



# BFAP BASELINE

AGRICULTURAL OUTLOOK

2019 - 2028



**BFAP**  
DATA  
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South African Sugar Research Institute (SASRI)

South African Wine Industry Information & Systems (SAWIS)

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# Foreword

The Bureau for Food and Agricultural Policy (BFAP), founded in 2004, is a non-profit organisation. BFAP exists with the distinct purpose to objectively inform and support decision-making by stakeholders in the agro-food, fibre and beverage sectors of Africa. It provides independent, rigorously tested, research-based market and policy analyses. BFAP consists of a network of employees and collaborators in the public and private sector and at universities spanning the African continent. BFAP has developed a firm reputation of delivering upon its commitment of informing and supporting decision makers in government, industry bodies, NGO's, and private sector. We collaborate with various internationally recognised institutions including the Organization for Economic Cooperation and Development (OECD), the Food and Agricultural Organization (FAO), the Food and Agricultural Policy Research Institute (FAPRI) and the BER (Bureau for Economic Research). BFAP is also a founding partner in the Regional Network of Agricultural Policy Research Institutes (ReNAPRI) in Eastern and Southern Africa.

**BFAP's vision and mission is to:**

undertake unbiased, scientifically rigorous and industry relevant research;  
generate research outputs and solutions guided by market based requirements and scenarios in order to drive sustainable commodity and food production and improve food security;  
support capacity development through postgraduate research at the associated Universities and other; and  
publish research outputs with the associated Universities in peer reviewed journals as well as respected valid popular media.

BFAP acknowledges and appreciates the tremendous insight of numerous industry specialists and collaborators over the past years. The financial support from the Western Cape Department of Agriculture and ABSA Agribusiness towards the development and publishing of this Baseline is also gratefully acknowledged.

Although all industry partners' comments and suggestions are taken into consideration, BFAP's own views are presented in this Baseline publication.

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# Context and Purpose of the Baseline

**The 2019 edition of the BFAP South African Baseline presents an outlook of agricultural production, consumption, prices and trade in South Africa for the period 2019 to 2028.**

The information presented is based on assumptions about a range of economic, technological, environmental, political, institutional, and social factors. The outlook is generated by the BFAP system of models. A number of critical assumptions have to be made for baseline projections.

One of the most important assumptions is that normal weather conditions will prevail in Southern Africa and around the world; therefore yields grow constantly over the baseline as technology improves. Assumptions regarding the outlook of macroeconomic conditions are based on a combination of projections developed by the International Monetary Fund (IMF), the World Bank and the Bureau for Economic Research (BER) at Stellenbosch University. Baseline projections for world commodity markets were generated by FAPRI at the University of Missouri. Once the critical assumptions are captured in the BFAP system of models, the Outlook for all commodities is simulated within a closed system of equations. This implies that, for example, any shocks in the grain sector are transmitted to the livestock sector and vice versa. Therefore, for each commodity, important components of supply and demand are identified, after which an equilibrium is established through balance sheet principles by equalling total demand to total supply.

This year's baseline takes the latest trends, policies and market information into consideration and is constructed in such a way that the decision maker can form a picture of equilibrium in agricultural markets

given the assumptions made. However, markets are extremely volatile and the probability that future prices will not match baseline projections is therefore high. Given this uncertainty, the baseline projections should be interpreted as one possible scenario that could unfold, where temporary factors play out over the short run and permanent factors cause structural shifts in agricultural commodity markets over the long run. The baseline, therefore, serves as a benchmark against which alternative exogenous shocks can be tested and interpreted. In addition, the baseline serves as an early-warning system to inform role-players in the agricultural industry about the potential effects of long-term structural changes on agricultural commodity markets, such as the impact of a sharp increase in input prices or the impact of improvements in technology on the supply response.

To summarise, the baseline does NOT constitute a forecast, but rather represents a benchmark of what COULD happen under a particular set of assumptions. Inherent uncertainties, including policy changes, weather, and other market variations ensure that the future is highly unlikely to match baseline projections. Recognising this fact, BFAP incorporates scenario planning and risk analyses in the process of attempting to understand the underlying risks and uncertainties of agricultural markets. Farm-level implications are included in the commodity specific sections and the scenarios and risk analyses illustrate the volatile outcome of future projections. Additional stochastic (risk) analyses are not published in the baseline, but prepared independently on request for clients. The BFAP Baseline 2019 should thus be regarded as only one of the tools in the decision-making process of the agricultural sector, and other sources of information, experience, and planning and decision-making techniques have to be taken into consideration.



# Executive summary and implications

**Following multiple years of prolonged growth, the post-2015 period has become a reality check for South African agriculture.** International commodity prices remained low, consumer's disposable income was under pressure and sectoral performance was riddled by exogenous shocks such as Avian Influenza, Listeria, Foot and Mouth Disease and severe and recurring droughts in many parts of the country. In real terms, growth has been hard to come by, a situation that will certainly not change over the next decade. This underlines the importance of a conducive investment environment and hence the critical importance of a successful land reform programme that maintains the legal integrity of market transactions while confronting the historical legacy of dispossession.

South African agriculture is influenced by multiple exogenous factors, with the two most important being domestic macro-economic conditions and international market dynamics. Both bring significant uncertainty in the short term. Despite initially improved sentiments surrounding changes in government, reform has been slow and South Africa's economy continues to face multiple structural challenges. First quarter GDP performance in 2019 was disappointing, resulting in growth projections for 2019 being reduced to below 1% for the third time in four years. Unemployment remains persistently high and while medium term economic performance is expected to improve, current projections are well below the levels of the early 2000's and those targeted in the NDP.

The South African consumer landscape is characterised by cultural and socio-economic diversity, high levels of income inequality, a young (but ageing) population and continued urbanisation. Despite positive nominal growth in households' disposable income over the last ten years, the per capita disposable income of households increased by only 0.1% in real terms from 2017 to 2018 – thus barely keeping up with inflation. Several factors contribute to the pressure on households, such as high levels of unemployment, rising debt and a large share of youth which have

to be supported within the financial structures of households. Limited access to food is a reality faced by some 25% of people and 21% of households, while almost half ( $\pm 45\%$ ) of households in the country are classified as poor (Stats SA, 2017). A more positive note has been the performance of monetary policy, with inflation trending downwards over much of the period.

In the global context, recent years have also brought changes to the environment within which agriculture operates. A decade ago, global markets faced prospects of lower barriers to trade, but Brexit and the trade war between the USA and China are already changing global trade flows. Europe's environmental protection laws, as well as its sanitary and phytosanitary regulations, are becoming stricter and in Africa, trade continues to be influenced by protectionism, high transaction costs and ad hoc policy application. In light of these realities, nimble responses by governments and close collaboration with the private sector will be even more decisive factors in determining success in the global marketplace.

Following years of relative stability, 2019 brought significant uncertainty in the global market space. Excessively wet conditions in the USA delayed planting and raised concern regarding the global maize harvest in 2019. In response, US maize prices have increased by more than 20% since April. The effect on soybean markets has been far less severe, owing to a combination of high stock levels, the ongoing trade war between the US and China, and reduced demand for soybean meal in China due to African Swine Fever (ASF) related reductions in its pig herd, the single largest uncertainty in global meat markets. The extent of culling, conservatively estimated at 24% of the pig breeding herd, as well as consumer's propensity to substitute alternative meat products, remain unclear, but China's pork imports are set to increase substantially in the short term, thereby lending support not only to pork prices, but also to alternative meats.



Rising international prices resulting from the US weather conditions and the ASF outbreak in China are projected to support a short-term recovery in South Africa's agricultural GDP. These factors are temporary in nature and under the assumption of stable weather conditions, their impact recedes post 2020, causing a stagnation in South Africa's agricultural GDP. Sustained improvements are projected from 2023 onwards, when economic growth rates start to improve and production levels in the livestock industry recover from the declines associated with drought and disease outbreaks in recent years.

In South Africa, weather conditions are also playing a part in curtailing short-term prospects. For the third time in four years, a dry early summer in 2019 raised concern regarding summer crop production through the critical planting period. When rain did arrive, producers showed immense planting capacity to get 94% of the intended maize hectares planted, most of which occurred in a short 2 week window. The combination of smaller crop, stock drawdown, weaker exchange rate and rising international prices did increase domestic price levels, but the rapid response shown by producers when the weather improved prevented South Africa from moving to import parity based pricing, which would have resulted in a much greater increase in food staple prices. Nonetheless, the seemingly increased frequency of such events raises concern regarding the financial sustainability of many producers.

Maize remains the largest summer crop produced in South Africa, but the drought conditions of 2013, 2015, 2016 and in certain regions in 2019 has left many producers in the North West and parts of the Free State in a very challenging environment. Financial strain is increasing, carry-over debt is rising and many are looking to alternatives. Many producers have turned to cotton, where higher prices have supported profitability, resulting in a revival of an industry that had contracted for a number of years. Other alternatives include soybeans, where area has expanded rapidly and consistently over the past decade, or a shift to fodder production and more intensive grazing systems in rotation with cash crops to increase the income from livestock enterprises.

In the livestock sector, a number of factors have combined to strain producer margins in 2019. These include rising feed prices resulting from the dry

planting season, as well as the FMD outbreak, which halted beef exports in the first quarter of 2019. With domestic consumer spending under pressure, the diversion of products that might otherwise have been exported into the domestic market caused prices to decline sharply, despite constrained supply amid a cycle of herd rebuilding.

Over the course of the next decade, a persistently weak economic environment causes the dietary diversification evident over the past decade to slow. By implication, meat consumption growth is projected to slow and, as the most affordable option, chicken is still projected to account for the largest share of additional meat consumption. Whilst slower, growth remains positive and consequently feed grain consumption exhibits a similar trend. Feed related crops such as yellow maize and soybeans continue to expand at a faster rate than food staples such as white maize, but the decline in per capita consumption of white maize that has been evident over most of the past decade is also projected to slow. Combined with an expanding population, this will support growth in white maize consumed as food. The production growth required to support this additional demand is projected to be attained from yield gains, with white maize area still declining. While the share of exports in total white maize consumption is projected to decline over the ten-year period, South Africa is expected to remain in a surplus position, enabling it to supply neighbouring markets such as Maputo. In the short term, the effect of weather conditions in regional white maize markets could yield additional export opportunities, particularly into Zimbabwe and Mozambique. Zambia, which represents South Africa's largest competitor in these markets, is also expecting a below average crop in 2019.

Contrary to white maize, some area expansion is still projected for feed related commodities such as yellow maize and soybeans over the next decade, albeit at a slower rate. The expansion of soybean production, with the concomitant investment in increased processing capacity, represents one of the success stories in South African agriculture over the past decade. Ever increasing crush volumes have enabled South Africa to replace a large share of previously imported protein meal. However, this market is also maturing, and, further expansion will be conditional on growth in livestock production, which is projected to slow, but remain positive.





In livestock markets such as beef (which has become increasingly orientated towards exports in recent years) and wool, the FMD outbreak in 2019 proved a huge challenge. Provided that South Africa is able to regain and maintain its FMD free status, both production and exports are projected to expand over the coming decade. In the case of beef, the expansion is slower due to the time required to rebuild herd numbers. South Africa's success in managing disease outbreaks will be absolutely critical to ensure that this growth occurs.

Growth in agricultural exports over the past decade has been supported by the horticultural sector. Industries such as citrus, table grapes and pome fruit have all succeeded in capturing an ever increasing share of global trade volumes. In recent years, these sectors were also challenged by adverse weather conditions. Severe water shortages in the Western Cape in particular damaged orchards, which is still reflected in current season production volumes. The sector is highly reliant on irrigation and will in future face new norms in terms of water availability. However, the challenging water situation also initiated some innovative ideas to improve water efficiency. From night irrigation to different irrigation types or netting in order to reduce evaporation, many producers were able to continue production with less water and will in future continue to reap the benefits of increased water efficiency.

The rapid growth attained by several fruit industries over the past decade reflects the success and competitiveness of these sectors, but continuous expansion of market access is critical to absorb the additional products that will enter the market over the next few years. This is particularly true for soft citrus, lemons and limes, where many young orchards have already been established. Failure to expand market access could result in over-supply in current markets, with an accompanying reduction in prices. In the face of rising fruit production globally, consistent supply of high quality fruit into growing markets will be critical to maximizing the value of fruit production. In this regard, the wine industry has been successful in growing export values in 2018, despite lower volumes in a constrained and consolidating supply environment, through a targeted focus on higher value products and markets.

While the 2019 edition of the BFAP baseline sketches a sector under increasing pressure, it also highlights a number of success stories. In addition to its contribution to GDP, the sector is also benchmarked against staple

food prices and employment creation, both of which are important to long run sustainability of the sector, the country and its people. They touch on the basic elements of food security, and cut across all sectors in rural and urban areas of the country.

With respect to staple food inflation, the costs of a staple food basket for a family of four has declined from R479 per month in 2016 to R425 per month in 2018, bringing significant relief to the marginalised low-income households in the country. However, for the outlook period, the costs of a staple food basket is projected to increase by 6%, with the main driver being maize meal, where prices are expected to increase by 11% on the back of an expected increase in the farm gate maize price of more than 20%.

In terms of employment, primary agriculture cannot be considered alone, as the targets set in the NDP for 2030 cut across the value chain. Since 2015, formal employment of farm workers has been declining, despite significant expansion in a number of labour intensive export industries. Job losses that have occurred in sectors such as sugar and general shifts towards mechanisation in the non-labour intensive industries have outweighed the jobs gained in the labour intensive industries such as citrus, table grapes, apples, macadamias, pecans and avocados – all of which have already expanded beyond the targets of the NDP.

The growth path projected in the 2019 BFAP baseline is a single possible and plausible future outcome, which represents a “business as usual” scenario. Alternative growth paths are also possible, if South Africa is able to unlock its true potential with respect to its natural resources and its people. However, there is no silver bullet that will provide this increased growth, and more plans, uncoordinated efforts and emotional lobbying will simply not be sufficient. The sector will only grow above baseline expectations through dedicated and well-coordinated delivery of very specific actions and plans, executed by the commitment and combined effort of the public and private sector with real people and real capital to drive inclusive agricultural transformation and transfer of land in a just and sustainable way. There is no lack of plans and we have the benefit of learning from our mistakes – what is needed now is a greater emphasis on implementation.



# OVERVIEW OF THE SOUTH AFRICAN AGRICULTURAL LANDSCAPE

**BFAP launched its Baseline 2017 under the theme “When realism sets in”, and the following paragraph is quoted from the 2017 Baseline:**

*“The reality is that under the assumptions of the baseline, fast growth in the sector will not be handed on a tray and the true level of competitiveness and sustainability of the South African agro-food system on the global stage will be tested properly. Global and local economic growth rates are slow, consumers’ disposable income is under pressure, and commodity prices are low. Commodity cycles will eventually turn positive again but faster economic growth rates are generally required to fuel higher commodity prices.”*

Since 2017, growth was certainly not “handed on a tray” (Figure 1). In fact, in real terms, BFAP projects that the gross value of agricultural production in 2019 will be similar to the value recorded in 2015. Apart from low commodity prices and pressure on disposable income of consumers, sectoral performance was riddled by exogenous shocks, such as Avian Influenza, Listeria and severe drought conditions in many parts of the country. Under the 2019 Baseline projections, the short term recovery in agricultural GDP is supported by higher international prices following excessively wet conditions in the United States. After that, sustained improvements only occur from 2023 onwards, when

economic growth rates pick up and production levels in the livestock industry recover from the drought and disease outbreaks.

Prolonged periods of slow growth in agricultural output are not uncommon in South Africa and abroad. During the past decade, for example, many of the agricultural economies in the world experienced slow growth. Figure 2 presents the average annual growth rate in real terms for agricultural GDP across a selection of countries. At an annual average growth rate of 1.7% over the past decade, SA is leaning towards the bottom third of the group, with the fastest agricultural growth coming from major economies like China and India with a combination of growing economies and an increasing population. Ukraine, USA and Brazil were some of the economies that benefitted from major export opportunities into these markets. Had Australia not been hit by longer spells of drought, it would also have benefitted more from these export markets. Other South American countries like Argentina and Chile have fallen behind South Africa and performance in Europe has been dismal. African countries with fast population growth rates like Tanzania, Nigeria and Ghana are still growing, but in countries with a smaller population like Zambia, growth rates have also been declining.

Compared to a decade ago, when global markets had prospects of lower barriers to trade, the environment

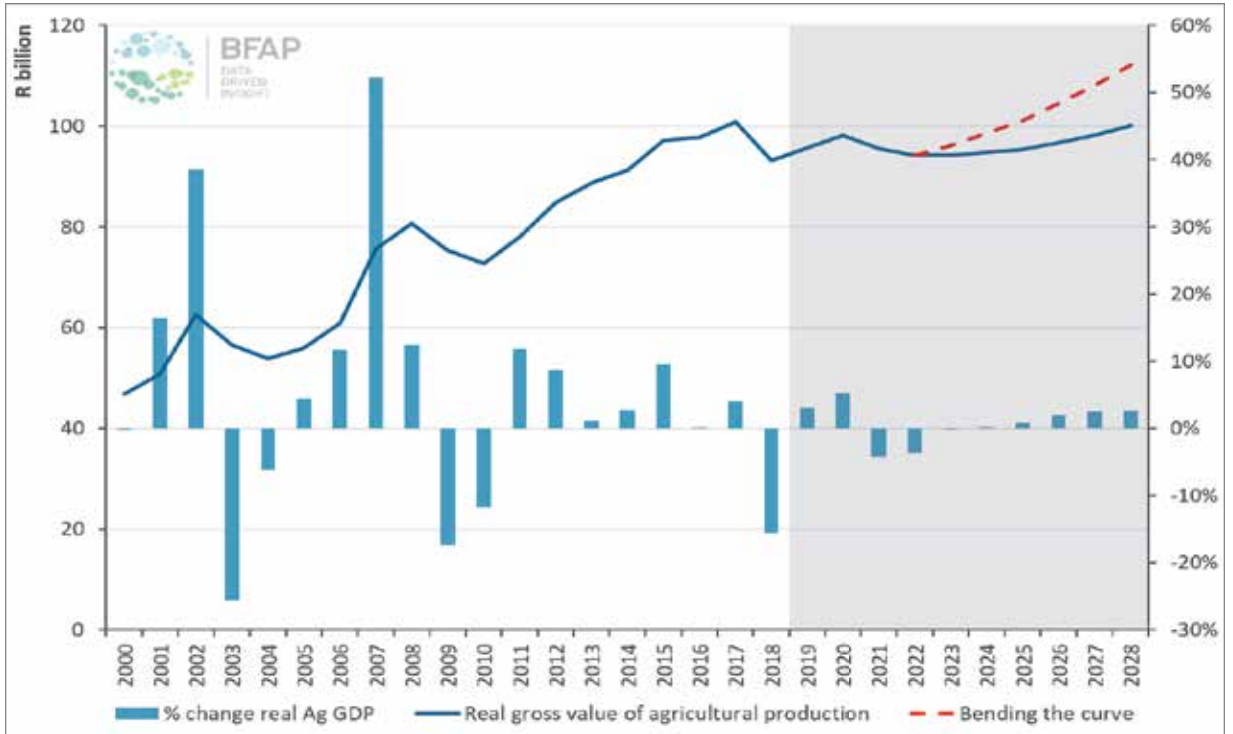


Figure 1: Growth of the South African agricultural sector

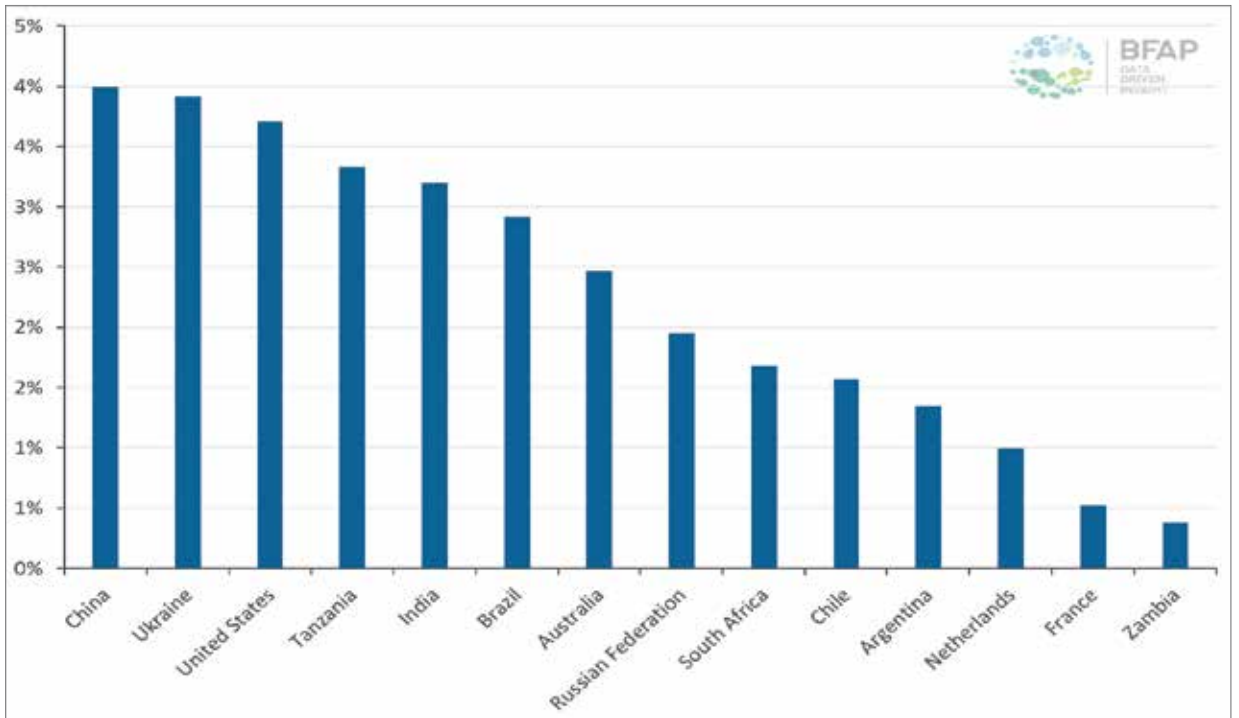


Figure 2: Global growth in agricultural GDP

Source: World Bank, 2019

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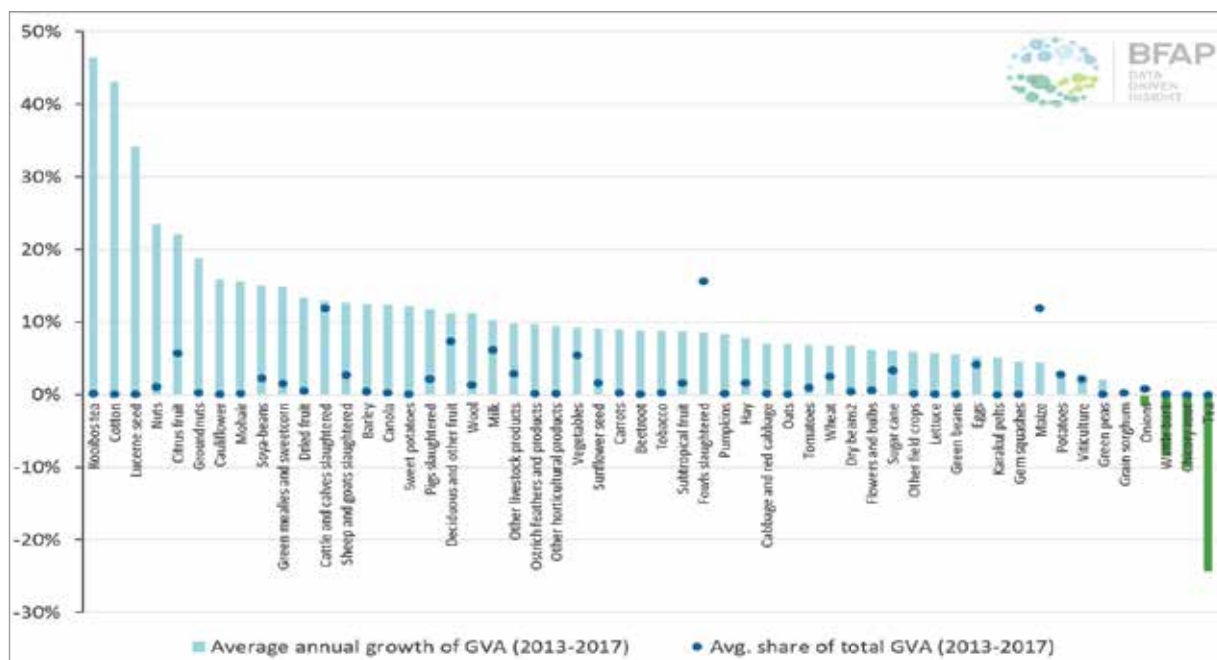
has changed completely. The USA-China trade war is affecting global trade flow patterns, the outbreak of African Swine Fever (ASF) in China can potentially trigger a large shock on global livestock markets, Europe's environmental protection laws and sanitary / phyto-sanitary regulations are becoming stricter and in Africa, trade is still severely affected by protectionism, high transaction costs, red tape, and ad hoc policies. In light of these realities, nimble responses by governments and close collaboration with the private sector will be even more decisive factors in determining success in the global marketplace.

Despite the difficult conditions in South African agriculture in recent years, some sectors performed exceptionally well, with both reinvestment and green-fields investment maintaining and growing output and employment. Figure 3 summarises the average annual growth of the gross value of production for the most important agricultural commodities over the period 2013-2017. This pattern of performance aligns with the initial matrix that BFAP designed for the NDP in 2011. Figure 4a and Figure 4b present South Africa's performance in agriculture trade relative to other industries (4a) and as a share of global trade (4b). As a share of global trade, South African exports of citrus, grapes and pome fruit have been increasing over the past decade, with citrus leading the way, growing its

share from around 4% in 2001 to more than 10% in 2018, followed by table grapes (5% to 7%) and pome fruits (3% to 6%).

For the purpose of this Baseline, agriculture's overall performance is benchmarked against prices of staple foods (Figure 5) and the creation of employment (Figure 6). These are the two most basic, yet important indicators that will eventually determine the long-run sustainability of the sector, the country, and its people. These indicators touch on the basic elements of food security, and cut across all sectors in rural and urban areas of the country. With respect to staple food inflation, the costs of a staple food basket for a family of four has declined from R479 per month in 2016 to R425 per month in 2018, bringing significant relief to the marginalised low-income households in the country. However, for the outlook period, the costs of a staple food basket are projected to increase by 6%. The main driver for staple food inflation for the coming year will be maize meal, where prices are expected to increase by 11% on the back of an expected increase in the farm gate maize price of more than 20% relative to 2018.

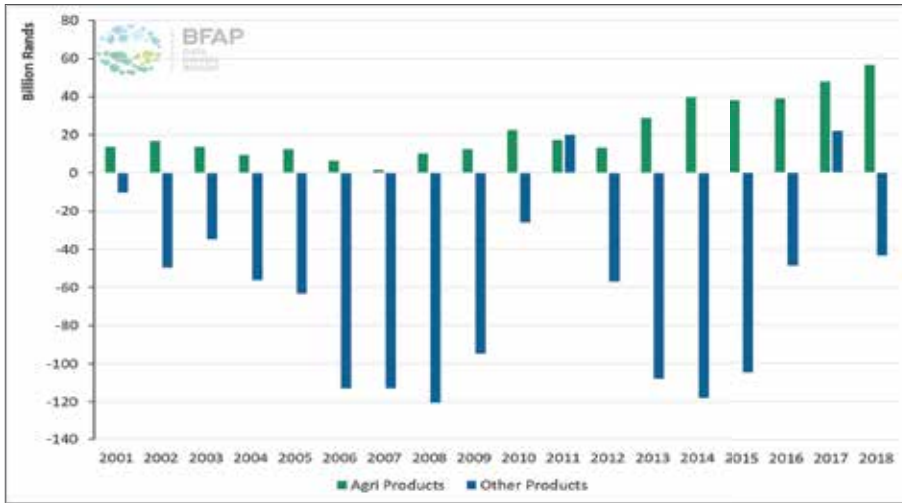
Employment remains a critical element in the agricultural sector. The one million employment target set by the NDP is generally misinterpreted as referring only to on-farms jobs, which is not the case. There are clearly three categories targeted in the NDP, each



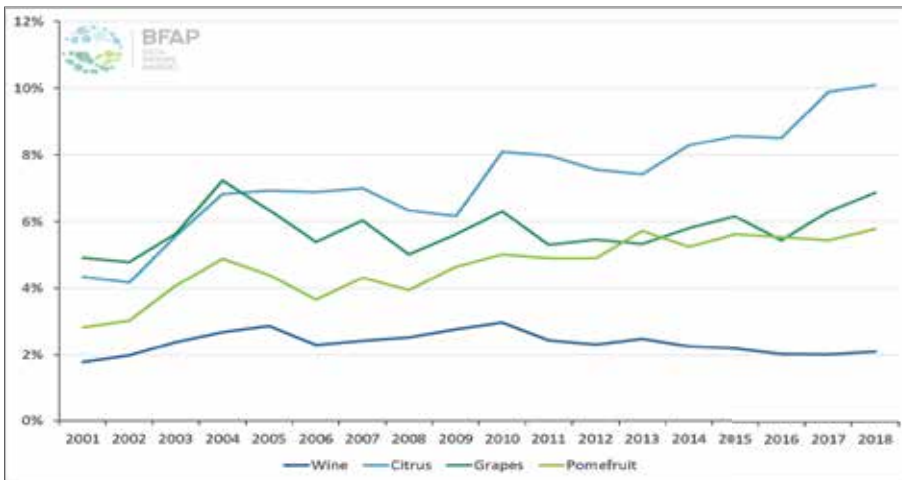
**Figure 3: Agricultural performance in context: growth in gross value of production (2013-2017) and share of total agricultural production value (2013-2017)**

Source: DAFF, 2018

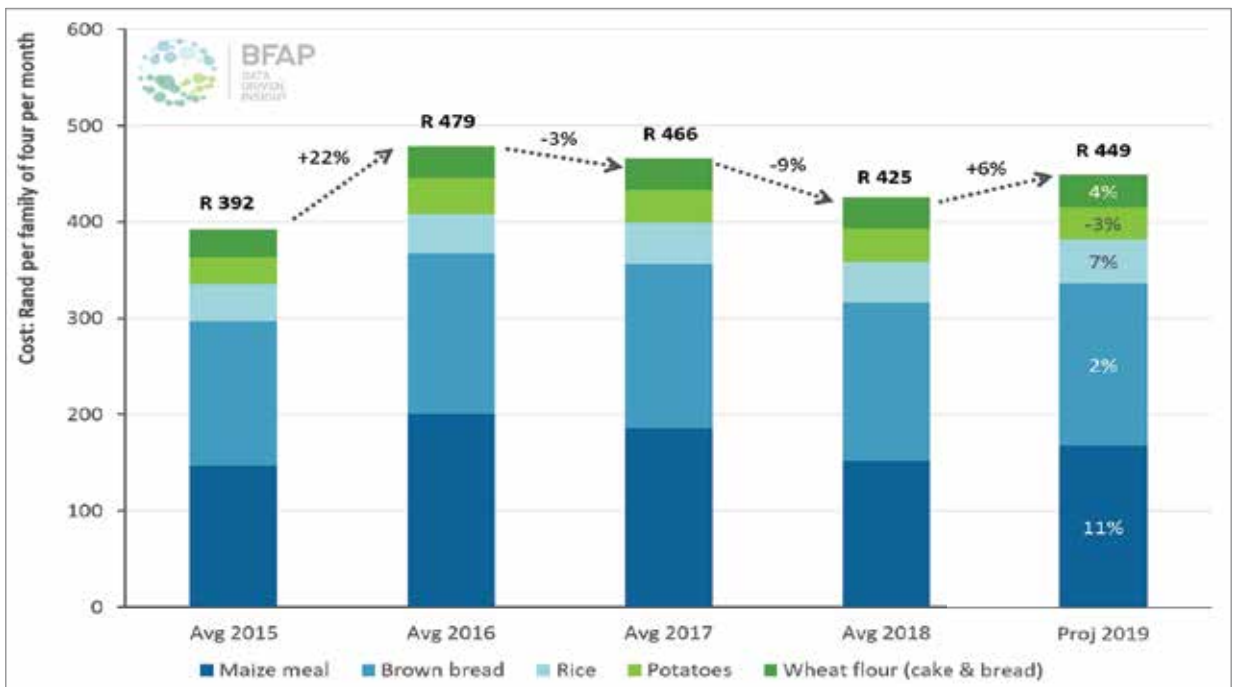




**Figure 4a: SA's net exports of agriculture vs. other products**  
Source: ITC Trademap, 2019



**Figure 4b: SA's share of global trade in selected fruit products**  
Source: ITC Trademap, 2019



**Figure 5: Staple Food inflation**



contributing one-third of the additional employment: first, the revitalisation of smallholder and land-reform farms as well as under-utilised farm land, second, the expansion of high-value export orientated subsectors, and third the investment in agro-food value chains with upstream and downstream linkages. Figure 6 shows the trend in the formal employment of farmworkers, which is essentially only representing the second category of the NDP. In this category, employment has been declining since 2015, despite the expansion in a number of labour intensive export industries. In other words, job losses that have occurred in sectors such as sugar and general shifts towards mechanisation in the non-labour intensive industries have outweighed the jobs gained in the labour intensive industries identified above.

Figure 7 presents BFAP's ranking of the performance of the various categories as identified in chapter 6 of the National Development Plan over the period 2011-2019 with respect to growth and jobs. The two categories that are well on track to achieve both the growth and jobs targets set by the National Development Plan for 2030 are the labour-intensive export industries and the informal value chains. For example, in the NDP the total expansion for table grapes, citrus and apples was projected at 4 700 ha, 15 000 ha and 2 500 ha respectively until 2030. In the case of table grapes and apples, the expansion has already been double that, while for citrus the projected expansion has already taken place. Commodities like macadamias, pecans and avocados have also already exceeded the predicted expansion.

As previously mentioned in the NDP, the creation of secondary jobs within the agro food/value chain plays a critical role with one third of the jobs and growth that have to come from this category. Despite the challenging environment, both the formal and informal value chains have grown rapidly. While a lack of official statistics on the informal sector limits assessment, anecdotal evidence and high-level surveys suggest that the "hidden-middle" has expanded – with

the number of actors and the size of operation in the space increasing significantly. Similarly, the formal value chains have also provided fast growth. Due to their scale of operation, these value chains are less labour intensive, but make a larger contribution to the gross domestic product than their informal counterparts. For example, a R2 billion investment by the private sector in soybean crushing facilities in the past 8 years has provided South Africa with sufficient crushing capacity to meet the local demand for soybean meal. Soybean production has been increasing, and BFAP projects that by 2020 the country will produce sufficient soybeans to meet local consumption. The two categories that have been lagging behind remain the smallholder subsistence producers and the revitalisation of land reform farms and under-utilised land.

While Baseline projections are generally positive in the sense that a recovery is projected under the current set of assumptions, South Africa needs more to achieve the targets of transformation, jobs, growth and land reform that have been set by the National Development Plan. A "bending of the curve" is required and an alternative growth path of the future illustrates a 12% growth in real terms above the baseline by 2028 (Figure 1). This alternative path illustrates the gap between the current reality and the growth if South Africa's true potential is unlocked with respect to its natural resources and its people. However, there is no silver bullet that will provide this increased growth, and more plans, uncoordinated efforts and emotional lobbying will do more harm than good. The sector will only grow above baseline expectations through implementation of very specific and well-coordinated actions and plans, executed through the committed and combined effort of the public and private sector with real capital and people to drive inclusive agricultural transformation and transfer of land in a just and sustainable way. There is no lack of plans and we have the benefit of learning from our mistakes – what is needed now is a greater emphasis on implementation.

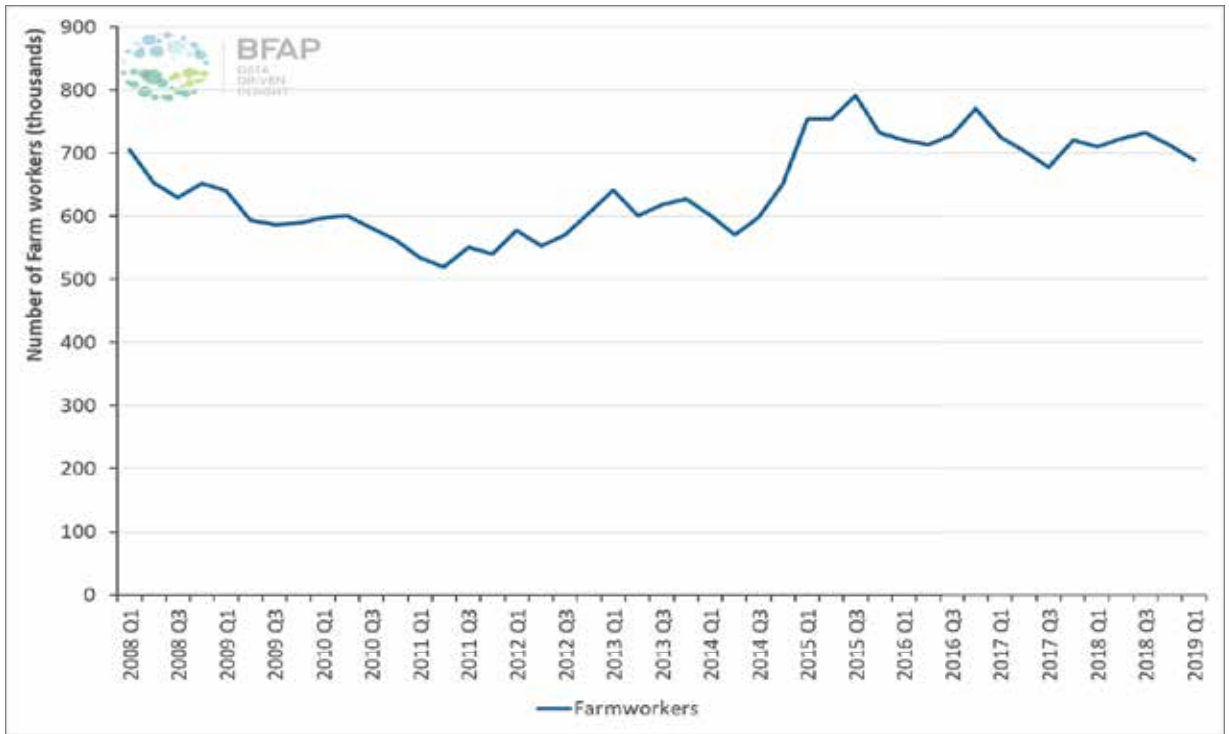


Figure 6: Employment in primary agriculture

Source: Stats SA, 2019

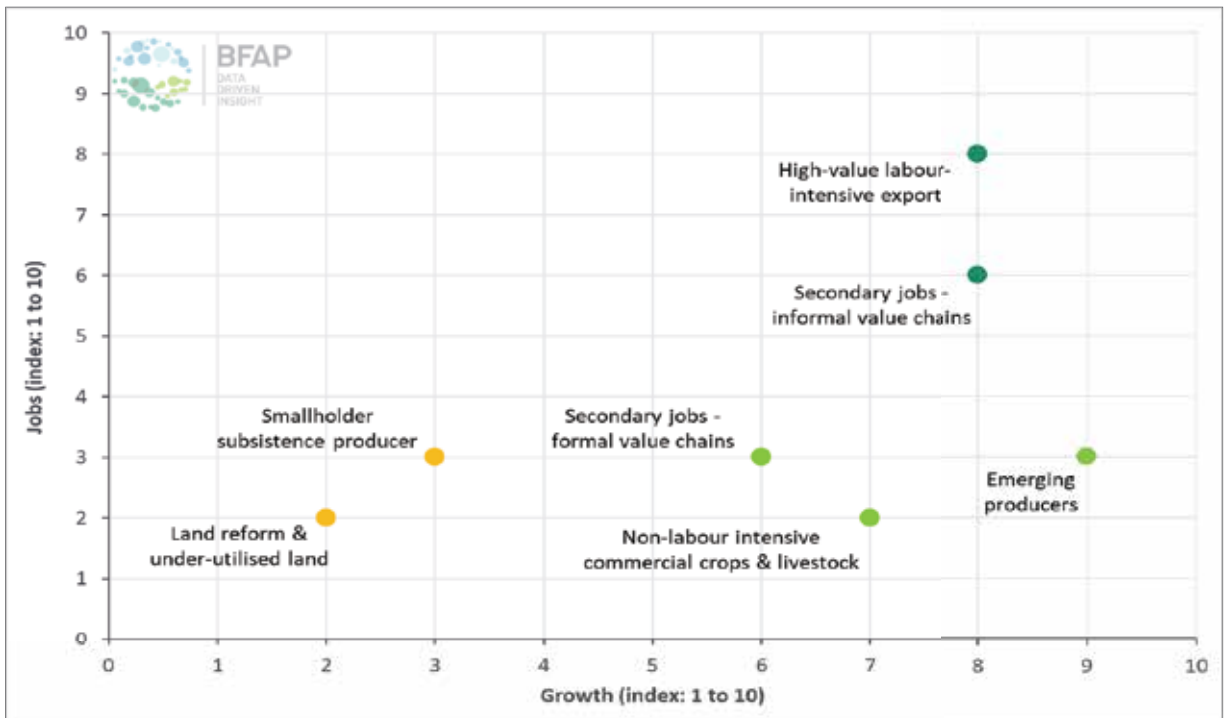


Figure 7: NDP Progress assessment in terms of jobs and growth: 2012-2018



# Key baseline assumptions

## Policies

The baseline assumes that current international as well as domestic agricultural policies will be maintained throughout the period under review (2019 – 2028). In a global setting, this implies that all countries adhere to bilateral and multilateral trade obligations, including WTO commitments, as well as stated objectives related to biofuel blending mandates. On the domestic front, current policies are assumed to be maintained.

With the deregulation of agricultural markets in the mid-nineties, many non-tariff trade barriers and some direct trade subsidies to agriculture were replaced by tariff barriers. In the case of maize and wheat, variable import tariffs were introduced. The variable import tariff for wheat was replaced by a 2% ad valorem tariff in 2006. However, in December 2008 the original variable import levy system was re-introduced, and the reference price that triggers the variable import levy on wheat was adjusted upwards from \$157/tonne to \$215/tonne. Following the sharp increase in world price levels in 2012, the industry submitted a request for a further increase in the reference price, which was accepted in 2013, increasing the reference price to \$294/tonne. Having initiated a review of the tariff structure in April 2016, ITAC adjusted the reference price downward to \$279 in 2017. The annual quota of 300 thousand tonnes of wheat that can be imported duty free from the EU from 2017 onwards has also been incorporated into the Baseline.

Global maize prices have traded significantly higher than the reference price in recent years and international prices are not projected to fall below the reference price of \$110 per tonne over the next decade. Consequently, no maize tariff is applied over the Outlook. In contrast, wheat prices have fallen well below the reference price and consequently the import duty on wheat was already triggered in 2015, and remains in place over the course of the Outlook as the projected world price for wheat remains below \$279/tonne. Ad valorem tariffs are applied in the case of oilseeds. In the case of meat and dairy products, a combination of fixed rate tariffs and/or ad valorem tariffs are implemented.

General duties on imported chicken were increased

substantially in October 2013, however a significant share of total imports originate from the European Union and therefore carry no duty under the original Trade, Development and Cooperation Agreement (TDCA), which was later replaced by the new Economic Partnership Agreement (EPA). Furthermore, South Africa applies anti-dumping duties of R9.40 per kilogram on bone-in chicken pieces originating from the United States. In June 2015, it was announced that this anti-dumping duty would be removed for a quota of 65 thousand tonnes of bone-in portions. On bone-in portions originating from the EU, South Africa applies a safeguard duty, which was introduced in 2018 at 35.3%. The safeguard will decline annually and be phased out completely by March 2022. The projected tariff levels, as derived from the FAPRI projections of world commodity prices, are presented in Table 1.

## Macro-economic assumptions

To some extent, the baseline simulations are driven by the outlook for a number of key macroeconomic indicators. Projections for these indicators are mostly, but not exclusively based on information provided by the OECD, the IMF and the Bureau for Economic Research (BER). Following the inauguration of President Ramaphosa and the so called “new dawn”, sentiments around the South African economy improved, but reform is a slow process and the economy continues to face a number of structural concerns. First quarter GDP performance in 2019 was very disappointing and growth projections have been reduced once more to a mere 0.7% in 2019. The Rand has been exceptionally volatile, influenced strongly by global sentiment towards emerging markets, as well as perceived factionalism within the ruling ANC. In the medium term, economic performance in the baseline is expected to improve relative to the recent past, but not come close to reaching the levels achieved through the early 2000’s, or those targeted in the NDP (Table 2).

The exchange rate represents one of the most important assumptions affecting agricultural markets, both through the cost of inputs as well as the pricing of several outputs. It is also one of the macro-economic variables that has been exceptionally volatile in recent



**Table 1: Policy Assumptions**

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
<b>R/tonne</b>										
Maize tariff: (Ref. price = US\$ 110)	0	0	0	0	0	0	0	0	0	0
Wheat tariff: (Ref price = US\$ 279)	734	670	710	706	770	791	821	846	877	913
Wheat tariff: (300 000 tonne quota: EU Origin)	0	0	0	0	0	0	0	0	0	0
Sunflower seed tariff: 9.4 % of fob	494	501	508	502	511	518	530	537	555	576
Sunflower cake tariff: 6.6 % of fob (4.95% for MERCUSOR origin)	190	202	214	212	219	224	229	233	241	252
Sorghum tariff: 3 % of fob	81	84	84	84	86	87	88	90	93	96
Soya bean tariff: 8 % of fob	405	403	416	415	422	426	434	442	456	471
Soya bean cake tariff: 6.6 % of fob (4.95% for MERCUSOR origin)	305	301	308	307	317	323	330	337	348	359
<b>Tonnes</b>										
Cheese, TRQ quantity	1199	1199	1199	1199	1199	1199	1199	1199	1199	1199
Butter, TRQ quantity	1167	1167	1167	1167	1167	1167	1167	1167	1167	1167
SMP, TRQ quantity	4470	4470	4470	4470	4470	4470	4470	4470	4470	4470
WMP, TRQ quantity	213	213	213	213	213	213	213	213	213	213
<b>Percentage</b>										
Cheese, in-TRQ	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
Butter, in-TRQ	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8
SMP, in-TRQ	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2
WMP, in-TRQ	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2
<b>c/kg</b>										
Cheese, above TRQ rate	500	500	500	500	500	500	500	500	500	500
Butter, above TRQ rate	500	500	500	500	500	500	500	500	500	500
SMP, above TRQ rate	450	450	450	450	450	450	450	450	450	450
WMP, above TRQ rate	450	450	450	450	450	450	450	450	450	450
Beef tariff: max (40 %*fob,240c/kg)	1725	1732	1771	1823	1914	1989	2058	2133	2222	2320
Lamb tariff: max (40 %* fob,200c/kg)	2183	2251	2263	2283	2338	2394	2434	2488	2556	2629
Chicken tariff (Whole frozen): 82%	2006	2042	2056	2066	2109	2149	2195	2261	2350	2450
Chicken Tariff (Carcass): 31%	124	124	125	125	126	126	126	126	128	129
Chicken Tariff (Boneless Cuts): 12%	336	342	345	346	353	360	368	379	394	411
Chicken Tariff (Offal): 30%	198	201	203	204	208	212	217	223	232	242
Chicken Tariff (Bone in portions): 37%	430	438	441	443	452	461	471	485	504	525
Chicken Safeguard: EU Origin bone in portions	534	455	295	45	0	0	0	0	0	0
Pork tariff: max (15 %* fob, 130c/kg)	202	214	216	235	244	249	251	252	255	262

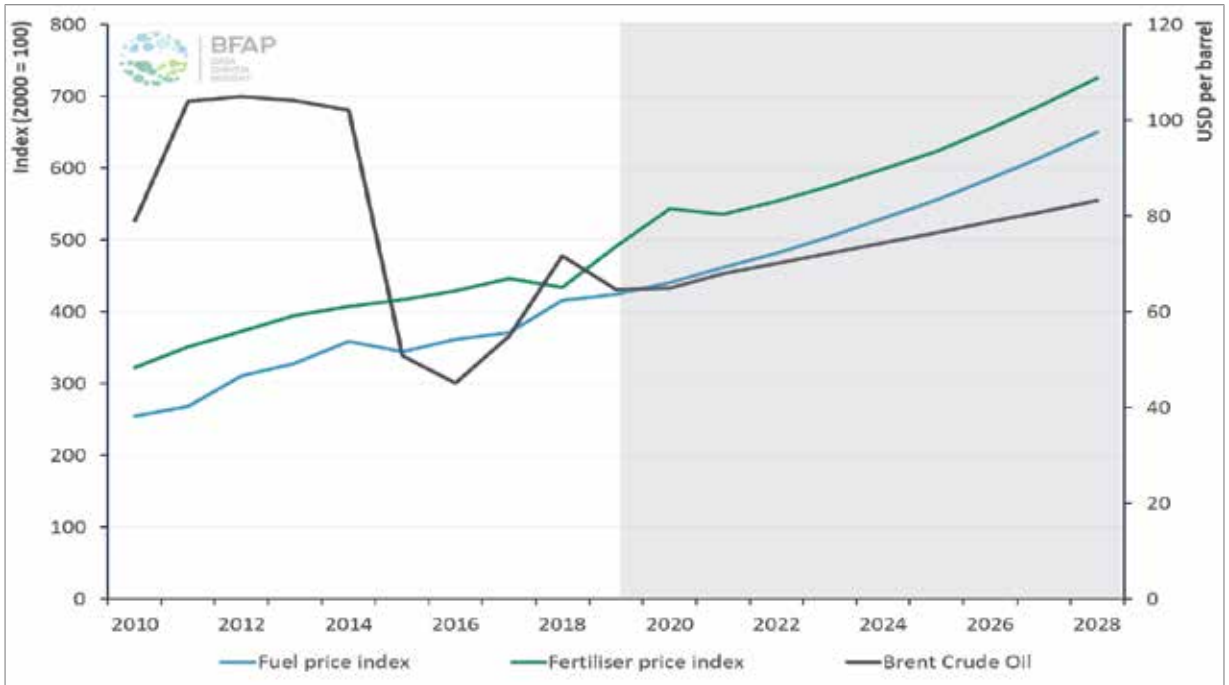
**Table 2: Key Macro-Economic Assumptions**

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
<b>Millions</b>										
Total population of SA	58.4	59.1	59.7	60.3	61.0	61.6	62.1	62.7	63.3	63.8
<b>SA cents per foreign currency</b>										
Exchange rate (SA cents/US\$)	1444	1469	1471	1476	1501	1529	1559	1598	1646	1696
Exchange rate (SA cents/Euro)	1650	1705	1701	1700	1721	1745	1772	1809	1855	1903
<b>Percentage change</b>										
Real GDP per capita	0.70	1.40	1.90	2.00	2.00	2.10	2.20	2.20	2.20	2.20
GDP deflator	4.95	5.41	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
Consumer Price Index	4.85	5.23	5.11	4.85	5.16	5.21	5.21	5.21	5.21	5.21
<b>Percentage</b>										
Weighted prime interest rate	10.3	10.3	10.3	10.3	10.5	10.5	10.5	10.5	10.5	10.5

years, influenced by economic performance, political sentiment, perceived country risk, as well as a number of global factors, where the Rand remains one of the most traded emerging market currencies. Over the course of the next decade, the assumption on the value of the Rand is conservative, with consistent depreciation expected, to approach R17 per USD by 2028. A weaker exchange rate over the course of the Outlook would result in higher price levels, as well as an increase in the cost of major inputs relative to the baseline.

