

A PROFILE OF THE SOUTH AFRICAN AVOCADO MARKET VALUE CHAIN

2010

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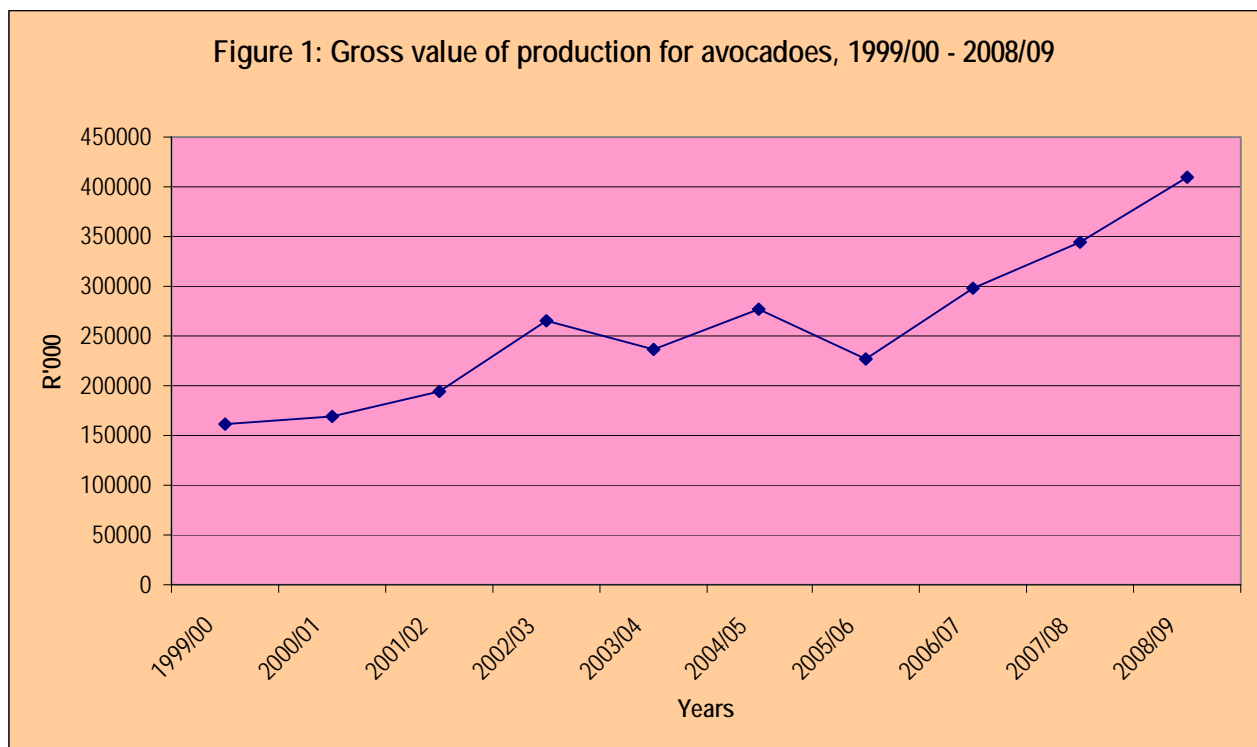
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1. DESCRIPTION OF THE PRODUCT AND INDUSTRY

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.

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. SAAGA has a membership of over 500 growers, accounting for over 85 percent of total avocado production in South Africa. The gross value of production for avocados is present in Figure 1 below.



Source: Agricultural Statistics, Department of Agriculture, Forestry and Fisheries

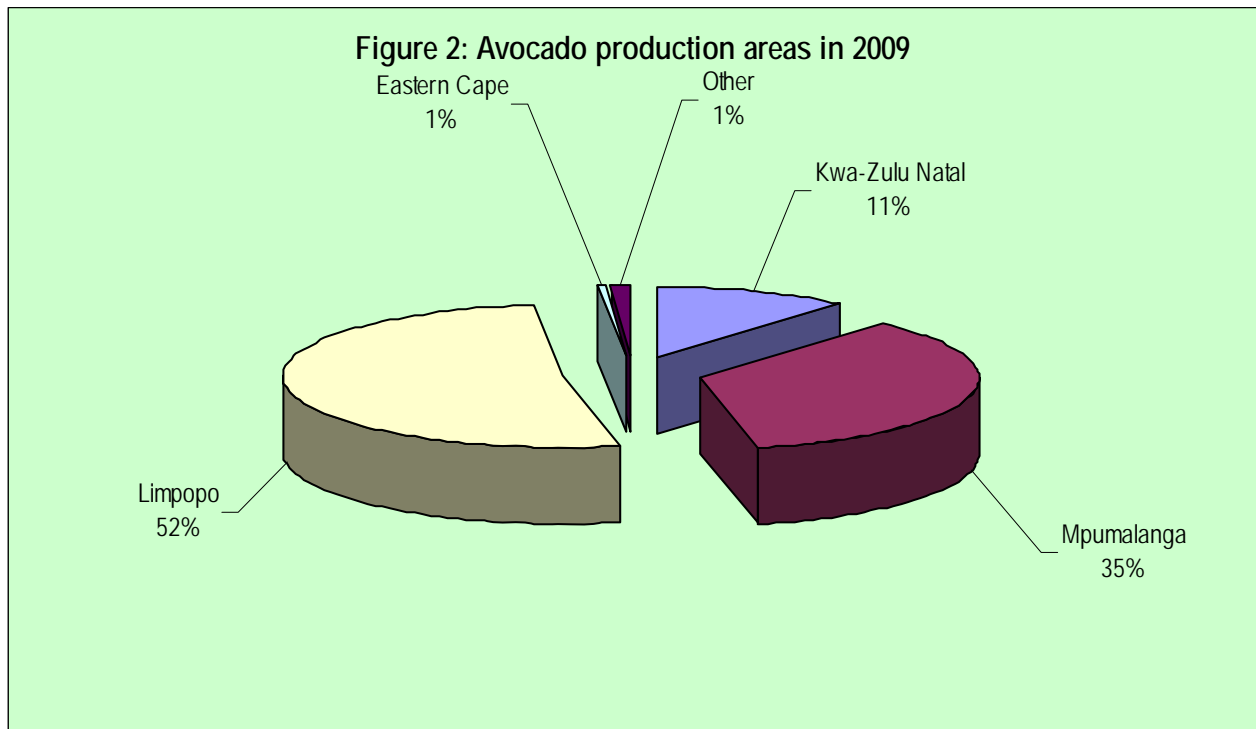
As depicted in Figure 1, there has been a general increase on the gross value of production (GVP) for avocados from 1999/00 to 2008/09. In 2008/09, the GVP for the sector was approximately R409 million. That represents a 19% increase in GVP for avocados from the 2007/08 production season. The increase may have been primarily due to large volumes of avocados produced and sold locally and internationally

in foreign markets. However, there were also decreases of 11% and 19% on GVP in 2003/04 and 2005/06 respectively. That may have been due to the reduction in both volume and value of exports.

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. 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 °S).

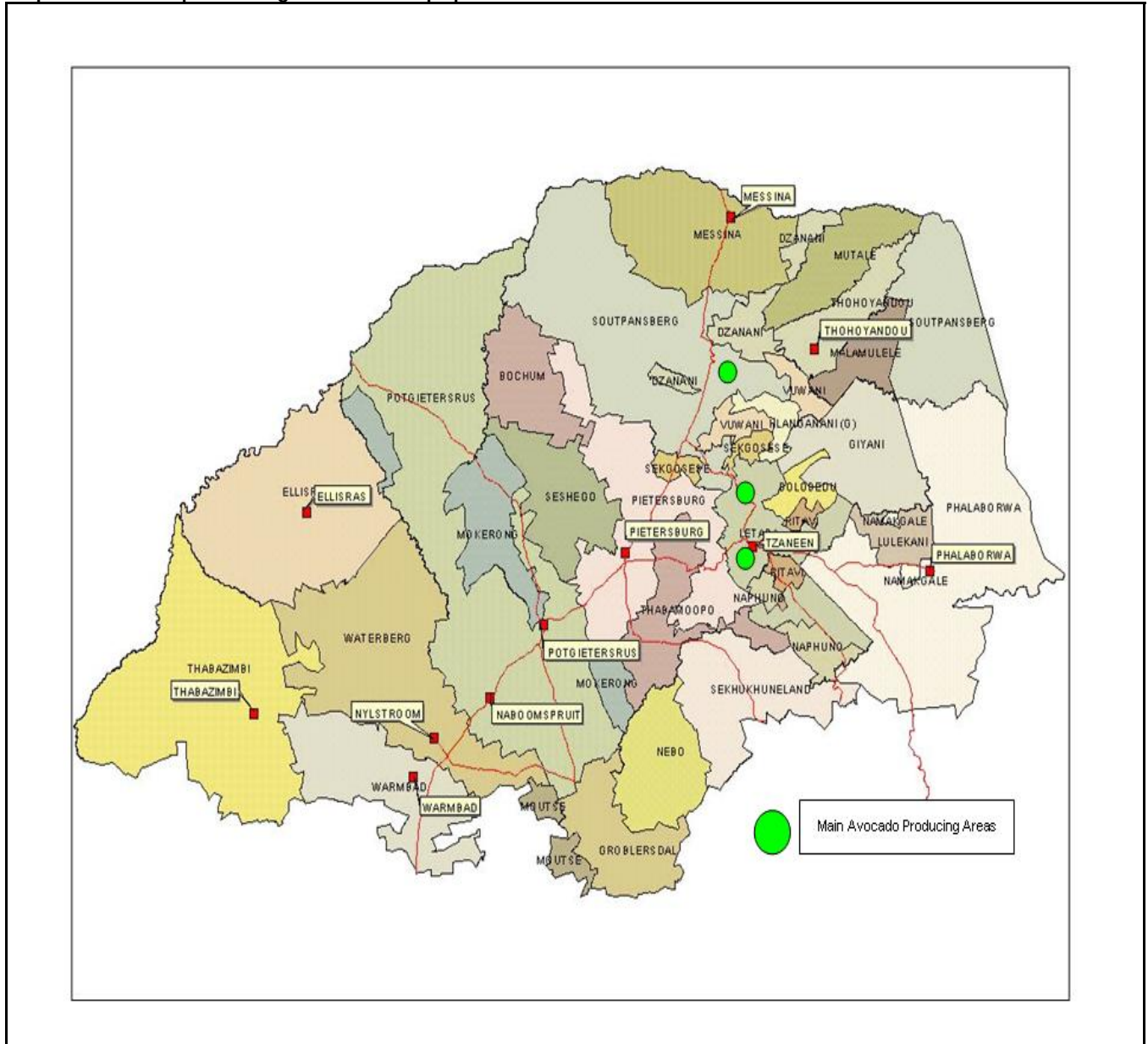
As already indicated above, due to climatic variability between the growing regions, most of the major cultivars are available over an extended period during the season. For example, 'Fuerte' is harvested from mid-March to May in the northern regions, and is harvested in July and August in KwaZulu-Natal.



South African Avocado Growers Association (SAAGA)

Limpopo Province represents 52% of national avocado production (see Figure 2). 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 Kwa-Zulu Natal Provinces are the second and third biggest producers of avocados with 35% and 11% respectively.

