



REPUBLIC OF MOZAMBIQUE

External Market Task Force

External Market Study No. 3 (3)

ANNEX 3 TO THE STUDY ON THE EXPORT MARKETING PROSPECTS OF SIX SELECTED MOZAMBIKAN COMMODITIES FOR THE SOUTH AFRICAN MARKET

REPORT ON GINGER

This product report forms part of an overall report and should be read in conjunction with the Main Report that covers general items regarding all six products and the market evaluation. Also, these reports make suggestions based on certain assumptions and market conditions. Conclusions are derived from interviews and experience collected from a variety of sources. Although all the information recorded has been collected from reputable sources and in good faith, the External Market Task Force cannot be held responsible for the accuracy or the lack of success in marketing any of the researched products.

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TABLE OF CONTENTS

| | | PAGE |
|------------------------|---|-------------|
| 1.0 | Introduction | 1 |
| 2.0 | Mozambique Supply Analysis | 2 |
| | 2.1 Production | 2 |
| | 2.2 Prices and marketing | 2 |
| 3.0 | 2.3 Packaging | 2 |
| | South African Market Supply Analysis | 3 |
| | 3.1 Production | 3 |
| | 3.2 Consumption | 3 |
| | 3.3 Marketing | 3 |
| | 3.4 Imports and regulations | 8 |
| 4.0 | Pricing and Logistics Analysis | 12 |
| 5.0 | SWOT Analysis | 14 |
| 6.0 | Conclusions | 15 |
| 7.0 | Recommended Future Action | 17 |
| 8.0 | Contacts Interviewed | 18 |
| List of Tables | | |
| | Table 1: Total ginger imports by country of origin (Value ZAR FOB/FCA) | 8 |
| | Table 2: Exports of Ginger from South Africa (In descending order for 2002) | 9 |
| | Table 3: Estimated Delivered Price for Bananas to Johannesburg (Per Metric Ton) | 13 |
| | Table 4: Mozambique Price Competitiveness. | 13 |
| List of Figures | | |
| Figure 1 | Total volume of ginger sold on the South African fresh produce markets | 4 |
| Figure 2 | Average price per ton of ginger sold on South African fresh produce markets | 4 |
| Figure 3 | Average Tons sold and R/Ton(1998-2003) | 5 |
| Figure 4 | Average tons sold and ZAR per MT per market. | 6 |
| Figure 5 | Imports vs Exports of Ginger from South Africa (1992 – 2002) | 10 |
| Appendices | | |
| Appendix | A Prohibited and Restricted Goods Index | 19 |
| Appendix | B Import Conditions For Ginger | 20 |
| Appendix | C Codex Alimentarius regulations on Ginger | 21 |
| Appendix | D Costing analysis (also available electronically) | 28 |

Analysis of Ginger as a target product for the development and export from Mozambique and in particular to South Africa

1. Introduction

Ginger¹ is a low-volume, high-value tropical crop. Its “rhizomes,” (*continuously growing, usually horizontal, underground stems, which puts out lateral shoots and extraneous roots at intervals*), also referred to as “hands” in the trade, produce an aromatic spice widely used in Asian, Caribbean and African cuisine. Ginger is one of the most important spices traded the world. It is highly valued for its medicinal uses. Other uses vary from an important cooking ingredient to ginger ale and ginger beer. India is the world’s largest producer and consumer of ginger.

Fresh ginger is viewed as a vegetable and not generally considered as a spice. Major by-products are *dried ginger, ground ginger, ginger oil and ginger oleoresin*. Dried ginger is sold as whole rhizomes (*hands*) commonly known as ginger root, either peeled or unpeeled. It is also sold as slices or ‘splits.’

Worldwide, (*excluding the People’s Republic of China*) about 250 000 ha of land are cultivated with ginger, yielding about 600 000 MT. Although Nigeria has the largest cultivated area, India is the world’s largest producer at more than 260 000 tons in 1999.

Ginger grows well in the tropics at altitudes ranging from sea level to 1 500m. The best ginger yields are achieved in rich, medium textured, fertile soils using large amounts of good quality water, fertilizer and other organic matter. Too much water can cause ‘water-logging’ as ginger does not resist this very well. If cultivated in shaded areas prolific growth can be attained. The production of ginger is both capital **and** labour-intensive. If adequate care is taken, yields of up to 30-45 MT per ha of fresh ginger are possible.

Cleaning the harvested ginger of excess soil, roots and stems is very labour intensive. In smaller areas stools (new shoots) are snapped off by hand. Surplus soil and roots are removed before the rhizomes are placed in bulk bins. Weight loss during harvesting is minimised by expediting the handling process and by covering the collection bins or by storing the newly harvested ginger in the shade.

In countries like Jamaica, producers export most of their crop in a dried condition. This is where the rhizomes are washed, peeled, washed again then sun-dried to produce peeled and dried ginger. The process takes anything from 8-10 days during the dry season and a little longer if there are intermittent rains.

¹ Botanical classification: - *Zingiber officinale*

2. Mozambique Supply Analysis

2.1 Production

In Mozambique, no empirical data exists, and hence little is known about ginger production in the country; **where** or **how much** is produced; where it is **sold** and the **market supply** system. During field investigations two main (potential) ginger producing areas were identified:

- The coastal areas of Zambézia Province near the largest regional market of Quelimane. There ginger is mostly grown on low lying sandy soils. Although the yields are relatively low, it is the major supplier of the local market.
- Manica Province located near the Tchazuka, Administrative Post of Penhalonga in the district of Machipanda. This area seems to have the better potential.

Farmers individually plant up to about 0.25 ha per year, with yields that are in the region of 30-35 MT per ha. A smallholder farmer (Sr. Chakanya) from the Tchazuka region in Manica Province expected a crop of about 5 tons from an area of about 0.15 ha (Equivalent to 33.3MT/ha). Crops are grown on cultivated terraces and sprinkler irrigated using natural water pressure from springs located up in the mountains. Farmers who own cattle use up to 6 MT per ha of 'well-cured' cattle manure to fertilize their fields prior to the September planting season. In June-July the ripe plants are harvested by digging up the rhizomes, which are then manually cleaned of soil residues, bagged and transported to the market for sale. Ginger is grown in rotation with maize in 2-year cycles.

2.2 Prices and marketing

From discussions with farmers in the Tchazuka area of Manica Province, most of the smallholder farmers grow ginger as a cash crop, selling some in Mozambique (\pm USD0.41 per kg or USD416 MT) and some in Zimbabwe at a much higher price. (\pm USD0.81 per kg or USD810 MT).

In Tchazuka area of Manica Province it was observed that some Zimbabwean traders go to the farms and personally negotiate with the farmer for the ginger, actually harvesting and preparing the product for transport to Zimbabwe themselves.

No evidence of the crop being trucked to Beira or Maputo was found. Nevertheless, Mr. Pine Pienaar from *Sociedade Agricola de Revue Limitada* (SAGREV Lda) in Chimoio showed interest in being involved in the supply and marketing of ginger, especially if exporting is envisaged.

Observations in Maputo over the months of June – September 2003, show retail prices in Maputo are much higher than those asked for by the farmers in the growing regions.

| | |
|------------------------|-------------------------|
| Shoprite Supermarket | USD4.16 kg (USD4167 MT) |
| Luz Supermarket | USD3.50 kg (USD3500 MT) |
| Central Peoples Market | USD3.33 kg (USD3330 MT) |

2.3 Packaging

No evidence of any formal packaging of harvested ginger was found. When ginger is harvested, it is bagged in any available bags and transported to the closest market. In some cases the ginger is placed in bulk bins for later distribution.

3. South African Market Supply Analysis

3.1 Production

Ginger is usually produced as an additional crop in conjunction with other crops such as bananas, avocados and other fruit. Almost 80 per cent of all ginger produced in South Africa comes from the Kiepersol region in the Mpumalanga Province. It is estimated that approximately 40 hectares are planted to ginger in this region with yields of up to 60 tons per ha in a very good year. This translates into a potential of 2 400 tons for the Kiepersol region. Hence, a liberal estimate of the total production potential may be in the region of 3 000 tons in a very good year. Ginger is a very specialized crop, this makes it very labour intensive. Ginger has a low tolerance with regards to certain pests and that in turn requires high pesticide usage.

In addition, the Kiepersol region is characterised by very high temperatures during the ginger production season, September to May, this necessitates the cooling of plants with water². This requires an abundant water supply, especially irrigation water, and this comes at a high cost. The result of the aforementioned is high overall production costs. Estimates show that even with good quality soil, it is still necessary to spent approximately R40 000 per ha to produce around 50 MT per ha of good quality fresh ginger.

According to Prinsloo (2003), the number of South African farmers that produce ginger has declined drastically during the last few years. This is mainly attributable to the removal of trade barriers between China and South Africa, which resulted in increased imports of ginger at very competitive prices, especially dried ginger (See Table 1 and 2, and Figure 5 in section 5 for trade statistics). This in turn also had a depressing effect on production.

3.2 Consumption

Information pertaining to ginger consumption is not readily available. It is also very difficult to estimate demand for fresh and dried ginger due to this lack of information. Hence, what available information there was, was used to provide an estimated demand for ginger. This was done by taking estimated production *minus* exports *plus* imports to get total availability. From this figure, all fresh ginger sales on the Fresh Produce Markets (FPM) was subtracted as well as direct fresh ginger sales to the retailers who were interviewed. Thus, estimated fresh ginger sales amounts to approximately 1726 MT, whilst ginger for the dried market amounts to approximately 1422 MT. **Please note that this is a very rough estimate.**

3.3 Marketing

Fresh ginger is mainly sold on the 16 Fresh Produce Markets in South Africa. It is graded as a rhizome (hand), separate fingers and pieces, but whole hands are preferred. There are no official regulations in terms of packaging and labeling, however, currently most producers pack ginger in 5kg to 10kg corrugated cardboard boxes. Special attention is also given to keeping the roots in a dry environment to prevent the growth of mildew. There must be plenty of ventilation.