Another factor with significant influence on producer input cost structure is the price of Brent Crude oil. This typically influences the cost of both fuel and fertiliser but can also influence international commodity

market prices through biofuel markets. Globally, oil prices have increased through 2018, as supply cuts by the Organisation of Petroleum Exporting Countries (OPEC) took effect in the market. With US producers able to expand at current price levels, prices have softened again in 2019. Prices are often influenced by political tension in oil producing regions, but under the baseline oil is expected to trade largely sideways to 2020, before turning upwards once more from 2021 onwards. By 2028, it is expected to again exceed 80 USD per barrel of Brent Crude (Figure 8). Under this assumption, combined with consistent depreciation in the exchange rate, key inputs such as fuel and fertiliser prices are expected to increase consistently over the baseline period (Figure 8).

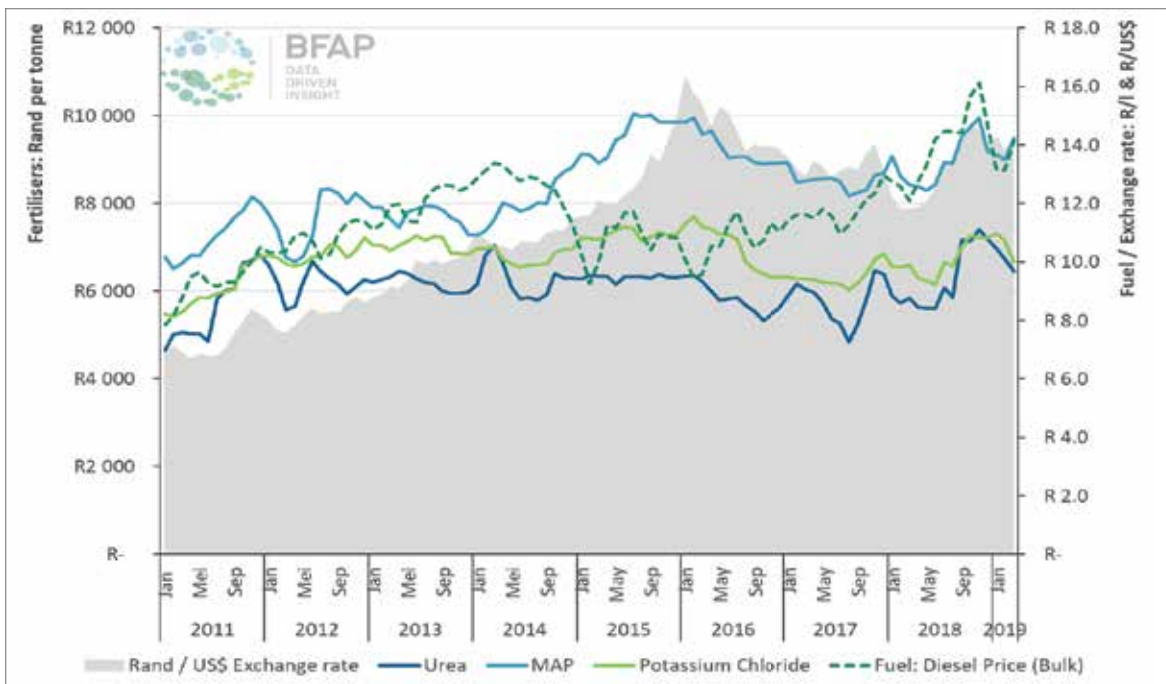


**Figure 8: Oil price assumption and input cost implication**

Source: OECD, IMF, BER and BFAP (2019)

### Box 1: Key trends in farming input expenditure

Since South Africa is a net importer of various farming inputs such as fertilisers and chemicals, costs of these inputs are often subject to fluctuations in the exchange rate. Therefore, if the Rand is depreciating against the US dollar (US\$), the cost of imported inputs would be expected to rise. This box considers recent trends in the cost of key agricultural inputs in South Africa.



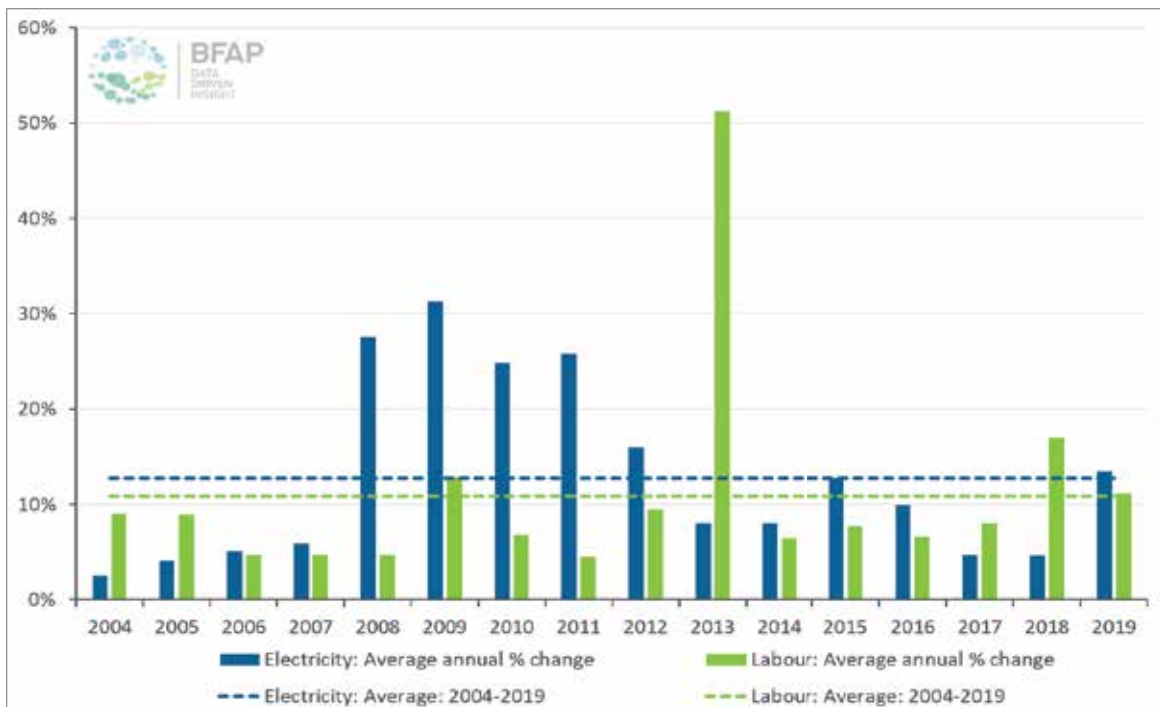
**Figure 9: Fuel, Fertilizer and Exchange Rate Trends**

Source: Grain SA & BFAP, 2019

Figure 9 presents the cost for key fertilisers components and fuel, as compared to the Rand / US\$ exchange rate. The exchange rate reflects a depreciation of nearly 80% since 2011, losing R5.77 to the US\$ by 2018 relative to 2011. Over the same period, the cost for fuel shows the largest increase, rising from R9.26 per litre in 2011 to R13.95 per litre in 2018, an increase of 51%. The cost for Urea remained relatively stable over the period, increasing marginally by 11% from 2011. The largest increase was observed in the cost for MAP, which increased by 24% since 2011. The cost of potassium chloride followed a similar trend as the cost for Urea. It is projected that the cost for Urea in 2019 will increase marginally from 2018 levels where the cost for potassium chloride is projected to move relatively sideways. For MAP, an increase of 5.8% is anticipated.

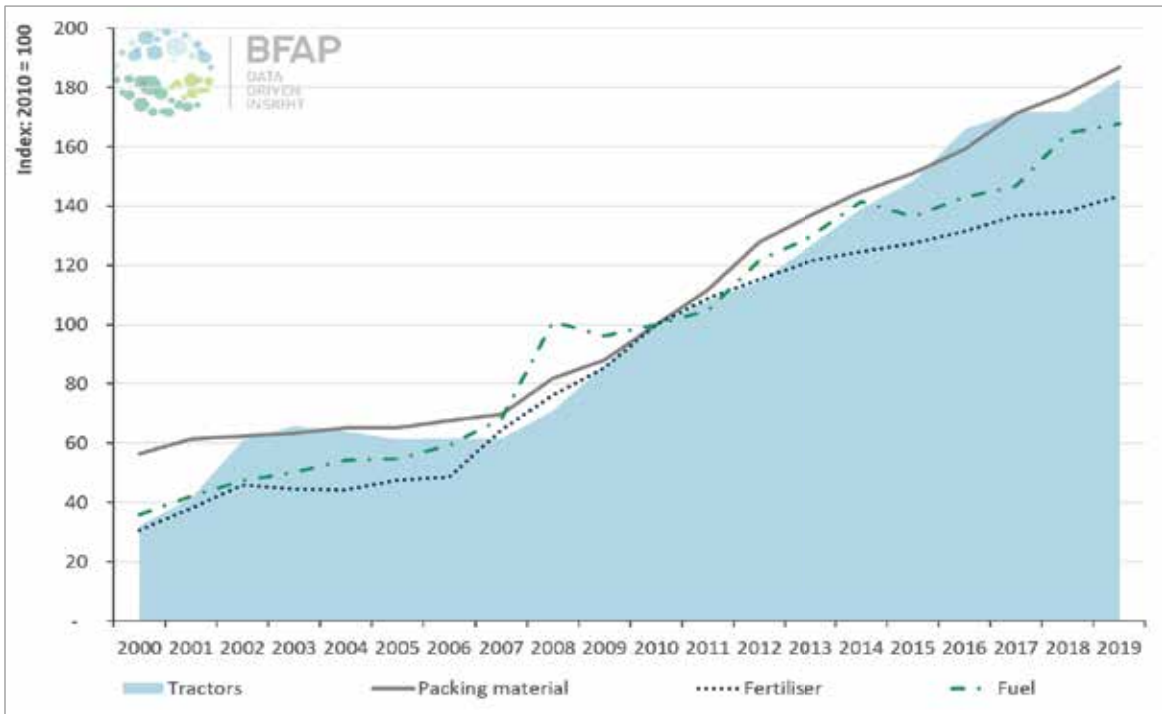
Administered cost such as the cost for electricity and labour plays a vital role in the financial planning of horticultural producers. Previous studies have indicated that the share of these inputs towards total cost is increasing rapidly. Figure 10 indicates the annual percentage change in the cost for electricity and labour. From 2004, the cost for electricity has increased on average by 13% per annum with some significant spikes from 2008 to 2011 where the annual percentage change exceeded 25%. Similarly, the cost for labour has increased on average by 11% over the same period. For 2019, it is projected that the cost for electricity and labour will increase by 13.5% and 11.1% respectively from 2018 levels.

Figure 11 illustrates the cost indices for packing material and tractors, relative to the cost trends for fuel and fertilisers. Table 3 further provides a summary for these cost indices in recent years. The results indicate that packing material has increased on average by 5% per annum over the past 5 years, whereas the cost for tractors has increased by 6%. Both these input cost variables have increased at a faster rate relative to fuel and fertilisers. Over the period from 2010 to 2019, packing material became 87% more expensive, tractors 83%, fertiliser 43% and fuel 68%. In 2018 and 2019 alone, packing material is projected to increase by 9% in total, compared to 7% for tractors, 5% for fertilisers and 14% for fuel.



**Figure 10: Annual percentage change in the cost of labour and electricity**

Source: Statistics South Africa, Potatoes SA & BFAP, 2019



**Figure 11: Input cost indices for tractors, packing material, fertilizer and fuel.**

Source: DAFF, 2019

**Table 3: Summary of key input cost trends over the past seasons**

	Packing material	Tractors	Implements	Fertiliser	Fuel
5-year average annual change	5%	6%	4%	3%	4%
10-year average annual change	8%	8%	7%	5%	6%
Total % increase: 2010-2019	87%	83%	69%	43%	68%
Total % increase: 2015-2019	24%	23%	18%	12%	23%
Total % change: 2018 & 2019	9%	7%	7%	5%	14%

Source: DAFF, 2019





# SOUTH AFRICAN CONSUMER PROFILE

**This chapter presents an overview of the dynamic South African consumer landscape which underpins the modelling projections presented in the 2019 edition of the BFAP Baseline. It sheds light on the demographic characteristics of South African consumers (on an aggregate level and from a socio-economically disaggregated perspective), as well as the dynamic changes in the socio-economic environment.**

## **Profile of socio-economic sub-segments amongst South African consumers**

The socio-economically disaggregated view of South African consumers presented in this section is based on the Socio-Economic Measurement (SEM™) segmentation tool, based on the Establishment Survey (an annual nationally representative survey of 25,000 South African aged 15 years and older conducted since 2016). The SEM segmentation tool is a socio-economic measure that differentiates how people live, along a spectrum from low to high socio-economic living standards, based on what they have access to in and near their homes (BRC, 2018)<sup>1</sup>. In previous editions of the BFAP Baseline, class mobility in South Africa was

illustrated through the Living Standard Measure (LSM) segmentation tool. However, the LSM segmentation was terminated in 2015. It is not possible to connect the LSM data with data for the SEM™ segments, as the SEM™ is a completely new measure with no direct comparison with LSM possible according to the SEM User Guide 2018. Data on the SEM™ segments has only been available for 2016 to 2018 and ideally a longer time series is needed to establish class mobility trends.

An overview of the ten SEM™ segments is presented in Figure 12, with the socio-economic living spectrum grouped into three lifestyle levels:

- Marginalised consumers (SEM™ segments 1 to 3) represented approximately 40% of the adults (aged 15 years and older) in 2018 (Establishment Survey, 2018) roughly overlapping with expenditure deciles (ED's)<sup>1</sup> to 4 as defined by Stats SA in household-level income and expenditure studies (where each ED represents 10% of households in South Africa). These consumers typically have very limited access to amenities such as a built-in kitchen sink (14% or less), hot running water (1% or less) and a flush toilet (10% or less), while having a strong rural component

<sup>1</sup> For more background information refer to the 2018 edition of the BFAP Baseline.

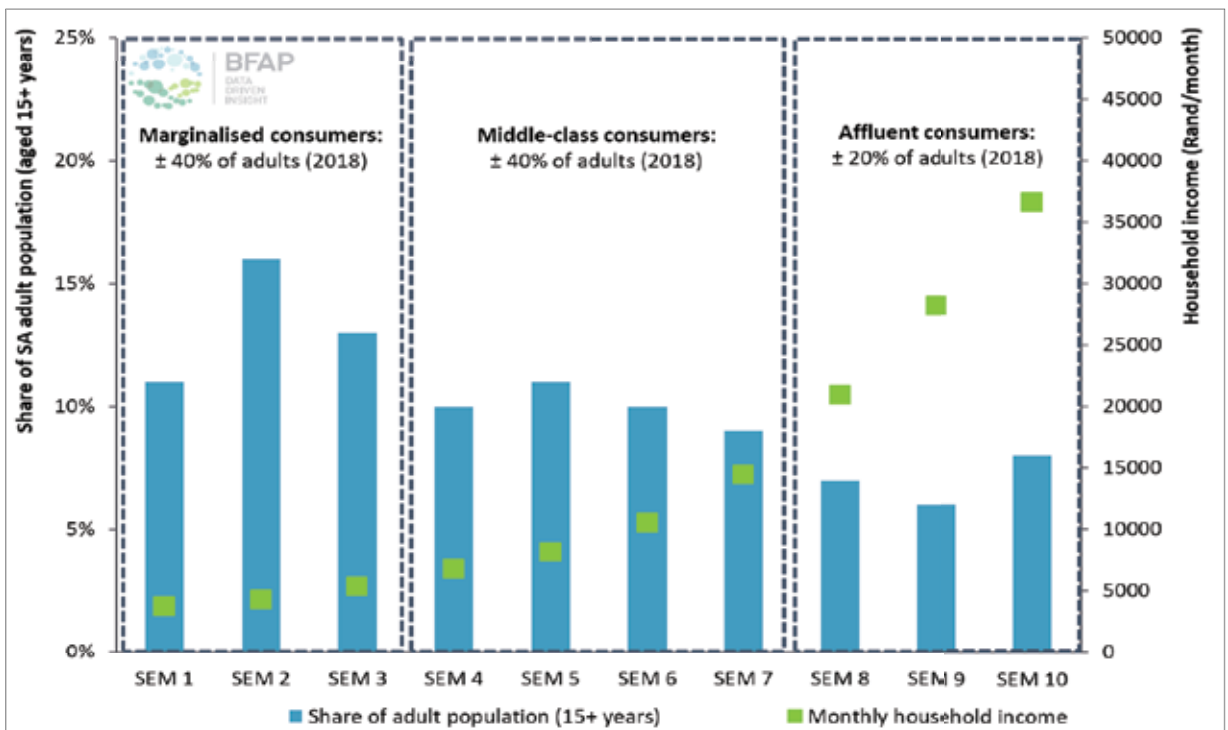


(up to 68%). This segment tends to reside in the KwaZulu-Natal, Eastern Cape, Limpopo and Gauteng provinces in South Africa.

- Middle-class consumers (SEM™ segments 4 to 7) represented approximately 40% of the adults (aged 15 years and older) in 2018 roughly overlapping with expenditure deciles (ED's) 5 to 8 as defined by Stats SA. This segment typically has improved access to amenities such as a built-in kitchen sink ( $\pm 75\%$ ), hot running water ( $\pm 27$ ) and a flush toilet ( $\pm 69\%$ ), while having a strong urban component ( $\pm 85\%$ ). This segment tends to reside in the Gauteng, KwaZulu-Natal, Eastern Cape, Limpopo and Western Cape provinces in South Africa.
- Affluent consumers (SEM™ segments 8 to 10) represented the most affluent 20% of adults in 2018, roughly overlapping with expenditure deciles (ED's) 9 to 10 as defined by Stats SA. Most consumers in this group live in urban areas with access to the basic

amenities mentioned above. This segment tends to reside in Gauteng, Western Cape and KwaZulu-Natal<sup>2</sup>.

The household<sup>3</sup> income levels reported in the Establishment Survey are generally higher than values reported in more recent Stats SA household-level income and expenditure studies for lower income brackets, while being lower for higher income brackets. Based on household income levels reported in Stats SA Living Conditions Survey 2014/2015 (adapted by growth in disposable income of households over time) the three least affluent expenditure deciles in South Africa had an income of approximately R2 000, R3 000 and R3 900 per month respectively, increasing to approximately R61 100 for the most affluent 10% of households (compared to a lower average monthly household income level of R36 592 reported for SEM 10 according to the Establishment Survey 2018). One should also bear in mind that the purpose of the



**Figure 12: An overview of the SEM™ segments in 2018**

Source: Establishment Survey 2018 (BRC, 2019)

<sup>2</sup> For a spatial map of the location of socio-economic sub-groups in the provinces of South Africa, refer to BFAP Baseline 2018.

<sup>3</sup> "A household is a group of persons who live together and provide themselves jointly with food and/or other essentials for living, or a single person who lives alone" (Stats SA General Household Survey, 2017).

SEM™ segments is to present a predictor of media and purchasing behaviour in South Africa.

### Dynamics in the South African consumer environment: HOUSEHOLD INCOME

According to data from the South African Reserve bank, the disposable income of households per capita (where disposable income refers to the amount of money available to a household after accounting for income taxes) increased by 82.9% in nominal terms and 7.7% in real terms (accounting for inflation) from 2008 to 2018 (Figure 13). Following real increases of 2.5% in 2009/2010 and 3.4% in 2010/2011, household disposable income has been under pressure in recent years with real growth rates varying between +1.8% and negative growth of 0.9% (Figure 13). Most recently, from 2017 to 2018, the per capita disposable income of households increased by 4.2% in nominal

terms, barely keeping up with inflation and thereby implying an increase of only 0.1% in real terms.

According to the Establishment Survey (2016 to 2018), the average household income in South Africa increased by ±13.4% in nominal terms (thus 4.5% in real terms from 2016 to 2018, illustrating a somewhat higher increase than observed in the Reserve Bank personal disposable income per capita data between 2016 and 2018 (+10.8% nominal increase and +1.9% real increase).

Figure 14 illustrates the household income distribution in South Africa according to Establishment Survey data for the period 2016 to 2018. During this three year period the share of South African households in the lowest income bracket (R1 to R4 999 per month) decreased, while the share of all higher income brackets increased towards 2018 – suggesting some movement to higher income brackets over time.

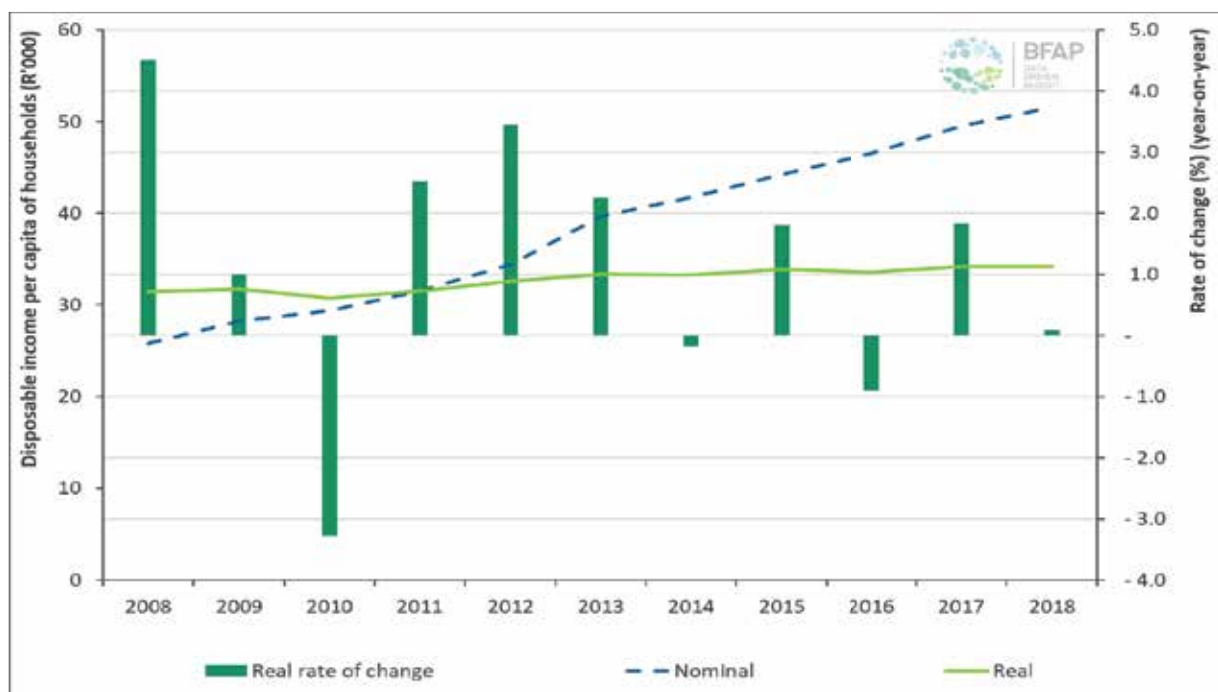
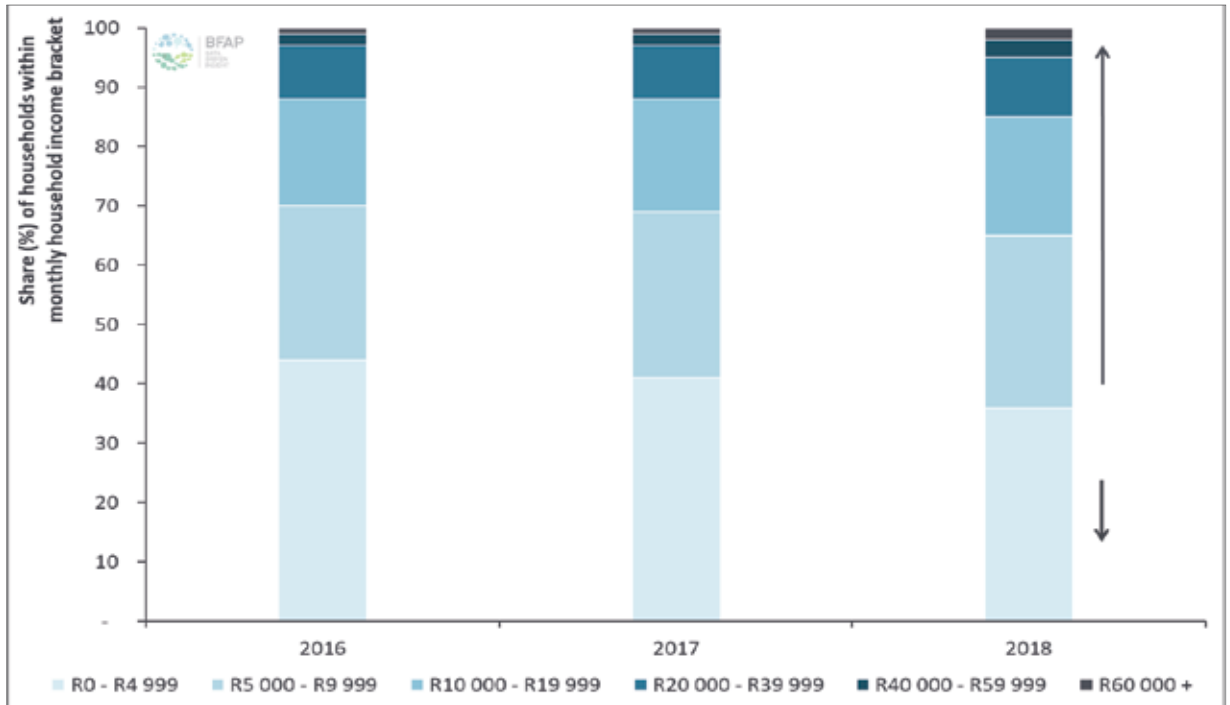


Figure 13: Disposable income per capita of household in South Africa from 2008 to 2018

Source: South African Reserve Bank, 2019



**Figure 14: Monthly household income distribution in South Africa (2016 to 2018)**

Source: Establishment Surveys 2016 to 2018 as reported in the March 2019 release

According to the 2017 Stats SA Establishment Survey, the dominant income sources of households were salaries / wages (applying to 65.4% of households), followed by grants (44.6%), remittances (16.0%), income from business (14.3%) and pensions (4.0%). Salaries / wages were particularly important in Gauteng and the Western Cape provinces, while grants and remittances were relatively more prominent in provinces such as Limpopo and Eastern Cape.

### Dynamics in the South African consumer environment: HOUSEHOLD SIZE

The average household size in South Africa has decreased from 4.5 members in 1996 (Census 1996) to 3.5 members in 2016 / 2017 (Stats SA General Household Surveys) – a reduction of approximately one household member over the 20 year period. During this period the total South African population increased by approximately 39% while the number of households increased by as much as 79%. Wittenberg et al. (2017) also reported an overall reduction in the average household size in South Africa from 1994 to 2012 and attributed the observation mainly to rapid household formation and shifts in location, with an attempt by households to gain better access to

services (such as the public provision of housing). This could also be partly attributed to improved education levels.

### Dynamics in the South African consumer environment: EDUCATION LEVELS

#### General movements...

Education levels in South Africa have been improving over time (Figure 15). From 2007 to 2017 the share of individuals aged older than 19 years with at least a Grade 12 qualification increased from 33.8% to 43.1 % (Stats SA General Household Survey, 2017), with decreasing shares observed for individuals who attained education levels of 'some primary schooling completed' and lower. The share of individuals with no schooling decreased by 46% to a level of 4.7% in 2017.

#### Education levels across the socio-economic spectrum...

Considering the total population, education levels generally improved towards higher socio-economic segments (Figure 16) (Establishment survey 2017), with the dominant education levels being reported as follows:



- Some level of high schooling (but not Grade 12) for the least affluent (27% of the population aged 15 years and older - SEM segments 1 and 2);
- Matric completed for SEM segments 3 to 8 (i.e. approximately the middle 60% of the population aged 15 years and older);
- Some post-matric qualification for the most affluent 14% of the population (aged 15 years and older) (SEM segments 9 and 10).

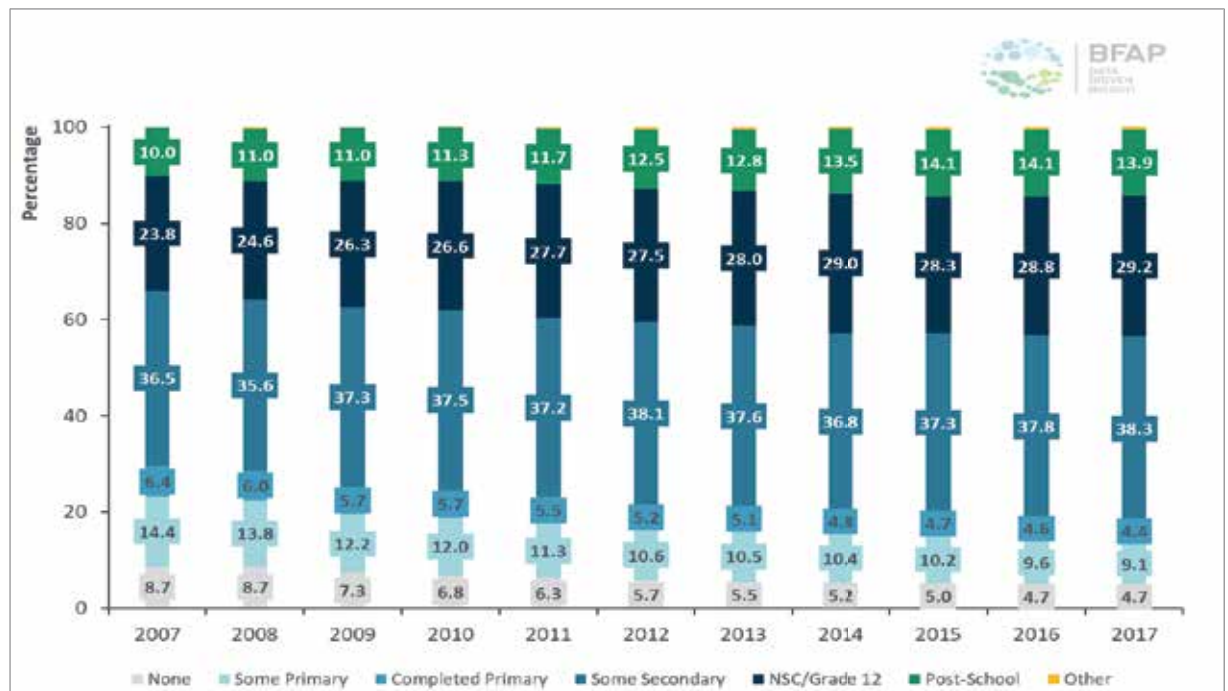
**Dynamics in the South African consumer environment: URBANISATION**

**General movements...**

Increasing urbanisation is a key feature of the South Africa consumer landscape, with the share of the population residing in urban areas increasing from 58% in 2001 (Stats SA Census 2001) to about 69% in 2018 (Establishment Survey, 2018) (Figure 17). According to the Stats SA mid-year population estimates (2018), the more urban provinces in South Africa (Gauteng and Western Cape) exhibited the largest positive net migration amongst all the provinces in South Africa

from 2006 to 2016, while the largest negative net migration was observed for the more rural provinces (e.g. the Eastern Cape and Limpopo). These observations are projected to continue towards 2021 (according to the Stats SA mid-year population estimates 2018). These observations underpin the reality of urbanisation in South Africa.

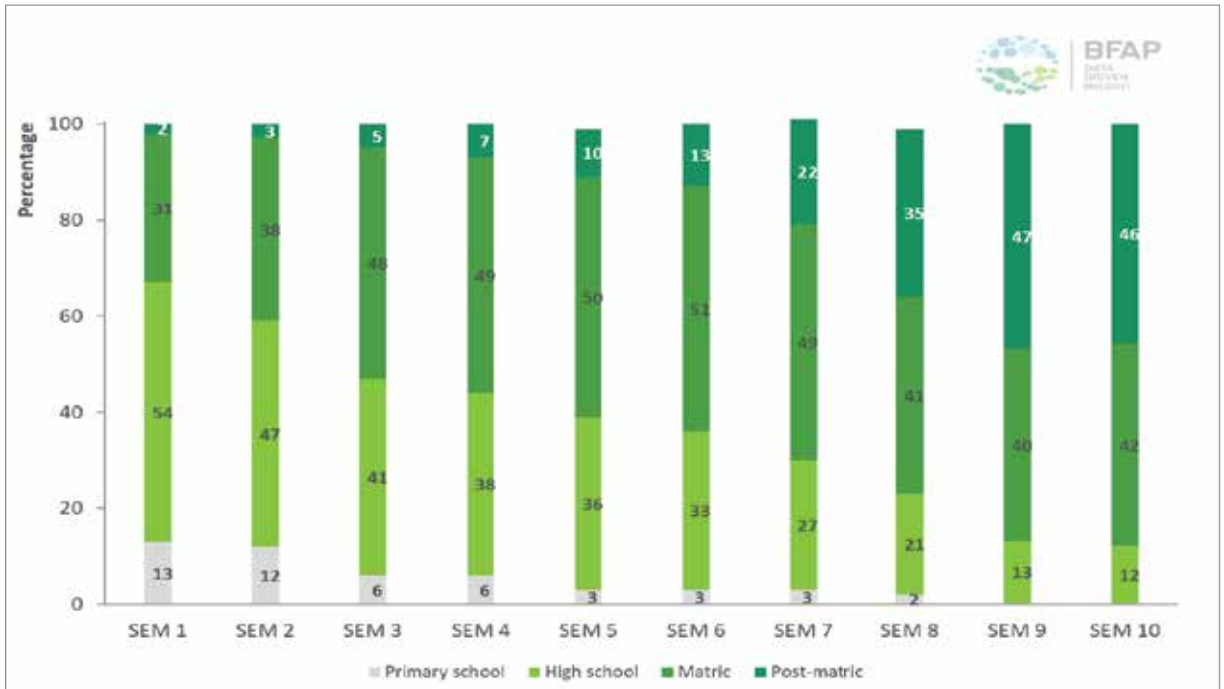
Urbanisation has been recognised as one of the key drivers of the nutrition transition, often associated with the increased intake of saturated fats, sugars, refined foods and energy-dense high-fat out-of-home foods, as well as reduced intakes of fibre-rich foods (Ghattas, 2014). The nutrition transition is often associated with negative health outcomes (such as overweight and obesity), associated with the prevalence of non-communicable diseases such as diabetes and high blood pressure. The association between urbanisation and the increased focus on food-away-from home is evident from household-level expenditure data showing that compared to traditional rural areas the out-of-home food expenditure in urban formal areas is approximately four times higher and even ±64% higher in urban informal areas.



**Figure 15: Percentage distribution of achieved education levels for individuals aged 20 years and older (2007 to 2017)**

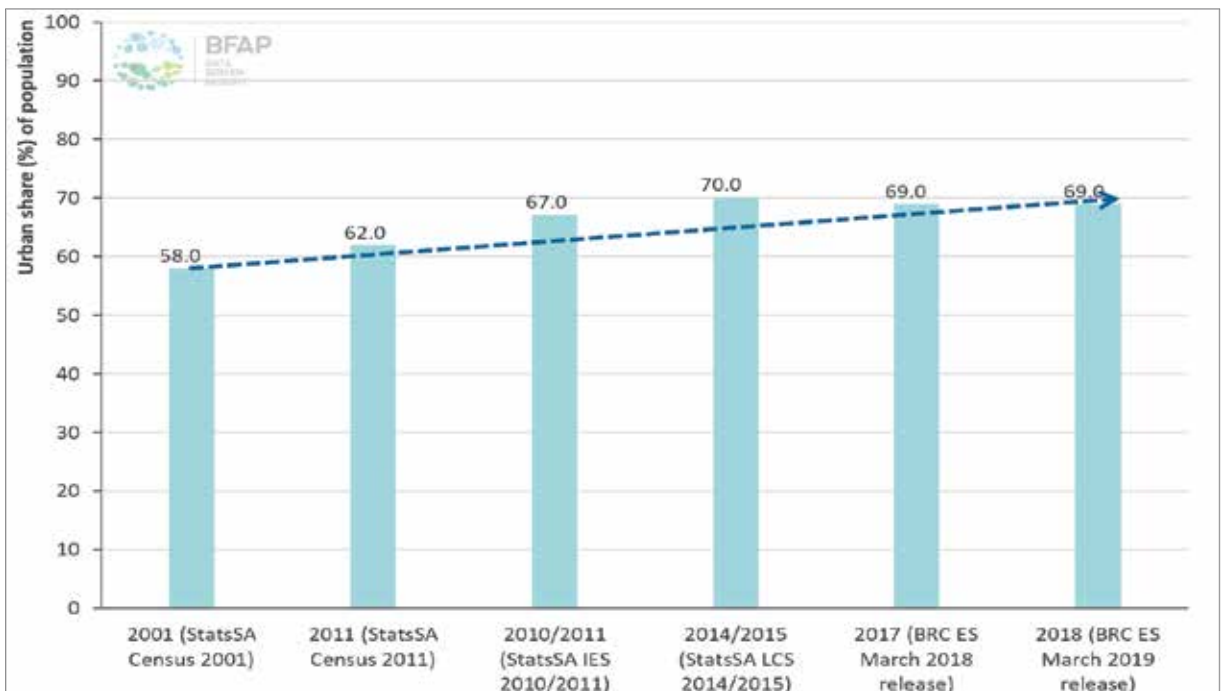
Source: Stats SA General Household Survey, 2017





**Figure 16: Education levels (highest level completed) across the socio-economic spectrum according to the SEM segmentation approach**

Source: Establishment survey, 2017



**Figure 17: Urban population share in South Africa from 2001 to 2018**

Source: Compiled from various sources as per x-axis

## Urbanisation across the socio-economic spectrum...

An upward movement along the socio-economic spectrum is generally associated with an increase in urbanisation level (Table 4), increasing from 32% for the least affluent 20% of the population (aged 15 years and older) to 99% for the most affluent 10% of the population (aged 15 years and older) (Establishment Survey 2018).

## Dynamics in the South African consumer environment: AGE DISTRIBUTION

### The youth...

The South African population is dominated by younger individuals, with 47% of the population below 25 years of age (Stats SA, 2018, Stats SA, 2008) (Figure 18). Individuals younger than 15 years of age represented 30% of the population in 2018 (compared to a higher 32% in 2008) – with the size of this age segment increasing by 15.4% from 2008.

Individuals aged 15 to 24 years represented 17% of the population in 2018 (compared to 20% in 2008). From 2008 to 2018 the number of individuals in this age segment decreased slightly, with an estimated 12.44 million children receiving child grants in December 2018 (South African Social Security Agency (SASSA), 2018) child grant recipients represent approximately 64% of the population younger than 18 years of age – implying a significant fiscal commitment for the government. The young age structure in South Africa also implies significant pressure on the country's educational resources – of critical importance to prepare the youth for job market entry in the future. The share of school attending children (aged 5 years and older) who attended schools but did not pay tuition fees increased significantly from 21.4% in 2007

to 66.0% in 2017 according to the Stats SA General Household Survey 2018 – emphasising the impact of a young age structure on the fiscal resources of the country.

### The working age population...

The working age population (aged 25 to 64 years) represented almost half of the population in 2018 (compared to a lower 43% in 2008) – with the number of individuals in the working age population increasing by 33.1% from 2008 to 2018.

### The retired...

Individuals aged 65 years and older represented 6% of the population in 2018 (compared to 5% in 2008), increasing by 0.964 million individuals over the ten year period. With 3.52 million elderly individuals receiving old age grants in December 2018 (SASSA, 2018), old age grant recipients thus represented approximately 77% of the population aged 64 years and older – once again implying a significant fiscal commitment for the government.

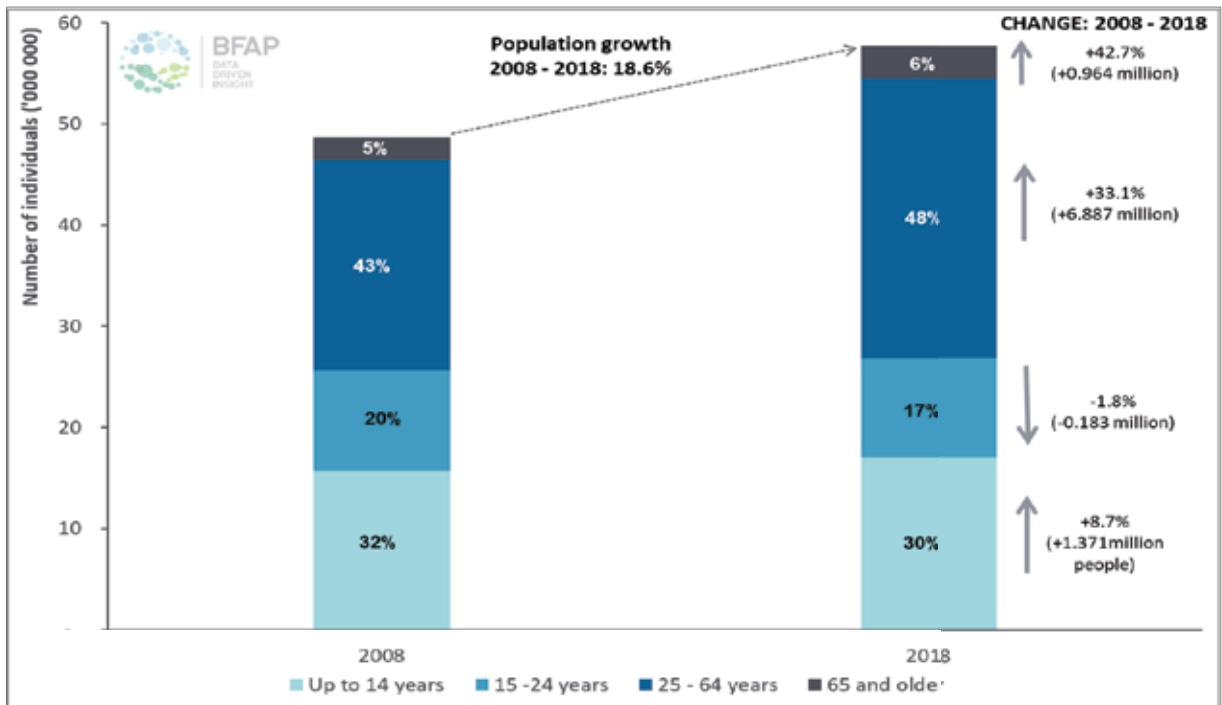
### A gradually aging population...

Despite the young population structure the South African population is aging gradually, with the median population age increasing over time from 23 years in 2001 (Stats SA Census 2001), to 25 years in 2011 (Stats SA Census 2011) to between 25 and 26 years according to the 2017 Stats SA General Household Survey. The data presented in Figure 18 also confirms the gradually aging population in South Africa – with the share of the population aged 35 years and older increasing from 30.4% in 2008 to 34.8% in 2018.

**Table 4: Urban / rural population share across the socio-economic spectrum in 2018**

	SEM Supergroup:				
	1	2	3	4	5
Share of adult population in SEM Supergroup (2018)	20%	19%	34%	16%	10%
Metro & urban	32%	53%	85%	96%	99%
Rural	68%	48%	15%	4%	1%

Source: Establishment Survey, 2018



**Figure 18: Age structure dynamics in South Africa – comparing 2008 to 2018**

Source: StatsSA Mid-year Population Estimates, 2008 & 2018

### Dynamics in the South African consumer environment: UNEMPLOYMENT

#### General movements...

From the fourth quarter of 2008 to the fourth quarter of 2018 the South African labour force increased by 3.85 million individuals (+20.5%), while the number of employed individuals increased by only 1.76 million (+11.9%) – thus causing a decrease in the absorption ratio from 46.2% to 43.3% over this period. The unemployment rate for South Africa reported by StatsSA in the fourth Quarterly Labour Force Survey of 2018 was 27.1%, slightly below the high point of 27.7% in the first three quarters of 2017.

#### Age categories...

Considering the active working age population (25 to 64 years), the highest unemployment in the fourth quarter of 2018 occurred among people aged 25 to 34 years (33.0% unemployment rate) followed by the age group 35 to 44 years (22.0% unemployment rate). From 2008 to 2018 the unemployment rate (average quarterly unemployment rate) increased for all age categories within the working age population, with the

highest increase in the unemployment rate observed for the 45 to 54 years age group (increasing by 54%) (other age categories: 55 to 64 years: +43%; 35 to 44 years: +35%; 25 to 34 years: +292%).

#### Provinces...

At a provincial level, the highest unemployment rates were observed in the Eastern Cape (36.1%), Free State (32.9%) and Mpumalanga (32.0%). From 2008 to 2018 the unemployment rate (average quarterly unemployment rate) increased the most in the provinces with the higher unemployment rates (Free State: +44.3%, Mpumalanga: +39.0%, Gauteng: +35.9%, Eastern Cape: +34.5%).

#### Unemployment across the socio-economic spectrum...

According to the 2017 Establishment survey (BRC, 2018) self-reported unemployment was the highest among SEM segments 1 to 3 (representing 43% of the South African population aged 15 years and older in

2017) – varying around a 30% unemployment rate. Moving upward in the socio-economic spectrum the self-reported unemployment rates for SEM segments 4 and 5 were 24% and 20% respectively, decreasing to approximately 16% for SEM segments 6 and 7 and dropping lower to 2% and 5% for SEM segments 9 and 10.

**Dynamics in the South African consumer environment: DEBT**

South African consumers have consistently been increasing debt levels toward the fourth quarter of 2018, with the following changes occurring over the last ten years (from the first quarter of 2009 to the fourth quarter of 2018) (National Credit Regulator, 2018):

- The value of the gross debtor book increased by 62.5% from 2009 (quarter 1) to 2018 (quarter 4), to reach R1 854 billion. This represents the highest value since the first quarter of 2009 (Figure 19).
- The number of accounts in the gross debtor book increased by 10.1% over the ten year period to 38.3 million, representing a lower level (8% lower) than the highest level of 41.6 million in the first quarter of 2015 (Figure 19). Following a

declining phase from the first quarter of 2015 to the first quarter of 2018, this indicator has again been increasing towards the fourth quarter of 2018.