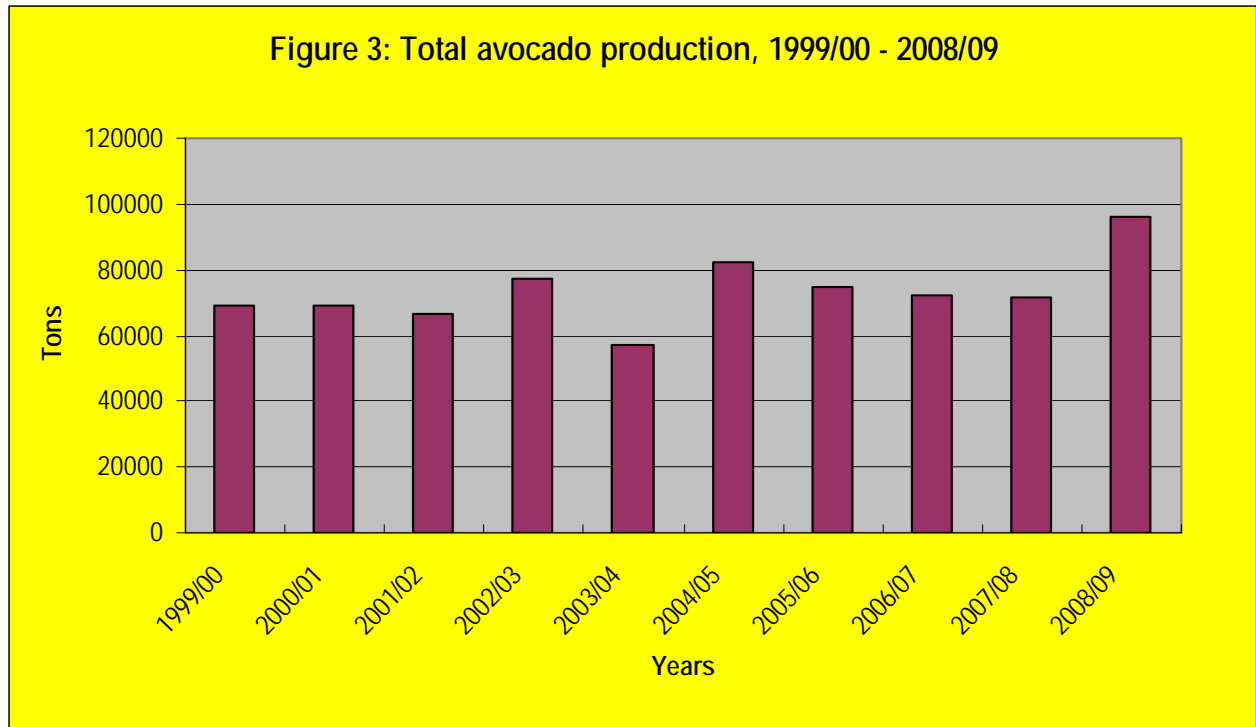
Map 1: Avocado producing areas in Limpopo Province



South African Avocado Growers Association (SAAGA)

1.2 Production quantities

Presented in Figure 3 below is the total production of avocados from 1999/00 to 2008/09. Generally, avocado production has been fairly stable in the past decade. The only serious decline experienced by the industry was a 27% decline experienced in 2003/04. That might have been due to drought amongst other causes. Avocados produced were small, owing to low minimum temperature during fruit set, as well as frost in certain production areas. There was a 34 percent increase in total avocado production between 2007/08 and 2008/08 production seasons.



Source: Directorate Agricultural Statistics, Department of Agriculture, Forestry and Fisheries

1.3 Cultivars

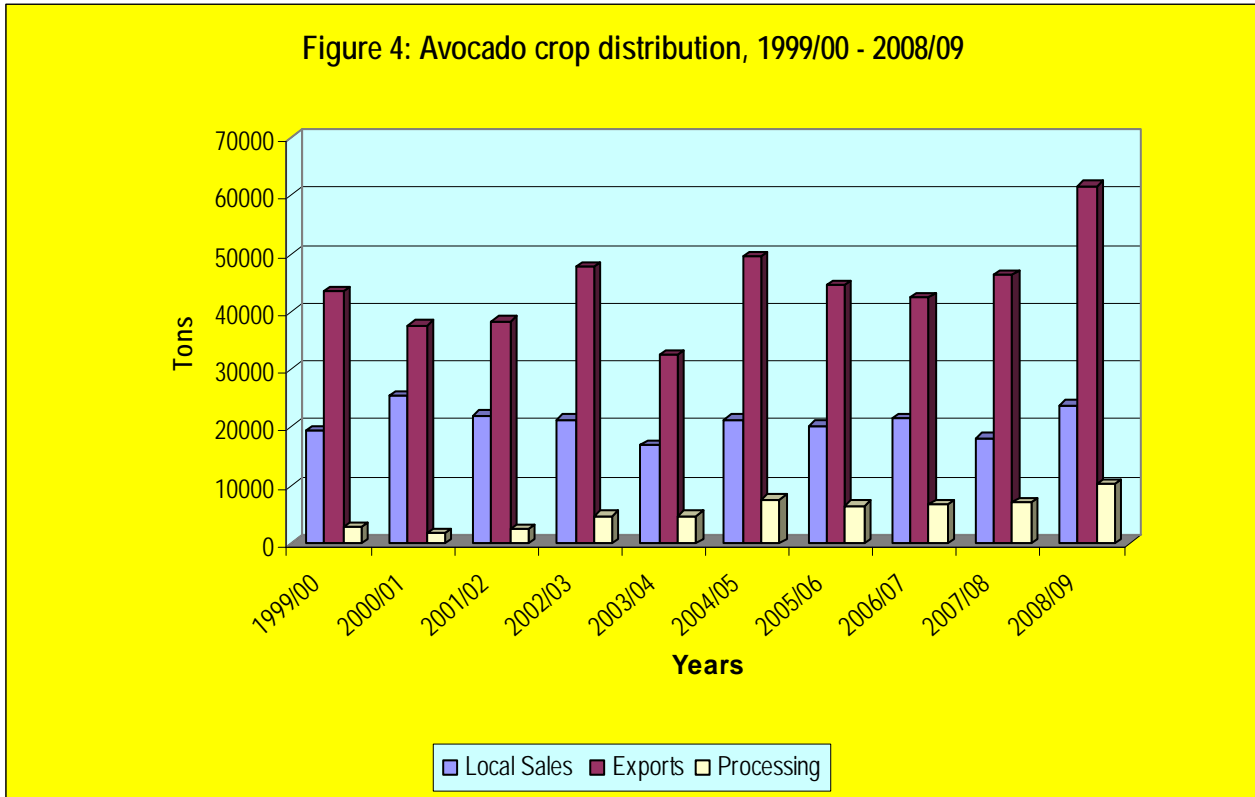
According to SAAGA Hass (33%) and Fuerte (42%) are the major cultivars, along with Ryan (11%) and Pinkerton (8.5%). More Hass has been planted in recent years due to its preference by European consumers. Pinkerton is popular among certain avocado growers because of its high yields. The only major problem with Pinkerton is its sensitivity to cold storage.

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.

2. MARKETING STRUCTURE

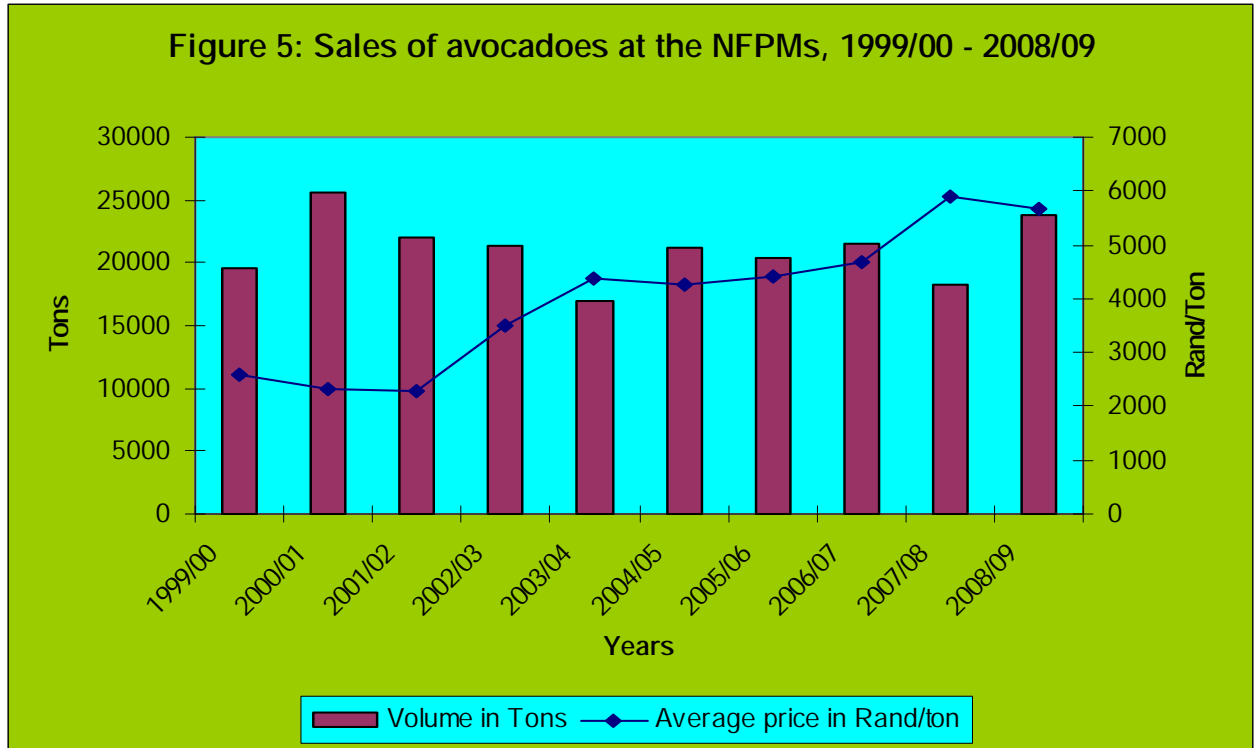
The South African avocado industry is primarily export-oriented. In 2008/09, approximately 64% of avocados produced in South Africa were exported, 25% were sold in the local markets and 10% were processed (see Figure 4).



Source: Directorate Agricultural Statistics, Department of Agriculture, Forestry and Fisheries

2.1 Domestic market and prices

Locally, avocados are sold through different marketing channels such as National Fresh Produce Markets (NFPMs) (where sales are facilitated by market agents after they have engaged with the farmers), informal trade (street hawkers), as well as directly to retailers and processors for manufacturing of guacamole and oil extraction. On the other hand, the role played by the informal sector cannot be forgotten, especially since this sector always contributes towards the total sales. Another recent trend in local marketing is the direct supply to supermarket chains from the pack-houses. Figure 5 present presents avocado quantities sold through the National Fresh Produce Markets for the period 1999/00 to 2008/09.



Source: Directorate Agricultural Statistics, Department of Agriculture, Forestry and Fisheries

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. Another recent trend in the local markets is to supply directly to supermarket chains. The increase in volumes sold at the national fresh produce markets between 2007/08 and 2008/09 has resulted in prices dropping down during the same period.

At the same time, local avocado prices have increased steadily from 2001/02. The increase in prices has been mainly due to decreased volumes sold at the time. 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.

Furthermore, prices on the local markets are largely influenced by seasonality in production, perishability of produce and the amount of avocados exported (availability of avocados on the local market). The impact of seasonality is to some extent cushioned by cold storage facilities that ensure regular avocado supplies in the local markets. Demand factors such as consumer habits, substitution between products and per capita income also influence prices. The price trends of avocados are presented in Table 1 below.

