A PROFILE OF THE SOUTH AFRICAN LITCHI MARKET VALUE CHAIN

2019

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1. DESCRIPTION OF THE INDUSTRY

The litchi (*Litchi chinensis*) is indigenous to the south of China where a subtropical climate prevails and mention is made of the fruit in the earliest Chinese literature. The first trees out of the Asian continent were established in the subtropical areas of Hawaii, Florida, California and South Africa in the 19th century. Literature reveals that litchi trees were imported into South Africa from Mauritius in 1876, but some trees had already been noticed in Natal in 1875, which indicates earlier imports. Many different cultivars were established in Kwazulu Natal and later in the Mpumalanga Lowveld and other suitable frost-free areas of the country.

The South African Litchi Growers’ Association (SALGA) and the Research and Technical Committee were formed in 1987 to attend to the immediate problems of the litchi industry. The industry is subject to the same problems as the fresh fruit industry in general, namely marketing, logistics, market access and adverse weather conditions such as drought, frost and hail. During the 2017/18 production season the litchi industry contributed approximately 5.7% (R247 million) to total gross value of subtropical crops (R4.2 billion). Gross value of production for litchis in South Africa for the period 2008/09 to 2017/18 is presented in Figure 1.

Figure 1: Gross value of production for litchis, 2008/09-2017/18

As can be seen in Figure 1 that the gross value of litchis produced in South Africa fluctuated significantly during the past ten years. During the ten years under review the total value of production for litchis reached its highest in 2013/14 at R282 million and was at its lowest in 2009/10 at R59.5 million. Gross value of litchis produced in South Africa increased by 2% between 2014/15 and 2015/16 after a decline in between 2013/14 and 2014/15. In 2017/18, value of litchi production decreased by 6.4% compared to 2016/17. The total gross value was also 201% higher than that of a decade ago (2008/09). The total gross value usually trails the total volume of production.

* Inputs from Tshifhiwa Radzilani of the South African Subtropical Growers’ Association (Subtrop) are herewith acknowledged.
1.1 Production volumes

The litchi industry in South Africa is well-established and exhibits a slow trend in terms of new plantings and production. Growth in production volume has been relatively disappointing during the last decade. Total production of litchis for the period 2008/09 to 2018/19 is presented in Figure 2.

Figure 2: Total litchi production. 2008/09-2017/18

As can be observed in Figure 2, a total volume of 8 359 tons of litchis were produced in South Africa during the 2017/18 production season. The production volume between 2013/14 and 2015/16 remained fairly stable. Litchi production volumes increased by 24% in 2016/17 only to record a 20.4% decrease between the 2016/17 and 2017/18 production seasons. The volume produced was however, 149.2% more than the volume produced during the 2008/09 production season. During the ten years under consideration, production peaked in 2016/17 at 10 444 tons and was at its lowest in 2008/09 at 5 599 tons. Litchi has long been known to have a substantial water requirement and is best adapted to a subtropical climate with short, dry and cool but frost-free winters and long hot summers with high rainfall and humidity.

1.2 Production areas

Litchis grow well in especially sandy soils in the cooler subtropical areas. However, the trees also grow and produce well in clay soil in the warmer areas. The litchis require mean winter minimum temperatures below 15°C and mean winter maximum temperatures of 20°C or lower to flower well. Mean summer maximum temperatures should be between 27 and 33°C. There should be low rainfall during winter and high rainfall during summer. The relative humidity should be 50% and higher during the warm summer months.

South Africa's litchi crop is mainly grown in the Limpopo and Mpumalanga province, in particular the Mopani and Malelane region. Kwazulu Natal is another producer of litchi production. Litchi is a minor crop in South Africa and
account for an estimated total area of 1 124ha. Regionally, the most important litchi producing region in Mpumalanga is the hot Lowveld, which produces nearly 60% of all South African litchis annually. The most important litchi producing areas in Limpopo include Trichardtsdal, Tzaneen, Makhado (Louis Trichardt), and Levubu. Annually, Tzaneen contributes an average of 20% to total Litchi production in South Africa and this includes areas farmed by emerging producers in the province. In Kwazulu Natal, north and south coasts of Kwazulu Natal are the dominant litchi production areas.

1.3 Litchi cultivars planted in South Africa

Litchi cultivars grown in South Africa are divided into three main groups: Mauritius group, Chinese group and the Madras group. The Mauritius group is usually planted in South Africa and produces satisfactory yields as well as good quality fruit. Cultivars in this group include HLH Mauritius (also known as Tai So), Muzaffarpur, Late Large Red, Hazipur, Saharanpur, and Rose-Scented.

The Chinese group produces very poor yields but the fruit is of very high quality. Cultivars in this group include Haak Yip, Wai Chee, Shang Shou Huai, Kontand, Glutinous Rice, and Three Months Red. The Madras group produces colourful red fruit of poor quality and the cultivars include Kafri, Shorts Seedless, Johnstone’s Favourite, Emmerson, Durbhanga, Maries, Mooragusha, Madras 19, Hazipur/Saharanpur, Red McLean, Brewster and Bedana.

1.4 Employment

The South African litchi industry plays an important role in terms of job creation for the majority of the people living in rural areas. It is estimated that the industry employs approximately 2 400 combined seasonal and permanent workers. The contribution of the industry is further seen through the dependency of individual members of the households, which is estimated at 24 000 annually.

The Minimum Wage Act 9 of 2019 came into effect in January 2019. The Act applies to all workers and their employers, except members of the South African National Defence Force, the National Intelligence Agency, the South African Secret Service, and volunteers who perform work for another person without remuneration. Under this Act, farm workers are entitled to a minimum wage of R18 per hour. The Act establishes the National Minimum Wage Commission which is tasked to review the national minimum wage make recommendations to the Minister on any adjustment of the national minimum wage. The new national minimum wage will as from March 2020, be adjusted by 3.8%. Therefore, farm workers are entitled to a minimum wage of R18.68 per hour.

2. MARKET STRUCTURE

The distribution of the annual litchi crop over the past decade is presented in Figure 3. The South African litchi industry is predominantly export oriented. During the 2017/18 production season 4 985 tons of litchis were exported while processing and local market accounted for 1 899 and 1 401 respectively. This means that out of a total production of 8 359 tons produced in 2017/18, 59% went to the export market while 23% went through to the processing market. Approximately 17% was sold through the local market during the same year. The volumes of litchis delivered to the processing markets increased significantly between 2015/16 and 2016/17 seasons.
Litchi production is mostly hampered by inadequate yields due to alternate bearing and high fruit drop during fruit set and early fruit development. Fruit size is affected by insufficient irrigation and fertilisation during critical stages of fruit development. All these factors should be taken into account if farmers are to produce fruits of good quality and size for the market.