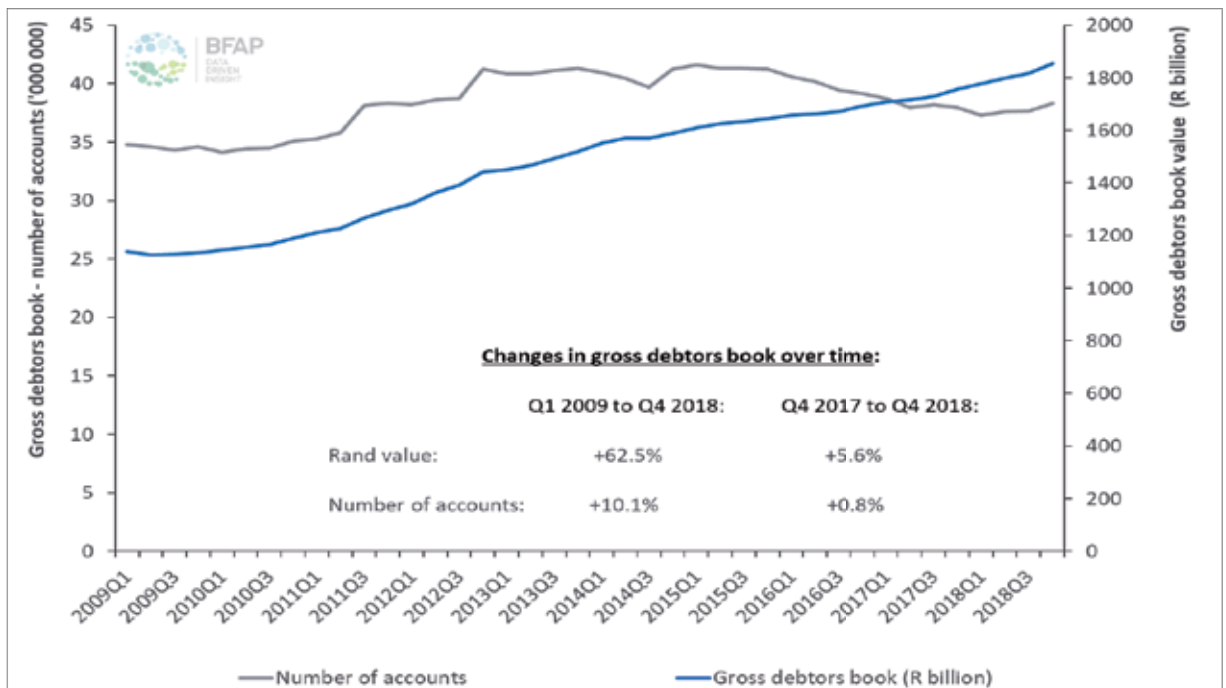
The number of credit applications received increased by 109.7% to 11.96 million – being 1.4% lower than the high level of 12.1 million reported for the second quarter of 2015.

The credit application rejection rate increased from 43.9% to 56.1%, being lower than the high level of 59.0% reported for the first quarter of 2014.

In the fourth quarter of 2018, credit granted to consumers with less than R5500 income per month made up about 15% of total credit granted in value terms but about 43% in terms of total number of credit facilities granted. Following a decreasing trend over time towards the first quarter of 2018, the share of credit granted to consumers with less than R5500 income per month increased towards the fourth quarter of 2018.

**Dynamics in the South African consumer environment: FOOD ACCESS**

The share of persons that experienced hunger declined from 24.2% in 2002 to 12.1% in 2017 (Figure 20). In 2016



**Figure 19: Consumer debt in South Africa from a gross debtor’s book perspective**

Source: National Credit Regulator Statistics



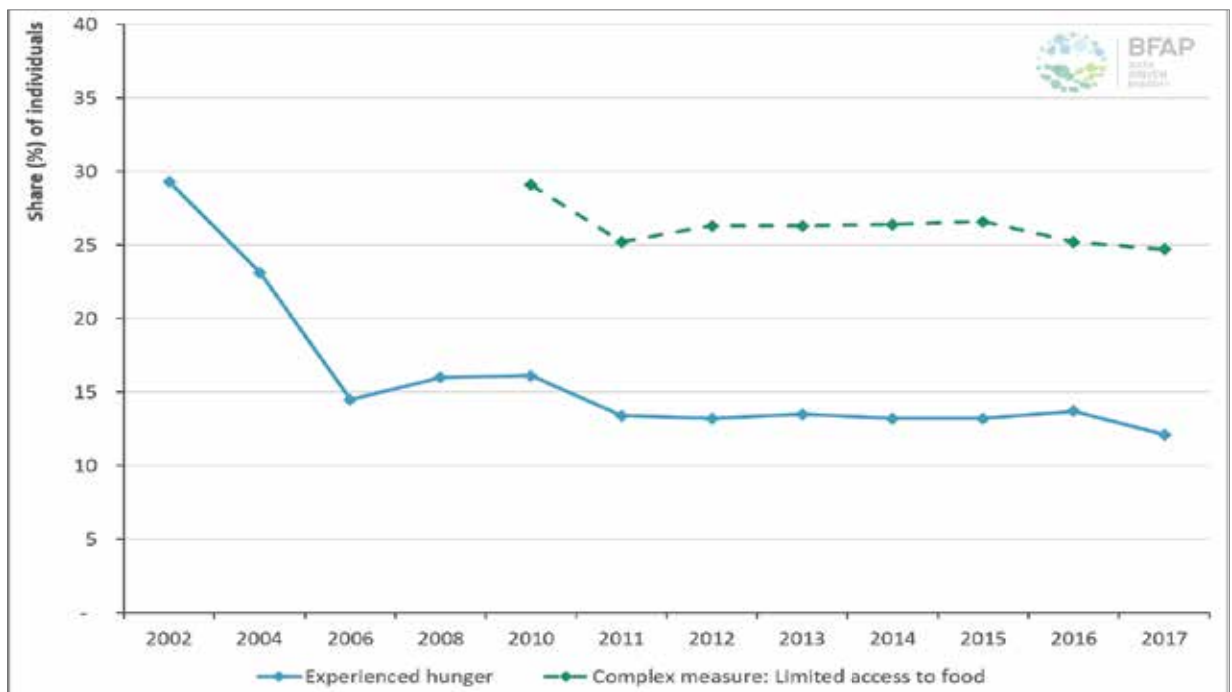
the share was higher than in 2015 (13.7% versus 13.2%), coinciding with the period of high food price inflation (particularly for maize meal) during and following the severe 2015/2016 drought in South Africa.

On average, between 2010 and 2017, the share of people with limited food access (measured by means of a complex food access measure) was 12.7 percentage points higher than the share of people experiencing hunger. It also showed a decreasing trend over time – from 29.1% in 2010 to 24.7% in 2017 (Figure 20). In 2017 severely inadequate food access was reported for 5.5% of households in South Africa.

On a provincial level, in 2017 food access problems were prevalent in North West (36.0% of households

experiencing inadequate food access), followed by Northern Cape (33.5%), Mpumalanga (30.9%) and Eastern Cape (24.6%).

Limited food access is thus a reality faced by approximately 25% of people (and  $\pm 21\%$  of households) in South Africa in 2017. Simultaneously 44.5% of households in South Africa were classified as poor according to the GHS 2017 (with monthly household expenditure of below R2 500), of which 41% had children aged 7 to 18 years. According to the 2018 Global Nutrition Report, South Africa is amongst 41 other countries in the world experiencing a triple burden of malnutrition in terms of overweight, anaemia (iron deficiency) and stunting in children.



**Figure 20: Individuals' vulnerability to hunger and access to food (2002 to 2017)**

Source: Stats SA General Household Survey, 2017





# OUTLOOK FOR FIELD CROPS SUMMER GRAINS AND OILSEEDS

## International market situation

After 4 years of relative stability, the International Grains Council's grain and oilseed index, a measure of global price levels for major grains and oilseeds, increased by 7% over the last 2 weeks of May 2019. This increase was more pronounced in maize prices, which increased by 12% over the same period, and follows concerns related to weather in the USA, which has resulted in severely delayed planting progress. By end of May 2019, planting in the USA has been the slowest on record and more than 30% below the average of recent years.

While the concerns regarding US plantings initially resulted in lower estimates of the global 2019/20 maize crop relative to that of 2018/19, the decline was partly offset by increases in Ukraine and South America. Stock levels remain sufficient to allow for a 10% estimated drawdown year on year – accelerating the reduction that started in 2017/18 to reach a 6 year low of 284 million tonnes. The availability of stocks is expected to mitigate what might otherwise have been a stronger price reaction in 2019.

In the short term, trade dynamics between the

USA and China combined with reduced demand for soybean meal due to African swine fever (ASF) related reductions in China's pig herd pushed soybean stocks to record highs. Consequently, the reaction from soybean markets to current weather challenges in the USA has been smaller and while a marginal decline is projected for global production, stock levels are expected to remain high, declining by merely 1.7% year on year. Soybeans can be planted later than maize and current wet conditions in the USA could support a switch to soybean area – despite relative prices not being conducive to such a switch.

Medium term projections, based on the assumption of stable weather conditions, reflect an equilibrium for maize prices at levels marginally higher than 2015 and 2016 – trading largely sideways around 200 USD per tonne post 2020. Similarly, oilseed prices are projected to stabilise around the 400 USD per tonne mark. In line with historic norms, soybean prices are projected marginally below that of sunflower (Figure 21).

In line with oilseed prices, oilseed product markets are also expected to trade largely sideways over the



medium term, despite growing livestock production. In the case of vegetable oil, a modest increase is projected to 2020, but in the medium term, petroleum prices are not expected to increase to levels that would induce a substantial switch into biofuels. Consequently, prices stabilise in line with the underlying oilseed prices (Figure 22).

Following a largely sideways movement in 2018/19, the global cotton area is expected to increase marginally in 2019/20. Trade conflicts between the USA and China also affected cotton markets, with US cotton exports to China declining, and offsetting increases in shipments from Africa and India. With increased processing expected off the back of a larger crop in 2019/20, cotton prices are expected to decline in the short term. China is expected to continue reducing its inventories, supporting projections that medium term prices will stabilise at levels well above the lows of 2015 and 2016.

### Domestic market situation

Despite the relative stability in international markets, the domestic market experienced a period of immense volatility, due in large to a combination of domestic weather conditions and exchange rate dynamics. Following the worst drought in 100 years in 2016, 2017

produced the largest maize crop on record – sufficient to replenish stocks and reduce prices to export parity levels. Ample carryover stock kept prices low in 2018, but with production levels returning to longer term norms, the gross value of maize production declined by 16% year on year (25% and 4% for white maize and yellow maize respectively), to levels well below the 5-year average from 2014 to 2018. In 2019, a dry early summer again raised concern through the planting period, but when the rain did arrive, producers showed immense planting capacity to get 94% of the intended maize hectares planted (95% of white maize intentions and 93% of yellow maize intentions). The majority of hectares were planted within a mere two-week window. This rapid response effectively prevented a situation where South African prices would move to import parity levels – which would have caused a much sharper increase in staple maize prices. The total of 2.3 million hectares is only 0.8% below the area planted to maize in 2018.

Contrary to maize, producers planted 17% more sorghum than the initially reported intentions in 2019, an implied increase of 75% year on year. Oilseed plantings were also not completed, with only 90% of the intended sunflower area being planted and only 86% of the intended soybean area.

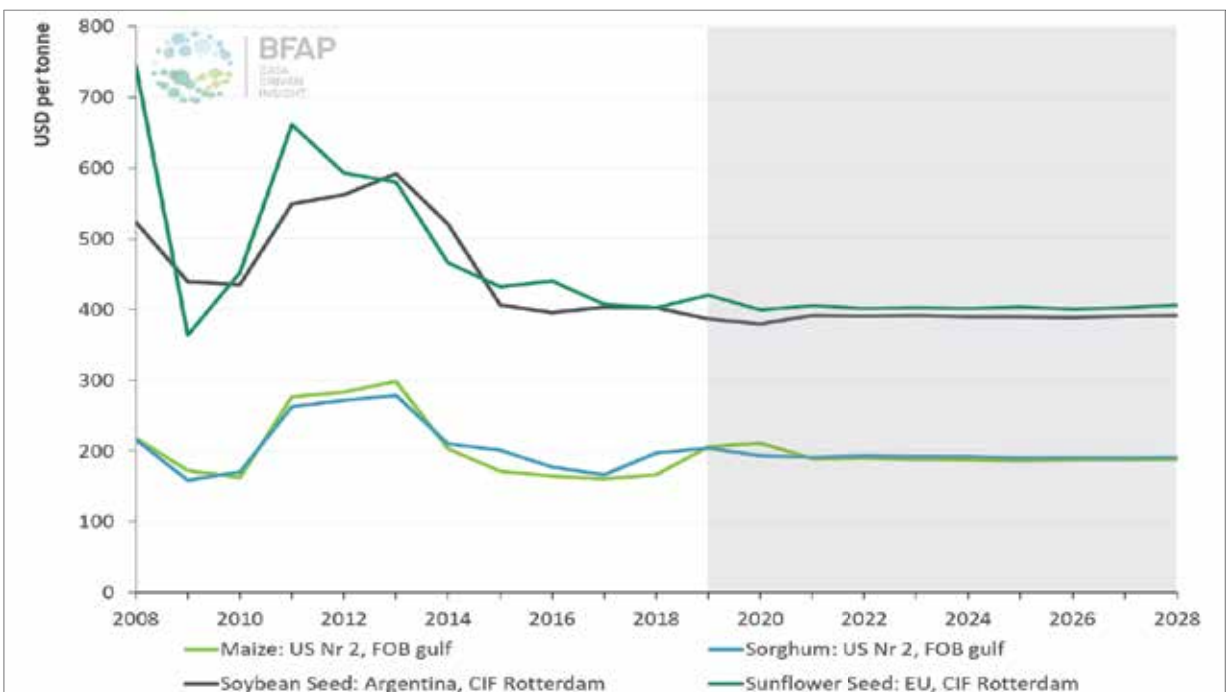


Figure 21: World prices for major summer grains and oilseeds

Source: FAPRI & BFAP, 2019

2019 - 2028 | BFAP Baseline

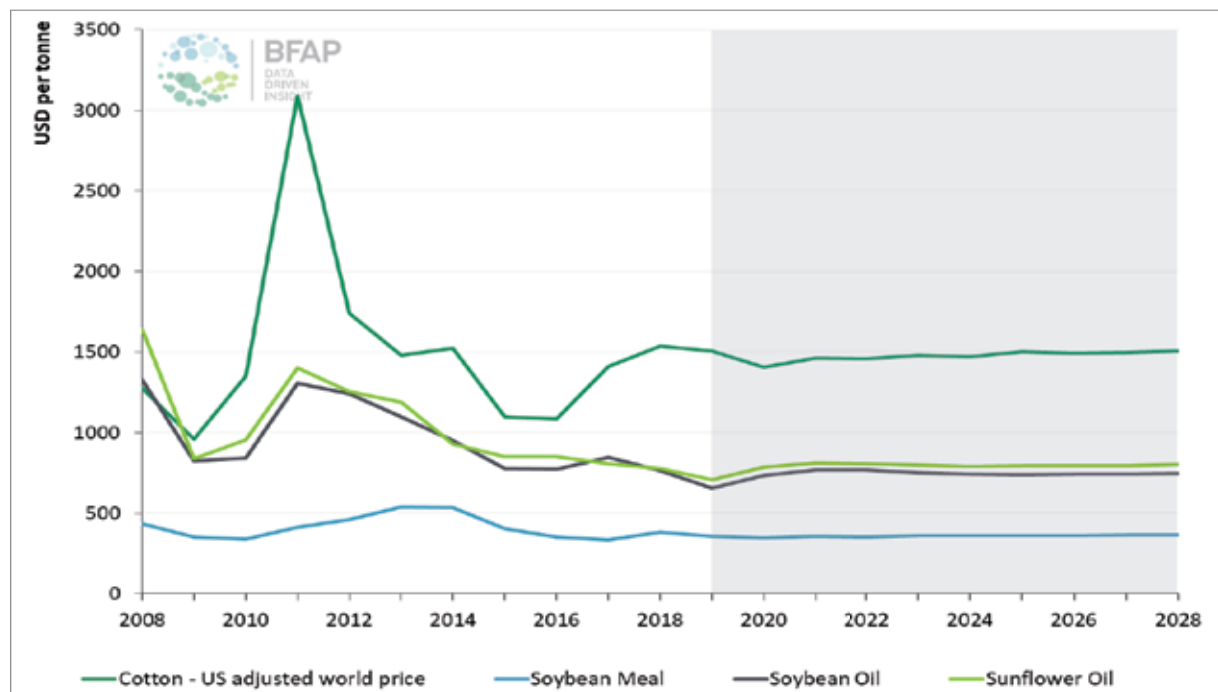


Consequently, the area cultivated to sunflower and soybeans in 2019 is expected to decline by 14% and 17% respectively compared to 2018. Despite the poor weather conditions in the early planting season, cotton area is expected to expand again by almost 27% in 2019, having already increased substantially in 2018. Combined with minor yield gains, the expansion is expected to support a 31% increase in cotton production in 2019. Box 2 provides information on the sustainable cotton cluster, which, together with favourable world markets and improvements in production technology, has been an important factor underpinning the revival of the South African cotton sector in recent years.

With the exception of cotton, yield expectations for all summer crops are lower than in 2018, with the latest estimates from the crop estimate committee (CEC) pointing to a 10.9 million ton maize harvest - down 13% from 2018 levels. Combined with 2.7 million tonnes of stock on 1 May 2019, this is sufficient for domestic consumption and exports are projected to reach just over 1 million tonnes in the current marketing season, leaving South Africa in a net exporting position, despite some imports expected to occur into coastal regions, particularly the Western Cape. In the case of sorghum, the CEC is expecting a crop of 166 thousand tonnes,

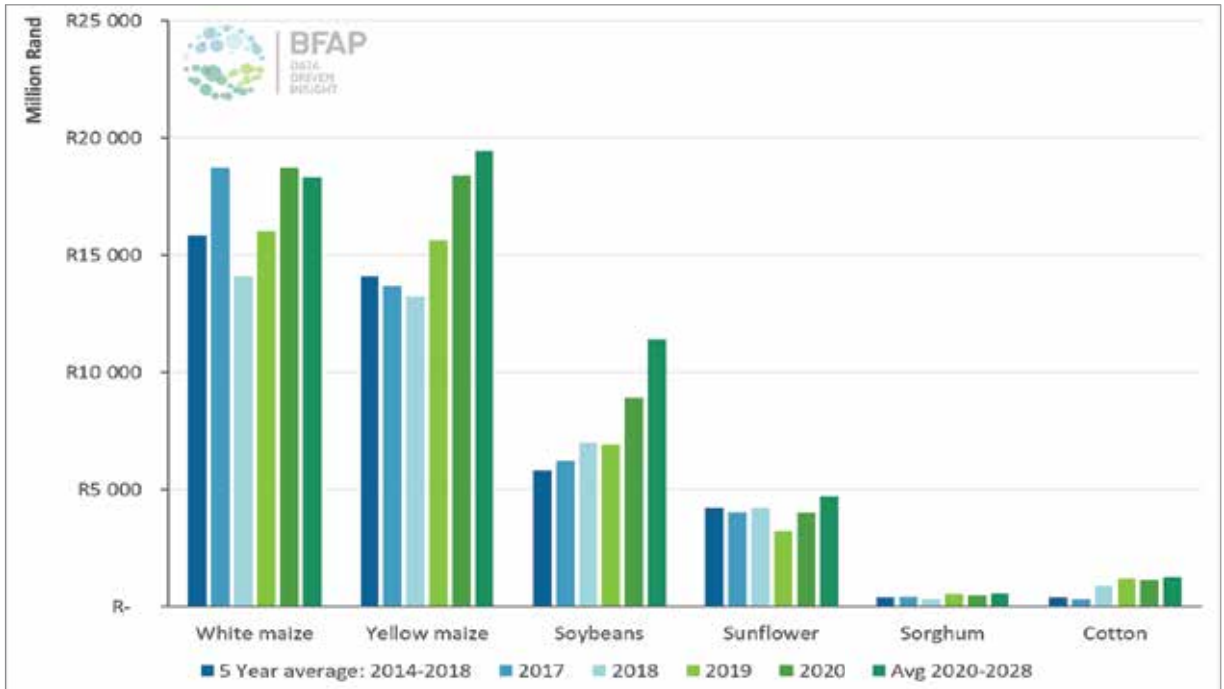
sufficient for domestic consumption when combined with 51 thousand tonnes of carryover stock. In the case of oilseeds, the CEC expects sunflower production to decline by 29% year on year, necessitating more than 80 thousand tonnes of imports, despite significantly lower crush volumes expected in 2019 relative to 2018. By contrast, high carryover stock of soybeans should enable crush volumes to increase in 2019, despite an expected decline 16% in production volumes compared to 2018.

The combination of smaller crop, stock drawdown, weaker exchange rate and concern regarding the early US planting season is expected to support prices, with annual average prices for white maize and yellow maize projected at R2 918 and R2891 respectively in 2019. This results in a 16% increase in the gross value of maize production in 2019 (14% for white maize and 18% for yellow maize), despite the smaller crop. In the case of sunflower and soybeans, projected price gains are insufficient to offset the reduction in production volumes, resulting in a decline of 24% and 1% in gross production value respectively in 2019 (Figure 23). Whilst sorghum and cotton are much smaller industries in total value, the gross production value of both are expected to increase substantially in 2019, by 32% and 73% respectively from 2018 levels. In the case of sorghum, this is partly because the area cultivated to



**Figure 22: World prices for major secondary products**

Source: FAPRI & BFAP, 2019



**Figure 23: Gross value of production for selected summer crops in South Africa**

sorghum declined to an all-time low in 2018, but for cotton it follows strong growth in 2018 and represents the continuation of a strong revival in the industry in recent years.

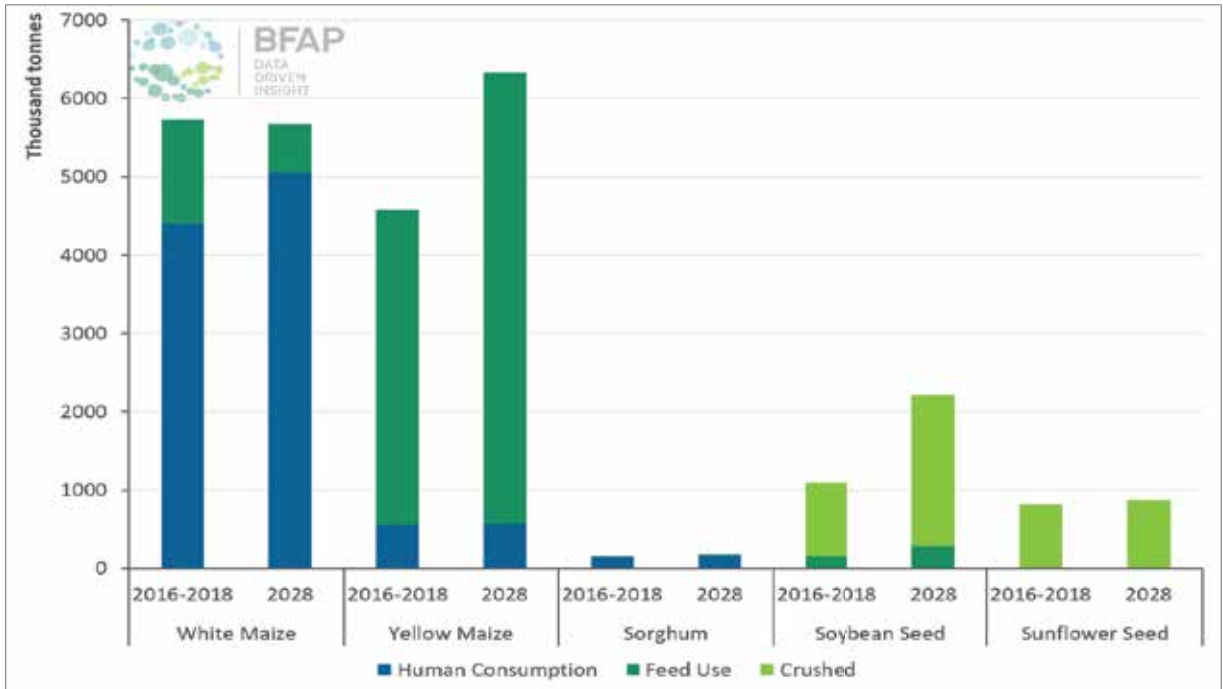
**Domestic market outlook**

Over the course of the next decade, there are clear and substantial differences in the demand growth prospects for different summer crops, due to differences in use and the underlying consumer trends related to these different products. Staple grains such as white maize and sorghum are predominantly consumed as food. Conversely, the bulk of yellow maize consumption is attributed to the animal feed industry, where it provides the primary energy source in most feed rations. The bulk of oilseeds such as soybeans and sunflowers are crushed, producing both vegetable oil for human consumption and protein meal for inclusion in animal feed rations. Sunflower seed is a higher oil yielding seed, therefore more orientated to human consumption, whereas soybean seed has a higher protein content, with protein meal the main product.

In a significantly weaker economic environment than the past decade, the dietary diversification that was evident over the past decade is also expected to slow

down. Whereas white maize consumption declined on a per capita basis over the past decade, a marginal increase is projected over the coming decade. Combined with an expanding population, this will support growth in white maize consumed as food, with relative prices dictating that a smaller share of white maize will be consumed as animal feed by 2028 relative to the past 3 years. Despite slowing significantly relative to the past decade, demand for meat products, both domestically and in the export market, is still expected to support substantially faster growth in the demand for yellow maize and soybeans than is the case for white maize (Figure 24).

Area trends over the coming decade also reflect this continued shift in demand, with white maize area continuing to decline, by a total of 17% by 2028 relative to the 2016-2018 base period. Yield gains of 23% over the same period are sufficient to meet projected demand growth. By contrast, the area cultivated to yellow maize and soybeans continues to increase, expanding by 15% and 68% respectively over the 10-year period to 2028. In crops such as sunflower and sorghum, the projected area is a consolidation, trending largely sideways. While Figure 26 reflects growth in sorghum area, this is more reflective of a



**Figure 24: Demand for summer grains in South Africa: 2028 vs. 2016-2018 base period**

correction following the lowest ever area planted to sorghum in 2018. Both of these products are mature markets, where import parity based pricing induces expansion, but when production is increased sufficiently for prices to decline to export parity, profitability deteriorates to the extent that producers cut back on area. Thus in the long term, area stabilises with sorghum prices trading at a premium of 20-30% over yellow maize and sunflower prices at a level derived from sunflower oil and meal, typically between import and export parity levels. Cotton area is also expected to continue trending upwards, though at a slower rate than was evident over the past 3 years.

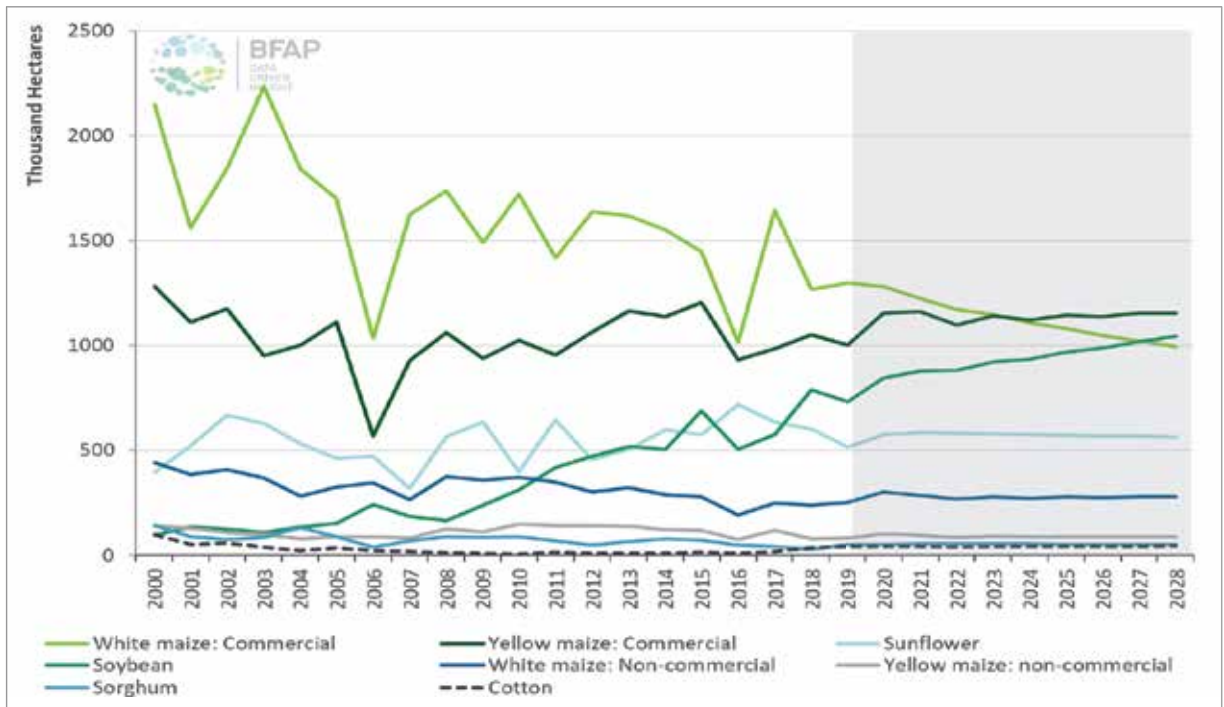
Figure 26 indicates that fairly consistent yield growth is expected over the coming decade, with quicker gains for white maize and sunflower seed, where the total area declines. The removal of more marginal areas supports greater average yield gains. Conversely, where area is expanding, particularly for soybeans, where the expansion is substantial, yield gains are less, as the rate of expansion implies that some of the more marginal areas will enter production. Yield gains are based on the assumption of stable rainfall and continuously improving cultivars. In the case of soybeans, the introduction of improved cultivars is expected to

accelerate following the introduction of the breeding technology levy. In line with past trends, the smallest yield improvement is evident for sorghum, where the failure of yield growth to keep up with alternative crops such as yellow maize has been one of the reasons for consistent area decline in the past.

In addition to weaker demand growth, another reason for the decline in white maize area is the poor profitability of maize production in the Western production regions, where the bulk of white maize production occurs. Being less frequently traded in the global market, white maize prices tend to be more volatile than that of yellow maize, trading below those of yellow maize in surplus years and above yellow maize in deficit years. This differential has been especially pronounced in the recent past, with prices increasing by 50% year on year through the drought in 2016, but then declining again by 57% in 2017 on the back of the record harvest.

The drought events in 2013, 2015, 2016 and in certain regions in 2019 have negatively impacted the financial position of many producers located in the North West and areas in the Free State. In these years, producers not only suffered substantial yield losses, but several producers could also not plant their intended maize





**Figure 25: Area under major summer crops in South Africa: 2000 - 2028**

area. In 2014, 2017 and 2018, above average yields materialised, but the crop was marketed at significantly lower prices. Recent research also indicated that the amount of precipitation during what used to be the optimal planting window is both decreasing and shifting later. The combination of these realities has initiated an extremely challenging environment for producers, resulting in more frequent financial losses, increasing carry-over debt and hence, a frantic attempt to find alternatives. Alternatives include the shift to fodder production and more intensive grazing systems in rotation with cash crops to increase the income from livestock.

BFAP's Farm and Input Division has been tracking the performance of various prototype farms in key summer- and winter producing regions in South Africa, collecting

actual farm and financial data for more than a decade. This data is analysed in a financial simulation model which is integrated with the BFAP system of linked models, enabling the generation of an outlook for each of the prototype farms.

The North West prototype farm consists of 1 200 hectares, with white maize and sunflower constituting the main enterprises<sup>4</sup>. Figure 28 illustrates the deterministic cash flow position for three categories of producers, namely (1) producers who were affected by drought during the 2018/19 production season or who farm in marginal producing areas, (2) a proxy for an average North West producer and (3) higher yielding areas. Given the model assumptions, cash flow in 2019 remains under severe pressure and is only projected to turn positive in 2020 for the North

<sup>4</sup> The North West prototype farm consists of white maize, sunflower, a winter fallow period and a livestock component. It is acknowledged that variations with respect to cultivated land size, enterprise coverage, production system performance and financial wealth will occur. The financial model follows a whole-farm planning approach with enterprise and overhead data formulating the base of the projections. The overhead section includes key assumptions on debt-levels, asset replacement strategies and standard debt-repayment calculations. The model is set up stochastically, to account for actual historic variations in commodity prices, yields and key input costs such as fuel and fertilisers. Through statistical techniques, the farm model is simulated 500 times to account for alternative outcomes over the outlook period.

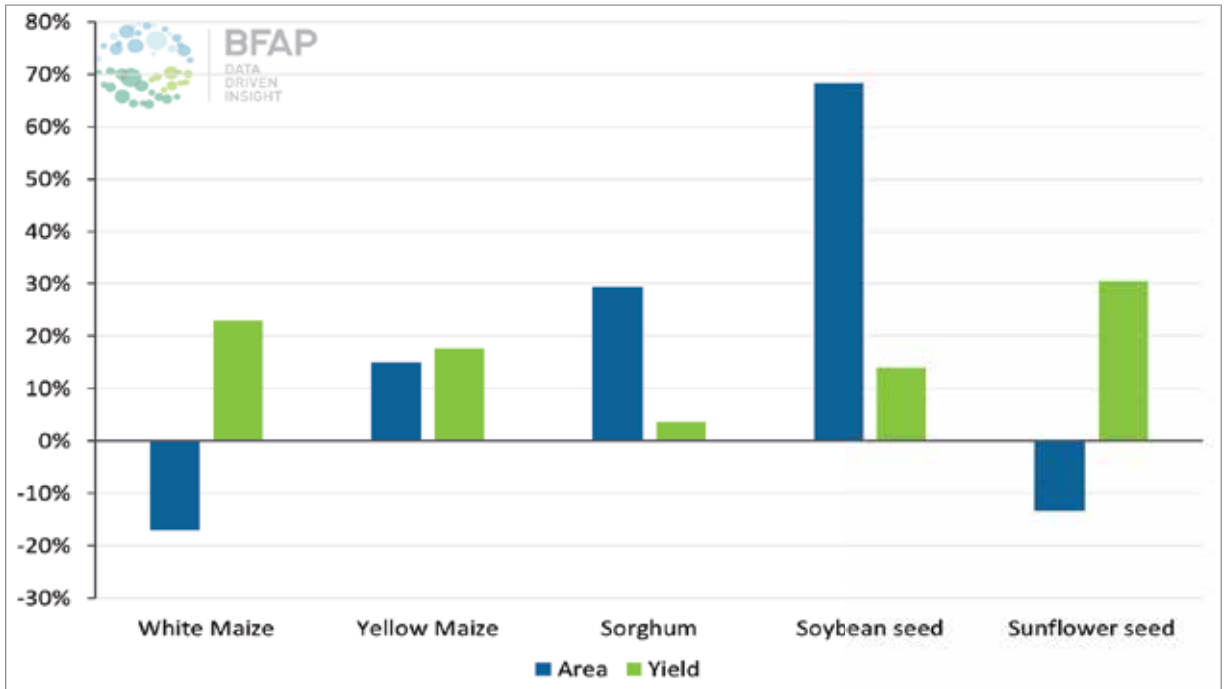


Figure 26: Percentage change in area and yield for major summer crops: 2028 vs. 2016-2018 base period

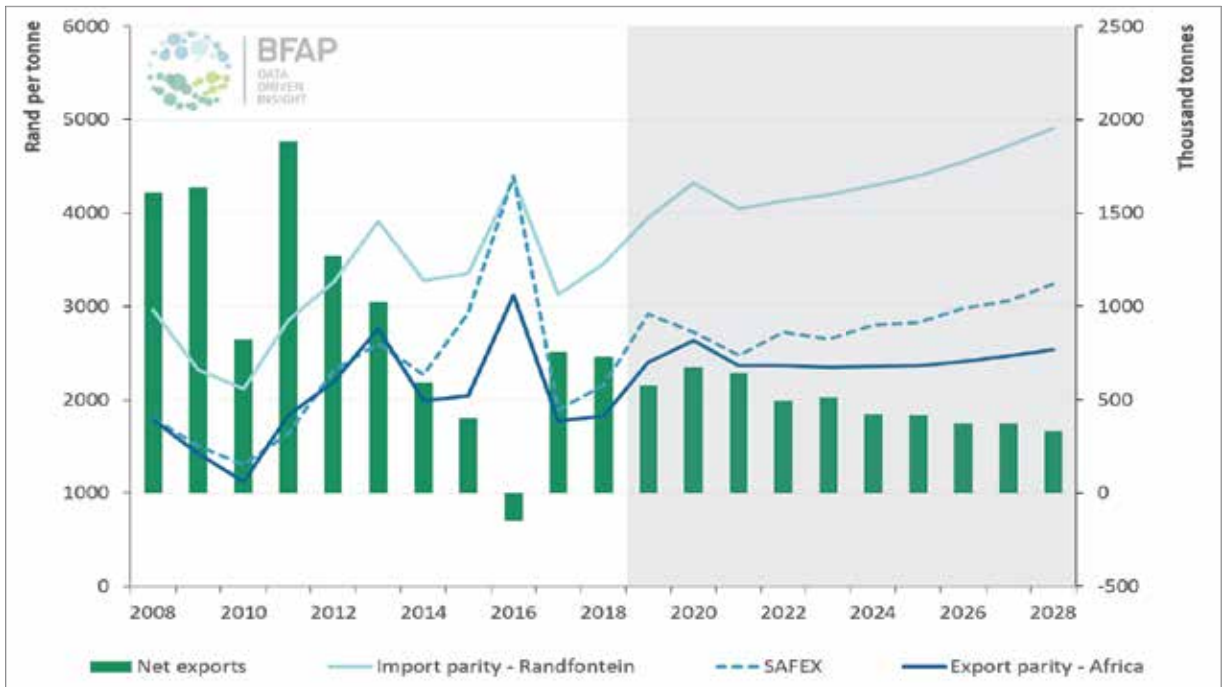
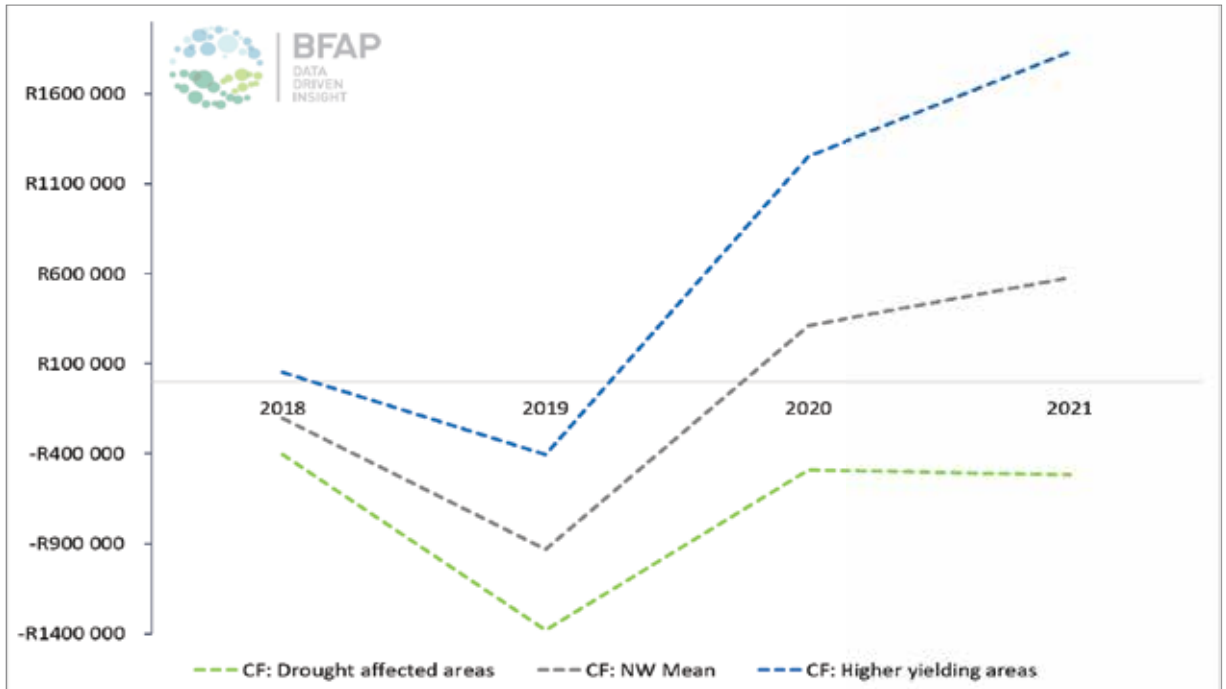


Figure 27: White maize net exports and prices: 2008 - 2028



**Figure 28: North West: Deterministic cash flow projections: 2018-2021**

Source: BFAP, 2019

West average and higher yielding areas. For areas which were affected by lower precipitation in 2019, cash flow recovery will take longer. The recovery in 2020 is mainly driven by higher commodity prices and under the assumption that normal rainfall will prevail.

The reality however is that rainfall, yield and price could follow a combination of possible outcomes. Figure 29 shows a probability plot for the 2020 production season which represents 500 alternative outcomes given historic variability in yields and prices for maize and sunflower. White maize yield is plotted on the graph as one of the stochastic variables that correlates with the cash flow outcome, but it is important to note that various other factors will also influence the cash flow position.

For the drought affected or marginal areas, the model simulates an average yield of 4.1 tons per hectare at an average price of R2 391 per ton which will result in a negative cash flow position of nearly R1 million (2020). It further suggests that in order to break-even in terms of cash flow, a maize yield of at least 4.8 tons per hectare at a farm gate price of R2 800 per ton is required. For the North West average farm, the average yield is simulated at 4.38 tons per hectare which will result in a negative cash flow of R177 000. For higher yielding areas, the yield is simulated at 4.69 tons per

hectare with a positive cash flow of R770 000.

Figure 30 presents a stoplight chart which provides an indication of the probability of generating a positive cash flow position in 2020, based on the 500 alternative outcomes which were derived from historic variability in yields and price. For the drought affected or marginal regions, the 500 iterations suggest that there is only a 26% probability that cash flow will turn positive in 2020. For the North West average and higher yielding farms, the probability is 43% and 66% respectively that a positive cash flow will materialise in 2020.

While profitability in the Western parts of the country has clearly been under severe pressure, the margins associated with soybean production have been more favourable, supporting the rapid growth in area over the past decade. In the Western production regions, it will however be critical to reduce year on year yield volatility to lower the relative production risk of soybeans against alternative crops.

The rapid expansion in soybean crush capacity since 2014 increased the demand for soybeans significantly. Despite the rapid expansion in area, soybean imports were required for processors to attain acceptable utilisation rates, a situation which was exacerbated by the 2016 drought. In 2018, this changed however as

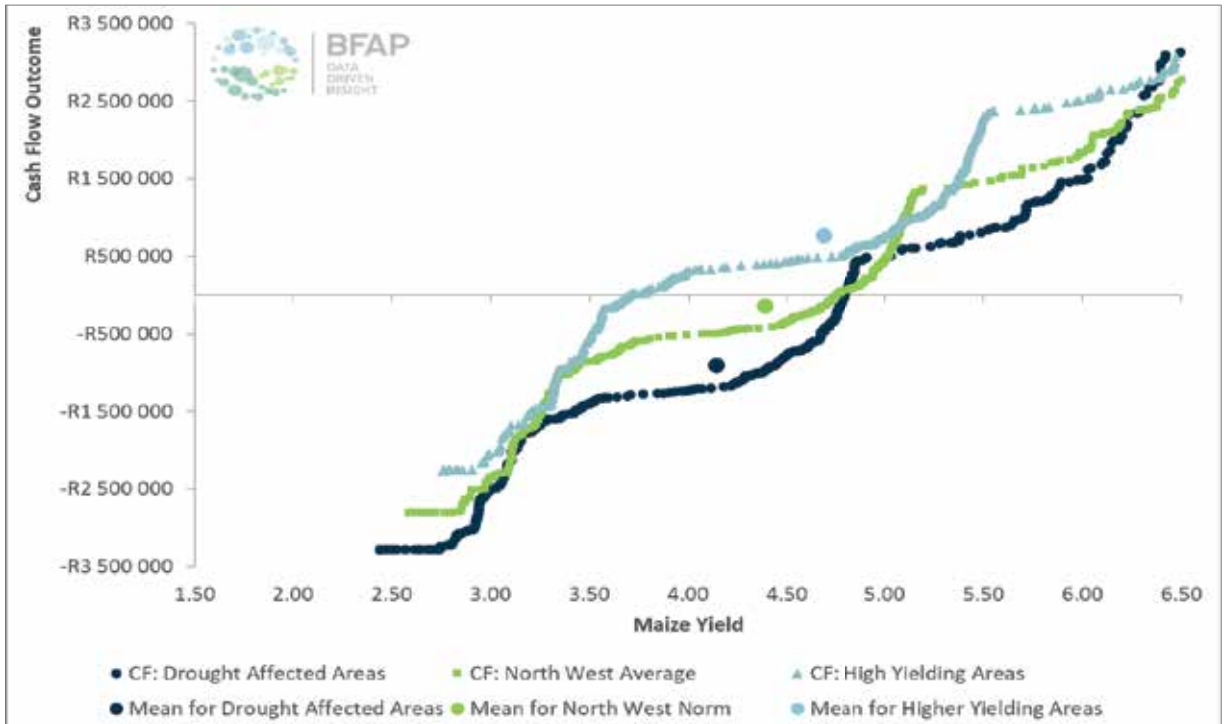


Figure 29: North West: Cash flow & maize yield probability plot for 2020 season

Source: BFAP, 2019

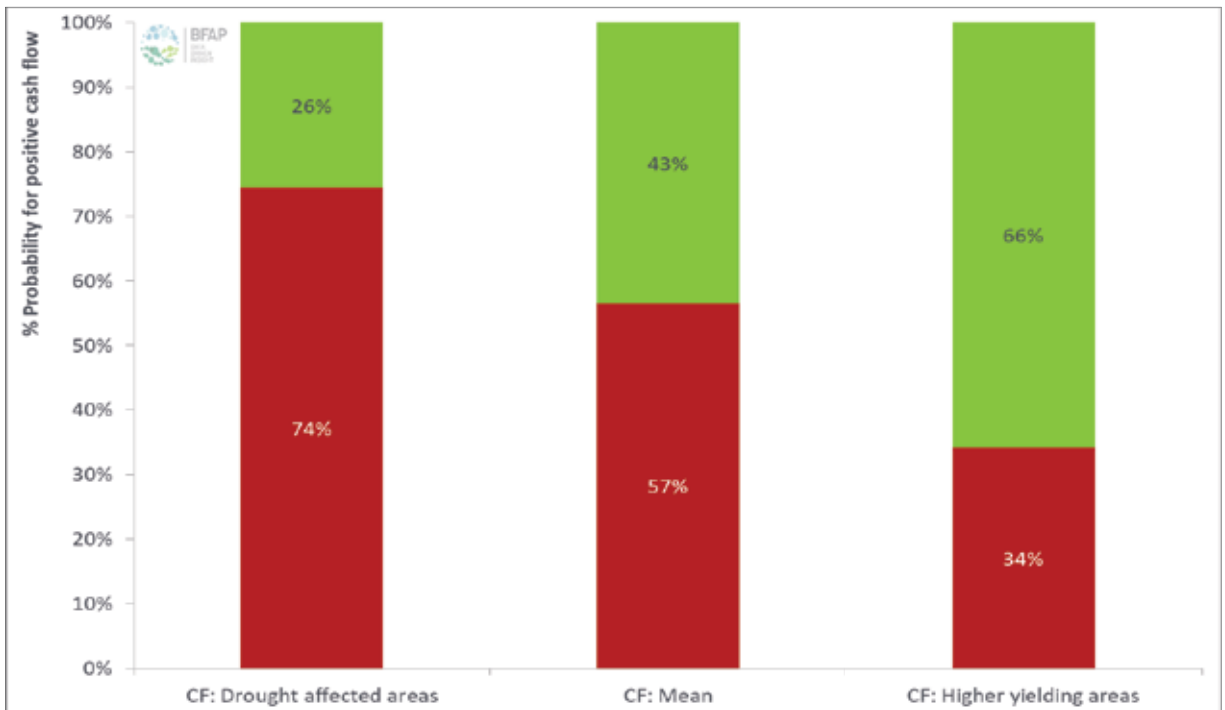


Figure 30: Stoplight chart for North West: Probability of generating a positive cash flow (green) in 2020 production season

Source: BFAP, 2019



an all-time record soybean harvest combined with a fire at one of the large crushing plants, which took it out of production for numerous months, combined to create a surplus of soybeans and ample stocks in the market. Prices declined almost to export parity levels, but in 2019 have recovered on the back of a weather induced production decline and the capacity of the damaged plant not only being restored, but also expanded. Consequently, crush volumes are expected to increase by 15% year on year and over the course of the outlook, South Africa is expected to trade close to self-sufficiency, with a sensitive balance being maintained between supply and demand (Figure 31).