Table 1: Avocado price trends, 1999/00 – 2008/09

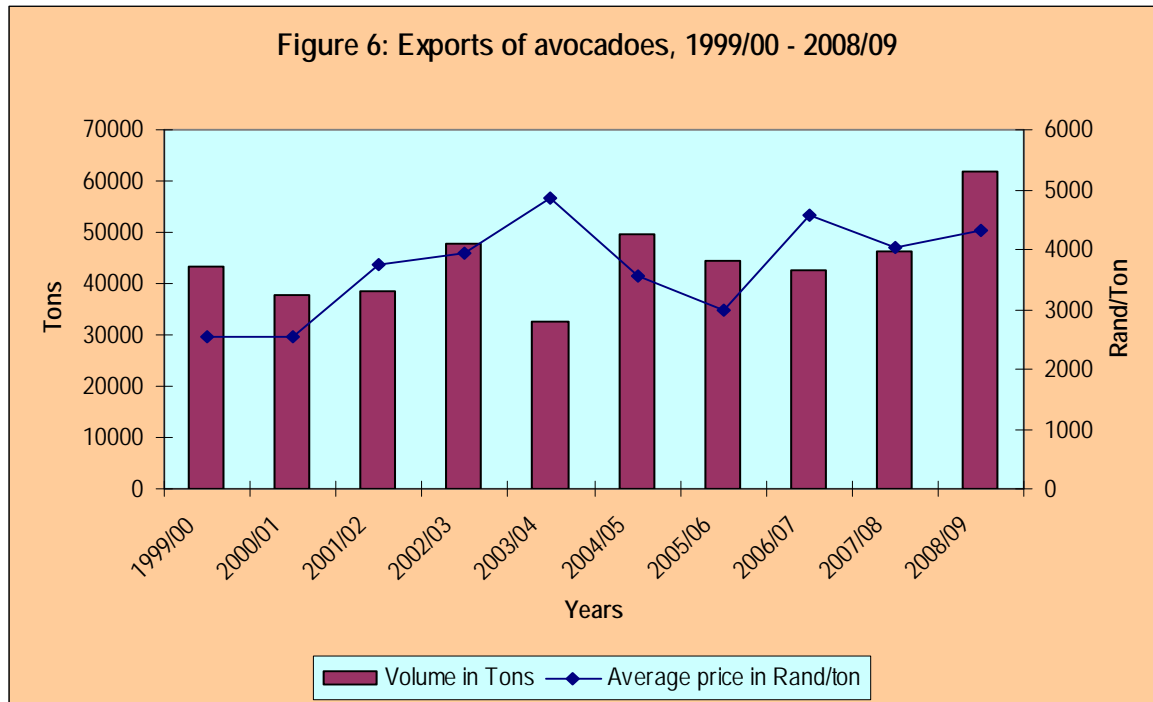
Years	Average price on national markets in Rand/Ton	Export net realization in Rand/Ton	Processed average price in Rand/Ton
1999/00	R2 570.00	R2 535.10	R342.62
2000/01	R2 338.00	R2 529.73	R358.96
2001/02	R2 267.00	R3 748.39	R704.42
2002/03	R3 488.00	R3 941.71	R654.76
2003/04	R4 377.00	R4 859.51	R1 027.94
2004/05	R4 270.00	R3 569.57	R1 159.59
2005/06	R4 416.00	R2 979.25	R821.38
2006/07	R4 678.00	R4 567.62	R1 007.20
2007/08	R5 886.00	R5 041.64	R1 007.20
2008/09	R5 669.00	R4 303.41	R951.33

Source: Agricultural Statistics, Department of Agriculture, Forestry and Fisheries

Avocados generally fetch higher prices in both exports and local markets. Price fluctuations in the past decade can be attributed to fluctuations in production volumes which occurred mainly as a result of inconsistent weather conditions. As can be observed from Table 1 all prices in the different markets have dropped between 2007/08 and 2008/09 marketing seasons owing to increased production volumes during the same period (see Figure 3).

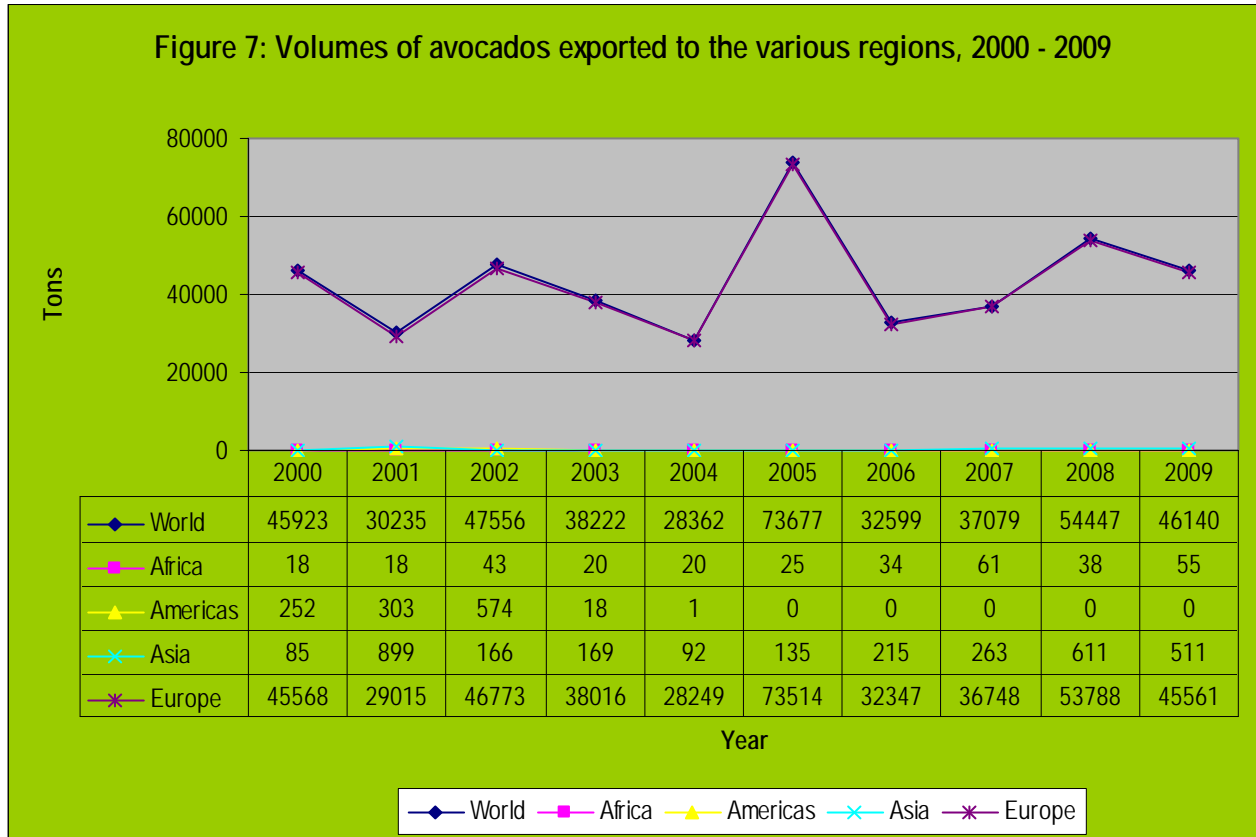
2.2 Exports

The South African avocado industry is export-orientated, with approximately 2% of international market share. In 2008/09, approximately 64% of avocados produced in South Africa were exported. South African avocado exports are presented in Figure 6.



Source: Directorate Agricultural Statistics, Department of Agriculture

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. However there was a significant increase (33%) in volumes exported between 2007/08 and 2008/09 marketing seasons. There were also significant increases in export volumes of 24% and 20% in 2002/03 and 2004/05, respectively. There was also a significant decrease of 32% in export volumes in 2003/04. 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. Exports of South African avocados to the various regions over the past decade are shown in Figure 7.

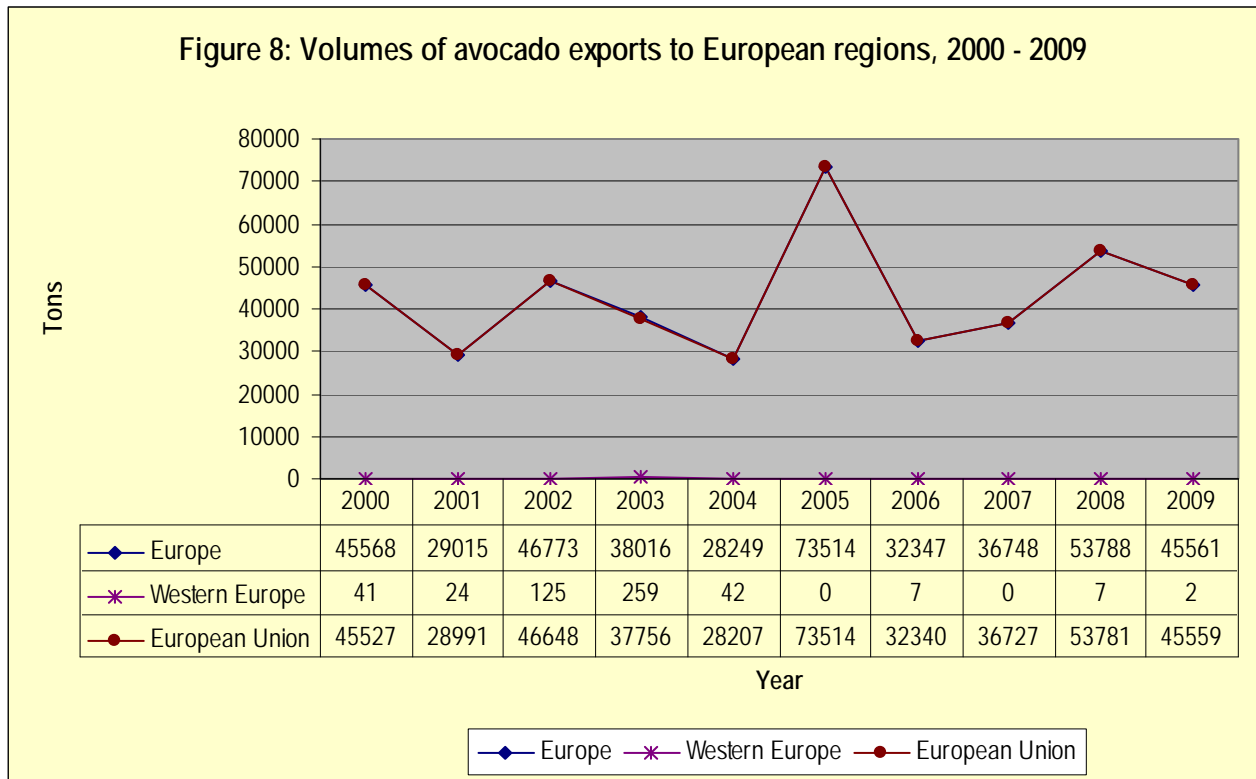


Source: Quantec

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 2009 exports to Europe accounted for 98% of total South African avocado exports. 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 899 tons in 2001 while those to Africa peaked at 55 tons in 2009.