² Temperature must be relatively constant and below 30°C for optimum growth.

Figure 1 shows the amount of ginger sold on the Fresh Produce Markets. It depicts that fresh ginger sold on the Fresh Produce Markets shows a marked increase from May/June each year to reach a high in July and then bottoms out towards the end of the year. When comparing the volumes sold during July for the last 6 years, it varies between a low of 150 MT in 2001 and a high of 201 MT for 1998. The amount marketed in 2003 until May shows a strong upward trend compared to previous years.

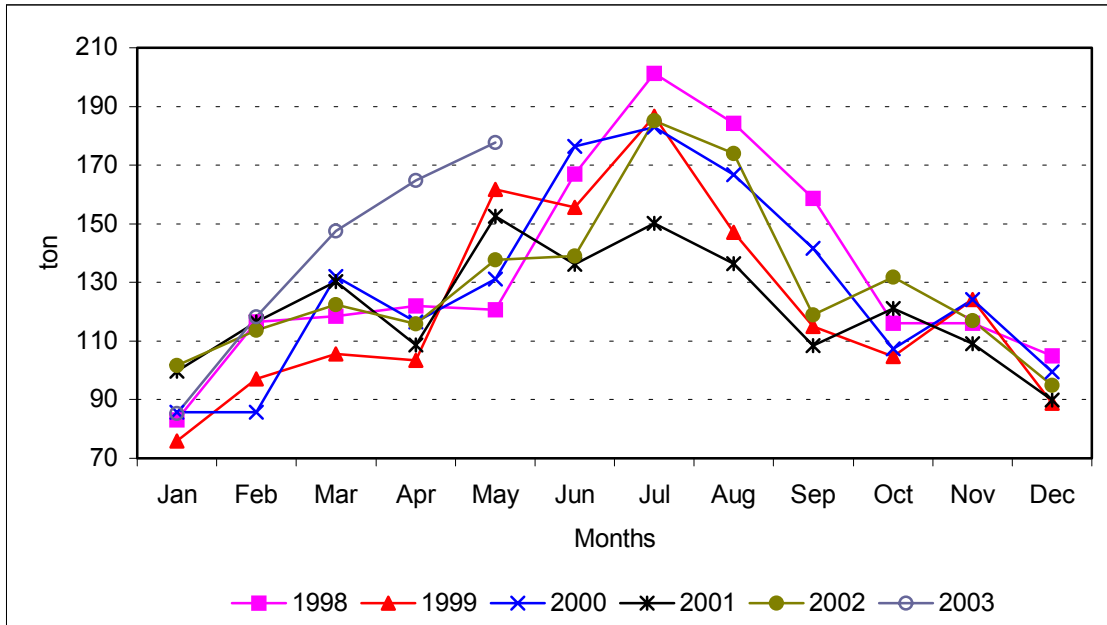


Figure 1: Total volume of ginger sold on South African fresh produce markets

Note: The 2003 figures only stated until May.

Source: NDA, 2003.

Figure 2 shows the average price per ton realized on the 16 Fresh Produce Markets in South Africa. Prices tend to be high from December through to May after which it drops substantially to reach a plateau from August through to November.

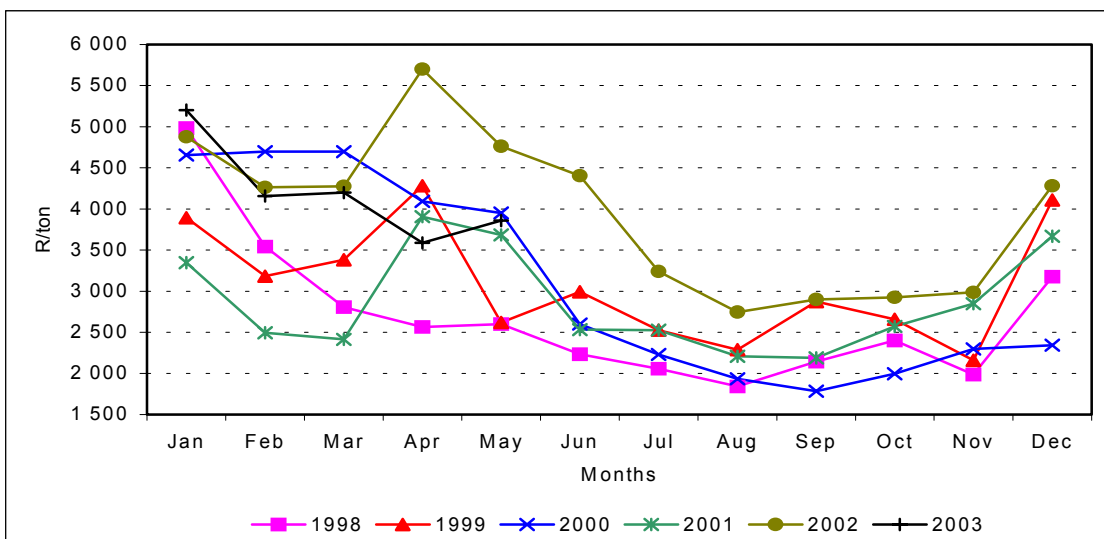


Figure 2: Average price per ton of ginger sold on South African fresh produce markets

Note: The 2003 figures only stated until May.

Source: NDA, 2003.

Figure 3 shows average monthly volumes sold and average monthly prices per ton for the last 6 years for ginger. It is clear that prices and volumes move anti-cyclical, which means that there is definite potential for realizing superior prices if the product can be marketed from December through to May.

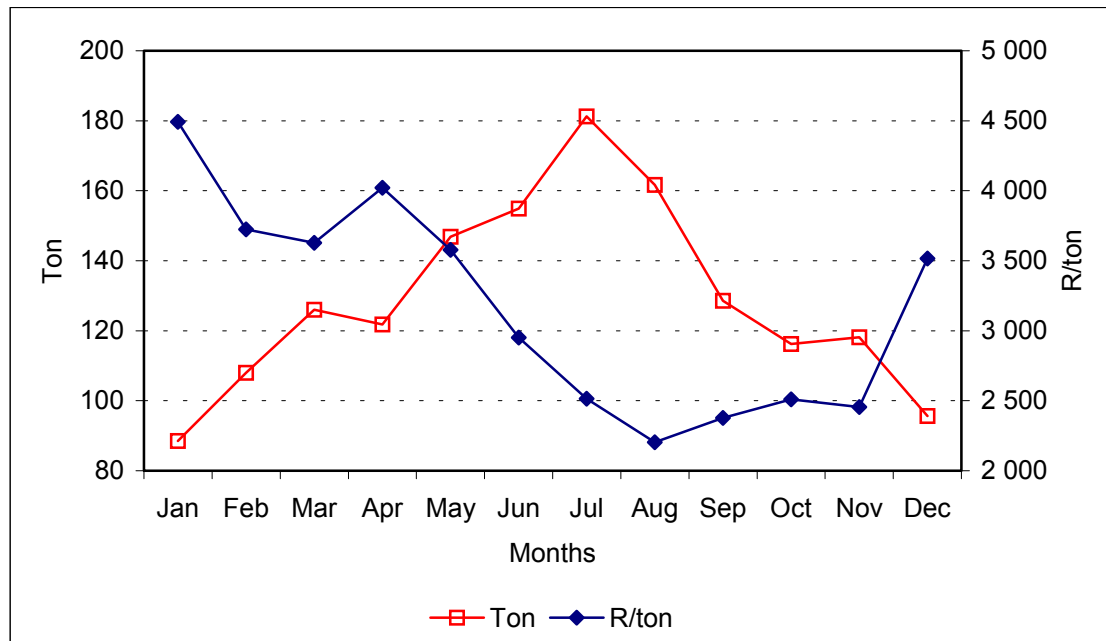


Figure 3: Average tons sold and R/ton (1998 – 2003)

Note: The 2003 figures only stated until May.

Source: NDA, 2003.

Figure 4 shows average volumes sold and average prices per ton for the last 6 years on the 16 various different Fresh Produce Markets in South Africa. The Johannesburg Fresh Produce Markets is by far superior in terms of average volumes sold, followed by Pretoria, Durban and Cape Town. These four markets represent on average 90 per cent of the total volume of the ginger sold annually during the last 6 years on the Fresh Produce Markets. With the exception of the Pietermaritzburg and Springs Fresh Produce Markets, all the other Fresh Produce Markets had a throughput of less than 10 tons of ginger annually during the last 6 years. As far as price is concerned it is clear that the East London and Uitenhage Fresh Produce Markets are outperforming the others, realizing prices in excess of ZAR6 000 (USD923)³ per MT. They are followed by the Bloemfontein, Cape Town, Kimberley and Port Elizabeth Fresh Produce Markets that realized, on average, prices higher than ZAR4 000 (USD615) per MT.

