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# Short report: Using air transport for Western Cape perishable products

Louw Pienaar  
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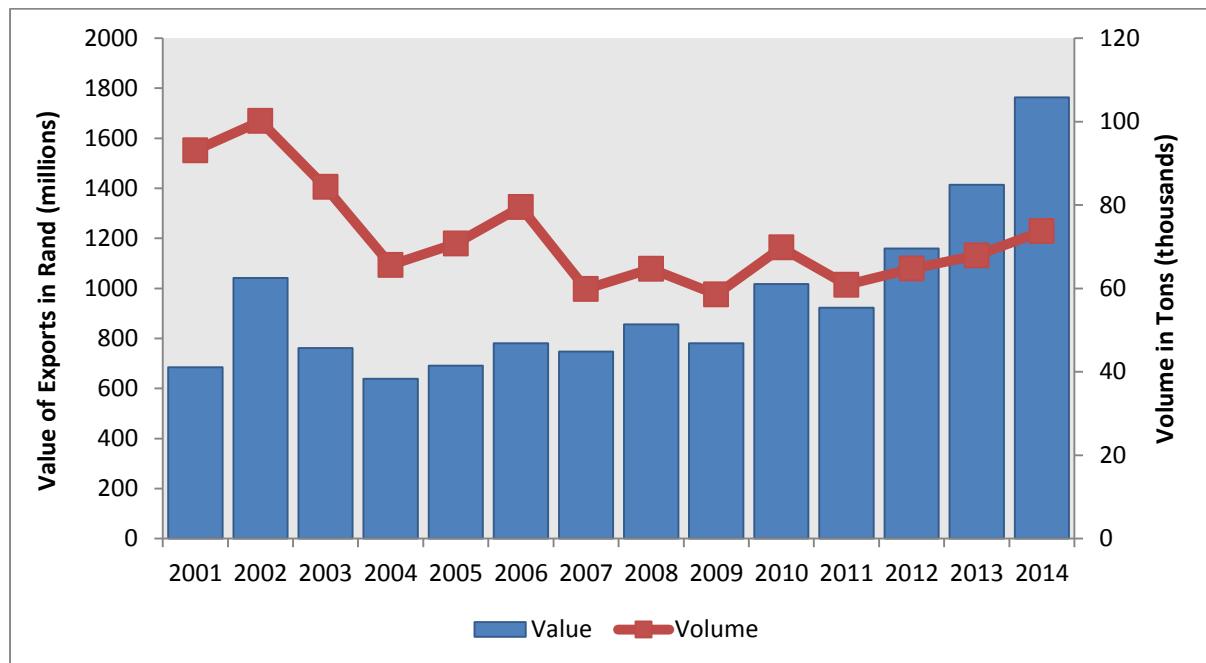
## **Introduction**

This short report seeks to sketch a detailed background of possible opportunities that might exist for the exports of Western Cape perishable agricultural products to the United States of America using air transport. The focus will be on looking at the dynamics of the exports of perishable products from RSA and more particularly, study the mode of transport utilised. Much research in the Western Cape Department of Agriculture has focussed on agricultural trade to Africa and other regions as well as focussing on market access conditions. However, there is very limited understanding of the market for the exports of agricultural products using air transport. The emphasis in this report focus around the mode of transport, what factors influence such decisions and seeks to identify possible products to be exported to the USA market. This will be done by looking at available data from both the International Trade Centre (ITC) and the Perishable Products' Export Control Board (PPECB), while some literature will highlight important factors to consider as well as some insights from Industry body discussions will give a more clear understanding of the dynamics of air-transported export to the USA.