Figure 3: Annual litchi crop distribution, 2008/09 – 2017/18

Source: Subtrop, 2019; Quantec, 2019; Statistics and Economic Analysis, DAFF

2.1 Domestic market sales and prices

It is quite a challenging task to obtain a complete picture of the local market, as most of the fruit is sold informally to hawkers and informal traders. However, recorded quantities are sold through agents on the national fresh produce markets (NFPMs), as well as through retailers and processors for the manufacturing of mostly juice. Domestic sales and prices realised at the NFPMs for the period 2008/09 to 2017/18 are presented in Figure 6.
Between the 2008/09 and 2017/18 marketing seasons volumes of litchis sold on the NFPMs declined from 1 701 tons to 1 401 tons, a decline of 17.6%. The volume of litchis sold through the markets has been unstable significantly during the last decade. The quantities sold at local municipal markets have been on the decline over the past decade while volumes production has recorded increasing trends. This is a clear indication that NFPMs are losing their role as centres of price discovery and the principal marketing channel of fruits and vegetables. The result is direct sales from farms to pack houses and retailers.

At the same time, prices realised at the NFPMs have increased steadily, increasing from R 9 698 per ton in 2008/09 to R 22 724 per ton in 2017/18, an increase of 134.3% in the past ten years. The rise in prices has been mainly due to a decline in volumes delivered to the markets. The prices available in the markets over the past ten years demonstrated its responsiveness to supply in the market.

2.2 Exports

The South African litchis production is mostly destined for the export market. Approximately 58% (4 895 tons) of all litchis (8 359 tons) produced in South Africa during 2017/18 marketing season were exported. In 2018, the South African litchi industry ranked 17th accounting for 0.9% of the world’s exports of litchis. Total volumes and net realisation for South African litchi exports from 2009 to 2018 are presented in Figure 5.
Data from Quantec indicate that volumes of litchis exported by South Africa have been relatively stable over the past ten years. The exceptions were in 2013 and 2016 when volumes exported were higher. The litchi exports recorded a 13% decrease in 2018 as compared to 2017 season. A total volume of 4 895 tons of litchis was exported by South Africa in 2018, approximately 18.1% more than the exports recorded ten years ago (2009). The export volumes experienced a successive growth between 2011 and 2013, and again between 2014 and 2016 after successive years of shrinking exports between 2009 and 2010.

Prices realised in the export markets have been increasing during the last ten years. Prices increased from R15 280 per ton in 2009 to R34 085 per ton in 2018, an increase of 123%. Prices also decreased by 11% between 2017 and 2018. The decline in prices of litchis might have been due to weaker exchange rate between Rand and other major currencies. Exports of South African litchis to the various regions of the world over the past decade are presented in Figure 6.
Figure 6: Volume of litchi exports to various regions of the world, 2009-2018

It is evident from Figure 6 that during the last decade, almost all of South Africa’s exports of litchis were destined for the European market. Exports to Europe accounted for 86% (4 211 tons) of total South African litchi exports 4 895 tons) in 2018. Exports to Africa, the Americas and Asia have been relatively insignificant, collectively accounting for a little over 14% throughout the last decade. Exports to Europe declined from 4 951 tons in 2017 to 4 211 tons in 2018, a decline of 14%. During the period under review, litchi exports to Europe peaked at 5 515 tons in 2016 and were at their lowest in 2014 at 2 986 tons.

Within Europe, South African exports of litchis are mainly distributed between the European Union and Western Europe (see Figure 7). The European Union consists of 25 member states while Western Europe comprises Switzerland, Liechtenstein and Monaco. Annually, over 95% of all South African litchi exports to Europe go to European Union member states while the remainder goes to Western Europe (see Figure 7). The European Union absorbed approximately 95% (4 017 tons) of all South African litchi exports to Europe in 2018 and the remaining 5% (195 tons) was absorbed by Southern, Eastern and Western Europe.

Source: Quantec Easydata
Due to its significance to South African exports of litchis the European Union market is further disaggregated in Figure 8.

Figure 8: Litchi exports to various European Union member states, 2009 - 2018

Source: Quantec Easydata

It is evident from Figure 8 that the major importers of South African litchis in the European Union are the Netherlands, United Kingdom and France. In 2018 the Netherlands accounted for 65% (2,629 tons) of all South African exports of
litchis to the European Union (4 017 tons). It was followed by the United Kingdom, Germany and France at 18%, 12% and 5% respectively (484 tons for Germany, 182 tons for France and 707 tons for UK). During the period under review exports to the Netherlands peaked at 3 667 tons in 2016 while those to Germany, France and the United Kingdom peaked at 830 (2017) 908 tons (in 2013) and 723 tons (in 2016), respectively. The total South African litchi exports to the European Union declined by 17% between 2017 and 2018. The main contributors to the decrease were the Germany and France that recorded decreases during the same period. Exports into the Netherlands decreased by 3% during the same period.

2.3 Provincial and district export values

Values of litchi exports from each province of South Africa for the period 2009 to 2018 are presented in Figure 11.

Figure 9: Value of litchi exports by provinces, 2009 - 2018

Source: Quantec Easydata

Litchis worth R441 million were exported by South Africa in 2018. The export value was 37% lower than the 2017 export value and 207% higher than the value of litchis exported in 2009. The Western Cape is the leading exporter of litchis in South Africa. The province contributed 39% to total value of South African exports in 2018. Western Cape is followed by Gauteng, Mpumalanga and Limpopo at 31% (for Gauteng), 18% (for Mpumalanga) and 9% (for Limpopo). The Western Cape and Gauteng are not among the major producers of litchis in South Africa but the bulk of South African litchis are exported through these provinces. This is mainly because the two provinces serve as exit points for litchi exports in South Africa. Mpumalanga province, the biggest producer of litchis in South Africa comes in third at 18%. This indicates that the biggest producers of litchis are not necessarily the biggest exporters as litchis leave South Africa via other provinces.
Figures 12 – 20 show the value of litchi exports from the various districts in each of the nine provinces of South Africa. Values of litchi exports by the Western Cape province are presented in Figure 12. The Cape Winelands district is the leading exporter of litchis in the Western Cape, accounting for 77% value of litchi export. The value of the district’s exports peaked at over R337 million tons in 2016. The West Coast district recorded exports only in 2010, 2011, 2013 and 2017. Other major players in the export of litchis in the Western Cape are the City of Cape Town metro. The metro accounted for R36 million in 2018.

Figure 10: Value of litchi exports by Western Cape province, 2009 - 2018

Source: Quantec Easydata

The Eastern Cape province only recorded exports of litchis worth R45 thousand during 2010 and R17 thousand during 2013. No export recorded by the Eastern Cape between 2012 season (see Figure 13). During 2018 all exports worth R133 thousand from Eastern Cape were from Nelson Mandela metro.
Figure 11: Value of litchi exports by Eastern Cape province, 2009 - 2018

Values of litchi exports by the Gauteng province are presented in Figure 12.

Figure 12: Value of litchi exports by Gauteng province, 2009 - 2018

Litchi exports in Gauteng are mainly from Ekurhuleni and City of Johannesburg metropolitan municipalities. High export values for the leading municipalities were recorded in 2015 (for City of Tshwane) 2018 (for City of Johannesburg) and
2017 (for Ekurhuleni). Export values from Ekurhuleni, the leading litchi exporting district in the past two years, increased from just over R7 million to over R216 million in 2018. The value of exports from the City of Johannesburg increased by 8.5% while those from City of Tshwane declined by 56.2% between 2017 and 2018. The value of litchi exports from Ekurhuleni decreased by 2.2% during the same period.

