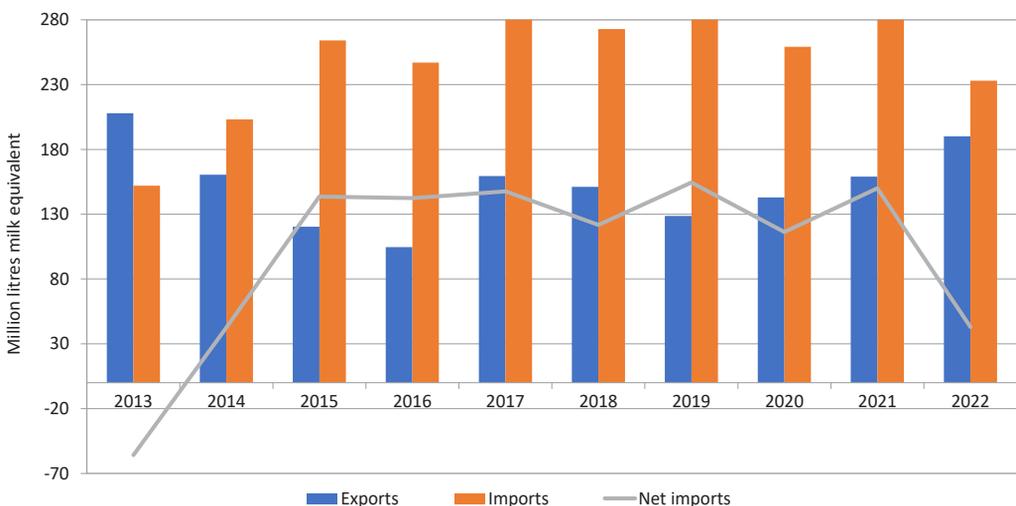


Figure 32 Percentage composition of imports into South Africa on a mass basis, 2022
(source: SARS data, as supplied by SAMPRO)

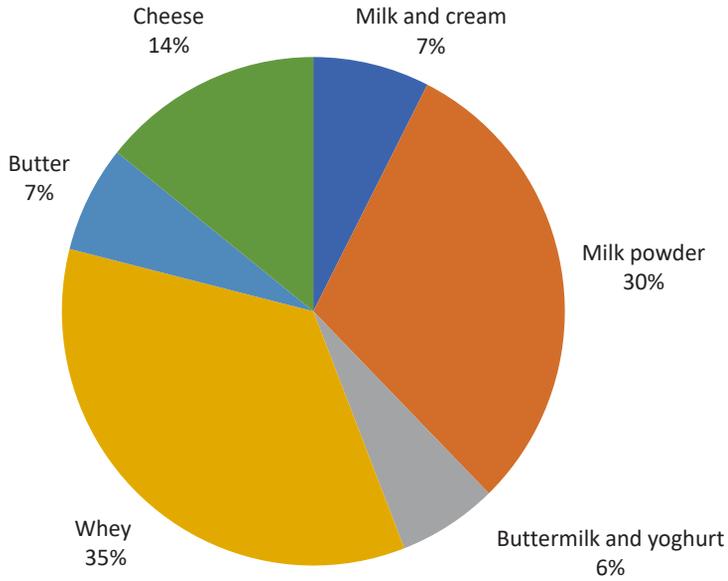


Figure 33 Percentage composition of exports by South Africa on a mass basis, 2022
(source: SARS data, as supplied by SAMPRO)

