

## GINGER

### 1. Introduction

Ginger is one of the earliest known oriental spices and is being cultivated in India for both as fresh vegetable and as a dried spice, since time immemorial. Ginger is obtained from the rhizomes of *Zingiber officinale*. The ginger family is a tropical group, especially abundant in Indo-Malaysian region, consisting of more than 1200 plant species in 53 genera. The area under cultivation in India is 107.54 thousand ha and the total production of the country is 385.33 thousand tons.

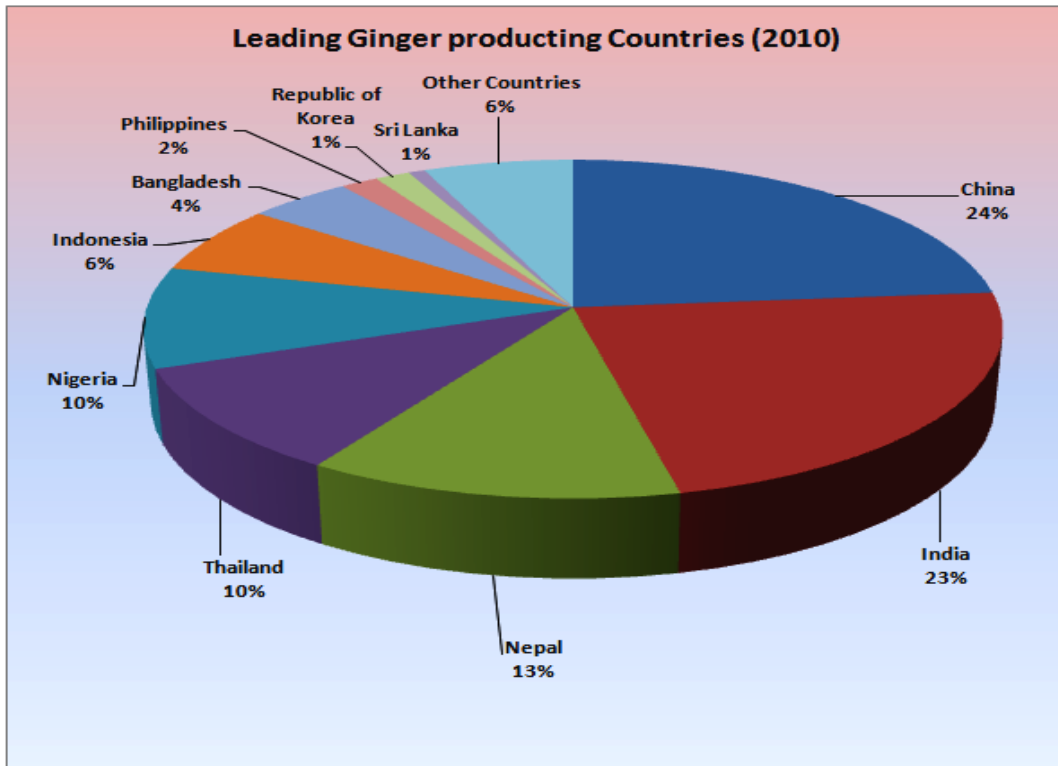
### World Scenario

The total production of ginger in the world is 1683.00 thousand tons with the total acreage of 310.43 thousand ha. China, India, Nepal and Thailand are the major producers of ginger in the world, having production of 396.60 thousand tons, 385.33 thousand tons, 210.79 thousand tons and 172.68 thousand tons respectively. India and Indonesia have the largest area under cultivation.

#### Area, Production and Productivity of Ginger in the World

| COUNTRY           | AREA (000' ha) | PRODUCTION (000' tons) | PRODUCTIVITY (tons/ha) |
|-------------------|----------------|------------------------|------------------------|
| China             | 36.10          | 396.60                 | 10.99                  |
| India             | 107.54         | 385.33                 | 3.58                   |
| Nepal             | 18.04          | 210.79                 | 11.68                  |
| Thailand          | 10.25          | 172.68                 | 16.85                  |
| Nigeria           | 52.33          | 162.22                 | 3.10                   |
| Indonesia         | 60.47          | 109.02                 | 1.80                   |
| Bangladesh        | 9.07           | 74.84                  | 8.26                   |
| Philippines       | 3.97           | 27.10                  | 6.83                   |
| Republic of Korea | 2.09           | 24.97                  | 11.98                  |
| Sri Lanka         | 2.07           | 12.05                  | 5.82                   |
| Other Countries   | 8.51           | 107.39                 | 12.62                  |
| <b>Total</b>      | <b>310.43</b>  | <b>1683.00</b>         | <b>5.42</b>            |

