A PROFILE OF THE SOUTH AFRICAN AVOCADO MARKET VALUE CHAIN

2012

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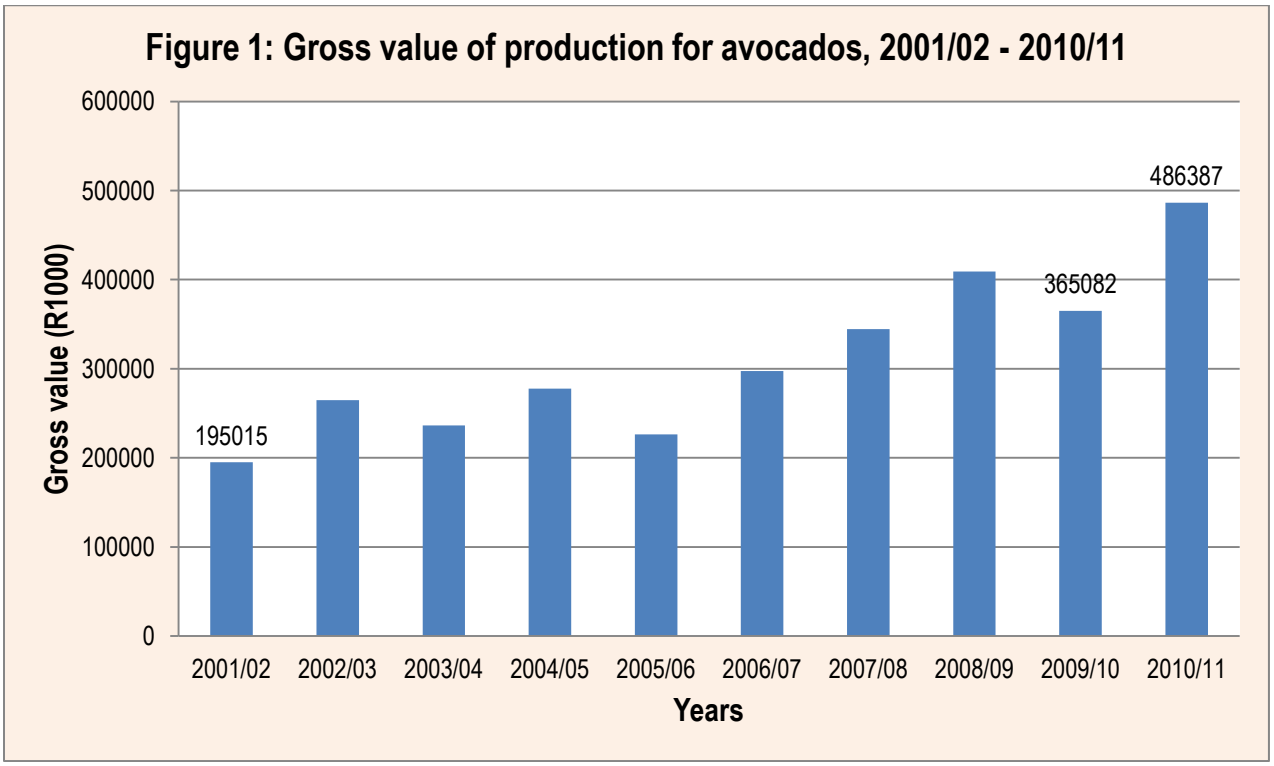
1. DESCRIPTION OF THE PRODUCT AND INDUSTRY

Avocado production in South Africa is an export-oriented industry, aimed primarily at the European market. The production is concentrated mainly in the warm subtropical areas of the Limpopo and Mpumalanga provinces in the North-East of the country and to a lesser extent the Kwa-Zulu Natal province where the conditions are cooler due to the more southerly latitude. Due to climatic variability between the growing regions, most of the major cultivars are available over an extended period. The different regions give the industry the ability to produce avocados from the end of February to the beginning of November, with the bulk of the crop from the end of February until the beginning of September. Avocados contributed 21% (R0.49 billion) to total gross value of subtropical fruits (R2.3 billion) in South Africa during 2010/11 season.

The area planted to avocados in South Africa has expanded steadily over the past decades, from approximately 2 000 hectares in the 1970s to over 12 500 in recent years. The avocado industry operates in a deregulated environment, where prices of commodities are determined by market forces of demand and supply. The South African Avocado Growers Association (SAAGA) was formed in the late 1960's with the mission to improve the economic viability of producing, packing and marketing of avocados. The aim of the association is to improve the profitability and sustain the viability of growing avocados in South Africa. SAAGA has a membership of over 500 growers, accounting for over 85 percent of total avocado production in South Africa. According to industry sources (SAAGA), current trends in the industry include consolidation within the export business, private cultivar development, integrated fruit production, processing, growth of the local market and efforts to access new markets. The gross value of production for avocados for the period 2001/02 to 2010/11 is presented in Figure 1.



Source: Statistics and Economic Analysis, DAFF

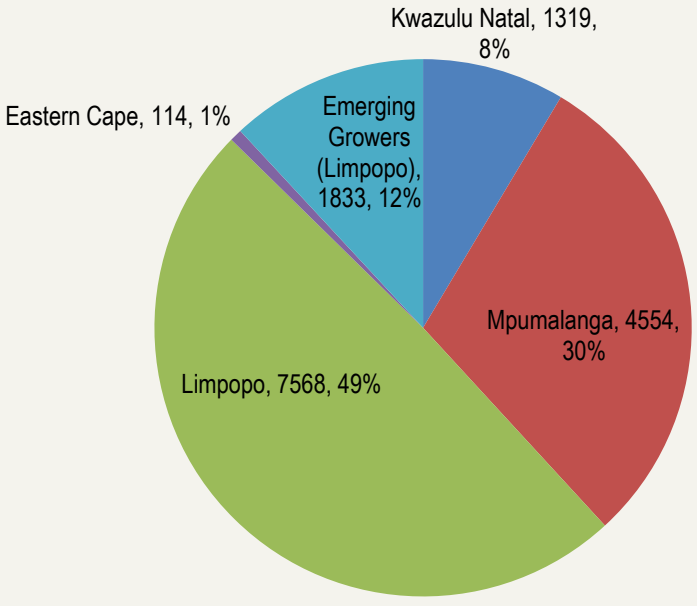
As depicted in Figure 1, there has been a general increase on the gross value of production (GVP) for avocados from 2001/02 to 2010/11. Due to the fact that the South African avocado industry is mostly export oriented, the gross value of production is heavily reliant on international avocado prices and fluctuations in the value of the South African currency relative to the currencies of South Africa's trading partners (mainly the European Union and the United States of America). Though partly responsible, fluctuations in the total value of production for avocados can therefore not necessarily be fully explained by fluctuations in the quantity of avocados produced in a given production season. The gross value of production increased by 33% between 2009/10 and 2010/11 production seasons. The gross value was however 149% higher during 2010/11 when compared to a decade ago.

1.1 Production areas

Avocado production in South Africa is concentrated mainly in the warm subtropical areas of the Limpopo and Mpumalanga provinces in the North East of the country between latitudes 22 ˚S and 25 ˚S (see Map 1). Annual rainfall in most of these areas is high (> 1000 mm p.a.), but there are some orchards in semi arid regions with rainfall of ± 400 mm p.a. Approximately 8% of commercial avocado orchards are in Kwazulu Natal province where the conditions are cooler due to the more southerly latitude (± 30 ºS).

As already indicated above, due to climatic variability between the growing regions, most of the major cultivars are available over an extended period during the season. For example, 'Fuerte' is harvested from mid-March to May in the northern regions, and is harvested in July and August in KwaZulu-Natal. SAAGA reports that growth in plantings has slowed since 2003. Figure 2 presents avocado production areas in South Africa during 2011. A total area of 15 388 hectares was planted to avocados in 2011.

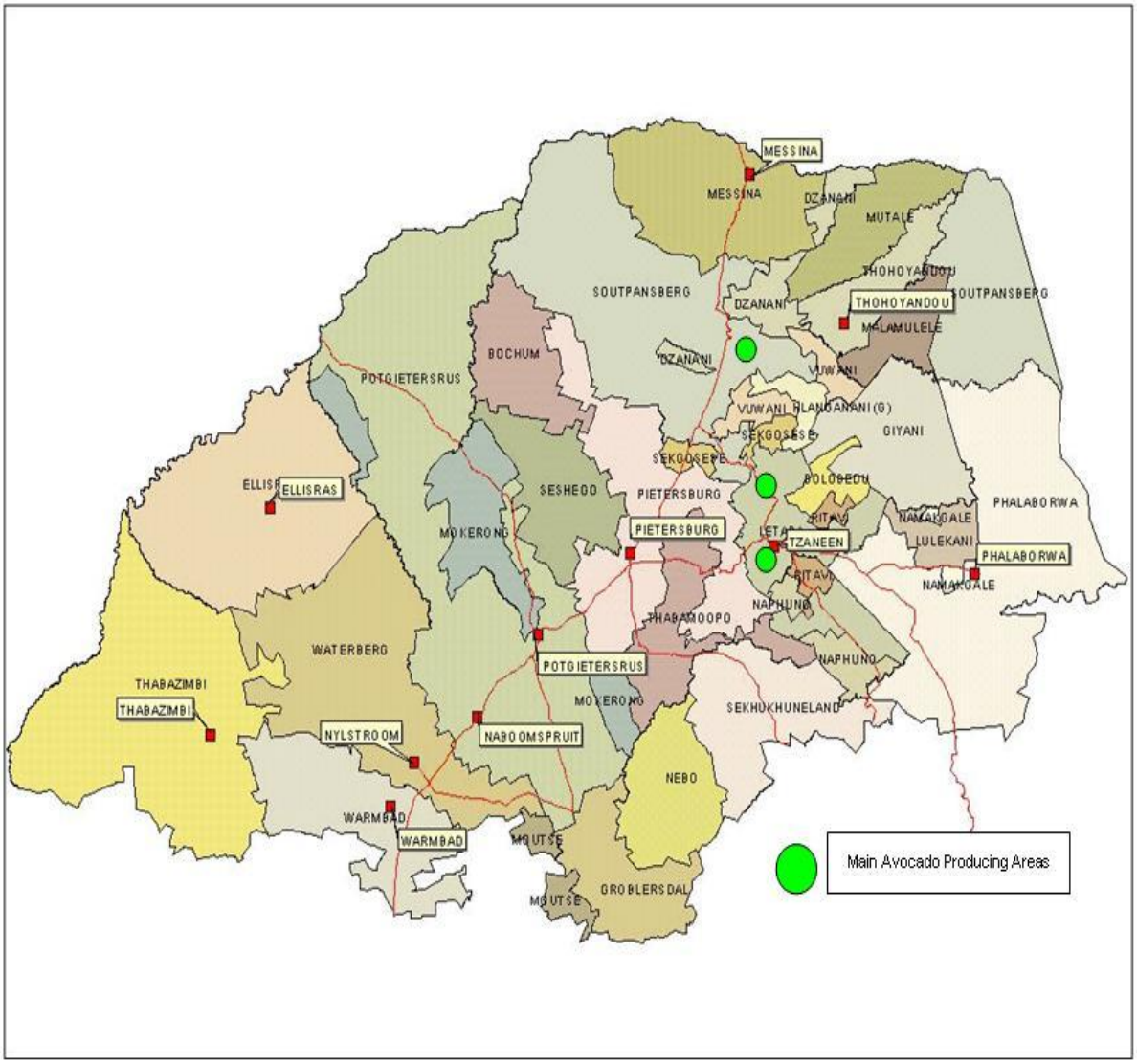
Figure 2: Avocado production areas in 2011



Subtrop, 2012

Limpopo province represented 61% of national avocado production (see Figure 2) with 9 401 ha under avocado cultivation in 2011. Most of the avocado plantings in Limpopo are found in the Letaba district. The other main production area in Limpopo is Soutpansberg (see Map 1). Mpumalanga and Kwazulu Natal provinces are the second and third biggest producers of avocados with 30% (4 554 ha) and 8% (1 319 ha) respectively.

Map 1: Avocado producing areas in Limpopo Province

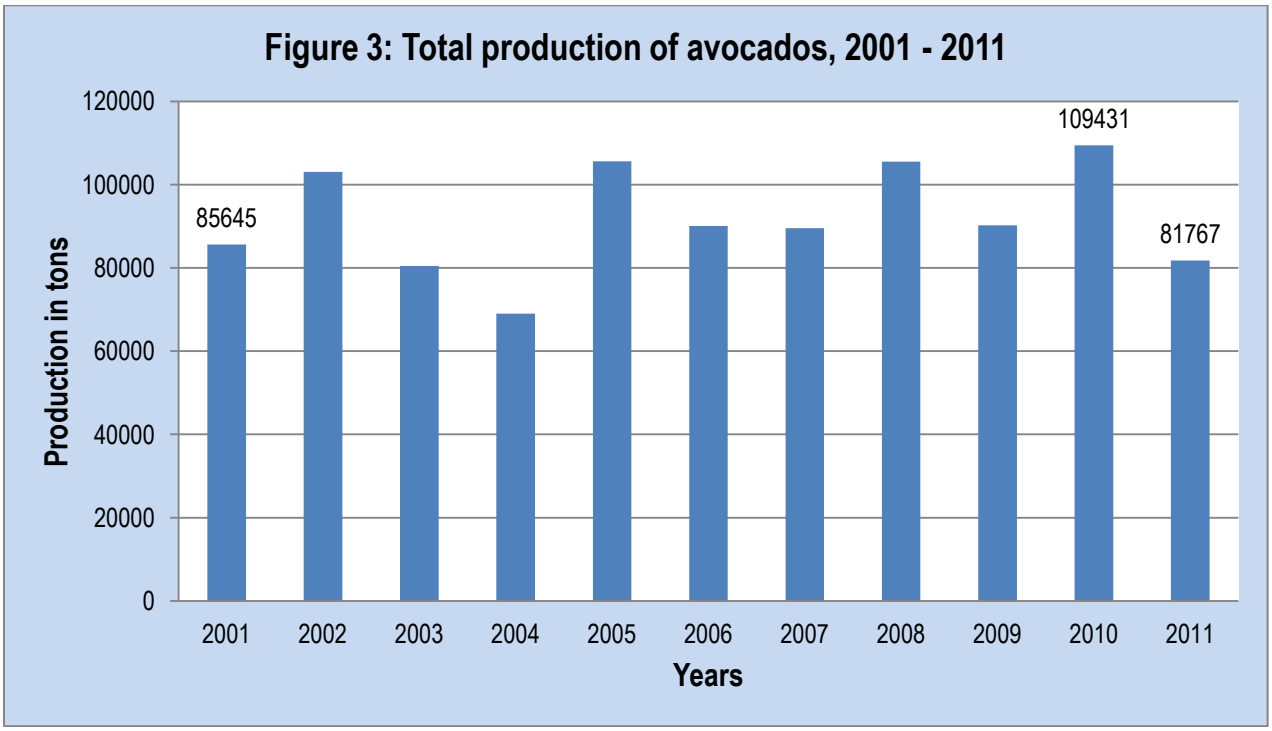


South African Avocado Growers Association (SAAGA)

1.2 Production quantities

Volumes of avocados produced in South Africa during the last ten years are presented in Figure 3. A total volume of 81 767 tons of avocados were produced in South Africa during 2011. The volume was 25% lower

than the 2010 volume of 109 431 tons. The decline could be the result of unfavourable weather conditions, including a series of heat waves, that damaged the crop in Limpopo and Mpumalanga during the season. Generally, avocado production has been fairly stable in the past decade, with significant declines only reported by the industry in 2003, 2004 and 2011. Avocados are highly sensitive fruits and all the major declines during the last decade may be attributed to adverse whether conditions.