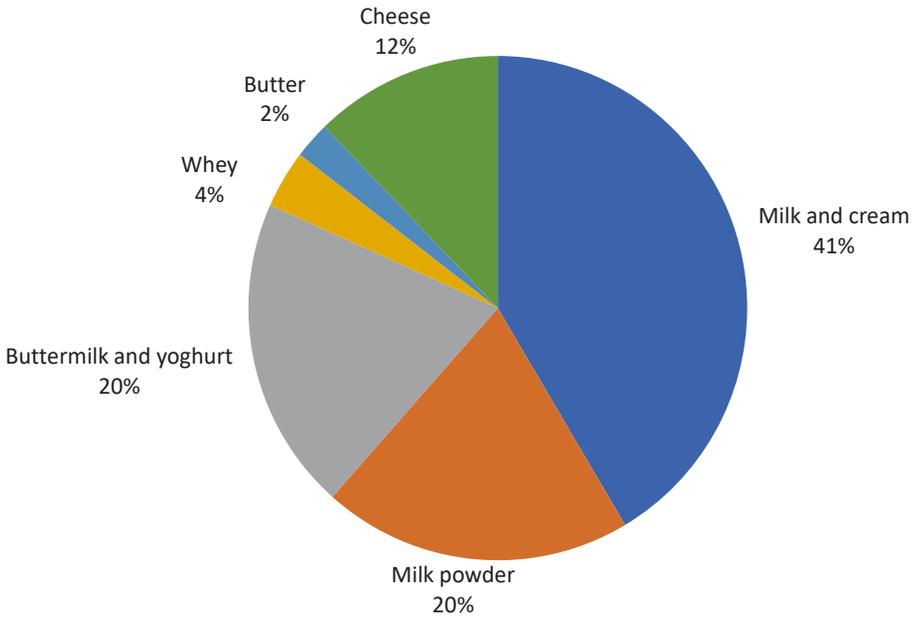


Figure 34 South African price index of unprocessed milk at farm level, dairy products at processor level, and milk and eggs at consumer level, Jan 2012–March 2023
(source: Stats SA)

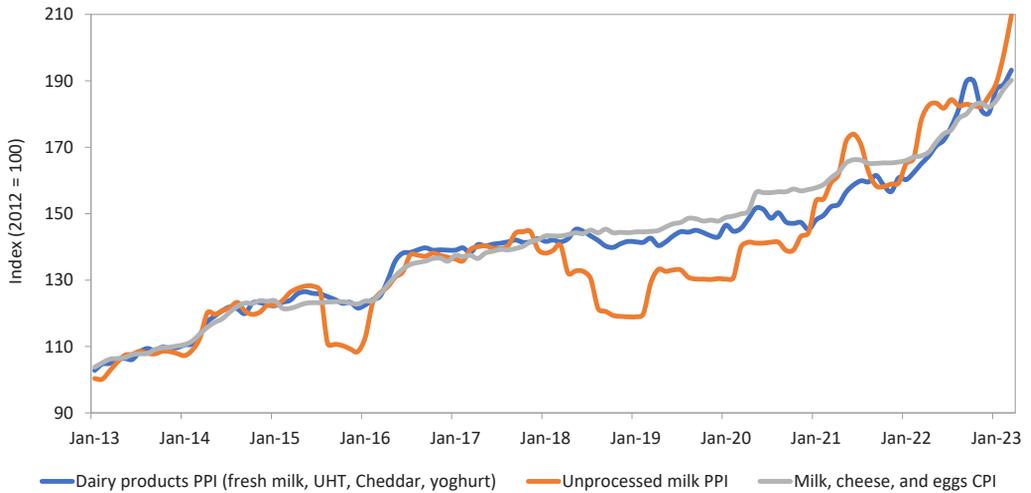


Figure 34 shows the trend in the producer price indices (PPI) of unprocessed milk (at farm level); dairy products at the processor level; and milk, cheese, and eggs at the consumer (CPI) level. For most of the period, prices follow the same general trend, excluding the period from the end of 2017 to December 2020, when the indices for unprocessed milk (farmer prices) followed a different trend and the magnitude of negative price changes for this index resulted in the index significantly lagging the rate of change in the other indices. The three indices started to increase aggressively from the start of 2021, with the PPI of dairy products and unprocessed milk increasing by 30,5% and 36,3%, respectively, and the CPI of milk, cheese, and eggs registering an increase of 20,5%, over the period January 2021 to March 2023.

Tables 10 to 13 indicate the trend of retail sales (quantity and average price) of nine dairy products and eight non-dairy products, as reported by Nielsen South Africa and collated by SAMPRO. The Nielsen Company provides information based on monthly surveys of the retail sales of milk, other dairy products, and specific non-dairy products. Non-retail sales, such as sales to wholesalers and industrial buyers, which form a significant part of the total sales of dairy products, are not part of the Nielsen surveys.