Source : FAO



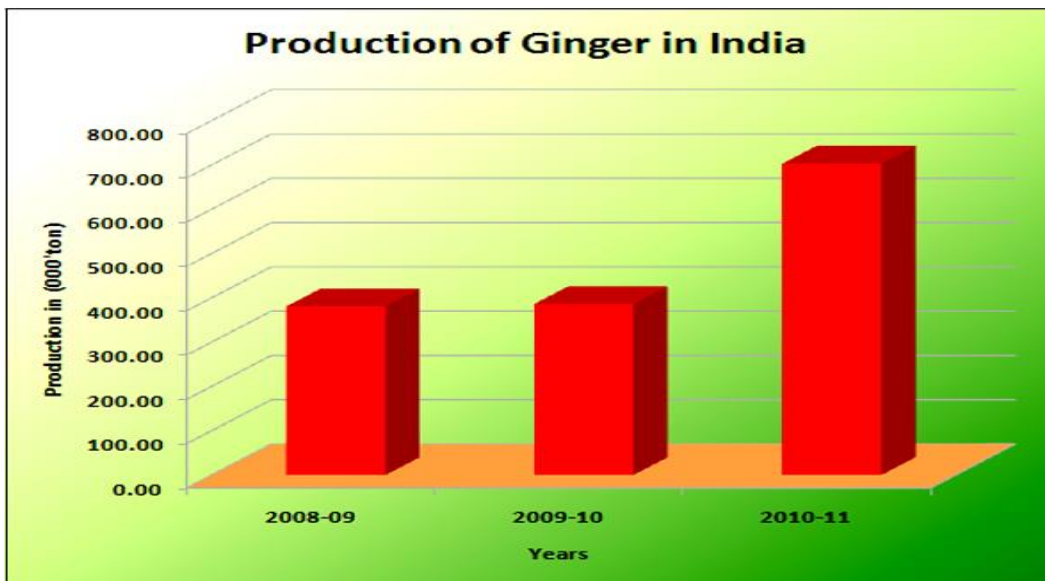
#### Indian Scenario

There is only marginal increase in acreage from 108.64 thousand ha in 2008-09 to 149.10 thousand ha in 2010-11. The production, however, has increased from 380.10 thousand tons in 2008-09 to 702.00 thousand tons in 2010-11. The details are given in table .

#### Area, Production and Productivity of Ginger in India

| YEAR    | AREA (000'ha) | PRODUCTION (000'tons) | PRODUCTIVITY (tons/ha) |
|---------|---------------|-----------------------|------------------------|
| 2008-09 | 108.64        | 380.10                | 3.50                   |
| 2009-10 | 107.54        | 385.33                | 3.60                   |
| 2010-11 | 149.10        | 702.00                | 4.70                   |

Source : National Horticulture Board



**2. Description of Commercially Grown Varieties**  
**Shows the Varietal Characteristics of Commercially Grown Ginger**

| Variety/ Type  | Characteristics  |
|----------------|--|
| Rio-de-Janeiro | he size of rhizome is bold ,colour of skin is buff, pungent, high flavour and less fibrous                                 |
| Thingpui       | The size of rhizome is medium,colour of skin is buff, pungent, high flavour and less fibrous                               |
| Wynad          | The size of rhizome is bold,colour of skin is buff, pungent, flavoured and less fibrous                                    |
| Maran          | The size of rhizome is medium,colour of skin is buff, pungent, high flavour and les fibrous                                |
| Nadia          | Size of rhizome is medium to bold, yellowish in colour, moderately pungent, mild flavoured and less fibrous comparatively. |

**Some of the recent improved varieties are:**

Suprabha, Suruchi, Surabhi, Himigiry, IISR-Rejatha, IISR-Mahima, IISR-Varada, Manantoddy, etc.

**3. Good Agricultural Practices (GAP)**

- Use of high yielding and high quality variety like Varda.
- Integrated nutrient management.
- Pest and disease management.
- Integrated management technologies for rhizome rot disease involving solarization of seed beds, phytosnitiation, cultural methods, biocontrol agents and chemicals should be adopted.
- Strategies for the management of shoot borer by pruning infested shoots and application of chemicals and biopesticides.