³ For the purposes of this report, the average exchange rate for the period, 01 October 2003 to 31 December 2003 taken from the official South African Customs and Excise published rates, i.e. **USD1.00 = ZAR6.500**

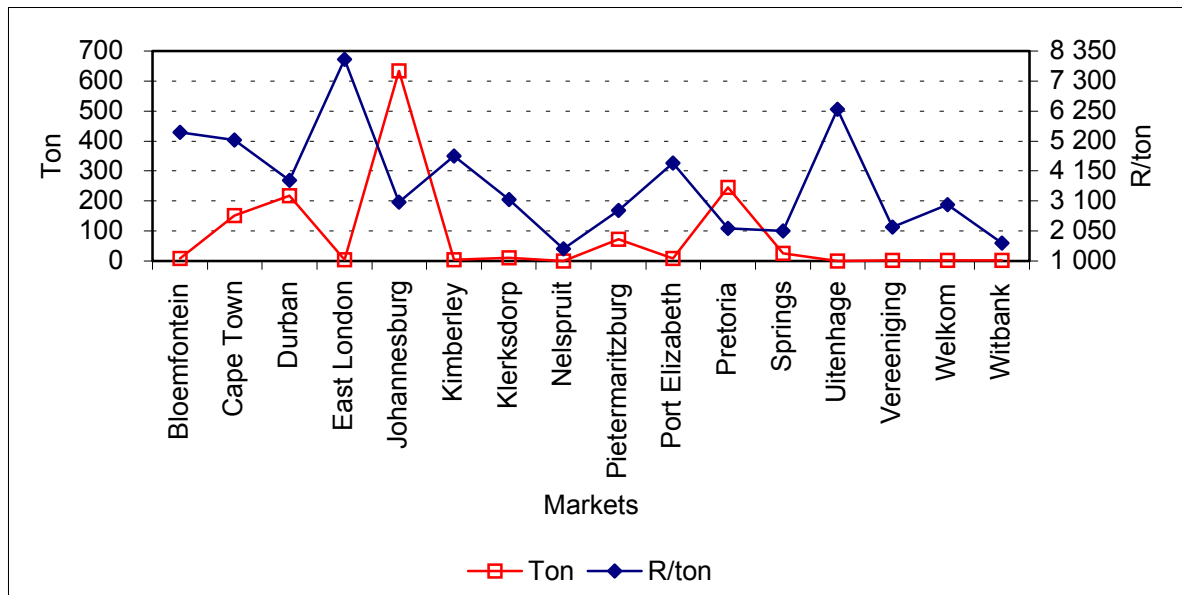


Figure 4: Average tons sold and ZAR per MT per market (1998 – 2003)

Note: The 2003 figures only stated until May.

Source: NDA, 2003.

The discussion that follows highlights remarks from some of the most important buyers of ginger in South Africa. Most of these buyers procure from both the Fresh Produce Markets and directly from producers.

Freshmark, is the distribution company of fresh produce to the Shoprite, Hyperama and Checkers retail group. They currently have six branches throughout South Africa. A Freshmark representative visits their ginger producers at least once a month for quality control purposes, whilst consignments are inspected at the warehouse according to strict company standard requirements. If the consignment does not meet the required standards, the producer must indicate whether the consignments must be returned or be delivered to the Fresh Produce Markets. Any ginger bought from the market is also inspected and evaluated; in cases that the consignment is not of the intended quality bought by the buyer, it will be send back to the market.

Centurion Branch:

This branch supplies fresh produce to approximately 150 shops of the mentioned retail group. According to Naudé (2003), who is the responsible buyer of ginger for this branch, they buy to the order of 800 kilograms per week for distribution. During June to October a contracted producer in the Kiepersol area supplies the ginger and only when shortages occur do they buy on the Fresh Produce Market in Pretoria or Johannesburg. Naudé (2003) indicated that they do not pay premium prices to the contracted producer and that the price offered is always market related. The price is, however, fixed for a week in advance. Prices vary daily on the markets between R20 and R40 per 5kg box for good quality ginger. As long as the quality and availability from their producer or Fresh Produce Markets is adequate they do not see the need to import from Mozambique.

Pietersburg branch:

According to Claussen (2003), who is the responsible buyer of ginger for this branch, he only buys from the Fresh Produce Market and supply 17 retailers with approximately 125

kilograms of ginger per week. The Pietersburg branch is also the smallest in the Freshmark group.

Port Elizabeth branch:

According to Stock (2003), who is the responsible buyer of ginger for this branch, he only buys directly from the Fresh Produce Market in Cape Town and supplies 26 retailers with approximately 500 to 650 kilograms of ginger per week. He suggested that the decision to import ginger from Mozambique would most probably be done at a national level.

Bloemfontein branch:

According to Smith (2003), who is the responsible buyer of ginger for this branch, he buys directly from the Fresh Produce Market in Bloemfontein or obtains it directly from the Centurion branch if not available in Bloemfontein. This branch supplies 32 retailers with approximately 100 to 120 kilograms of ginger per week. He said that the market he serves is too small to import ginger from Mozambique cost effectively.

Durban branch:

According to Palley (2003), who is the responsible buyer of ginger for this branch, they move between 2 and 3 tons of fresh ginger per week to 65 shops of the retailer group mentioned. The ginger is bought directly from the producer, but no contract is negotiated. Buying from the Fresh Produce Market only occurs when their producer cannot enter his fields due to wet weather.

Cape Town branch:

According to Adam (2003), who is the responsible buyer of ginger for this branch, he buys directly from a producer in the Hazyview area. This branch supplies 70 retailers with approximately 250 to 300 kilograms of ginger per week.

Other buyers and retailers interviewed also expressed their opinions on the local market for ginger in South Africa and some commented on the possibility of buying from Mozambique.

GL Distributors distribute approximately 9 tons of ginger to various retailers per week. Ledera (2003) indicated that GL Distributors are also involved in the re-exports to various other countries and that potential suppliers may contact him in future. Depending on the price, together with quality and service delivery he would be willing to be involved with future negotiations.

Woolworths retail group see fresh ginger as a service line and not a commodity due to the fact that they handle a very small volume. According to Ford (2003), Woolworths sell 250 kilograms of whole fresh ginger and 125 kilograms of crushed, non-preserved fresh ginger per week nationally. They obtain the ginger from a producer in the Pretoria area and have a long term standing agreement in place. The producer is responsible for the pre-packing and delivery of the ginger to the depot in Johannesburg. Due to their satisfaction thus far with the quality and service delivery of the current producer and the small volumes handled, it was indicated that it would definitely not be economically viable to import ginger from Mozambique. However, if it forms part of a group of products it might be considered. The price for the ginger is determined on a market related base in the retail sector and not the Fresh Produce Markets. According to Breslin (2003) Woolworths Cape Town, they only offer ginger as a service to their customers and don't consider it to be a main line product. They sell it loose at about ZAR12 per kg.

Pick 'n Pay fresh produce director, van Poulke (2003) says that the group uses about 9.6 MT per annum and sell the product loose on the shelves at about ZAR20/kg.

Fruit and Veg City, van Tubberch (2003) says that they supply about 40% of the Western Cape market and sell about 2 MT per week. Wholesale prices average between ZAR5/kg to ZAR10/kg.

Cognisance should also be taken of the fact that certain buyers of dried ginger rather prefer the imported product, mainly from China, due to price considerations (Shipman, 2002). The major users of ginger in its processed form are bakeries, as well as the jam and beverage industries.

Robertson's imports all its required dried ginger (15 tons per month), according to Hamer (2003). Crushing and packing are done by themselves. She said that they are importing due to the fact that there is not enough dried ginger available on the local market. They will be willing to investigate the potential to import ginger from Mozambique, if it meets their requirements. The requirements that must be met are, amongst others, a moisture level of lower than 12 per cent, clean from foreign objects, good colour and odour and an aflatoxin certificate must be provided. They buy the ginger in slices, pieces or whole and are not very particular on the size of the ginger in the light that it is crushed.

Verhoef (2003) of **Purespice**, who currently buys between 200 and 500 kilogram of dried and grounded ginger per week for reselling to the baking and beverage industry, indicated his indifference from where the product is sourced as long as the price is right and of a good quality. Prices mentioned by him ranged from ZAR3.80 to R8 per kilogram. As far as quality is concerned, the ginger must preferably be whole dried roots for grounding locally in order to determine the quality. The reason for this stems from the fact that the imported grounded ginger powder leaves no room for quality control.

3.4 Import and regulations

Table 3 shows the imports of ginger, mainly in its processed form, from the rest of the world. China and India are the two major import origins and seemingly the quality is satisfactory to local importers.