During 2022, fewer dairy products (as

monitored by Nielsen) were sold when compared to sales volumes in 2021 (twelve-month period), except for UHT processed milk, maas, and pre-packaged cheese, where volumes increased but only marginally. The major sales quantity that decreased was for fresh milk and cream. The prices of the dairy products being monitored by Nielsen, for the period December 2022 compared with December 2021, increased by more than the inflation rate, except for UHT processed milk.

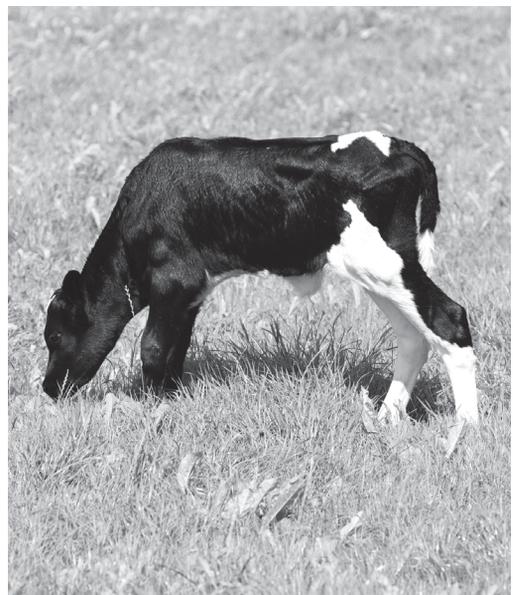


Table 10 Changes in quantities of retail sales of specific dairy products in South Africa
(source: Nielsen, as supplied by SAMPRO)

Product	Sales of Dec 2022 versus sales of Dec 2021 (1-month period) (%)	Sales from Oct to Dec 2022 versus sales from Oct to Dec 2021 (3-month period) (%)	Sales from Jul to Dec 2022 versus sales from Jul to Dec 2021 (6-month period) (%)	Sales from Apr to Dec 2022 versus sales from Apr to Dec 2021 (9-month period) (%)	Sales from Jan to Dec 2022 versus sales from Jan to Dec 2021 (12-month period) (%)
Fresh milk	-6,4	-5,6	-5,6	-6,9	-7,7
UHT processed milk	-1,1	1,5	-1,9	-0,2	0,05
Flavoured milk	-3,8	-6,1	-3,4	-3,8	-4,3
Yoghurt	-5,5	-4,8	-4,2	-3,5	-3,5
Maas	-4,8	-2,4	0,7	0,2	0,5
Pre-packaged cheese	0,7	1,0	1,3	0,8	1,2
Cream cheese	0,7	-2,0	-3,7	-2,7	-2,8
Butter	8,6	1,4	-4,5	-2,6	-2,1
Cream	-3,5	-5,2	-6,0	-5,8	-6,5

Table 11 Changes in the average retail prices of specific dairy products in South Africa
(source: Nielsen as supplied by SAMPRO)

Product	Dec 2022 versus Nov 2022 (1 month ago) (%)	Dec 2022 versus Sept 2022 (3 months ago) (%)	Dec 2022 versus Jun 2022 (6 months ago) (%)	Dec 2022 versus Mar 2022 (9 months ago) (%)	Dec 2022 versus Dec 2021 (12 months ago) (%)	Dec 2022 versus Jun 2021 (18 months ago) (%)	Dec 2022 versus Dec 2020 (24 months ago) (%)
Fresh milk	0,9	1,9	4,6	7,1	8,6	8,4	14,3
UHT processed milk	4,0	-2,9	-0,2	8,1	6,7	6,3	10,3
Flavoured milk	4,9	-0,6	3,5	9,8	12,0	9,1	16,9
Yoghurt	1,4	0,7	9,1	8,3	10,4	10,5	18,0
Maas	4,3	4,3	11,1	13,3	13,2	13,4	19,1
Pre-packaged cheese	5,5	4,1	6,6	11,9	8,4	11,1	13,3
Cream cheese	3,8	2,3	5,0	9,2	8,3	10,4	16,6
Butter	-1,1	1,6	5,8	8,8	8,3	7,1	5,5
Cream	1,8	3,0	6,8	9,7	9,0	12,9	14,0

During 2022, sales volumes of five of the eight non-dairy products (as monitored by Nielsen) dropped when compared with sales volumes in 2021 (twelve-month period), except for bread, rice, and maize meal, which experienced noteworthy increases in sales. The prices of the non-dairy products being monitored by Nielsen, for the period December 2022

compared with December 2021, increased by more than the inflation rate, except for rice and tea. The aggressive price increases for bread and maize meal, while sales volumes increased, are indicative of the inelastic nature of these products within the South African consumer market.