**4. Harvesting Season of Crop in Leading States**

|                   |     |     |     |     |     |     |     |     |     |     | Peak season |     |
|-------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------|-----|
| STATE/UT'S        | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV         | DEC |
| Assam             |     |     |     |     |     |     |     |     |     |     |             |     |
| Kerala            |     |     |     |     |     |     |     |     |     |     |             |     |
| Orissa            |     |     |     |     |     |     |     |     |     |     |             |     |
| Gujarat           |     |     |     |     |     |     |     |     |     |     |             |     |
| Sikkim            |     |     |     |     |     |     |     |     |     |     |             |     |
| Mizoram           |     |     |     |     |     |     |     |     |     |     |             |     |
| Arunachal Pradesh |     |     |     |     |     |     |     |     |     |     |             |     |

**5. Arrival pattern in market**

Gingers are available in the markets almost throughout the year.

## 6. (a) Concentrated Pockets

The details of concentrated pockets of ginger in different states are given below in table .

### Showing Concentrated Pockets of Ginger in India

| State             | Districts   |
|-------------------|---|
| Kerala            | Wayand, Palakkadu, Idukki, Alappuzha                          |
| Arunachal Pradesh | Upper Siang, East Siang, Tirap, Lohit                         |
| Assam             | Berpeta, Kamrup, Darrang, Sonitpur, N.C. Hills, Karbi Anglong |
| Meghalaya         | West Garo Hills, East Garo Hills                              |
| Orissa            | Koraput, Kondhamal  |
| Sikkim            | East district and South district                              |

## (b) Catchment areas of Market

Showing the details of catchment areas of market of Ginger in leading states

| States            | Districts (Market) | Blocks   |
|-------------------|--------------------|--|
| Kerala            | Wayand             | Thavinhal, Valatl, Hatika, Puthady, Kalpetta, Chegual, Thariode, Vallarimela, Koltappadi, Vayittri.                                      |
|                   | Idukki             | Painavu, Nadunkandam, Devikulam, Todupulai, PIRAMAD.   |
| Arunachal Pradesh | East Siang         | Rikor, Bomdo, Ramsing, Karko, Dalbuing, Riga, Dumro, Pangin, Temsing, Yagung, Lali, Ledum  |
|                   | Tirap              | Khonsa, Rusa, Niaunju, Boganpani, Borduria, Pongchau, Wakka, Laju.   |
| Assam             | N.C. Hills         | Hungering, Langku, Langlut, Baldha, Mahur, Lanting, Malangpa, B agha, Derebre, Beladhan.   |
|                   | Karbi Anglong      | Phangchogaon, Kaliani, Jengpeta, Erelang, Kramsa, Tumpung, Dengaon, Buralek, Howng, Dhanpi, Lung Ding, Khainduli, Mynser.                |
| Meghalaya         | West garo hills    | Phulbani, Rongamachokgiri, Rabbigiri, Kherapara, Rongohugui, Se Isella, Tura, Batasing, Dalu.  |
|                   | East garo hills    | William Nagar, Bajengdoba, Resulbalpara, Bangai, Chebak, Damea, Songsak, Samanda, Rongrenggiri.  |
| Orissa            | Kondhamal          | Dharamgarh, Langigarh, Jayapatna, Bhawanipatna Madanpur, Utkela, Ampani, Sunamal,  |
|                   | Koraput            | Kotapad, Boriguma, Jaypur, Machhakund, Nandapur, Singpuru, Bagra, Rayisingi, Jalaput, Gupteshwar   |
| Sikkim            | East district      | Rakdong, Nabhe, Nakchota Chharggu, Gangtok, Saramsa, Aho, Tumin, Kambul, Martam, Singtam, Sajong, Amba, Saramsa, Pachak                  |
|                   | South district     | Rhenok, Lingtam, Kupup Brang, Polot, Patam, Lingi, Lingmo, Mangjing, Rabang, Parbing, Sangmo, Ranguthang, Namchi, Parbing, Chidam, Malli |