## **Exports of perishable agricultural products to the USA**

South Africa is known for its export of perishable agricultural produce into world markets, mainly because the country has comparative advantage in the growing of different agricultural products. Of particular importance for the Western Cape are the exports of high quality fresh fruits, some vegetables and cut flowers. A key market for South African perishable products is the USA, which has in recent years been bolstered by the Africa Growth and Opportunity Act (AGOA) for the past decade. AGOA allows for trade between the US and eligible sub-Saharan African countries in a non-reciprocal preference scheme. It is expected that a new agreement on AGOA will be signed in the coming months. Figure 1 show South African exports of agricultural perishable products<sup>1</sup> to the USA both in value and volume terms (ITC, 2015). The value of exports has increased from R685 million to R1.72 billion from 2001 to 2014. Particularly in the last 4 years, exports to the USA have seen strong growth not only in terms of value, but also in terms of the volumes exported. The value of exports can often be driven higher by increases in export prices over time and not necessarily increases in volumes traded. When looking at the export quantities it is clear that there was a declining trend towards 2007. In 2014, South Africa exported 73.7 million tons of

perishable products to the USA which is still much lower than the highest peak of 100 million tons in 2002. Since then, volumes have declined to around 58 million tons in 2009, while rebounding in an upward drive since then. . The annual growth rate for exports to the USA in volumes from 2009 to 2014 was 4.7% (ITC, 2015).



**Figure 1: RSA exports of perishable products<sup>1</sup>**

(Source: ITC, 2015)

Table 1 gives the product breakdown for the top 20 exported products in value for 2014 to the USA. Nuts (mainly macadamia nuts), citrus fruit (mainly oranges) and crustaceans (mainly rock lobster) were the top three exported products by value. Other notable products were fruit juices (8.4%), seeds for sowing (7.1%), preserved and fruit (3.5%). Lower down the list is three flower products (16<sup>th</sup>, 17<sup>th</sup> and 18<sup>th</sup>) which combined make up 1.3% of the total exports of perishable products from South Africa to the USA. Table 1 also gives the annual growth rates for each product and it is clear that most of the products have seen strong growth of more than 10% from 2009 to 2014, with the exception of plants, cuttings and slips which have a negative growth rate for the same period. Most notable is the exceptional growth for South African nuts (33%), seeds (39%) and dried fruit (89%).

**Table 1: Top 20 South African exported products by value to the USA**

<sup>1</sup> These products include all agricultural products as included in PPECB list of agricultural standard.

N	Product	Value in 2014 in Rand (’000)	Percentage of Total (%)	5-year annual Growth Rate (%)
1	Nuts nes	489566	27.75	33.31
2	Citrus fruit	376439	21.34	9.39
3	Crustaceans	223893	12.69	13.44
4	Fruit & vegetable juices	149320	8.46	10.32
5	Seeds, fruit and spores	125523	7.12	39.53
6	Preserved fruits nes	62025	3.52	15.26
7	Pres cucumbers, gherkins and onions	51946	2.94	14.22
8	Fish, frozen, whole	43977	2.49	30.00
9	Grapes, fresh or dried	43718	2.48	14.82
10	Locust beans	34320	1.95	27.05
11	Fish, fresh, whole	30412	1.72	6.86
12	Fish fillets and pieces	30304	1.72	7.64
13	Dried fruit	18697	1.06	89.21
14	Apples, pears and quinces, fresh	13327	0.76	13.85
15	Fruits nes, fresh	10902	0.62	39.37
16	Cut flowers for bouquets	10491	0.59	19.37
17	Bulbs, tubers, corms	7091	0.40	12.24
18	Plants, cuttings & slips	6604	0.37	-4.42
19	Buckwheat, millet and canary seed	6204	0.35	-
20	Jams, fruit jellies & marmalades	5868	0.33	100.30

**(Source: ITC, 2015)**

Up to this point, the information has shown total South African exports to the USA and includes all modes of transport. The data analysed here does not disaggregate into the different modes of transport utilised as these goods can either be shipped by sea or transported by air. The focus will now shift towards some literature on the modes of transport utilised and then look at data in terms of trade with the USA by air.

## Mode of Transport

There are various factors that drive firms' decisions on the mode of transport selected for exporting goods. It is obvious that economic viability considerations are instrumental in the selection between road, sea or air transport. The World Bank (2009) suggests that compared to road transport, the cost of airfreight is typically 4-5 times higher and 12-16 times compared to sea transport. Sea transport remain the most efficiently method of transport for goods between countries. However, air transport typically becomes viable for products that have high value per unit and/or are highly time sensitive (World Bank, 2009). Indeed, rising incomes around the world has created an appreciation for perishable agricultural products and the increasing demand for fresh, value-added products (Tozi & Muller, 2006). The transportation of perishable and

temperature sensitive products is one of the three air cargo segments that have grown worldwide. Other factors that influence transport mode selections include changing oil prices, infrastructure development, the location of production and whether a country is land-locked. These factors certainly influence the decision to use air freight above other transport modes available.