Table 1: Total ginger imports by country of origin (Value ZAR FOB/FCA)

| COUNTRY | 1998 | | 1999 | | 2000 | | 2001 | | 2002 | |
|---------------------|--------|---------|--------|---------|--------|---------|--------|---------|--------|---------|
| | ka | Value | ka | Value | ka | Value | ka | Value | ka | Value |
| China (51% in 2002) | 63463 | 571005 | 142007 | 935616 | 377785 | 2231955 | 246415 | 1655596 | 300205 | 2193059 |
| India (40% in 2002) | 386235 | 3053924 | 69304 | 558383 | 33500 | 239130 | 38874 | 295303 | 232407 | 1596852 |
| Nigeria | 60765 | 438693 | | | 58680 | 339408 | 153640 | 1045784 | | |
| Indonesia | 10200 | 107521 | 240361 | 1036710 | 11000 | 51537 | | | | |
| Singapore | 52377 | 554785 | 40623 | 315151 | 19069 | 154100 | 10214 | 73309 | 13124 | 102346 |
| United Kingdom | 34320 | 302468 | 653 | 12043 | | | 50 | 5585 | 12200 | 104219 |
| Hong Kong | 6682 | 26631 | 3223 | 5040 | 5280 | 12356 | 8287 | 7604 | 17120 | 19291 |
| Germany | 10 | 178 | 500 | 8348 | 24000 | 196581 | 1265 | 25783 | 5341 | 71353 |
| Cameroon | | | | | 30000 | 138984 | | | | |
| Thailand | | | 16742 | 54737 | 1626 | 1507 | 4502 | 2441 | 2235 | 4577 |
| Switzerland | | | | | | | 13515 | 72099 | | |

| COUNTRY | 1998 | | 1999 | | 2000 | | 2001 | | 2002 | |
|---------------------------|---------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|
| | kg | Value | kg | Value | kg | Value | kg | Value | kg | Value |
| Malaysia | 9081 | 44782 | 493 | 3621 | | | | | | |
| United Arab Emirates | 250 | 391 | 80 | 3249 | | | 7200 | 91435 | 1000 | 14297 |
| Netherlands | 2038 | 18691 | 3096 | 38155 | 1100 | 4479 | | | | |
| Taiwan, Province of China | 695 | 1979 | 937 | 952 | 360 | 2639 | 140 | 2634 | 205 | 1990 |
| Iran, Islamic Republic of | | | 2006 | 16364 | | | | | | |
| Zimbabwe | 1377 | 2269 | 104 | 910 | | | | | | |
| Belgium | | | | | 1200 | 12848 | | | | |
| Cote D'Ivoire | 570 | 223 | | | | | | | | |
| United States | 56 | 373 | | | 153 | 8441 | 160 | 9854 | 1 | 478 |
| Pakistan | | | 210 | 1047 | | | | | | |
| Japan | | | | | 54 | 1673 | 6 | 199 | 1 | 351 |
| Israel | 36 | 1441 | | | | | | | | |
| Egypt | | | 14 | 1341 | | | | | | |
| Austria | | | 5 | 130 | | | | | | |
| Grand Total | 628155 | 5125354 | 520358 | 2991797 | 563807 | 3395638 | 484268 | 3287626 | 583839 | 4108813 |

As mentioned, import competition has resulted in a drop in local production, which in turn led to a drop in exports. (See Table 2 and Figure 5). It is also important to take into account that only good quality fresh ginger is exported, whereas the rest is sold for processing purposes (dried ginger). It is in this latter market where South African ginger producers find it difficult to compete against Chinese dried ginger, and given the average ratio between fresh and dried ginger marketed, it is difficult to realise reasonable profits. (Ratio: approximately 1 726 MT fresh verses approximately 1 422 MT dried or 1.21:1.0) The profit margins for fresh ginger are much lower than dried ginger and the Chinese can process ginger much cheaper than South Africa hence the more difficult profitability for South African processed ginger.

Table 2: Exports of Ginger from South Africa (In descending order for 2002)

| COUNTRY | 1998 kg | 1999 kg | 2000 kg | 2001 kg | 2002 kg |
|----------------|------------|------------|------------|------------|------------|
| United States | | 20 | | | 143278 |
| Zambia | 5424 | 4348 | 12975 | 8192 | 10200 |
| Germany | 27222 | 36617 | 23267 | 27306 | 5688 |
| Mauritius | 25 | | | | 5634 |
| Switzerland | 17958 | 31988 | 20065 | 21540 | 3144 |
| Mozambique | 3877 | 2235 | 3850 | 1820 | 3026 |
| Malawi | 663 | 327 | 433 | 824 | 2818 |
| Angola | 450 | 1111 | 2218 | 3649 | 2574 |
| France | 44747 | 73805 | 84188 | 9573 | 2493 |
| Austria | 18976 | 13373 | 15337 | 17053 | 1978 |
| Zimbabwe | 18764 | 19212 | 2254 | 1031 | 1112 |
| Lebanon | 1656 | 60 | 1370 | 2896 | 1090 |
| Tanzania | 8 | | | 104 | 741 |
| Uganda | 7 | 4 | 94 | 1 | 392 |
| Netherlands | 117075 | 180351 | 54612 | 13836 | 310 |
| Cote D'Ivoire | 795 | 145 | 34 | 441 | 307 |
| Kenya | | 105 | 20 | 10 | 272 |
| United Kingdom | 276271 | 72057 | 60696 | 11358 | 238 |

| | | | | | |
|---------------------------------|----------------|---------------|---------------|---------------|---------------|
| Unspecified | | | 290 | 233 | 164 |
| Ghana | | | | 107 | 72 |
| New Zealand | | | | 606 | 60 |
| Cameroon | | | | | 50 |
| Ethiopia | | | 4 | 9 | 42 |
| Malaysia | | 5 | | | 40 |
| Gabon | 95 | | | 91 | 23 |
| Saint Helena | 16 | 5 | 27 | 113 | 4 |
| Seychelles | 175 | | 232 | 6 | 3 |
| Maldives | 36 | 42 | 9 | 35 | 2 |
| China | | | | | 1 |
| Other | | | | | 0 |
| TOTAL EXPORTS (QUANTITY) | 831605 | 586209 | 310916 | 123294 | 185789 |
| TOTAL IMPORTS (QUANTITY) | 628155 | 520358 | 563807 | 484268 | 583839 |
| NET IMPORT/EXPORT | -203450 | -65851 | 252891 | 360974 | 398050 |

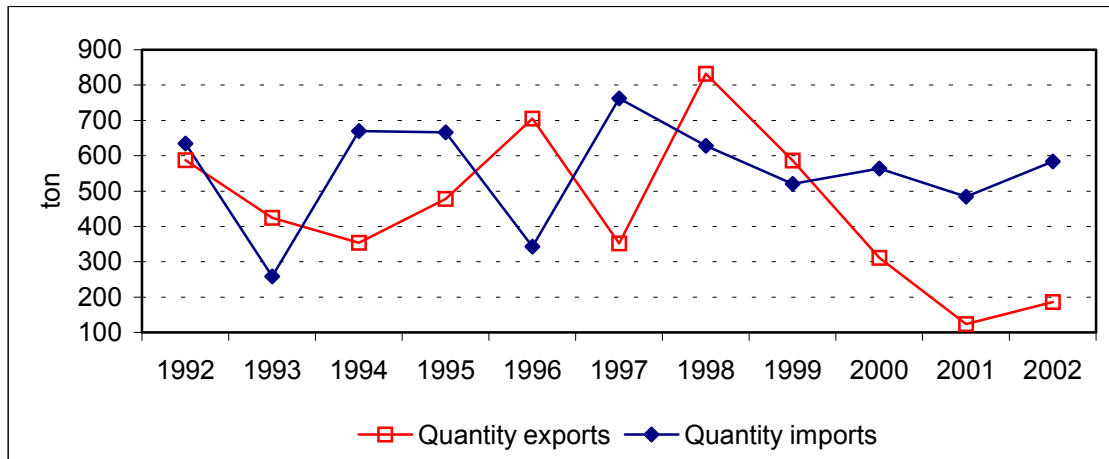


Figure 5: Imports vs Exports of Ginger from South Africa (1992 - 2002)

Source: NDA, 2003

Ginger imports, uncrushed and unground forms attract a Duty Free status when imported from Southern Africa Development Community (SADC) countries. However ginger crushed or ground bears a Generalized System of Preference (GSP) tariff.

Harmonised System Codes:

0910.10.10 - Ginger
(neither crushed nor ground) free
 0910.10.20 - Ginger (crushed ground) 13% (Of FOB/FCA Mozambique values)

Import duty on ginger from the **European Union** (Based the FOB/FCA value point of origin), are:

Harmonised System Codes:

0910.10.10 - Ginger
(neither crushed nor ground) 15%
 0910.10.20 - Ginger (crushed or ground) 15%

Import duty on produce from **all other countries** (Based the FOB/FCA value, point of origin), are:

Harmonised System Codes:

| | | |
|--------------|--|-----|
| 0910.10.10 - | Ginger (neither crushed nor ground) | 20% |
| 0910.10.20 - | Ginger (crushed or ground) | 20% |

In terms of other regulations it can be seen from the copy of Chapter 9 of The South African “Prohibited and Restricted Goods Index” (Appendix A) an import permit is required from the Department of Customs and Excise if one wishes to import ginger in all its forms.

Also as can be seen in the note (Q), importers of ginger have to adhere to the Agricultural Products Standards Act, the Agricultural Pests Act, and the regulations enforced by the Department of Health.

It is possible to obtain these permits for the imports of ginger into South Africa. The regulations are however stringent in nature, whilst the process of obtaining such a permit could also be time consuming. According to the conditions attached to the permit for fresh ginger, the consignment must be irradiated immediately on arrival in South Africa (See Appendix B).

The following documents must accompany the assignment when being sent for irradiation:

- Transport Waybill (i.e. Bill of Lading)
- Commercial Invoice
- Certificate of origin
- Import permit from SA Department of Agriculture
- SA Customs Bill of entry (i.e. DA500)

The cost and risk associated with this process is for the importer. Processed ginger need not be irradiated, but still needs a permit (See Appendix A and B).

The importer is further responsible to ensure that if the product is pre-packed for direct sales it must also adhere to the requirements set by the Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act No. 54 of 1972), various regulations on, amongst others, maximum levels of pesticides, microbiological standards, packaging and advertising, etc. Where the Department of Health, Directorate: Food Control, does not have specific regulations in place, the standards as applied by the FAO/WHO Codex Alimentarius Commission is adhered too and applied (See Appendix C).

The Directorate: Food Control also administers the Health Act, 1977 (Act No. 63 of 1977) with regulations on general hygienic handling and transportation of foodstuffs.