Table 12 Changes in quantities of retail sales of non-dairy products in South Africa (source: Nielsen, as supplied by SAMPRO)

Product	Sales of Dec 2022 versus sales of Dec 2021 (1-month period) (%)	Sales from Oct to Dec 2022 versus sales from Oct to Dec 2021 (3-month period) (%)	Sales from Jul to Dec 2022 versus sales from Jul to Dec 2021 (6-month period) (%)	Sales from Apr to Dec 2022 versus sales from Apr to Dec 2021 (9-month period) (%)	Sales from Jan to Dec 2022 versus sales from Jan to Dec 2021 (12-month period) (%)
Instant cereals	0,9	-1,4	-3,0	-1,4	-0,8
Bread	6,9	6,8	7,5	7,7	8,2
Rice	7,5	7,9	11,4	12,0	12,6
Maize meal	-1,1	1,7	3,0	3,6	4,9
Margarine	-3,5	-4,4	-2,0	-0,4	-1,0
Tea	-3,2	-4,5	-6,0	-3,3	-4,0
Coffee	-6,1	-9,0	-10,7	-6,5	-7,1
Short-life juice	-14,0	-10,3	-6,4	-4,3	-3,0



Table 13 Changes in the average retail prices of non-dairy products in South Africa
(source: Nielsen as supplied by SAMPRO)