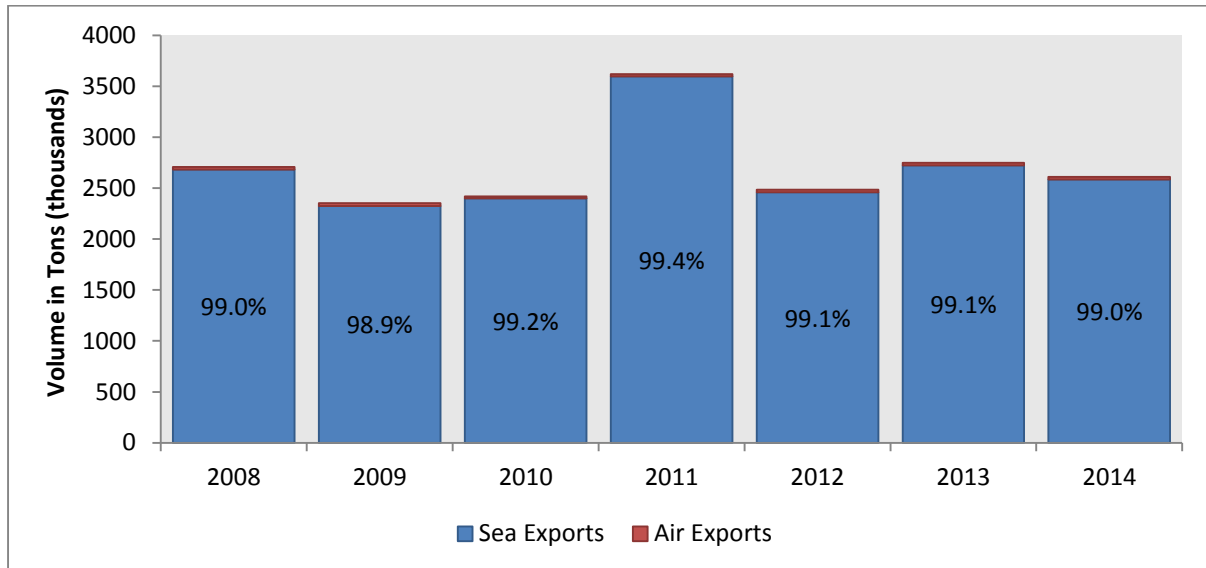
From discussions with industry organisations such as Hortgro, the Citrus Growers Association and the PPECB, it remains clear that sea transport is the dominant transport method, with only limited usage of air freight. Other factors that will also influence whether or not flights are utilised depends on the obvious demand for the products in the target market. Seasonality can therefore drive a specific product to be first to enter the market whilst the demand for such a product is high which ensures a higher realised price that will make it feasible to utilise the higher priced air transport which can deliver the product much quicker. Also, products such as cut flowers needs to enter markets quickly as they perish much quicker than for instance citrus which can be transported in cold containers for much longer periods of time.

Other more technical factors such as SPS measures and infrastructure arrangements will determine which transport mode selected. At ports (both air and sea) certain requirements needs to be met in terms of inspections, sterilisation, cold chain operations etc. For example, the USA market for South African citrus is very sensitive in terms of SPS measures, particularly the temperature regulations upon arrival. Very cold temperature storage is needed for a period between 22 to 24 days to control for specific diseases prevalent in South African production regions and many of the citrus are not able to survive in such conditions. According to the Citrus Gowers Association, the US is a very sensitive market and they are very effective to protect their local industries. As will be shown in the next section, such considerations, as well as factors highlighted above result in a unique set of products exported by air to the USA and these will receive greater attention in the next section.