Source: Statistics and Economic Analysis, DAFF; SAAGA, 2011

1.3 Cultivars

According to SAAGA Hass (33%) and Fuerte (42%) are the major cultivars, along with Ryan (11%) and Pinkerton (8.5%). More Hass has been planted in recent years due to its preference by European consumers. Pinkerton is popular among certain avocado growers because of its high yields. The only major problem with Pinkerton is its sensitivity to cold storage. SAAGA further reports that approximately 70% of the trees produced by avocado nurseries in South Africa are Hass and the remaining 30% is comprised of mostly Fuerte, Ryan and Pinkerton. An average of 110 000 trees are produced by nurseries per annum and these trees are mainly used in the replacement of old orchards.

1.4 Employment

The South African avocado 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 6 000 permanent farm workers and an additional two thousand casual labourers during peak periods. The contribution of the industry is further seen through the dependency of individual members of the households, which is estimated at 36 000 annually.

The prescribed minimum wage is used as a baseline for determining basic wages in accordance with the legislation governing conditions of service. Minimum wages for farm workers for the period 1 March 2013 to 1 February 2016 are presented in Table 1. The consumer price index (CPI) is used in the calculation of annual wage adjustments. The sectoral determination stipulates that the wage increase will be determined by utilizing the previous year's minimum wage plus CPI + 1.5%.

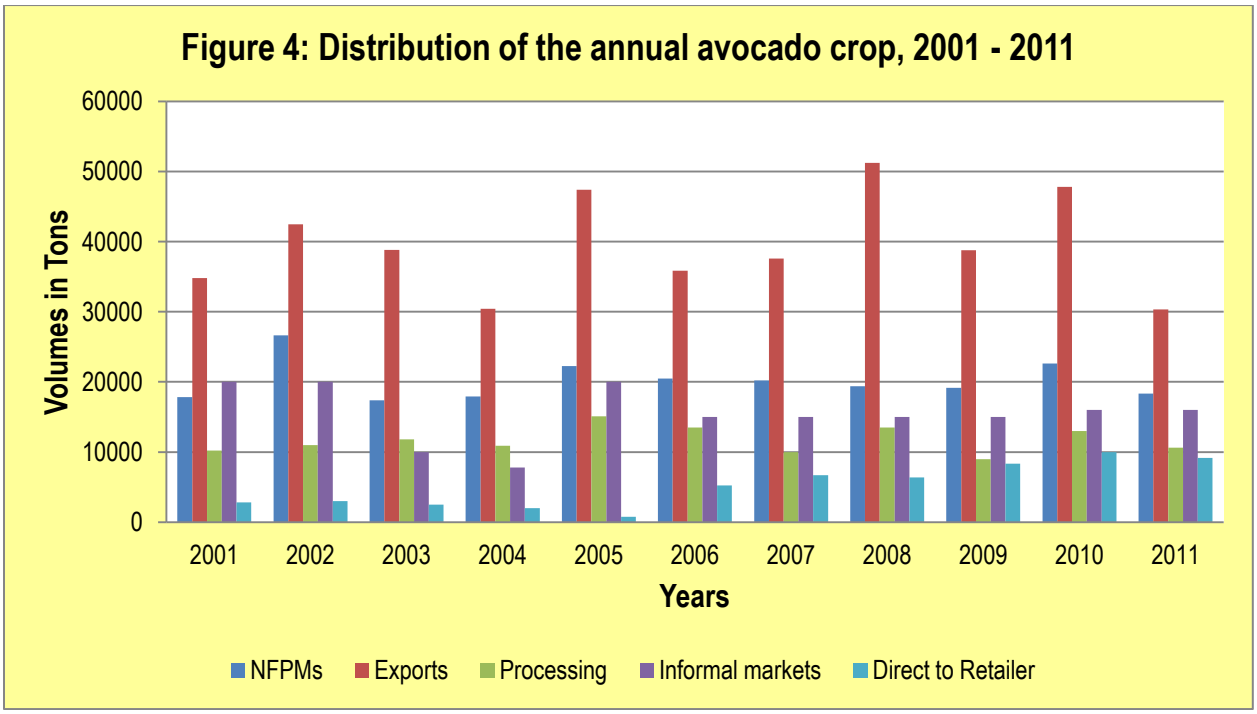
Table 1: Minimum wages for farm workers in the Republic of South Africa, 2013 - 2015

Minimum rate for the period				**Minimum rate for the period**			**Minimum rate for the period**		
1 March 2013 to 28 February 2014				**1 March 2014 to 28 February 2015**			**1 March 2015 to 28 February 2016**		
Monthly	**Weekly**	**Daily**	**Hourly**	**Monthly**	**Weekly**	**Hourly**	**Monthly**	**Weekly**	**Hourly**
R2273.52	R524.70	R105.00[1]	R11.66	Previous year's minimum wage + CPI[2] + 1.5%			Previous year's minimum wage + CPI + 1.5%		

Source: Department of Labour, 2013

2. MARKETING STRUCTURE

The South African avocado industry is primarily export-oriented. During 2011, approximately 34% of total avocados produced in South Africa were exported, 22% were sold in through the national fresh produce markets (NFPMs), 20% sold to the informal markets (bakkies and hawkers), 13% was processed, while the remaining 11% was delivered directly to retailers (see Figure 4).



Source: Statistics and Economic Analysis, DAFF; Quantec Easydata; SAAGA, 2011

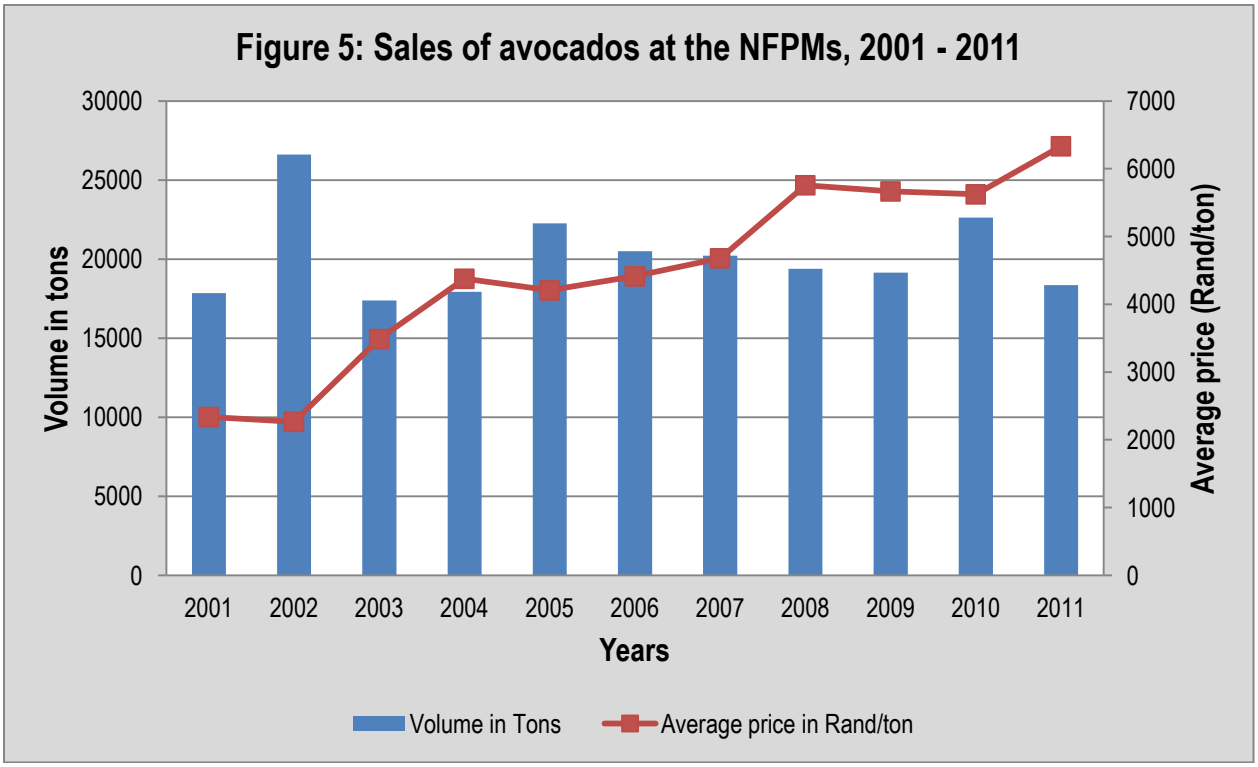
[1] For an employee who works 9 hours per day

[2] The CPI to be utilised is the available CPI for the lowest quintile as released by Statistics South Africa six weeks prior to the increment date.

The processed crop is processed either into Guacamole or oil for cosmetic or culinary use. Only Hass is used in the production of Guacamole whereas all other varieties are utilised for oil extraction. Processed avocado products are sold locally as well as in the international markets. The informal market is another important markets that has been ignored by some especially large producers for a long time due to its unpredictability. Figure 4 also shows that the proportion of avocados that are sold directly to retailers has been increasing significantly over the last decade, moving from 2 800 tons in 2001 to 10 000 tons in 2010.

2.1 Domestic markets and prices

As depicted in Figure 4 above, there are various channels through which avocados are sold or distributed in the local market. These include sales at the National Fresh Produce Markets (NFPMs) (where sales are facilitated by market agents after they have engaged with the farmers), informal markets (street hawkers and vendors), as well as directly to retailers and processors for manufacturing of guacamole and oil extraction. It is important to note that avocado prices in the local markets are determined by market forces (demand and supply) at the NFPMs. Volumes and prices of avocados sold at the NFPMs during the last ten years are presented in Figure 5.



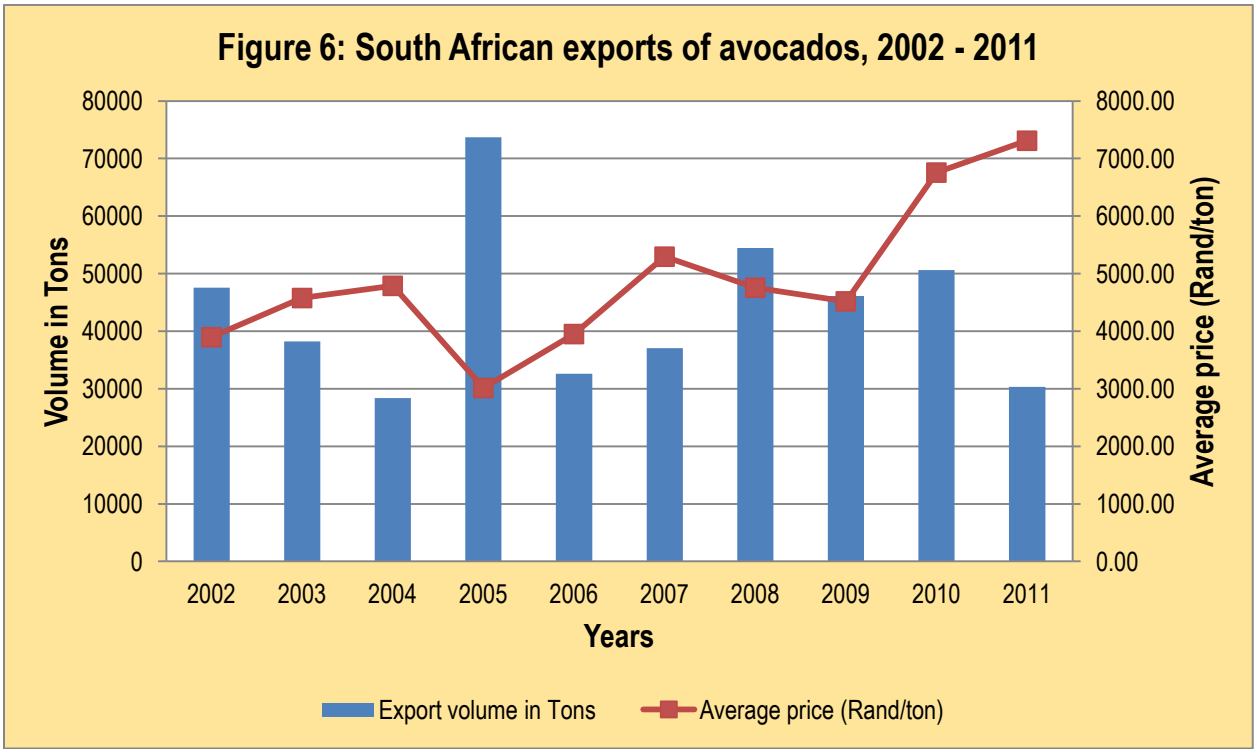
Source: Statistics and Economic Analysis, DAFF

As depicted in Figure 5, sales at NFPMs have not experienced any significant growth in the last decade. That lack of growth in the local markets may be partly due to increased direct sales from the pack houses to the informal sector and retailers. The volume of avocados sold through the NFPMs declined from 22 623 tons in 2010 to 18 349 tons in 2011 and this represents a 19% fall. This can be explained by the 25% decline in the volume of avocados produced in South Africa during 2011 when compared to the 2010 production volume.

At the same time, local avocado prices have increased steadily from 2001 to 2011. The increase in prices has been mainly due to stable volumes sold at the NFPMs during the same period. Furthermore, there is an increase in the middle class with greater levels of disposable income. With generic promotion and an awareness of the importance of healthy eating, demand for avocados has increased. There has also been growth in the upper income group that is willing to pay high prices for value added products. The average price realised at the NFPMs during 2011 was R6 333.00/ton. This was 13% higher than the average price realised during the previous reason (2010). The increase in the average price follows expectations in that the volume available for sale during the same period declined by 19%.

2.2 Exports

As already highlighted above, the South African avocado industry is export-orientated, with approximately 2% of international market share during 2011. During 2011 South Africa exported 30 327 tons of avocados with a total value of R222 million. The quantity exported during 2011 was 40% lower than the quantity exported in 2010 (50 643 tons). South African avocado exports during the past decade are presented in Figure 6.

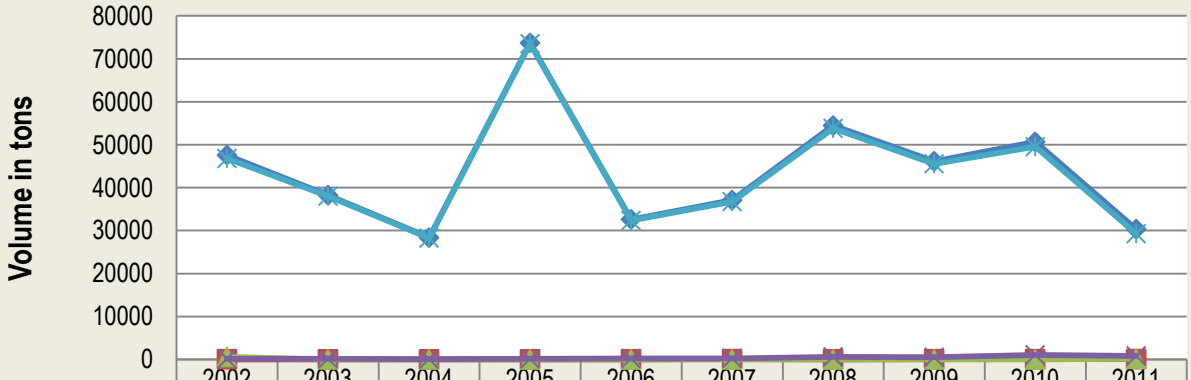


Source: Quantec Easydata

The avocado export market has been fairly volatile for the past decade. The volatility was mainly due to the strengthening and weakening of the Rand against the Euro, the British Pound and the United States of America's (USA) Dollar. Export volumes were at their lowest in 2004, 2006, 2007 and 2011 respectively. Exports were at their highest in 2005 at 73 677 tons. There was a significant decrease of 32% in export volumes in 2004. The decrease was primarily due to quality problems that the producers experienced as a result of severe droughts. The producers could not produce the right quality for the export market. Another

major decline in volumes exported was the 40% decline in 2011. Prices realised in the export markets increased from R6 757.70 per ton in 2010 to R7 310.97 per ton in 2011, an increase of 8%. Export prices have largely been responsive to quantities offered for sale and prices are usually higher in export markets than in the domestic market. Exports of South African avocados to the various regions over the past decade are shown in Figure 7.