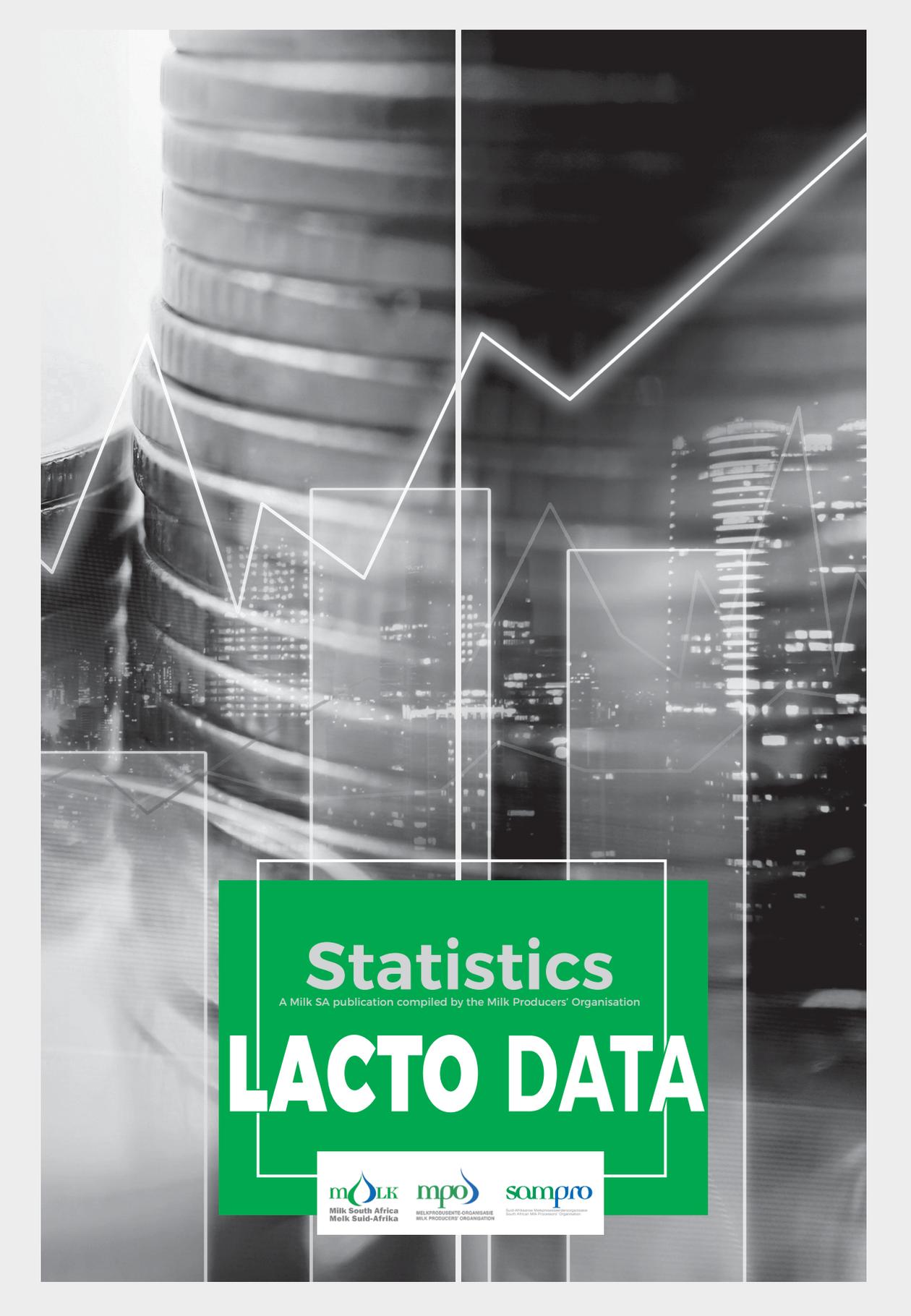
Product	Dec 2022 versus Nov 2022 (1 month ago) (%)	Dec 2022 versus Sept 2022 (3 months ago) (%)	Dec 2022 versus Jun 2022 (6 months ago) (%)	Dec 2022 versus Mar 2022 (9 months ago) (%)	Dec 2022 versus Dec 2021 (12 months ago) (%)	Dec 2022 versus Jun 2021 (18 months ago) (%)	Dec 2022 versus Dec 2020 (24 months ago) (%)
Instant cereals	2,7	2,3	11,9	8,3	11,9	17,6	16,0
Bread	2,0	0,6	7,7	15,0	16,7	22,1	18,5
Rice	6,3	2,5	4,1	5,9	3,7	-0,4	-5,9
Maize meal	4,5	8,5	15,0	28,5	34,0	28,4	27,4
Margarine	4,7	3,0	7,4	12,4	16,2	20,1	29,9
Tea	9,6	2,3	6,8	4,3	6,1	2,0	2,8
Coffee	24,5	5,1	23,2	13,8	21,2	37,0	26,3
Short-life juice	-0,5	-0,2	10,0	16,3	19,1	12,5	21,1





ACRONYMS AND ABBREVIATIONS

CPI	consumer price index	OECD	Organization for Economic Co-operation and Development
DALRRD	Department of Agriculture, Land Reform and Rural Development	PD(s)	producer-distributor(s)
FAO	Food and Agricultural Organization of the United Nations	PPI	producer price index
FFPI	FAO Food Price Index	SAMPRO	South African Milk Processors' Organisation
FMP	full-cream milk powder	SARS	South African Revenue Service
FOB	free on board	SCM	solid-corrected milk
GDP	gross domestic product	SMP	skimmed milk powder
IDF	International Dairy Federation	t	tonnes (a metric tonne, equal to 1 000 kilograms)
IFCN	International Farm Comparison Network	UHT	ultra-high temperature
IMF	International Monetary Fund	US	United Kingdom
L	litre/s	US	United States
Milk SA	Milk South Africa	USDA	United States Department of Agriculture
MPO	Milk Producers' Organisation	WMP	whole milk powder



Statistics

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LACTO DATA


Milk South Africa
Melk Suid-Afrika


MELKPRODUCENTE-ORGANISASIE
MILK PRODUCERS' ORGANISATION


Suid-Afrikaanse Melkprodusent-Organisasie
South African Milk Producers' Organisation