## 7. (a) According to Agmark standards ginger is classified into following classes:

### Grade designations and quality of Garbled Non-bleached Ginger (Whole)

| Special Characteristics |  |  |   |                          |                         |   |                                    |
|-------------------------|--|--|---|--------------------------|-------------------------|---|------------------------------------|
| Grade designation       | Quality                                  |  |   |                          |                         |   |                                    |
|                         | Size of rhizomes, (length in mm). (Min.) | Organic Extraneous matter, %(m/m) (Max.) | Inorganic extraneous matter, % (m/m) (Max.) | Moisture, % (m/m) (Max.) | Total ash, %(m/m)(Max.) | Calcium (as calcium oxide)%(m/m) (Max.) | Volatile Oil, % (ml/100g m) (Min.) |
| Special                 | 20                                       | 1.5                                      | 0.5   | 12                       | 8                       | 1.1                                     | 1.5                                |
| Standard                | 15                                       | 2  | 6   | 13                       | 12                      | 4                                       | 4                                  |

### General Characteristics

- It shall be dried rhizomes of Zingiber officinale Rose, in pieces, irregular in shape, pale brown in colour.
- Its fibrous content shall be characteristic of the variety with peel not entirely removed.
- It shall be lime bleached.
- It shall have characteristic taste and flavour and shall not have a musty odour or a rancid or bitter taste.
- It shall be free from added colouring matter.
- It shall be free from mould growth and living insects and practically free from dead insects, insect fragments and rodent contamination.
- It shall comply with restrictions in regard to Aflatoxins, Metallic Contaminants, Insecticide or Pesticide residue, poisonous metals, naturally occurring Contaminants, Microbial load and the like as specified by the Codex Alimentarius Commission or as per buyers requirements for Export purposes and the Prevention of Food Adulteration Rules, 1955 for domestic trade.

## 8. Packaging & its details

### (a) For Export

Packaging is normally done in polythene laminated gunny bags.

### (b) For Domestic Market

For domestic markets, gingers are packed in gunny bags.

## 9. Distribution of produce from primary to terminal market

- Ginger grown in Assam, Sikkim and Meghalaya find major markets in North Indian states like Delhi, U.P., Punjab, Haryana, Rajasthan and Bihar.
- Ginger grown in Orissa is distributed in nearby markets of Orissa, Andhra Pradesh, Bihar and Chhattisgarh.
- Ginger from Southern states like Kerala are transported to nearby states like Karnataka, Tamil Nadu etc.

## 10. Exports and export potential

### A. Domestic Strengths for Exporting Ginger

Domestic strengths for exporting Ginger from India are detailed below:

- India is a leading ginger producer in the world.
- More than 50% of total ginger production takes place in North East, Uttarakhand and Sikkim states.
- Most of ginger in North Eastern states is produced under organic conditions.
- India has identified / developed a number of superior and high yielding cultivars.

- There is strong research support in this crop, as Indian Institute of Spices Research ,Kozhikode, Kerala and State Agricultural Universities are operating in ginger growing areas.
- APEDA has already sanctioned Agri Export Zones for fresh ginger in Assam, Orissa and Sikkim, for enhancing exports.
- Indian Spices Board established under the Ministry of Commerce, provides further support for expansion of area under spices and enhancing exports.

## B. Exports

Export of ginger increased from 8,332.91 tons in 2007-08 to 35,616.35 tons in 2011-12 in Quantum and increased from Rs 3,296.08 Lakh to Rs 26,626.77 Lakhs in value term.

### Export of Ginger from India in the Last Five Years

| Year      | Quantity(tons) | Value(Rs.Lakh) |
|-----------|----------------|----------------|
| 2007-2008 | 8,332.91       | 3,296.08       |
| 2008-2009 | 8,836.25       | 4,998.15       |
| 2009-2010 | 12,174.91      | 6,908.15       |
| 2010-2011 | 24,630.10      | 16,246.52      |
| 2011-2012 | 35,616.35      | 26,626.77      |