Figure 7: Volumes of avocados exported to the various regions of the world, 2002 - 2011



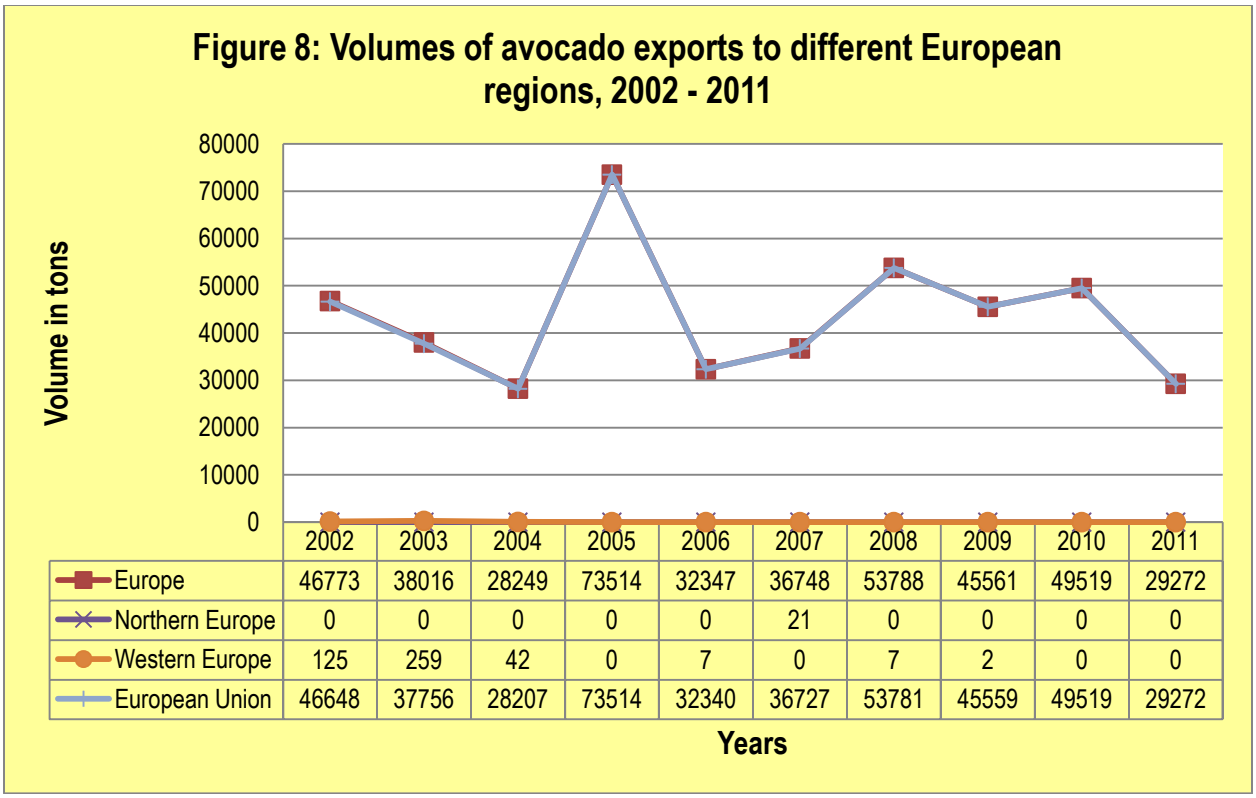
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
World	47556	38222	28362	73677	32599	37079	54447	46140	50643	30327
Africa	43	20	20	25	34	61	38	55	62	73
Americas	574	18	1	0	0	0	0	0	0	156
Asia	166	169	92	135	215	263	611	511	1057	827
Europe	46773	38016	28249	73514	32347	36748	53788	45561	49519	29272

Years

Source: Quantec Easydata

It can be observed from Figure 7 that during the past decade, almost all of South Africa's exports of avocados were destined for the European market. In 2011 exports to Europe accounted for 97% (29 272 tons) of total South African avocado exports (30 327 tons). It is important to note that exports to Europe have been fairly stable during the past decade, with the only significant jump happening in 2005 and peaking at 73 677 tons. This was mainly due to an increase in domestic production as a result of favourable weather conditions in the major avocado producing areas. During the period under review avocado exports to Asia peaked at 1 057 tons in 2010 while those to Africa peaked at 73 tons in 2011 and those to the Americas peaked at 574 tons in 2002. Exports to Europe declined by 41% between 2010 and 2011.

Within Europe, South African exports of avocados are mainly distributed between the European Union and Western Europe. The European Union consists of 25 member states while Western Europe is comprised of Switzerland, Liechtenstein and Monaco. Annually, over 99% of all South African avocado exports to Europe go to European Union member states while the remainder goes to Western Europe (see Figure 8). All South African avocado exports that went to Europe in 2010 and 2011 were absorbed by the European Union. This means that South African avocado exports to the European Union also declined by 41% between 2010 and 2011.

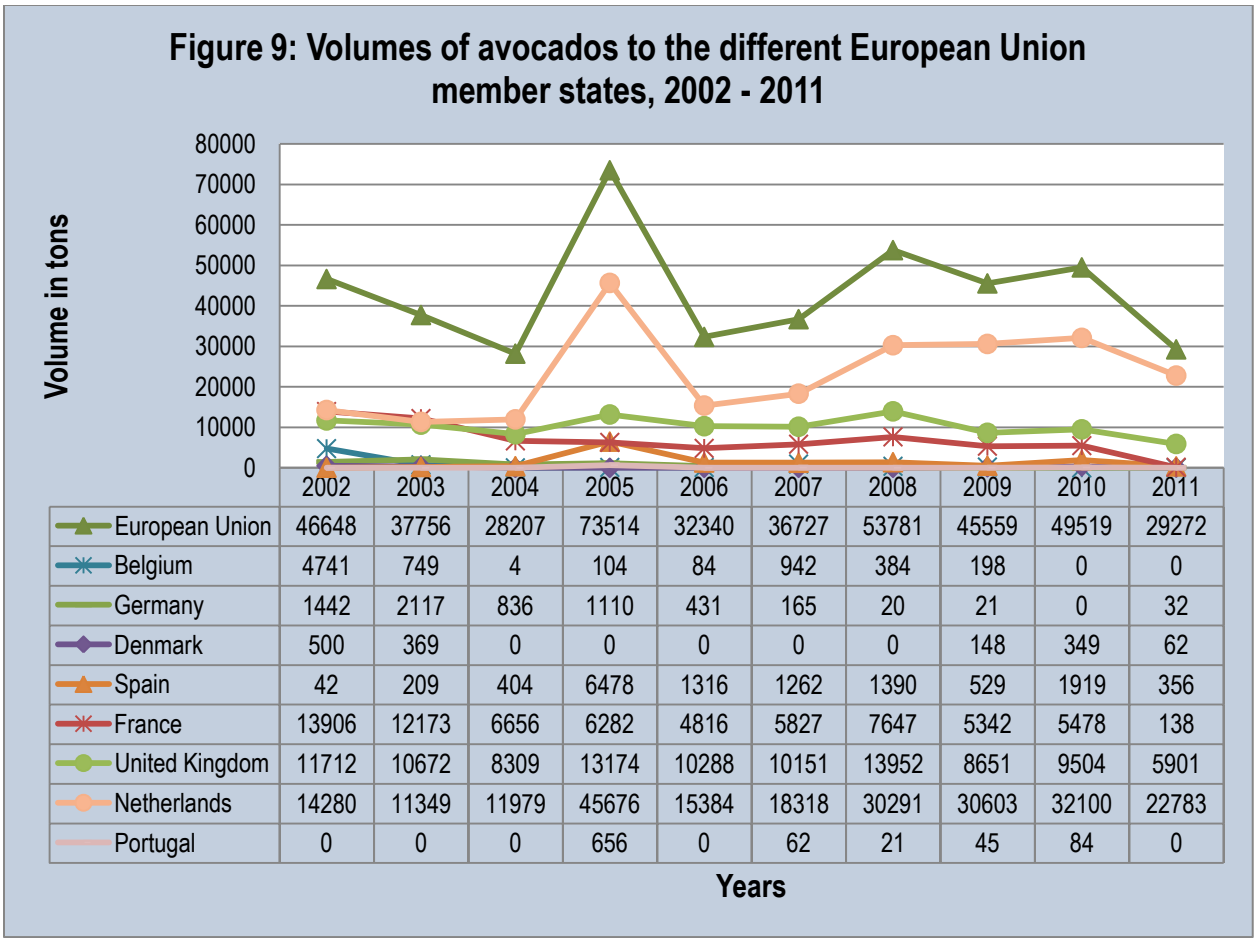


	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Europe	46773	38016	28249	73514	32347	36748	53788	45561	49519	29272
Northern Europe	0	0	0	0	0	21	0	0	0	0
Western Europe	125	259	42	0	7	0	7	2	0	0
European Union	46648	37756	28207	73514	32340	36727	53781	45559	49519	29272

Source: Quantec Easydata

Volumes of South African avocado exports to the different European Union member states during the past decade are presented in Figure 9. It is important to note that only those countries in which avocado imports from South Africa were at least 100 tons in at least one year during the period under review are shown in Figure 9.

As can be seen from Figure 9 the major importers of South African avocados in the European Union include the Netherlands, United Kingdom, France and Spain. In 2011 the Netherlands accounted for 78% (22 783 tons) of all South Africa's exports to the European Union (29 272 tons). It was followed by the United Kingdom at 20% (5 901 tons) and Spain and France at 1% (356 tons) and 0.5% (138 tons) respectively. During the period under review exports to the Netherlands peaked at 45 676 tons in 2005 while those to the United Kingdom peaked in 2008 at 13 952 tons. South African avocado exports to the European Union declined by 15% between 2008 and 2009 and increased by 9% between 2009 and 2010 before declining again by 41% between 2010 and 2011. The major individual decreases in 2011 came from the Netherlands, which experienced a 29% decline and the United Kingdom which experienced a 38% decrease during the same period.

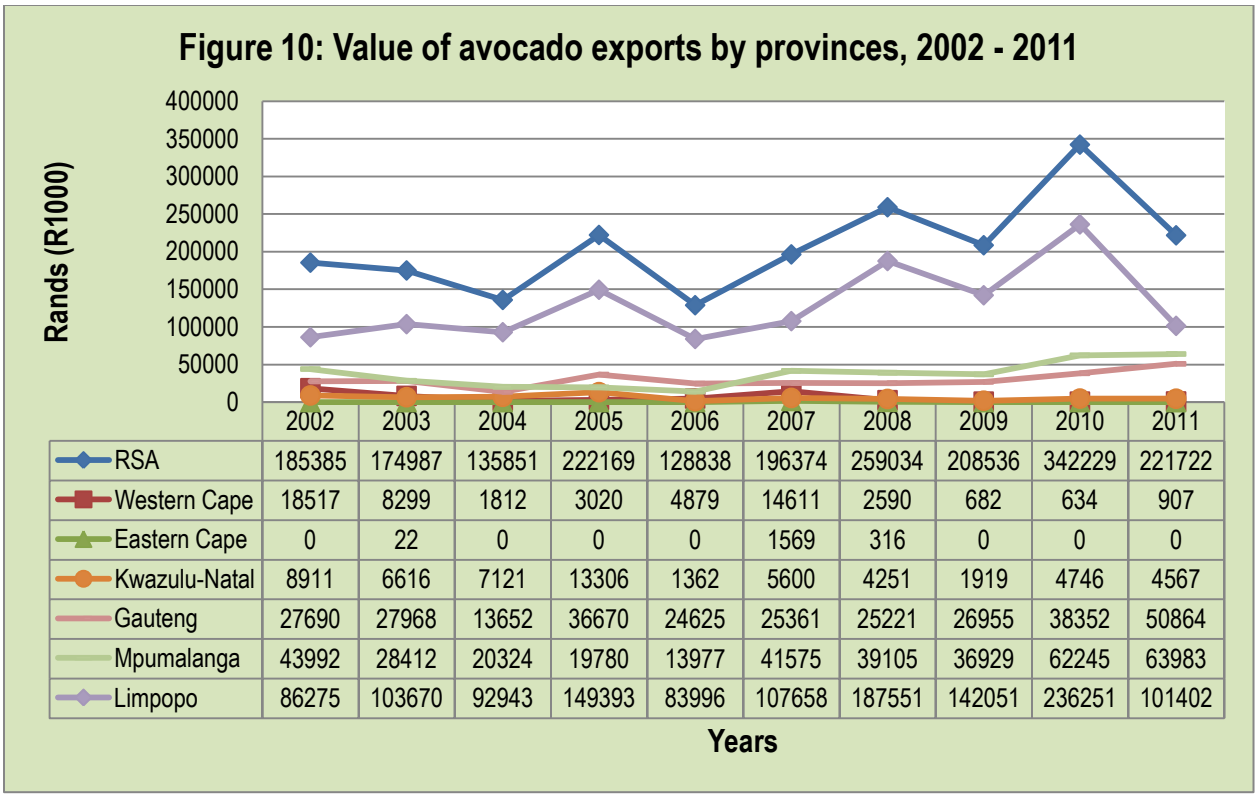


	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
European Union	46648	37756	28207	73514	32340	36727	53781	45559	49519	29272
Belgium	4741	749	4	104	84	942	384	198	0	0
Germany	1442	2117	836	1110	431	165	20	21	0	32
Denmark	500	369	0	0	0	0	0	148	349	62
Spain	42	209	404	6478	1316	1262	1390	529	1919	356
France	13906	12173	6656	6282	4816	5827	7647	5342	5478	138
United Kingdom	11712	10672	8309	13174	10288	10151	13952	8651	9504	5901
Netherlands	14280	11349	11979	45676	15384	18318	30291	30603	32100	22783
Portugal	0	0	0	656	0	62	21	45	84	0

Source: Quantec Easydata

2.3 Provincial and district export values of South African avocados

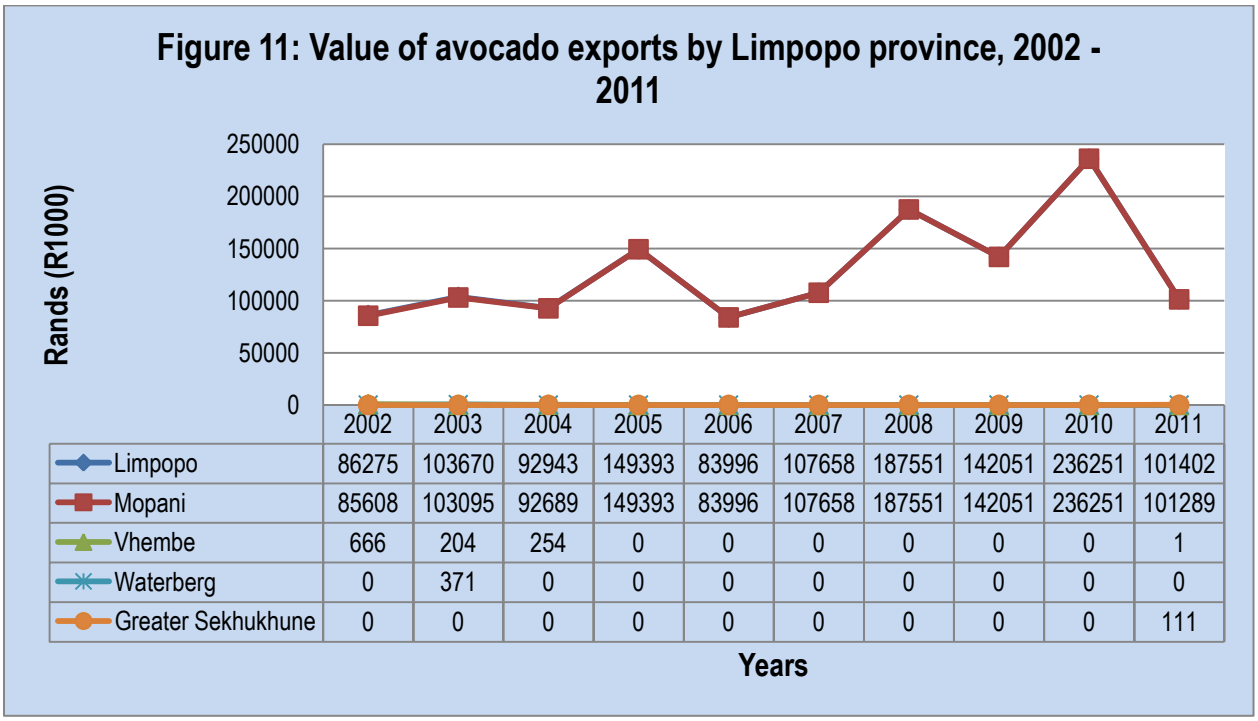
The contributions of the different provinces of South Africa to total value of avocado exports during the past ten years are illustrated in Figure 10. It is clear from Figure 10 that the Limpopo Province is the leader in exports of avocados in South Africa. The province contributed 46% to total South African avocado exports in 2011. This is however not surprising since most of South Africa's avocados are produced in Limpopo. Second in 2011 was the Mpumalanga province at 29%. Mpumalanga is also a major avocado producing province in South Africa after Limpopo. Gauteng, Kwa-Zulu Natal and Western Cape followed at 23%, 2% and 0.4%, respectively. The value of avocado exports by South Africa as a whole declined by 35% between the years 2010 and 2011 with the greatest individual decline coming from the Limpopo province.