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

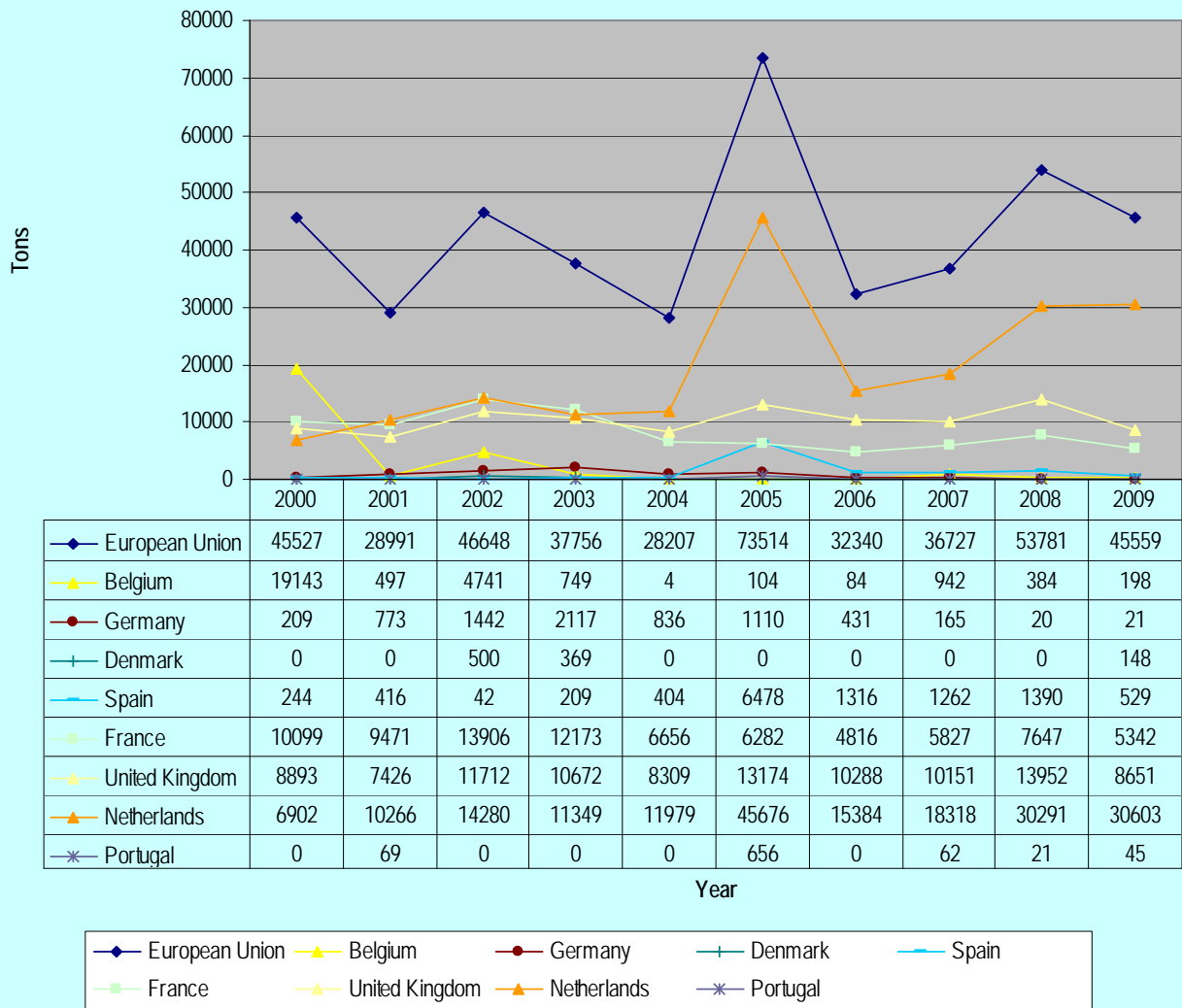
exports to Europe go to European Union member states while the remainder goes to Western Europe (see Figure 8).



Source: Quantec

Volumes of South African avocado exports to the 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 during the period under review are shown in Figure 9.

Figure 9: Volumes of avocado exports to the European Union, 2000 - 2009



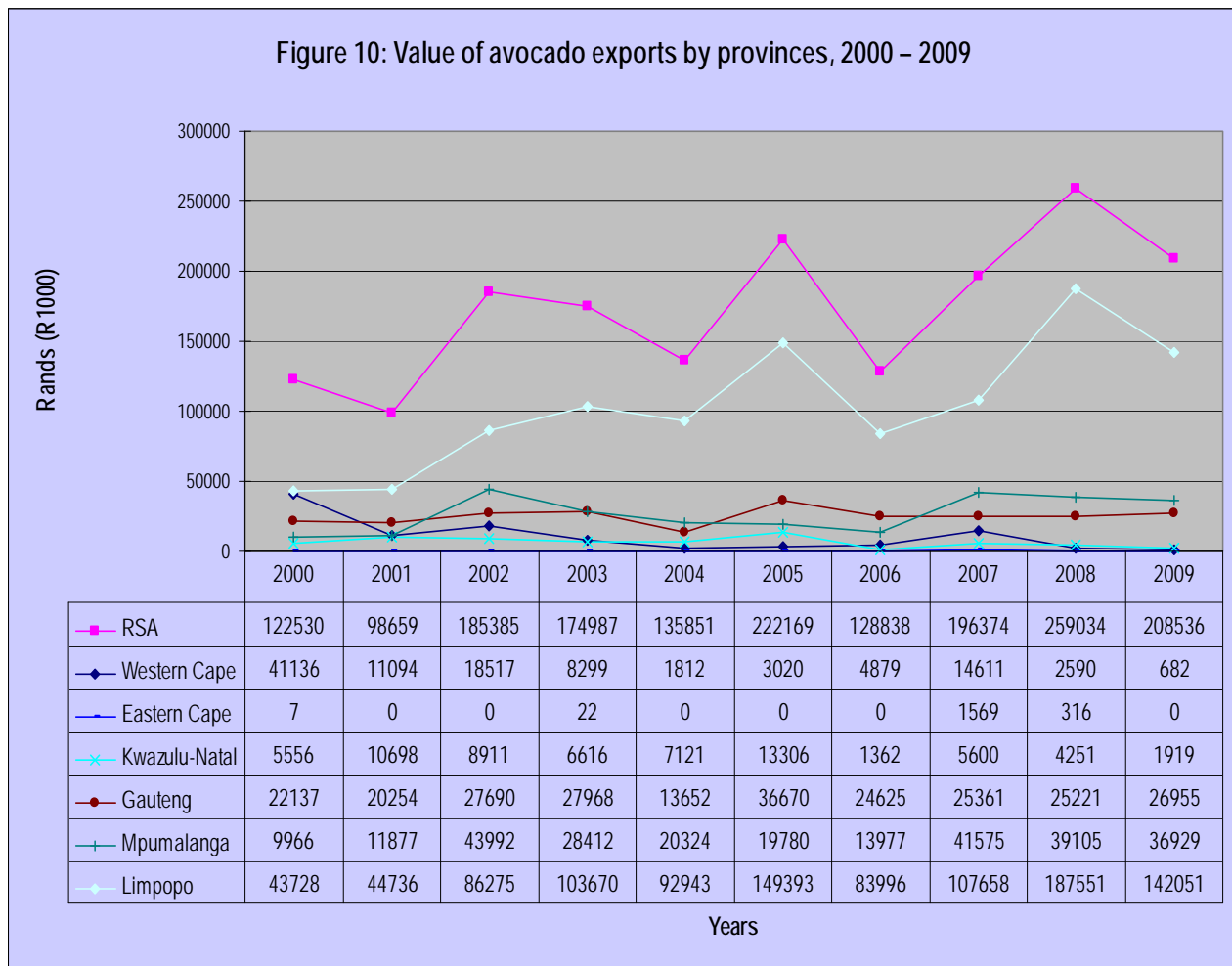
Source: Quantec

As can be seen from Figure 9 the major importers of South African avocados in the European Union include the Netherlands, United Kingdom and France. In 2009 the Netherlands accounted for two-thirds (67%) of all South Africa's exports to the European Union. It was followed by the United Kingdom at 19% (8 651 tons). 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. The major individual decline came from the United Kingdom, which experienced a 38% decline during the same period.

2.3 Provincial and district export values of South African avocados

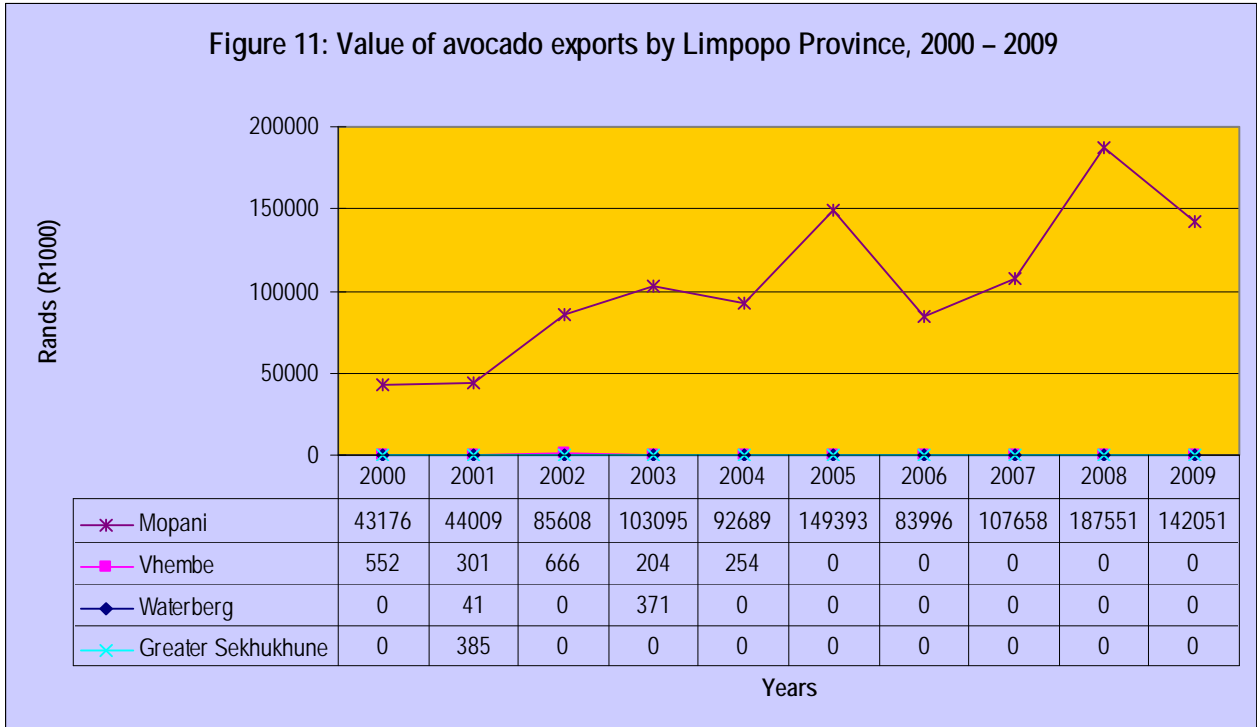
A review of provincial level trade data presents an interesting but somewhat misleading view of the source of avocados destined for the export markets. The fact that approximately 13% of avocados exported in

2009 were from Gauteng province does not imply that the avocados were produced there but that the registered exporters were based in Gauteng. Figure 10 below depicts the value of avocado exports from each province of South Africa for the period 2000 to 2009.



Source: Quantec

It is clear from Figure 10 that the Limpopo Province is the leader in exports of avocados in South Africa. The province contributed 68% to total South African avocado exports in 2009. This is however not surprising since most of South Africa's avocados are produced in Limpopo. Second in 2009 was the Mpumalanga province at 18%. Gauteng and Kwa-Zulu Natal follow at 13% and 1%, respectively. The following Figures (Figures 11 – 16) show the value of avocado exports from the various districts in the nine provinces of South Africa. Figure 11 illustrates values of avocado exports by the Limpopo province.