Following the rapid expansion of the past 5 years, the soybean industry is becoming more mature and further expansion is expected to occur at a much slower rate (Figure 32). Total soybean processing capacity in South Africa (crush and full fat) is derived from a combination of dedicated soybean processing facilities, as well as plants with the ability to switch between soybeans and sunflowers. A return to longer term trend yields suggest that, as early as 2020, sufficient soybeans will be produced in South Africa for dedicated soybean processing facilities to reach a benchmark utilisation rate of 80%. Combined with dual plants however,

total capacity is more than 2 million tonnes (Figure 32). Consequently, South Africa have ample capacity to process (crush and full fat) the projected volumes until 2025, provided that crush margins are sufficient to induce switching of dual plants into soybean crushing.

Increased crush volumes have resulted in South Africa replacing a substantial share of imported oilcake over the past decade. Figure 33 provides a summary of oilcake supply and demand in 2008 – the sum of domestic production and net imports account for the total oilcake demand. It illustrates that net imports accounts for a declining share of total oilcake consumption, from 71% in 2008, to 27% in 2018 and projected at a mere 13% in 2028. Dominant in the oilcake complex, the use of soybean oilcake is projected to expand from 1.2 million tonnes in 2018 to 1.6 million tonnes in 2028. This is derived from growing livestock production, as well as favourable price ratios relative to alternative proteins such as fish meal.

Whilst slowing relative to the past decade, vegetable oil consumption is still expected to increase by 38% up to 2028 relative to a 2016-2018 base period. Figure 34 indicates that palm oil imports continues to play an important role in the South African vegetable oil

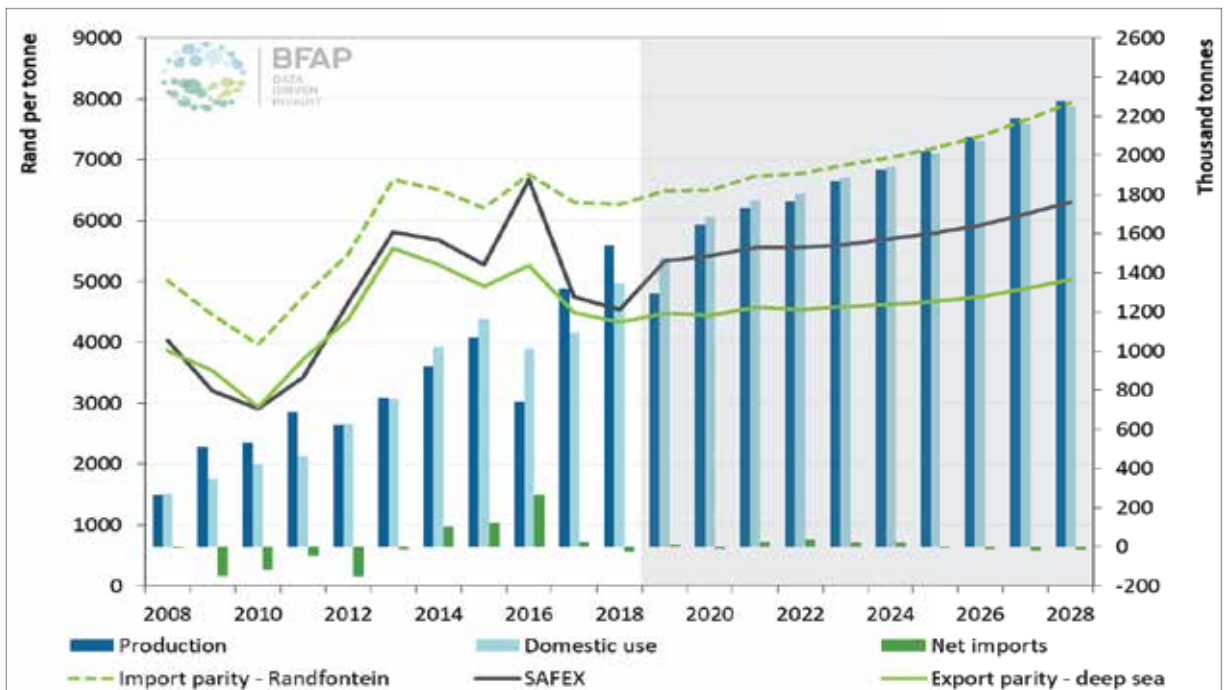


Figure 31: Soybean production, consumption, trade and prices: 2008 - 2028

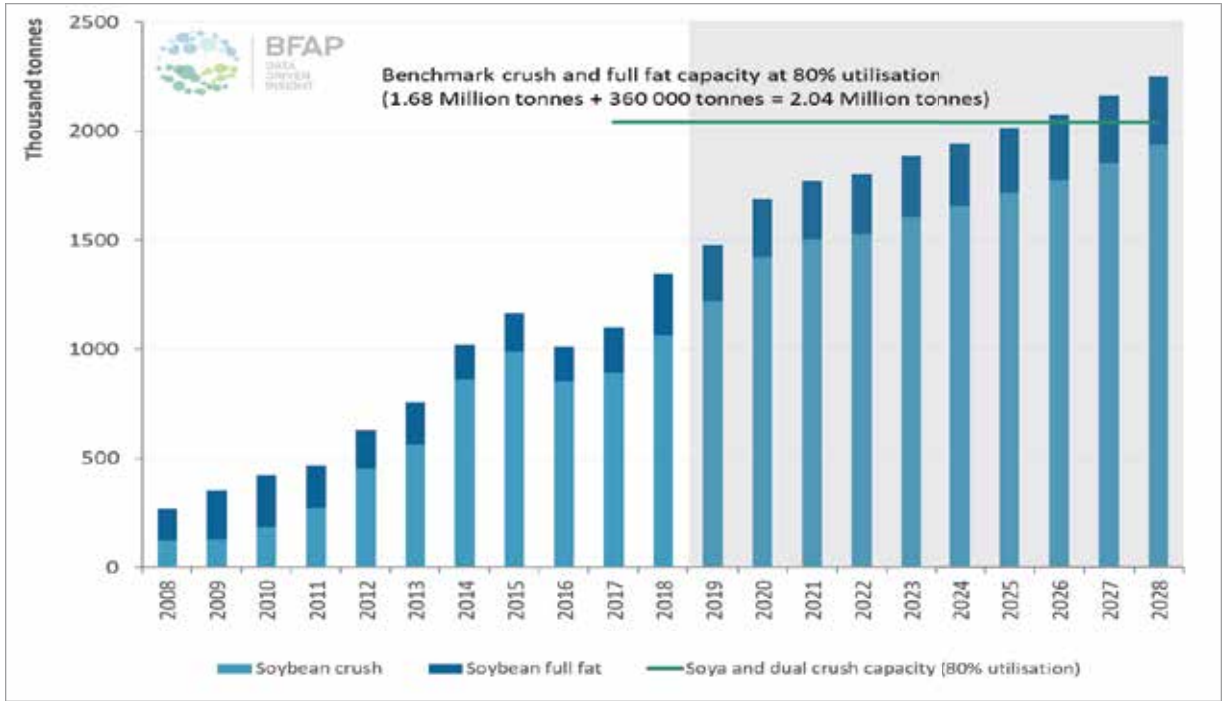


Figure 32: Soybean utilisation and crush capacity: 2008 - 2028

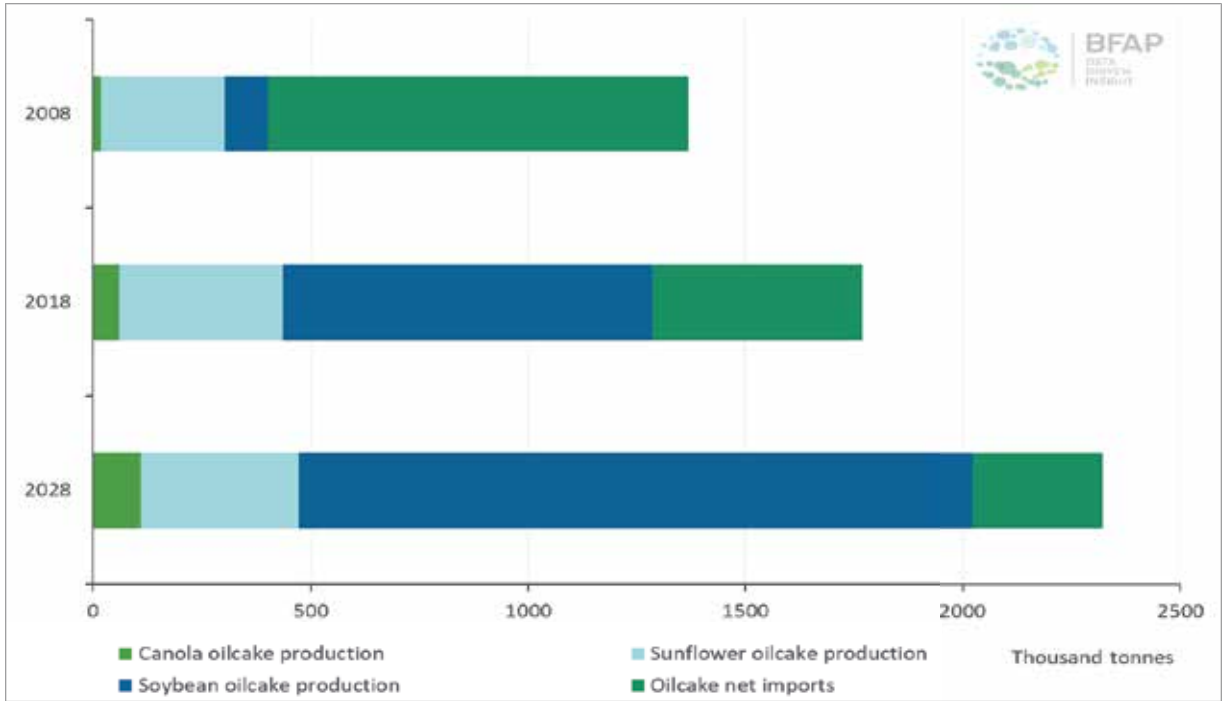


Figure 33: Oilcake supply and demand in South Africa: 2008 - 2028





consumption mix. Since 2008, palm oil imports have increased from 314 thousand tonnes to 472 thousand tonnes – an increase of 51%. Despite this substantial increase, the share of palm oil in total vegetable oil consumption increased only from 37% to 39%. Over the same period, sunflower oil consumption increased by 63%. Whilst slower than the past decade, the projected increase of 41% in sunflower oil consumption over the coming decade remains significant. With domestic

soybean crush volumes still increasing, the share of domestically produced vegetable oil in the total non-palm oil consumption mix is projected to increase from 68% in 2018 to 74% in 2028. While sunflower oil does compete with palm oil in the consumption basket, palm oil is not produced in South Africa and as an affordable alternative, imports are expected to remain significant.

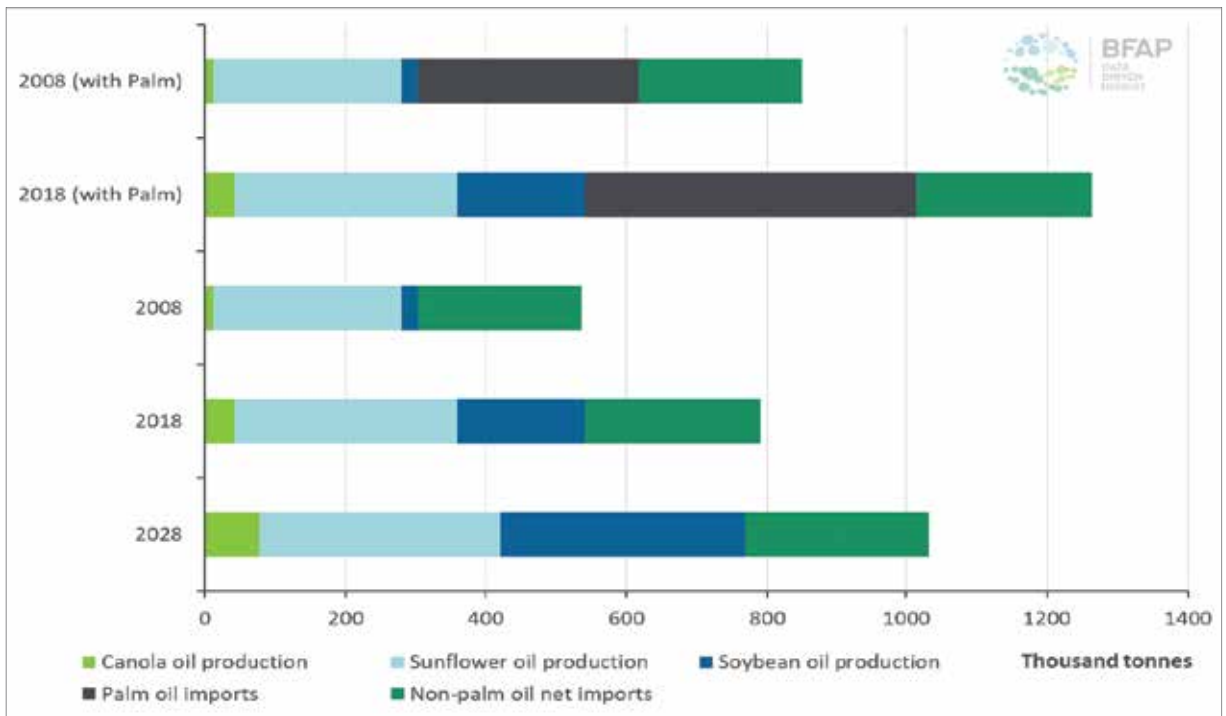


Figure 34: Vegetable oil supply and demand in South Africa: 2008 - 2028



# OUTLOOK FOR FIELD CROPS

## WINTER GRAINS AND OILSEEDS

### International market situation

Following five successive years of expansion, global wheat production declined for the first time in 2018/19, albeit by only 4%. The decline is on the back of a third successive reduction in area planted globally, combined with a lower yield relative to the recent past. Consequently, the international grains council expects stock levels to decline for the first time in 6 years. The decline supported some recovery in the price of the benchmark US Hard Red Winter (HRW) wheat from the lows of late 2017, but the expectation of another all-time record global harvest in 2019/20 is expected to halt further increases in 2019. While concerns related to the overly wet conditions in the USA are mounting, the impact is considered larger for Soft Red Winter Wheat (SRW) and has therefore influenced the premium for SRW, with very limited gains in HRW prices. Much of this is also based on an expected increase of 11% and 10% year on year in production levels for Russia and Ukraine respectively. In the coming months, this could change if forecasts for a spell of hot weather in Russia materialise and reduce the current expectation.

The outlook for barley production is also favourable – after 3 years of successive production declines, the last by 3% in 2018/19, expectations by the

International Grains Council (IGC) are for a strong rebound in 2019/20, potentially to a 10-year peak. This is also expected to raise inventories to a 3 year high. Some spill over from increased prices in other competing commodities have supported prices in the EU, despite the expected increase in stock levels, but the expectation is for a mostly sideways price trend in 2019. In the medium term, malting barley prices are expected to follow a trend similar to wheat, but trading at a premium as has been the case historically.

Canola production also declined in 2018/19, but expectations of significant stock accumulation in Canada means that the IGC foresee global carryover stock at a record high in 2019/20. Weaker import demand in China, combined with increased plantings in the Black Sea region support a short term decline in prices in 2020, after which the trend is largely sideways, in line with alternative oilseeds.

### Domestic market situation

South Africa's winter rainfall regions have also faced weather related challenges in recent years, particularly in 2017 when the drought in the Western Cape was so severe that it raised concerns regarding the city of Cape Town's water supply. However, with South Africa already



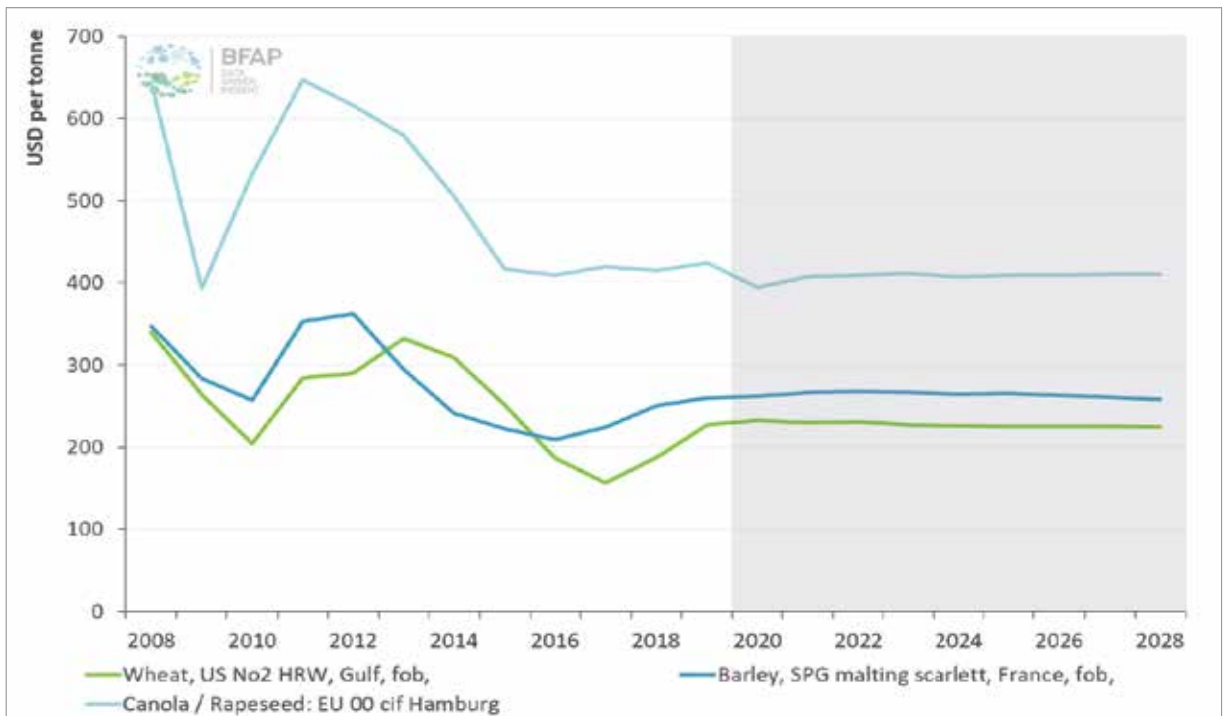
importing close to half of its domestic wheat requirement in normal years, the impact of the drought on wheat prices was far less severe than was the case in summer crops such as maize. Instead, prices tend to trade at or close to import parity, and are therefore influenced by world price levels, the level of the variable import tariff and exchange rate dynamics. The sharp depreciation in the exchange rate in 2016 did therefore increase wheat prices, as well as those of barley, which are linked to wheat, but markets were generally less volatile than those of summer grains over the same period.

The lack of price response in a year where wheat yields declined sharply placed producer profitability under severe pressure. Despite this combination of very low yields resulting from the drought and declining prices in the face of exchange rate appreciation in 2017, the area under wheat production increased marginally in 2018. While the 2017 drought also affected barley yields, the reduction was less severe than was the case for wheat. A more substantial expansion therefore occurred in barley area in 2018, which increased by 30% relative to 2017 levels. By contrast, canola area declined by almost 10% in 2018, following a year on year price decline of 13% in 2017, which was exacerbated by the drought induced yield declines.

Following improved weather conditions, yield levels increased for all 3 crops in 2018. Combined with area expansion, this supported a 17% and 37% increase in wheat and barley production respectively. In the case of canola, yield gains more than offset the reduction in area, with production expanding by 19% year on year. Consequently, despite lower prices for wheat, barley and canola, the gross value of production improved by 12%, 27% and 13% respectively from the lows of 2017.

Intentions to plant indicate that the wheat area could expand again by 2% in 2019, with barley remaining at similar levels to 2018. Producers intend to expand the area cultivated to canola by 5% year on year. Under the assumption of normal weather conditions, which would entail a return to trend yields, this could support wheat production growth of 6.5% in 2019, while barley and canola production could increase by 7% and 18% respectively.

Presently, a small increase in global wheat prices resulting from overly wet conditions in the US would have a limited price impact in South Africa's wheat market, as world prices remain below the reference level that triggers the variable import tariff. Unless

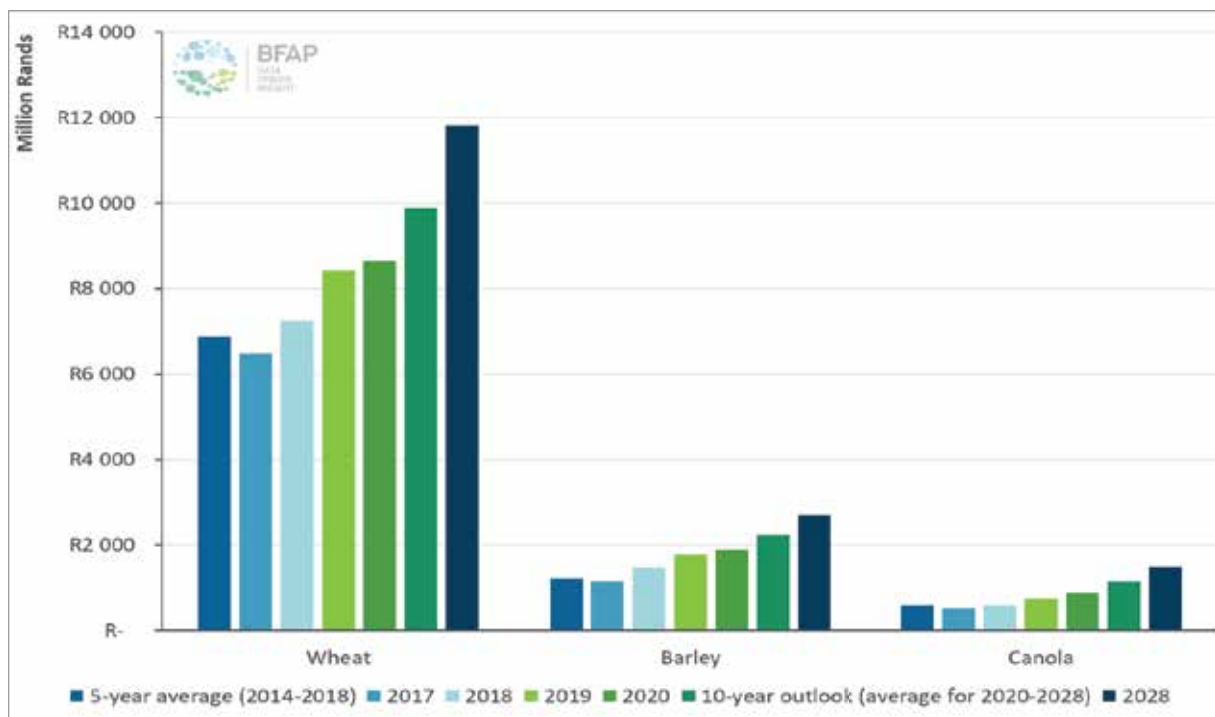


**Figure 35: World prices for major winter grains and oilseeds**  
Source: FAPRI & BFAP



global wheat prices increase sufficiently to exceed the reference price, which they are not expected to do, a reduction in the variable import tariff would offset an increase in world price levels. Nonetheless, prices are expected to find support from a weaker

exchange rate. Combined with production gains, this would support an increase of 16%, 21% and 25% in the gross production value of wheat, barley and canola respectively (Figure 36).



**Figure 36: Gross value of production for selected winter crops in South Africa**

### Box 2: Competitiveness of wheat production across the world

In an agricultural environment associated with severe weather fluctuations, declining real output prices and persistent input cost inflation, on-farm productivity and efficiency becomes an imperative element in the management framework of farming businesses. These productivity and efficiency indicators can be anything that is measurable in terms of farm performance, whether it is water use efficiency, input use intensity, marketing strategies or the economics of farming practices. The evolution of global markets and the integrated nature thereof, entails that despite the natural resource base, global competitiveness is critical to long term sustainability.

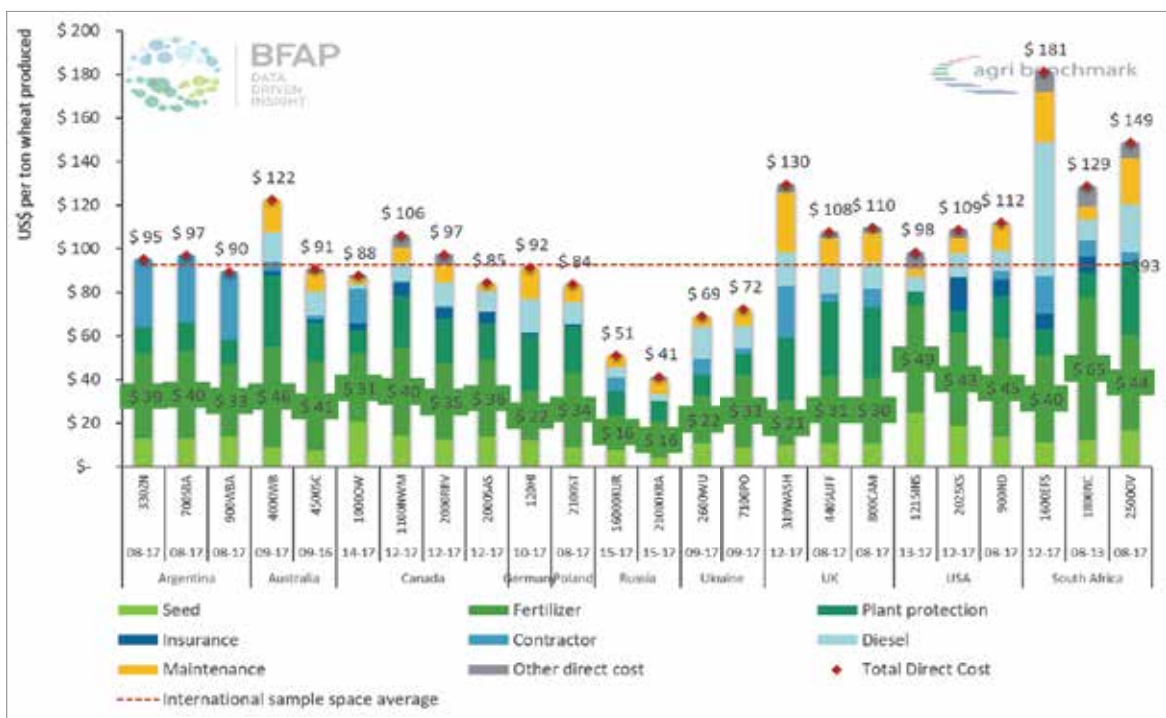
Measurement of competitiveness requires a good record-keeping system, which captures intelligent and accurate farm- and financial information. Since 2007, BFAP has participated in a global benchmark initiative, agri benchmark, which provides a platform to compare farming systems and key financial indicators across the globe. The programme relies on a standard operating procedure to ensure comparability. Currently, the initiative spans 46 countries and includes more than 30 crops and pastures. The South African cash crop farms include 27 crops (including maize, sunflower, soybeans, wheat, barley, canola, potatoes and sugarcane) in 13 key growing regions.

A comparison of yield trends for wheat production across the globe indicates that, apart from wheat producing



regions in the Wheat Belt of Australia and Kansas in the United States of America (USA), South African dryland yields lag behind key global wheat producers. The wheat yield over the period from 2008 to 2017 for the Southern Cape farm averaged 3 tons per hectare. For Eastern Free State, the average over the period from 2012 to 2017 was 2.4 tons per hectare, well below the international sample average of 5.2 tons per hectare.

Consideration of costs suggests that South African wheat farms use more financial resources to produce a ton of wheat. The comparison of direct costs is presented in Figure 37, which represents the cost of producing a ton of wheat<sup>5</sup>. In the Southern Cape, direct costs amount to US\$149, approximately US\$56 per ton more than the international sample average. The Eastern Free State pays on average US\$181 to produce a ton of wheat, the most expensive in the sample. Higher costs on South African dryland farms are mainly driven by lower yields compared to the rest of the sample, but also due to higher fertiliser cost. For the Eastern Free State in particular, the fuel component is substantially higher due to the sheer number of operations required to keep fields clean from weeds.



**Figure 37: Wheat direct expenditure across the globe**

Source: BFAP & agri benchmark, 2019

For many South African crops, fertiliser represents the single most expensive input cost variable. Since South African producers also have a disadvantage when the unit cost of fertiliser is considered, the use of fertiliser nutrients should be carefully monitored through efficiency indicators. One must acknowledge that, as is the case of fertiliser, many factors related to costs are often beyond the control of the farmer, however in an era where technology such as variable rate application becomes more prominent, input allocation and yield

<sup>5</sup> The time frame of data is dependent on data availability and timing of when the farm was included in the program. The numerical value indicates the total size of the farm, including grasslands/pastures. The region code indicates the location of the farm in each country. For instance, for the 1600EFS farm it entails that the farm is located in the Eastern Free State and consists of a total farm size of 1600 hectares.



## Box 2: Competitiveness of wheat production across the world (Continued)

response should be carefully monitored. Figure 38 presents such an example by comparing nitrogen use efficiency globally. It illustrates the amount of wheat harvested per kilogram nitrogen applied. The Southern Cape is in line with the international sample average (46 kilogram wheat harvested per kilogram nitrogen applied), however, in countries such as the United Kingdom, Russia, Australia and Argentina, it is possible to increase the nitrogen use efficiency to more than 55 kilograms of harvested wheat.

Within this context Figure 39 presents the gross margins attained by wheat producers in 2017. It shows explicitly the gross margin where coupled or decoupled payments are included, as well as the gross margin for countries who do not receive any kind of agricultural subsidies. It is important to note that only direct costs are accounted for and overhead costs such as labour, administration, finance, depreciation and land rent still needs to be deducted. It is evident from the graph that gross margins for dryland producers in the Eastern Free State and Southern Cape regions were well below the international sample average of US\$562 per hectare. However, relative to Southern Hemisphere countries such as Argentina and Australia, the Southern Cape farm performs better. Lower yields in 2017 in the Eastern Free State led to lower margins compared to previous seasons. The study also indicated that coupled and decoupled payments in especially European countries do provide substantial financial support. For countries in the sample who did receive support through subsidies, the average level in 2017 amounted to US\$174 or roughly R2300 per hectare.

Generally, substantial differences are evident between Southern- and Northern Hemisphere producers. Yields, especially in South Africa, are lower compared to what is achieved in countries such as Germany, Poland, Russia, Ukraine and the United Kingdom. Consequently, it costs more to produce a ton of wheat in South Africa. The question remains to what extent local producers can increase yield, given the prevailing natural resources and climate? Continuous investment into production aspects such as seed breeding, adopting of new technologies,

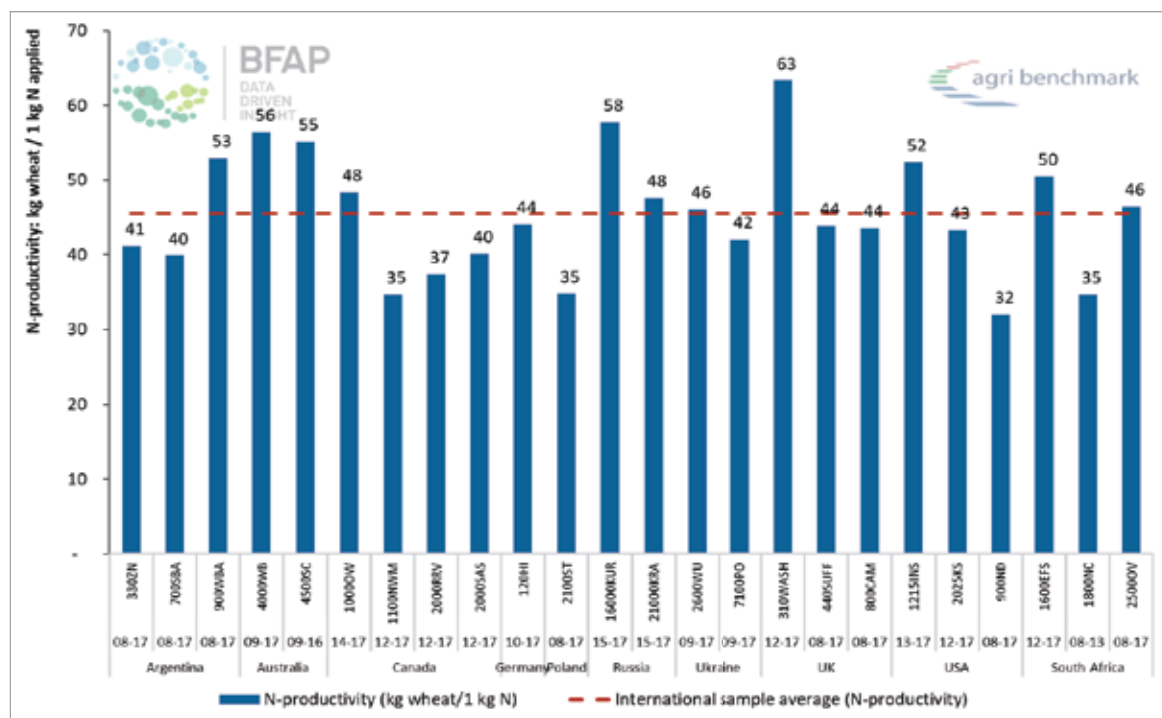


Figure 38: Wheat nitrogen productivity

Source: BFAP & agri benchmark, 2019

## Box 2: Competitiveness of wheat production across the world (Continued)

modern farming practises etc. is therefore key to promote growth in yield and improve a country's competitive position. Economical feasibility however remains the test for adoption of any production technology.

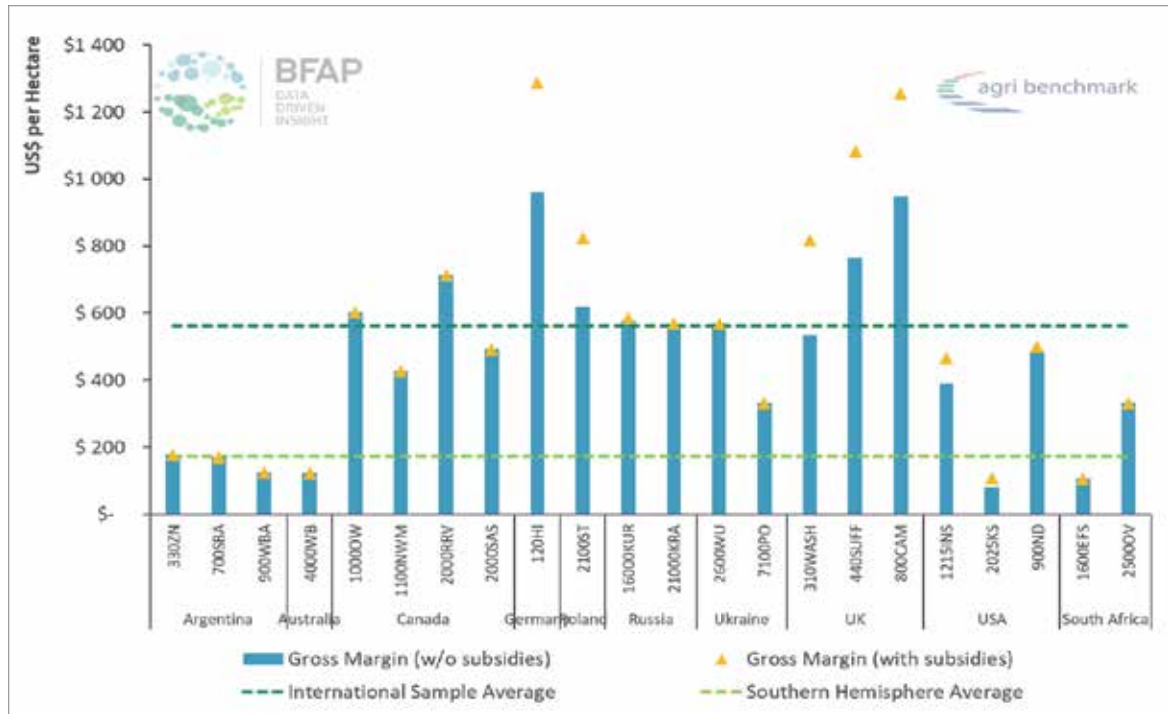


Figure 39: Wheat gross margins for 2017 production season

Source: BFAP & agri benchmark, 2019

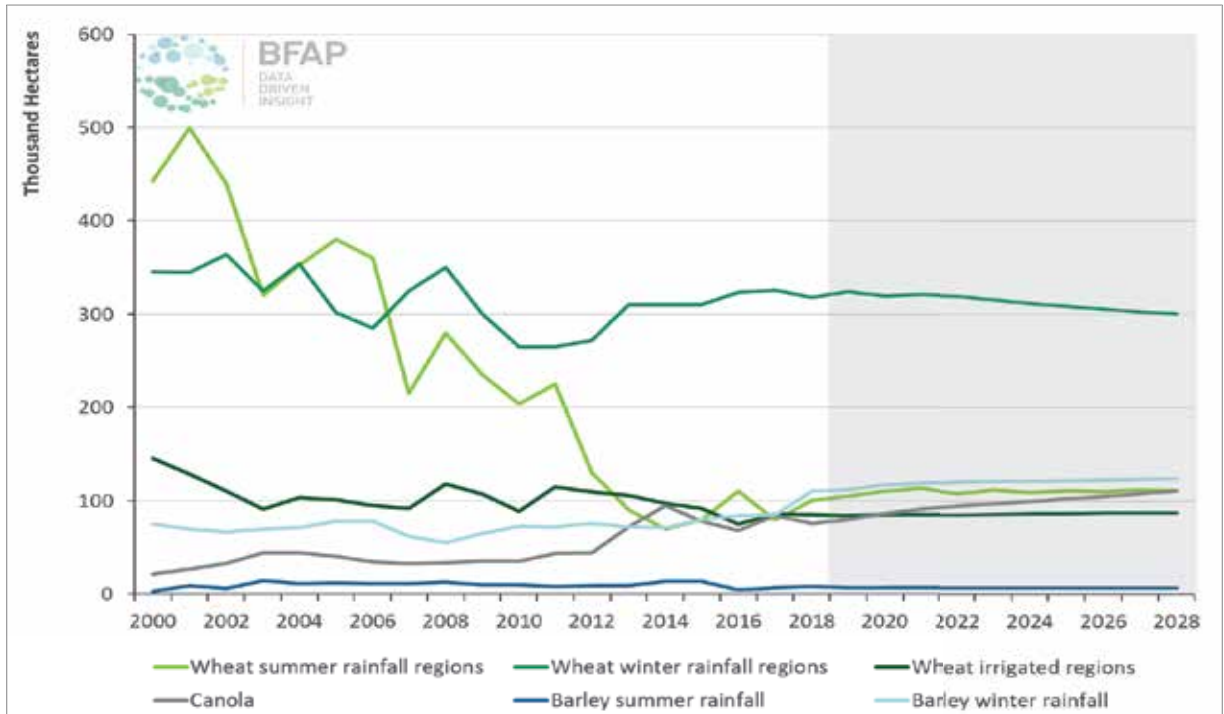
### Domestic market outlook

After a period of continuous decline, wheat area stabilised over the past 5 years, following the increase in the reference price that triggers the variable import tariff in 2013. The decline in wheat area was particularly rapid in the Free State, where wheat production became less competitive and riskier compared to alternatives such as maize and soybeans. With the area planted to wheat in the Free State stabilising at approximately 105 thousand hectares, the share of South Africa's total wheat area attributed to the winter rainfall areas of the Western Cape increased steadily, to reach 63% in 2018.

Over the course of the coming decade, wheat area in the Western Cape is expected to contract slightly, to reach approximately 300 thousand hectares by 2028. This contraction comes as a result of further expansion in

both barley (to approximately 125 thousand hectares by 2028) and canola (to approximately 110 thousand hectares by 2028) Over the next 10 years, the Free State wheat area is expected to increase marginally, to reach approximately 110 thousand hectares by 2028. In the irrigated regions, neither the wheat nor barley area is projected to expand significantly, with competition from a number of alternative crops (amongst them pecan nuts) simply being too strong (Figure 40).

Figure 41 presents the percentage change in both area and yield for wheat, barley and canola in the different production regions. It illustrates fairly consistent yield growth, under the assumption of stable weather conditions and continuous improvements



**Figure 40: Area under major winter crops in South Africa: 2000 - 2028**

in technology. The fastest yield growth is projected for canola, where total area is also expanding. This is based on increasing availability of higher yielding cultivars, which have proven successful in recent years. It is also influenced by the small base, as current yield levels are low and the improvement of 36% by 2028 relative to the 2016-2018 base period represents an absolute improvement of 0.5 tonnes per hectare, to reach 1.85 tonnes per hectare by 2028. In the Western Cape, where the area cultivated to wheat is projected to contract, yields are projected to improve by almost 30% over the 10-year period. In regions where the cultivated area is increasing, projected yield gains are smaller.

By 2028, the combination of area and yield dynamics reflected in Figure 41 results in an expansion of 25% in wheat production relative to the 2016-2018 base period. The combination of growing income, increasing urbanisation and expanding population is also expected to support consumption growth of 21% over the same period. Consequently, although net imports will also expand, the share of imported products in total consumption is expected to decline marginally, to 43.5% by 2028. In the case of barley, production has increased to the extent that South Africa is almost completely self-sufficient in barley

production. Presently, both malting barley and canola markets are characterised by a single buyer, but in light of commitments made by ABInBev to procure domestically and barley's relative competitiveness against wheat production, further growth in consumption is also expected to be met with domestic production. South Africa will therefore essentially be self-sufficient in barley production over the course of the next 10 years (Figure 42 and Figure 43).

The current estimated canola crushing capacity of 175 thousand tonnes is sufficient to process projected volumes until 2025, after which it will need to be expanded to reach the 195 thousand tonnes projected by 2028. Similar to barley, South Africa has been self-sufficient in canola production in recent years and is expected to remain so. In order to incentivise this production, canola prices are expected to continue trading between import parity and export parity levels, increasing by an annual average of 2.5% over the next decade. This is less than general inflation and entails a modest decline in real terms. By comparison, wheat and barley prices are projected to increase by an annual average of 2.6% and 2.8% respectively over the 2-year period. This is also insufficient to match general inflation.

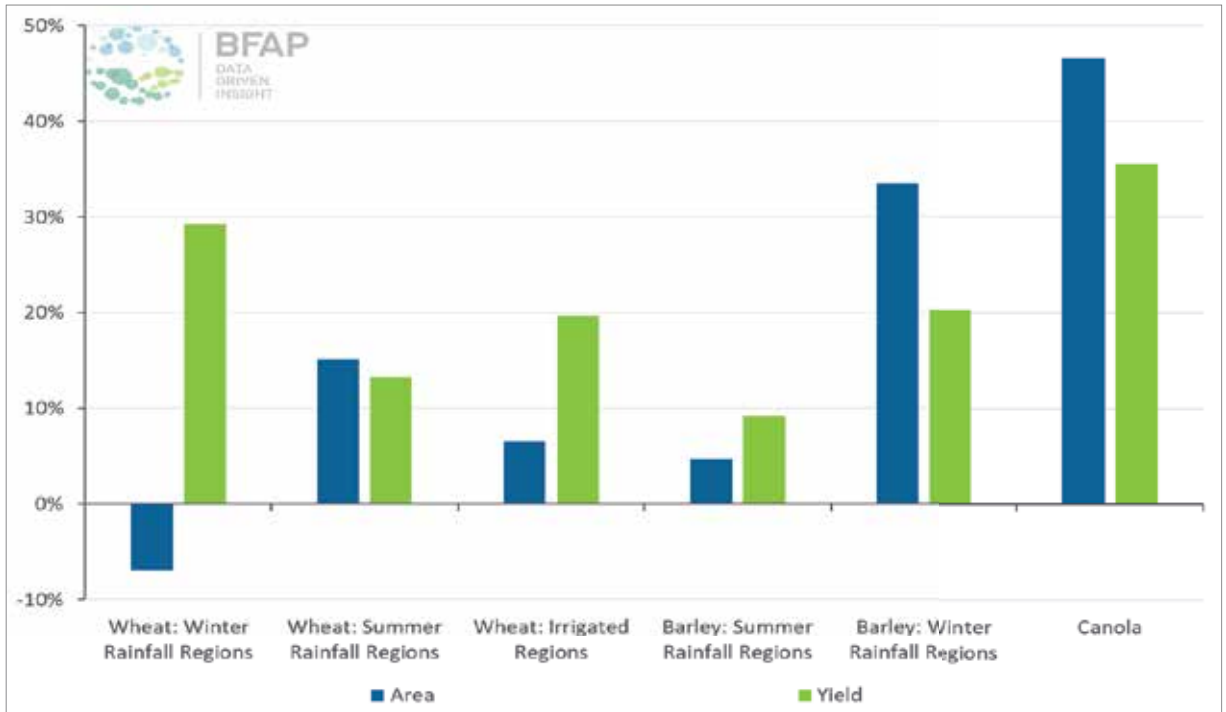


Figure 41: Percentage change in area and yield for major winter crops: 2028 vs. 2016-2018 base period

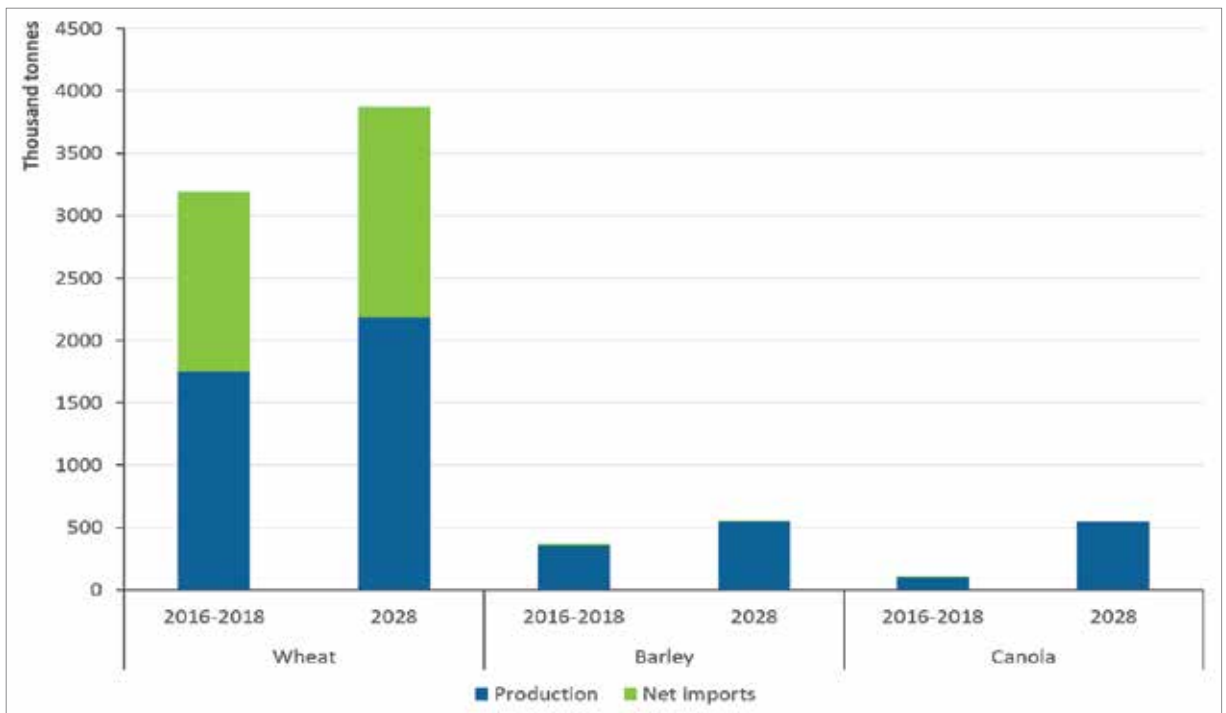


Figure 42: Demand wheat, barley and canola: 2028 vs. 2016-2018 base period

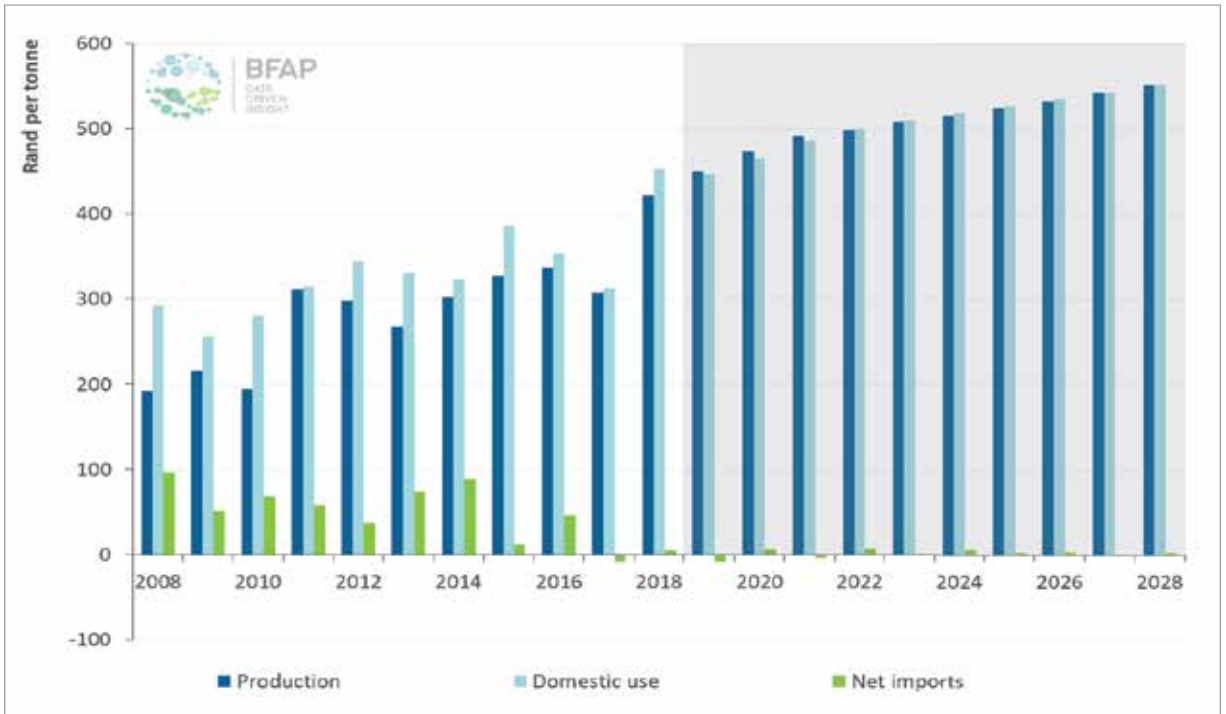


Figure 43: Barley production, consumption, trade and prices: 2008 - 2028

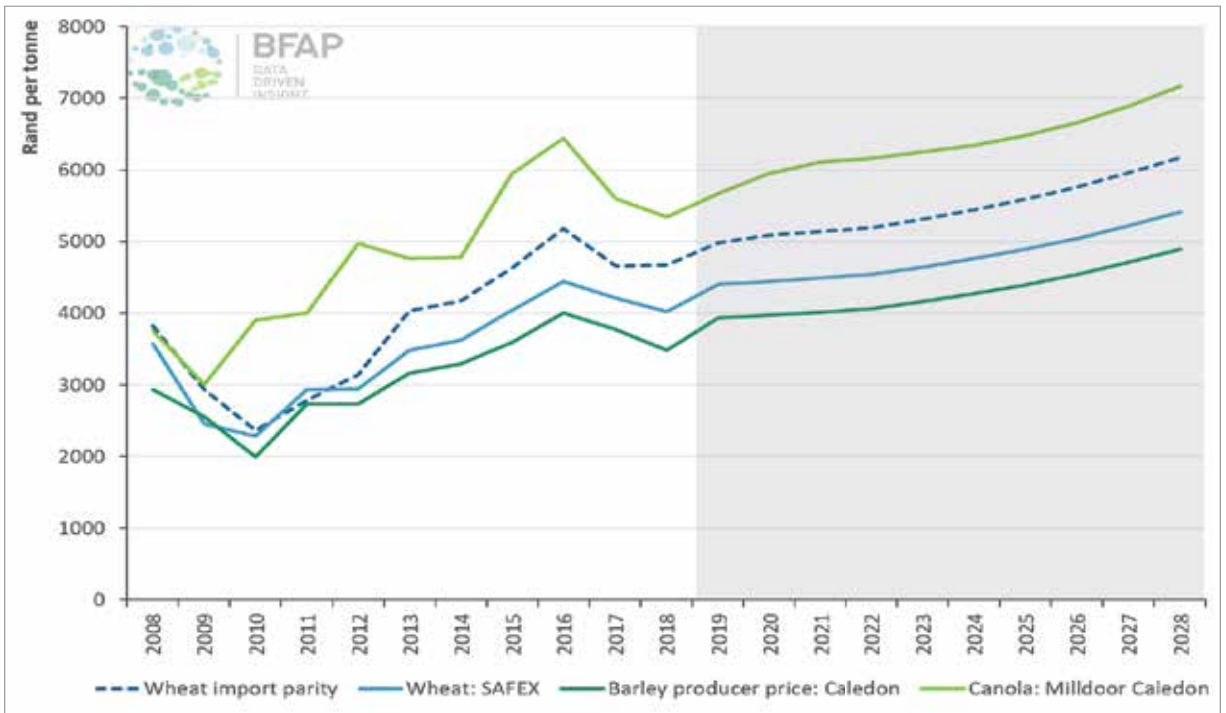


Figure 44: Winter crop prices: 2008 - 2028





The projected price path for wheat and barley is dependent on a number of policy assumptions. Firstly, it is assumed that the variable import tariff currently applied in the wheat sector remains in place. The support provided to domestic producers has declined in recent years, firstly through the reduction in the reference price that triggers the variable import tariff from 294 USD per tonne to 279 USD per tonne in mid-2017. Support was further eroded by the introduction of the quota of 300 thousand tonnes that can be imported free of this duty from the European Union under the Economic Partnership Agreement (EPA).