Figure 13 illustrates values of litchi exports by the KwaZulu Natal province. The leading litchi export district in the KwaZulu Natal is the eThekwini metropolitan municipality. The municipality recorded litchi exports worth over R13 million during 2018. High export values for the leading municipality were recorded in 2017. The use of the Durban harbour as an exit point is the main reason for eThekwini municipality being a leader in the export of litchis in KwaZulu Natal. The value of litchi exports from KwaZulu Natal fluctuated strongly during the period under review.

Values of litchi exports from the Limpopo province are shown in Figure 16. It is clear from Figure 14 that litchi exports from the Limpopo province are mainly from the Mopani district municipality. High export values for the leading municipality were recorded in 2016. The district recorded litchi exports worth R39 million in 2018. This was down from the R52 million recorded in the previous year (2017). Other municipalities that recorded litchi exports during the past decade were the Waterberg, Capricorn and Sekhukhune districts.
Values of litchi exports from Mpumalanga province are presented in Figure 15.

It can be observed from Figure 15 that litchi exports recorded in Mpumalanga province are mainly from the Ehlanzeni district. High export value for the Ehlanzeni district was recorded in 2016. The value of litchi exports from the district
has increased from over R18 million in 2010 to R78 million in 2018, an increase of 333%. The value however experienced a decrease of 30.2% in 2014 when compared with the previous year however the value increased by 33.5% in 2015 when compared to 2014. In 2018, export value recorded 36.2 percent decrease compared to the previous season (2017). Figure 16 shows the value of litchi exports by the Free State province.

Figure 16: Value of litchi exports by Free State province, 2009-2018 -

![Graph showing value of litchi exports by Free State province, 2009-2018.]

Source: Quantec Easydata

The exporters of litchis in the Free State province are mainly Xhariep and Lejweleputswa district municipalities. High export values for the leading municipalities were recorded in 2014. In 2018, Xhariep recorded exports worth R728 thousands and followed by Lejweleputswa with exports worth R287 thousands.

Values of litchi exports by the North West province are presented in Figure 17. Almost all exports of litchis recorded in North West during 2018 were from the Ngaka Modiri Molemela district. The district exported litchis worth over R79 thousands in 2018.
Figure 17: Value of litchi exports by North West province, 2009-2018

2.4 Share analysis

Table 2 provides an illustration of provincial shares towards the total value for South African litchi exports for the period 2009 to 2018. The Western Cape, Mpumalanga, Gauteng and Limpopo provinces have commanded the greatest share of litchi exports during the past decade. The four provinces collectively accounted for almost 97% of all exports of litchis in South Africa in 2018. The Gauteng province, do not produce litchis but they are the largest contributors (30.9%) in terms of litchi exports. This raises concerns regarding the availability of marketing infrastructure in these provinces that produce a greater proportion of South African litchis and export very little litchis on their own. Western Cape and Kwazulu Natal contributed 38.7% and 3.1% to the total value of South African exports of litchis in 2018.

Table 2: Share of provincial litchi exports to the total RSA litchi exports (%), 2009 - 2018

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Source: Calculated from Quantec Easydata
The shares of district litchi exports to total Western Cape provincial litchi exports are presented in Table 3. In 2018 the leading exporter of litchis in the Western Cape was the Cape Winelands district with 77.2%. It was followed by the City of Cape Town at 21%.

Table 3: Share of district litchi exports to the total Western Cape provincial litchi exports (%), 2009-2018

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<td>0.2</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Source: Calculated from Quantec Easydata

Table 4 shows the shares of district litchi exports to the total Eastern Cape provincial litchi exports for the period 2009 to 2018. During the last ten years the Eastern Cape only recorded exports of litchi in 2010, 2013, 2015, 2017 and 2018 from Cacadu municipality and Nelson Mandela metro.

Table 4: Share of district litchi exports to the total Eastern Cape provincial litchi exports (%), 2009 – 2018

<table>
<thead>
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</tr>
</thead>
<tbody>
<tr>
<td>Eastern Cape</td>
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<td>100.0</td>
<td>0.0</td>
<td>0.0</td>
<td>100.0</td>
<td>0.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Cacadu</td>
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<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
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</tr>
<tr>
<td>Alfred Nzo</td>
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<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>62.6</td>
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<td></td>
</tr>
<tr>
<td>Nelson Mandela Metropolitan</td>
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<td>0.0</td>
<td>0.0</td>
<td>100.0</td>
<td>0.0</td>
<td>100.0</td>
<td>99.9</td>
<td>29.9</td>
<td>99.5</td>
</tr>
</tbody>
</table>

Source: Calculated from Quantec Easydata

The shares of district litchi exports to the total Gauteng provincial litchi exports are presented in Table 5. In Gauteng the contributions of the various districts to total provincial litchi exports are mainly distributed between City of Tshwane Ekurhuleni and City of Johannesburg. In 2018, the leading district was City of Johannesburg with 78.5% share. It was followed by the Ekurhuleni at 16%. The two districts accounted for 95% of the total value of litchi exports recorded by Gauteng during 2018. The City of Tshwane also contributed 5.5% in 2018.

Table 5: Share of district litchi exports to the total Gauteng provincial litchi exports (%), 2009 - 2018

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
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<td>100.0</td>
<td>100.0</td>
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<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Sedibeng</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
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<td>0.0</td>
</tr>
<tr>
<td>West Rand</td>
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<td>0.0</td>
<td>0.3</td>
<td>0.1</td>
<td>0.4</td>
<td>0.3</td>
<td>0.1</td>
<td>0.1</td>
<td>0.0</td>
</tr>
<tr>
<td>Ekurhuleni</td>
<td>62.6</td>
<td>34.5</td>
<td>41.9</td>
<td>48.7</td>
<td>53.5</td>
<td>53.3</td>
<td>42.8</td>
<td>47.1</td>
<td>16.1</td>
<td>16.0</td>
</tr>
<tr>
<td>City of Johannesburg</td>
<td>34.6</td>
<td>55.2</td>
<td>49.4</td>
<td>44.5</td>
<td>40.2</td>
<td>37.0</td>
<td>40.0</td>
<td>41.7</td>
<td>71.4</td>
<td>78.5</td>
</tr>
</tbody>
</table>
The leading exporter of litchis in KwaZulu Natal is the eThekwini metropolitan municipality in 2009 (see Table 6). The major exports (98%) came from eThekwini metropolitan municipality during 2018. Between 2009 and 2015, eThekwini municipality was the only litchi exporter in KwaZulu Natal province.

Table 6: Share of district litchi exports to the total KwaZulu Natal provincial litchi exports (%), 2009-2018

<table>
<thead>
<tr>
<th></th>
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<th></th>
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<tbody>
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<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
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<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Ugu</td>
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<td>0.0</td>
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<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Umzinyathi</td>
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<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>2.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Umgungundlovu</td>
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<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Uthukela</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
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<td>0.0</td>
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<tr>
<td>eThekwini</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>98.5</td>
<td>97.6</td>
<td>98.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Calculated from Quantec Easydata

Table 7 presents the shares of district litchi exports to total Limpopo provincial litchi exports for the period 2009 to 2018. The leading litchi export district in Limpopo is Mopani. The district accounted for all (98.6%) litchi exports recorded in Limpopo in 2018. The remaining litchi exports were recorded by Sekhukhune district.