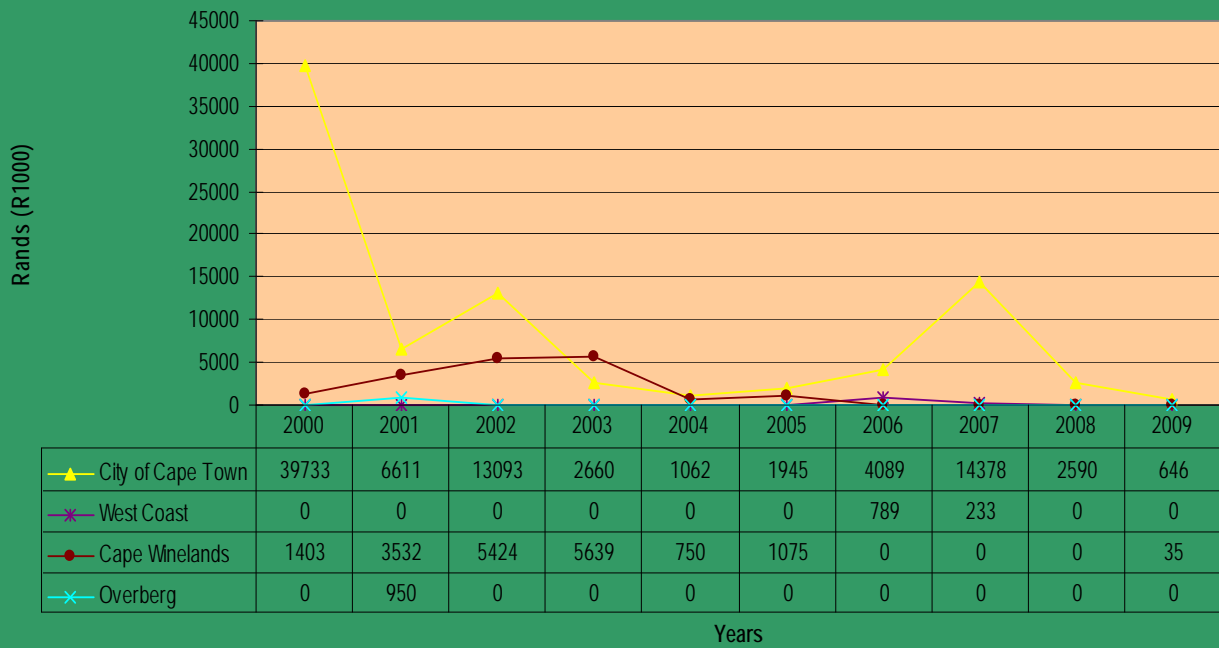


Source: Quantec

It is clear from Figure 11 that avocado exports from the Limpopo Province are mainly from Mopani District Municipality. High export value for the leading municipality was recorded in 2008. 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 2000 (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 2009 while those from the Cape Winelands picked up from three years without recording any exports.

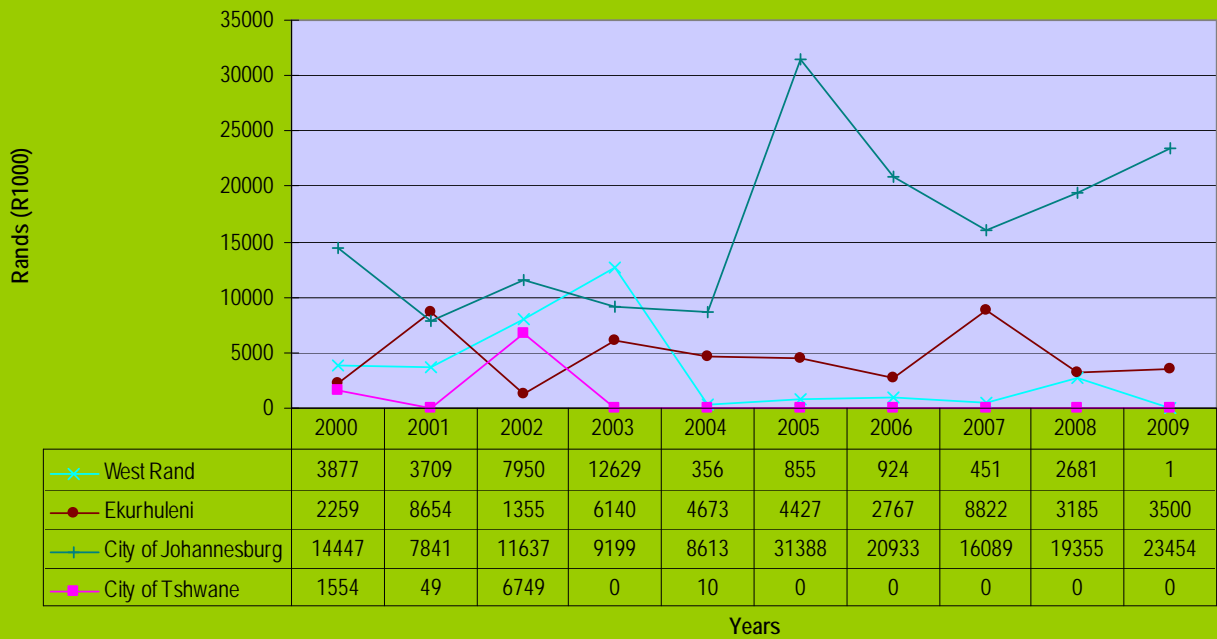
Figure 12: Value of avocado exports by the Western Cape Province, 2000 – 2009



Source: Quantec

Figure 13 shows the value of exports of avocados by the Gauteng Province. Generally, there have been fluctuations on the avocado export values for the past ten years in Gauteng Province. The leading role players are City of Johannesburg and Ekurhuleni municipalities. High export values of the leading municipalities were recorded in 2005 (for the City of Johannesburg) and 2007 (for Ekurhuleni).

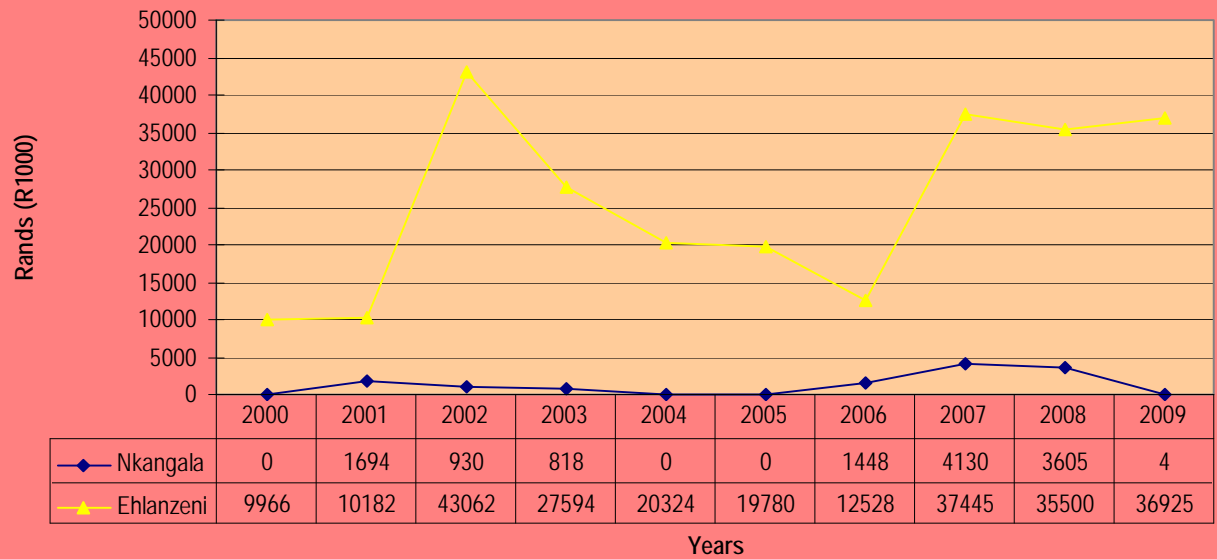
Figure 13: Value of avocado exports by Gauteng Province, 2000 – 2009



Source: Quantec

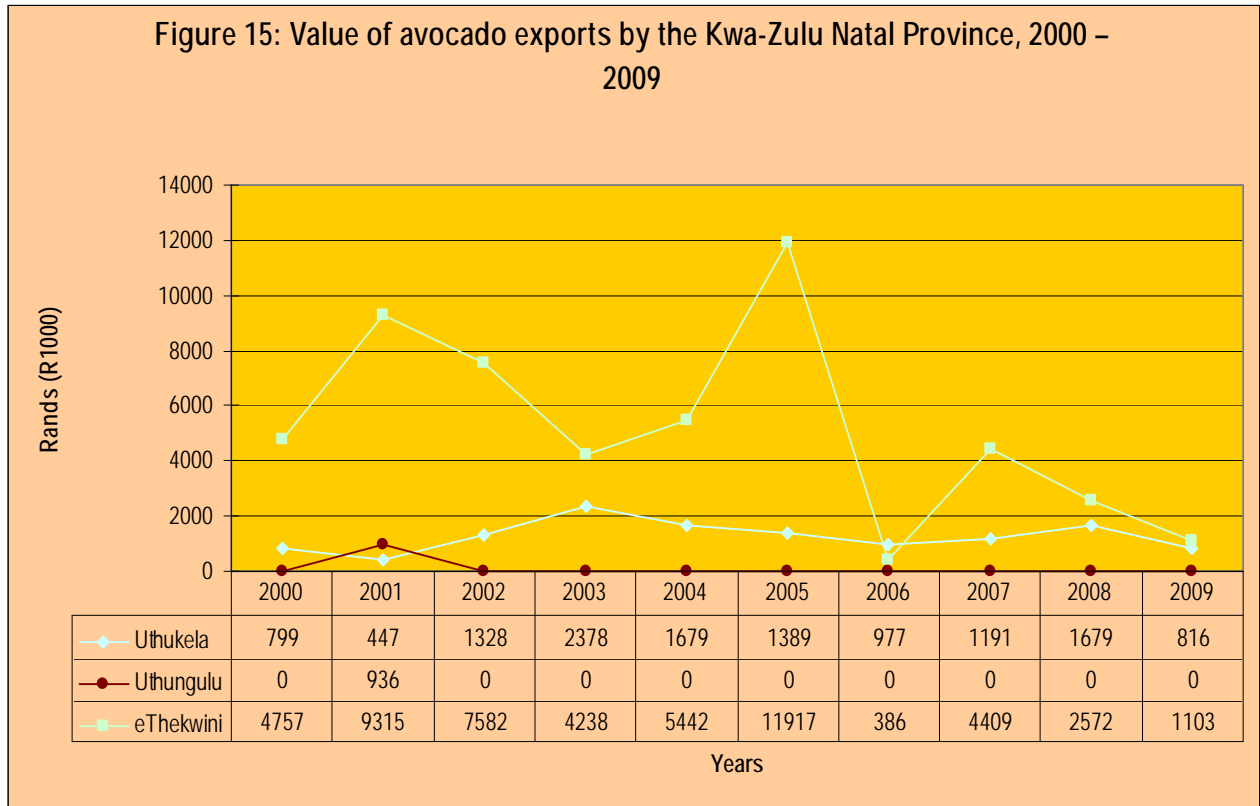
Values of avocado exports from the Mpumalanga province are shown in Figure 14.

Figure 14: Value of avocado exports by Mpumalanga Province, 2000 – 2009



Source: Quantec

It is clear from Figure 14 that most avocado exports from the Mpumalanga province are from Ehlanzeni District Municipality. High export value for the leading municipality was recorded in 2002. Another significant contributor is the Nkangala district municipality. High export value for the Nkangala district municipality was recorded in 2007. Values of avocado exports from Kwazulu Natal are presented in Figure 15.