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
RSA	185385	174987	135851	222169	128838	196374	259034	208536	342229	221722
Western Cape	18517	8299	1812	3020	4879	14611	2590	682	634	907
Eastern Cape	0	22	0	0	0	1569	316	0	0	0
Kwazulu-Natal	8911	6616	7121	13306	1362	5600	4251	1919	4746	4567
Gauteng	27690	27968	13652	36670	24625	25361	25221	26955	38352	50864
Mpumalanga	43992	28412	20324	19780	13977	41575	39105	36929	62245	63983
Limpopo	86275	103670	92943	149393	83996	107658	187551	142051	236251	101402

Source: Quantec Easydata

The following figures (Figures 11 – 16) show the value of avocado exports from the various districts in the various provinces of South Africa. Figure 11 illustrates values of avocado exports by the Limpopo province.



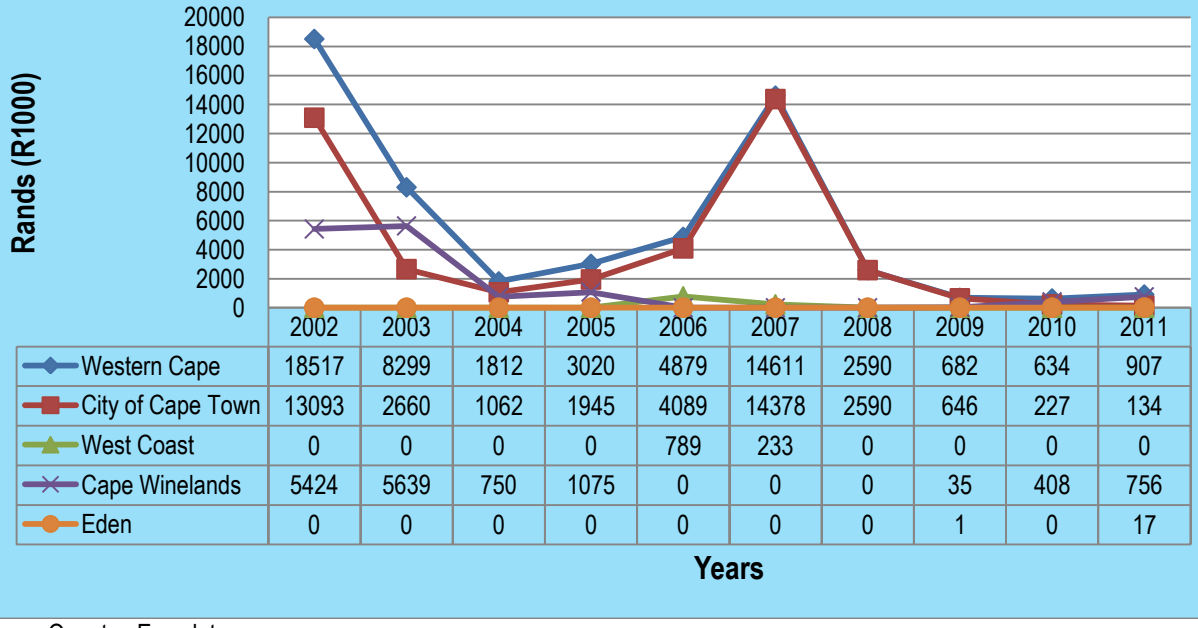
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Limpopo	86275	103670	92943	149393	83996	107658	187551	142051	236251	101402
Mopani	85608	103095	92689	149393	83996	107658	187551	142051	236251	101289
Vhembe	666	204	254	0	0	0	0	0	0	1
Waterberg	0	371	0	0	0	0	0	0	0	0
Greater Sekhukhune	0	0	0	0	0	0	0	0	0	111

Source: Quantec Easydata

According to Figure 11, avocado exports from the Limpopo province are mainly from Mopani District Municipality. High export value for the leading municipality was recorded in 2010. Limpopo province exported avocados worth over R101 million during 2011 with almost all exports coming from the Mopani district. Values of avocado exports from the Western Cape are depicted in Figure 12.

It can be observed from Figure 12 that avocado exports from the Western Cape province are mainly from the City of Cape Town and to a lesser extend Cape Winelands municipalities. High export values for the leading municipalities were recorded in 2007 (for the City of Cape Town) and 2003 (for Cape Winelands). The use of the Cape Town harbour as an exit point may have played a major role in the City of Cape Town being a leader in the export of avocados from the Western Cape province. Generally exports from the City of Cape Town declined significantly between 2007 and 2011 while those from the Cape Winelands have been rising during the past three yaers. The Cape Winelands overtook the City of Cape Town as the main exporter of avocados in the Western Cape during 2010 and continued to lead during 2011. A total of R907 thousands worth of avocado exports were recorded in the Western Cape in 2011.

Figure 12: Value of avocado exports by the Western Cape province, 2002 - 2011

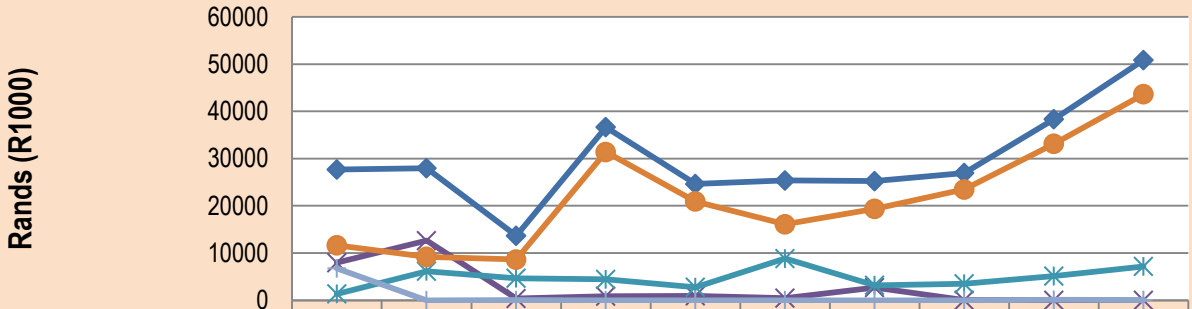


	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Western Cape	18517	8299	1812	3020	4879	14611	2590	682	634	907
City of Cape Town	13093	2660	1062	1945	4089	14378	2590	646	227	134
West Coast	0	0	0	0	789	233	0	0	0	0
Cape Winelands	5424	5639	750	1075	0	0	0	35	408	756
Eden	0	0	0	0	0	0	0	1	0	17

Source: Quantec Easydata

Figure 13 shows the value of exports of avocados by the Gauteng province. Generally, the value of avocado exports by Gauteng province has been increasing during the past five years. The leading role players are City of Johannesburg and Ekurhuleni municipalities. High export values of the leading municipalities were recorded in 2011 (for the City of Johannesburg) and 2007 (for Ekurhuleni). A total of over R50 million worth of avocado exports was recorded in Gauteng in 2011, with the City of Johannesburg contributing over R43 million during the same period.

Figure 13: Value of avocado exports by Gauteng province, 2002 - 2011



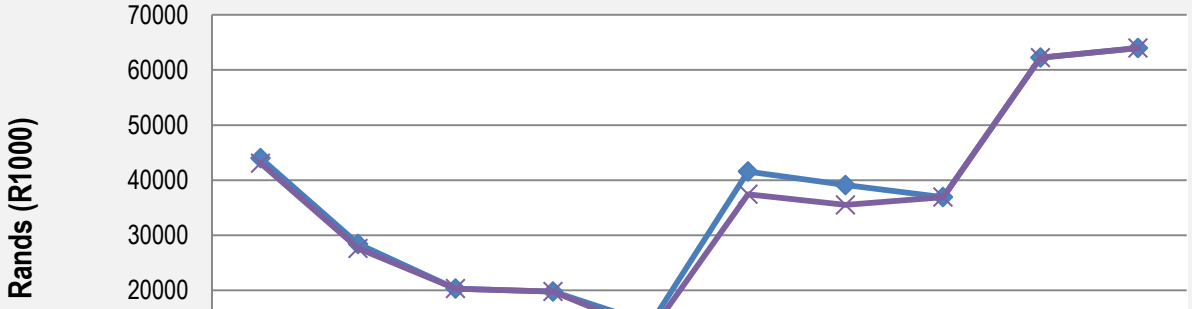
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Gauteng	27690	27968	13652	36670	24625	25361	25221	26955	38352	50864
West Rand	7950	12629	356	855	924	451	2681	1	7	0
Ekurhuleni	1355	6140	4673	4427	2767	8822	3185	3500	5125	7174
City of Johannesburg	11637	9199	8613	31388	20933	16089	19355	23454	33144	43651
City of Tshwane	6749	0	10	0	0	0	0	0	76	39

Years

Source: Quantec Easydata

Values of avocado exports from the Mpumalanga province are shown in Figure 14.

Figure 14: Value of avocado exports by Mpumalanga province, 2002 - 2011



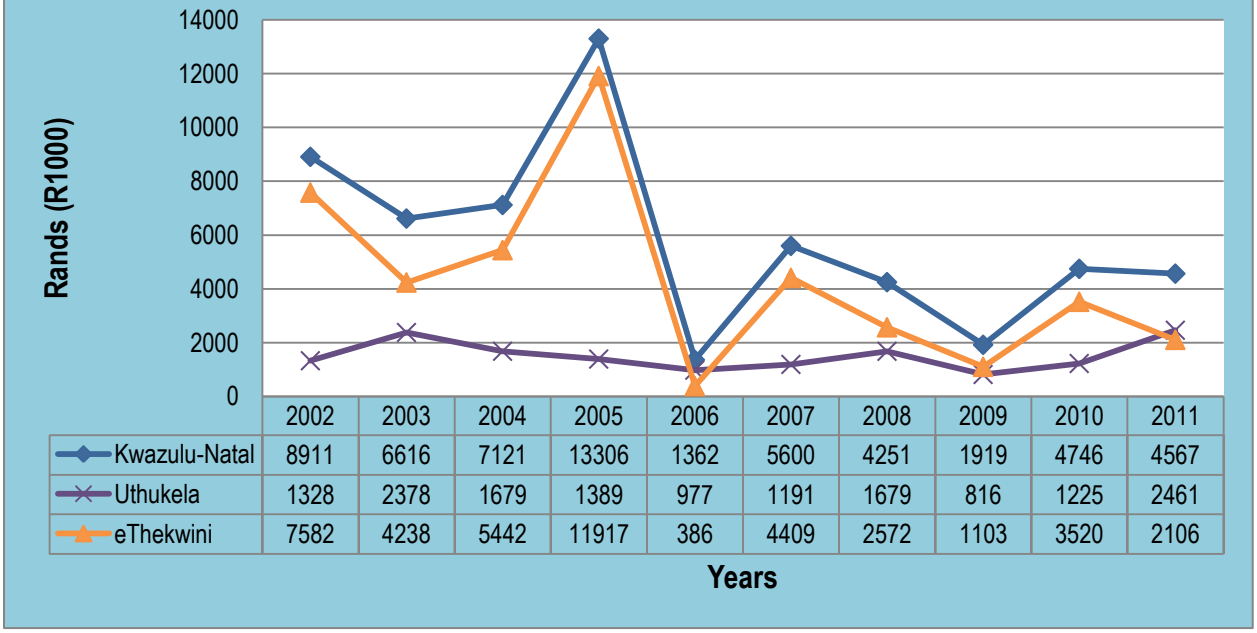
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Mpumalanga	43992	28412	20324	19780	13977	41575	39105	36929	62245	63983
Nkangala	930	818	0	0	1448	4130	3605	4	14	0
Ehlanzeni	43062	27594	20324	19780	12528	37445	35500	36925	62231	63983

Years

Source: Quantec Easydata

Most avocado exports from the Mpumalanga province are from Ehlanzeni district municipality (see Figure 14). High export value for the leading municipality was recorded in 2011. Another significant contributor is the Nkangala district municipality. High export value for the Nkangala district municipality was recorded in 2007. Avocados worth over R63 million were exported by the Ehlanzeni district during 2011. Values of avocado exports from Kwazulu Natal province are presented in Figure 15.