Table 7: Share of district litchi exports to total Limpopo provincial litchi exports (%), 2009-2018

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Limpopo</td>
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<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
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<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Mopani</td>
<td>98.8</td>
<td>0.0</td>
<td>100.0</td>
<td>96.4</td>
<td>100.0</td>
<td>100.0</td>
<td>99.1</td>
<td>95.8</td>
<td>99.0</td>
<td>98.6</td>
</tr>
<tr>
<td>Vhembe</td>
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<td>0.0</td>
<td>0.0</td>
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<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Capricorn</td>
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<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
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<tr>
<td>Waterberg</td>
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<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Greater Sekhukhune</td>
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<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
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<td>0.9</td>
<td>4.2</td>
<td>1.0</td>
<td>1.4</td>
</tr>
</tbody>
</table>

Source: Calculated from Quantec Easydata

In 2018, the Ehlanzeni district contributed almost all (99.2%) exports of litchis from Mpumalanga province (see Table 8).

Table 8: Share of district litchi exports to total Mpumalanga provincial litchi exports (%), 2009-2018

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</tr>
</thead>
<tbody>
<tr>
<td>Mpumalanga</td>
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<td>100.0</td>
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<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Gert Sibande</td>
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<td>0.7</td>
<td>0.1</td>
<td>0.1</td>
<td>0.2</td>
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<td>0.0</td>
<td>0.1</td>
<td>0.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>
The leading export district for litchis in the Free State is the Thabo Mofutsanyane district (see Table 9). All litchi exports recorded in the Free State in 2012 were from the Xhariep district municipality. However, in 2014, the litchi exports recorded were from Thabo Mofutsanyane, Xhariep and Mangaung district municipalities. In 2018 Xhariep district was the leading contributor to Free State province’s litchi export. Xhariep was the main contributor to litchi exports from the Free State province at 54.5%. It was followed by Thabo Mofutsanyane (23.2 %) and Lejweleputswa districts (21.5%)

Table 9: Share of district litchi exports to total Free State provincial litchi exports (%), 2009-2018

<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Free State</td>
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<td>100.0</td>
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<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Lejweleputswa</td>
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<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>61.4</td>
<td>24.3</td>
<td>19.3</td>
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</tr>
<tr>
<td>Xhariep</td>
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<td>0.0</td>
<td>100.0</td>
<td>100.0</td>
<td>14.7</td>
<td>14.1</td>
<td>43.3</td>
<td>48.6</td>
</tr>
<tr>
<td>Thabo Mofutsanyane</td>
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<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>11.9</td>
<td>9.5</td>
<td>21.6</td>
<td>29.4</td>
</tr>
<tr>
<td>Mangaung</td>
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<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>73.2</td>
<td>14.9</td>
<td>10.8</td>
<td>2.7</td>
<td>0.8</td>
</tr>
</tbody>
</table>

Source: Calculated from Quantec Easydata

The shares of district litchi exports to total North West provincial litchi exports are presented in Table 9. Almost all (73%) litchi exports recorded in the North West province during 2018 were from the Ngaka Modiri Molema district.

Table 10: Share of district litchi exports to total North West provincial litchi exports (%), 2009 - 2018

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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>North West</td>
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<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
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<td>0.0</td>
<td>0.0</td>
<td>100.0</td>
<td>2.1</td>
<td>2</td>
<td>12.6</td>
<td>27.1</td>
</tr>
<tr>
<td>Dr. Kenneth Kaunda</td>
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<td>0.0</td>
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<td>0.0</td>
<td>94.6</td>
<td>0.9</td>
<td>0.0</td>
<td></td>
</tr>
<tr>
<td>Ngaka Modiri Molema</td>
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<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>97.9</td>
<td>3.4</td>
<td>86.5</td>
<td>72.9</td>
</tr>
</tbody>
</table>

Source: Calculated from Quantec Easydata
2.5 Imports

South Africa is not a major importer of litchis, indicating that the country is self-sufficient in terms of litchis. In 2018 South Africa imported a total of 740 tons of litchis worth over R9.6 million. Approximately 29% (212 tons) of the total litchi imports came from Mozambique, while 27% (203 tons) came from Israel. South Africa’s imports represented 0.01% of world litchi imports in 2018 and its ranking in the world was number 992. Litchi imports increased from 484 tons in 2017 to 740 tons during 2018, a 35% increase.

2.6 Litchi harvesting and post-harvest treatment

2.6.1 Harvesting

Picking of litchis must be done selectively during the early season to ensure that only mature fruit are harvested. Picking must then be repeated at regular intervals during the harvest season. Whole clusters are picked from trees when uniform ripeness is achieved. When removing litchis from the tree, approximately 3mm of the pedicel must remain on the fruit to prevent skin splitting. Harvesting must take place during the coolest part of the day, whenever possible. In practice however, this is sometimes not possible due to large quantities of fruit that ripen at the same time. This is also dependent on the number of labourers available as well as the size of the crop.

It is critical to keep harvested fruit and loaded vehicles out of the sun in order to minimise heating as this causes premature browning of the skin. During transport, loaded vehicles may be covered with wetted hessian material or light coloured tarpaulins to prevent heating and sun injury. Litchis must not be picked wet and care must be taken to ensure that the fruit have dried sufficiently in the morning before harvesting commences. Like any other fruit, litchis are firstly sorted in terms of size after harvesting. Export fruit must have a minimum diameter of 30mm and all low quality fruit must be removed. Specific quality standards must be met depending on the market to be serviced. The quality criteria include dark blemishing, insect damage, torn fruit, undeveloped and double fruit, mould infections, and incompletely sulphured fruit.

2.6.2 Post-harvest treatment

The pericarp of the litchi fruit deteriorates rapidly once harvested. The fruit loses its red colour and turns brown within a few days at room temperature. Skin browning is responsible for loss of aesthetic attraction and low temperature is essential to prevent this. Low temperature entails keeping the fruit at 1°C and is the most effective means of facilitating long-term storage as it prevents excessive moisture loss and help fruit retain skin colour. Mould may however still develop and any break in the cold chain will speed up the oxidation reactions. Unfortunately, cold storage alone is not enough to retain the colour and prevent spoilage in fruit and some producers effectively use a combination of low temperature, high humidity and plastic packaging to control browning on fruit sold on local markets.

2.6.3 Litchi drying

As with other agricultural crops, it is important to develop processed products if additional marketing opportunities are to be created. Intact dried litchis are a well-known commodity in China and vast quantities are annually processed for the Chinese market. In South Africa the cultivar found to dry into a tastier dried product is McLean’s Red. A drying temperature around 55°C for approximately 3 weeks is the most appropriate drying regime. Fruit with a moisture content
of 20 – 30% has a raisin-like taste. The characteristics of the international processed fruit market and the fresh fruit export orientation of the local industry indicate it most sensible to develop a high quality product aimed at the local tourist market as well as export markets. The dried product must be appropriately packed and labelled to ensure attractiveness in the eyes of the final consumers.