## **South African perishable product export by air to the world**

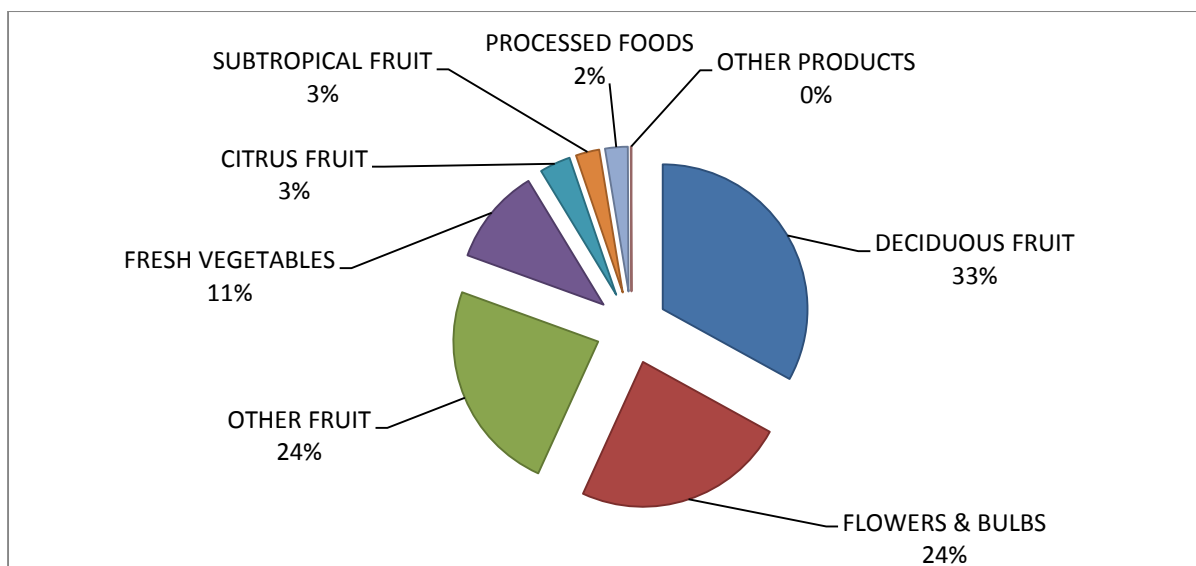
Figure 2 below gives the breakdown of total volume of exports of perishable products from South Africa to the world in tons. It is clear from the previous section that sea transport are predominantly used for transport in international trade, compared to air transport. This is also evident in South African where approximately 2.6 million tons of

perishable products were exported to the world in 2014, of which around 99% were exported by sea and only 1% by air. This amounted to 2.58 million tons of exports by sea and 26 242 tons by air (PPECB, 2015).



**Figure 2: South African perishable product exports to the world in volume**  
 (Source: PPECB, 2015)

Turning now the focus exclusively to the exports by air, Figure 3 gives the breakdown of South African perishable products exported in 2014 to the world. The breakdown is at industry-level and the main products exported by air were deciduous fruits (33%), flowers and buds (24%), other fruit(24%), vegetables (11%), citrus fruit (3%), subtropical fruit (3%) and processed foods (2%). There were very small amounts of products exported by air in the “other” category including meat, marine, dairy and grain products. Looking at this breakdown of products it is clear that the majority of these products (fruits and flowers) are grown in the Western Cape Province as a result of the climatic suitability of the region. Furthermore a renewed focus on agri processing products within the provincial government justifies focus on such products.



**Figure 3: South African air export breakdown by volume to the world**

**Source: PPECB, 2015**

Table 2 now turns the focus more specifically on products exported by South Africa by air in 2014. The top products were proteas, apples, cut flowers, grapes, pineapples and blueberries. The top 5 products make up more than 48% of the total exports by air, indicating the concentration of these products utilising air transport. It is clear from the list below that these products are mostly characterised by their relatively high perishability and premium prices in export markets. The trends in the data reveal a very high degree of volatility from one year to the next. This highlights an important feature of utilising air transport in the sense that it is highly dependent fluctuating demand that is determined by shorter term market conditions in the target market. This can be seen in table 2 where many products have negative or positive growth rates depending on the base year selected.