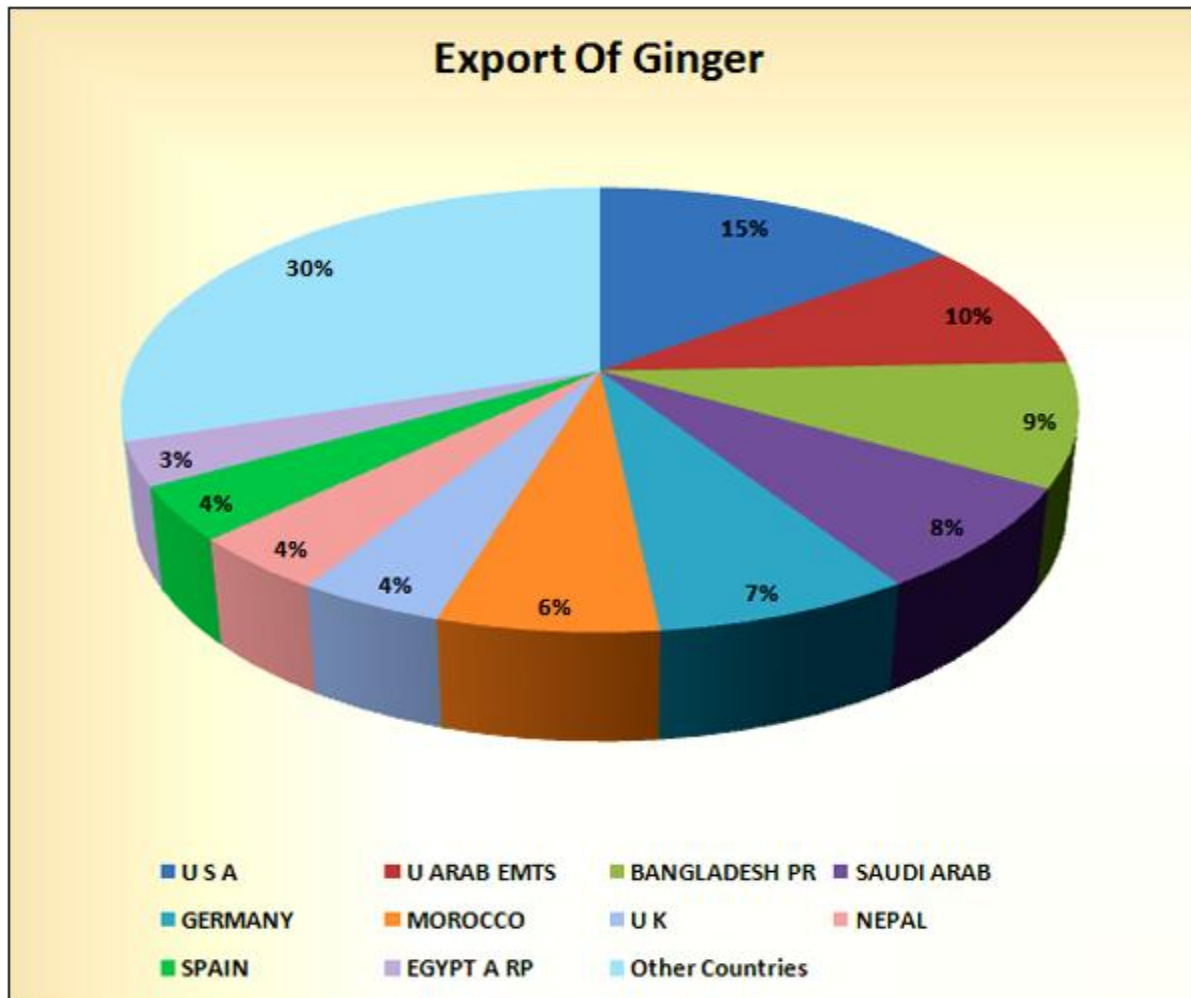
Source: DGCIS



C. Countries Wise Export of Ginger from India

| Export Of Ginger (HS Code : 091010) |                 |               |                 |                 |                |                 |                  |
|-------------------------------------|-----------------|---------------|-----------------|-----------------|----------------|-----------------|------------------|
| Qty. in MT , Value In Rs. Lacs      |                 |               |                 |                 |                |                 |                  |
| Countries                           | 2009 -10        |               | 2010-11         |                 | 2011-12        |                 | % Share of Value |
|                                     | Qty.            | Value         | Qty.            | Value           | Qty.           | Value           |                  |
| U S A                               | 904.52          | 718.38        | 2302.42         | 2093.49         | 4303.35        | 3963.02         | 14.88            |
| U Arab Emts                         | 414.50          | 301.32        | 741.42          | 790.48          | 2249.78        | 2524.77         | 9.48             |
| Bangladesh Pr                       | 6276.74         | 1170.06       | 12647.51        | 2997.16         | 13062.24       | 2383.54         | 8.95             |
| Saudi Arab                          | 727.09          | 767.75        | 997.56          | 1497.91         | 1675.60        | 2028.53         | 7.62             |
| Germany                             | 146.03          | 161.37        | 297.21          | 437.14          | 1375.37        | 1964.74         | 7.38             |
| Morocco                             | 280.00          | 388.53        | 929.16          | 1569.42         | 1361.33        | 1684.86         | 6.33             |
| U K                                 | 642.40          | 639.21        | 646.75          | 845.23          | 733.64         | 1120.72         | 4.21             |
| Nepal                               | 233.01          | 137.40        | 77.93           | 60.51           | 869.11         | 1083.47         | 4.07             |
| Spain                               | 348.35          | 479.45        | 273.17          | 481.10          | 808.08         | 1032.44         | 3.88             |
| Egypt A Rp                          | 50.00           | 48.43         | 218.02          | 311.54          | 728.02         | 843.88          | 3.17             |
| Other Countries                     | 2152.27         | 2096.20       | 5498.94         | 5162.59         | 8449.88        | 7996.78         | 30.03            |
| <b>Total</b>                        | <b>12174.91</b> | <b>6908.1</b> | <b>24630.09</b> | <b>16246.57</b> | <b>35616.4</b> | <b>26626.75</b> | <b>100</b>       |

Source: DGCIS



## **11. Storage Fresh Ginger**

|                     |               |
|---------------------|---------------|
| Temperature:        | 7.5 - 10°C    |
| Relative Humidity:. | 75%           |
| Storage Period:.    | 16 - 24 weeks |

## **Storage Dried Ginger**

Dried ginger is stored at ambient temperature