3. GROWTH, VOLATILITY & STABILITY ANALYSIS

Table 12 presents the results of growth and coefficient of variation estimations. They were calculated using yearly statistics and covered the same ten-year period under review beginning in 2009 and ending in 2018. The coefficient of variation is a measure of volatility or stability. When the coefficient of variation is less than one, the variable in question is said to be relatively stable, meaning that there were minimal changes. When the coefficient of variation is more than one, it is said to be volatile, meaning there were major changes during the period under review.

Table 1: Litchi industry growth rates & variation coefficients (2009 – 2018)

<table>
<thead>
<tr>
<th>Category</th>
<th>Subcategory</th>
<th>Growth Rate (%)</th>
<th>Coefficient of Variation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production</td>
<td>Gross Value (GV)</td>
<td>2.32</td>
<td>0.52</td>
</tr>
<tr>
<td></td>
<td>Volume</td>
<td>1.20</td>
<td>0.21</td>
</tr>
<tr>
<td>Sales at NFPMs</td>
<td>GV/Price</td>
<td>1.57</td>
<td>0.39</td>
</tr>
<tr>
<td></td>
<td>Volume</td>
<td>-0.20</td>
<td>0.30</td>
</tr>
<tr>
<td>Export</td>
<td>Gross Value</td>
<td>1.59</td>
<td>0.31</td>
</tr>
<tr>
<td></td>
<td>Volume</td>
<td>1.15</td>
<td>0.24</td>
</tr>
<tr>
<td>Import</td>
<td>Gross Value</td>
<td>1.43</td>
<td>0.25</td>
</tr>
<tr>
<td></td>
<td>Volume</td>
<td>0.71</td>
<td>0.18</td>
</tr>
</tbody>
</table>

Source: Calculated from data from Statistics and Economic Analysis, DAFF and Quantec

As shown in Table 12 above, the litchi industry experienced a positive growth rate from 2009 to 2018 in terms of values while with the exception of production volumes of sales at the NFPMs and exports volumes which experienced negative growth over the same period.

Table 12 also shows various levels of volatility at different levels of the litchi industry’s yearly figures over the same period (2009 to 2018). Low volatility was indicated by the coefficients of variation that were less than one (<1). All variables have values less than 1, which means that on a weighted variance scale, they displayed minimal changes during the ten years under review.

4. MARKET INTELLIGENCE

In South Africa the earliest HLH Mauritius fruit is usually harvested during early- to mid-November. This is in direct competition with Madagascar’s production, which is marginally earlier than that of South Africa. Given the fact that both countries export litchis mainly to Europe, there is therefore a scramble to reach the European market with air-freighted fruit from South Africa and Madagascar. In spite of air-freight costs being over eight times higher than sea-freight, good returns can be made earlier in the season. Air exports can account for up to 25% of South African litchi exports during certain years.
However, as soon as volumes reach the European market with the first sea shipments, prices drop rapidly. It takes about 2 days for South African litchis to reach France by air. The fruit reaches the same destination in approximately 26 days by sea. In the European Union, South African litchis have gained a significant market share in Ireland while losing greatly in the French market.

The distance to the EU, 11 200 km, is a major constraint affecting South African exports. Due to the amount of time that the fruit spends en route when transported via sea, the impact of extended storage time can be highly significant when it comes to quality, and it is up to the producer/exporter to ensure that adequate controls are in place. In 2018, South Africa’s litchi exports represented 0.9% of world exports and its ranking in the world was number 17. Growth in demand for South African litchis in 2018 is depicted in Figure 20.

It is evident from Figure 20 that South African exports of litchis are growing faster than the world imports in Saudi Arabia, United States of America, Germany and Switzerland. South Africa’s performance in these markets can be regarded as gains in dynamic markets.

South African litchi exports are growing while world imports are declining in the Uganda. South Africa’s performance in these markets should be regarded as gains in declining markets and should be viewed as an achievement in adversity.

South Africa’s litchi exports have been declining while world’s imports are increasing faster in Netherlands, United Kingdom, Egypt, France, Namibia, and Malaysia. South Africa’s performance in these markets can be regarded as underachievement.
Figure 18: Growth in demand for South Africa litchis in 2018

Source: TradeMap, ITC
Prospects for market diversification by South African litchi exporters are illustrated in Figure 22. The United Kingdom, Netherlands and Kenya hold a bigger market share of South African exports of litchis. In terms of market size, China was the largest litchi importer in 2018 with just over US$857 million (1.0 million tons) worth of litchi imports, or roughly 26% of the world litchi market. Second was Netherlands with just over US$ 246 million (74 962 tons) worth of litchi imports or roughly 7.5 % market share. Netherlands is followed by Vietnam with just over $227 million worth of litchi imports or roughly 6.9% market share. It is interesting to note that exports of litchi in China fetch lower unit prices (US$828 per ton), than in Netherlands ($3 296 per ton).

Whilst three countries dominate world litchi imports, it is interesting to note that countries like Ireland together with Saudi Arabia and Russia experienced higher annual growth rates in terms of litchi imports from 2014 – 2018. Irelands experienced an annual growth rate of 197% while Saudi Arabia and Russia experienced annual growth rates of 127% and 42% respectively. These countries represent future potential markets for South African litchi exports.

It is also important to note from Figure 21 that litchi imports from the world to countries such as United Arab Emirates and Thailand have declined between 2014 and 2018 and as a result, these countries have recorded negative growth in terms of litchi imports from the world. Growth UAE and Thailand declined by 22% and 3% respectively.
Figure 19: South African litchis' prospects for market diversification in 2018

Prospects for market diversification for a product exported by South Africa in 2018
Product: 081090 Fresh tamarinds, cashew apples, jackfruit, lychees, sapodillo plums, passion fruit, carambola, pitahaya and other edible fruit (excluding nuts, bananas, dates, figs, pineapples, avocados, guavas, mangoes, mangosteens, papaws "papayas", citrus fruit, grapes, melons, apples, pears quinces, apricots, cherries, peaches, plums, sloes, strawberries, raspberries, mulberries, blackberries, loganberries, cranberries, fruits of the genus Vaccinium, kiwifruit, durians, persimmons, black-, white- and reedcurrants and gooseberries)

Source: TradeMap, ITC
5. MARKET ACCESS

Under the World Trade Organisation (WTO) market access for goods means the conditions, tariff and non-tariff measures, agreed by members for the entry of specific goods into their markets. Tariffs commitments for goods are set out in each member’s schedules of concessions on goods. The schedules represent commitments not to apply tariffs above the listed rates, also known as bound rates. Barriers to trade can be divided into tariff barriers (including quotas, ad valorem tariffs, specific tariffs and entry price systems) and non-tariff barriers (sanitary and phytosanitary measures, labels, etc.). The main markets for fruits (including litchi) employ both tariff and non-tariff to protect the domestic industries.

Whilst many of the non-tariff measures can be justified under the auspices of issues such as health and standards, the tariff measures are increasingly under the scrutiny of the WTO. Tariffs on all agricultural products are now bound. Almost all import restrictions that did not take the form of tariffs, such as quotas, have been converted to tariffs through a process called tariffication. This has made markets more predictable for agriculture. Previously more than 30% of agricultural produce had faced quotas or other import restrictions. The percentage is now under five. Nevertheless, exporters need to be aware of all the barriers that they may encounter when trying to get produce onto foreign shelves.