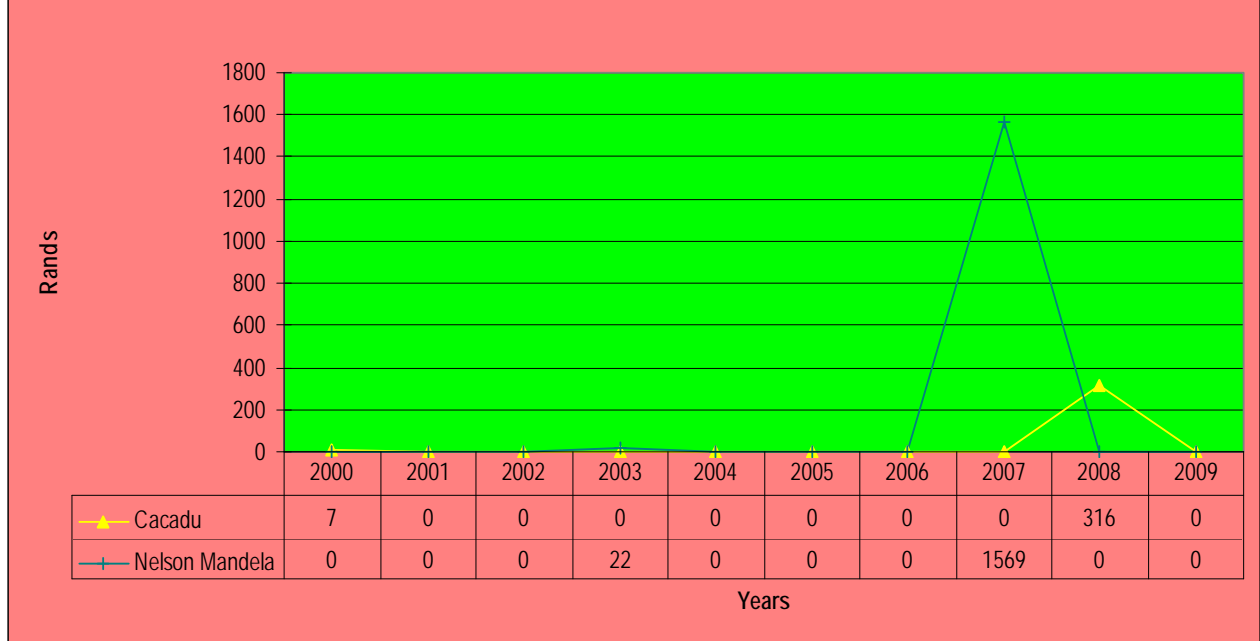


Source: Quantec

Figure 15 shows that avocado exports from the Kwa-Zulu Natal Province are mainly from Ethekwini and Uthukela districts municipalities. High export value for the Ethekwini was recorded in 2005 and the high export value for the Uthukela district was recorded in 2003. 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 Kwa-Zulu Natal Province. Values of avocado exports from the Eastern Cape 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. During the period under review the Cacadu district only recorded exports of avocados in 2000 and 2008 while the Nelson Mandela district only recorded exports in 2003 and 2007.

Figure 16: Value of avocado exports by the Eastern Cape Province, 2000 – 2009



Source: Quantec

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

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 Kwa-Zulu Natal because Gauteng is not an avocado producing region and yet the sizeable share of South African avocado exports are exported through this province.

Table 2: Share of provincial avocado exports to the total RSA avocado exports (%), 2000 - 2009

Years Province	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
RSA	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Western Cape	33.6	11.2	10.0	4.7	1.3	1.4	3.8	7.4	1.0	0.3
Eastern Cape	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.1	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	4.5	10.8	4.8	3.8	5.2	6.0	1.1	2.9	1.6	0.9
North West	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gauteng	18.1	20.5	14.9	16.0	10.0	16.5	19.1	12.9	9.7	12.9
Mpumalanga	8.1	12.0	23.7	16.2	15.0	8.9	10.8	21.2	15.1	17.7
Limpopo	35.7	45.3	46.5	59.2	68.4	67.2	65.2	54.8	72.4	68.1

Source: Calculated from Quantec

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. Almost all (95%) Western Cape avocado exports in 2009 left through the City of Cape Town. This can be explained by the fact that both the harbour and airport are found in this district. The remaining 5 percent were exported through the Cape Winelands district.

Table 3: Share of district avocado exports to the total Western Cape provincial avocado exports (%), 2000 - 2009

Years District	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
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	96.6	59.6	70.7	32.0	58.6	64.4	83.8	98.4	100.0	94.7
West Coast	0.0	0.0	0.0	0.0	0.0	0.0	16.2	1.6	0.0	0.0
Cape Winelands	3.4	31.8	29.3	68.0	41.4	35.6	0.0	0.0	0.0	5.2
Overberg	0.0	8.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Source: Calculated from Quantec

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 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 (%), 2000 - 2009

Years District	2000	2003	2002	2003	2004	2005	2006	2007	2008	2009
Limpopo	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Mopani	98.7	98.4	99.2	99.4	99.7	100.0	100.0	100.0	100.0	100.0
Vhembe	1.3	0.7	0.8	0.2	0.3	0.0	0.0	0.0	0.0	0.0
Waterberg	0.0	0.1	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0

Years District	2000	2003	2002	2003	2004	2005	2006	2007	2008	2009
Greater Sekhukhune	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Source: Calculated from Quantec

Table 5 presents the share of district avocado exports to the total Gauteng provincial avocado exports for the period 2000 to 2009. In 2009 the leading districts in avocado exports in Gauteng were the City of Johannesburg and Ekurhuleni. The West Rand district also contributed during the previous years, although minimally.

Table 5: Share of district avocado exports to the total Gauteng provincial avocado exports (%), 2000 - 2009

Years District	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Gauteng	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
West Rand	17.5	18.3	28.7	45.2	2.6	2.3	3.8	1.8	10.6	0.0
Ekurhuleni	10.2	42.7	4.9	22.0	34.2	12.1	11.2	34.8	12.6	13.0
City of Johannesburg	65.3	38.7	42.0	32.9	63.1	85.6	85.0	63.4	76.7	87.0
City of Tshwane	7.0	0.2	24.4	0.0	0.1	0.0	0.0	0.0	0.0	0.0

Source: Calculated from Quantec

The Mpumalanga province contributed 18 percent of total South African avocado exports in 2009 (see Table 2). It is clear from Table 6 that the leading district in avocado exports in Mpumalanga is the Ehlanzeni district.

Table 6: Share of district avocado exports to the total Mpumalanga provincial avocado exports (%), 2000 - 2009

Years District	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Mpumalanga	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Nkangala	0.0	14.3	2.1	2.9	0.0	0.0	10.4	9.9	9.2	0.0
Ehlanzeni	100.0	85.7	97.9	97.1	100.0	100.0	89.6	90.1	90.8	100.0

Source: Calculated from Quantec

Table 7 presents the share of district avocado exports to the total Kwa-Zulu Natal provincial avocado exports for the period 2000 to 2009. It is interesting to note that exports from the Kwa-Zulu Natal province during the period under review were only from the Uthukela and eThekweni districts. The leading district however is eThekweni.

Table 7: Share of district avocado exports to the total Kwa-Zulu Natal provincial avocado exports (%), 2000 - 2009

Years District	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Kwazulu-Natal	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Uthukela	14.4	4.2	14.9	35.9	23.6	10.4	71.7	21.3	39.5	42.5
Uthungulu	0.0	8.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Years District	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
eThekwini	85.6	87.1	85.1	64.1	76.4	89.6	28.3	78.7	60.5	57.5

Source: Calculated from Quantec

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. In 2009 no avocado exports were recorded from the Eastern Cape.

Table 8: Share of district avocado exports to the total Eastern Cape provincial avocado exports (%), 2000 - 2009

Years District	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Eastern Cape	100.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0
Cacadu	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0
Nelson Mandela	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0

Source: Calculated from Quantec

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

2.5 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.

2.5.1 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 40°F (4.4°C) showed only slight rancidity after 12 years. There is much interest in the oil in Italy and France. The Institut Francais de Recherches Fruitières 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 portion (flesh) is presented in Table 13 below.

Table 10: 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

2.5.2 Medicinal Uses

The fruit skin is antibiotic and is employed as a remedy for dysentery. The leaves are chewed as a remedy for pyorrhea. 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 diarrhea, sore throat and hemorrhage; 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.

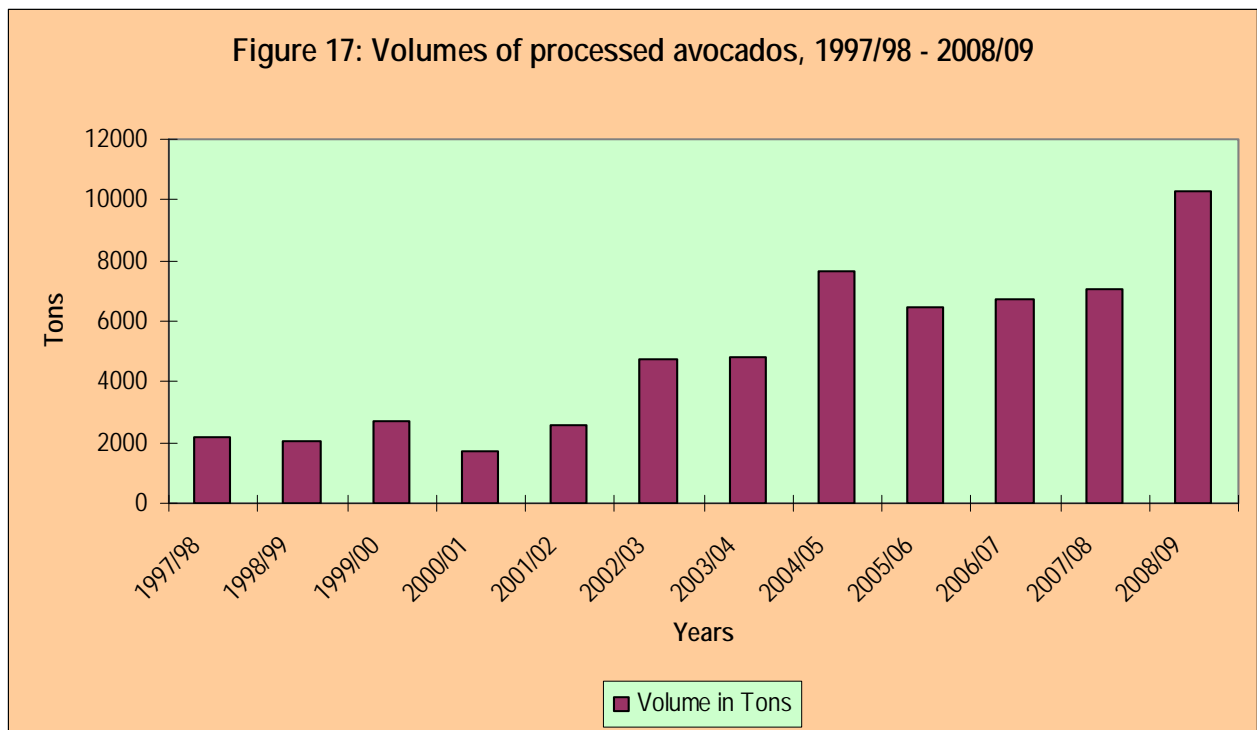
The seed is cut in pieces, roasted and pulverized and given to overcome diarrhea and dysentery. The powdered seed is believed to cure dandruff. A piece of the seed or a bit of the decoction, put into a tooth cavity may relieve toothache. An ointment made of the pulverized seed is rubbed on the face as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

2.5.3 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 drywood 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.

Honeybees gather a moderate amount of pollen from avocado flowers. The nectar is abundant when the weather is favourable. When unmixed by that from other sources it produces a dark, thick honey favoured by those who like buckwheat honey or sugarcane sirup. The volumes of avocados processed annually in South Africa are presented in Figure 17.



Source: Directorate Agricultural Statistics, Department of Agriculture, Forestry and Fisheries

Generally, there has been a steady increase in both volumes and values of processing since 2000/01. The increase in quantities processed was caused by an increased demand by the consumers and that certain producers recognized a need for an alternative market for lower grade fruit. The avocado processing industry has a potential to grow. There was a 45% increase in volumes of avocados processed between 2007/08 and 2008/09.