Under the assumption that the size of the quota remains unchanged and the reference price remains at 279 USD per tonne, the main factor influencing the price path of wheat over the next ten years is a gradual depreciation of the exchange rate. World prices are projected to remain below the 279 USD reference price, suggesting that the tariff will remain in place over the entire outlook period. The projected price of barley over the coming decade is based on the assumption that the price link to wheat is retained in its current form.



# OUTLOOK FOR FIELD CROPS

## SUGARCANE AND SUGAR

The South African sugar industry is in a deep crisis. Tariff free imports from mainly Eswatini, together with the wider imposition of the Health Promotions Levy (HPL) has had a major impact on local production and market demand and has reduced sugar industry revenue by approximately R1.5 billion. The impact of the HPL on sugar-sweetened beverages (SSBs) has been considerable, with the tax somewhat curbing demand for these beverages, but especially with companies formulating away from cane sugar as sweetener, resulting in a drop in local demand of as much as 250 000 tons (about 15-20% of the local market). The sustained low level of the NY No.11, raw price and London No 5, refined price (\$330 per ton), has also impacted the industry, as all export revenue that is earned, is realised at below the majority of farmers' cost of production. In total, more than 70 000 hectares of sugarcane have been lost over the past decade and due to the dwindling profit margins over the last number of years, the trend of farmers moving away from sugarcane and diversifying into other long term crops (macadamias, avocados,

citrus etc.) is continuing at a rapid rate. These farmers will not switch back to cane, as establishment of these high value crops is extremely capital intensive. Under the 2019 Baseline projections, given implemented current protection allowance levels, a further 17 000 ha will be lost over the next decade.

It is envisioned that under the rather bleak baseline outlook, sugar mills might have to close in the Coastal production regions. This could result in accelerated decline in hectares, a loss of over 20 000 direct jobs (farm and mill) in the next five to seven years and negatively affecting the livelihoods of over 90 000 people. Decreasing cane production has over more than a decade led to decreased mill through-put, and milling and logistic inefficiencies putting severe pressure on milling companies' balance sheets as well as their relationship with their farmers and the communities they operate in. The closing of some mills could increase the through-put of the remaining mills, but the additional transport cost to bring cane from mill-less production regions will have to be absorbed in an already stretched system and it can



be expected that considerable hectares will be lost in regions where mills close down.

The South African sugar sector has over the last 150 years contributed immensely to development in rural Mpumalanga and especially KwaZulu-Natal, with towns growing around mills to provide up and down stream cane and sugar related inputs and services. While some of these towns have grown past its total sugar dependence, in excess of a half million people in South Africa still largely depend on sugar production and processing for their livelihoods. Within the current marketing structure, international sugar and biofuel markets and increasing local production costs, a large share of the development and good done by the industry will come under even more pressure in the next years as the industry is forced to consolidate. Given the potential communal and socio-economic pressure it will be critical for Government and industry to consider alternatives, for example a biofuels regime, that could potentially assist the industry in converting their export sugar into a more

lucrative product, such as ethanol or for Government to finally come to some economically viable decision on electricity cogeneration.

In a recent study by BFAP, alternative future scenarios were simulated (Figure 45) and it seemed apparent that the industry was close to a tipping point where it could enter a phase of consolidation that is significantly faster than what is presented in this outlook. This tipping point was most likely prevented by ITAC's increased allowance in the import tariff from \$566/ton to \$680/ton, but despite of a slower decline under the increased reference price, the industry is still projected to contract for the next five years until a more sustainable equilibrium is achieved with less surplus sugar. A positive note for the future seems to be the fact that new and improved chemical control of the African sugarcane borer has over the last year or two enabled, especially coastal farmers, to harvest more mature cane, resulting in higher cane and sugar yields.

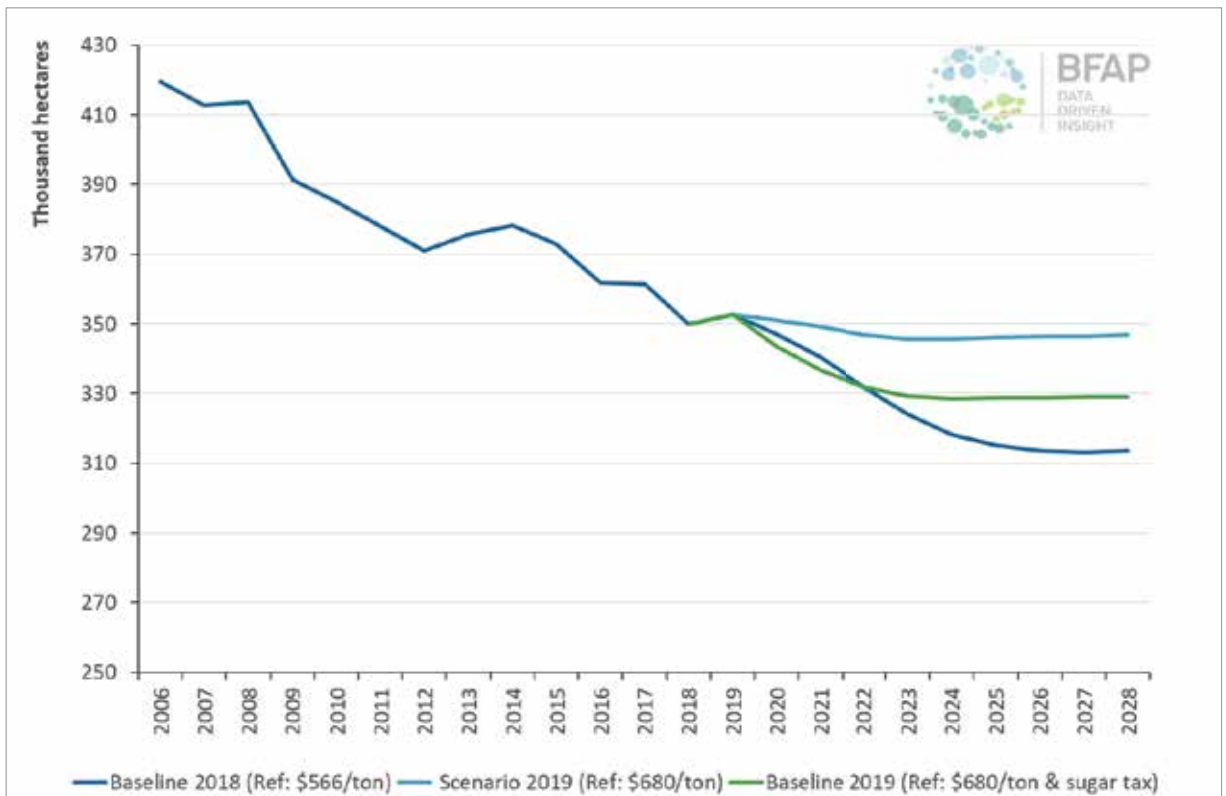


Figure 45: South African area in sugarcane

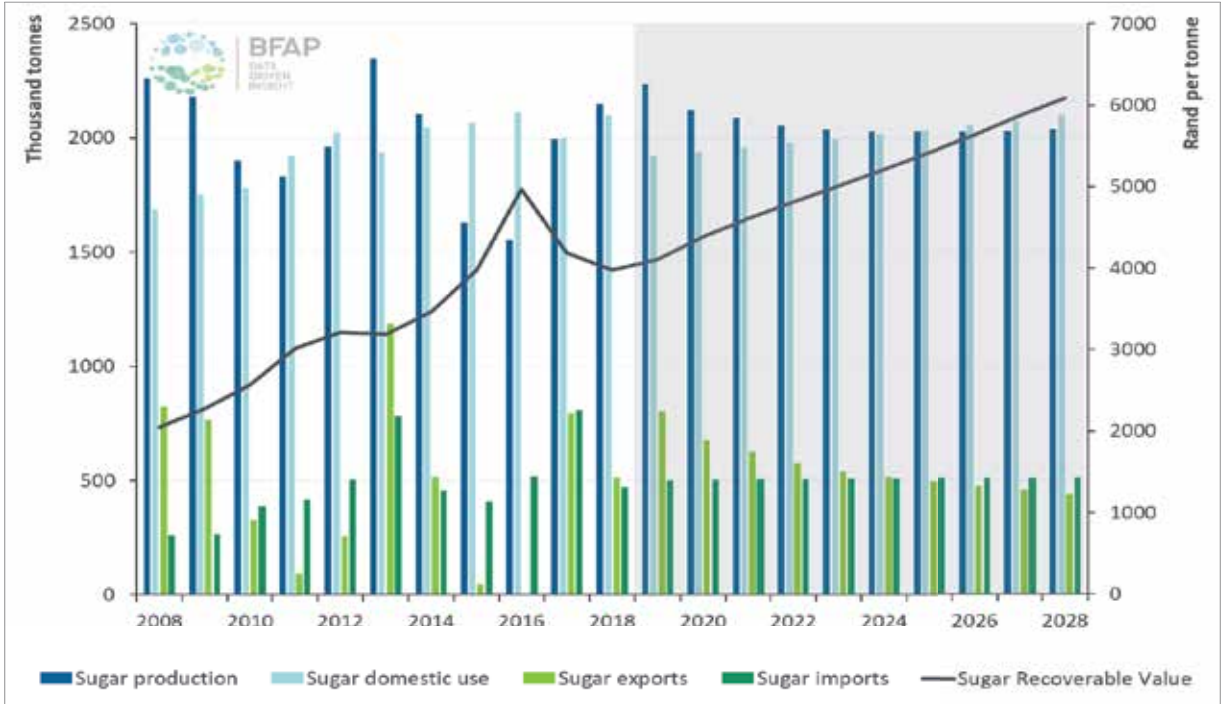


Figure 46: South African sugar production, consumption and RV price



# OUTLOOK FOR ANIMAL PRODUCTS MEAT, WOOL AND EGGS



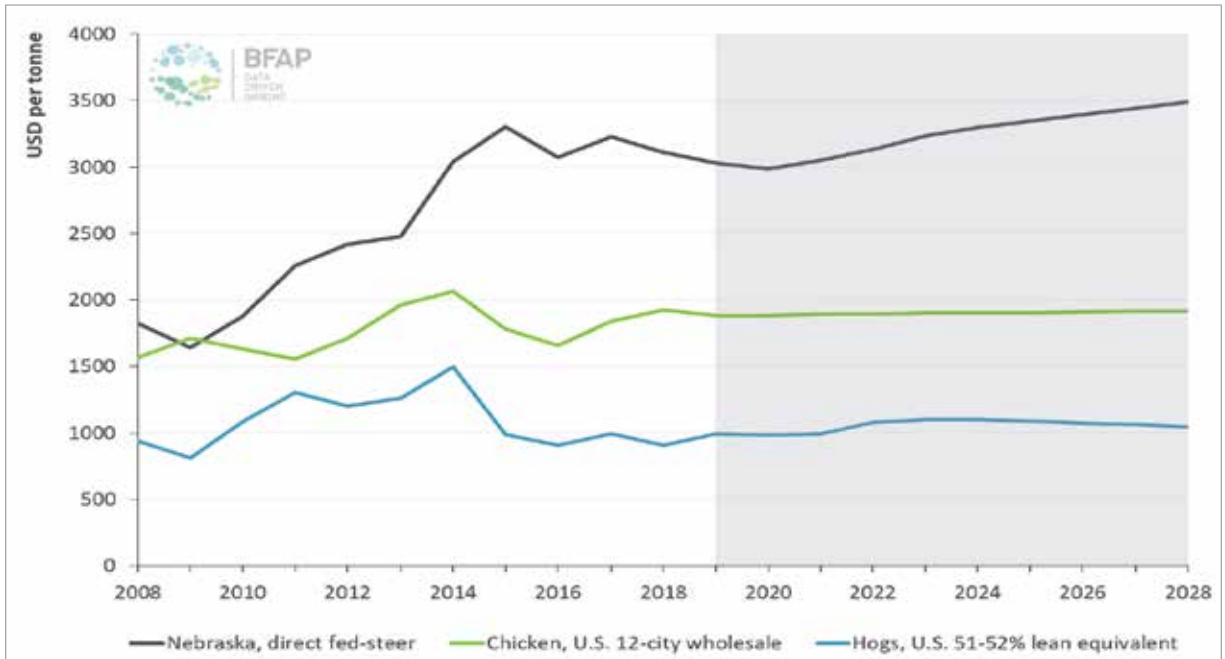
## Global market situation: Meat

Global meat production increased by 1.4% to 327 Mt in 2018, spearheaded by increases in beef, pork and poultry. The bulk of production came from the EU, Russia, and the USA, with additional contributions coming from Argentina, Australia, India and Mexico. For the most part, increased output came because of improved productivity, but in Australia slaughter numbers increased because of drought conditions. Production declined in China and stagnated in Brazil. In China, the drop in meat output has been the result of the African Swine Fever (ASF) outbreak that had a devastating impact on pork production in the country. In its latest outlook for global agriculture, the OECD-FAO suggests that China will only recover from the effects of the 2018 ASF outbreaks by 2022, under the condition that they are successful in getting the current outbreak under control.

The outbreak of ASF in China arguably represents the greatest uncertainty in global meat markets at present. By the end of July 2019, 143 different outbreaks had been reported – resulting in the culling of more than a million pigs. The number is however seen as a conservative estimate, with industry experts pointing to significant under reporting. Combined with preventative culling and early marketing by concerned

producers in many areas where outbreaks have occurred, industry experts in China estimate that the national pig inventory has been reduced by 23% and the breeding sow herd by 24%. This reduction has multiple implications for the industry. In the short term, it suggests that China's pork imports could increase substantially. To date, imports have been slow to increase, due to a combination of time required for transportation, high volumes in cold storage, and reduced pork consumption, as consumers switch to alternative meat types. The extent to which imports accelerate will depend on the ultimate production decline, as well as the extent to which consumption declines. Pork production in China is very diverse, comprising 26 million pig farmers that range from small, backyard producers with basic production systems and limited biosecurity to large corporate farms utilising modern technology. It is estimated that 85% of the reduction in the pig herd occurred on small farms (less than 3000 pigs marketed per year), which are also the least productive. Consequently, average productivity from the remaining producers could improve substantially, offsetting some of the production decline. With consumers looking to alternative meats, poultry consumption has already increased by 16% relative to the same period last year





**Figure 47: World meat prices: 2008 - 2028**

Source: FAPRI & BFAP, 2019

and the Chinese government is actively promoting poultry production, as an alternative to mitigate tight pork supply.

While all these factors will mitigate the need for additional imports, China is a very large market and every 1% of production that is replaced by imports amounts to approximately 500 thousand tonnes. Therefore, despite the uncertainty regarding the magnitude of additional imports required, the short term price impact will definitely be positive. Provided that the current outbreak can be contained, the extent of culling amongst smaller producers could have a significant impact in the longer term prospects for China’s pork production and import requirements. The introduction of stringent environmental regulations in 2015 started a transformation within China’s pork sector, with large corporate farms rapidly gaining market share. The ASF outbreak has the potential to accelerate this process, resulting in substantial productivity gains over the next few years – reducing the need for imports in the long term. Similarly, the promotion of expanded poultry production in China to replace pork in the short term, could imply increased production and reduced prices for poultry products globally in the medium term.

Meat consumption differs vastly across countries and regions. Over the past decade, it has been noticeable that meat consumption has declined in a number of developed countries, whilst increasing in many developing countries – notably in Asia. The OECD-FAO projects that over the coming decade, the demand for meat will keep growing, but at a slower pace relative to the past decade, as some larger developing economies start to reach developed world consumption levels. The largest share of additional consumption over the next 10 years is still attributed to developing countries.

World meat exports increased in 2018, driven by increased shipments from Australia, Argentina, Thailand and the USA. Chinese meat imports increased drastically due to contractions of pork production, while the ASF outbreak also stimulated stronger demand for alternative meat types. Other countries where import demand increased significantly are Viet Nam and the Philippines. Over the next decade, the OECD-FAO (2019) expects exports by the two largest exporters, Brazil and the USA, to continue increasing.

Beef prices remained fairly stable between 2017 and 2018, while poultry and pork average prices declined. Although sheep meat prices increased, average meat prices declined; the price increase of sheep meat does



not have a significant effect on overall meat prices due to the small volumes of sheep meat consumption relative to pork and poultry.

The OECD-FAO (2019) expects a small increase in nominal terms, but declining real prices in the medium term. This comes as a result of slower meat consumption over the coming decade relative to the past, coupled with expanding supply, due to the lower feed price cycle.

### Domestic market situation

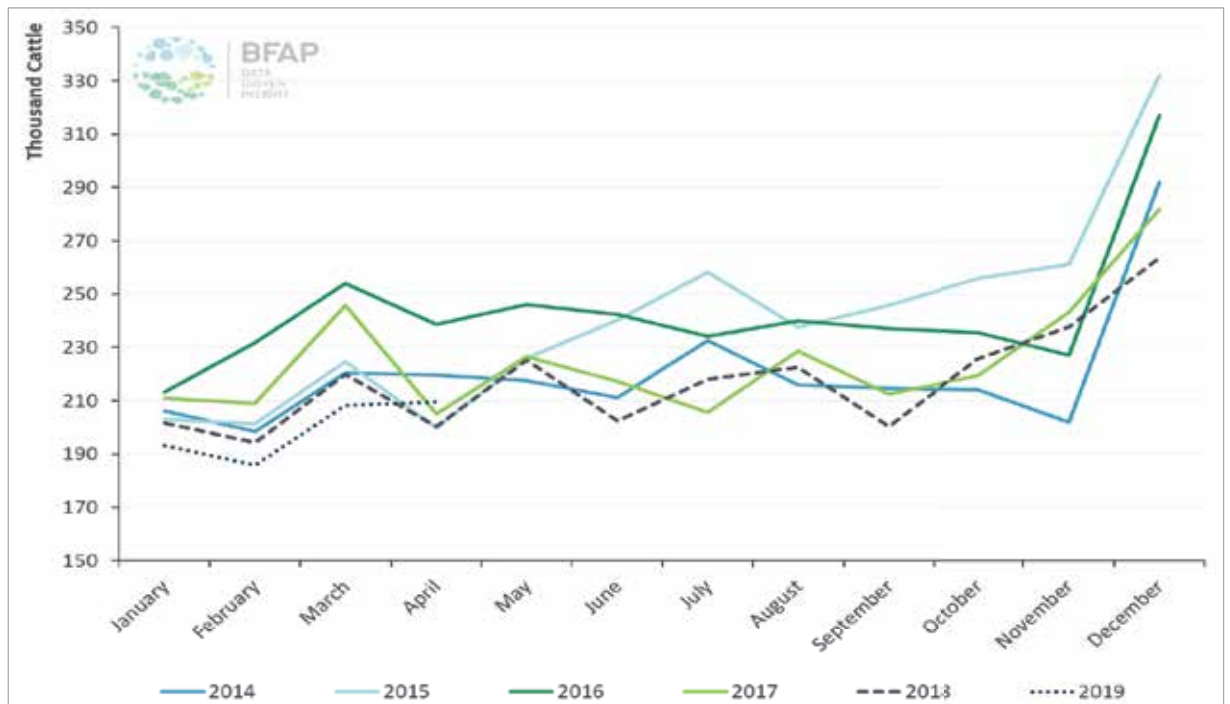
The combination of strong meat prices and rapidly declining feed prices implied that 2017 represented a return to profitability for livestock sectors that had been under pressure for a number of years. In 2018, the various meat markets were affected by a number of factors. The listeriosis outbreak, which resulted in temporary closure of certain processing facilities, reduced the demand for pork carcasses and prices tumbled in the first quarter. Active campaigns promoting pork products helped to support a consistent recovery over the second half of the year, but annual average prices still declined by 12% from 2017 levels. Pork producers were further challenged by

some recovery in feed grain prices, with both yellow maize and soybean meal prices rising by 12% relative to the low levels of 2017.

The pork industry is small in South Africa relative to beef and poultry, but some substitution effects do still occur and so lower demand for pork lent some support to consumption of other meat types. Combined with higher international prices for poultry and sheep meat, this sustained a 5% and 6% increase in domestic poultry and lamb prices in 2018. Beef prices also held firm on the back of strong export demand and constrained supply.

Following the herd liquidation that occurred through the 2016 drought and more favourable rainfall in 2017 across South Africa's summer rainfall regions, the beef sector entered a herd rebuilding cycle. In 2017, cattle slaughter volumes declined by 7% year on year, in 2018 by a further 3.5% and over the first 4 months of 2019, a further 2.4% decline. Similar trends are evident in the sheep market, where slaughter volumes have also declined sharply and weather conditions in many production regions continue to constrain the pace of flock rebuilding.

Despite the constrained supply, beef prices over



**Figure 48: Beef slaughter volumes: 2014 - 2019**

Source: South African Levy Administration, 2019



the first half of 2019 have traded 10% lower than the comparable period in 2018. A number of factors contributed to the decline. Firstly, the Foot and Mouth Disease (FMD) outbreak in the FMD free zone halted exports to several markets. In quarter 1 of 2019, beef exports declined to merely 60% of the comparable period in 2018, despite some success in bilateral negotiations to open certain markets for safe products. Secondly, products that would typically have been earmarked as exports were diverted into the domestic market, where consumer spending power has been under severe pressure. Consequently, beef prices plummeted, all while the dry early summer raised concern as to the size of the maize harvest, which pushed feed prices higher. This combination brought feedlot margins under significant pressure, thereby also reducing the demand and subsequent prices of weaner calves.

The beef industry was not the only one affected by higher feed prices. The pork and poultry sectors, who use feed more intensively in the production process also felt the squeeze. The relative substitutability between meat types implied that lower beef prices reduced the demand as well as the price of alternative meats. Constrained consumer spending power also contributed to weaker demand for other meats. Accordingly, despite some improvements in pork

prices in recent weeks on the back of stronger global markets arising from ASF related production declines in China, margins in most livestock sectors are under pressure in 2019.

### Domestic market Outlook

The fundamental factors that underpin meat consumption are income levels and the resultant changes in spending power, population growth and urbanisation. With income growth stagnating in recent years, growth in meat consumption has also slowed substantially relative to the early 2000's. Poultry remains the cheapest source of animal protein, but for many lower income consumers, it has few alternatives and when disposable income declines due to factors such as rising fuel costs & increased VAT, the product becomes unaffordable and meat consumption as a whole declines. On the other hand, mid-income consumers that had been able to afford a more diverse meat basket, may end up consuming more poultry, as a more affordable option, when disposable income comes under pressure. These factors, combined with some recovery in income growth over the latter half of the next decade, underpin projected consumption growth of 20% for poultry products by 2028 relative to the 2016-2018 base period. This represents a slowdown

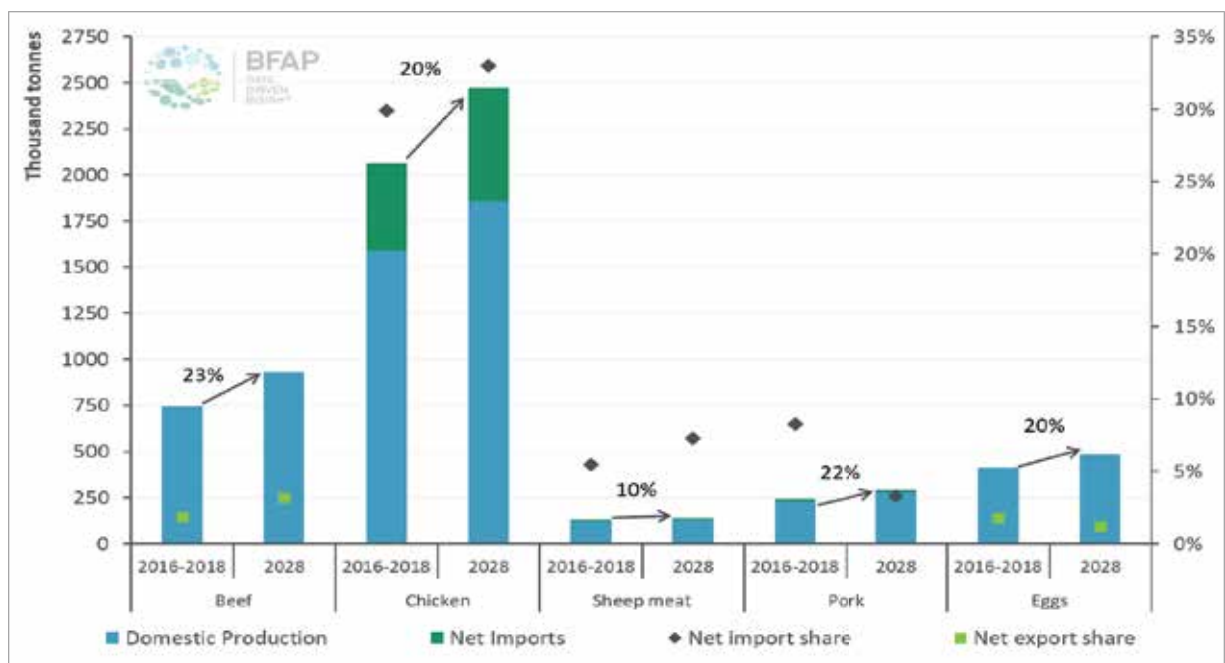


Figure 49: Meat consumption in South Africa: 2028 vs 2016-2018

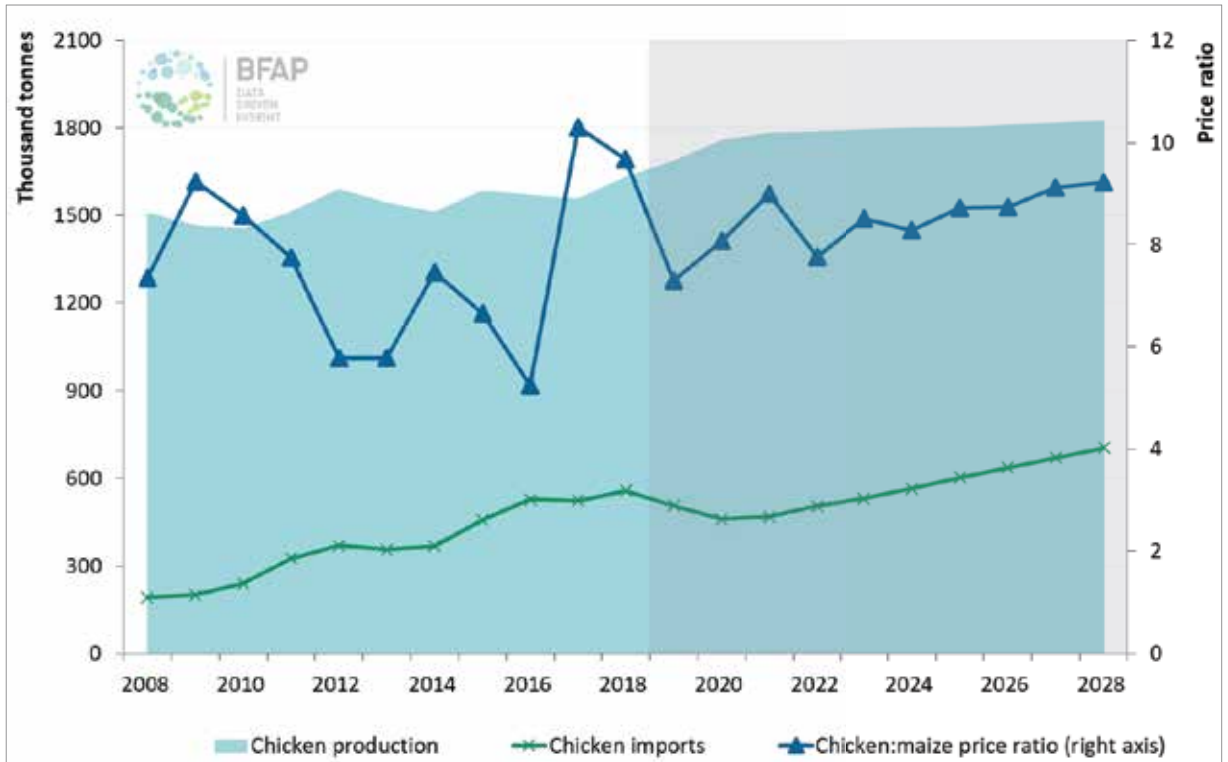


Figure 50: Chicken production, consumption, imports and profitability: 2008 – 2028

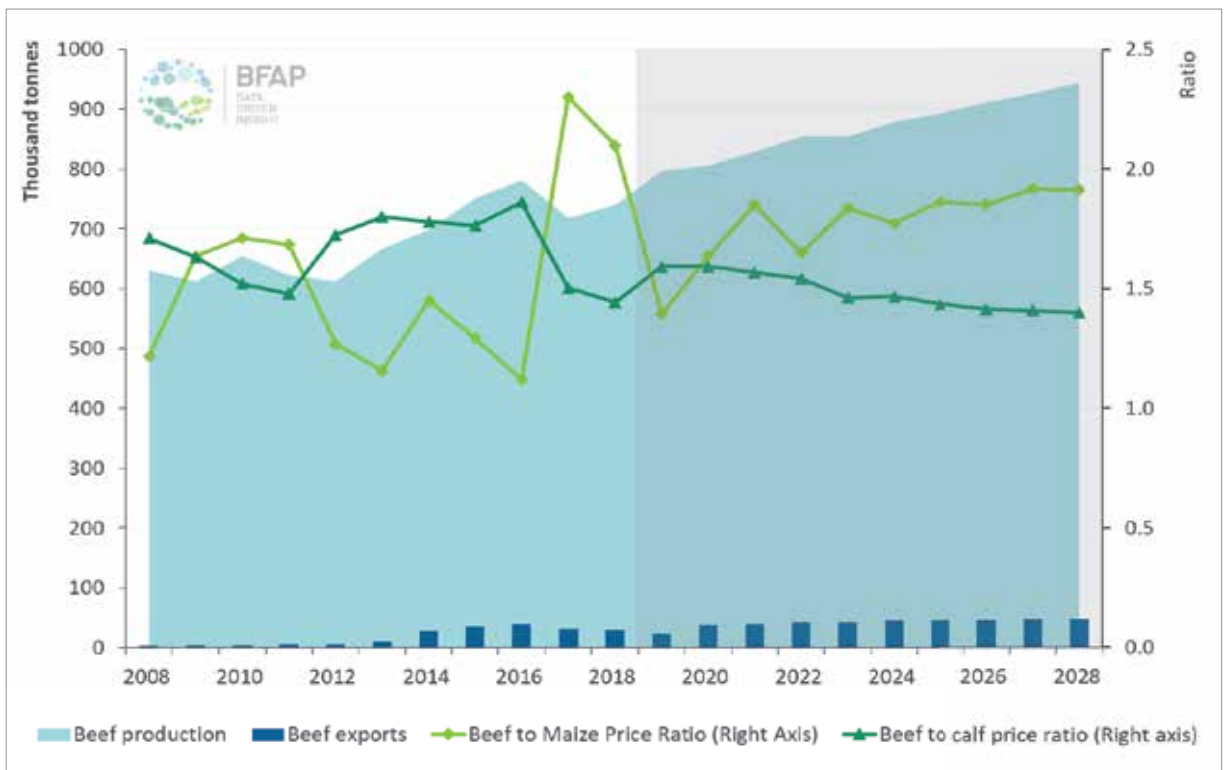


Figure 51: SA beef production, consumption, trade and prices: 2008 - 2028

2019 - 2028 | BFAP Baseline



from growth of 25% over the past decade (Figure 49).

The return to profitability in recent years, as reflected in the chicken to maize price ratio (Figure 51), is projected to support growth in chicken production in the short term. This is aided by the imposition of the safeguard duty on bone-in portions of EU origin, which is to be phased out by 2022. The chicken to maize price ratio is projected to decline again in the short term, as feed grain prices increase, but is projected to reach an equilibrium at a level well above the period from 2012-2016, but below the peaks of 2017 and 2018. Accordingly, production growth slows over the second half of the outlook and over the 10 year period, is projected to expand by 1.1% per annum. After the safeguard duty is phased out and under the assumption that Avian Influenza remains under control in the EU, imports of competitively priced bone-in portions are projected to increase once more, to comprise 33% of domestic chicken consumption by 2028 (Figure 49). Growth prospects could improve if the industry is able to gain access to a premium market for breast meat through exports to the EU in future.

Over the 10-year period from 2006 to 2016, beef consumption increased by 1.3% per annum. As a more expensive meat alternative, consumers tend

to be more sensitive to price changes – hence the constrained supply, which induced a 20% spike in beef prices in 2017 reduced consumption significantly. Going forward, the combination of FMD outbreak in the short term and recovering supply over the next 3 years result in prices increasing by less than general inflation and therefore declining in real terms. Consequently, beef consumption is projected to expand by 23% by 2028 relative to the 2016-2018 base period (Figure 49).

Over the course of the next 10 years, beef production is projected to increase by an annual average of 2.2%. After declining sharply in 2019 owing to the combination of FMD outbreak and high feed costs, the beef to maize price ratio is projected to reach an equilibrium well above the levels of the recent past, but below the peaks of 2017. The higher and marginally upward trending beef to maize price ratio is also projected to enable an increase in weaner calf prices over time in order to support production growth. The beef to calf price ratio reaches an equilibrium below the levels of 2012 to 2016. In the short term, weaner calf prices remain under pressure due to high feed prices, low beef prices and substantial weaner calf imports from neighbouring countries.

In the medium term, beef production growth is sufficient

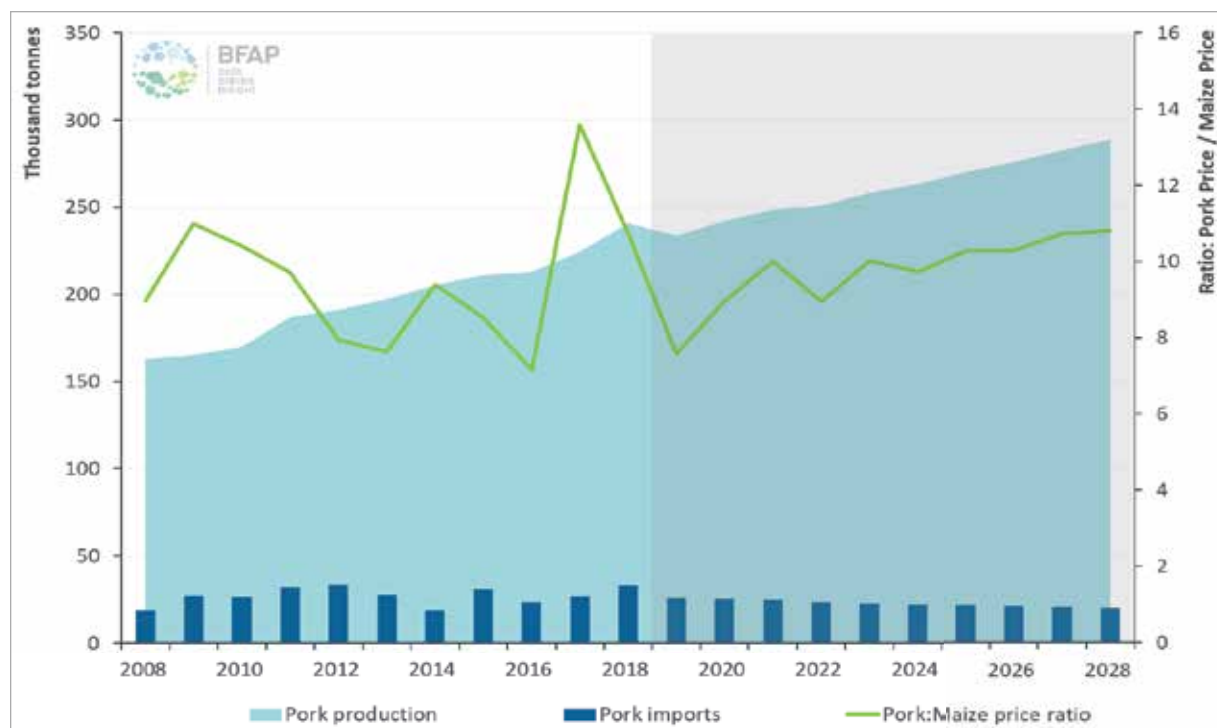
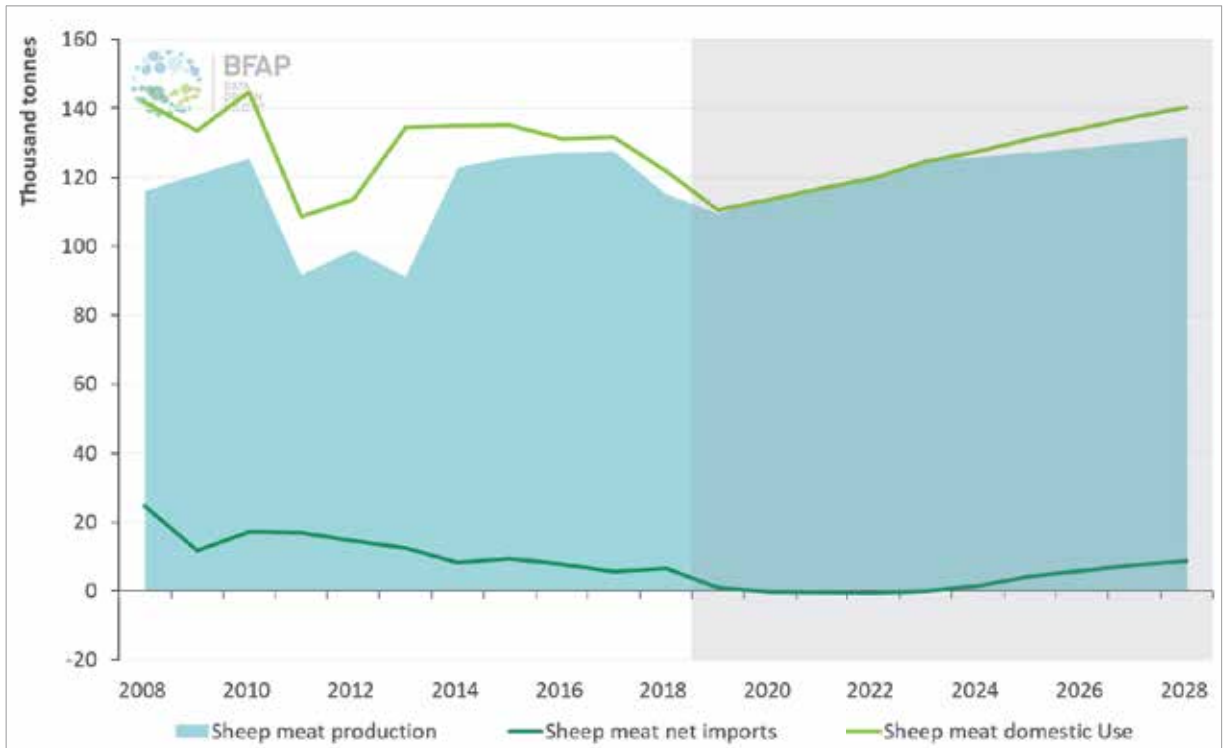


Figure 52: SA pork production, consumption, imports and profitability: 2008 - 2028



**Figure 53: Sheep meat production, consumption and imports**

for exports to continue increasing by 5.7% per annum. With the FMD outbreak seemingly under control, this is based on the premise of South Africa firstly regains and secondly maintains its FMD free status from 2020 onwards. The impact of the 2019 outbreak illustrated how quickly this outlook can change if the disease status and consequently the outlook for exports were to change.

The South African pork industry is small compared to beef and so price movements in the beef industry also influence pork markets. This was clear in 2019, as pork prices also declined sharply following the FMD outbreak. Following the impact of Listeriosis on pork markets in 2018, this represents the second consecutive year that the typical seasonal decline of the first quarter is exacerbated by a disease outbreak. In light of the additional import demand expected from China following the havoc caused by the ASF outbreak, prices are expected to recover over the second half of the year.

The effect of the ASF situation in China is expected to influence markets beyond 2019 and following the recovery from the initial decline in 2019, the pork to maize price ratio in South Africa is projected to trend

upwards towards 2028. This enables average annual production growth of 2% over the 10-year projection period (Figure 52). Despite projected consumption growth of 22% by 2028 relative to the 2016-2018 base period, production expansion is sufficient to reduce the share of imports in domestic consumption over time (Figure 49).

ASF is however not unique to China and isolated outbreaks of the disease in South Africa in 2019 is a cause for concern. Outbreaks occurred in the Free State, western Mpumalanga and eastern Gauteng. The virus does not pose any risk to pork consumers, but with depopulation the most effective means of controlling the spread of the virus, the effect of an extended outbreak on production levels can be significant. Stringent biosecurity measures help producers curb the threat of ASF.