Tariffs are either designed to earn government revenue from products being imported or to raise the price of imports so as to render local produce more competitive and protect domestic industries.

Quotas can be used to protect domestic industries from excessive imports originating from areas with some form of competitive advantage (which can therefore produce lower cost produce). Tariffs and quotas are often combined, allowing the imports to enter at a certain tariff rate up to a specified quantity. Thereafter, imports from that particular region will attract higher tariffs, or will not be allowed at all. This phenomenon is referred to as tariff-rate quotas (TRQs).

The entry price system, which is used in many northern hemisphere markets, makes use of multiple tariff rates during different periods when domestic producers are trying to sell their produce, and lower the tariffs during their off-season. Alternatively, the tariff rate can be a function of a market price – if the produce enters at a price which is too low (and therefore likely to be too competitive), it qualifies for a higher tariff schedule.

Whilst tariff regulations can be prohibitive and result in inferior market access, it is often the non-tariff barriers that restrict countries like South from successfully entering the large developed markets. Many of these barriers revolve around different types of standards, including sanitary and phytosanitary standards (SPS), food health and safety issues, food labelling and packaging, organic produce certification, quality assurance and other standards and grades. Table 12 presents tariffs applied by the leading export markets to litchis originating from South Africa in 2018. Tariffs applied by European Union member states to litchis originating from South Africa are clustered into one category under European Union. During 2018 the EU member states appeared in the list of leading markets were the Netherlands, United Kingdom, France, Italy, Germany, Russia, Belgium, Switzerland and Spain.
<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>HS CODE</th>
<th>PRODUCT DESCRIPTION</th>
<th>TRADE REGIME</th>
<th>APPLIED TARIFFS</th>
<th>TOTAL AD VALOREM EQUIVALENT TARIFF</th>
</tr>
</thead>
<tbody>
<tr>
<td>European Union</td>
<td>0810907530</td>
<td>Fresh tamarinds, cashew apples, leeches, jackfruit, sapodillo plums, passion fruit, carambola and pitahaya</td>
<td>MFN duties (APPLIED) Preferential tariff for South Africa</td>
<td>8.80%</td>
<td>8.80%</td>
</tr>
<tr>
<td></td>
<td>0810907550</td>
<td>Fresh tamarinds, cashew apples, leeches, jackfruit, sapodillo plums, passion fruit, carambola and pitahaya</td>
<td>MFN duties (APPLIED) Preferential tariff for South Africa</td>
<td>8.80%</td>
<td>8.80%</td>
</tr>
<tr>
<td></td>
<td>0810907560</td>
<td>Fresh tamarinds, cashew apples, leeches, jackfruit, sapodillo plums, passion fruit, carambola and pitahaya</td>
<td>MFN duties (APPLIED) Preferential tariff for South Africa</td>
<td>8.80%</td>
<td>8.80%</td>
</tr>
<tr>
<td></td>
<td>0810907590</td>
<td>Fresh tamarinds, cashew apples, leeches, jackfruit, sapodillo plums, passion fruit, carambola and pitahaya</td>
<td>MFN duties (APPLIED) Preferential tariff for South Africa</td>
<td>8.80%</td>
<td>8.80%</td>
</tr>
<tr>
<td>USA</td>
<td>08109046</td>
<td>Fruit, not elsewhere specified or included, fresh</td>
<td>MFN duties (APPLIED) Preferential tariff for GSP countries</td>
<td>2.20%</td>
<td>2.20%</td>
</tr>
<tr>
<td>Egypt</td>
<td>08109000</td>
<td>&quot;Fresh tamarinds, cashew apples, jackfruit, leeches, sapodillo plums, passion fruit, carambola, pitahaya and other edible fruit (excl. nuts, bananas, dates, figs, pineapples, avocados, guavas, mangos,</td>
<td>MFN duties (APPLIED)</td>
<td>10.00%</td>
<td>10.00%</td>
</tr>
<tr>
<td>COUNTRY</td>
<td>HS CODE</td>
<td>PRODUCT DESCRIPTION</td>
<td>TRADE REGIME</td>
<td>APPLIED TARIFFS</td>
<td>TOTAL AD VALOREM EQUIVALENT TARIFF</td>
</tr>
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<td>------------------</td>
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<td>--------------------------------------------------------------------------------------</td>
<td>--------------------------------------------</td>
<td>-----------------</td>
<td>------------------------------------</td>
</tr>
<tr>
<td>Singapore</td>
<td>08109020</td>
<td>Lychees fresh</td>
<td>MFN duties (Applied)</td>
<td>0.00%</td>
<td>0.00%</td>
</tr>
<tr>
<td>United Arab Emirates</td>
<td>08109090</td>
<td>Other fruit, fresh: Other: Other</td>
<td>MFN duties (Applied)</td>
<td>0.00%</td>
<td>0.00%</td>
</tr>
<tr>
<td>Switzerland</td>
<td>08109092</td>
<td>Autres fruits, frais: durians: autres: fruits tropicaux</td>
<td>Preferential tariff for SACU countries</td>
<td>0.00%</td>
<td>0.00%</td>
</tr>
<tr>
<td></td>
<td>08109098</td>
<td>Other fruit, fresh: other: other</td>
<td>Preferential tariff for SACU countries</td>
<td>0.00%</td>
<td>0.00%</td>
</tr>
<tr>
<td>Seychelles</td>
<td>08109090</td>
<td>Fruits, fresh nes</td>
<td>General tariff</td>
<td>15.00%</td>
<td>15.00%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Preferential tariff for SADC countries</td>
<td>0.00%</td>
<td>0.00%</td>
</tr>
<tr>
<td>Kenya</td>
<td>08109000</td>
<td>Other fruit, fresh: Other</td>
<td>MFN duties (Applied)</td>
<td>25.00%</td>
<td>25.00%</td>
</tr>
</tbody>
</table>
As can be seen in Table 12, South African litchis enjoyed free market access in all the top ten markets during 2014. South Africa has a preferential trading agreement with the European Union through the trade chapter in the Trade Development and Cooperation Agreement (TDCA). The review of the agreement under the auspices of the Economic Partnership Agreement (EPA) negotiations between SADC and the EU broadened the scope of product coverage. The agreement covers countries such as the Netherlands, France, United Kingdom, Germany, Belgium, and Italy. It can be observed from the table above that South African litchis enter the European Union duty-free. The United States of America also has a preferential tariff for GSP countries for which South African litchis qualify. Egypt and Kenya impose tariffs of 10% and 25% ad valorem respectively to litchis originating from South Africa. Mozambique also applies a preferential tariff to litchis from South Africa through which South African litchis enter duty-free. Switzerland also has a preferential trade agreement with SACU member states through which litchis from SACU member states enter Switzerland on a duty-free basis. South African litchis also enter Singapore, United Arab Emirates and Hong Kong on a duty-free basis.