Figure 15: Value of avocado exports by the Kwazulu Natal province, 2002 - 2011

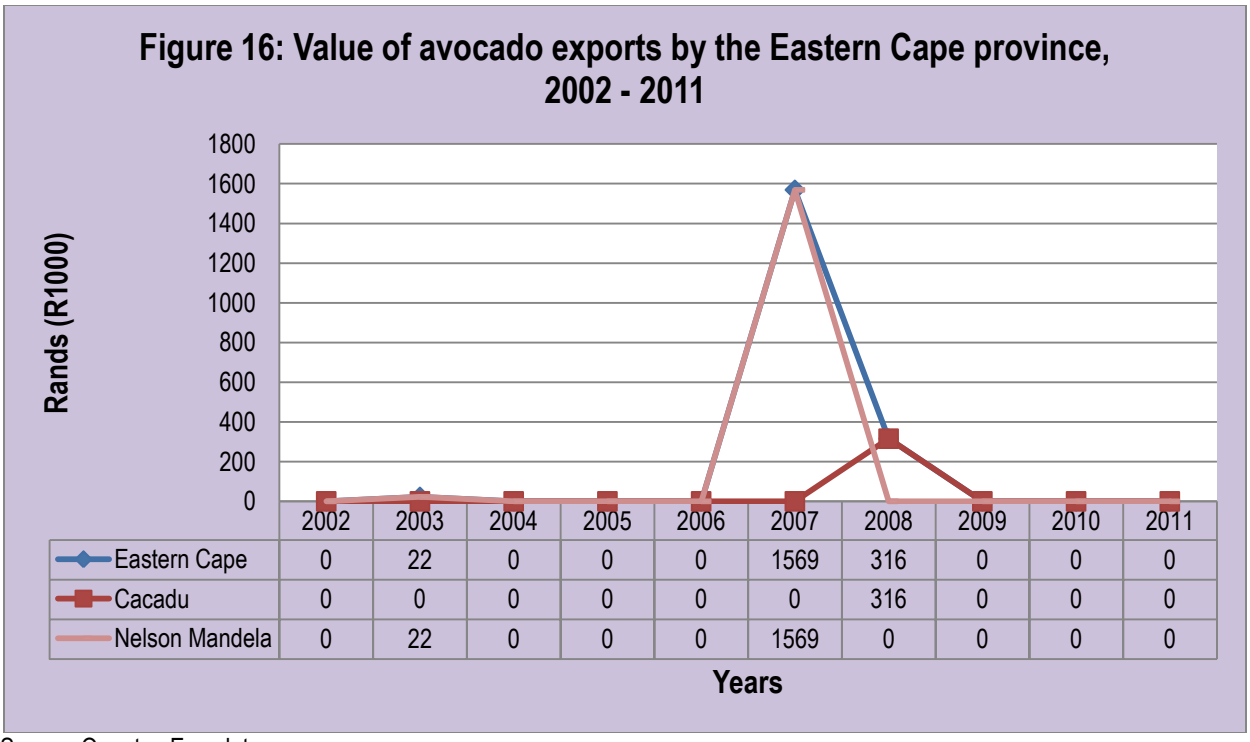


	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Kwazulu-Natal	8911	6616	7121	13306	1362	5600	4251	1919	4746	4567
Uthukela	1328	2378	1679	1389	977	1191	1679	816	1225	2461
eThekwini	7582	4238	5442	11917	386	4409	2572	1103	3520	2106

Source: Quantec Easydata

Figure 15 shows that avocado exports from the Kwazulu Natal province are mainly from Ethekwini and Uthukela district municipalities. High export value for the Ethekwini was recorded in 2005 and the high export value for the Uthukela district was recorded in 2011. The use of the Durban harbour as an exit point may have played a major role in eThekwini being a leader in the export of avocados from the Kwazulu Natal Province. Avocados worth over R4 million were exported from Kwazulu Natal province in 2011, with the eThekwini municipality contributing R2.1 million during the same period. The Uthukela district was the leading avocado exporting district in Kwazulu Natal in 2011. Values of avocado exports from the Eastern Cape Province are shown in Figure 16.

From Figure 16, it is clear that the Eastern Cape Province did not record any exports of avocados in 2009, 2010 and 2011. During the period under review the Cacadu district only recorded exports of avocados in 2008 while the Nelson Mandela district only recorded exports in 2003 and 2007.



Source: Quantec Easydata

The provinces of the Northern Cape, North West and the Free State never recorded any exports of avocados during the period under review (2002 to 2011).

2.4 District share analysis per province

Table 2 is an illustration of provincial shares towards national avocado exports. It shows that Limpopo, Mpumalanga and Gauteng provinces have commanded the greatest share of avocado exports for the past ten years. The above scenario raises concerns about the availability of marketing infrastructure and agro-logistics in the other major avocado producing provinces of South Africa like Kwazulu Natal because Gauteng is not an avocado producing region and yet the sizeable share of South African avocado exports are exported through this province. The three leading provinces cumulatively accounted for 97.5% of total value of South African exports of avocados in 2011.

Table 2: Share of provincial avocado exports to the total RSA avocado exports (%)

Years Province	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
RSA	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Western Cape	10.0	4.7	1.3	1.4	3.8	7.4	1.0	0.3	0.2	0.4
Eastern Cape	0.0	0.0	0.0	0.0	0.0	0.8	0.1	0.0	0.0	0.0
Northern Cape	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Free State	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kwazulu-Natal	4.8	3.8	5.2	6.0	1.1	2.9	1.6	0.9	1.4	2.1
North West	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gauteng	14.9	16.0	10.0	16.5	19.1	12.9	9.7	12.9	11.2	22.9
Mpumalanga	23.7	16.2	15.0	8.9	10.8	21.2	15.1	17.7	18.2	28.9

Years Province	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Limpopo	46.5	59.2	68.4	67.2	65.2	54.8	72.4	68.1	69.0	45.7

Source: Calculated from Quantec Easydata

The following tables (table 3 - 8) show the share of district avocado exports to the total provincial avocado exports. Table 3 presents the share of district avocado exports to the total Western Cape provincial avocado exports. Over four-fifths (83.3%) of all Western Cape avocado exports in 2011 left through the Cape Winelands. This is unusual given the fact that the City of Cape Town has been the major exporter of avocados in the Western Cape for a number of years. The remaining 14.8% and 1.9% were exported through the City of Cape Town and Eden, respectively.

Table 3: Share of district avocado exports to the total Western Cape provincial avocado exports (%)

Years District	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Western Cape	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
City of Cape Town	70.7	32.0	58.6	64.4	83.8	98.4	100.0	94.7	35.7	14.8
West Coast	0.0	0.0	0.0	0.0	16.2	1.6	0.0	0.0	0.0	0.0
Cape Winelands	29.3	68.0	41.4	35.6	0.0	0.0	0.0	5.2	64.3	83.3
Eden	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	1.9

Source: Calculated from Quantec Easydata

The share of district avocado exports to the Limpopo provincial avocado exports is presented in Table 4. The leading exporter of avocados in the Limpopo Province is the Mopani district. In fact, almost all exports of avocados recorded in the Limpopo province since 2004 were from the Mopani district. Most of the exporters (and producers) are found in the Tzaneen area.

Table 4: Share of district avocado exports to the total Limpopo provincial avocado exports (%)

Years District	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Limpopo	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Mopani	99.2	99.4	99.7	100.0	100.0	100.0	100.0	100.0	100.0	99.9
Vhembe	0.8	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Waterberg	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Greater Sekhukhune	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1

Source: Calculated from Quantec Easydata

Table 5 presents the share of district avocado exports to the total Gauteng provincial avocado exports for the period 2002 to 2011. In 2011, the leading districts in avocado exports in Gauteng were the City of Johannesburg (85.8%) and Ekurhuleni (14.1%). The West Rand district and the City of Tshwane also contributed during the previous years, although minimally.

Table 5: Share of district avocado exports to the total Gauteng provincial avocado exports (%)

Years District	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Gauteng	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
West Rand	28.7	45.2	2.6	2.3	3.8	1.8	10.6	0.0	0.0	0.0
Ekurhuleni	4.9	22.0	34.2	12.1	11.2	34.8	12.6	13.0	13.4	14.1
City of Johannesburg	42.0	32.9	63.1	85.6	85.0	63.4	76.7	87.0	86.4	85.8
City of Tshwane	24.4	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.1

Source: Calculated from Quantec Easydata

The Mpumalanga province contributed 28.9 percent of total South African avocado exports in 2011 (see Table 2). It is clear from Table 6 that the leading district in avocado exports in Mpumalanga is the Ehlanzeni district (100% in 2009, 2010 and 2011).

Table 6: Share of district avocado exports to the total Mpumalanga provincial avocado exports (%)

Years District	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Mpumalanga	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Nkangala	2.1	2.9	0.0	0.0	10.4	9.9	9.2	0.0	0.0	0.0
Ehlanzeni	97.9	97.1	100.0	100.0	89.6	90.1	90.8	100.0	100.0	100.0

Source: Calculated from Quantec Easydata

Table 7 presents the share of district avocado exports to the total Kwazulu Natal provincial avocado exports for the period 2002 to 2011. It is interesting to note that exports from the Kwazulu Natal province during the period under review were only from the Uthukela (53.9%) and eThekwini (46.1%) districts. Uthukela district overtook eThekwini as the major exporter of avocados in Kwazulu Natal during 2011.

Table 7: Share of district avocado exports to total Kwazulu Natal provincial avocado exports (%)

Years District	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Kwazulu-Natal	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Uthukela	14.9	35.9	23.6	10.4	71.7	21.3	39.5	42.5	25.8	53.9
eThekwini	85.1	64.1	76.4	89.6	28.3	78.7	60.5	57.5	74.2	46.1

Source: Calculated from Quantec Easydata

The share of district avocado exports to the total Eastern Cape provincial avocado exports is presented in Table 8. The two major (although alternating) avocado export districts in the Eastern Cape are the Cacadu and Nelson Mandela. No avocado exports were recorded from the Eastern Cape during the last three years.

Table 8: Share of district avocado exports to the total Eastern Cape provincial avocado exports (%)

Years District	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Eastern Cape	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0
Cacadu	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0
Nelson Mandela	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0

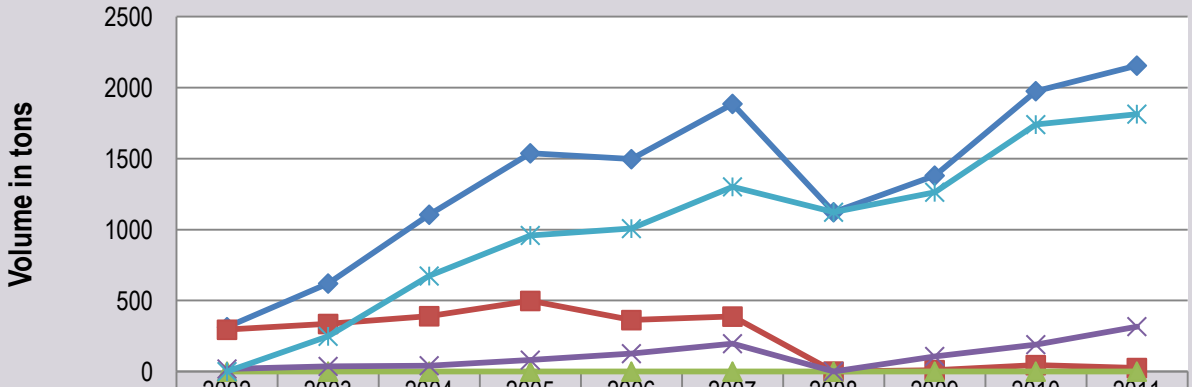
Source: Calculated from Quantec Easydata

No avocado exports were recorded in the Free State, Northern Cape and North West provinces during the period under review (2001 to 2010).

2.5 Imports

During 2011, South Africa's imports of avocados represented 0.23% of world imports of avocados and its ranking in the world was number 26. Volumes of South Africa's imports of avocados during the past ten years are presented in Figure 17. It is evident from Figure 17 that the main source of South Africa's avocado imports is Europe. The continent accounted for 84% (1 814 tons) of the total South African avocado imports (2 156 tons) in 2011. It is also important to note that South Africa's imports of avocados grew steadily during the past decade, moving from 313 tons in 2002 to 2 156 tons in 2011, an increase of 589%. Within Europe, the major source of South Africa's avocado imports during 2011 was Spain, from which South Africa imported 1772 tons of avocados. Another important continent in terms of South African avocado imports during 2011 was Asia and all imports (317 tons) from Asia during the same year were from Israel.

Figure 17: Volumes of avocados imported from various regions of the world, 2002 - 2011



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
World	313	621	1105	1538	1497	1886	1123	1381	1976	2156
Africa	295	335	390	498	363	388	0	10	45	25
Americas	0	0	0	0	0	0	0	0	0	0
Asia	18	37	42	81	126	197	0	107	190	317
Europe	0	248	673	959	1007	1302	1123	1264	1740	1814

Source: Quantec Easydata

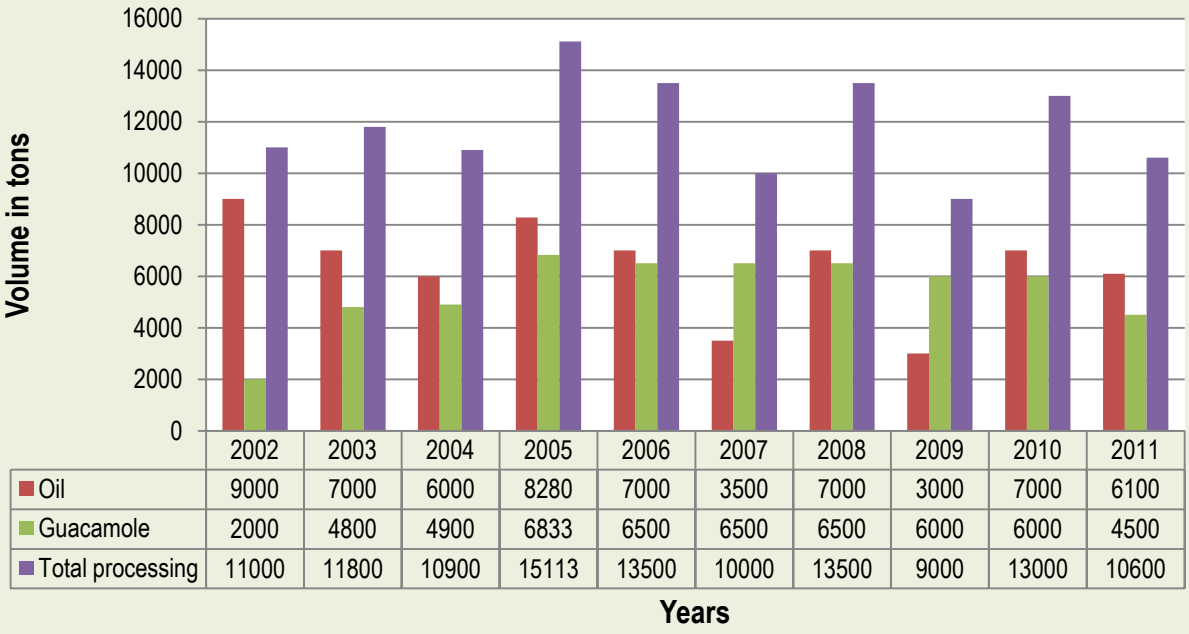
2.6 Processing

The avocado fruit is very popular in vegetarian cuisine, making an excellent substitute for meats in sandwiches and salads because of its high fat content. The fruit is not sweet, but fatty, strongly flavoured, and of smooth, almost creamy texture. It is used as the base for the Mexican dip known as guacamole, as

well as a filling for several kinds of sushi. Avocado is popular in chicken dishes and as a spread on toast, served with salt and pepper. In Brazil and Vietnam, avocados are considered sweet fruits and are frequently used for milk-shakes and occasionally added to ice cream and other desserts. In Vietnam, the Philippines, Jamaica and Indonesia, a dessert drink is made with sugar, milk, and pureed avocado. In Central America, avocados are served mixed with white rice. In Chile its consumption is widespread and used as a puree in chicken, hamburgers and hot dogs, and in slices for celery or lettuce salads.

Volumes of avocados processed in South Africa during the past ten years are presented in Figure 18. In South Africa, avocados are processed either into avocado oil or guacamole. A total volume of 10 600 tons of avocados were processed in South Africa during 2011. Out of this, 57.5% was processed into oil while the remaining 42.5% was processed into guacamole. The volume of avocados available for processing depends to a large extent on the total quantity of production in a given production season.

Figure 18: Volumes of avocados processed, 2002 - 2011



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Oil	9000	7000	6000	8280	7000	3500	7000	3000	7000	6100
Guacamole	2000	4800	4900	6833	6500	6500	6500	6000	6000	4500
Total processing	11000	11800	10900	15113	13500	10000	13500	9000	13000	10600

Source: SAAGA, 2011

2.6.1 Avocado Oil

Oil expressed from the flesh is rich in vitamins A, B, G and E. It has a digestibility coefficient of 93.8% but has remained too costly to be utilized extensively as salad oil. The amino acid content has been reported as: palmitic, 7.0; stearic, 1.0; oleic, 79.0; linoleic, 13.0.