4. Pricing and Logistics Analysis

To obtain accurate producer prices so that an accurate competitiveness profile for Mozambique could be compiled, was very difficult. Nevertheless, the rest of this section shows how the DDP price of ginger delivered to Johannesburg from Manica (CP is Chimoio), Maputo (CP is Maputo), Zambezia (CP is Quelimane) and Nampula (CP is Nampula) Provinces, respectively, was derived. Table 3 summarizes price information for ginger sold in Mozambique and delivered to South Africa compared to what the comparable South African product sells for in South Africa.

The first step was to establish an acceptable price delivered to the respective consolidation points (i.e. an EXW Chimoio, Maputo, Quelimane and Nampula prices). From the study done by KPMG (2003), those interviewed, as well as those who attended the 30 September 2003 seminar, it appears that a fair EXW price⁴ for ginger could be approximately **MZM10 000 MT** delivered to the various CP's in Mozambique. This translates to around **USD415.80 per MT**⁵.

The second step was to calculate the FOB/FCA costs. The FOB/FCA costs⁶ is USD26.47, USD63.68, USD28.27 and USD37.34 per MT in Maputo, Chimoio, Quelimane, Nampula, respectively (see Table 3 and Tables D.1, D.2 D.3 and D.4 in Appendix D). If these costs are added to the EXW price at the CP's then the estimated FOB/FCA Mozambique prices for the four CP's are USD26.47, USD63.68, USD28.27 and USD37.34 per MT in Maputo, Chimoio, Quelimane, Nampula, respectively. To get the estimated DDP price in Johannesburg the delivery cost per ton plus the irradiation costs must be added to the FOB/FCA values. Thus, the estimated DDP prices in Johannesburg are USD653.13, USD747.59, USD718.43 and USD715 per MT in Maputo, Chimoio, Quelimane, Nampula, respectively (see Table 3).

Cognizance should however be taken that depending on the seasonal availability of the ginger, the wholesale price structure changes considerably. Also different traders have different approaches to their individual pricing structures, and these can also vary considerably (i.e. Woolworths stocks ginger as a service to their clients and tend to charge higher prices. Pick 'n Pay also charges higher prices but they tend to view ginger as a main vegetable product line).

About 10 different retailers were canvassed as to their pricing policy. Unfortunately the policies differed so vastly that a creditable working average price/cost was not viable. However the following profit **margins** were found to be fairly consistent. The wholesaler (or Market agent) takes a 12.5% commission on the auctioned price of ginger. This is the legislated maximum commission allowable by South African law. Retailers on average have 80% margin on their wholesale price. This is not legislated but the average was obtained in interviews with a number of ginger retailers.

A market research exercise, conducted in Johannesburg, Pretoria, Durban and Cape Town between July and September 2003 (checked again in December 2003) indicates that ginger retails at ZAR12.00/kg (lowest price) and ZAR20.00/kg (highest price). Hence an average of

⁴ Should there be a fluctuation, the MS Excel matrix is structured to accommodate these fluctuations.

⁵ The exchange rate for the Mozambique Metical (MZM) to the USD is based on the exchange rate ruling over the period of the study, from 01 June 2003 to 30 September 2003. This was **USD1.00 = MZM24050**.

⁶ Transport, customs and irradiation formalities comprise 32% (Maputo), 36% (Manica), 38% (Zambezia) and 36% (Nampula) of the estimated DDP price in Johannesburg. The rest of the cost is mainly made up by the product cost.

ZAR16.00/kg retail was used when calculating backwards from SA retail prices to Mozambique export prices competition levels.

Table 3: Estimated Delivered Price for Bananas to Johannesburg (Per Metric Ton)

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|----------|---------------------|--------------------------|--|--|--|--|
| Province | Consolidation point | FOB/FCA Costs Mozambique | Estimated Price FOB/FCA Mozambique USD/MT | Delivery costs per TON (If shipped in FCL) USD/MT | Estimated DDP price Johannesburg USD/MT | Average DDP market demand price in Johannesburg* USD/MT |
| MAPUTO | MAPUTO | 26.47 | 442.27 | 210.86 | 653.13 | 1196.58 |
| MANICA | CHIMOIO | 63.68 | 479.48 | 268.11 | 747.59 | |
| ZAMBEZIA | QUELIMANE | 28.27 | 444.07 | 274.36 | 718.43 | |
| NAMPULA | NAMPULA | 37.34 | 453.14 | 261.86 | 715.00 | |

Delivery estimates include all consolidation, transport, documentation and customs formalities.

* - Note that this price is derived from an estimated average retail price in Johannesburg (See Appendix D).

Table 4 provides the price competitive indicators in Mozambique, as well as a sensitivity analysis⁷. The competitive margin depends on the price of the product in Mozambique, as well as on the situation in the South African market. Hence, it was decided to include a sensitivity analysis, i.e. adjusting the South African price up and down with intervals of 10 per cent. Moreover, if the price in South Africa drops by 20 per cent ginger producers in the selected provinces will remain competitive.

Table 4: Mozambique Price Competitiveness

| PROVINCE | ACTUAL PRICE ex CP MOZ | ACTUAL PRICE TO COMPETE IN SA (Calculated back to exFarm Moz) | PRICE COMPETITIVE | If the price in South Africa fluctuates up or down. | | | |
|----------|------------------------|---|-------------------|---|--------|--------|--------|
| | Metical | Metical | | % | | | |
| | | | | -20% | -10% | +10% | +20% |
| MANICA | 10 000 | 20 474 | YES | 16 379 | 18 427 | 22 522 | 24 569 |
| MAPUTO | 10 000 | 22 678 | YES | 18 142 | 20 410 | 24 946 | 27 214 |
| NAMPULA | 10 000 | 21 234 | YES | 16 988 | 19 111 | 23 358 | 25 481 |
| ZAMBEZIA | 10 000 | 21 155 | YES | 16 924 | 19 039 | 23 270 | 25 385 |

In conclusion, even though it appears that all the provinces can compete on the South African market it is vitally important that producers/exporters adhere to the standards and regulations set by the DPHQ in South Africa – these were discussed in the previous section. Of particular importance is the issue of irradiation. The consequence of this particular regulatory intervention is that all fresh ginger must first be transported to irradiation facilities before it can be sold in South Africa, and hence increases the cost of marketing where the exporter targets South African markets close to Mozambique, e.g. Nelspruit.

⁷ Electronic versions (in MS Excell format) of the information shown in Appendix D can be used to calculate the price competitiveness of the product with different prices at the consolidation point, as well as with different prices in the South African market.

5. SWOT analysis

| | |
|--|--|
| <p>Strengths</p> <ul style="list-style-type: none"> – There exist a willingness amongst donor agencies and local government departments to establish feasible exports. – Low level of diseases that could be contained with proper farm management framework. – The crop is well known and already produced economically in Tchakuza. – Some export experience exists, although at a marginal level (hence the reason for also listing it under weaknesses). – It is a low-volume, high value crop, hence quicker returns to investment than most other crops. | <p>Weaknesses</p> <ul style="list-style-type: none"> – Low level of knowledge on Mozambican side in terms of export tasks. – No current export linkages to South Africa. – High opportunity and transaction cost to gain the necessary knowledge at production and marketing level to gain tacit knowledge and core competencies. |
| <p>Opportunities</p> <ul style="list-style-type: none"> – There is significant demand from South Africa, at least for the scope of production in Mozambique at this stage. – Potential buyers have indicated their willingness to explore imports from Mozambique, both fresh and processed ginger. – Various different market outlets/marketing channels. – Short distance to market outlets compared with major competitors. – Establishment of processing facilities for ginger. | <p>Threats</p> <ul style="list-style-type: none"> – Bureaucratic delays at expediting export/import formalities associated with SPS compliance, pest risk assessment, issuing import permits, documentation, etc. This could add to the cost of exporting, especially fresh ginger. – The marketing chain is already established between Zimbabwe and Mozambican farmers/sellers. Hence, returns to export to South Africa should compensate for re-directing exports to South Africa. This in itself could be a major challenge due to issues mentioned under weaknesses. – Establishment of sustainable export linkages could entail high initial investment costs. – Imports from India and China. |

6. Conclusions

This is probably one of the easier crops to export if the proper links between producer, importer and exporter are maintained. In order to surpass the lack of generalised tradition in growing this crop, it is recommended that any export effort would start in the Manica-Machipanda Districts where smallholders are experienced in growing ginger commercially and the environmental conditions are quite good.

As long as exports to South Africa adhere to quality standards and SPS regulations the possibility exists to export it to South Africa for sale. In its processed form it was indicated that buyers trading in spices will also be interested in sourcing dried or ground ginger from Mozambique, as long as it adheres strictly to hygiene standards, has high oil content and the price is right.

There are three vitally important links into the South African market for ginger. The **first** is L. Verhoef of Purespice who has at several occasions indicated his willingness to explore imports of ginger from Mozambique. **Secondly**, interact with the Shoprite group who already have an established store in Maputo and trade throughout SADC countries. (*This can also form an initial albeit tentative venture into the world of quality standards.*) The same doesn't apply to Woolworths who also have a store in Maputo, but their marketing approach in Southern Africa is very different to that of Shoprite. **Thirdly**, the Fresh Produce Markets provides an ideal opportunity to sell ginger. In this regard the Johannesburg and Pretoria markets would initially suffice as the radiation facilities are close by. Expansion to other Fresh Produce Markets could follow after sufficient knowledge of the market has been gained.

Given the institutional structure of the ginger market in Mozambique specific target growers and traders of ginger in Mozambique need to be identified. The same needs to be done for South Africa for buyers after which a sponsored reciprocal fact-finding visit/mission should be arranged so that potential growers/traders and potential buyers can see first-hand what the problems are and thus empathize with each other so that common ground is established. This should not be a sales mission but rather an education initiative. From field visits in Mozambique, newspaper articles about South Africa and interviews in South Africa, it is evident that there are false perceptions (both ways) about the trade relationships between the two countries. First hand exposure will eradicate these perceptions.