As the most expensive meat type, weak economic conditions are also negatively affecting the consumption of lamb and mutton. Weak consumer demand is exacerbated by the decline in beef prices and over the first half of 2019, lamb prices traded 9% below the levels of the comparable period in 2018. This reduction comes despite supply constraints, as



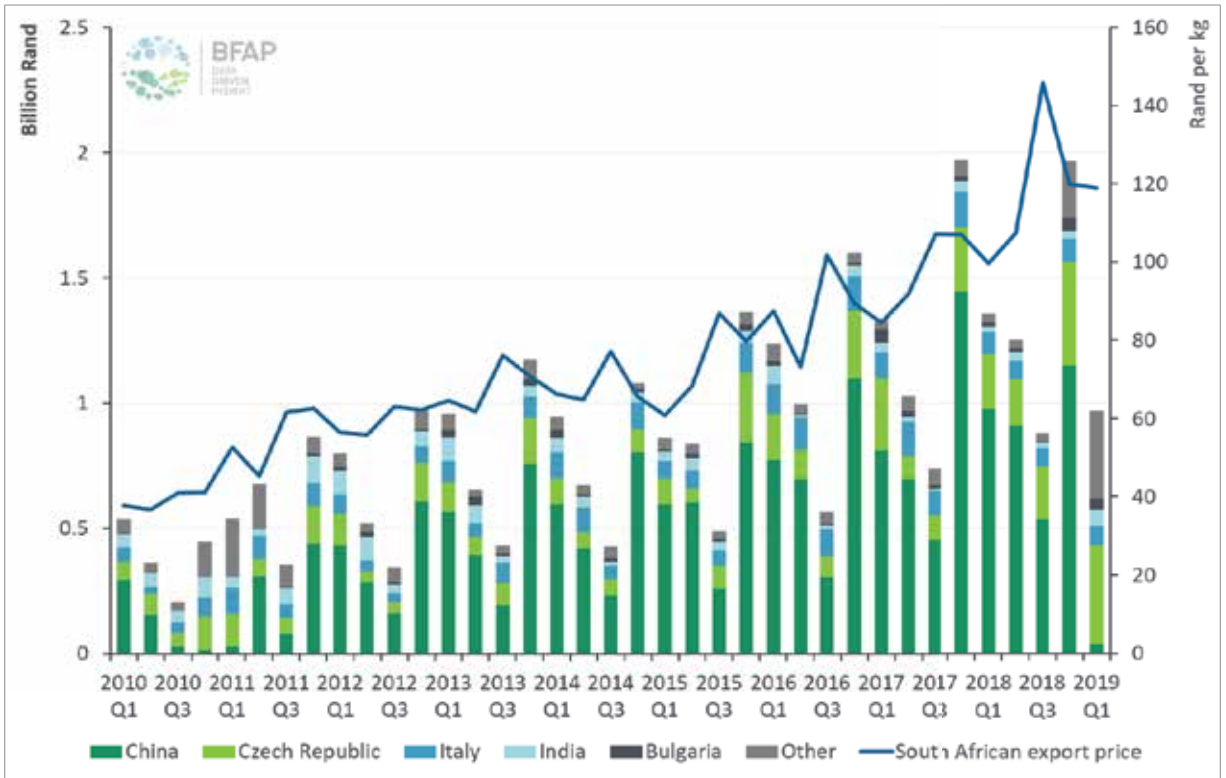


Figure 54: Value of South African wool exports and trade weighted average export price

Source: ITC Trademap, 2019

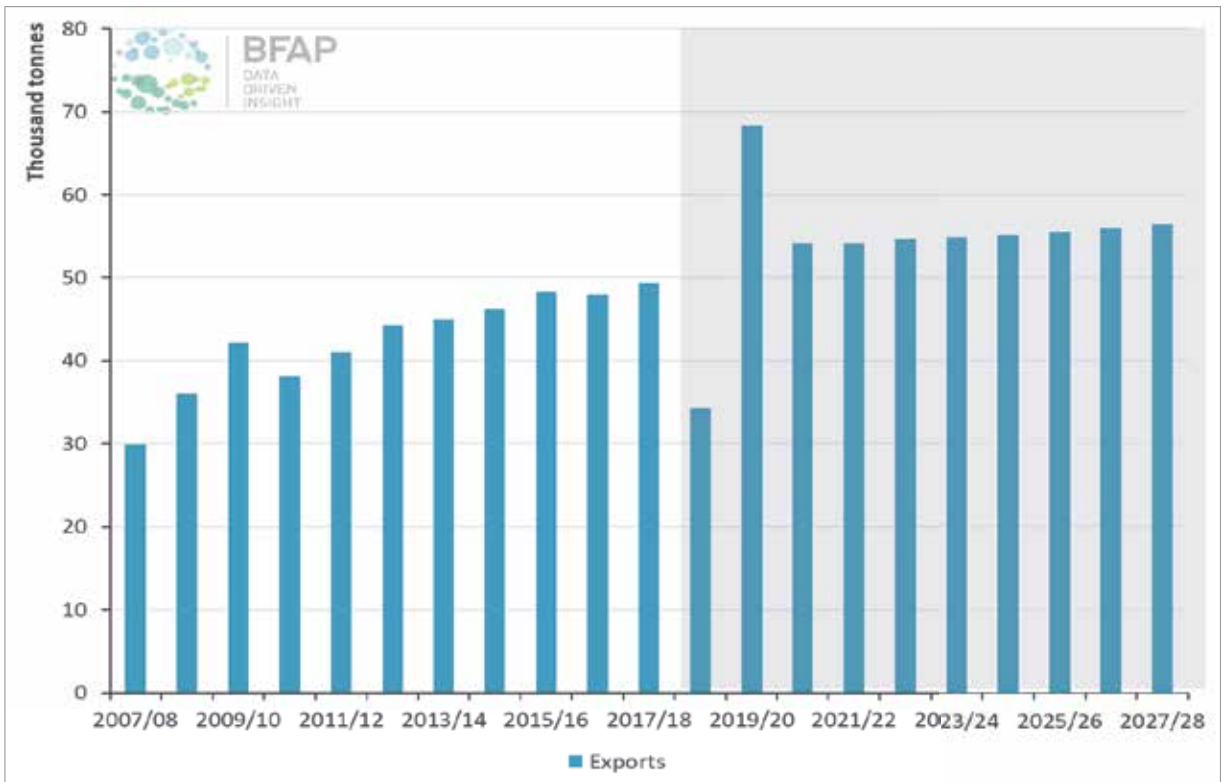


Figure 55: South African wool exports and processing: 2008 - 2028

BFAP Baseline | 2019 - 2028



the industry attempts to rebuild flocks following the effects of the 2016 drought. Lower prices, combined with persistent dry weather conditions in key production regions are expected to limit the rate of flock rebuilding over the next few years. Over the 10-year period to 2028 however, production is projected to expand by an annual average of 1.8%. This will enable the industry to supply the bulk of additional demand growth of 10% by 2028 relative to the 2016-2018 base period, resulting in a very modest increase in the share of net imports in total consumption by 2028.

### Domestic Market Outlook: Wool

South Africa as one of the top wool producing and exporting countries and over the last decade, the gross value of wool produced nationally increased by 203%. During 2018, wool prices reached record levels, supported by strong demand in China, India and the EU, as well as drought induced supply constraints in Australia. In 2019 however, the industry has faced significant headwinds, as the FMD outbreak in the free zone halted South Africa's wool exports into China. Over the first 4 months of 2019, export volumes were down 46% relative to the same period of 2018. As a result, the industry is sitting on high stock volumes. Processed wool products were cleared for exports in

May, but greasy wool exports will only resume once declared safe by the OIE. The baseline projections are based on the assumption that procedures will be in place for greasy wool exports to China to resume in the 2019/20 season enabling the industry to clear current stocks. South Africa's high quality wool enables it to not only be the second largest supplier in the Chinese market, but also one of the highest value suppliers.

A number of factors have supported growth in wool exports over the past decade. Firstly, the South African exchange rate has depreciated by an annual average of 7%, aiding the competitiveness of South African exports in the global market. Secondly, wool production has increased by 1% per annum, providing greater volumes into the market. The industry has been successful in achieving inclusivity, with a significant share of the production growth underpinning rising exports attributed to smaller producers, particularly in the Eastern Cape. Thirdly, in line with the long-term trend, domestic wool processing declined by an average of 15% since 2008 and as a result, an ever-increasing share of domestic wool production has been targeted at the export market.

Over the course of the next decade, production is projected to continue increasing, though at a marginally slower rate than the past decade, owing

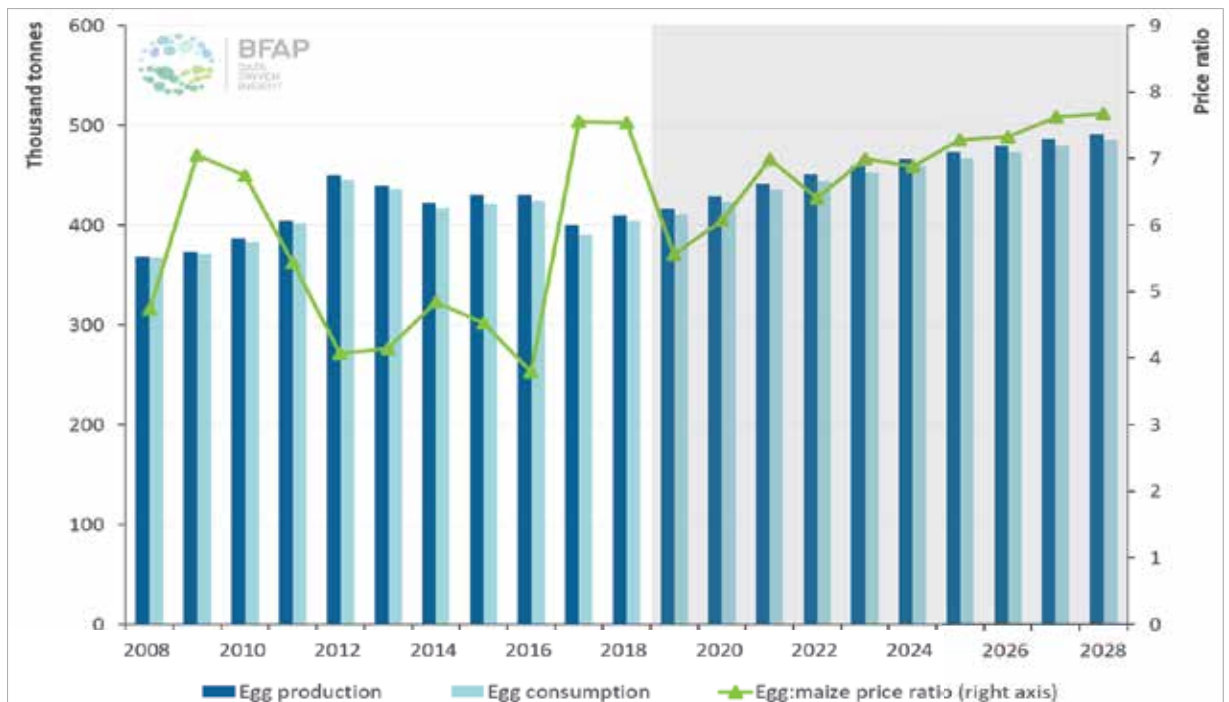


Figure 56: SA egg production, consumption and profitability

2019 - 2028 | BFAP Baseline



amongst others to challenges related to livestock theft and predation. With merely 6% of the domestic wool clip destined for the domestic market in 2018, the scope for further reallocation of wool previously destined for the domestic market is limited. Consequently, the rate of export growth is also projected to slow towards 2028. Strong international prices are expected to support faster growth in the total value of wool exports over the same period.

### **Domestic Market Outlook: Eggs**

The layer industry is still recovering from the 2017 Avian Influenza outbreak that saw about 20% of the layer flock culled nationally. The time required to restock, combined with constraints on pullet availability also influenced the level of production in 2018, which only increased by 2.5%, despite the egg to maize price ratio reaching the highest level since 1995. Some producers are still concerned about the lack of a vaccination strategy, with the current strategy still resting on culling as a means to control further outbreaks. This is particularly true in areas of high production density, where the spread of disease is harder to contain.

Despite the price increases associated with the AI outbreak, eggs remain one of the most affordable sources of protein to South African consumers. In

2018, consumption increased by 3.7% year on year. By 2028, relative to the 2016-2018 base period, egg consumption is projected to increase by 20%. Despite caution associated with the risk of another AI outbreak, a favourable egg to maize price ratio is expected to support production growth of 1.9% per annum. Over the 10-year period, egg prices are projected to increase by 4.2% per annum, a rate very similar to inflation and therefore trending mostly sideways in real terms.

The outlook presented in this chapter reflects the assumption of stable weather conditions, but remains subject to a number of uncertainties and unexpected events. The impact of extreme volatility in weather conditions, as well as changes to macro-economic factors such as the exchange rate on profitability, and the resultant investment decisions, was clear over the past 5 years. However, in livestock markets, food safety and disease management adds an additional extremely important risk to manage. The benefit gained by the beef sector from being able to export since being declared free of FMD in 2014 presents a clear example of the benefits attainable if the country's disease status is managed well, while 2019 illustrates how big the impact can be if that disease status is lost. In this regard, the need for successful management of South Africa's animal health status and the associated biosecurity measures cannot be overemphasised.



# OUTLOOK FOR ANIMAL PRODUCTS MILK AND DAIRY PRODUCTS

## International market overview

Global milk production declined marginally in 2018, for the first time in more than 10 years. India is the largest dairy producer in the world and was also responsible for the bulk of the production decline. India produces mainly for domestic consumption and is not a very active trader in global markets, hence its production decline has a very limited impact on world price levels. The largest exporters globally are Argentina, Australia, the European Union, New Zealand and the United States. Amongst these, production increased in New Zealand (3.1%), the United States (1.1%) and the European Union (0.8%). Consequently, export availability increased at a global level, despite lower production.

The nature of fresh dairy products implies that limited quantities are traded globally. Within processed dairy products, a much larger share is traded. The European Union is the main exporter of cheese, contributing a third of global cheese exports. New Zealand is responsible for 50% of global butter and whole milk powder exports, while the share of skim milk powder

exports is distributed fairly evenly amongst the main dairy product exporters (OECD-FAO, 2019).

An important consideration in global dairy markets in recent years has been the relative price levels of milk fat and other milk solids. Recent perceptions related to the benefits of animal fats as opposed to plant fats has supported significant demand for butter, causing prices to increase sharply relative to other dairy products. Butter prices reached record levels in 2017, but have declined since. By contrast, the price of Skimmed Milk Powder (SMP), which is seen as a reference for other milk solids, came under pressure, dampened by persistently high stock levels in the EU. With these having reduced, prices have moved closer together, but the demand for milk fats remains strong in North America and Europe. Consequently, despite modest declines in the short term, butter is expected to continue trading at a premium to SMP over the 10 year projection period.

On average, the OECD-FAO (2019) projects a marginal



decline in real dairy product prices over the next 10 years. This is a result of strong supply, as global milk production is expected to grow at an average rate of 1.6% per annum – faster than most other agricultural commodities. While consumption is also expected to expand, much of this growth comes from developing countries, who consume more fresh dairy products, hence the share of fresh dairy in total consumption is also expected to rise.

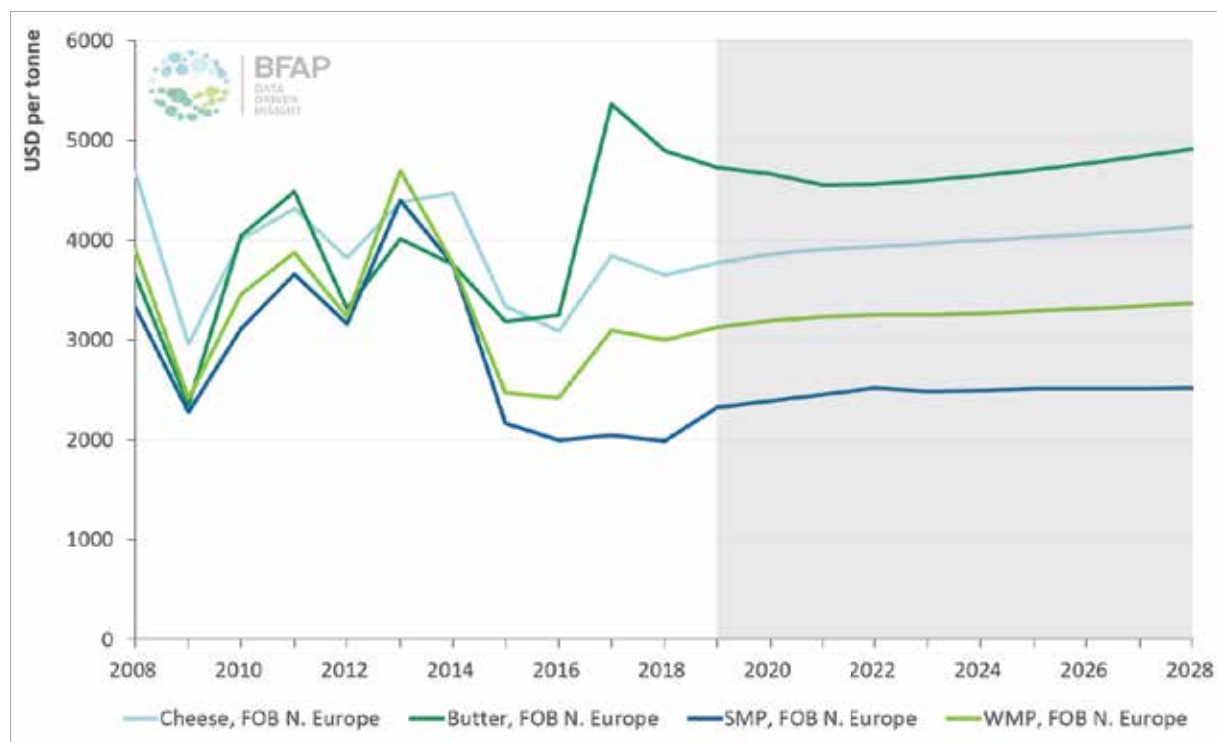
While the baseline projection presented in (Figure 57) reflects the assumption of stable weather conditions, there are always a number of uncertainties that will also influence markets in the future. In addition to climatic fluctuations, which dairy markets are inherently sensitive to, many of these also relate to trade. Continued disputes arising from the US, as well as outcomes of the United Kingdom’s (UK) efforts to exit the European Union are worth noting.

### Domestic market overview and outlook

Over the past 10 years, the number of milk producers in South Africa has declined by 65%, from 3551 in January 2009 to 1235 in January 2019. Despite the

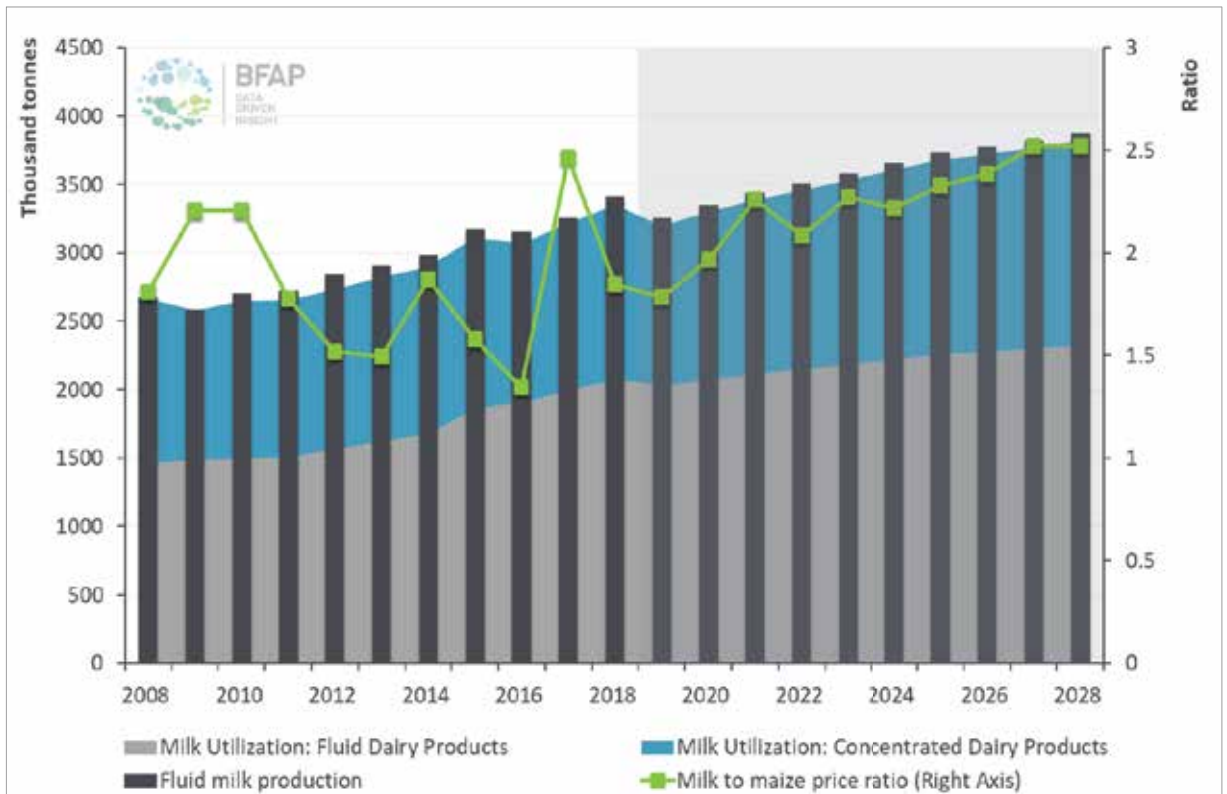
decline in producer numbers, milk production has increased by 31%, from 2.59 million tonnes in 2009 to 3.4 million tonnes in 2018. This implies that the amount of milk per producer has increased by a staggering 273%.

The production for raw milk in South Africa is seasonal, as it is in the rest of the world. Production peaks in October and November, while lower levels are typically recorded between April, May and June. Production levels are influenced by a number of factors, including climatic conditions and the cost of feed, which influences the intensity of feed use in pasture based systems. Volatile production levels, combined with the small share of products traded in the international market, makes for volatile prices. As was the case for most livestock related industries, profitability of dairy production came under severe pressure in 2016, as persistent and severe drought conditions pushed yellow maize prices to imports parity levels. As a result, the milk to maize price ratio, which represents a basic indicator of profitability, fell to its lowest level since 2001. In 2017, a record maize harvest replenished stocks and feed grain prices declined sharply, pushing the milk to maize price ratio to its highest level since 1994.



**Figure 57: Global dairy prices**

Source: FAPRI, OECD-FAO and BFAP, 2019



**Figure 58: SA milk production, utilisation and profitability: 2008 - 2028**

The return to profitability stimulated expansion and in 2018, milk production increased by almost 5%. In an environment where consumer spending power is under pressure, this expansion induced a downward spiral in milk prices and by the end of 2018, milk prices had reached a level comparable to 2014. In 2019, the combination of lower prices and drought induced increases in feed costs is expected to result in a downward adjustment in milk production. Over the course of the next decade however, the milk to maize price ratio is projected to trend upwards, finding an equilibrium at a level that is comparable to 2014 and above the average attained over the past decade. This is projected to be sufficient to support production growth of 1.7% per annum towards 2028 (Figure 58).

The South African dairy market is divided into two segments; approximately 62% is utilised as liquid products, with the remaining 38% processed into concentrate products. The percentage composition of South African liquid products market currently

stands as, 43% ultra-high temperature (UHT) milk, 34% pasteurised milk, 12% yoghurt, 8% other, 2% flavoured milk and 1% cream. Other products include buttermilk. The market for concentrated products on the other hand is inclusive of cheese (65%), butter (16%), SMP (7%) and fresh or whole milk powder (WMP) (12%) (MPO, 2019).

Over the period of the outlook, consumption of fluid dairy products is projected to increase by an annual average of 1.4%, compared to an average of 2.4% per annum for concentrated products. Amongst the concentrated dairy products, cheese continues to account for the bulk of the market. Cheese consumption is also projected to increase at a faster rate than any other product. By 2028, cheese consumption is projected to expand by 44% relative to the 2016-2018 base period. This represents a slowdown from the previous decade, when consumption increased by 62%. In line with the firm demand for animal fats globally, butter consumption





is also expected to increase by 34% over the next 10 years, compared to growth of 54% over the past decade. Butter is however a much smaller market than cheese, with per capita consumption reaching 0.42kg in 2018, compared to 1.87kg of cheese.

Milk powder represents an easily traded product, but consumption in South Africa remains low and a

small share of the total dairy mix. By 2018, per capita consumption of SMP and WMP had reached 0.13kg and 0.27kg respectively. By 2028, this is expected to reach 0.16kg and 0.29kg respectively.

Combined with strong population growth, this relates to total consumption growth of 32% and 27% respectively by 2028 relative to the 2016-2018 base period.

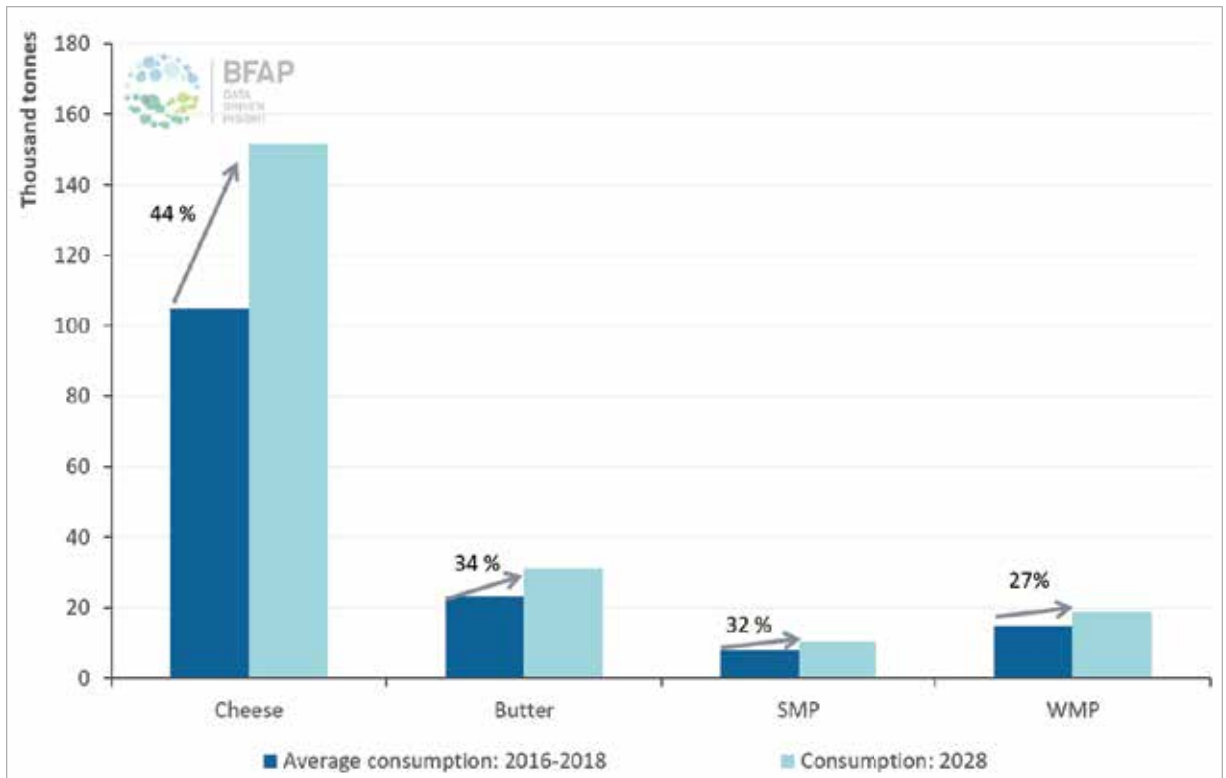


Figure 59: SA consumption of dairy products: 2028 vs. 2016-2018



# OUTLOOK FOR HORTICULTURAL PRODUCTS POTATOES

## International market overview

World potato production was estimated at 388.19 million tonnes in 2017 (FAOSTAT, 2019). Most potatoes were produced and consumed in Europe, North America and the Soviet Union until the early 1990s. Since then, there has been tremendous increase in potato demand and production in Africa, Asia and Latin America. China (99 million tonnes, 26% of world production), India (48.6 million tonnes, 13%), the Russian Federation (29.5 million tonnes, 8%), Ukraine (22.2 million tonnes, 6%) and the United States (20 million tonnes, 5%) were the top potato producers and consumers in 2017.

With the 2.45 million tonnes of potatoes produced in 2017, South Africa contributes only 1% of global potato production. Even though South Africa's total potato production share is small, the per capita production (therefore the per capita availability) is very comparable: 43kg/capita/annum (South Africa) compared to 69kg/capita/annum in China, 36kg/capita/annum in India and 62kg/capita/annum in the United States of America.

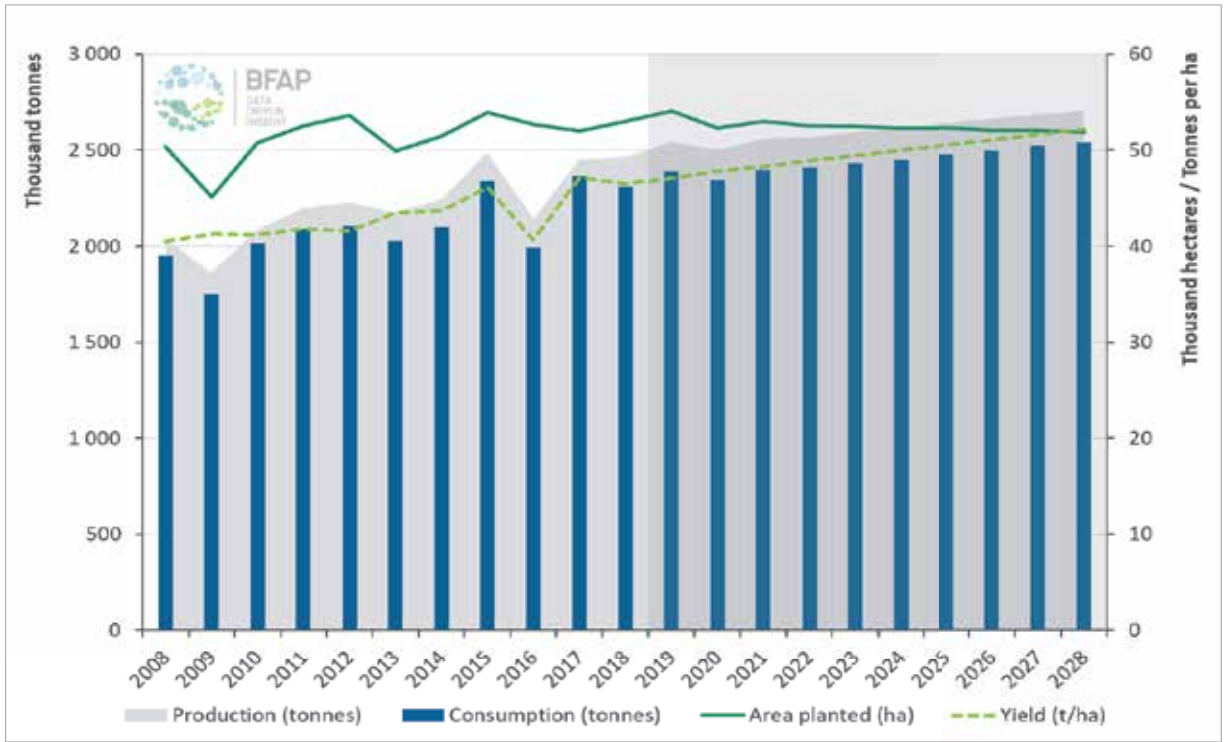
## Domestic market outlook

Potato production in South Africa has increased by an average 2.1% per annum over the past 20 years

(Figure 60). During these two decades, potato area has remained relatively constant at an average 51.8 thousand hectares while yield improvements (average increase of 2.1% per annum) drove production gains. The average potato yield in 1998 was 30.4 tonnes per hectare, in 2018 the average potato yield was recorded at 46.5 tonnes per hectare and by 2028, BFAP anticipates yields close to 50 tonnes per hectare – an average annual growth of 1.2%.

In 2019, potato production is projected to increase by 3.3% to 2.54 million tonnes. This is derived from an increase in area planted of 1 090 hectares, and an increase in the national average yield to just over 47 tonnes per hectare. Over the coming decade, potato production is projected to increase by an average of 0.7% per annum to just over 2.7 million tonnes in 2028. The increase is also primarily driven by higher yields. In the long term it is assumed that factors such as research, cultivar development, better production practices and better plant protection products will drive an average increase in yield of 1.2% per annum.

Potato prices are driven by domestic supply and demand dynamics, as potatoes are not typically traded in bulk. Therefore, potato prices are very sensitive to



**Figure 60: Potato production, consumption, area and yield: 2008 - 2028**

local weather events. The nominal market price of potatoes seems to have normalised after the drought-induced extremes during 2016 and 2017. Due to an increase in domestic production, potato prices are projected to decline from R38.70/10kg bag in 2018 to an annual average of R36.50/10kg bag (-5.7%) in 2019. After accounting for inflation, the real average market price has been trending sideways at a level of around R30/10kg bag (Figure 61). Sideways real market price movement implies that nominal prices increase at roughly the same rate as inflation over the long run. In the short term however, the real (2012) potato market prices is expected to decrease by R5.25 to R28.98/10kg bag in 2019.

In line with increased production, domestic consumption is expected to increase by 2.1% to 2.38 million tonnes in 2019. Fresh formal consumption (at fresh produce markets and retailers) makes up 39% of the total domestic use, while informal fresh consumption accounts for a further 32%. Roughly 22% of potatoes produced in a given year are processed and the balance is “seed”-production. Since 2008, fresh informal potato consumption grew on average at twice the rate (2.4% per annum) of fresh formal potato consumption (1.2% per annum). A similar trend is projected for the outlook period albeit at a slower rate – formal potato consumption is projected to increase to 995 000 tonnes while informal potato consumption is projected to increase to just over 800 000 tonnes in 2028.

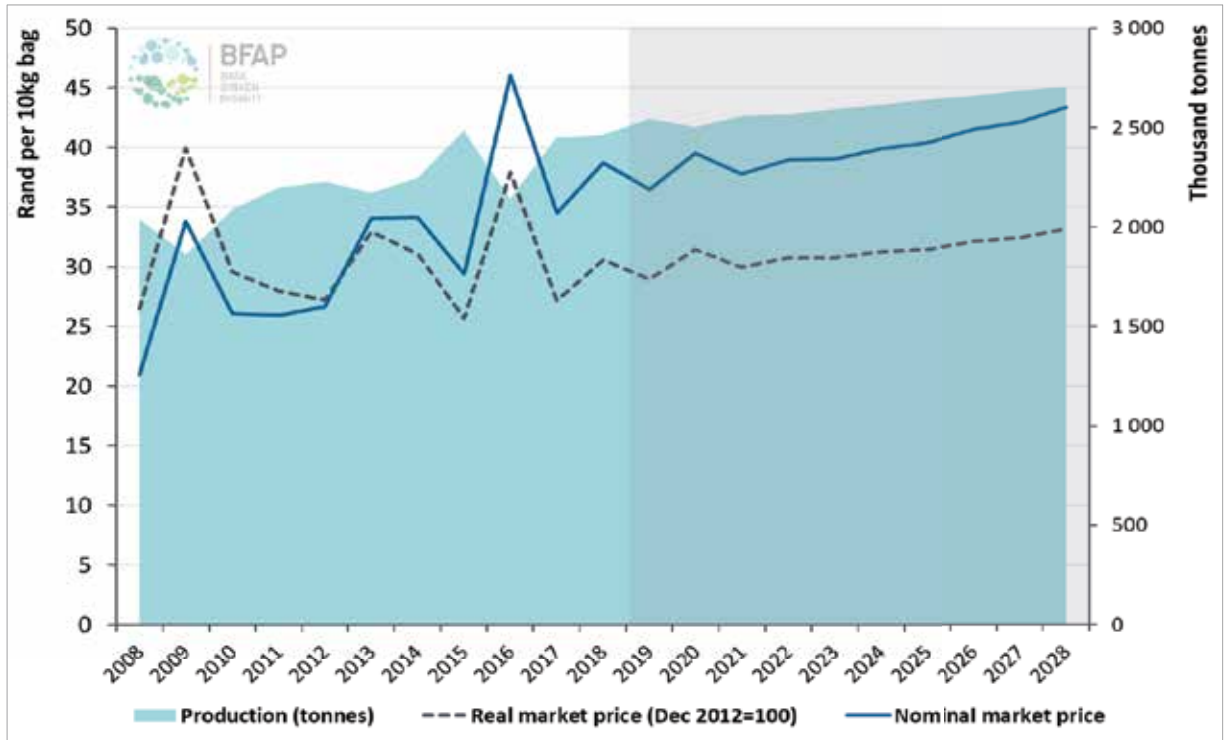


Figure 61: Potato price vs. production: 2008 - 2028



# OUTLOOK FOR HORTICULTURAL PRODUCTS

## FRUIT

### Introduction

Citrus, table grapes, pome and stone fruit form the core structure of the fruit sector in South Africa. Combined, around 50% of the total hectares are cultivated in the Western Cape, with the rest spread out between the northern provinces (Limpopo, Mpumalanga and North West), KwaZulu-Natal, the Eastern Cape and Northern Cape. It is within this context that much of the attention would be on the production in the Western Cape, especially with reference to table grapes, pome and stone fruit.

After a period of prolonged below average rainfall from 2015 to 2017 in the fruit bearing regions of the Western Cape, rainfall conditions improved in 2018. Accordingly, one can assume that normal production cycles can and will resume. However, given the extended effect of decreased water availability on long-term crops, the vineyards and the orchards are still suffering from water stress effects and production in 2018 was still under pressure. Full-bearing trees and vines that have survived the last four years and are able to recover from the drought, will hopefully return to normal yields in the coming season.

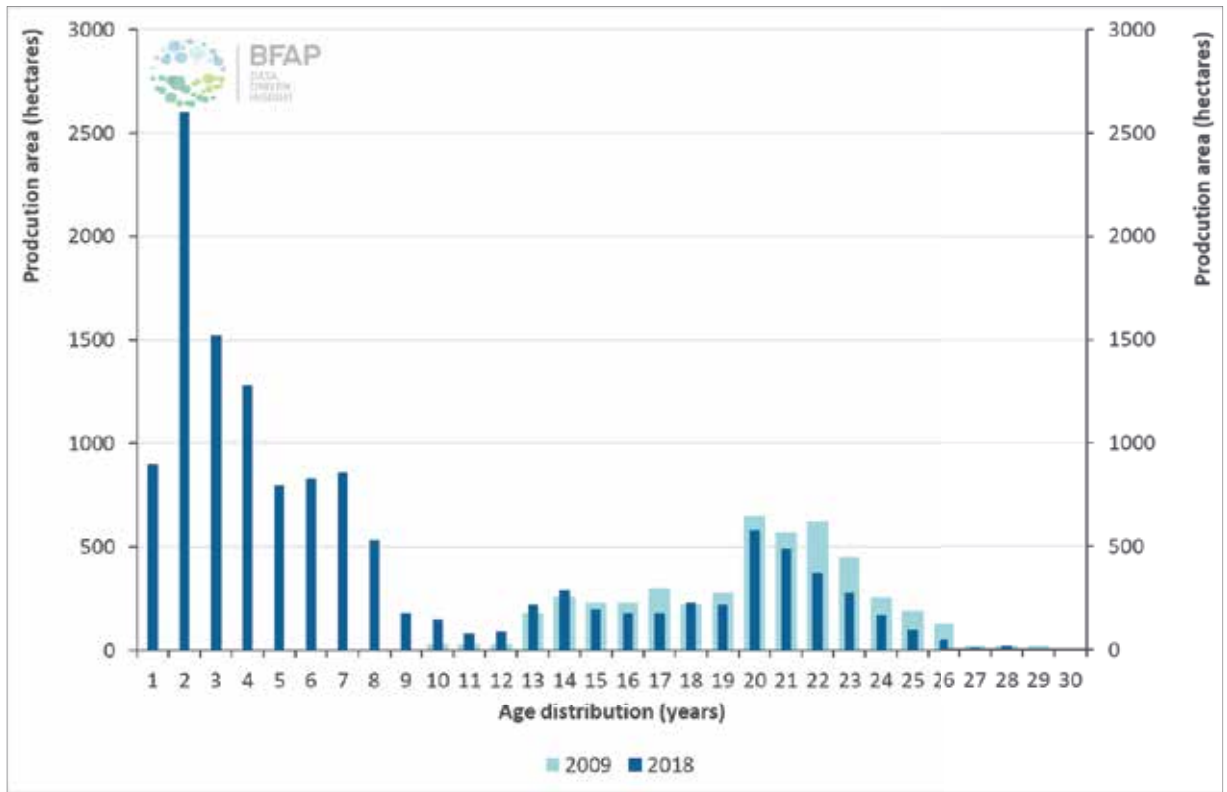
The challenging water situation initiated some innovative ideas to improve water efficiency. From night irrigation to different irrigation types or netting

in order to reduce evaporation, many producers were able to continue production with less water and will in future continue to reap the benefits of increased water efficiency. However, the ability to produce grapes according to the increasing market specifications in terms of berry size and post harvest quality with reduced water supplies remains to be proven.

Unfortunately, water was not the only challenge faced by producers in the past season. False Codling Moth (FCM), Citrus Black Spot (CBS) and *Bactrocera dorsalis* (BD) fruit fly are but a few of the additional factors to consider. Combined with a difficult EU export market, these challenges have not allowed producers and producer organisations time to stand still and truly reflect on the changes that have impacted their respective industries over the last couple of years. It is with this background in mind that the outlook for the next ten years is presented.

### Production

Within the citrus and table grape industries, the number of hectares under production has seen tremendous growth over the last couple of years. Given the current market conditions, challenges regarding access to new markets and import tariff structures enforced by



**Figure 62: Age distribution of lemon and lime cultivated area in 2009 and 2018**

Source: Adapted from CGA, 2010 & 2019

many countries importing fruit from South Africa, the expectation is that the pace of area expansion will not be maintained. It is anticipated that: 1) year-on-year growth in the number of hectares will slow down over the next couple of years, and 2) the production output growth rate will increase in the short term as non-bearing hectares starts contributing to total production, after which it stabilises in line with longer term average hectare growth.

### Citrus

In particular, the young orchards in the categories of lemons and limes and soft citrus are both an impressive growth feat and an area of concern for the future in terms of price and markets opportunities. Figure 62 presents an illustration of the age distribution of lemons and limes, in 2009 and 2018. The 2009 data has moved 9 years from its initial position, with the bulk of hectares then being 11-14 years old. These orchards are now 20-23 years old. It is important to note the change in scale and the sheer volume of new lemon hectares that still need to reach full bearing levels. In 2009, the total number of hectares cultivated were 4 449, whilst

the 2018 data shows 14 740 hectares (CGA 2010 & 2019).

The picture for soft citrus does not look much different. Back in 2009, the total cultivated area was 4 960 hectares, compared to the 16 285 hectares in 2018. With more than double the amount of hectares yet to achieve full bearing potential, the soft citrus industry in South Africa is in a peculiar position. Finding sufficient market space for these products is critical for the citrus industry.

The citrus production and cultivation outlook for the period up and until 2028 is presented in Figure 64. As the new soft citrus and lemons and limes move into full production over the next couple of years, the projected production by 2028 is 561 848 tons and 642 022 tons, respectively. The total area under citrus production, across all four categories, is expected to grow by 1.92%, on average, over the next 10 years, amounting to 100 777 cultivated hectares by 2028.

### Table Grapes

The table grape industry, despite a relative high



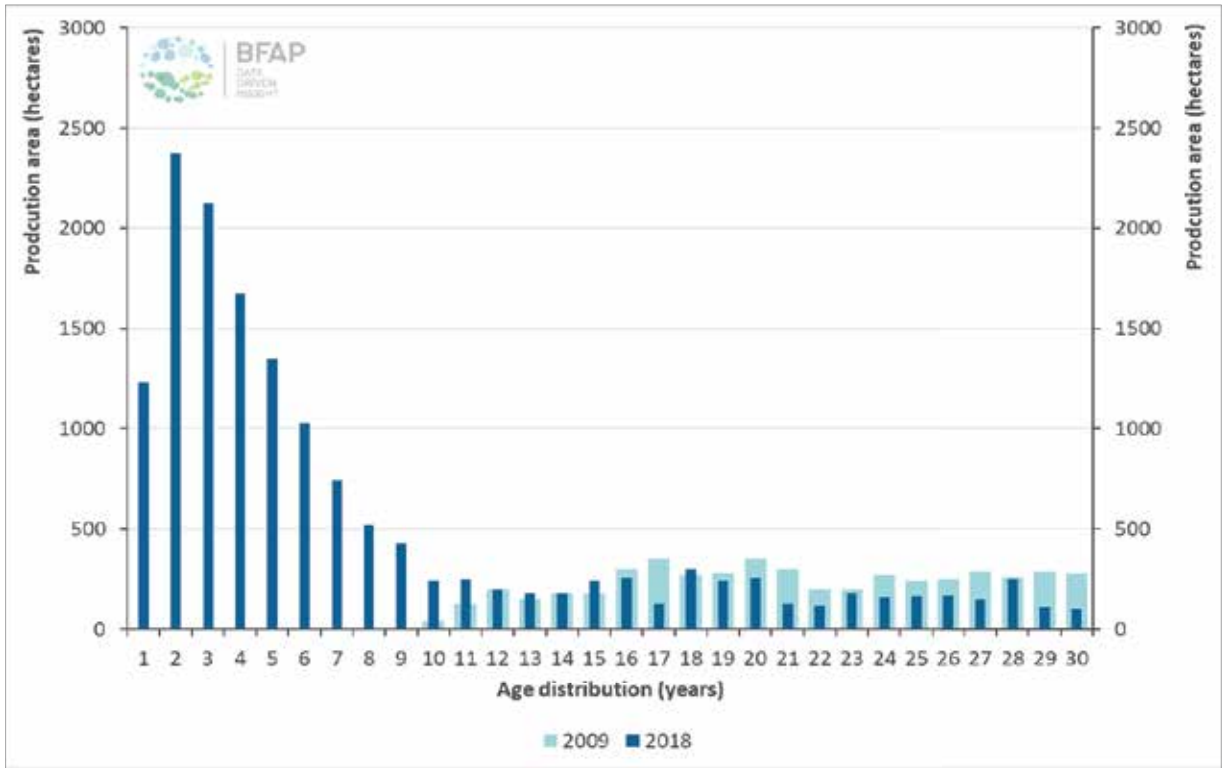


Figure 63: Age distribution of soft citrus cultivated area in 2009 and 2018

Source: Adapted from CGA, 2010 & 2019

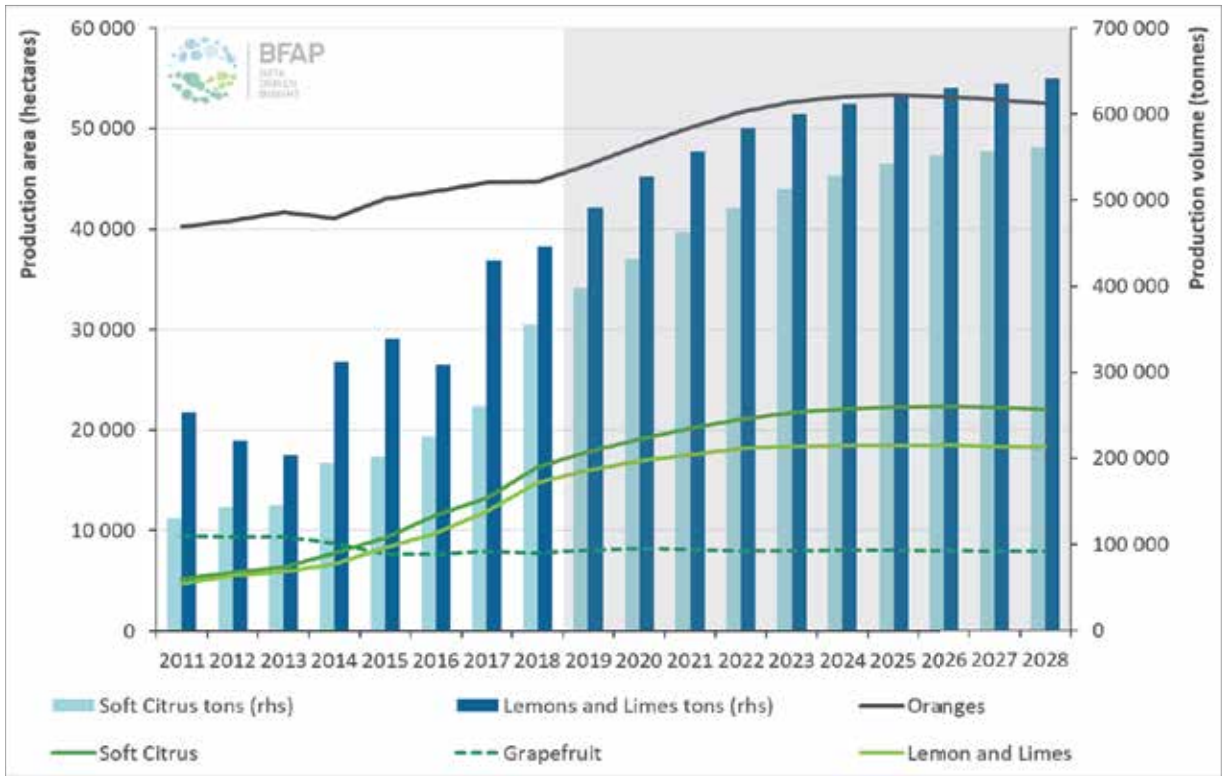


Figure 64: Cumulative citrus hectares and volumes from 2011 to 2028

Source: Adapted from CGA, 2019



year-on-year growth from 13 462 hectares in 2010/11 to 21 067 hectares in 2017/18, still has been able to maintain a healthy relationship between younger and older vines. The current split is approximately 60:40. Vineyards that are 9 years and younger represents 60%, and vineyards 10 years and older represents 40% of the total area.

In terms of the projection for the next 10 years, table grape hectares and production are expected to consolidate and only grow at a rate of 7.1% and 8.8%, respectively by 2028. This translates into an annual growth rate in both hectares and volume of less than 1%. Despite a number of high yield potential cultivars, producers are expected to target quality as opposed to volumes, resulting in a more conservative yield projection. With the healthy percentage of new vineyards and the fast turnaround from establishment to full-bearing capacity, the production rate expectation is slightly higher than the area, since the area under new cultivars will increase yield per hectare, even when producers target quality more than quantity.

### Pome Fruit

With the drought in the Western Cape, where more than 90% of apples and pears are produced, pome fruit production hectares and volumes have been under pressure over the last couple of years. The Ceres and EGVV (Elgin, Grabouw, Villiersdorp and Vyeboom) areas were severely affected by the drought, not only putting production under pressure, but also creating situations where producers had to replace older orchards earlier than expected. Early replacement strategies were necessitated by older orchards becoming unprofitable, but also because their water requirement per hectare is more than that of a new young orchard.