## **12. Documents required for exports**

### **a).Documents related to goods**

- Invoice
- Packing List
- Certificate of origin

### **b).Documents related to shipment**

- Mate Receipt
- Shipping Bill
- Bill of handing
- Airway Bill

### **c) Documents related to Payment**

- Letter of Credit (L/C)
- Bill of Exchange

### **d) Documents related to quality of goods**

- Phytosanitary Certificate
- GLOBALGAP Certification
- Health Certificate

### **e) Organic Certification**

- Certificate indicating material produce is based on organic farming

### **f) Documents related to Foreign Exchange Regulations**

- GR Form: Documents required by RBI which assures to RBI that the exporter will realize the proceeds of goods within 180 days from the date of Shipment.

### **g) Other Document**

- Bank Realization Certification (BRC): This is the advice given by Foreign Exchange Bank after the realization of money from Importer.



### 13. Chain of events (pack house up to shipment)

#### FLOW DIAGRAM OF ESSENTIAL OPERATIONS OF GINGER EXPORTERS/PACKERS

- Harvesting
- Peeling
- Drying
- Bleaching (not compulsory)
- Packing
- Storage
- Shipment

### 14. Cost Calculation from Harvest to Packhouse to Port

Cost estimates for exports of Ginger from India (as per information collected during 2008)

**(a) Procurement price\*:**

Approx. price (Rs. /kg) : 20-25

\*Price of ginger varies according to variety, month of procurement

**(b) Charges for sorting/grading, processing/grinding, packing, transport etc. (below in table):**

| Particulars (Cost per kg)                   | 20' container (12500 kg) |
|---|--------------------------|
| Sorting / Grading                           | 3                        |
| Processing                                  | 3.5                      |
| Packing (includes cost of packing material) | 4                        |
| Loading truck/container                     | 2                        |
| Transport to port includes C & F            | 2                        |
| <b>Total</b>                                | <b>14.5</b>              |

Source: Spices Board, Cochin

**(c) Air freight charges\*:**

Freight rates for reefer container are as follows:

| Countries              | Reefer containers (Rates in US dollars) |      |
|------------------------|---|------|
|                        | 20'                                     | 40'  |
| Dubai/Doha             | 1100                                    | 1600 |
| Kuala Lumpur/Singapore | 600                                     | 900  |
| UK/Amsterdam           | 1700                                    | 2700 |

Freight rates for ordinary container are as follows:

| Countries              | Reefer containers (Rates in US dollars) |      |
|------------------------|---|------|
|                        | 20'                                     | 40'  |
| Dubai/Doha             | 600                                     | 900  |
| Kuala Lumpur/Singapore | 100                                     | 175  |
| Flaxo (UK)/Amsterdam   | 900                                     | 1450 |

\* It varies from year to year /season to season, capacity of container and distance covered.