Once international and formal quality requirements have been met with consistency, introduce the community representatives to prospective and established South African companies that have established marketing channels. (*Probably start with the 16 Fresh Produce Markets, before venturing into agreements with the more 'difficult-to-please' Woolworths, Fruit and Veg and Pick 'n Pay chains.*)

From a holistic trade point of view negotiate through the Southern African Development Community (SADC) so that unnecessary 'red-tape' can be cut to expedite import formalities. Especially unnecessary delays at the border posts. (*The 34 year Abuja Treaty plan for the African Union referred to in the General Report refers.*)

Finally, it is **strongly recommended** that consideration is given to use intermediaries to oversee and guide initial and subsequent efforts to export (such efforts entail basically all the issues mentioned above). The reason for this is that the high transaction costs of gaining the necessary

tacit knowledge and core competencies to engage in successful exports could be the single most inhibiting factor to export. Intermediaries could comprise of marketing, trade and agronomic specialists with knowledge of Mozambican and South African circumstances and which has the ability to establish the necessary networks and to assist in negotiations. Initial funding for such an initiative could come from donor agencies, government departments or parastatals, after which the concerned groups should take over such funding if deemed necessary at all.

7. Recommended future action

Ginger

| Problem/Challenge identified | Action | Projected outcome | Agencies responsible |
|---|---|---|--|
| Disorganized Producers | Get the growers especially in the Manica-Machipanda Districts and in Tchakuza to organize themselves into representative bodies | Mutual understanding of problems | IPEX Gov Incentive Program DNC / MIC MADER |
| Production related problems (technologies, improved varieties, training) | Given the fact that there are very little facts known about ginger production and marketing in Mozambique, and that it's extent is probably relatively low in Mozambique serious thought should be given to closely liaise with the Agricultural Research Council (ARC) in South Africa, more specifically their office in Nelspruit. Collaboration should focus on efficient production technologies, research on improved varieties and training of farmers. | Make use of existing capacity that exist to improve production efficiencies given that local investment in such capacity could not be justified on the basis of existing information that is available. | MADER INNOQ MIC |
| Export linkages | There exists considerable interest to import ginger from Mozambique. The easiest way to stimulate exports over the short run is to facilitate the process of getting willing sellers and willing buyers together. Willing buyers have already been identified, but some work still needs to be done in respect of willing sellers. Given the current scope of production and the availability of information it is believed that the most cost effective way to get exports going would be to let sellers and buyers handle the process themselves with initial input from the EMTF as far as the identification on sellers are concerned. | Demand driven institutional involvement. Preferred suppliers' exports. | PoDE (Technical Learning programme – TLC) IPEX CPI |

8. Contacts Interviewed

For the purposes of this report the following companies and individuals were interviewed in Mozambique and in South Africa.

We would like to give credit and thanks to all those who participated in providing information and assistance. The general attitude was helpful and willing to assist Mozambique with this undaunting task.

9.1 INTERVIEWS IN SOUTH AFRICA *SPECIFICALLY* FOR GINGER INFORMATION

| NAME | COMPANY | TELEPHONE | DETAILS |
|-----------------------|---|--------------|---------------------------------|
| Shipman, D | Spicenet | 039 976 0086 | Potential Buyer |
| Verhoef, L | Purespice | 012 803 1361 | Potential Buyer |
| Lever, B | Advance Grain | 011 762 5261 | Potential Buyer |
| Oosthuizen, J | RSA Fresh Produce Market | 011 613 4391 | Potential Buyer (Agent) |
| Richards, M | Fruit & Veg City | 011 613 4590 | Potential Buyer |
| Holtzhausen, M | Nat Plant Protection Org.(NPPO) | 012 319 6100 | S.P.S. Certification |
| Clark, G | G Clark & Assoc | 021 581 2722 | General Information & Logistics |
| Holtzkampf, Charlotte | Johannesburg Fresh Products | 011 613 2049 | Fresh Market Management |
| Lahoud, A | RSA Fresh Produce Market | 083 303 9777 | Potential Buyer |
| Ledera, G | G L Distributors | 082 450 9064 | Potential Buyer |
| Borslap, C | Woolworths | 083 259 8084 | Potential Buyer |
| Hamer, Jackie | Robertsons Foods, Durban, KwaZulu-Natal | 031 571 9758 | Potential Buyer |
| Van Tibberch, J | Fruit & Veg City | C.T. | Potential Buyer |
| Breslin, M | Woolworths | 021 407 9111 | Potential Buyer |
| Van Poulke, N | Pick n' Pay | 021 936 8400 | Potential Buyer |
| Hamilton, C | Epping Fresh Produce Market | 021 531 2191 | Potential Buyer (Agent) |
| Prinsloo, J | Kiepersol, Mpumalanga | | Research and training |
| Naude, L | Freshmark, Centurion, Gauteng | | Potential Buyer (Agent) |
| Waterboer, N | Freshmark, Centurion, Gauteng | | Potential Buyer (Agent) |
| Claussen, J | Freshmark, Polekwane, Limpopo | | Potential Buyer (Agent) |
| Palley, S | Freshmark, Durban, Kwazulu-Natal | | Potential Buyer (Agent) |
| Taylor, D | Freshmark, Durban, Kwazulu-Natal | | Potential Buyer (Agent) |
| Stock, A | Freshmark, Port Elizabeth, Eastern Cape | | Potential Buyer (Agent) |
| Smith, N | Freshmark, Bloemfontein, Free State | | Potential Buyer (Agent) |
| Muller, A | Freshmark, Cape Town, Eastern Cape | | Potential Buyer (Agent) |
| Adam, M | Freshmark, Cape Town, Eastern Cape | | Potential Buyer (Agent) |
| Ford, B | Woolworths, Cape Town | | Potential Buyer |
| Oliver, C | Woolworths, Cape Town | | Potential Buyer |

Prohibited and Restricted Goods Index Chapter 09

| PROHIBITED AND RESTRICTED GOODS INDEX | | - 32 - | | IMPORT 09.08 | |
|--|--|---|--|--|-----------|
| Heading | Designation of Goods | Prohibition or Restriction | Authority | Action Required | Reference |
| 0908.00 0908.10.10 0908.20.10 0908.30.10 | Nutmeg, mace and cardamoms: Not crushed or ground | See par. (Q), page iv | Foodstuffs, Cosmetics and Disinfectants Act 54/1972 Agricultural Pests Act 36/1983 | Detain for Port Health Detain for PQC | |
| 0909.00 0909.10.10 0909.30.10 0909.40.10 0909.50.10 0909.20 | Seeds of anise, badian, fennel, cumin, coriander, caraway or juniper: Seeds of anise, badian, fennel, cumin caraway or juniper Coriander | See par. (Q), page iv (1) See par. (Q), page iv (2) Importation into the RSA is subject to permits from the DG, Dept of Agriculture, Directorate of PQC, but excluding ships' stores and goods warehoused for supply as ships' stores only | Proc. 284/1978 Agricultural Pests Act 36/1983 Proc. 284/1978 Agricultural Pests Act 36/1983 | Detain for Port Health Detain for PQC Detain for Port Health Detain for PQC | |
| 0910.00 0910.10 0910.20 0910.30.10 0910.40.10 0910.50 0910.91.10 0910.99.10 | Ginger, saffron, tumeric (curcums), thyme, bay leaves, curry and other spices Neither crushed nor ground | See par. (Q), page iv | Agricultural Pests Act 36/1983 | Detain for Port Health Detain for PQC | |
| <p>(Q) Detention of Imports for Directorate of Plant and Quality Control, Department of Agriculture, has indicated that all future consignments of the undermentioned goods need merely be detained for the plant inspector and that the required permits need not be insisted upon. Control of the permit aspect will therefore be vested in the aforementioned Directorate</p> | | <p>Agricultural Pests Act 36/1983; Plant Improvement Act 1976 (No. 53/1976; Agricultural Technical Services Minute 11/5/8/B of 16 March 1978.</p> <p>Sight should not be lost of the requirements of paragraph (P) above</p> | | | |

Appendix B

Import Conditions For Ginger

WHOLE GINGER FOR CONSUMPTION

1. The consignment to be consigned by the supplier in the foreign country in the name of the importer directly to one of the following Irradiation Plants:

- (i) GAMMA-STER (PTY) LTD, 1 WATERPAS ROAD, ISANDO.
- (ii) GAMWAVE (PTY) LTD, 19 THE AVENUE EAST, PROSPECTON, DURBAN;
- (iii) HEPRO CAPE (PTY) LTD, 6 FERRULE AVENUE, MONTAGUE GARDENS, CAPE TOWN; OR

for irradiation at a **minimum absorbed dosage of 1 kGy**,

2. The consignment to be packed in suitable containers to prevent any spillage of plant material;
3. Irradiation treatment shall be done at the importer's risk and the Director, Directorate Plant Health and Quality shall by no means be held liable for any damage or loss resulting from such prescribed treatment(s).
4. The importer shall be responsible for all expenses involved.
5. Irradiation of *Zingiber* spp. (Ginger) is subject to the approval of the Department of National Health and Population development of the RSA.

DRIED POWDER/SLICED GINGER

1. A permit in terms of the Agricultural Pests Act, 1983 (Act No. 36 of 1983) is required.
2. No additional declaration on the phytosanitary certificate required.