Figure 66 indicates that apple bearing hectares are expected to grow by 9% from 2018 to 2028, with a 2% decline in pear bearing hectares over the same period. With hectares in full production slowing down somewhat during the drought period, new hectares have grown at an increased tempo. Therefore, when these new hectares enter full bearing, the production volumes are expected to grow slightly faster over the outlook period, in comparison to the bearing hectares over the same period. The rate at which new trees

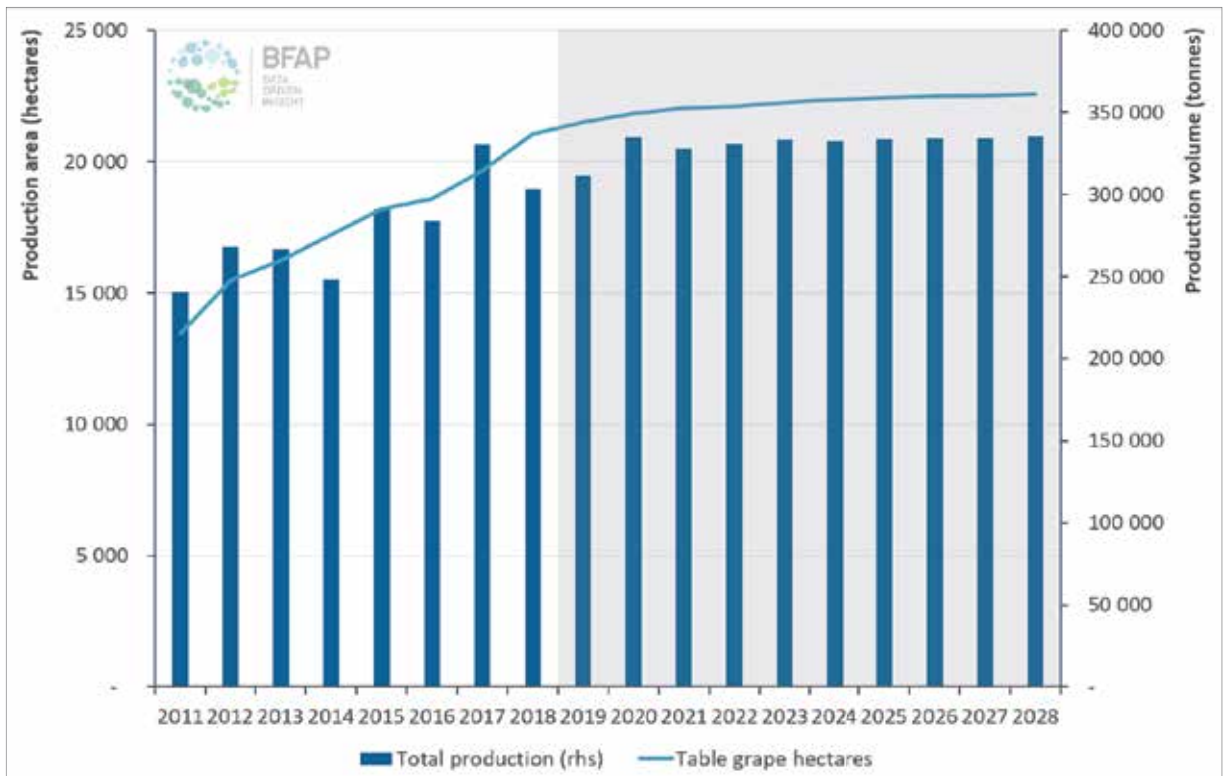
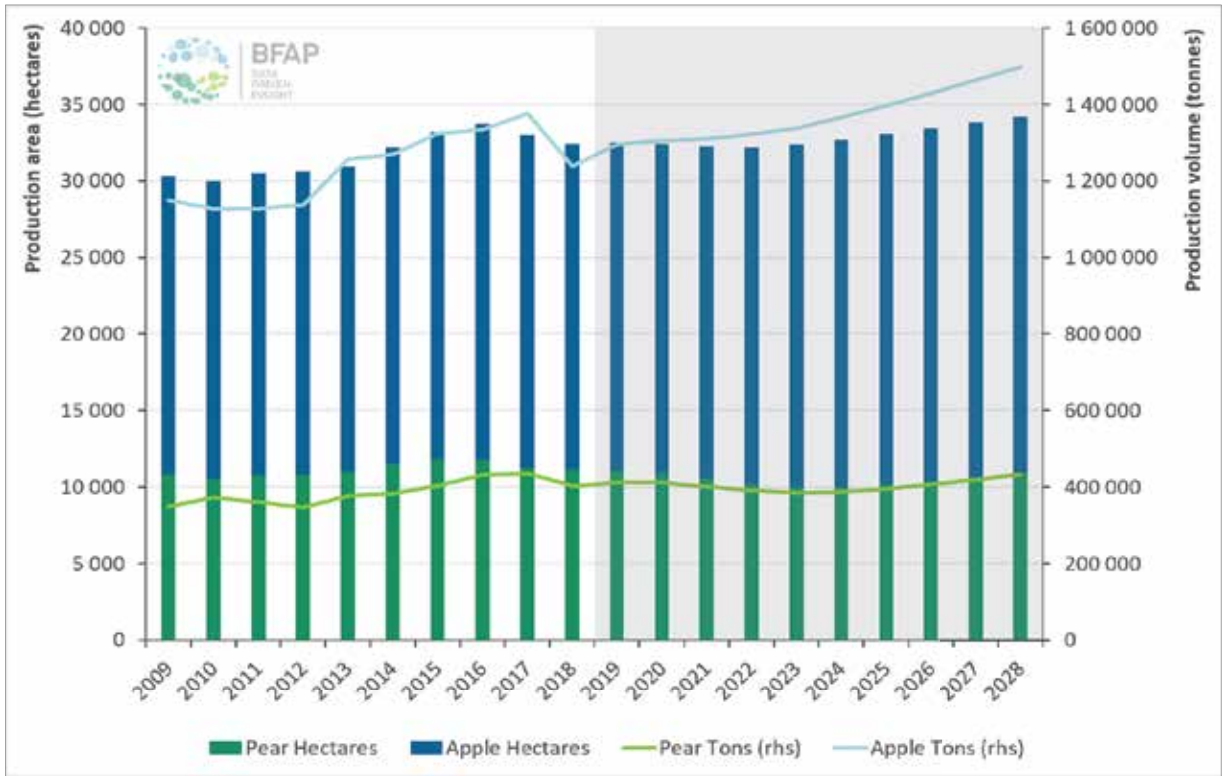


Figure 65: Table grape hectares and volumes from 2011 to 2028



**Figure 66: Cumulative pome fruit bearing hectares and volumes from 2009 to 2028**

are established are expected to return to longer term trend levels towards the middle of the outlook period.

**Stone Fruit**

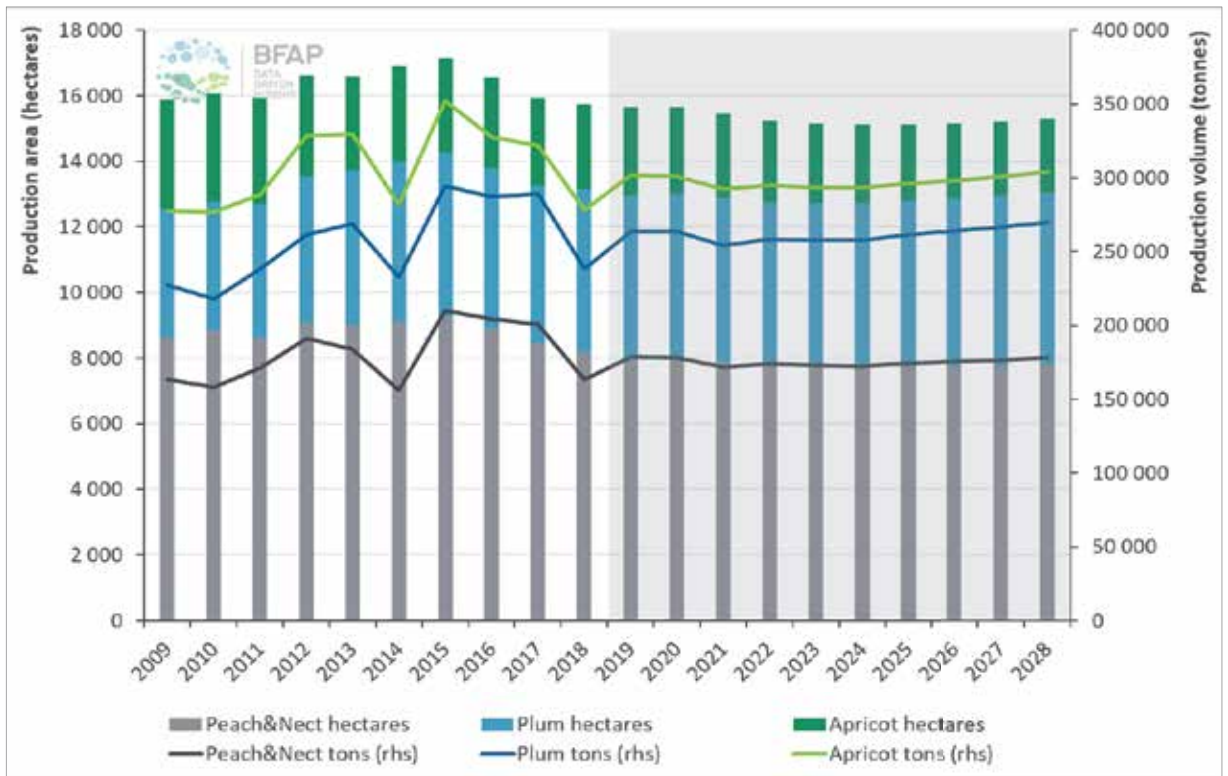
Peaches, both cling and dessert, have seen a decline in the number of hectares over the last 5 years. With 67% of produce delivered for processing, an agro-industry under severe pressure, many producers are replacing peaches with more profitable alternatives when orchards reach replacement age. With 56% of peach orchards currently in their prime productive years, producers are looking for alternative markets and preparing orchards differently, in accordance with market needs. Despite the drought and the consequent impact on quality, peach exports have grown by 57% in 5 years’ time, albeit from a small base.

Contrary to peaches, nectarine production area is holding steady. Production in the Ceres area increased, which can be, at least partially, attributed to cultivar selection, pack-house capacity before apple harvesting starts, and securing seasonal labour earlier in the season, especially with the idea of starting the apple

harvesting with a more established team. A flat curve is expected for the next ten years, but with a greater focus on farm level for export quality first and foremost, and then quantity.

Plum production has seen some expansion over the last number of years, especially in areas previously considered for other fruit production, such as apricots in the Klein Karoo, cling peaches in the Ceres/Tulbagh/Wolseley area, and wine grapes in Franschhoek and surrounding areas. Plum trees are slower than peaches and apricots to reach first bearing and then full-bearing age, but it also has the potential to have a longer productive lifespan than its stone fruit counterparts. The age distribution of these orchards are healthy, with 29% of total hectares between 0-5 years old, creating a continuous production stream that will replace the 22% of orchards that are 18 years of age and older. The remaining 49% are in the most productive cycle of their lifespan.

The area under apricot is on a slow decline, from 3 230 hectares in 2012 to 2 700 hectares in 2018, with the expectation that this trend will continue. A concerning factor in the apricot industry is that 48% of the orchards



**Figure 67: Cumulative stone fruit bearing hectares and volumes from 2009 to 2028**

are 18+ years of age, with 20-25 years typically seen as the lifespan of an apricot tree. This could very well mean that we can see a continuous decline in the total hectares over the medium term, should an improved selection of cultivars which are better suited for the South African conditions not become available. The current projection suggests a decline of 16.6% in cultivated area by 2028.

### Trade

South African fruit exports have experienced a mixed bag on the port of delivery over the past season. It is an established fact that the EU and UK are the preferred export areas for South African fruit. Table 5 presents an indication of the dependence on EU and UK markets:

The concern with this dependence is two-fold. All EU countries and the UK are displaying a population growth rate of less than 1.5% and in a number of instances the growth rate is negative. Most of these countries are considered part of the developed world, where hunger and dietary deficits are at an absolute minimum. Hence, with growth in production in South Africa, the share of exports to the EU and UK will most probably not continue at current levels. This is particularly relevant in industries where production is expected to grow exponentially, as in the case of lemons, limes and soft citrus. Critical at this point is expanded access to new markets and markets with potential, i.e. where real growth in demand and purchasing power of consumers are expected. If market access is not expanded and

**Table 5: Exports as a percentage of total production and exports to EU and UK in 2018**

Fruit group	Total production (tons)	Share of production exported (%)	EU: Share of exports (%)	UK: Share of exports (%)
Citrus	1 980 432	76%	32%	10%
Table grapes	303 240	88%	52%	24%
Pome fruit	1 372 679	46%	17%	14%
Stone fruit	319 424	26%	40%	31%



diversified, over-supply in a crowded market can be harmful to the price of quality produce in the long run. The collaborative efforts of the fruit industry bodies through Fruit SA to combine forces and establish new access, is invaluable in this regard. Many of South Africa's Southern Hemisphere counterparts are already a step ahead in most of these lucrative alternative markets and South Africa is being forced to play catch-up.

## Citrus

The citrus industry represents South Africa's largest and most important fruit export, by value and volume. Growth is expected to continue, but at a diminishing rate of returns in terms of value. Lemons and limes reached their peak returns per ton in the 2016/17 season and prices have declined sharply since. This trend is expected to continue as volume keeps growing and South Africa continues to face strong competition in its export markets from other Southern Hemisphere countries. The highest performing citrus group, with reference to gross return per hectare, is soft citrus, but this is also expected to have an expiry date in the near future, returning to long term averages as volumes continue to rise.

On the full citrus spectrum, South Africa is the third largest exporter in the world, after Spain and Turkey, despite only being number 15 in terms of production volume. Oranges comprise the bulk of citrus exports, and are also the single most important fruit export product by value and volume in South Africa. During the last season, more than 77 million cartons (15kg equivalent) of oranges left South African harbours, filling more than 46 000 containers (CGA, 2019).

Despite soft citrus export volume doubling from 2013 to 2018, South Africa remains the 6th largest exporter in the world in terms of volume. During the same period, production area has increased 2.5 times. The projection is thus that this growth in exports will continue as these new hectares start contributing to production. Export volume spread over the season already reflects a more normally distributed bell shaped spread over the exporting weeks, where it was previously more heavily distributed towards early season exports. This trend is expected to continue, with more volume exported during the second half of the season, potentially due to the tremendous growth in area under mid to late-maturing Mandarins.

South Africa continues to be the leading exporter of grapefruit in the world, despite China's production equating to 10 times South Africa's production, with most of China's produce channelled into local markets. Grapefruit is also the most volatile citrus markets in terms of export volume, deviating from the continuous upward trend displayed by oranges, lemons and limes, and soft citrus. Market volatility is primarily driven by demand from the Asian markets, with China's imports of South African grapefruits being especially volatile. Furthermore, a decreasing trend is observed in Japan over the last 5 years. Exports to the EU, through delivery in ports in The Netherlands and Portugal are growing, potentially due to the health benefits associated with this type of fruit.

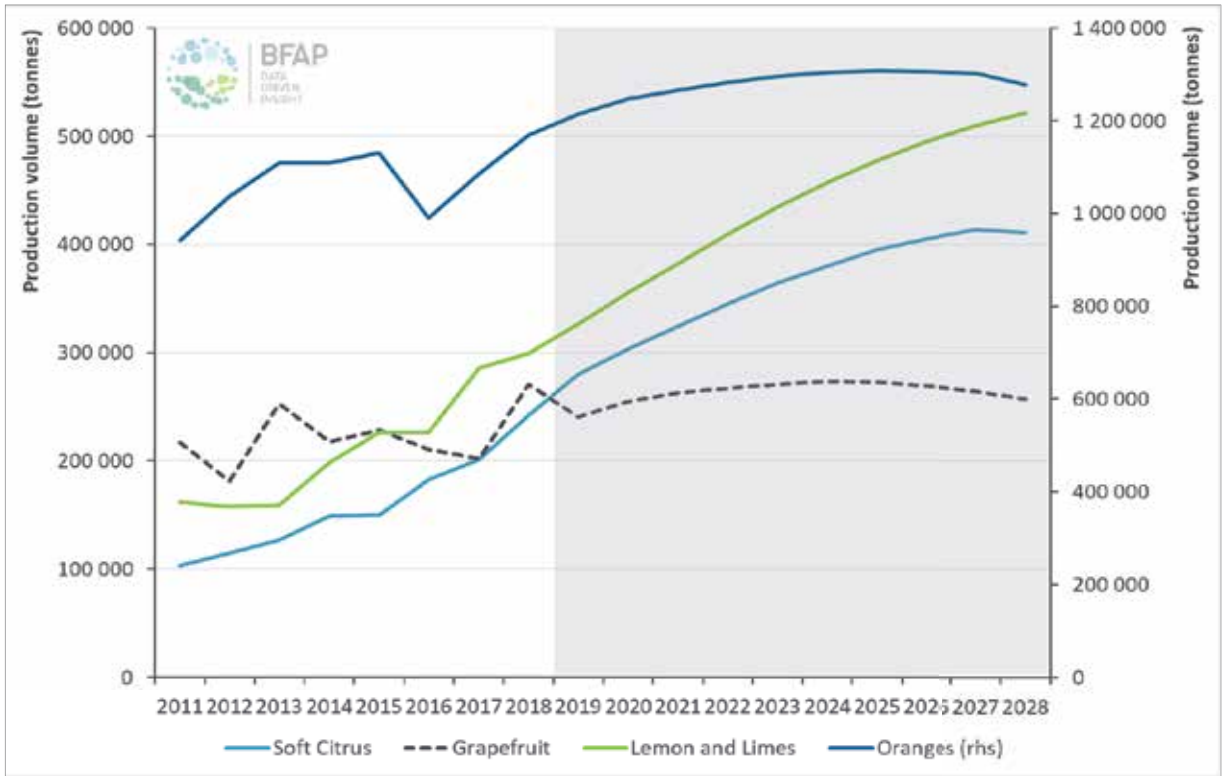
South Africa surpassed Argentina in the past season to become the fourth largest lemon and lime exporter after Mexico, Spain and Turkey. Production growth will continue to drive export growth. However, with the USA, the EU, UK and Russia as the largest importers of lemons, Mexico, Spain and Turkey better positioned geographically to serve these markets. Despite this, South Africa was able to grow its relative share of the EU and UK markets. The biggest question is where the additional produce will be shipped to in the coming years.

With 25% more cartons of citrus projected to be exported in 2028, compared to 2018, one would expect more growth in the markets outside of the EU and UK, decreasing the relative size of these markets over time, although they will remain the preferred destination for premium fruit. A somewhat larger increase might have been expected, but the sheer volume of oranges within total citrus, combined with the more subdued growth rate for oranges, keeps the growth rate in check to a large extent. Africa is a potential area for exports in future, should consumer demand and buying power, as well as cold logistics enable growth in exports. African import equates to 0.9% of total global exports, but 17% of the world's population live in Africa, with Africa's growth rate the highest among all continents (World Population Review, 2019).

## Table grapes

The past export season has been one of the most challenging for the table grape industry. Near normal weather conditions were expected for the Western Cape vine areas, but fluctuating weather conditions during bloom and fruit set, as well as unseasonal rains





**Figure 68: Citrus exports from 2011 to 2028**

during the picking season influenced yields and pack-outs negatively.

A domino effect then had a detrimental effect on the prices realised by South African exports this year. Firstly, California finished their grapes season very late, forcing Peru, who are also recovering from El Niño effect to ship 40% more grapes this past season compared to the last, towards South Africa’s traditional markets – Europe and also the Far East. This caused overflowing markets, which in turn, created a scenario of stocks accumulating in cold storage on South African soil. Accumulating stocks in turn created problems with ultimate quality when products arrive in the importers’ port. With more fruit on the market, regulation of stocks was also done on quality, with South Africa exporting 95.3% of the inspected volumes, the lowest percentage in the past 5 seasons. In future, it is expected that producers will move towards more conservative yields, with a greater focus on quality in order to win the favour of the overseas consumer in a

market filled with multiple fruit types. This is also the reason why the production growth expectation is quite low, despite the cultivation of cultivars with high yield potential.

Because of this difficult season and issues with certain cultivars, table grape producers are faced with decisions on which vines to retain and which to replace. It seems that the pendulum for red grapes are swinging back towards the tried and trusted cultivars, which have proved themselves many times over, such as Crimson Seedless.

Some hope on the horizon is that Canada is keen on South African grapes, opening the door a bit more for exports towards that part of the world. However, more demand for South African table grapes will be required to offload the 64 million export cartons expected, as Peru is also gearing themselves towards more exports to Asian markets.





Figure 69: Table grape export volume and value from 2011 to 2028

### Box 3: Farm level profitability in the Table Grape industry

In order to illustrate the implications of the market projections on farm level, Figure 70 presents the Nominal Net Farm Income for a simulated 62 hectare production unit in the Orange River region.

The underlying assumptions of this production unit are establishment cost of R 409 099 per hectare, full bearing production and packaging cost of R 278 434 per hectare, and fixed cost for the operation amounting to R 4 705 828 in total. Fixed assets and moveable assets were allocated accordingly to the production unit's requirements to service the investment, along with its operational activities.

Figure 9 presents the past season and an outlook up to the 2027/28 season. This area is specifically more sensitive to price fluctuations, as the Orange River region is the region competing head-on with early exports from South America. Cultivar selection in this area is also limited to the typical early cultivars, such as Prime.

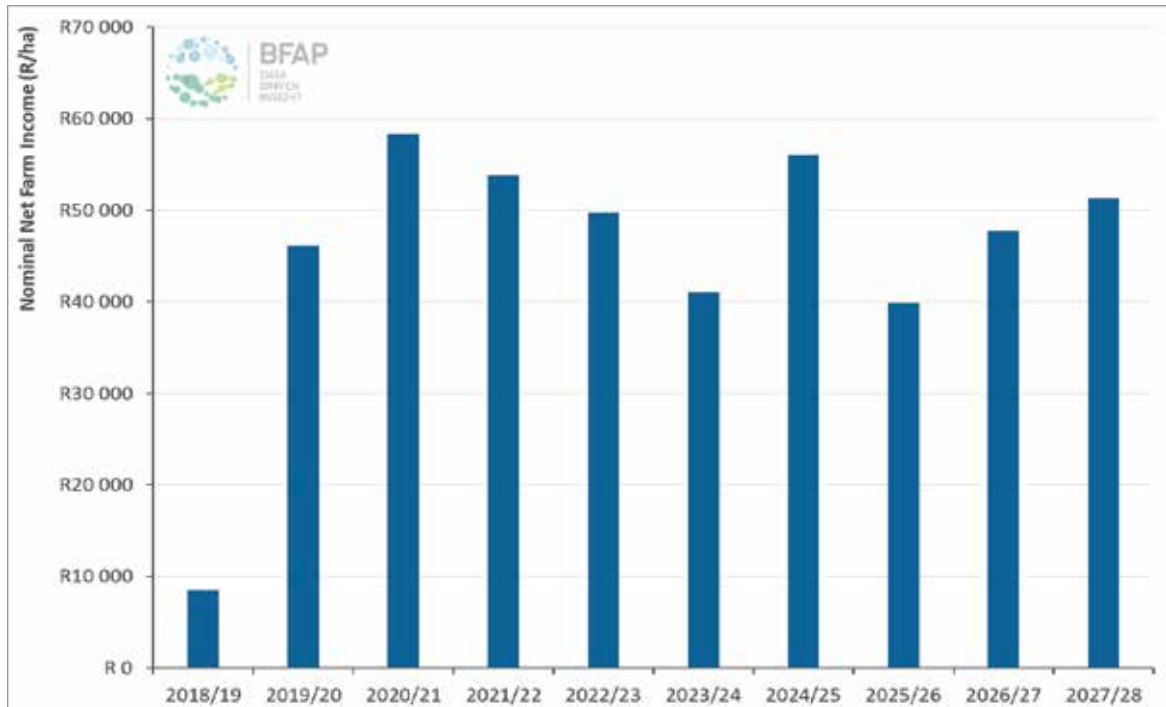
With reference to exports, the table grape industry has two main market channels available – supermarket programmes and the open market. Supermarket programmes allow more constant prices, but demands more consistent supply. This typically means that they are serviced by larger producer companies, with various production units in different table grape production areas, with a long season in terms of total supply.

By contrast, producers with a single operational unit in a single region, selling into an open market, are much more exposed; this past season for instance, the Orange River region experienced tremendous price pressure on the European market.

An improvement in the net farm income per hectare over the next number of years is projected, but it will demand



a fine balance between volume and quality, with producers having to think carefully about input cost spending allocation, cultivar selection and export market selection options



**Figure 70: Net Farm Income projections on a prototype table grape farm in the Orange River region**

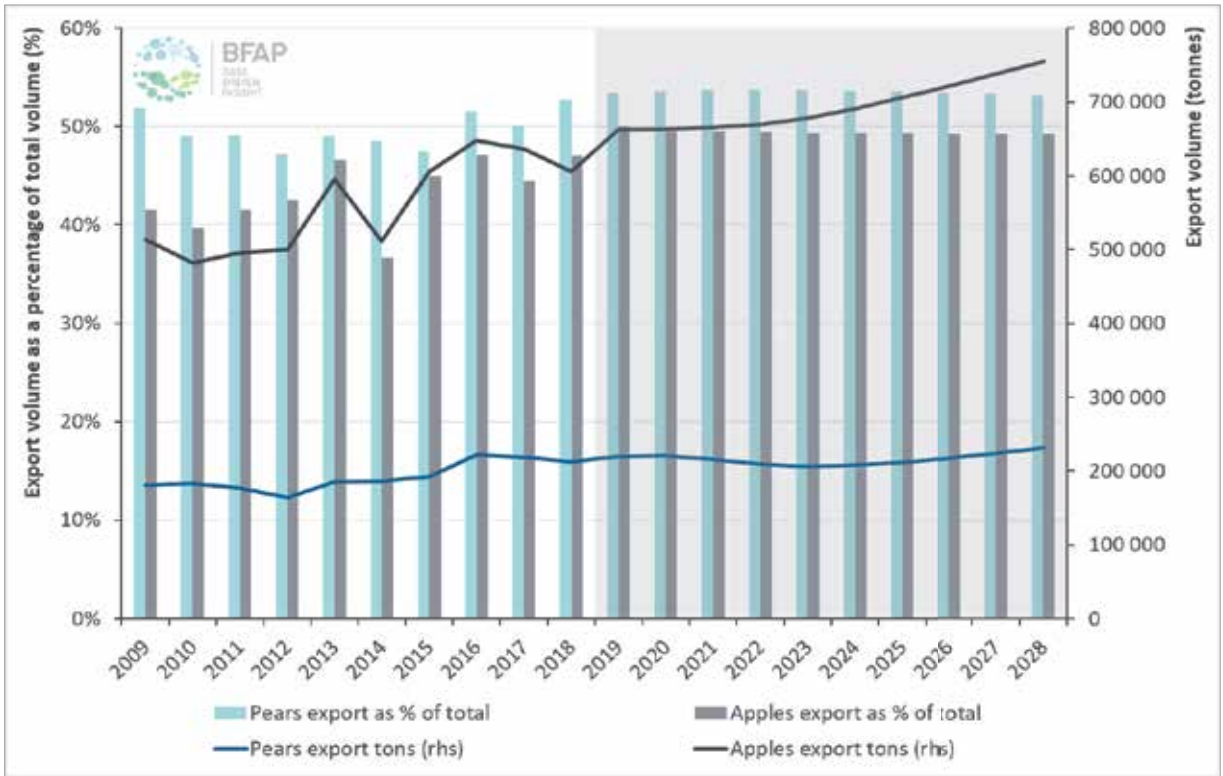
### Pome Fruit

South Africa is the 2nd largest exporter of both apples and pears in the Southern Hemisphere, and 6th and 5th in the world, respectively. In terms of international competitiveness in apples, South Africa is holding its own in the categories of production efficiency (5th) as well as infrastructure and inputs (5th), but can only manage 19th spot in the category of financials and markets, resulting in 13th position overall. New Zealand and Chile, the main Southern Hemisphere competitors, are in 1st and 3rd position respectively, with all the other countries above South Africa being from the Northern Hemisphere (Bellrose inc., 2019). The greatest challenge for South Africa on the international front is not further improvements on farm and pack-house level, but hindrances due to red tape and tariff barriers.

Despite a 12% smaller apple harvest in 2018, exports were holding steady and the year-on-year decline was only 6%. With a higher net realisation on the exported products, the total revenue has increased by 16.6% during the same period. Exports now have an almost

perfectly balanced split between UK and EU (31%), Africa (29%), and Far East and Asia (27%). The projection for the next 10 years is that this trend into Africa will continue, with apples able to withstand the challenges of time on the road in Africa.

Pears follow much of the same pattern as apples: total production of the past season was down by 11%, with exports only decreasing by 3%. On the net realisation from exports, revenue increased by 9.3% - close to levels of the 2016 season. Europe remains the most important market for South African pear exports, not only in terms of volume, but also in the revenue realised from it. Cultivar selection is to a certain extent dictated by this market segment, with European preferences leaning towards cultivars such as Abate Fetel and Doyenne Du Comice. With the relative flat production area projection, exports as a percentage of total production is expected to grow by 0.5%, mainly due to the lower growth expectation in the local and processing markets.



**Figure 71: Pome fruit exports from 2009 to 2028**

**Stone Fruit**

Stone fruit export volumes are primarily driven by plums, and to a certain extent nectarines. By contrast, peach and apricot production are more focused on the domestic markets.

During the 2013/14 season, a shift in the market orientation can be observed, with peaches for the local market decreasing whilst exports increased. This seems to be the new normal now and a trend that is expected to continue over the next decade. However, since peach export remain a function of total production where processing plays the biggest role, domestic market forces will have a larger impact on the projected hectares and subsequent production.

Nectarines moved from a “single spike” in volume to a “double spike”, with producers prolonging their picking season where possible, maximising pack-house capacity and extending seasonal labour over a longer period. In this process, the export volume has more than doubled over the last 10 years to 4.2 million cartons (2.5kg equivalent) in the 2017/18 season. The largest export markets for nectarines is the UK at 57% and the EU at

23%. With high quality fruit shipped to these markets, the revenue from nectarine exports will continue to drive growth of this category.

South Africa is the largest exporter of apricots from the Southern Hemisphere by some margin, but is still only 24th in the world. Without cultivars that can produce good quality at a good yield season after season, South Africa is losing hectares slowly despite good prices for exported apricots. With a large number of trees already in a declining phase of production due to age, the projection is that this market will continue to shrink. The Western Cape drought has had a big effect on total production, with export volume down 25%, on average, comparing the 5 years running from 2008/9 to 2012/13 to the 5 years from 2013/14 to 2017/18.

With an average of 74% of total plum production exported over the last 10 years, plums are the standout fruit in the stone fruit industry. Since the 2008/9 season, plums have always had a better production season followed by a weaker season, followed by a better season again. As a whole, the trend was upwards and is expected



to continue, with projected growth of 14% over the next 10 years. A structural shift can also be observed in the exports: a more consistent supply is observed across all exporting weeks, starting around week 44 each year and ending in week 16 of the next year, compared to a previously observed bell-shaped curve with a prominent peak in the middle. Volumes are growing and the export-week window remains consistent. Laetitia and Songold cultivar hectares are slowly decreasing, whilst Angelinos and African Delight increased over the same period.

### Domestic Use

On the domestic side, looking at domestic consumption and processing, no major deviations are expected from past trends. Pear consumption per capita is gradually declining, as it has been over the last 20 years, from 1.25 kg per capita per annum in 1997-99 to 0.87 kg between 2013-15, whilst apple consumption has been relatively stable between 3.5 kg and 4 kg per capita per annum. Apples, as one of the fruit types with the longest shelf life without cooling, remains a sensible option South Africans.

Fresh apricots on the local market has shown a decline, and as previously indicated, this trend is expected to

continue. The category of peaches and nectarines combined is expected to increase by 8%, but this is primarily driven by the nectarines, whilst the peaches are stagnant or slightly trending downward. With growth in production, plums are on the up, even throughout the period of drought. Where producers were faced with decision on which orchards they will continue to irrigate during this period, they might well have opted to save the plum trees because of their export potential and impact on bottom line. The losers of this decision would have been the other stone fruit, and the decline in local market allocation for peaches and apricots confirms this.

### Concluding Remarks

As the saying goes, “the only way out, is through” and this has to be the motto whereby producers and industry bodies embrace this period. The lessons learned from the past and the anticipated production volume over the next number of years has to propel all stakeholders into overdrive to find new markets, re-establish South Africa in lost markets, and move ships packed with premium South African fruit to consumers across the world.

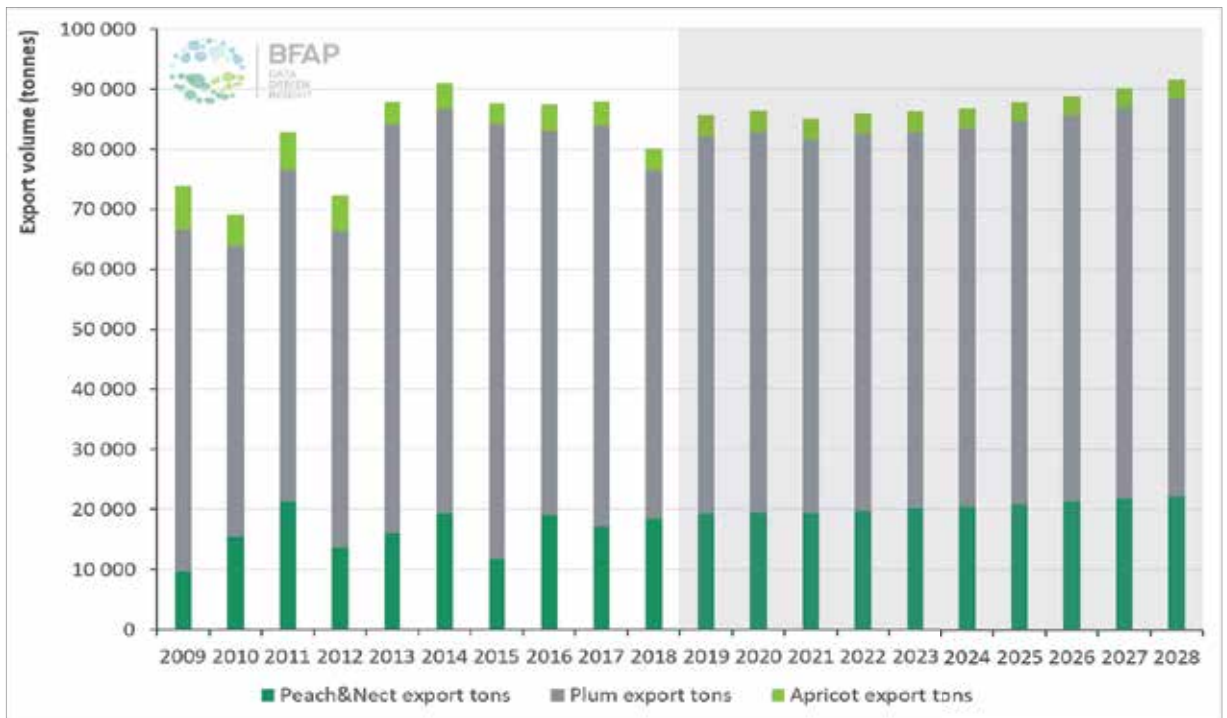


Figure 72: Cumulative stone fruit exports from 2009 to 2028

2019 - 2028 | BFAP Baseline

## Box 4: Who can afford adequate fruit and vegetable intake in South Africa?

The South African Food-Based Dietary Guideline for fruit and vegetables recommends the intake of 'plenty of vegetables every day (Naude, 2013), with a more specific recommendation of at least five 80 gram servings (excluding starchy vegetables) daily for school children and adults. However, Naude (2013) concluded that the estimated intakes of fruit and vegetables in all age groups were well below recommendations in South Africa. Adequate fruit and vegetables intake (in terms of quantities and variety) has been shown to contribute to the reduced risk of several nutrition-related diseases and health risk factors relevant to the South African context (Naude, 2013).

In 2018 the estimated average monthly cost for a family of four to consume 5 servings of fruit and vegetables daily, amounted to ±R830 (consisting of a hypothetical combination of apples, bananas, tomatoes, onions, cabbage, pumpkin and carrots) with costing based on Stats SA retail prices observed in urban areas of South Africa. Thus, a household with two minimum wage-earning members (with a monthly household income of R7 000 per month from wages and two child grants) and a 33% food expenditure share in 2018, had to spend ±32% of their total food budget on fruit and vegetables to afford the recommended 'five-a-day' (Figure 73). The estimated actual expenditure of such a household on fruit and vegetables could have been less than R350 per month, being ±56% lower than the amount required to afford the recommended 'five-a-day' in 2018.

Applying BFAP inflation projections for fruit and vegetables towards 2019, as well as household income growth similar to 2017/2018, the household could be spending approximately 34% of their total food budget on fruit and vegetables to afford '5-a-day'. Thus, towards 2019 we observe a potential deteriorating in the affordability of fruit and vegetables.

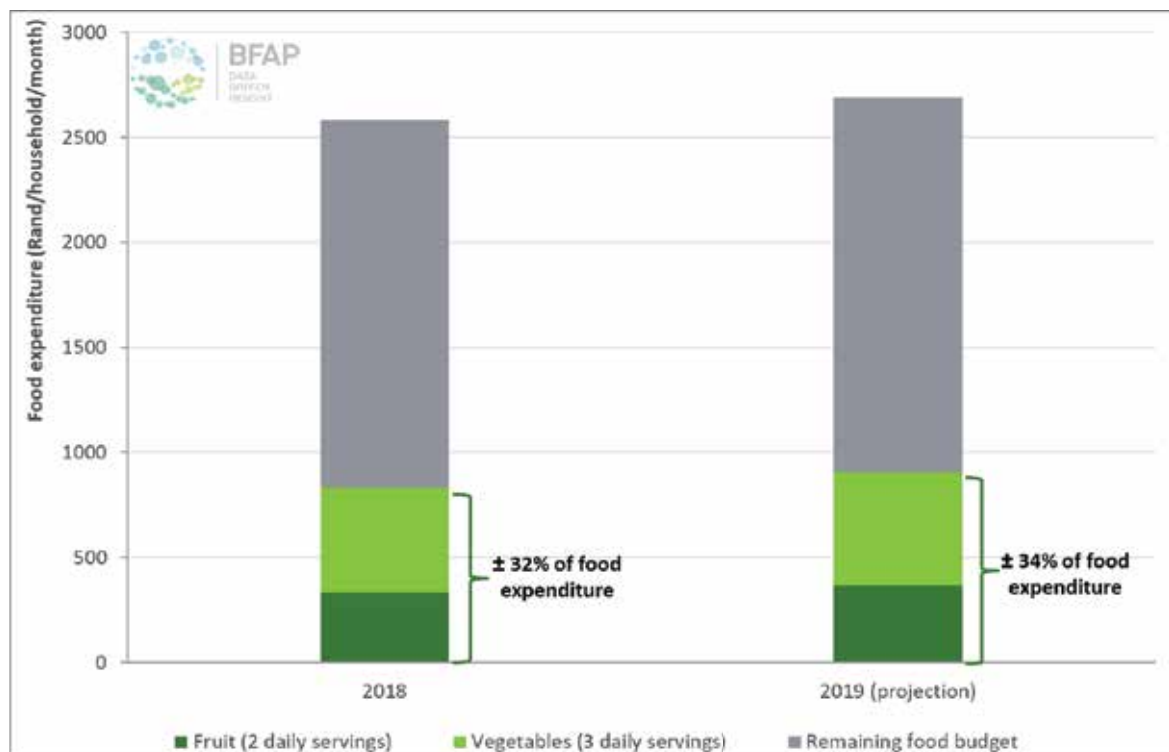


Figure 73: Estimating the affordability of '5-a-day' fruit and vegetable intake for 2018 and 2019

Source: BFAP Calculations





# OUTLOOK FOR HORTICULTURAL PRODUCTS

## WINE GRAPES AND WINE



The volume of South African wine production grew rapidly over the 10-year period from 2005 to 2015. However, growth in both domestic consumption and exports was limited, resulting in a period of stock accumulation, declining real prices and a consequent lack of competitiveness relative to alternative horticultural products. In response, the industry launched the Wine Industry Strategic Exercise (WISE), whose purpose was to develop strategic programmes and set targets that would put the industry on a more sustainable path towards 2025. While significant progress has been made in reaching these targets, the industry seemingly had to go through this phase of consolidation and restructuring amidst a difficult external environment.

The result was a contraction of the industry from 2016 to 2018, both in terms of the national vineyard size and wine production volumes. This was exacerbated by the impact of a severe, three-year long drought in the Western Cape, as well as a difficult consumer environment, where spending power dwindled as a result of very slow economic growth, as well as an increase in Value Added Tax (VAT). On the bright side, real farm gate prices increased for the first time in many years, and the value of premium wine sales increased in 2017, before declining again in 2018.

Despite its recent challenges, the wine industry remains one of the largest contributors to South Africa's positive trade balance for agricultural products. Sustained momentum is critical as it continues to shift into a truly market and value driven industry. Amidst declining production volumes, this entails strategies to enable additional value - such as continued focus on quality premiums through correctly positioned and marketed brands and a focus on high potential domestic and export destinations. In domestic markets, appropriate segmentation is critical, whilst continuing to exploit opportunities presented by wine tourism.

### International market overview

Globally, the area under vines remained stable in 2018, halting a trend of steady decline since 2014. Vineyards stabilised across most of Europe, with some expansion evident in Italy (0.8%) and a modest decline in Portugal (-0.7%). Outside of Europe, the most significant expansion occurred in China (1.2%), albeit at a slower rate than the past 10 years, and New Zealand (0.6%). This was offset by reductions in the USA (-1.2%), Argentina (-1.3%) and Chile (-0.6%).

Whilst area remained stable, a return to more favourable weather conditions in Europe supported a





strong rebound in production levels from the historic lows of 2017. At a global level, production increased by 17% year on year, with notable recovery in Spain (37%), France (35%), Italy (29%), Chile (36%) and Argentina (23%). Partially offsetting declines occurred in China (-20%), Portugal (-10%) and Australia (-6%).

Supported by growth in the USA and China, global wine consumption has increased consistently since 2014. Higher prices arising from the poor harvest in 2017 ended this growth trend in 2018, as global consumption levels declined by 0.3%. Significant declines occurred in China (-7%), Argentina (-6%), the UK (-3%), Canada (-2%), Italy (-0.9%) and France (-0.7%). However, growth still occurred in the USA (1%), which is the largest consumer in the world in recent years, as well as in Germany (1%), Spain (2%) and Russia (7%).

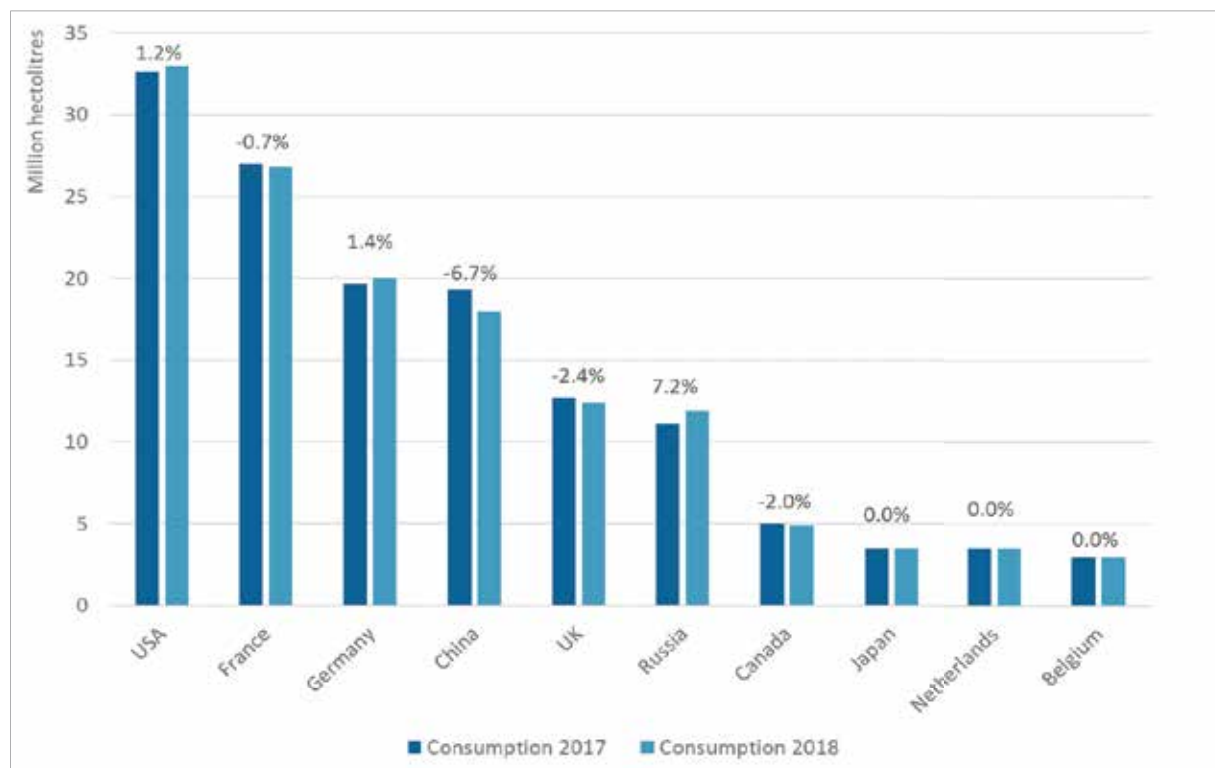
At a global level, trade volumes increased on the back of a stronger harvest in 2018, with volumes increasing by 0.4% and value by 1.2% relative to 2017. Bottled wine accounted for 53% of global trade volumes and 70% of value. Compared to 2017, bottled wine trade declined by 8% in terms of volume, though only 1% in terms of value. Bulk wine volumes also declined by 5% in terms

of volume, but increased by 4% in terms of value.

At a country level, Spain, Italy and France continue to dominate, accounting for 51% of global exports between them. In volume terms, exports from these three countries declined in 2018 by 9%, 8% and 5% respectively, but the value of exports increased by 2%, 3% and 3% respectively. Global imports are also highly concentrated, with Germany, the UK, USA, France and China accounting for more than half of total imports between them. All five of these markets reflect a modest decline in import volumes from 2017 to 2018, though with the exception of China, the value of imports increased.

### Domestic Consumption

In 2018, the volume of domestic wine consumption in South Africa also declined by 4.1% from 2017 levels, influenced by the combination of persistently weak consumer spending power and a significant price increase across most value segments. The low and basic price segments constitute the lion's share of South African wine consumption and declined by 4.5% and 5%



**Figure 74: Wine consumption in selected countries in 2017 and 2018**

Source: OIV, 2019



respectively, while the premium, super-premium and ultra-premium categories contracted by 5.5%, 5.0% and 5.4% respectively. In the case of super premium and ultra-premium wine, the decline in value of domestic sales was less than volume, at 3.3% and 2.9% respectively. Brandy consumption volumes also declined by 5% from 2017 levels, with the only increases in consumption evident for sparkling wine (1.8%) and fortified wine (4%).

Figure 75 presents the outlook for domestic wine consumption, disaggregated into different value categories. It illustrates consumption in 2028, relative to a 2016 to 2018 base period and reflects a continued decline in consumption for low price and basic product categories.

These categories are typically consumed by lower income consumers and continue to face strong competition from beer in the alcoholic beverage complex. In the case of low price wine, the total decline over the 10-year period amounts to 21.5%, with the sharpest decline occurring over the next 3 years, followed by a slower, but continued contraction towards 2028. For the basic wine category, the total consumption decline over the 10-year period is projected to be lower at 10.8%,

occurring mostly in the short term and stabilising post 2022. Brandy consumption is also projected to decline over the next 10 years, by 21.6%. This is in line with historic trends, as consumption has declined by an annual average of 3.5% since 2008, as it continues to face increasing competition from alternative spirits such as Whiskey, Vodka and Gin.

Consumption of premium still wines as well as sparkling wine is projected to increase over the next 10 years (Figure 75). These products are typically consumed by higher income consumers and over the past 10 years, consumption of premium, super premium and ultra premium wines have all increased by an annual average of more than 2%. By 2028, consumption is projected to increase by 8.6%, 11.6% and 11.7% respectively relative to the 2016 to 2018 base period.

This is in line with the industry's envisioned shift into higher value products; the combined share of the three premium categories in total still wine consumption is projected to increase from 18% on average between 2016 and 2018, to 23% by 2028.