The oil has excellent keeping quality. Samples kept in a laboratory in Los Angeles at 40ºF (4.4ºC) showed only slight rancidity after 12 years. There is much interest in the oil in Italy and France. The Institut Francais de Recherches Fruitieres Outre Mer has studied the yield of oil in 25 cultivars. Joint Italian/Venezuelan studies of 5 prominent cultivars indicated that the fatty acid composition and tryglyceride structure was not influenced by variety. The oil is used as hair-dressing and is employed in making facial creams, hand lotions and fine soap. It is said to filter out the tanning rays of the sun, is non-allergenic and is similar to

lanolin in its penetrating and skin softening action. In Brazil, 30% of the avocado crop is processed for oil, 2\3 of which is utilized in soap, 1/3 in cosmetics. The pulp residue after oil extraction is usable as stock feed. The nutritional information per 100 gram of edible potion (flesh) is presented in Table 9 below.

Table 9: Food Value per 100 g of Edible Portion (Flesh)

Moisture	65.7-87.7 g
Ether Extract	5.13-19.80 g
Fiber	1.0-2.1 g
Nitrogen	0.130-.382 g
Ash	0.46-1 68 g
Calcium	3.6-20.4 mg
Phosphorus	20.7-64.1 mg
Iron	0.38-1.28 mg
Carotene	0.025-.0475 mg
Thiamine	0.033-0.117 mg
Riboflavin	0.065-0.176 mg
Niacin	0.999-2.220 mg
Ascorbic Acid	4.5-21.3 mg

Source: Wikipedia

2.6.2 Medicinal Uses

The fruit skin is antibiotic and is employed as a remedy for dysentery. The leaves are chewed as a remedy for pyorrhoea. Leaf poultices are applied on wounds. Heated leaves are applied on the forehead to relieve neuralgia. The leaf juice has antibiotic activity. The aqueous extract of the leaves has a prolonged hypertensive effect. The leaf decoction is taken as a remedy for diarrhoea, sore throat and haemorrhage; it allegedly stimulates and regulates menstruation. It is also drunk as a stomachic. In Cuba, a decoction of the new shoots is a cough remedy. Sometimes a piece of the seed is boiled with the leaves to make the decoction.

The seed is cut in pieces, roasted and pulverized and given to overcome diarrhoea and dysentery. The powdered seed is believed to cure dandruff. A piece of the seed or a bit of the decoction, put into a tooth cavity may relieve toothache. An ointment made of the pulverized seed is rubbed on the face as a rubefacient—to redden the cheeks. Oil extracted from the seed has been applied on skin eruptions.

2.6.3 Other Uses

The seed yields a milky fluid with the odor and taste of almond. Because of its tannin content, it turns red on exposure, providing an indelible red-brown or blackish ink which was used to write many documents in the days of the Spanish Conquest. These are now preserved in the archives of Popayan. The ink has also been used to mark cotton and linen textiles.

Much avocado wood is available when groves are thinned out or tall trees are topped. The sapwood is cream-colored or beige; the heartwood is pale red-brown, mottled, and dotted with small drops of gummy red sap; fine-grained; light—40 lbs per cu ft—(560-640 kg/cu m); moderately soft but brittle; not durable; susceptible to dry-wood termites and fungi. The wood has been utilized for construction, boards and

turnery. An Australian woodworker has reported that it is suitable for carving, resembles White Beech (*Eucalyptus kirtonii*); is easy to work, and dresses and polishes beautifully. He has made it into fancy jewel boxes. It probably requires careful seasoning. A Florida experimenter made bowls of it but they cracked.

3. MARKET INTELIGENCE

3.1 Competitiveness of South African avocado exports

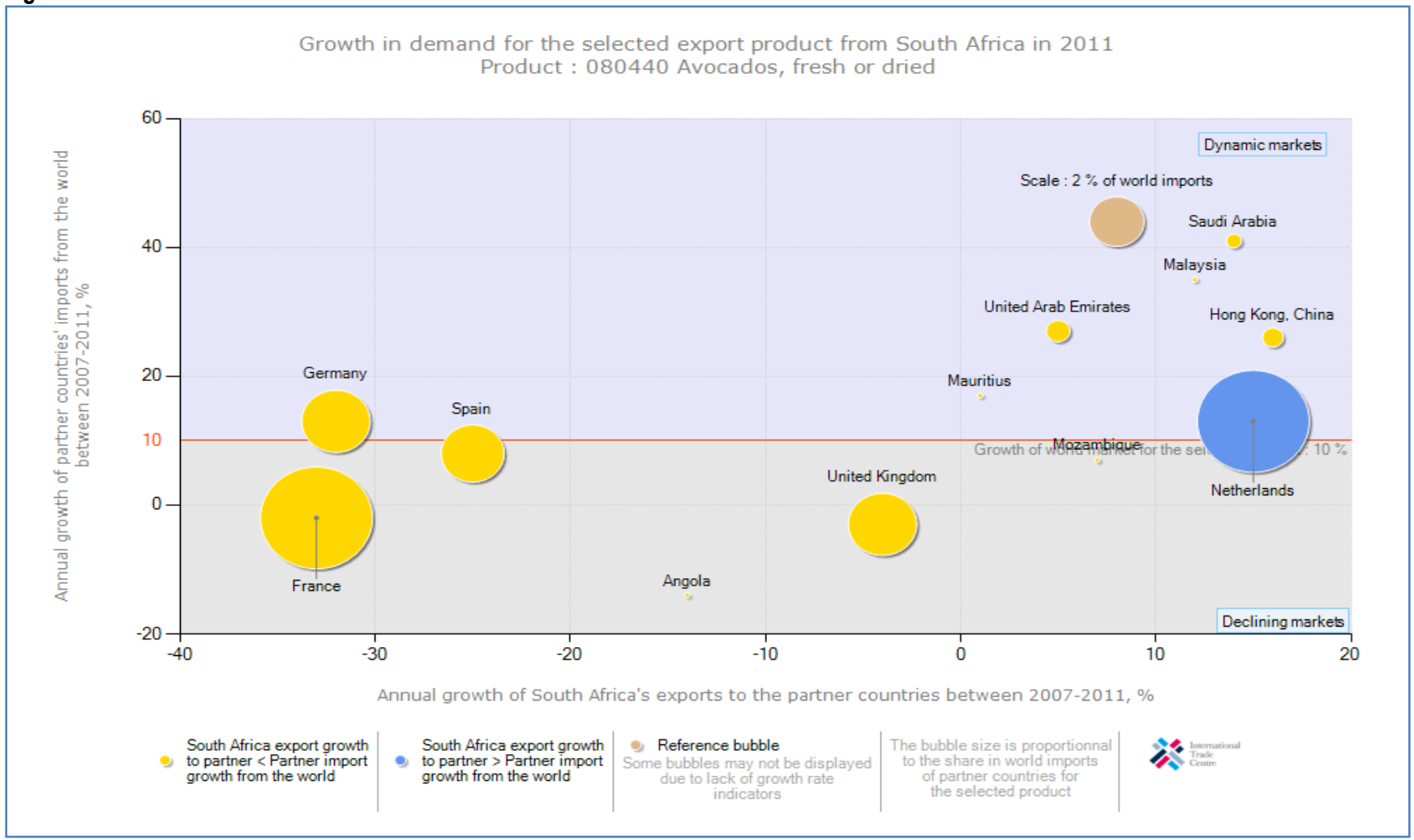
Competitiveness is described as an industry's capacity to create superior value for its customers and improved profits for the stakeholders in the value chain. The driving force in sustaining a competitive position is productivity that is output efficiency in relation to specific inputs with regard to human, capital and natural resources. In 2011, South Africa's avocado exports represented 1.53% of world exports and its ranking in world exports was position 9.

As depicted in Figure 19 below, South African avocado exports are growing faster than the world imports in the Dutch market. South Africa's performance in this market can be regarded as gains in a dynamic market.

At the same time, South African avocado exports have declined faster than the world imports in United Kingdom, Angola and France markets. South Africa's performance in those markets can be regarded as loss in declining markets.

South African avocado exports are declining while world imports are growing in the Hong Kong, Saudi Arabia, Malaysia, United Arab Emirates, Mauritius, and Germany markets. These markets are dynamic and South Africa's performance is these markets should be viewed as an underachievement.

Figure 19: Growth in demand for the South African avocados in 2011



Source: TradeMap, ITC

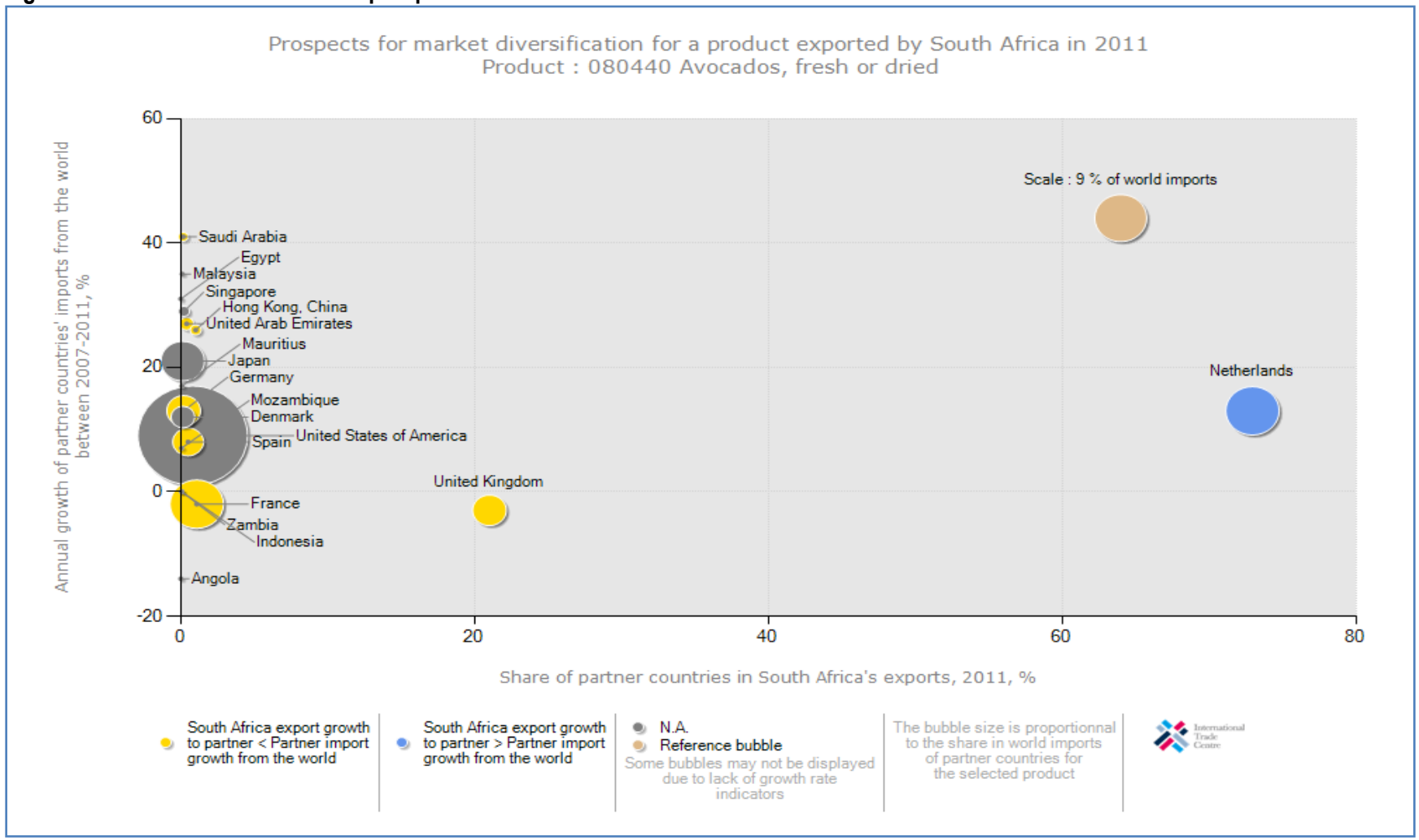
Figure 20 below illustrates prospects for market diversification by South African exporters of avocados. The Netherlands and the United Kingdom hold a bigger market share of South African avocado exports.

In terms of market size, USA was the largest avocado importer in 2011 with just over $962 million worth of avocado imports, or roughly 43.8% of the world avocado market. Second was the Netherlands with just over $208 million worth of avocado imports, or roughly 9.5% market share. The Netherlands is followed by France with just over $204 million worth of avocado imports, or roughly 9.3% market share.

Whilst three countries dominate world avocado imports, it is interesting to note that countries like Saudi Arabia, together with Malaysia and Egypt have experienced higher annual growth rate in terms of imports from 2007 – 2011 (see Figure 20). Saudi Arabia experienced an annual growth rate of 41% while Malaysia was second with 35% annual growth rate. Imports into Egypt increased by 31% during the same period. These countries represent possible lucrative markets for South African avocado producers.

It is also important to note that avocado imports from the world to countries such as Angola, France, Zambia, and the Netherlands have declined from 2007 – 2011 and as a result those countries have recorded a negative growth rate in avocado imports.

Figure 20: South African avocados' prospect for market diversification in 2011

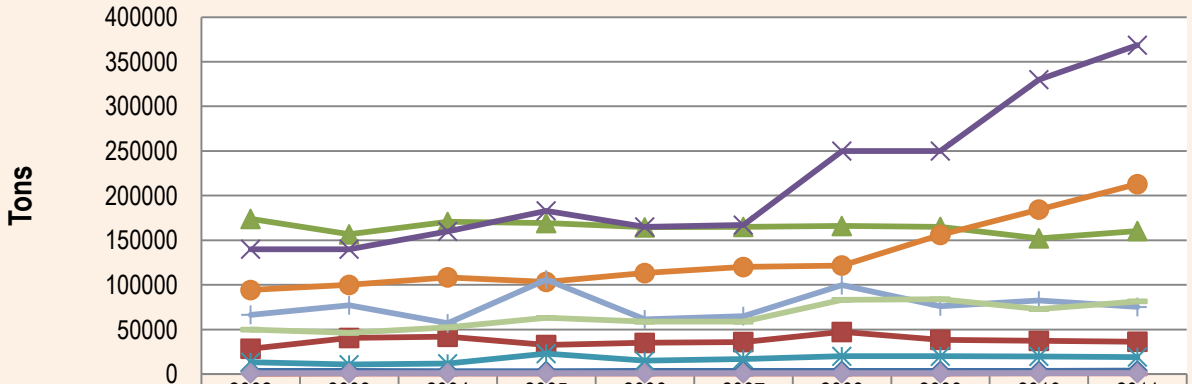


Source: TradeMap, ITC

3.2 South Africa vs. Southern hemisphere production

Figure 21 presents southern hemisphere production of avocados. A total volume of approximately 960 180 tons of avocados was produced in the southern hemisphere during 2011. It is clear that South Africa was the fifth largest producer of avocados (7.8% in 2011) in the southern hemisphere after Chile, Peru, Brazil, and Venezuela. All these countries are vying for the lucrative North American and European markets.

Figure 21: Southern hemisphere production of avocadoes



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Argentina	3500	3500	3433	3433	3450	3600	3600	3600	3600	4045
Austalia	28485	40531	41897	32634	35000	36000	47238	38478	37300	36325
Brazil	173930	156661	170534	169335	164441	165000	166000	165000	152181	160376
Chile	140000	140000	160000	183000	165000	167000	250000	250000	330000	368568
New Zealand	13398	10642	11752	22970	15000	17000	20000	20000	19900	19184
Peru	94236	99975	108460	103417	113247	120000	121720	155982	184370	212857
South Africa	66523	77224	56869	105931	61442	65000	99650	75932	82529	75237
Swaziland	210	350	350	350	300	300	300	300	800	723
Venezuela	49895	46229	52428	63109	58663	58700	83304	84000	72900	81590
Zimbabwe	1000	1100	1100	1100	1100	1100	1100	1100	1100	1275

Years

Source: FAOSTAT

The fact that a country can produces a large output does not necessarily mean it will be a big net exporter as this depends on the size of the domestic market and whether excess produce is harvested. In the case of Brazil, the second largest producer of avocados in the southern hemisphere, their domestic market is so large that the country exports relatively little. Brazil contributed 2.56% to the total southern hemisphere avocado exports in 2011 (see Table 10).