Codex Alimentarius regulations on ginger

Appendix D1: Cost calculations for ginger exports from Mozambique to DDP Johannesburg, South Africa (December 2003)

| CONSOLIDATION POINT: | | | Quelimane | ZAMBEZIA | | |
|---|------------|-----------------|-------------------------|--------------|-----------------|--|
| Forward - Moz to SA | | | Backwards - SA to MOZ | | | |
| Start | @ | 10,000.00 | MZM/kg | Target | 21,154.51 | MZM/kg |
| Price delivered to the C.P. | MZM | 10,000,000.00 | Start | End | 21,154,507.13 | MZM per Metric Tonne |
| Price delivered to the C.P. (USD) | USD | 415.80 | ↓ | ↑ | 879.61 | (@ 24 050) |
| Delivery of empty container to the C.P. | USD | 0.00 | | | 0.00 | (From Container Depot to C.P.) |
| Price EXW Quelimane (C.P.) | USD | 415.80 | | | 879.61 | EXW |
| Full container to point of exit - Quelimane | USD | 0.00 | | | 0.00 | |
| Terminal Handling Charges | USD | 3.25 | | | 3.25 | (Only at a Sea Port) |
| Cargo Handling (Manuseamento) | USD | 9.00 | | | 9.00 | (Clearing Agents, Handlers etc) |
| Container Movement Tax | USD | 2.50 | | | 2.50 | (Charge from Mozambique Customs) |
| Movement Guide | USD | 0.20 | | | 0.20 | (Charge from Mozambique Customs) |
| Customs Service Tax @ 3% of Invoice(FOB) | USD | 13.32 | | | 27.67 | (Charge from Mozambique Customs) |
| Price FOB/FCA Quelimane | USD | 444.07 | | | 922.22 | (At the Exit Port) |
| Seafreight to Durban | USD | 27.50 | | | 27.50 | |
| Price CIF/CIP Durban | USD | 471.57 | | | 949.72 | (Unloaded on the quay) |
| Clearing Formalities | USD | 18.50 | | | 18.50 | South African Port Charges |
| Irradiation Costs | USD | 204.61 | | | 204.61 | |
| Customs Duties in South Africa | USD | 0.00 | | | 0.00 | No duties for SADC |
| Carriage to Johannesburg | USD | 23.75 | | | 23.75 | (Railage costs) |
| Price DDP Johannesburg | USD | 718.43 | | | 1,196.58 | (Average final price to the SA wholesaler.) |
| S.A. Wholesaler's Market Comm @ 12.5% | USD | 102.63 | | | 170.94 | |
| S.A. Price to Retailer | | 821.07 | | | 1,367.52 | |
| S.A. Retailer's Markgin @ 80% | | 656.85 | | | 1,094.02 | |
| DELIVERED RETAIL PRICE IN S.A. | USD | 1,477.92 | End | Start | 2,461.54 | PER Metric Tonne |
| Comparative Retail Price in S.A. | USD | 2,461.54 | Per Metric Tonne | | | |



Note: Costing is per Metric Tonne but based on Full Container Loads of 20 Metric Tonnes (or 26 Cubic metres)

Appendix D2: Cost calculations for ginger exports from Mozambique to DDP Johannesburg, South Africa (December 2003)

| CONSOLIDATION POINT: | | | NAMPULA | | | |
|--|-----|---------------|--|--|-----------------------|---|
| Forward - Moz to SA | | | | | Backwards - SA to MOZ | |
| Start | @ | 10,000.00 | MZM/kg | Target | 21,234.47 | MZM/kg |
| Price delivered to the C.P. | MZM | 10,000,000.00 | Start | End | 21,234,473.38 | MZM per Metric Tonne |
| Price delivered to the C.P. (USD) | USD | 415.80 |  |  | 882.93 | (@ 24 050) |
| Delivery of empty container to the C.P. | USD | 0.00 | | | 0.00 | (From Container Depot to C.P.) |
| Price EXW Nampula | USD | 415.80 | | | 882.93 | EXW |
| Full container to point of exit - Nacala | USD | 8.80 | | | 8.80 | |
| Terminal Handling Charges | USD | 3.25 | | | 3.25 | (Only at a Sea Port) |
| Cargo Handling (Manuseamento) | USD | 9.00 | | | 9.00 | (Clearing Agents, Handlers etc) |
| Container Movement Tax | USD | 2.50 | | | 2.50 | (Charge from Mozambique Customs) |
| Movement Guide | USD | 0.20 | | | 0.20 | (Charge from Mozambique Customs) |
| Customs Service Tax @ 3% of Invoice(FOB) | USD | 13.59 | | | 28.04 | (Charge from Mozambique Customs) |
| Price FOB/FCA Nacala | USD | 453.14 | | | 934.72 | (At the Exit Port [or Maputo for overland]) |
| Seafreight to Durban | USD | 15.00 | | | 15.00 | |
| Price CIF/CIP Durban | USD | 468.14 | | | 949.72 | (Unloaded on the quay) |
| Clearing Formalities | USD | 18.50 | | | 18.50 | South African Port Charges |
| Irradiation Costs | USD | 204.61 | | | 204.61 | |
| Customs Duties in South Africa | USD | 0.00 | | | 0.00 | No duties for SADC |
| Carriage to Johannesburg | USD | 23.75 | | | 23.75 | (Railage costs) |
| Price DDP Johannesburg | USD | 715.00 | | | 1,196.58 | (Average final price to the SA wholesaler.) |
| S.A. Wholesaler's Market Comm @ 12.5% | USD | 102.14 | | | 170.94 | |
| S.A. Price to Retailer | | 817.15 | | | 1,367.52 | |
| S.A. Retailer's Markgin @ 80% | | 653.72 | | | 1,094.02 | |
| DELIVERED RETAIL PRICE IN S.A. | USD | 1,470.87 | End | Start | 2,461.54 | PER Metric Tonne |
| Comparative Retail Price in S.A. | USD | 2,461.54 | Per Metric Tonne | | | |

Note: Costing is per Metric Tonne but based on Full Container Loads of 20 Metric Tonnes (or 26 Cubic metres)

Appendix D3: Cost calculations for ginger exports from Mozambique to DDP Johannesburg, South Africa (December 2003)

| CONSOLIDATION POINT: | | | MAPUTO | | | |
|--|------------|-----------------|--|--|-----------------------|--|
| Forward - Moz to SA | | | | | Backwards - SA to MOZ | |
| Start | @ | 10,000.00 | MZM/kg | Target | 22,677.95 | MZM/kg |
| Price delivered to the C.P. | MZM | 10,000,000.00 | Start | End | 22,677,954.38 | MZM per Metric Tonne |
| Price delivered to the C.P. (USD) | USD | 415.80 |  |  | 942.95 | (@ 24 050) |
| Delivery of empty container to the C.P. | USD | 0.00 | | | 0.00 | (From Container Depot to C.P.) |
| Price EXW Maputo (C.P.) | USD | 415.80 | | | 942.95 | EXW |
| Full container to point of exit - Ressano Garcia | USD | 2.50 | | | 2.50 | (Transport to Exit Point) |
| Terminal Handling Charges | USD | 0.00 | | | 0.00 | (Only at a Sea Port) |
| Cargo Handling (Manuseamento) | USD | 9.00 | | | 9.00 | (Clearing Agents, Handlers etc) |
| Container Movement Tax | USD | 1.50 | | | 1.50 | (Charge from Mozambique Customs) |
| Movement Guide | USD | 0.20 | | | 0.20 | (Charge from Mozambique Customs) |
| Customs Service Tax @ 3% of Invoice(FOB) | USD | 13.27 | | | 29.57 | (Charge from Mozambique Customs) |
| Price FOB/FCA Maputo | USD | 442.27 | | | 985.72 | (At the Exit Port) |
| | USD | 0.00 | | | 0.00 | |
| | USD | 442.27 | | | 985.72 | |
| Clearing Formalities | USD | 1.50 | | | 1.50 | South African Port Charges |
| Irradiation Costs | USD | 204.61 | | | 204.61 | |
| Customs Duties in South Africa | USD | 0.00 | | | 0.00 | No duties for SADC |
| Carriage to Johannesburg | USD | 4.75 | | | 4.75 | (Railage costs) |
| Price DDP Johannesburg | USD | 653.13 | | | 1,196.58 | (Average final price to the SA wholesaler.) |
| S.A. Wholesaler's Market Comm @ 12.5% | USD | 93.30 | | | 170.94 | |
| S.A. Price to Retailer | | 746.43 | | | 1,367.52 | |
| S.A. Retailer's Markgin @ 80% | | 597.15 | 1,094.02 | | | |
| DELIVERED RETAIL PRICE IN S.A. | USD | 1,343.58 | End | Start | 2,461.54 | PER Metric Tonne |
| Comparative Retail Price in S.A. | USD | 2,461.54 | Per Metric Tonne | | | |

Note: Costing is per Metric Tonne but based on Full Container Loads of 20 Metric Tonnes (or 26 Cubic metres)