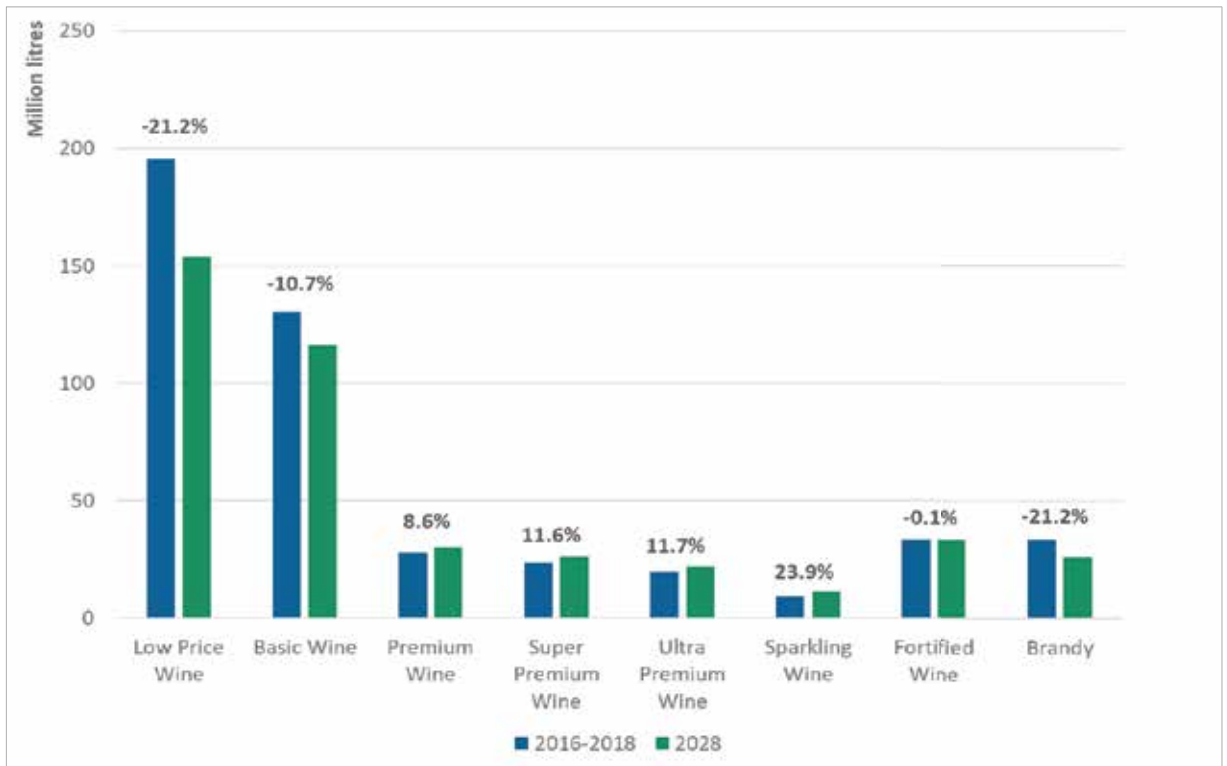


Figure 75: Wine and Brandy consumption in South Africa: 2028 vs. 2016-2018 average



## Trade

Approximately half of the wine produced in South Africa is exported. In volume terms, approximately 60% is exported in bulk, compared to 40% packaged. However, bulk wine accounts for less than 25% of the total export value. Since 2015, little progress has been made in the envisioned shift from bulk to packaged products. However, supported by higher prices resulting from weak supply in international markets, the value of exports, both bulk and packaged, has improved substantially. For instance, in 2018, export volumes declined by 6% from 2017 levels, whilst the total value of exports increased by 4%.

Total bulk wine exports declined by 8% year on year in terms of volume, but increased by 7% in terms of value between 2017 and 2018. Figure 76 illustrates bulk wine exports from South Africa to the 10 largest export destinations in 2017 and 2018.

Export volumes increased into Germany (18%), Denmark (6%) and Belgium (13%), but declined into the UK (-3%), France (-1%), Russia (-33%), Canada (-29%) and the Netherlands (-19%). The unit value of bulk exports increased into most major markets, with the largest gains (amongst major destinations)

evident in the Netherlands (22%), Russia (21%) and the UK (20%).

Packaged exports (Figure 77) reflect a similar pattern. Despite a 3% year on year decline in volume, the total value of packaged exports increased by 3% year on year in 2018. The most significant declines in export volumes occurred to Germany (-17%), Denmark (-12%), the Netherlands (-9%), China (-7%) and the USA (-5%). The largest increases in unit values were evident to Denmark (17%), Germany (14%), China (14%) and the Netherlands (11%).

The combination of global production recovery following bumper harvests in the Northern hemisphere and a further reduction in South Africa's wine production means that export volumes are expected to contract further in 2019. During the first quarter of this year, bulk wine volumes contracted by a staggering 44.5%, whilst packaged wine exports contracted by 11.5%, though the value of these exports increased slightly (0.8%). It is however unlikely that these severe contractions will persist for the rest of the year. Some factors will continue to have a dampening effect on wine exports from South Africa, such as softening global economic growth and



**Figure 76: Bulk wine exports from South Africa to selected destinations in 2017 and 2018**

Source: SAWIS, 2019



**Figure 77: Packaged wine exports from South Africa to selected destinations in 2017 and 2018**  
Source: SAWIS, 2019

bulk wine buying opportunities in other wine producing countries. However, the persistently weak Rand exchange rate should be supportive of export sales.

Over the course of the next decade, total export volumes are projected to decline by an annual average of just under 1%, due to a smaller harvest. This presents an opportunity to rebase the market position of South African wine, focussing on quality premium and high value markets. Under the current strategy, Europe retains the largest share of South African wine exports, supported by the substantially increased duty-free quota. South Africa has also negotiated a quota of 70 million litres to the UK post Brexit. 70% of this quota will be for packaged wine with the remaining 30% for bulk wine. The timing of Brexit remains unclear, with the latest deadline set for the end of October 2019.

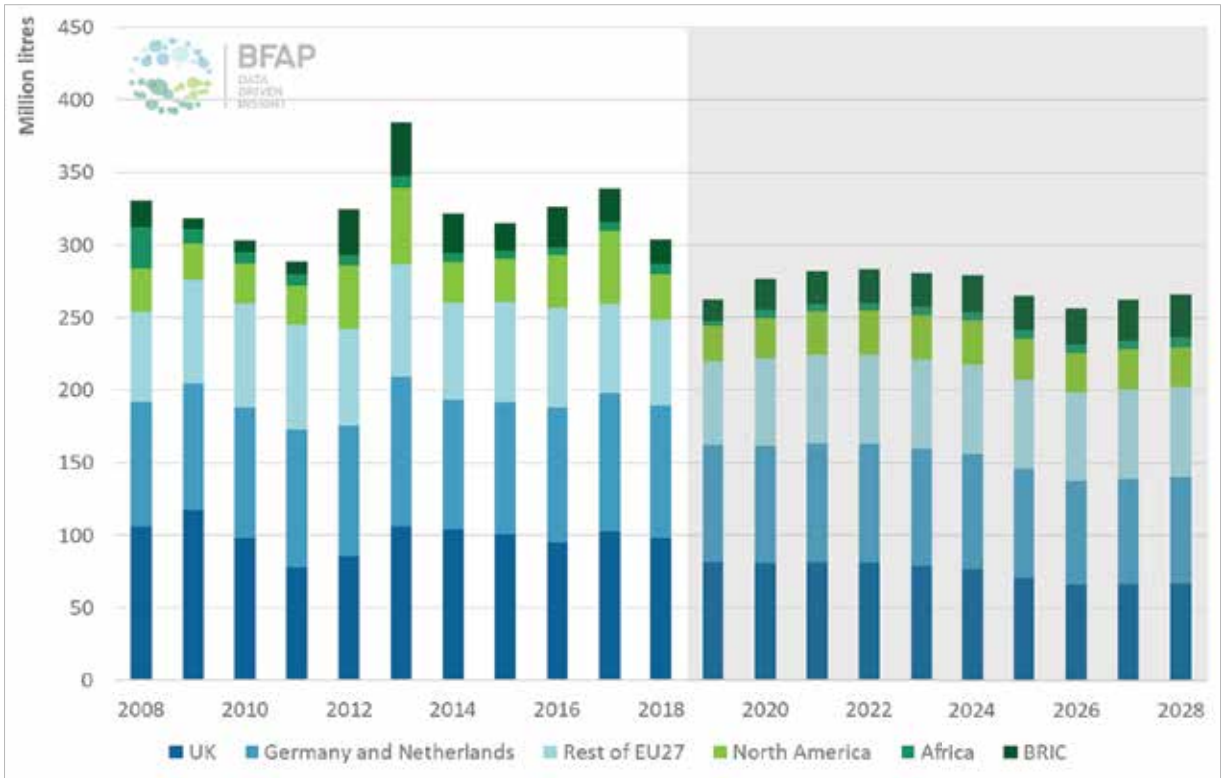
The prominence of projected exports to the EU also assumes that South Africa can maintain the preferential status that it has over all other competitors except Chile, which also currently has duty free access into the EU.

While traditional trade partners remain strong, some shifts are also evident over the outlook, with exports into the BRIC region expected to expand by an average

annual rate of 5%, driven mainly by China. Exports into Africa are also projected to increase, though from a much smaller base. By 2028, the share of total exports into the BRIC region is projected to increase, mainly at the expense of the UK (Figure 78). While Brexit is creating significant uncertainty, the US-China trade war provides opportunities for increased exports to China. China levied substantial import tariffs on US wine during 2018, which could provide space for South African exports to China to grow.

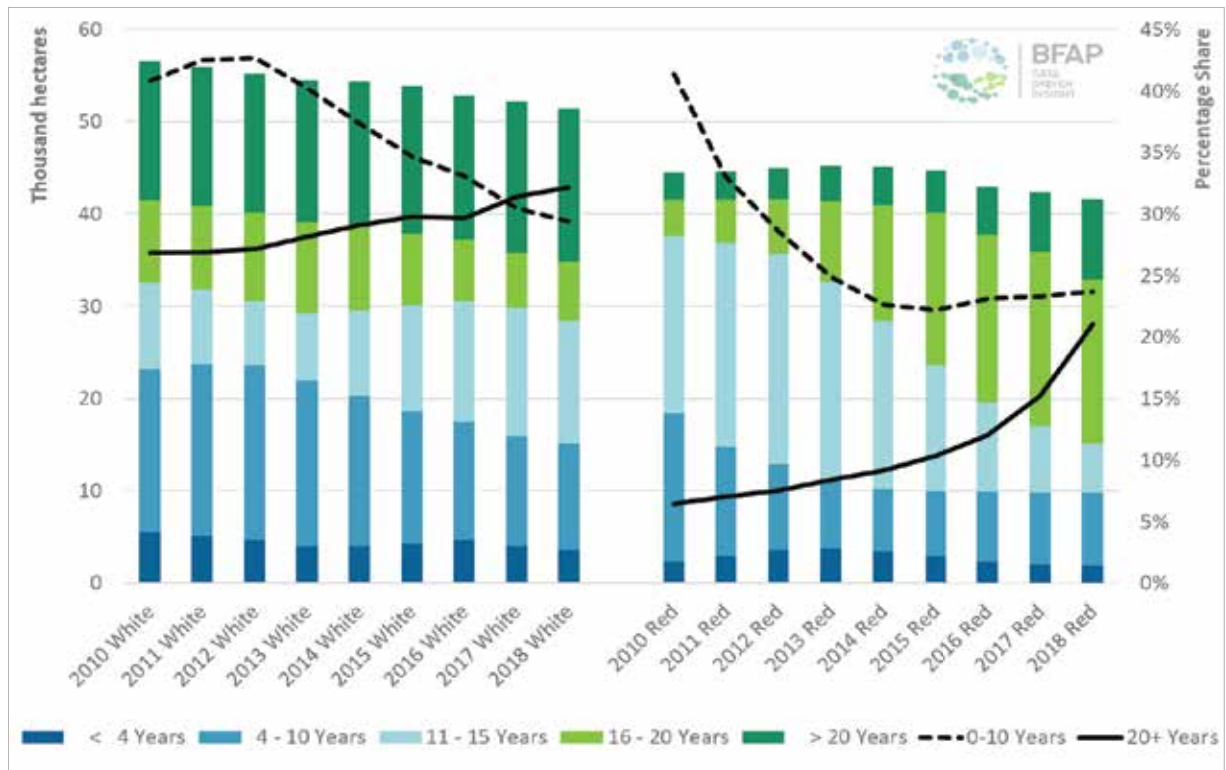
### Production and Prices

An historic perspective on wine grape production in South Africa reflects a distinctly declining trend over the past decade, reducing every year since 2006. In recent years, the combination of declining real prices and strong profitability in a number of other fruit sectors has accelerated this trend and by 2018, the total number of vines in production had declined by 7% relative to 2015 levels and by 12% relative to 2010 levels. Over the course of the next five years, this decline is projected to continue, before consolidating at a level of approximately 230 million from 2024 onwards.



**Figure 78: South African wine exports, disaggregated by region: 2008 – 2028**

Source: SAWIS, 2019 & BFAP Projections



**Figure 79: Age structure of South African vines**

Source: SAWIS, 2019



Having increased rapidly through the 1990's, the share of red grape varieties in total vine composition fluctuated between 40% and 43% from 2003 to 2018. The age structure of white and red grape varieties presented in Figure 79 reflects aging red vineyards, with the share of old vines (> 20 years) in total red having increased significantly in recent years, reflecting the greater emphasis on premium wines. At the same time, the share of younger vines (<10 years) has stabilised from 2014 onwards. The reduction in vines aged below 4 years is indicative that the decline in real prices, which was stronger for red wine grapes relative to white (Figure 80), over the past few years has slowed the establishment of new vineyards drastically. For white varieties, the age distribution is more even. Older vines (>20 years) are increasing, but at a much slower rate than red, but the share of vines aged below 10 years continues to decline, not reflecting the stabilisation evident in the red varieties. The combination of more consistent establishment in recent years, as reflected in a more stable number of vines younger than 4 years,

combined with vine orders to be planted over the next few years, suggests that the share of red varieties in total vines could decrease marginally again by the end of the projection period.

Figure 80 indicates that, in line with reductions in supply, wine prices have increased at above inflation levels over the past 2 years. Influenced by the combination of vine reductions and prolonged impact from the 2017 drought, wine production is expected to decline further in 2019, supporting another increase in real prices. As the effects of the drought abate, production is expected to rebound in the short term, despite continuous declines in vines. This supports a stabilisation in real terms from 2020 onwards. Continuous stock drawdown over the next 5 years is however projected to result in another increase in real prices post 2023, curbing further vine reductions and leading to a small increase in wine production in the latter years of the outlook (Figure 81).

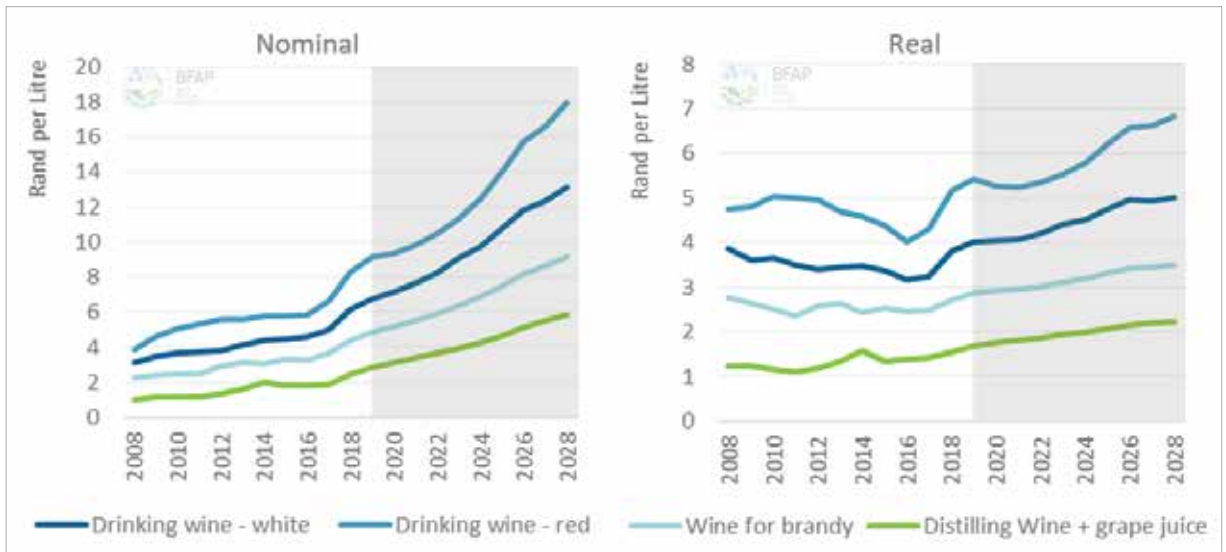
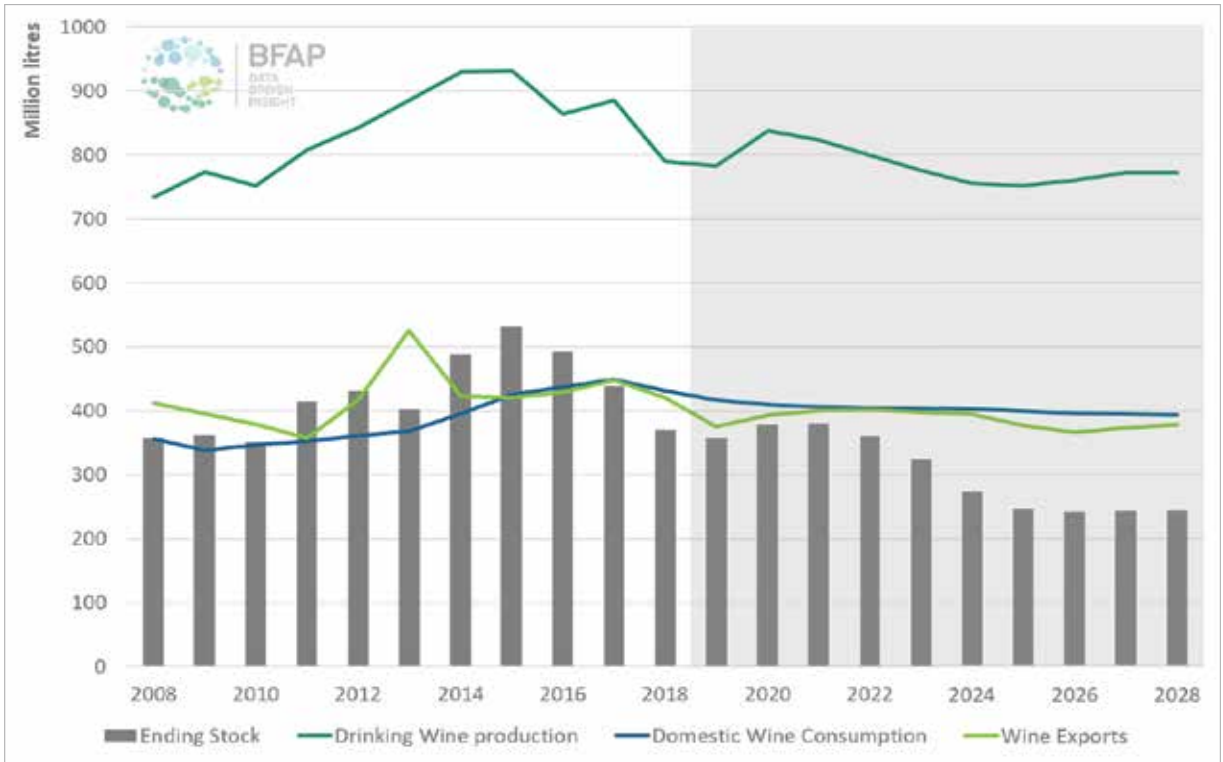


Figure 80: Historic and projected South African wine prices in nominal (left) and real (right) terms: 2008 - 2028





**Figure 81: Production, consumption, trade and stock levels: 2008 – 2028**

**Concluding remarks**

The wine industry is in a period of consolidation, as it addresses structural issues, whilst faced with a number of exogenous challenges. Following a prolonged period of decline, real wine prices increased for consecutive years in 2017 and 2018. In export markets, it has succeeded in growing trade values, despite lower volumes in a constrained supply environment. This adjustment was aided to some extent by a poor harvest globally in 2017

and will face a litmus test in 2019 following the bumper harvest in the Northern hemisphere. Domestically, the industry is faced with new norms in terms of water availability and competition for resources will only increase going forward. Consequently, despite progress to date, momentum must be sustained, requiring consolidated efforts from all role players, to ensure that it remains on track.



# FOOD INFLATION IN 2019 AND BEYOND

## Introduction

Food inflation has linkages to various macro-economic indicators, but also affects household access to food, as well as energy levels and nutrient intake. Given this importance, and despite food inflation over the past year being relatively benign, this chapter explores historical and possible future trends as well as their potential impact on household food security. Looming issues that could result in significant local food inflation include substantial electricity hikes and re-opening of beef export markets with bans resulting from the recent FMD outbreak.

## Trends in food inflation

The lacklustre food inflation experienced over the past year is a symptom of a sluggish South African economy and weak demand. This is apparent in a tale of two product categories, namely meats and vegetables. Average vegetable and meat inflation over the past 2 years are depicted in Figure 82.

Meat inflation peaked in September 2017, at 15.6% year-on-year (y-o-y), after which it started to lose momentum, returning to single digits in April 2018. This loss in momentum continued throughout 2018 and is attributable to various factors. The first is exchange rate

movements. After the significant depreciation which occurred between February 2018 and October 2018, the Rand moved sideways relative to the dollar, trading in a band of between R13.30 and R15 to the US dollar in 2018Q4 and 2019Q1. The second notion that supports the slower meat inflation is the poor (local) economic growth. In times of subdued growth, lower aggregate demand is expected to be apparent in more 'luxurious' food product categories such as meat. Lastly, with the outbreak of foot and mouth disease in January 2019, local supply increased as a result of export reductions which dampened meat price increases since 2019Q1.

In contrast to lower meat inflation, vegetable inflation has been climbing steadily since mid-2018 and reached a high of 11.1% in January 2019. This trend seems to be driven by strong demand support, underscored by weaker economic growth. Due to their relative affordability compared to some other food groups, households are relying more on vegetables than on fruit to fulfil their dietary needs for fresh produce. It has been estimated, from national income and expenditure data that lower income households spend five times more on vegetables than on fruit. This supports the notion

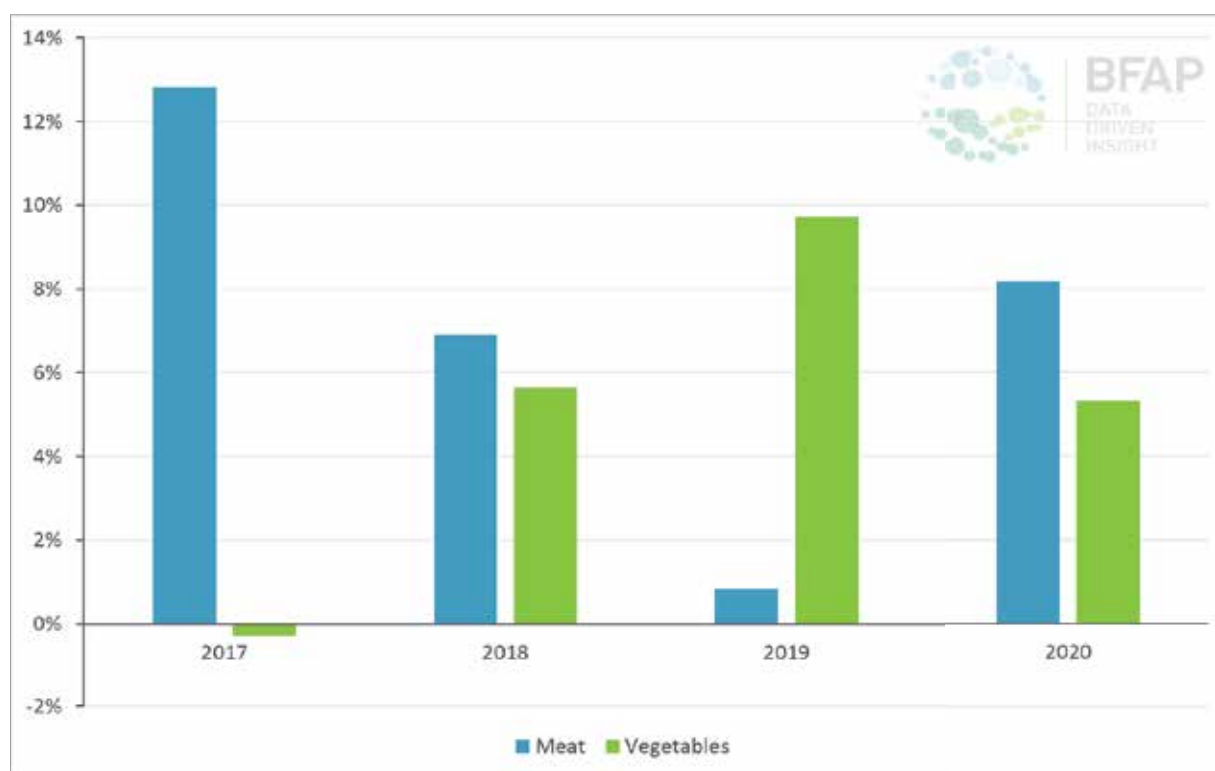


that external economic pressures supports demand growth for vegetables.

Based on the time series properties associated with vegetable and meat inflationary series, meat prices are expected to increase marginally (y-o-y) during 2019 and more substantially in 2020. This strong recovery towards 2020 is however based on the premise that South Africa regains its FMD free status and exports are able to resume normally. If export markets remain closed, meat inflation in 2020 is expected to be much more benign than what is presented in Figure 82. In terms of vegetables, significant inflation is expected in 2019, with the strong upward trend losing momentum in 2020.

More generally, projections on food inflation are presented in Figure 83. Here it can be seen that food inflation is expected to have bottomed out in the first quarter of 2019 and picks up to peak around 7.8% in April 2020. This upward trend is predominantly driven by recovering meat inflation, which could be significantly lower based on trade related factors mentioned before.

The time path in Figure 83 is based on weighted projections for different food groups. These disaggregated projections are presented in Table 6.



**Figure 82: Actual and Outlook Meat and Vegetable Inflation (2017-2020)**

\*Projected based on statistical properties associated with the series

**Table 6: Food inflation projections per food group for 2019 and 2020**

	Bread and Cereals	Meat	Fish	Milk and Eggs	Oils and Fats	Fruit	Vegetables	Sugar	Other
<b>Average 2019</b>	6.43	0.83	6.82	2.82	5.09	8.96	9.72	8.26	3.33
<b>Average 2020</b>	7.29	8.18	7.62	6.03	15.52	6.57	5.31	10.11	4.79

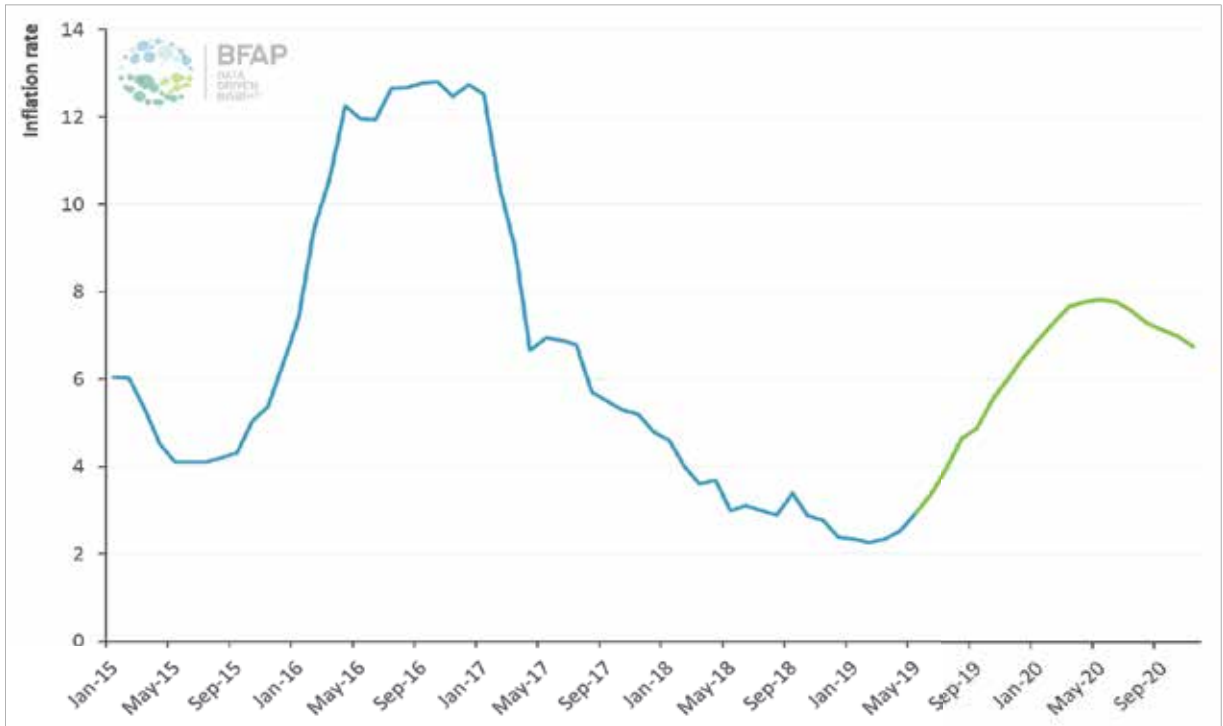


Figure 83: Monthly food inflation projections for 2019 and 2020

### Box 5: Electricity Prices and Food Cost

In March 2018 the National Energy Regulator of South Africa approved the following tariff hikes:

- 2019: 9.42%
- 2020: 8.1%
- 2021: 5.22%

With the hikes in the first two years of this term approaching double digit increases it is worthwhile asking how this will affect food prices and household preparation costs. In order to gauge this, a gap analysis was done based on a method developed by Cecchetti and Moessner (2008). This method allows us to determine the impact of electricity increases, measured by the consumer price index of electricity and other fuels on food inflation.

Table 7 shows that an increase in electricity prices is almost fully transmitted (size of effect of 0.96) to general food prices. In the case of luxurious products such as meat, the prices are transmitted by a factor of larger than one. This could possibly be due to a cumulative effect of an increase throughout the value chain. Based on the tariff increases as announced by NERSA and the estimation results above we could expect upward pressure on food inflation of around 0.4 and 0.6 percentage points (on average annual food inflation) over the medium term.

A household currently spending R1 250 per month on electricity could expect to pay approximately R120 per month more for electricity in 2019 (following the announced 9.5% price increase). If household electricity consumption is not reduced, the household could potentially face a reduced food budget allocation. Hypothetically the reduced food budget could be equivalent to ±16kg maize meal or ±10 loaves of brown bread. However it is more likely that households could reduce the intake of food items with higher costs per serving unit such as animal protein foods, fruit or vegetables to mitigate food budget pressure.

## Box 5: Electricity Prices and Food Cost (Continued)

Table 7: Estimation results of the effect of electricity inflation on food inflation

Inflation Series	Size of effect and statistical significance
Food	0.96***
Breads and Cereals	0.83***
Meat	1.21***
Fish	0.95
Milk, eggs and cheese	0.80***
Oils and Fats	1.13***
Fruits	0.53***
Vegetables	0.78***
Sugar and Confectionary	0.27***
Other	0.55***

\*\*\* Denoting a 1% level of statistical significance

### Consumer level impact of food price dynamics – The BFAP healthy food baskets

The Stats SA Consumer Price Index (CPI) for food and non-alcoholic beverages presents an indication of inflation on a typical basket of food items (based on the food expenditure patterns of the average South African household). In 2015 BFAP identified the need to develop an approach to measure the cost of healthy (nutritionally balanced) eating in the South African context – thus enabling the comparison of consumers' actual and 'more ideal' food expenditure patterns. Such a measurement became increasingly critical in recent years as the South African food landscape was characterised by significant food inflation (with the food inflation rate in South Africa being among the highest in the world (OECD, 2019) and great variations in the incidence of food poverty over time (Statistics South Africa poverty trends, 2017). Furthermore South Africa is facing a complex nutritional dilemma with unacceptably high levels of child stunting (indicative of chronic energy deficiencies) coupled with a high prevalence of overweight and obesity among adults – which is in turn linked to the increased role of non-communicable diseases in mortality in South Africa (Shisana et al., 2014).

From a methodological perspective the basket aimed to utilise existing nationally representative information sources available in the South African context – to facilitate the cost-effective measurement of healthy eating in South Africa. Some developed countries

(e.g. Canada) engage in extensive (and costly) food price monitoring across provinces to measure healthy eating costs specifically. Our methodology considered the Department of Health (DoH) Guidelines for Healthy Eating, the typical food preferences of lower-income households in South Africa (estimated from Stats SA Income and Expenditure Survey (IES) 2010/2011 and Living Conditions Survey (LCS) 2014/2015), nationally representative urban food prices monitored by Stats SA and household composition data (IES 2010/2011 and LCS 2014/2015). Currently the BFAP Thrifty Healthy Food Basket includes starch-rich staple foods (maize meal, brown bread, rice, potatoes and wheat flour), animal protein foods (beef mince, IQF chicken pieces, canned pilchards, eggs and cheese), dairy (full cream milk), fruit (apples, bananas, oranges), vegetables (tomatoes, onions, carrots, cabbage, pumpkin), fats / oils (sunflower oil, margarine, peanut butter) and legumes (dried beans and baked beans in tomato sauce) and a very limited intake of granular sugar (as specified in the DoH eating guidelines). Recently two products were removed from the BFAP Thrifty Healthy Food Basket to improve the nutritional rigour of the basket: white bread given the focus of the SA Food Based Dietary Guidelines on whole-grains, and polony given the high fat and salt content of the product.

In reality, consumers' food expenditure is much more complex than the items contained in our healthy food basket, with more items per food group included and other items (e.g. beverages, condiments, spices and out-of-home convenience (restaurant / take-away) food options also being purchased.



Furthermore, consumers could also switch between food items when exposed to price or income changes, adding further complexity to the analysis of food affordability. Ideally a hypothetical nutritionally balanced food basket should include a wider variety of food items, e.g. more fruit and vegetable options, liquid dairy (e.g. sour milk / maas and yoghurt), staples (e.g. oats porridge and samp) and meat options (e.g. chicken livers). However, the selection of products for our basket was limited by data availability within the Stats SA food prices monitored in urban areas across South Africa. It is critical to note that the BFAP Thrifty Healthy Food Basket should merely be viewed as an example of a hypothetical healthy eating option. (Note: Refer to BFAP Baseline 2015 to 2018 for more methodology detail).

### How expensive is healthy eating in South Africa?

From 2013 to 2018 the average monthly cost of the BFAP Thrifty Healthy Food Basket (for the reference household of four) increased by 29.5% to R2 384 (Figure 84). In April 2019 the BFAP Thrifty Healthy Food Basket cost was R2 524 for the reference household and R814 for a single adult male household. Based on BFAP food inflation projections, the cost of the healthy basket could increase by 5.0% from 2018 to 2019 (slightly higher than the BFAP projected increase in CPI food inflation of 4.5%) and by a further 6.0% from 2019 to 2020 (lower than the BFAP projected increase in CPI food inflation of 7.4%). The differences observed in the anticipated increases in the thrifty basket versus CPI food inflation are rooted in the compositional differences of the basket of food items used to compile the CPI index and the thrifty basket, i.e. reflecting typical food expenditure in the case of the CPI food and reflecting 'basic healthy' food expenditure in the case of the thrifty basket. The cost increases expected for the thrifty basket towards 2020 reflects higher inflation on healthy eating than in the previous years (2016/2017 +2.6% and 2017/2018 +4.3%).

In general, animal protein foods (e.g. fish, chicken, meat, eggs, cheese) has the largest expenditure share contribution of the thrifty basket (30.0% in 2018), followed by vegetables (19.0%), starch-rich staple foods (17.9%), liquid dairy (13.3%), fruit (8.7%), legumes (5.9%) and sugar (1.7%). Towards 2020 a slight decreases in the share contributions of starch-rich staple foods, animal protein foods and liquid dairy are expected, accompanied

by slight increases in the share contribution of fat/oil, fruit, vegetables, legumes and sugar.

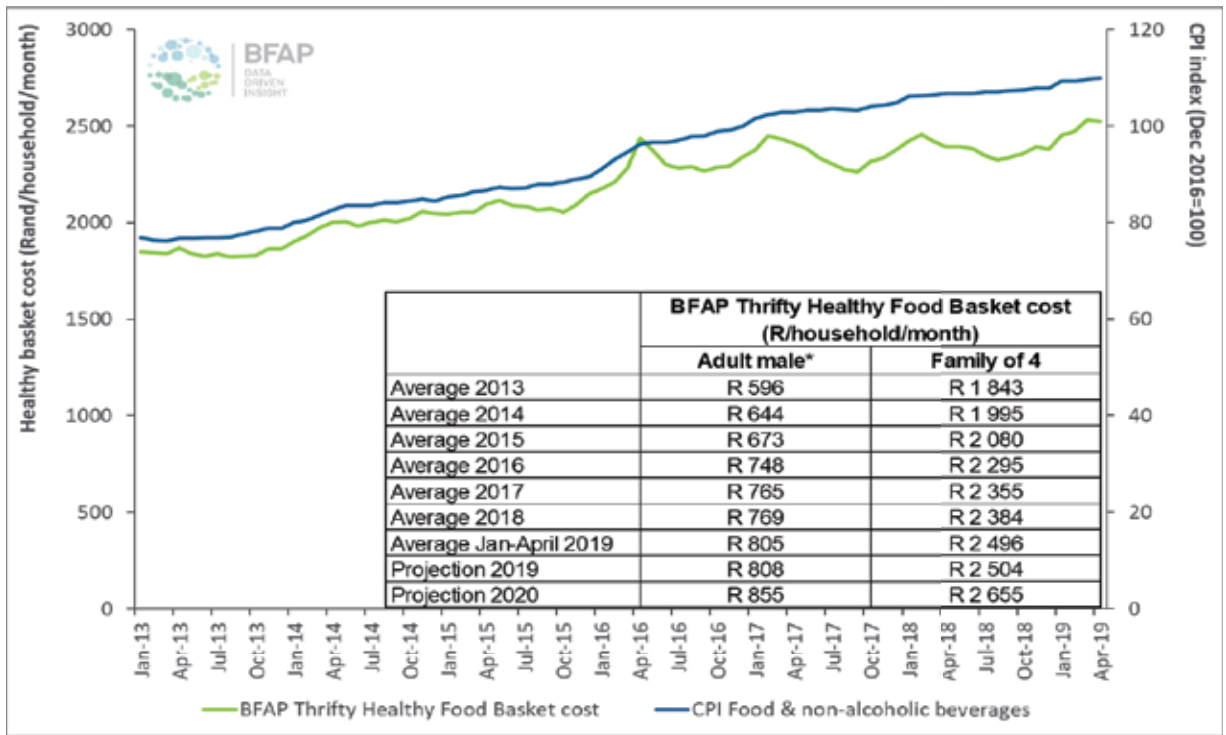
To be able to afford the thrifty basket in April 2019, a four-member household required a monthly income of about R7 212 (if 35% of total expenditure is allocated to food), implying that a household in SEM segments 5 and upwards (thus  $\pm 50\%$  of the population aged 15 years and older) could afford such a basket (based on estimated Establishment Survey 2018 income levels). From the bottom half of the population healthy eating could only be attainable if non-food expenditure is allocated towards the household's food budget. From another point of view, a four member reference household with two minimum wage income streams, with children benefitting from both child grants and school feeding had to spent  $\pm 29\%$  of income on food to be able to afford the thrifty healthy basket in April 2019 – representing an acceptable food expenditure levels for a middle-income household as compared to household-level expenditure data from Stats SA Living Conditions Survey 2014/2015.

### Staple food affordability per serving

Maize meal is projected to remain the most affordable staple food option in South Africa in 2019 (R0.24/single serving unit (SSU), followed by rice being 72% more expensive (R0.41/SSU) (Figure 85). From 2018 (actual values) to 2019 (projected values) the affordability gap between maize meal and rice could decrease in favour of rice with inflation on maize meal prices expected to be higher than inflation on rice. Without a significant depreciation in the exchange rate during 2019 one could expect the affordability of rice to improve relative to that of maize with year-on-year producer prices of maize expecting to increase by roughly 20%.

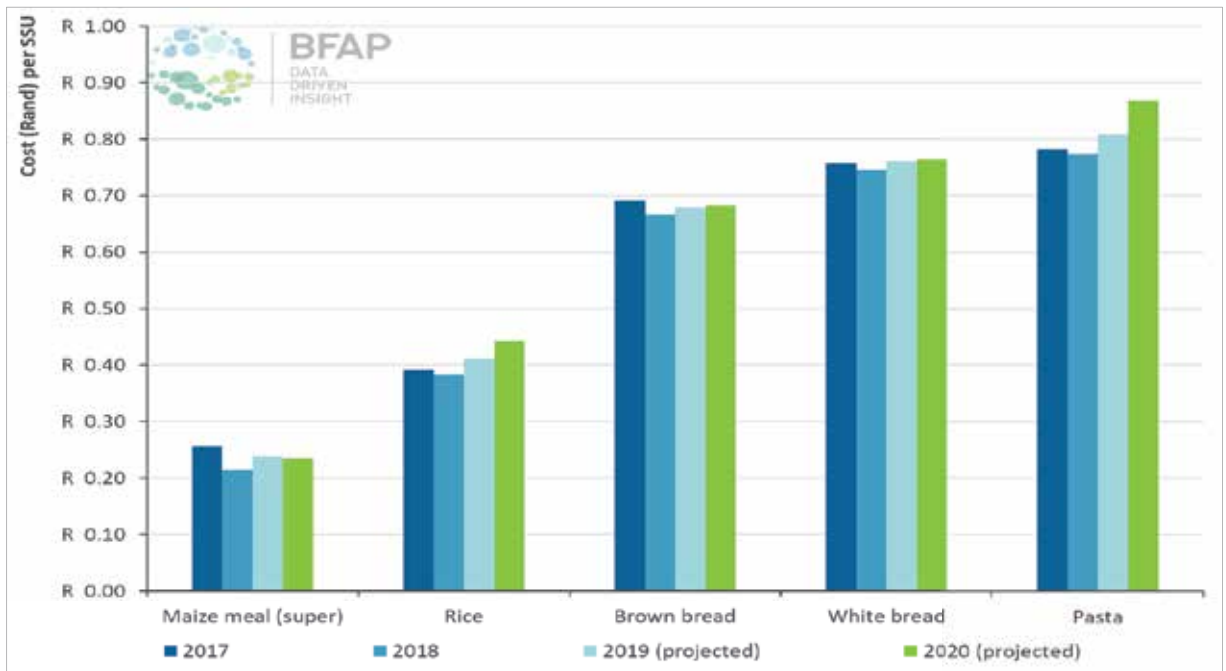
Brown bread, white bread and pasta occupy the next level on the staple food affordability spectrum, with projected 2019 SSU costs of R0.68, R0.76 and R0.81 respectively. With significant electricity price hikes expected in the near future, consumers could lean more towards grain-based staple foods with no cooking time (e.g. bread) or shorter cooking times than maize meal (e.g. rice). Substituting some maize with rice could have a negative impact on the micro-nutrient status of individuals as maize meal is fortified while rice is not fortified in South Africa. The large price gap





**Figure 84: A comparison of the BFAP Thrifty Healthy Food Basket cost and the CPI index for food and non-alcoholic beverages from January 2013 to April 2019**

Source: BFAP calculations & Stats SA CPI data for all urban areas



**Figure 85: Comparing the affordability of staple foods based on average monthly values for 2017, 2018 and projected values for 2019 and 2020**

Source: BFAP calculations based on StatsSA monitored urban food retail prices, BFAP food retail price projections & Single serving units as defined by the South African Food-based Dietary Guidelines and the Guidelines for Healthy Eating

between the SSU costs of maize meal versus bread might still favour the selection of relatively more maize meal despite electricity price hikes.

### Animal protein affordability per serving

*The luxury product cluster:* Considering a range of animal protein food options as illustrated in Figure 82, the most expensive animal protein food from 2017 to 2019 was beef steak and lamb chops costing R23.87 and R22.04 per single serving respectively during the first three months of 2019. The affordability of lamb chops improved relatively to beef fillet steak towards 2019 (Figure 86).

*The middle product cluster:* A single serving unit of beef mince and pork chops had a very similar single serving unit cost (R10.86 and R10.70 respectively in 2019 January to April) – thus being more than half the cost of the products in the luxury product cluster. The third product in the middle product cluster is fresh chicken pieces (R9.11/SSU in 2019) being ±16% less expensive than beef mince and pork chops in the first four months of 2019 (Figure 86).

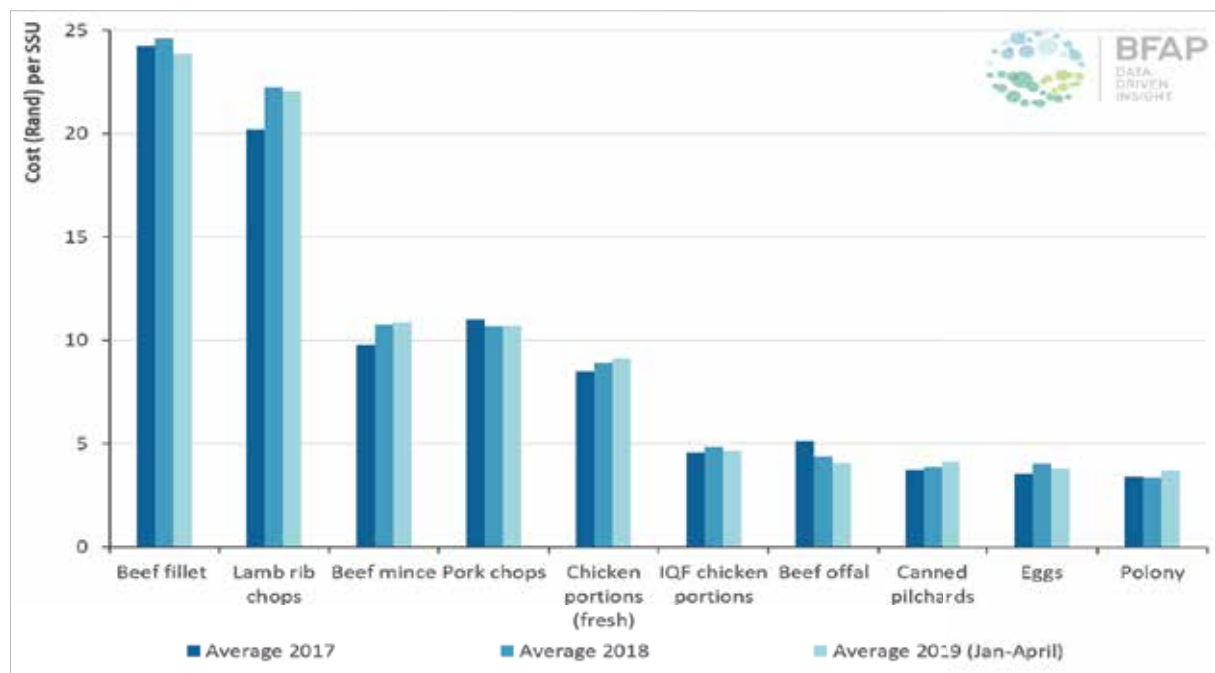
*The most affordable product cluster:* In 2018 and 2019 (January to April) IQF chicken was the most expensive item in the third (most affordable product cluster (R4.65/SSU in 2019, followed by canned pilchards (R4.12/SSU),

beef offal (R4.06/SSU), eggs (R3.81/SSU) and polony (R3.71/SSU) (Figure 86). A SSU of IQF chicken was approximately 75% less expensive than beef mince.

The affordability gap between the APF options in the ‘most affordable product cluster’ narrowed down in the first four months of 2019.

With looming electricity price hikes the allure of animal protein foods with no cooking time (e.g. canned pilchards and polony) or with short cooking times (e.g. eggs) could increase from a consumer perspective. However, a significant increase in polony intake could be detrimental to consumers’ health given the high fat content, salt content and additives present in the product. Following the Listeriosis outbreak in 2018 consumers might however still be reluctant to increase their intake levels of polony.

The marginal increase in meat prices expected for 2019 could help consumers to maintain some foothold in terms of spending on animal protein foods in 2019. However, consumers could struggle to maintain their meat intake levels (and thus forfeit some dietary diversity) if export bans as a result of foot and mouth disease are lifted and more substantial inflation on meat manifests towards 2020.



**Figure 86: Comparing the affordability of animal protein food options based on average monthly values for 2017, 2018 and the first four months of 2019**

Source: BFAP calculations based on StatsSA monitored urban food retail prices & Single serving units as defined by the South African Food-based Dietary Guidelines and the Guidelines for Healthy Eating

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# Notes





# Notes





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