**Table 2: Top 20 products export from USA by air from South Africa**

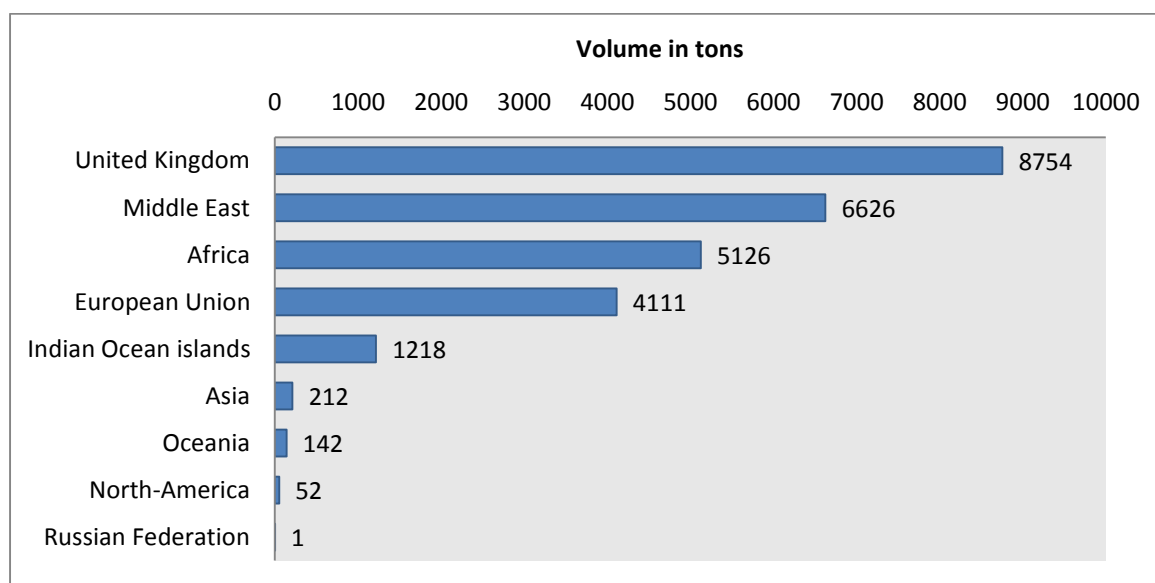
N	Product	Volume in 2014	Percentage of Total	5-year annual growth rates
1	Proteas	3225.574	12.29	1.71
2	Apples	2987.515	11.38	14.59
3	Cut flowers	2807.501	10.70	-0.95
4	Grapes	2148.031	8.19	-7.19
5	Pineapples	1652.701	6.30	-2.72
6	Blueberries	1376.149	5.24	45.31
7	Nectarines	1245.878	4.75	4.49

8	Raspberries	1049.437	4.00	16.70
9	Peaches	1012.947	3.86	7.97
10	Fresh fruit salad	658.9	2.51	-14.80
11	Granadillas	636.268	2.42	4.89
12	Litchis	573.182	2.18	-6.24
13	Plums/prunes	562.236	2.14	3.65
14	Apricots	358.171	1.36	9.30
15	Potatoes	345.534	1.32	109.21
16	Figs	328.881	1.25	67.11
17	Melons	321.573	1.23	-4.74
18	Carrots	314.263	1.20	18.28
19	Soft citrus	271.602	1.03	5.80
20	lemons	246.679	0.94	9.37

(Source: PPECB, 2015)

## Exports to the USA

In terms of regional breakdown of South African perishable products exported by air it is clear from Figure 5 that the United Kingdom (UK) and the Middle East that are the main destinations. The European Union and Africa follow, while the USA had very small quantities of products imported by air. Only 52 tons were exported using air freight to the USA in 2014, compared to the 8754 tons exported to the UK.