In reality, the tariffs are likely to be far lower for South Africa when considering the preferential agreements, but at the same time, most tariff structures are particularly complex, with quotas, seasonal tariffs and specific tariffs (an amount per unit rather than a percentage of value) all contributing to many different tariff lines and often higher duties payable than one might have anticipated initially. One must also bear in mind that most tariffs are designated to protect domestic industries, and as such are likely to discriminate against those attempting to compete with the domestic producers of that country.
6. DISTRIBUTION CHANNELS IN EXPORT MARKETS

There are roughly three distinct sales channels for exporting fruits. One can sell directly to an importer with or without the assistance of an agent (usually larger, more established commercial operations). One can supply fruits combined, which will then contract out importers/marketers and try to take advantage of economies of scale and increased bargaining power. At the same time combined fruits might also supply large retail chains. One can also be a member of a private or cooperative export organization which will find agents or importers and market the produce collectively. Similar to combined fruits, an export organization can either supply wholesale market or retail chains, depending on particular circumstances.

Some export organizations will wash, sort and package the produce. They will also market the goods under their own name or on behalf of the member, which includes taking care of labelling, bar-coding, etc. Most of the time, export organizations will enter into collective agreements with freight forwarders, negotiating better prices and services (more regular transport, lower peak season prices, etc.). Some countries have institutions that handle all the produce (membership compulsory) and sell only to a restricted number of selected importers.

Agents will establish contacts between producers/export organizations and buyers in the importing country, and will usually take between 2% and 3% commission. In contrast, an importer will buy and sell his/her own capacity, assuming the full risk (unless on consignment). They will also be responsible for clearing the produce through customs, packaging and assuring label/quality compliance and distribution of the produce. Their margins lie between 5% and 10%. The contract importers of fruit combines market and distribute the produce of the combines, clear it through customs and in some cases treat and package it.

Only few exporters have long term contracts with wholesale grocers who deliver directly to retail shops, but with the increasing importance of standards (EUREGAP, etc.) and the year round availability of fruit, the planning of long term contractual relationships is expected to increase.

7. LOGISTICS

7.1 Mode of transport

The transport of fruits falls into two categories namely ocean cargo and air cargo. Ocean cargo takes much longer to reach the desired location but costing considerably less. The choice of transportation method depends, for most parts on the fragility of the produce and how long it can remain relatively fresh. With the advent of technology and container improvements, the feasibility, cost and attractiveness of sea transport have improved considerably. With the increased exports by South Africa, the number and the regularity of maritime routes have increased. These economies of scale could benefit South Africa if more producers were to become exporters and take advantage of the various ports that have special capabilities in handling fruit produce (for example Durban’s new fruit terminal).

7.2 Cold chain management

Cold chain management is crucial when handling perishable products, from the initial packing houses to the refrigerated container trucks that transport the produce to the shipping terminals, through to the storage facilities at these terminals, onto actual shipping vessels and containers, and finally on to the importers and distributors that must clear the produce
and transport it to the markets/retail outlets. Related to this are increasing important traceability standards which require an efficient controlled supply chain and internationally accepted business standards.

It must be borne in mind that the main South African litchi production areas are over 1 000 km from the nearest suitable port, Cape Town. Careful controls are therefore required at all points in the cold chain. For example, fruit pulp temperatures are measured at packhouses by Perishable Products Export Control Board (PPECB) inspectors prior to loading into refrigerated motor trucks (RMTs). The RMTs themselves must meet the following standards:

- Registered with PPECB (thermocouple in delivery);
- Correct air circulation system used;
- Temperature control system and calibration approved;
- Temperature recorders and thermocouples functional;
- Integrity of insulation tested regularly;
- Cleanliness;
- Pre-cooling of product and cargo box recorded;
- Procedure of loading monitored;
- Written instructions given;
- Communication of delays, temperature deviations, etc.

The cold chain, as applied for exports of litchis from South Africa, is illustrated in Figure 23. It is unfortunate that in spite of all measures put in place, many problems still arise. For example, if temperatures rise above the required levels when products are being transported, this could lead to delays while products are re-cooled. Re-cooling is an additional expense and significant weight loss occurs in the re-cooled fruit. This results in soft fruit which is susceptible to fungal attack. In order to monitor such problems, the Subtropical Fruit industries persuaded the PPECB to appoint a technical officer who monitors port problems and reports back directly to the relevant industries.
7.3 Packing and palletizing

Export fruit are packed in 2 kg (plus an additional 100 g added to cover weight loss for airfreight and 150 g for sea freight) cartons. The cartons must be well ventilated to ensure the gradual dissipation of SO₂ from the pericarp and the pulp. The size and layers within the pallet are normally specified by the exporter. The Capespan pack-house guide prescribes pallet dimensions of 1 114 x 1 110 mm.

Wooden pallets should be dry and free of bark and mould growth, as this may pose a phyto-sanitary risk to importing countries. Twenty four boxes are parked per layer and each pallet consists of 18 layers, resulting in 432 boxes per pallet. After palletization, each individual pallet is force cooled to ensure that the boxes in the middle of the pallet are cooled too and kept at 1°C. If not properly cooled, fruit in the middle of the pallet may spoil. The cold chain from the
pack-house, road transport and shipping must be maintained to ensure the landing of a high quality product to the consumer. Any break in the cooling chain may lead to fungal infection of a whole consignment.

8. ORGANISATIONAL ANALYSIS

8.1 The South African Subtropical Growers’ Association (Subtrop)

As an association of associations, the South African SubtropicalGrowers’ Association (Subtrop) manages the affairs of the South African Avocado (SAAGA), Mango (SAMGA), Macadamia (SAMAC), and Litchi (SALGA). The member associations have a voluntary membership that account for 85% of South Africa’s avocado, mango, litchi, and macadamia production. Activities of the association are funded by its members through levies on local and export market sales. To this end, the association is involved in the following activities:

- Technical support and advisory services to its growers (play an important role in coordinating events such as study groups in order to assist growers to more efficient in their operations);
- Coordination of appropriate technical and market research;
- Provision of relevant market information with specialisation in areas such as export information and event management;
- Local and export market development through generic promotion;
- Liaison with government and other bodies both locally and abroad.

Although Subtrop is principally funded by growers other role players such as export companies are also members. Subtrop and other industry associations (CGA, Hortgro, SATI, and FPEF) recently formed an umbrella non-profit organisation for fruit industry in South Africa called Fruit South Africa (FSA). The organisation is aimed at representing all fruit organisations and address common issues in the fruit industry.