Appendix D4: Cost calculations for ginger exports from Mozambique to DDP Johannesburg, South Africa (December 2003)

| CONSOLIDATION POINT: | | Chimoio | | MANICA | | |
|--|-----|---------------------|--------|--------|-----------------------|---|
| | | Forward - Moz to SA | | | Backwards - SA to MOZ | |
| Start @ | | 10,000.00 | MZM/kg | Target | 20,474.19 | |
| Price delivered to the C.P. | MZM | 10,000,000.00 | Start | End | 20,474,192.76 | |
| | | | | | MZM per Metric Tonne | |
| Price delivered to the C.P. (USD) | USD | 415.80 | | | 851.32 | (@ 24 050) |
| Delivery of empty container to the C.P. | USD | 11.50 | | | 11.50 | (From Container Depot to C.P.) |
| Price EXW Chimoio (C.P.) | USD | 427.30 | | | 862.82 | EXW |
| Full container to point of exit - Beira | USD | 22.85 | | | 22.85 | (Transport from Chimoio to Beira) |
| Terminal Handling Charges | USD | 3.25 | | | 3.25 | (Only at a Sea Port) |
| Cargo Handling (Manuseamento) | USD | 9.00 | | | 9.00 | (Clearing Agents, Handlers etc) |
| Container Movement Tax | USD | 2.50 | | | 2.50 | (Charge from Mozambique Customs) |
| Movement Guide | USD | 0.20 | | | 0.20 | (Charge from Mozambique Customs) |
| Customs Service Tax @ 3% of Invoice(FOB) | USD | 14.38 | | | 27.85 | (Charge from Mozambique Customs) |
| Price FOB/FCA Beira | USD | 479.48 | | | 928.47 | (At the Exit Port) |
| Seafreight to Durban | USD | 21.25 | | | 21.25 | |
| Price CIF/CIP Durban | USD | 500.73 | | | 949.72 | (Unloaded on the quay) |
| Clearing Formalities | USD | 18.50 | | | 18.50 | South African Port Charges |
| Irradiation Costs | USD | 204.61 | | | 204.61 | |
| Customs Duties in South Africa | USD | 0.00 | | | 0.00 | No duties for SADC |
| Carriage to Johannesburg | USD | 23.75 | | | 23.75 | (Railage costs) |
| Price DDP Johannesburg | USD | 747.59 | | | 1,196.58 | (Average final price to the SA wholesaler.) |
| S.A. Wholesaler's Market Comm @ 12.5% | USD | 106.80 | | | 170.94 | |
| S.A. Price to Retailer | | 854.39 | | | 1,367.52 | |
| S.A. Retailer's Markgin @ 80% | | 683.52 | | | 1,094.02 | |
| DELIVERED RETAIL PRICE IN S.A. | USD | 1,537.91 | End | Start | 2,461.54 | PER Metric Tonne |

| | | | | |
|----------------------------------|-----|----------|------------------|--|
| Comparative Retail Price in S.A. | USD | 2,461.54 | Per Metric Tonne | |
|----------------------------------|-----|----------|------------------|--|

Note: Costing is per Metric Tonne but based on Full Container Loads of 20 Metric Tonnes (or 26 Cubic metres)

CODEX STANDARD FOR GINGER
CODEX STAN 218-1999

1. DEFINITION OF PRODUCE

This standard applies to the rhizome of the commercial varieties of ginger grown from *Zingiber officinale* Roscoe of the *Zingiberaceae* family, to be supplied fresh to the consumer, after preparation and packaging. Ginger for industrial processing is excluded.¹

2. PROVISIONS CONCERNING QUALITY

2.1 MINIMUM REQUIREMENTS

In all classes, subject to the provisions for each class and the tolerances allowed, the ginger must be:

- whole;
- firm;
- sound, produce affected by rotting or deterioration such as to make it unfit for consumption is excluded;
- clean, practically free of any visible foreign matter;
- practically free of pests affecting the general appearance of the produce;
- practically free of damage caused by pests;
- free of abnormal external moisture and properly dried if washed, excluding condensation following removal from cold storage;
- free of any foreign smell and/or taste;
- free of abrasions; provided light abrasions which have been dried properly are not regarded as a defect;
- sufficiently dry for the intended use; skin, stems and cuts due to harvesting must be fully dried.

2.1.1 The development and condition of the ginger must be such as to enable it:

- to withstand transport and handling, and
- to arrive in satisfactory condition at the place of destination.

¹ Governments, when indicating the acceptance of the Codex Standard for Ginger, should notify the Commission which provisions of the Standard would be accepted for application at the point of import, and which provisions would be accepted for application at the point of export.

2.2 CLASSIFICATION

Ginger is classified in three classes defined below:

2.2.1 “Extra” Class

Ginger in this class must be of superior quality. They must be characteristic of the variety and/or commercial type. The roots must be cleaned, well shaped and free of defects, with the exception of very slight superficial defects, provided these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package.

2.2.2 Class I

Ginger in this class must be of good quality. They must be characteristic of the variety and/or commercial type. The roots must be firm, without evidence of shrivelling or dehydration and without evidence of sprouting. The following slight defects, however, may be allowed, provided these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package:

- slight skin defects due to rubbing provided they are healed and dry and the total surface area affected not exceeding 10 per cent.

2.2.3 Class II

This class includes ginger which does not qualify for inclusion in the higher classes, but satisfy the minimum requirements specified in Section 2.1 above. The roots should be reasonably firm. The following defects may be allowed, provided the roots retain their essential characteristics as regards the quality, the keeping quality and presentation:

- skin defects due to rubbing, provided they are healed and dry and the total surface area affected not exceeding 15 per cent;
- early signs of sprouting (not more than 10 per cent by weight by unit of presentation);
- slight markings caused by pests;
- healed suberized cracks, provided they are completely dry;
- slight traces of soil;
- bruises.

3. PROVISIONS CONCERNING SIZING

Size is determined by the weight of the ginger, in accordance with the following table:

| Size Code | Weight (in grams) |
|------------------|------------------------------|
| A | 300 |
| B | 200 |
| C | 150 |

4. PROVISIONS CONCERNING TOLERANCES

Tolerances in respect of quality and size shall be allowed in each package for produce not satisfying the requirements of the class indicated.

4.1 QUALITY TOLERANCES

4.1.1 “Extra” Class

Five per cent by number or weight of ginger not satisfying the requirements of the class, but meeting those of Class I or, exceptionally, coming within the tolerances of that class.

4.1.2 Class I

Ten per cent by number or weight of ginger not satisfying the requirements of the class, but meeting those of Class II or, exceptionally, coming within the tolerances of that class.

4.1.3 Class II

Ten per cent by number or weight of ginger satisfying neither the requirements of the class nor the minimum requirements, with the exception of produce affected by rotting or any other deterioration rendering it unfit for consumption.

4.2 SIZE TOLERANCES

For “Extra” Class, 5 per cent; and for Class I or Class II, 10 per cent; by number or weight of ginger not satisfying the requirements as regards sizing.

5. PROVISIONS CONCERNING PRESENTATION

5.1 UNIFORMITY

The contents of each package must be uniform and contain only ginger of the same origin, variety and/or commercial type, quality and size. The visible part of the contents of the package must be representative of the entire contents.

The weight of the heaviest hand (rhizome) may not be more than twice the weight of the lightest hand (rhizome) in the same package.

5.2 PACKAGING

Ginger must be packed in such a way as to protect the produce properly. The materials used inside the package must be new,² clean, and of a quality such as to avoid causing any external or internal damage to the produce. The use of materials, particularly of paper or stamps bearing trade specifications is allowed, provided the printing or labelling has been done with non-toxic ink or glue.

Ginger shall be packed in each container in compliance with the Recommended International Code of Practice for Packaging and Transport of Tropical Fresh Fruit and Vegetables (CAC/RCP 44-1995).

5.2.1 Description of Containers

The containers shall meet the quality, hygiene, ventilation and resistance characteristics to ensure suitable handling, shipping and preserving of the ginger. Packages must be free of all foreign matter and smell.

6. MARKING OR LABELLING

6.1 CONSUMER PACKAGES

In addition to the requirements of the Codex General Standard for the Labelling of Pre-packaged Foods (CODEX STAN 1-1985, Rev. 2-1999), the following specific provisions apply:

6.1.1 Nature of Produce

If the produce is not visible from the outside, each package shall be labelled as to the name of the produce and may be labelled as to the name of the variety and/or commercial type.

² For the purposes of this Standard, this includes recycled material of food-grade quality.

6.2 NON-RETAIL CONTAINERS

Each package must bear the following particulars, in letters grouped on the same side, legibly and indelibly marked, and visible from the outside, or in the documents accompanying the shipment.³

6.2.1 Identification

Name and address of Exporter, Packer and/or Dispatcher. Identification code (optional).⁴

6.2.2 Nature of Produce

Name of produce if the contents are not visible from the outside. Name of variety and/or commercial type (optional).

6.2.3 Origin of Produce

Country of origin and, optionally, district where grown or national, regional or local place name.

6.2.4 Commercial Identification

- Class;
- Size (size code or minimum and maximum weight in grams);
- Number of units (optional);
- Net weight (optional).

6.2.5 Official Inspection Mark (optional)

7. CONTAMINANTS

7.1 HEAVY METALS

³ Governments, when indicating their acceptance of this Standard, should notify the Commission as to which provisions of this Section apply.

⁴ The national legislation of a number of countries requires the explicit declaration of the name and address. However, in the case where a code mark is used, the reference “packer and/or dispatcher (or equivalent abbreviations)” has to be indicated in close connection with the code mark.

Ginger shall comply with those maximum levels for heavy metals established by the Codex Alimentarius Commission for this commodity.

7.2 PESTICIDE RESIDUES

Ginger shall comply with those maximum residue limits established by the Codex Alimentarius Commission for this commodity.

8. HYGIENE

8.1 It is recommended that the produce covered by the provisions of this Standard be prepared and handled in accordance with the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev. 3-1997), and other relevant Codex texts such as Codes of Hygienic Practice and Codes of Practice.

8.2 The produce should comply with any microbiological criteria established in accordance with the Principles for the Establishment and Application of Microbiological Criteria for Foods (CAC/GL 21-1997).