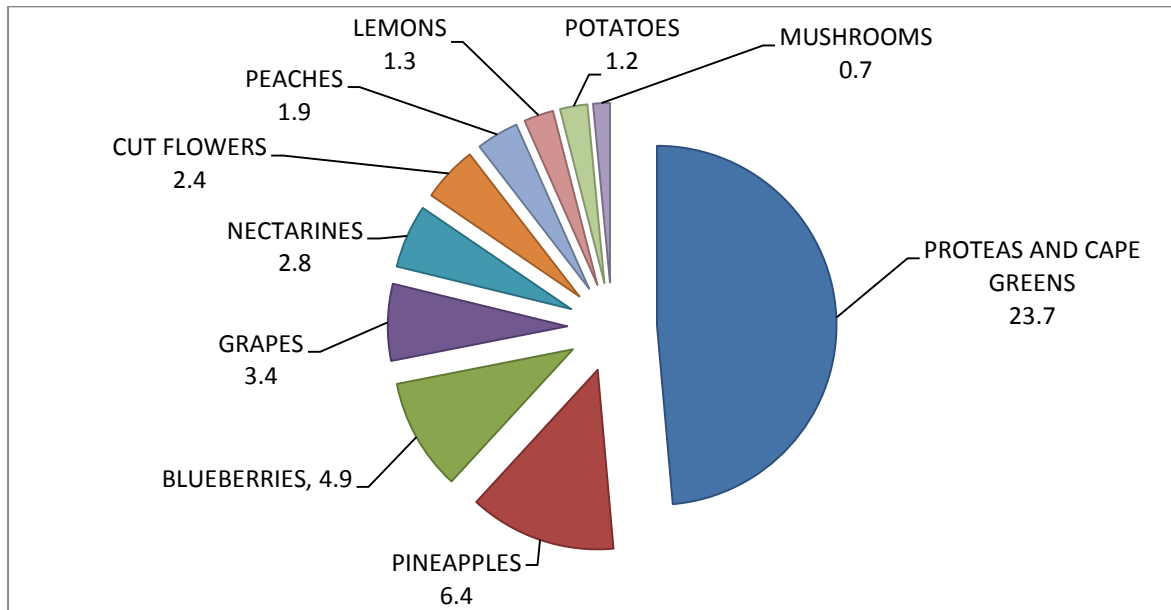
**Figure 4: Export of perishable products from RSA to different regions**

Source: PPECB, 2015

Table 3 below shows the different products that were exported to the USA in 2014 even though only 52 tons were exported. Of this total, 23 tons were proteas and cape



greens, followed by 6.4 tons of pineapples, 4.9 tons of blueberries and 3.4 tons of grapes. Nectarines, cut flowers, peaches and lemons were all exported in quantities less than 3 tons. Of all the products listed in Figure 5 only proteas, pineapples and cut flowers were exported by air consistently from 2008 to 2014. This again points to the dynamics of using air transport into the USA market which seems to be very volatile and in small quantities as demand fluctuate in different years and according to shortages in the target market.



**Figure 5: Breakdown of RSA products exported to the USA by air**

**Source: PPECB, 2015**

## Conclusion

This short report has set out to determine opportunities for the exports of perishable agricultural products from South Africa to the USA. The research pointed to the favourable increased exports of South African perishable products during the previous decade both in terms of value and volume (in recent years). The main products exported to the USA are nuts, citrus, crustaceans, seeds and vegetables and preserved fruits. The USA is also an import buyer of South African flowers.

The report shows that of the total of 2.58 million tons of South African exported perishable products, approximately 99% was transported by sea, while only 1% utilised air transport. This is typically a result of the relative lower cost of sea transport compared to other modes. However, often air transport is used when demand for

high value products are high and the higher cost is offset by the premium prices realised in the target market. This higher demand is often driven by seasonality and the nature and perishability of the product. This was clearly seen by the information given that disaggregates between air and sea transport. The main products exported by air from South Africa were fruits, flowers, vegetables and a select few processed products.

Important findings indicate that exports to regions such as the UK, EU and the Middle East utilise considerably more volumes of exports compared to the meagre 52 tons to the USA. The main products that make out the 52 tons were proteas and other cape green flowers, pineapples, blueberries, grapes and nectarines amongst others. Air exported goods to the USA is therefore very much linked to short-term market shortages which drives up prices for the goods at which point air transport becomes feasible. However, products such as flowers only use air transport due to its short self-life.

From this report it seems clear that the selection of products to the USA using a single flight must be determined by looking at the seasonality aspect (what time of year the flight is available) and the demand in the specific area. If the demand in the USA is not high, it will not be feasible to export for instance fruit products if a higher price cannot be secured. Flowers seems to be a logical choice as it has been consistently imported by air transport since 2008 (the earliest year we have data). More market analysis of the USA market is however needed to finally make a decision on which product to export and other ground level factors to be taken into account.

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