Table 10: Southern hemisphere exports of avocados in 2011

Country	Export - Quantity in Metric Tons (MT)	Contribution to Southern Hemisphere Exports (%)
World exports	786 147	
Southern Hemisphere	127 480	100.00
Argentina	2 315	1.82

Country	Export - Quantity in Metric Tons (MT)	Contribution to Southern Hemisphere Exports (%)
Australia	2 215	1.74
Brazil	3 263	2.56
Chile	103	0.08
New Zealand	7 144	5.60
Peru	81 431	63.88
South Africa	30 327	23.79
Venezuela	120	0.09
Zimbabwe	170	0.13
Swaziland	392	0.31

Source: Trademap, ITC

South Africa' main competitors from the southern hemisphere in the EU market for avocados are Peru and New Zealand. Peru is by far the largest avocado exporter from the southern hemisphere with approximately 63.88% market share in 2011. Second was South Africa with approximately 24% of total southern hemisphere avocado exports during the same year. Peru has been increasing its share in the EU market in recent years and its export increased from 59 521 tons in 2010 to 81 431 tons in 2011. New Zealand exports primarily to the Asian markets and it currently poses no serious threat in the EU and the rest of the European markets. Of particular interest is the fact that South Africa is slowly diversifying its markets for exports of avocadoes. Data for the past ten years indicate that South African exports of avocados to the Asian markets are increasing steadily. Other Southern hemisphere exporters export very little when compared to Peru, South Africa and New Zealand.

4. MARKET ACCESS

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 fruit (including avocado) employ various measures, 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 World Trade Organization (WTO), and as such are gradually being phased out. Nevertheless, exporters need to be aware of all the barriers that they may encounter when trying to get their produce on foreign shelves.

4.1 Tariffs, quotas and the price entry system

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 11 presents tariffs applied by the top-ten export markets to avocados originating from South Africa during 2011. It is important to note that tariffs for EU member states are not recorded separately in the table but recorded collectively as EU Tariffs. The leading EU markets for South African avocados in 2011 were the Netherlands, United Kingdom, France, Spain, Germany, and Denmark.

Table 11: Tariffs applied by various export markets to avocados (fresh or dried) from South Africa

COUNTRY	HS CODE	PRODUCT DESCRIPTION	TRADE REGIME	APPLIED TARIFFS	TOTAL AD VALOREM EQUIVALENT TARIFF
European Union	0804400010	Fresh or dried avocados : Fresh	Preferential tariff for South Africa	0.00%	0.00%
	0804400090	Fresh or dried avocados : Other	Preferential tariff for South Africa	0.00%	0.00%
Hong Kong	08044000	Dates, figs, pineapples, avocados, guavas, mangoes and mangosteens, fresh or dried: Avocados	MFN duties (Applied)	0.00%	0.00%
United States of America	08044000	Avocados, fresh or dried	Preferential tariff for AGOA countries	0.00%	0.00%
Israel	08044010	Fresh or dried avocados : fresh	MFN duties (Applied)	85.00% or 505.42 $/Ton whichever is the lower	27.54%
	08044020	Fresh or dried avocados : dried	MFN duties (Applied)	25.00%	25.00%
United Arab Emirates	08044000	Dates, figs, pineapples, avocedos, guevas, mangoes and mangosteens, fresh or dried: Avocados	MFN duties (Applied)	0.00%	0.00%
Singapore	08044000	AVOCADOS	MFN duties	0.00%	0.00%

COUNTRY	HS CODE	PRODUCT DESCRIPTION	TRADE REGIME	APPLIED TARIFFS	TOTAL AD VALOREM EQUIVALENT TARIFF
		FRESH OR DRIED (TNE)	(Applied)		
Saudi Arabia	08044000	Dates, figs, pineapples, avocedos, guevas, mangoes and mangosteens, fresh or dried: Avocados	General tariff	0.00%	0.00%
Japan	080440010	Avocados, fresh	Preferential tariff for GSP countries	0.00%	0.00%
	080440090	Avocados, dried	Preferential tariff for GSP countries	0.00%	0.00%
Malaysia	08044000	Fresh or dried avocados	MFN duties (Applied)	5.00%	5.00%
Mauritius	08044000	Dates, figs, pineapples, avocados, guavas, mangoes and mangosteens, fresh or dried: Avocados	MFN duties (Applied)	0.00%	0.00%

Source: Market Access Map, ITC

South Africa had a preferential trading agreement (PTA) with the European Union (EU) known at the Trade, Development and Cooperation Agreement (TDCA). The TDCA provided for the progressive introduction of a Free Trade Area (FTA). The EU is South Africa's main trading and investment partner. The FTA aimed to ensure better access to the Community market for South Africa and access to the South African market for the EU. The agreement covered around 90% of bilateral trade between the two parties and provided for the liberalisation of 95% of the EU's imports from South Africa within ten years and 86% of South Africa's imports from the EU in twelve years. In order to protect the vulnerable sectors of both parties, certain products were excluded from the FTA and others have been partially liberalised. For the EU, these are mainly agricultural products, while for South Africa, they are industrial products. The TDCA has however lapsed and the parties are now negotiating an Economic Partnership Agreement (EPA). In the meantime, tariffs that existed before the lapsing of the agreement are still applicable. As can be seen in Table 11, South African avocados had preferential access into the EU market through the TDCA. Furthermore, South Africa has access to the US market under the AGOA, which significantly lowers the tariff barriers for South African avocados. Japan also operates a GSP system for which South Africa qualifies. The Asian countries (Hong Kong, United Arab Emirates, Singapore, and Saudi Arabia) also impose zero percent tariffs on avocados from South Africa while Malaysia imposes a 5% MFN duty on avocados from South Africa. Israel imposes a 27.54% import duty on fresh avocados and a 25% import duty on dried avocados originating in South Africa.

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.

4.2 European Union (EU)

The EU has a seasonal tariff structures which are highest during the European peak harvesting seasons (the price entry system), quotas and specific tariffs, and various policies that allow, amongst other things, government organizations to purchase produce should supply rise too quickly (and thereby maintain prices), and then release this excess back onto the market as and when supply drops again. The immediate implication of these policies for South Africa is that an opportunity exists to supply avocados to the European market in the off season periods, as the produce will not compete directly with the European producers and thus would not be liable to a whole array of tariffs and other protective mechanisms.

There are other non-tariff barriers, including the phytosanitary and food health regulations laid down by the EU legislation, marketing standards and certificates of conformity, and the ever changing demand patterns of the EU consumers.

4.2.1 Tariff barriers

The EU applies a system known as entry price system. With this system, the EU establishes an 'entry price' at which produce may enter the EU market, which is not only based on the market price for the current year (demand and supply) and for previous years, but also on the prices of the domestic producers (prices they need to maintain profitability). It is calculated by the regulatory authorities so that it can be used in combination with tariffs and quotas to aid EU's attempts at protecting its agricultural system. The entry price is the minimum price at which produce may enter the market. If the price of the produce is lower than its calculated price, it is liable to have duties imposed upon it over and above any duties/quotas it might originally attract. Agricultural duties are applied as follows:

- When the value of the imported party is between 92% and 94% of the entry price, 8% of the entry price will be added to the normal customs duty.
- When the value of the imported party is between 94% and 96% of the entry price, 6% of the entry price will be added to the normal customs duty.
- When the value of the imported party is between 96% and 98% of the entry price, 4% of the entry price will be added to the normal customs duty.
- When the value of the imported party is between 98% and 100% of the entry price, 2% of the entry price will be added to the normal customs duty.

The entry price system applies to apples, pears and lemons year-round and to citrus fruit, table grapes, apricots, cherries, peaches, nectarines and plums during their peak seasons. There are tariffs applicable over and above the entry price tariffs, depending on the produce, where it originates from and whether that country has any preferential trading agreements with the EU.

4.2.2 Non tariff barriers

Non tariff barriers can be divided into those that are mandatory and laid out in the EU Commission's legislature and those that are a result of consumers, retailers, importers and other distributors' preferences.

4.2.2.1 Legal requirements

i) Product legislation: quality and marketing

There are number of pieces of EU legislation that govern the quality of produce that may be imported, marketed and sold within the EU. They are as follows:
General Food Law which covers matters in procedures of food safety and hygiene (micro-biological and chemical), including provisions on the traceability of food (for example, Hazard Analysis and Critical Control Points, or HACCP), and it is laid out under regulation EC 178/2002.

EU Marketing Standards which govern the quality and labelling of fruit are laid out in the Common Agricultural Policy (CAP) framework under regulation EC 2200/96. These regulations include diameter, weight and class specifications, and any produce that does not comply with these standards will not be sold on the EU markets.

Certificate of Conformity must be obtained by anyone wishing to export and sell fruits in the EU, if that fruit falls under the jurisdiction of the EU marketing standards.

Certificate of Industrial Use must be obtained if the fruit is to be used in further processing.

Maximum Residue Limits (MRL) of various pesticides allowed.

ii) Product legislation: phytosanitary regulations

The international standard for phytosanitary measures was set up by the International Plant Protection Committee (IPPC) to protect against spreading of diseases or insects through the importation of certain agricultural goods. The EU has its own particular rules formalized under EC 2002/89, which attempts to prevent contact of EU of crops with harmful organisms from elsewhere in the world.

The crux of the directive is that it authorizes the Plant Protection Services to inspect a large number of fruit products upon arrival in the EU This inspection consist of physical examination of a consignment deemed to have a level of phytosanitary risk, identification of any harmful organisms and certification of the validity of any phytosanitary certificate covering the consignment. If the consignment does not comply with the requirements, it may not enter the EU although certain organisms can be fumigated at the expense of the exporter.

iii) Product legislation: packaging

The EU Commission lays down rules for materials that come into contact with food and which may endanger people's health or bring about an unacceptable change in the composition of the foodstuffs. The framework legislation for this is EC 1935/2004. Recycling packaging materials are also emphasized under 94/62/EC, whereby member states are required to recycle between 50% and 65% of packaging waste. If

exporters do not ship produce in packaging which is reusable, they may be liable for the costs incurred by the importing companies. Wood packaging is subject to phytosanitary controls and may need to undergo heat treatment, fumigation, etc.

4.2.2.2 Non-legal requirements: social and environmental accountability

To access the market, importers must not only comply with legal requirements set out above, but must also with market requirements and demands. For the most part, these revolve around quality and the perception of European consumers about environmental, social, health and safety aspects of both the products and the production techniques. Whilst supplying fruit that complies with these issues may not be mandatory in the legal sense, they are becoming increasingly important in Europe and cannot be ignored by existing or potential exporters.

i) Social accountability is becoming important in the industry, not only amongst consumers, but also for retail outlets and wholesalers. The Social Accountability 8000 (SA 8000) certification is a management system based on International Labour Organization (ILO) conventions, and deals with issues such as child labour, health and safety, and freedom of association, and requires an on-site audit to be performed annually. The certificate is seen as necessary tool for accessing any European market successfully.

ii) Environmental issues are becoming increasingly important with European consumers. Consumer movements are lobbying against purchasing non-environmentally friendly or non-sustainable produce. To this end, both governments and private partners have created standards (such as ISO 14001 and Global-GAP) and labels to ensure that produce adhere to particular specifications.

Although eco-labels (for example, the EU Eco-label, the Netherlands Milieukeur, the German Blue Angel and the Scandinavian White Swan) are voluntary, they can afford an exporter a marketing edge, as consumers wishing to purchase environmentally sound produce demand products that are easily recognizable.

Another important emerging label is Fairtrade, and includes those labels offered by Max Haavelaar Foundation, TransFair International and the FLO (Fairtrade Labelling Organization). Recently a 'universal' logo was adopted based on international fair trade standards developed by FLO, which covers amongst other things, minimum quality and price, various processing requirements, compensation of small farmers that covers sustainable production and living standards, and contracts that allow for long term planning and development.

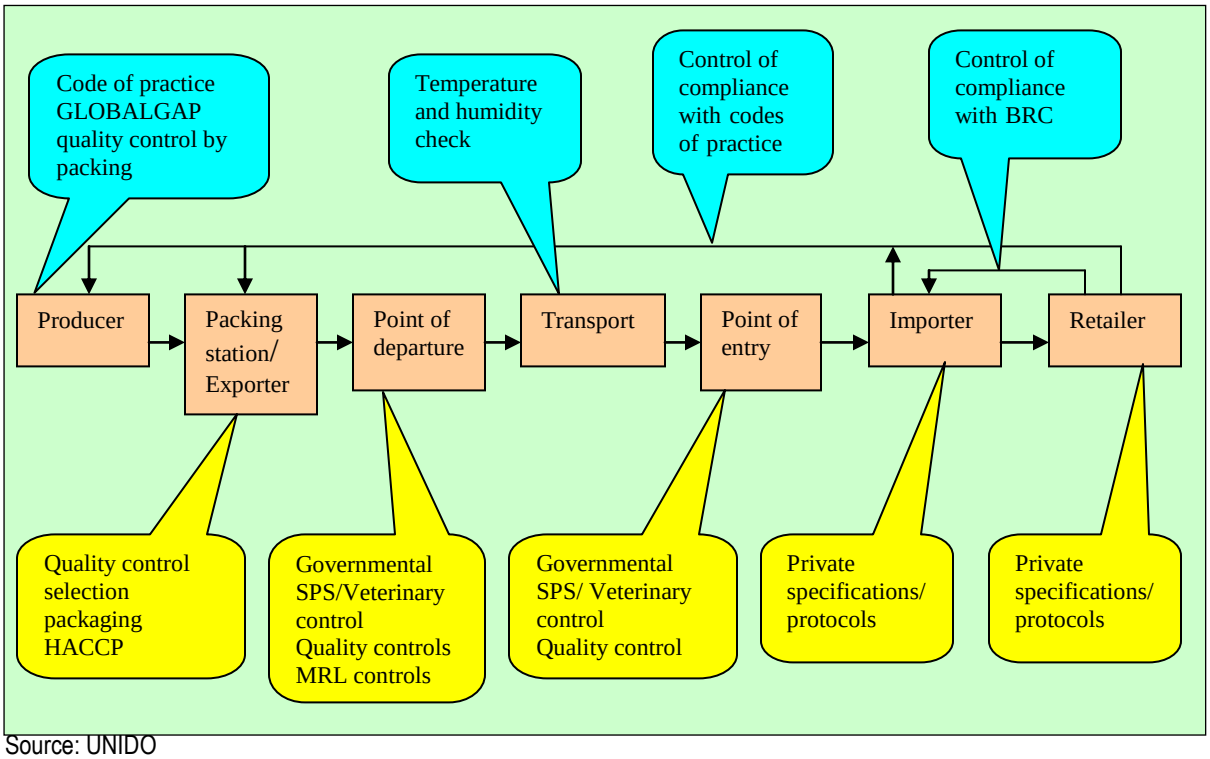
4.2.2.3 Consumer health and safety requirements

Increasing consumer conscience about health and safety issues has prompted a number of safety initiatives in Europe, such as Global-GAP on good agricultural practices (GAP) by the main European retailers, the international management system of HACCP, which is independently certified and required by legislation for European producers as well as food imported into Europe (EC 852/2004), and the ISO 9000 management standards system (for producers and working methods) which is certified by the International Standards Organization (ISO).