3. MARKET INTELIGENCE

3.1 Competitiveness of South African avocado exports

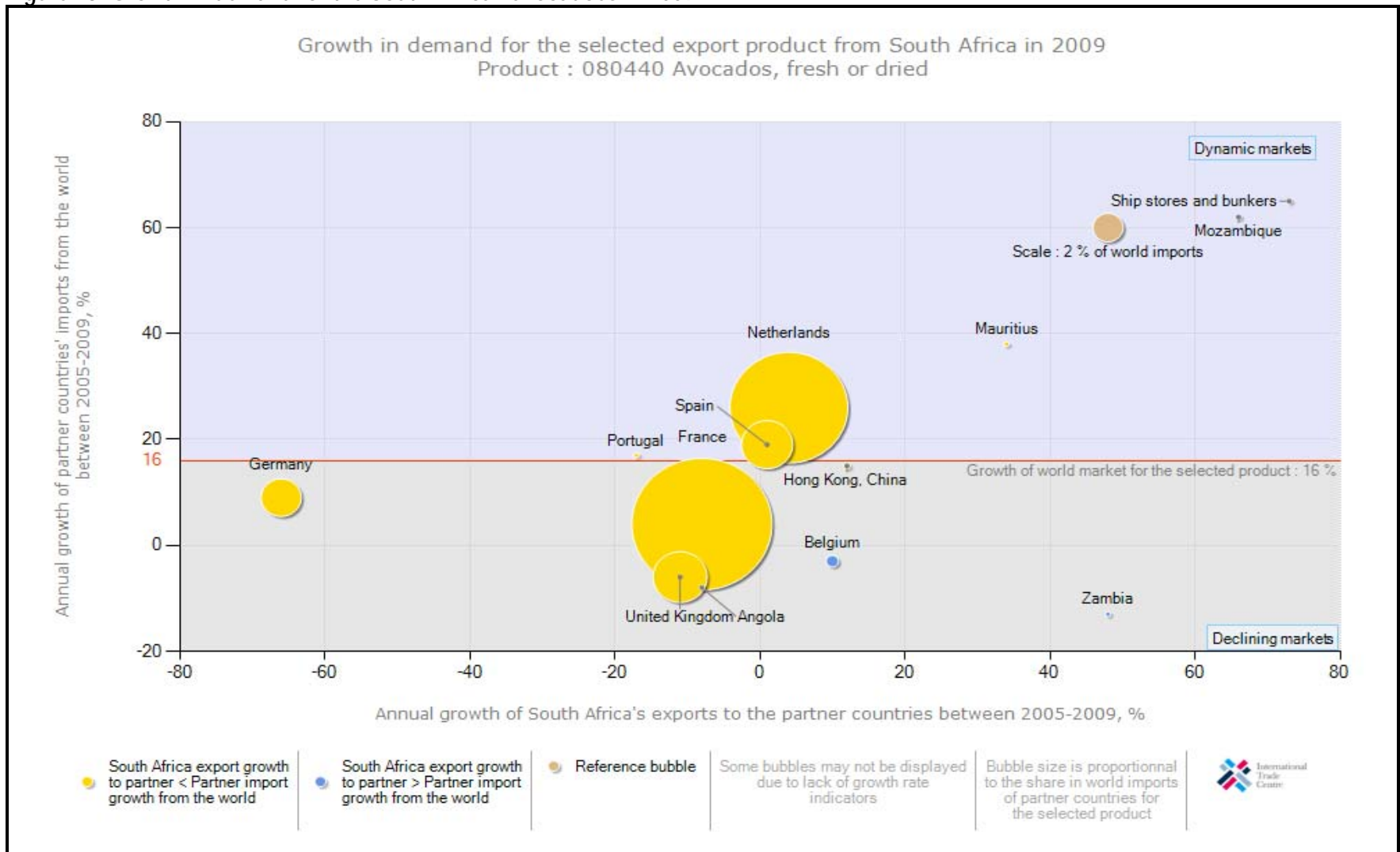
Competitiveness is described as an industry's capacity to create superior value for its customers and improved profits for the stakeholders in the value chain. The driving force in sustaining a competitive position is productivity that is output efficiency in relation to specific inputs with regard to human, capital and natural resources. In 2008 South Africa's avocado exports represented 1.65% of world exports and its ranking in world exports was position 9.

As depicted on the Figure 18 below, South African avocado exports are growing faster than the world imports in the Mozambican market. South Africa's performance in this market can be regarded as gains in a dynamic market.

South African avocado exports are growing while the world imports are declining in Zambia, Belgium, Hong Kong and Angola markets. South Africa's performance in those markets can be regarded as gains in declining markets and should be viewed as achievement in adversity.

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

Figure 18: Growth in demand for the South African avocados in 2009



Source: TradeMap, ITC

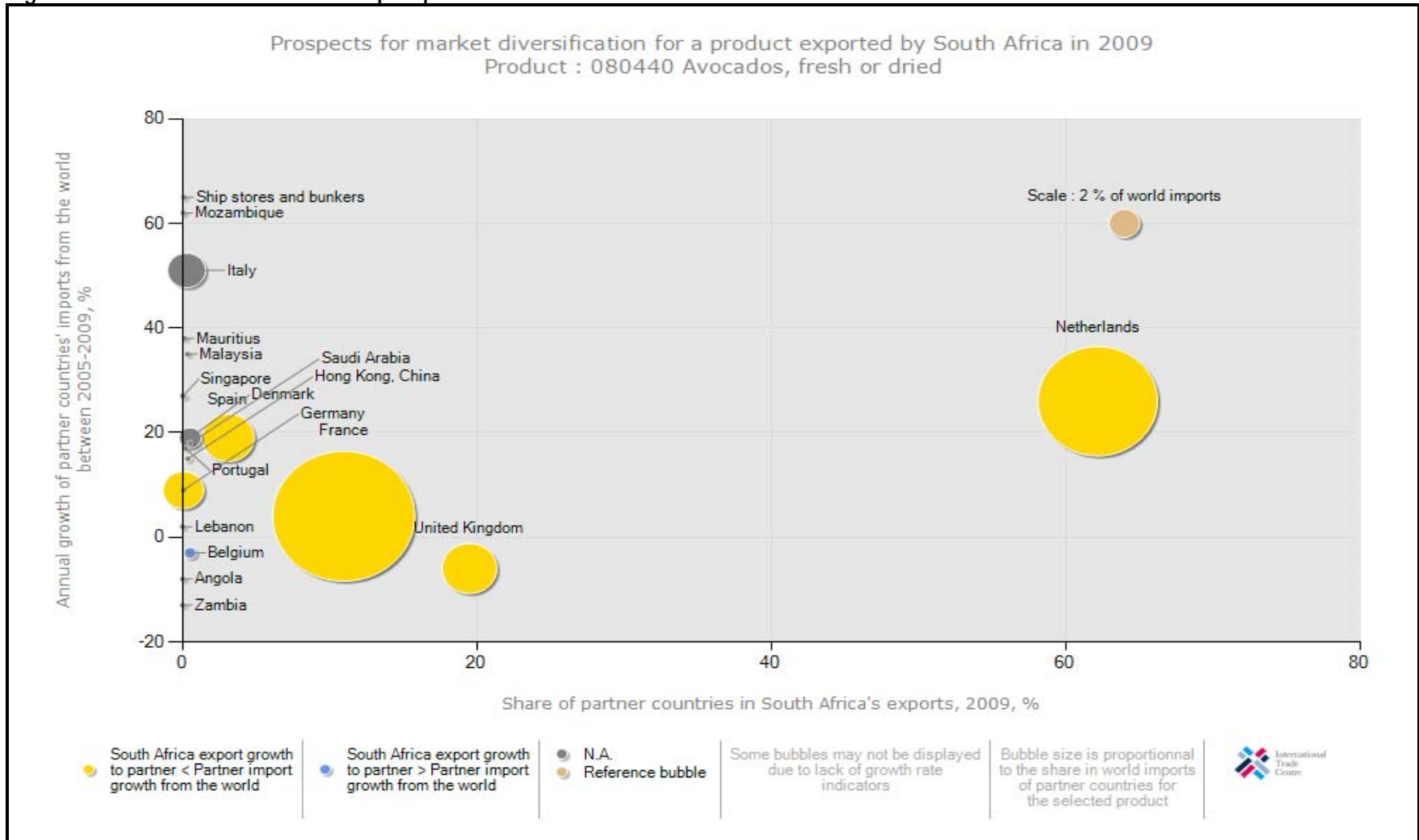
Figure 19 below illustrates prospects for market diversification by South African exporters of avocados. Netherlands, UK and France hold a bigger market share of South African avocado exports.

In terms of market size, USA was the largest avocado importer in 2009 with just over \$774 million worth of avocado imports, or roughly 45.9% of the world avocado market. Second was France with just over \$182 million worth of avocado imports, or roughly 10.8% market share followed by Netherlands with just over \$152 million worth of avocado imports, or roughly 9.0% market share.

Whilst three countries dominate world avocado imports, it is interesting to note that countries like Mozambique, together with Italy and Mauritius have experienced higher annual growth rate in terms of imports from 2005 – 2009 (see Figure 19). Mozambique experienced an annual growth rate of 62%. Second was Italy with 51% annual growth rate followed by Mauritius at 38%. 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 Zambia, Angola and Belgium have declined from 2005 – 2009 and as a result those countries have recorded a negative growth rate in avocado imports.

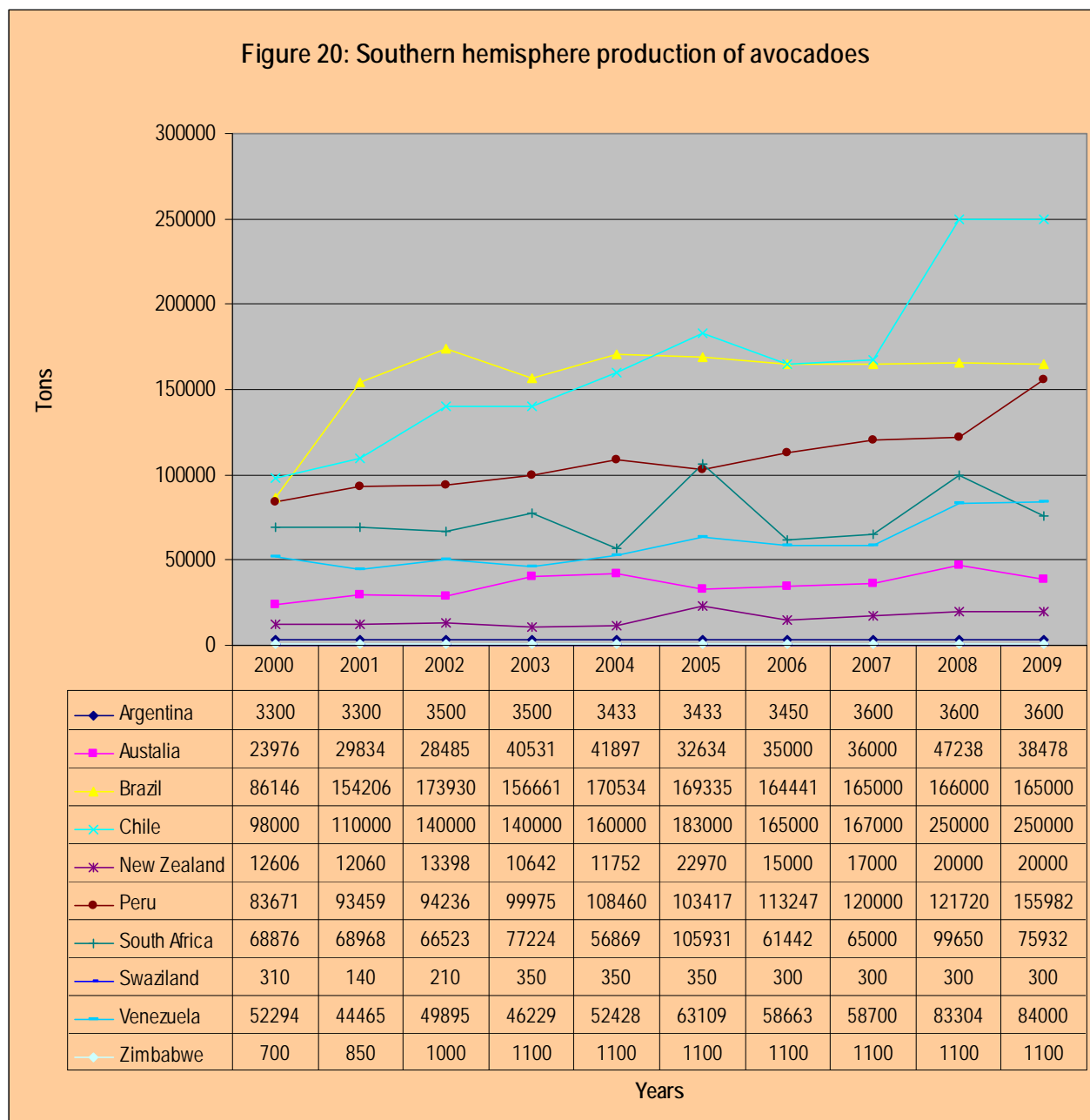
Figure 19: South African avocados' prospect for market diversification in 2009



Source: TradeMap, ITC

3.2 South Africa vs. Southern hemisphere production

Figure 20 presents southern hemisphere production of avocados. It is clear that South Africa was the fifth largest producer of avocados (9.6% in 2009) in the southern hemisphere after Chile, Brazil, Peru and Venezuela. Majority of these countries are vying for the lucrative North American and European markets.