8.2 Strength, Weakness, Opportunities and Threats (SWOT) analysis

Some of the strengths, weaknesses, threats and opportunities of the litchi production sector in South Africa are presented in Table 13. Generally, the litchi industry can still expand and new markets be opened and exploited if sound fruits of the highest quality are produced and marketed.
Table 14: SWOT analysis for litchis

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Generic promotion of the South African litchis through the quality mark (SALGA Quality Approved Litchis) has been successful.</td>
<td>• Production is largely dependent on climatic conditions which can only be partially manipulated by man through irrigation.</td>
</tr>
<tr>
<td>• The industry's export operations and leading players are well established.</td>
<td>• Relatively high input, labour and capital costs.</td>
</tr>
<tr>
<td>• Cooperation amongst the leading exporters has ensured that there is a constant supply to meet the basic requirement by the market.</td>
<td></td>
</tr>
<tr>
<td>• The South African litchi industry has a strong reputation in major international markets.</td>
<td></td>
</tr>
<tr>
<td>• The willingness by both the farmers and export agents to make available funds for market research.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Threats</td>
<td></td>
</tr>
<tr>
<td>• Intense competition from Madagascar, Mauritius and Reunion in the lucrative European markets.</td>
<td></td>
</tr>
<tr>
<td>• Port abilities and shipping cycles still pose a threat as delays can drastically reduce shelf life of litchis</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Opportunities</td>
<td></td>
</tr>
<tr>
<td>• There is a strong demand in the Netherlands and the rest of Europe in their summer months.</td>
<td></td>
</tr>
<tr>
<td>• Increasing demand from the canning sector present a potential for growth.</td>
<td></td>
</tr>
<tr>
<td>• Thorough and continuous research by SALGA may lead to improved and better quality cultivars.</td>
<td></td>
</tr>
</tbody>
</table>

8.3 The litchi value chain

Figure 24 below shows the litchi value chain in South Africa. The main actors in the chain include input suppliers, litchi producers, processing companies (mainly juice and concentrates manufacturers and drying companies), national fresh produce markets (NFPMs), exporters (including agents), retailers (both local and foreign), hawkers (informal markets), wholesalers, and, most importantly final consumers. Some of the major players in the litchi value chain are discussed briefly below.
8.3.1 Suppliers of inputs and farming requisites

Fruit farming is a large user of specialised inputs and sophisticated agricultural chemicals. Input suppliers ensure that all inputs needed by farmers for successful production, including farm equipment, pesticides, insecticides and others, are always available at reasonable prices so as to ensure a competitive fruit industry in South Africa.

8.3.2 Producers

The core business of producers is to produce a high quality crop within “Good Agricultural Practice” protocols. Consistency, reliability of supply and producing varieties as demanded by the markets at affordable prices are also important facets of the producer’s responsibility and business activities.

8.3.3 Fresh produce markets

FPMs are the dominant player and form of wholesaling in the South African litchi and fresh fruit and vegetable (FFV) sector. However other wholesale forms do exist including independent wholesalers, contract buyers, supermarkets, wholesaling subsidiaries, as well as farmer sales direct to retailers and to consumers.
Being the largest wholesalers, the FPMs have emerged as the FFV price-setters or, as nicknamed, the “fresh produce stock exchange”. The prices at the FPMs are arrived at through a bargaining process mediated by market agents who have a dual objective to collect the best prices (and hence commission) for sales while ensuring that the highly perishable stocks are cleared. These prices are then used as reference prices even in private transactions outside the FPMs.

8.3.4 Retailers

South African litchi retailers exist in both the formal and informal sectors. In the former this includes formally registered retail chains, supermarkets and neighbourhood stores. The latter covers tuck shops (sphaza), and hawkers. In this environments litchi sales are at predetermined prices and are typically individually or in small packages.

7.3.5 Processors

As explained earlier, the processing of litchis mainly consists of canning, juice manufacturing and drying.

8.3.6 Cold storage operators and transporters

Cold storage operators are responsible for receiving, handling, cooling the litchis to the required temperature and for ensuring that the correct fruit is loaded out according to the exporter’s specifications into a truck or container that has been approved or registered by Perishable Produce Export Control Board (PPECB). A flatbed truck or other non-approved vehicle may be used in journeys shorter than two hours in total.

Transporters perform a key link in the fresh fruit supply chain by facilitating the physical transfer of the products between parties such as the producer, cold store and terminal operator. Transporters are responsible for maintaining the cold chain during transit.

8.3.7 Exporters

The core business of exporters is to market and sell the fruit of primary producers at the best market price that they are able to negotiate. In order to realize this, the exporter needs to communicate with many of the role players in the logistics chain (cold stores, transporters, shipping lines, port terminals, clearing and forwarding agents, PPECB, regional producers associations and special market inspectors, etc.). It is the exporters’ responsibility to manage the cold chain, handle the fruit in an acceptable manner and, they are accountable for the quality of fruit that reaches the destination market.

The main organisation that handles the export of fruits in South Africa is the Fresh Produce Exporters’ Forum (FPEF). The FPEF was registered in 1998 as a non-profit organisation and its membership is voluntary and open to all companies that export fresh fruit from South Africa. The FPEF’s mission is to create, within free market principles and a deregulated environment, a prosperous but disciplined fruit export sector. It was established mainly to provide leadership and services to its members and the international buying community. The forum sees itself as the international community’s gateway to providing South Africa’s finest quality produce from highly reputable South African exporters.
8.3.8 PPECB

In terms of the PPECB Act (Act 9 of 1983) the PPECB is responsible for the “control of perishable products intended for export from the Republic of South Africa”. This mainly involves the control of the cold chain (including the shipping process). PPECB also acts as a government “assignee” in terms of the APS (Agricultural Products Standards) Act (Act 119 of 1990) and is responsible for the “control over sale and export of agricultural and related products”. PPECB controls (and certifies) that the quality standards of these products are met. The National Department of Agriculture, Forestry and Fisheries (DAFF) issues the phytosanitary certificates.

All PPECB and other inspection regulations, protocols or requirements must be met and adhered to. The Information and Communication Procedure (ICP) must therefore be seen in conjunction with the PPECB Act and its regulations, the APS Act, as well as those temperature and other specialized handling protocols and procedures as established by PPECB in conjunction with the industry. As more emphasis is placed on food safety and customers are demanding higher standards of quality, PPECB and other inspection bodies play an increasingly important role in the export of fresh produce from South Africa. PPECB may make the following information available to exporters and producers on request:

- Packed volumes
  - Inspected and approved for export
  - Inspected and rejected for export

- Product quality
  - Reasons for rejection

- Shipped volumes
  - This information is available on a product and destination region level

- Cold chain information
  - Vessel carrying instructions (temperature letter, vessel temperature log, statements of facts, deviations, etc.

The information outlined above is available in varying degrees of detail.

8.3.9 Terminal and port operators

Terminal operators must inform exporters, PPECB and other relevant parties in the supply chain such as transporters, producer associations, producers and cold stores about port related delays such as labour strikes, wind delays, plug-in congestion and other traffic congestion in the port that will impact on the flow of fresh produce into and out of the harbour. The South African Port Operations (SAPO) container terminal reports to shipping lines.
9. ACKNOWLEDGEMENTS

Acknowledgements are given to the following institutions:

9.1 **South Africa Subtropical Growers’ Association/South African Litchi Growers’ Association**

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Email: info@subtrop.co.za

9.2 **Agricultural Research Council – Institute for Tropical and Subtropical Crops**

Private Bag X11208
Nelspruit
1200
Tel: 013 753 7000
Fax: 013 752 3854
www.arc-itsc.agric.za

9.3 **National Department of Agriculture, Forestry and Fisheries**

Directorate: Statistics and Economic Services
Private Bag X246
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0001
Tel: 012 319 8454
Fax: 012 319 8031
www.daff.gov.za

9.4 **International Trade Centre**

www.trademap.org/ www.macmap.org

9.5 **Quantec**

www.easydata.co.za

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