The development of public and private standards involves interventions at multiple points along the value chain. An illustration of the multiple points and multiple standards that are applied for fresh fruit and

vegetables and for fish is shown in Figure 22. There are controls by different agents carried out in different ways at different points along the value chain in response to the requirements of private sector companies, coalitions of private-sector standards setters and public agencies. Standards in agribusiness value chains operate, by definition, at multiple points. They are created, adopted, applied and verified by different actors (enterprises and institutions) at different points in the value chain.

Figure 22: Food safety and quality control in the fruit and vegetable supply chains



Source: UNIDO

4.3 United States of America (USA)

4.3.1 Tariff barriers

South African exporters have completely free access to the USA markets under the Generalized System of Preference (GSP), the GSP for LCDs (Least Developed Countries) or the African Growth and Opportunity Act (AGOA). South African exporters must always compare with what Chile (the main supplier of fruit to the USA and South Africa's potential rival) must pay in terms of tariff duties when exporting fruit to the USA. Chile's access to the USA fruit market is considered to be highly preferential under its own Preferential Trade Agreement (PTA).

4.3.2 Non tariff barriers

The USA's phytosanitary regulation is conducted by Animal and Plant Health Inspection Service (APHIS), which is divided into nine sub-sections. Plant Protection and Quarantine (PPQ) and Veterinary Services (VS) are responsible for issuing permits for commodities and determining whether a commodity can be imported. The Policy and Program Development (PPD) division works with both these divisions in determining long term plans and procedures.

Some products can get pre-clearance from International Services (IS) personnel stationed in the country of origin, either at exporting terminals of site inspections. The PPQ's main focus is to prevent the spread of diseases and pests into the USA's agriculture resources, and it has personnel stationed at all airports, seaports and border stations that check imported cargo and oversee the quarantine process. Exporters or importers must make a request to export/import a commodity, provide as much information as possible on the product, its region of origin and its status that is whether there are restrictions or regulations governing that particular product from that particular region before a permit is issued, along with the conditions of importation (disinfestations treatment) or mitigation measures. Denials can be challenged and governments and companies can request a change in the status of a prohibited commodity (an investigation must be performed by the PPQ scientific team), as long as sufficient conditions have changed or a risk assessment has not been conducted within the last 10 years.

Most approved commodities can enter with inspection alone, but some may have to undergo mitigating measures including post-harvest treatments (hot/cold temperature treatments, irradiation or fumigation, depending on the requirements and which particular treatment is least harmful). The establishment of specifically and maintained pest-free areas in a country (which obviously requires extensive co-operation between the country's plant health services and APHIS IS division) or systems approaches (field surveys, random inspections or various on site treatments.

In addition to phytosanitary regulations, the USDA Food Safety Inspection Services (FSIS) regulates sanitary practices in the packing of food products, while the Food and Drug Administration (FDA), which is part of the US Department of Health, regulates packaging and labelling. The HACCP protocol is used extensively. The USDA quality standards for fruits and vegetables provide basis for domestic and international trade and aims to promote efficiency in marketing and procurement of fruits and vegetables.

4.4 Japan

Japan's agricultural sector is heavily protected, with calculations from the Organization for Economic Co-operation and Development (OECD) estimating that almost 60% of the value of Japan's farm production comes from trade barriers or domestic subsidies. Japan uses tariff rate quotas (TRQ) to protect its most sensitive products, and reserves the right for trading many of these products (within the quota) for one or two state trading enterprises. However, these extremely protective measures apply only to some products; others are able to compete more effectively with outside competition, often on the grounds of higher quality.

Perhaps the biggest barrier to trade with Japan in fruit markets is its strict phytosanitary requirements, which have often been challenged in the WTO as having little or no scientific justification. Other measures that are being challenged include Japan's use of fumigation on agricultural products when cosmopolitan pests (already found in Japan) are detected.

Japan is also increasing its labelling requirements. It now requires fresh food, including fruit, to be labelled with the place of origin, whilst new technological ('smart') labels that have embedded semi-conductors and information on just about everything are being adopted in various agricultural sectors.

Food containing genetically modified organisms (GMOs) need to be assessed for environmental food safety by the MAFF or the Ministry of Health, Labour and Welfare (MHLW). At the same time, the MHLW

tests food imports for maximum residue levels from pesticides and as of May 2006, any food with pesticides not on approved list, regardless of the residue levels, are not allowed entry.

Japanese organic definitions changed in 2001 (they roughly corresponded to world standard definitions), and any foreign producers wishing to enter the Japanese market must be certified under the Japanese standards (not general world standards).

4.5 China

China has a massive system of government support for farmers and generally rural dwellers (who are lagging behind urban dwellers). To this end, most of the agricultural sectors are protected and promoted through a series of subsidies, tax cuts and infrastructure spending policies (as well as low cost loans, research, land use protection, market stabilization measures, etc). Part of the protection of its massive farming population, which for most part consists of small farmers not benefiting from economies of scale, necessarily occurs in the form of high tariffs and other restrictions. However China is obliged to reduce tariff levels as a condition of being a member of WTO. It therefore remains to be seen just what policies will be adopted going forward, but the general consensus is that it is a vitally important market to watch, and endeavour to enter.

5. DISTRIBUTION CHANNELS

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 a fruit combine, which will then contract out importers/marketers and try to take advantage of economies of scale and increased bargaining power. At the same time fruit combines 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 a fruit combine, an export organization can either supply wholesale market or retail chains, depending on particular circumstances. 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 product 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 (Global-GAP, etc) and the year round availability of fruit, the planning of long term contractual relationship is expected to increase. Finally, a new medium of e-

commerce is expected to have a significant impact on potential exporters or suppliers and their ability to supply directly to wholesalers or distributors in the target markets.

6. LOGISTICS

6.1 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 which have special capabilities in handling fruit produce (for example Durban's new fruit terminal).

The majority of avocados are exported by sea in refrigerated containers under controlled atmosphere (CA). 1-MCP treatment is used as an alternative to CA for fruit destined for markets where avocados are not ripened prior to retail. Fruit exported by sea is packed and cooled in the production regions. It is either loaded directly into refrigerated trucks at the pack house or into refrigerated containers for transport by road or rail to the port of exit. Avocados transported in refrigerated trucks are containerised in the port prior to shipping. The Cape Town port is the major export port for avocados and is located approximately 1 800 km from the production regions. The sea trip from Cape Town to Europe takes 12 to 14 days.

6.2 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. For every 10 Degree Celsius increase above the recommended temperature, the rate of respiration and ripening of produce can increase twice or even thrice. Related to this are increasing important traceability standards which require an efficient controlled supply chain and internationally accepted business standards. Because it takes about 25 days from packing to reach the European retailer, strict control of all links in the cold chain is important in order to maintain high standards of avocado quality.

6.3 Packaging

Packaging can also play an important role in ensuring safe and efficient transport of a product and conforming to handling requirements, uniformity, recyclable material specifications, phytosanitary requirements, proper storage needs and even attractiveness for marketing purposes.

The business panel of any carton (including printed carton labels) should comply with the requirements as established by the EU or any other regulations that are specified by a target market. Producers are advised to present their designs to the Perishable Products Export Control Board (PPECB) before they can order any cartons from a manufacturer. The following is normally required:

- Class I or II
- Fruit type
- Carton depth
- Country of Origin: “Produce of South Africa”
- Complete address of exporter or producer
- Name of variety
- Content of carton: “14 x punnets or bags”
- PUC or PHC code: Registered producer – or Pack House Code with DAFF
- Date code
- Food safety accreditation number: Global Gap, Nature’s Choice registration number, etc

7. ORGANIZATIONAL ANALYSIS

7.1 The South African Avocado Growers’ Association

The South African Avocado Growers’ Association (SAAGA) has a voluntary membership that accounts for 85% of South African avocado exports. Activities of the association are funded by its grower members through levies on local and export sales. The aim of SAAGA is to improve the profitability and sustain the viability of growing avocados in South Africa. To this end, the association is involved in the following activities:

- Technical support and advisory services to its growers
- Funding of appropriate technical and market research
- Provision of relevant market information
- Local and export market development through generic promotion
- Liaison with government and other bodies both locally and abroad.

Although SAAGA is funded by growers other role players such as export companies, are also members.

7.2 Strengths, Weakness, Opportunities and Threats (SWOT) analysis

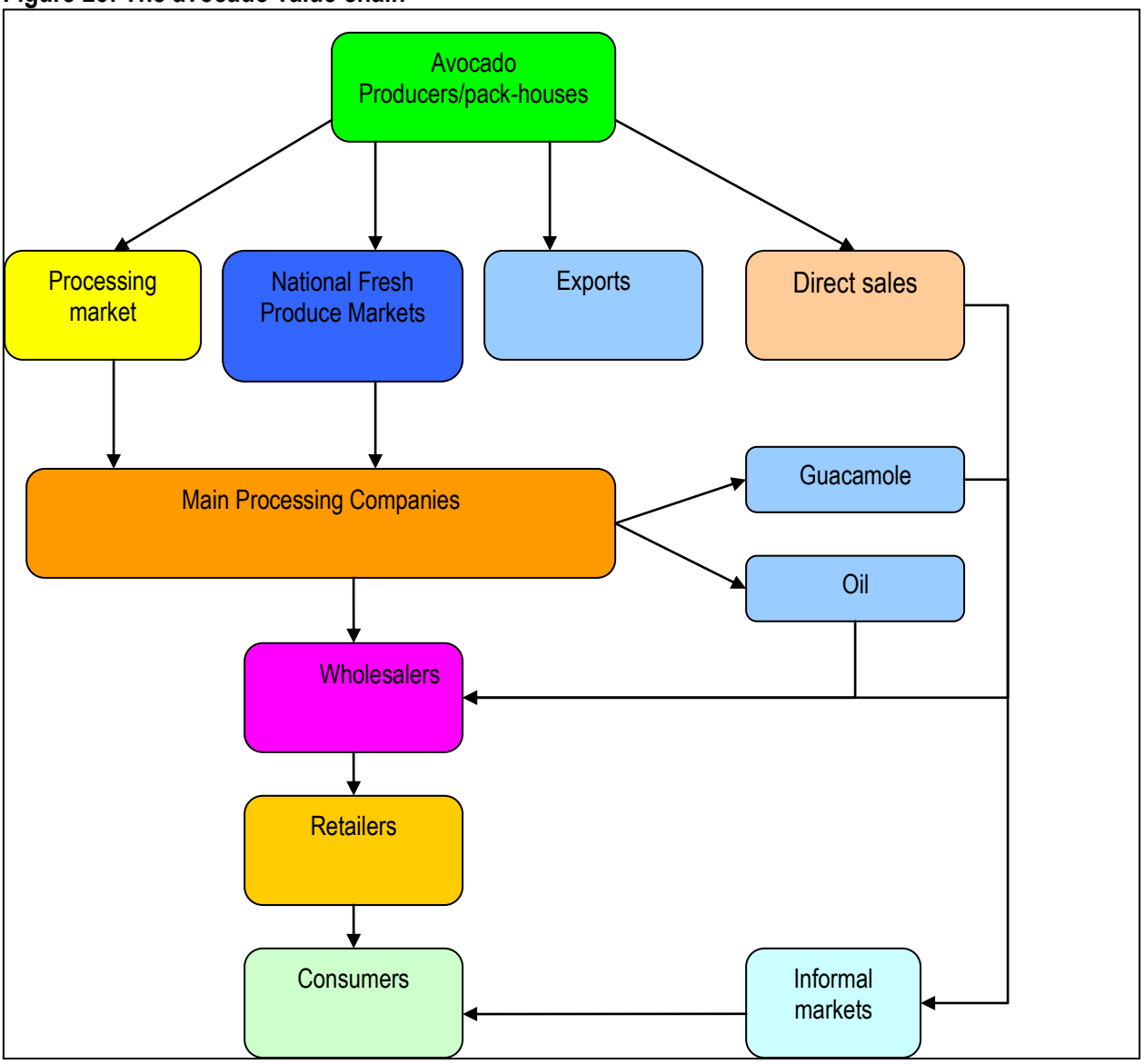
Some of the strengths, weaknesses, threats and opportunities of the avocado production sector in South Africa are the following:

Strengths	Weaknesses
• Generic promotion of the South African avocados has been successful especially in the UK. • The industry's export operations and leading players are well established. • Cooperation amongst the leading exporters has ensured that there is a constant supply to meet the basic requirement by the market. • The South African avocado industry has a strong reputation in major international markets. • The willingness by both the farmers and export agents to make available funds for market research. • Cooperation by RSA and other major role players like Spain, Kenya, Mexico, Chile and Peru in their openness to share market information on national and international levels.	• Production is largely dependent on climatic conditions which can only be partially manipulated by man through irrigation. • Relatively high input and capital costs.
Threats	**Opportunities**
• Potential competition from Spain, Israel, Kenya, Peru and Mexico for the lucrative European market. • Port abilities and shipping cycles still pose a threat as delays can easily reduce shelf life by five to ten days	• There is a strong demand in the UK and the rest of Europe in their summer months. • Increasing demand from avocado processing (oil and guacamole) present a potential for growth.

7.3 The avocado value chain

Figure 23 below shows the avocado value chain in South Africa. The main actors in the chain include processors, National Fresh Produce Markets (NFPMs), exporters, retailers, hawkers, and wholesalers.

Figure 23: The avocado value chain



7.4 Quality standards and food safety

Quality standards for exports are determined by the Department of Agriculture, Forestry and Fisheries (DAFF) in association with SAAGA. The standards ensure that good quality avocados are exported and include factors such as fruit maturity, size, and blemish levels. Quality inspections are carried out by the Perishable Products Export Control Board (PPECB) on a consignment basis prior to shipping. The PPECB also ensures that standards for refrigerated road transport and refrigerated containers are met. In addition, growers of avocados have to comply with Good Agricultural Practice (GAP) standards. SAAGA reports indicate that 95% of the industry is Global-Gap accredited. Other accreditations in the industry include HACCP, BRC, LEAF, Fair-trade and Tesco Nature's Choice.

7.5 Producers and pack-houses

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.

7.6 Cold storage

Cold storage operators are responsible for receiving, handling, cooling the avocados 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).

7.7 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. ACKNOWLEDGEMENTS

8.1 Acknowledgment is given to the following institutions:

8.1.1 South African Avocado Growers' Association
Private Bag X866
Tzaneen
0850
Tel (015) 307 3676
Fax (015) 307 1564
www.avocado.co.za

8.1.2 National Agricultural Marketing Council (NAMC)
Private Bag X 935
Pretoria
0001
Tel (012) 341 1115
Fax (012) 341 1811
Web: www.namc.co.za

8.1.3 National Department of Agriculture, Forestry and Fisheries
Directorate: Statistics and Economic Analysis
Private X246
Pretoria
0001
Tel (012) 319 84 54
Fax (012) 319 8031
Web: www.daff.gov.za

8.1.4 Trade and Industrial Policy Strategies (TIPS)
P. O. Box 11214
Hatfield
0028
Tel (012) 431 7900
Fax (012) 431 7910
Web: www.tips.org.za

8.1.5 International Trade Centre (ITC)
www.intracen.org

8.2 Avocado processors

8.2.1 Da Gama
Product: Oil
Tel (013) 7642181
Fax (013) 7642194
Cell (083) 294 0816

8.2.2 Del Avo

Product: Oil
Tel (083) 263 4899
Fax (083) 4572885
Email delavo@mweb.co.za

8.2.3 Spring Valley

Product: Puree
Tel (011) 571 7800
Fax (011) 571 7834
Cell (082) 920 5271

8.2.4 U no me

Product: Oil
Tel (015) 583 0043
Fax (015) 516 4668
Cell (082) 892 8806
Email unome@mweb.co.za

8.2.5 West Falia

Product: Oil and Puree
Tel (015) 305 3208
Fax (015) 305 3141
Cell (082) 491 7319
Email mariusv@hansmerensky.co.za

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