Source: FAOSTAT

The fact that a country can produce a large output does not necessarily mean it will be a big net exporter – 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 1.03% to the total southern hemisphere avocado exports in 2009 (see Table 11).

Table 11: Southern hemisphere exports of avocados in 2009

Country	Export - Quantity in Metric Tons (MT)	Contribution to Southern Hemisphere Exports (%)
World exports	843 871	
Southern Hemisphere	284 641	100.00
Argentina	2 795	0.98
Australia	1 679	0.59
Brazil	2 932	1.03
Chile	166 192	58.39
New Zealand	13 629	4.79
Peru	48 346	16.98
South Africa	46 162	16.22
Venezuela	2 466	0.87
Zimbabwe	127	0.04
Swaziland	313	0.11

Source: Trademap, ITC

South Africa's main competitors from the southern hemisphere in the EU market for avocados are Chile and Peru. Chile is by far the largest avocado exporter from the southern hemisphere with approximately 58% market share in 2009. Historically, Chile has been exporting to the USA but recently, it has been increasing its share in the EU market. Peru has also been increasing its share in the EU market. 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.

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 phyto-sanitary 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 phyto-sanitary 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 top-ten export markets to avocados originating from South Africa.

Table 12: 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
Netherlands	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%
United Kingdom	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%
France	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%
Spain	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%
United Arab Emirates	08044000	Dates, figs, pineapples, avocados, guevas, mangoes and mangosteens, fresh or dried: Avocados	MFN duties (Applied)	0.00%	0.00%
Saudi Arabia	08044000	Dates, figs, pineapples,	General tariff	0.00%	0.00%

COUNTRY	HS CODE	PRODUCT DESCRIPTION	TRADE REGIME	APPLIED TARIFFS	TOTAL AD VALOREM EQUIVALENT TARIFF
		avocados, guevas, mangoes and mangosteens, fresh or dried: Avocados			
Belgium	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%
Denmark	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%
Malaysia	08044000	Fresh or dried avocados	MFN duties (Applied)	5.00%	5.00%

Source: Market Access Map, ITC

South Africa has a preferential trading agreement (PTA) with the EU (TDCA). Furthermore, South Africa has access to the US market under the AGOA which significantly lowers the tariff barriers for South African avocados. The Asia countries (United Arab Emirates and Saudi Arabia) also impose tariffs zero percent tariffs on avocados from South Africa while Malaysia imposes a 5% MFN duty on avocados from 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 phyto-sanitary 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.

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: phyto-sanitary regulations

The international standard for phyto-sanitary 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 consists of physical examination of a consignment deemed to have a level of phyto-sanitary risk, identification of any harmful organisms and certification of the validity of any phyto-sanitary 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 phyto-sanitary controls and may need to undergo heat treatment, fumigation, etc.

4.2.2.2 Non-legal requirements

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 EUREGAP) 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.

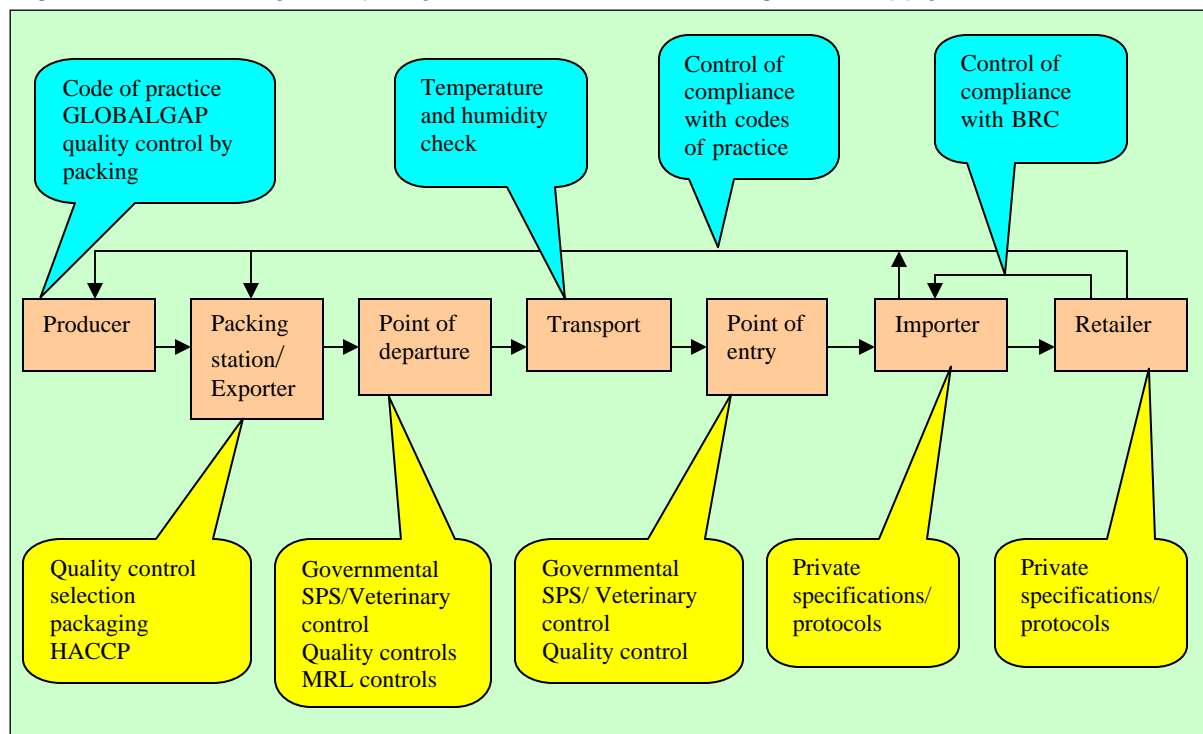
Another important emerging label is Fairtrade, and includes those labels offered by Max Havelaar Foundation, TransFair International and the FLO (Fairtrade Labelling Organization). Recently a 'universal' logo was adopted based on international fair trade standards developed by FLO, which covers amongst 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 EUREPGAP 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 21. 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 21: 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 phyto-sanitary 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 or site inspections. The PPO'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 (disinfection 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 PPO 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 phyto-sanitary 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 promote efficiency in marketing and procurement.

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 phyto-sanitary 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 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. 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 relationship is expected to increase.

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).

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.

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, phyto-sanitary 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 Strength, Weakness, Opportunities and Threats (SWOT) analysis

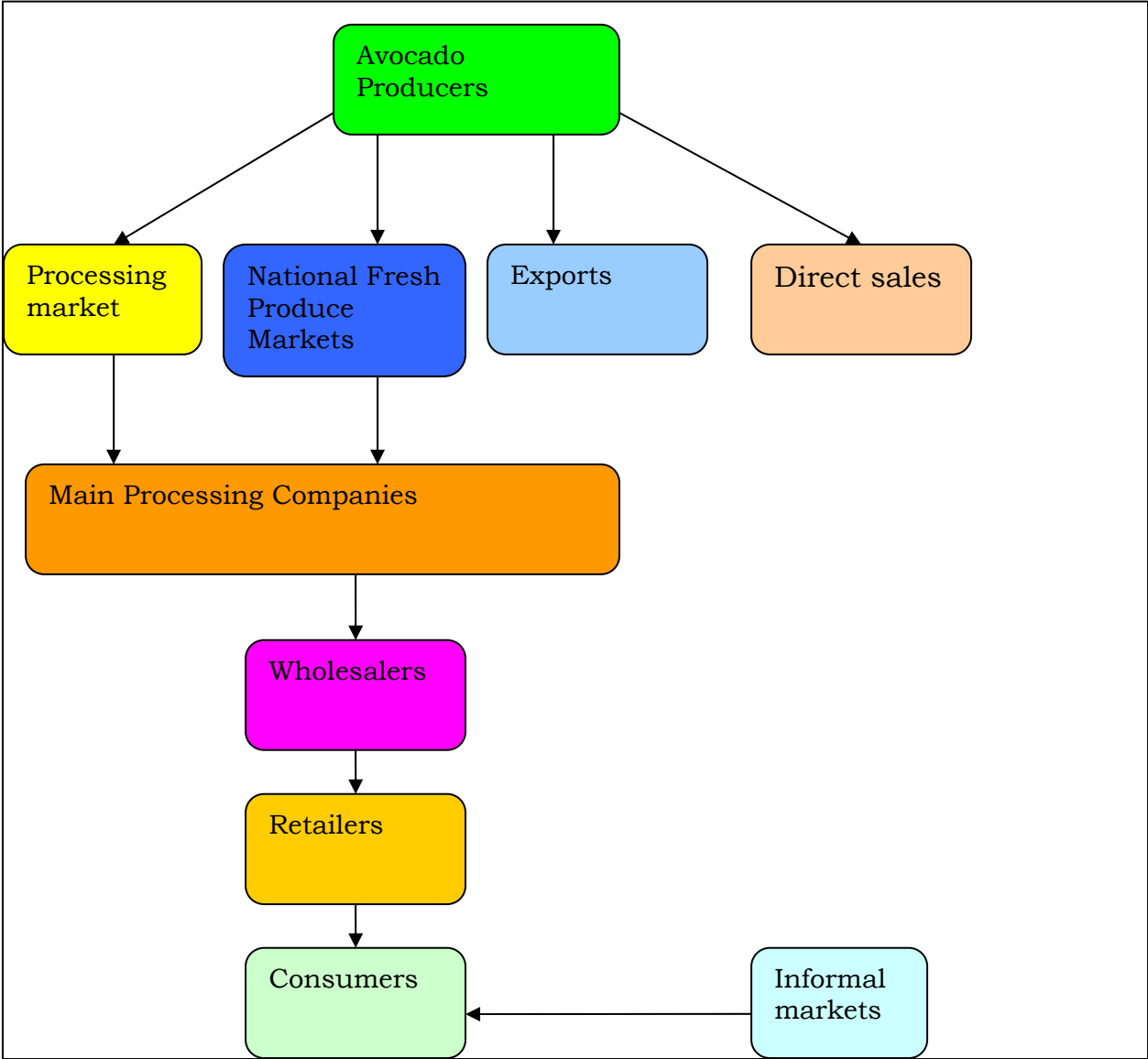
Some of the strengths, weaknesses, threats and opportunities of the avocado production sector in South Africa are the following:

Strengths	Weaknesses
<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • 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
<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 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 22 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 22: The avocado value chain



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

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: Agricultural Statistics

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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