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**MARKET STUDY FOR FRESH FRUITS AND VEGETABLES  
IN SELECTED SOUTHEAST ASIAN COUNTRIES**

*Prepared for*

**The Agricultural Marketing Development Project  
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# MARKET STUDY FOR FRESH FRUITS AND VEGETABLES IN SELECTED SOUTHEAST ASIAN COUNTRIES

## PART I

### INTRODUCTION

Southeast Asia is one of the World's fastest grown region. Among countries in Southeast Asia that have shown high rate of economic growth in recent years are: Malaysia, Singapore and Thailand. The Gross National Product (GNP) of this sub-region has been increasing at an impressive average annual rate of 15.7 percent. Average annual increase in Per Capita Income (PCI) of the sub-region has exceeded 13 percent. Rapid rate of economic growth and increase in PCI have reflected in increase in the consumption of high quality food products and thus significant increase in food import. Food import by Malaysia, Singapore and Thailand has been increasing at an average annual rate of 14.58 during the 1983-1990 period. Total food import by this sub-region exceeded \$8.89 billion in 1991 and is estimated at \$ 11.94 billion in 1994. High quality fresh fruit and vegetables accounts for a significant part of total food import by this sub-region. The demography and a brief national account of each of the three countries in this sub-region of Southeast Asia is outlined in the following section.

#### Malaysia

Malaysia had an average annual population growth rate of 2.4 percent. Malaysia's population increased from 14.8 million in 1983 to 18.2 million in 1991. Population of Malaysia is estimated at about 19.5 million in 1994 (Table 1). In recent years the GNP of Malaysia has been increasing at an average annual rate of 8.8 percent. Malaysia's GNP is estimated at over \$58 billion in 1994. In recent years PCI in Malaysia has been increasing at an average annual rate of 8.6 percent and is estimated at \$2973 in 1994 (Table 1). All economic indicators point toward continuous economic growth with a projected annual growth rate of over 8 percent through the 1990s.

Rapid economic growth and increase in PCI have increased consumers demand for imported food products. Food import, excluding fishery products, by Malaysia has been increasing at an average annual rate of 10.46 percent since 1983 and by over 14 percent in recent years. Food import, excluding fishery products, increased from \$ 1.56 billion in 1983 to about \$3.64 billion in 1994. In general, for every one percent increase in PCI Malaysia's food import increased by 1.2 percent. The imports of fresh fruit and vegetables have been increasing at an average annual rate of over 6.3 percent.

**Table 1: Population, Gross National Product (GNP), Per Capita Income (PCI), and Food Import (FI), Malaysia 1983 - 1994**

Year	Population (1000)	GNP (Million (US\$))	PCI (US\$)	FI (10,000 US\$)
1983	14,888	28,246	1,897	156,108
1984	15,270	31,702	2,076	173,074
1985	15,681	29,048	1,852	161,831
1986	16,109	25,897	1,608	139,081
1987	16,526	29,634	1,793	155,964
1988	16,942	32,747	1,933	195,561
1989	17,353	35,589	2,051	240,360
1990	17,763	40,451	2,277	252,097
1991	18,193	45,054	2,476	289,101
1992	18,629	49,108	2,636	312,229
1993	19,076	53,479	2,803	337,457
1994	19,534	58,078	2,973	364,116

**Source:** Asean Agricultural Development Planning Center. Agricultural Statistical Year Book on Food, Agriculture and Forestry. Kasetsart University, Chaterchat, Bangkok, Thailand.

Department of Statistics. Year Book of Statistics. Singapore.

## Singapore

Singapore population has been increasing at an average annual rate of about 2 percent since 1983. The population of Singapore is estimated at over 2.93 million in 1994 (Table 2). During the 1983-1994 period the Singapore economy grew at an impressive annual rate of 14.6 percent. The Singaporean GNP at current market price increased from \$ 17,298 million in 1983 to \$ 63,103 million in 1994. The Singapore PCI increased by an average annual rate of 16.2 percent and reached an estimated \$19,223 in 1994 (Table 2). Singapore ranks top among developed nations in economic growth. Singapore also has one of the World's highest PCI.

Singapore high economic performance and rapid increase in PCI have increased consumers' demand for goods and services in general and for high quality food products in particular. Food imports, excluding fishery products, reached an estimated \$ 2.57 billion in 1994. Food imports have been increasing at an average annual rate of about 5 percent since the early 1980's (Table 2).

In general, for every one percent increase in PCI, food imports increased by 0.57 percent. Of all food products, the imports of fresh fruits is the highest. Fruits imports increased from \$348.8 million in 1983 to \$ 579.6 million in 1993 at an average annual rate of 6.6 percent. The imports of fresh fruit and vegetables have increased from \$ 190.4 million in 1983 to \$ 246.1 million in 1993 at an average annual rate of over 2.9 percent. An estimated 30 percent of the imported fresh fruits and vegetables by Singapore is exported to other ASEAN Countries, primarily to Brunei, Indonesia, Malaysia, and Thailand (Table 2).

## Thailand

Thailand population has increased at an average annual rate of 1.8 percent since 1983. Total population of Thailand was estimated at over 59.4 million in 1994. Thailand population is projected to exceed 64 million in year 2000<sup>1</sup>. The GNP of Thailand has been increasing at an average annual rate of 7.9 percent during the 1980-1990 period. In recent years, however, the Thai economy has been growing at an annual rate over 16 percent. The GNP of Thailand is estimated at over \$ 124 billion in 1994. Thailand's PCI increased at an average annual rate of over 13 percent during the 1983-1994 period. The Thai PCI is estimated at about \$ 2100 in 1994 (Table 3).

The results of the 1992 household Socio-Economic survey show that household income has

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<sup>1</sup> National Economic and Social Development Board. Population Statistics. Human Resource Planning Division. Kingdom of Thailand.

**Table 2: Population, Gross National Product (GNP), Per Capita Income (PCI), and Food Import (FI), Singapore 1983 - 1994**

Year	Population (1000)	GNP (Million) (US\$)	PCI (US\$)	FI (10,000 US\$)
1983	2,502	17,298.0	6,913	147,661
1984	2,529	19,134.2	7,565	174,860
1985	2,558	18,330.3	7,165	141,880
1986	2,586	18,187.7	7,032	153,731
1987	2,613	20,534.1	7,858	158,207
1988	2,647	24,816.8	9,375	196,831
1989	2,685	28,887.9	10,758	193,648
1990	2,705	36,798.9	13,148	202,719
1991	2,763	44,801.0	14,798	223,583
1992	2,818	49,389.0	16,132	234,538
1993	2,874	55,843.8	17,600	245,796
1994	2,932	63,103.5	19,223	257,815

**Source:** Asean Agricultural Development Planning Center. Agricultural Statistical Year Book on Food, Agriculture and Forestry. Kasetsart University, Chaterchat, Bangkok, Thailand.

Department of Statistics. Year Book of Statistics. Singapore.

**Table 3: Population, Gross National Product (GNP), Per Capita Income (PCI), and Food Import (FI), Thailand, 1983 - 1994**

Year	Population (1000)	GNP (Million) (US\$)	PCI (US\$)	FI (10,000 US\$)
1983	49,680	39,276	790	136,492
1984	50,637	35,431	699	127,402
1985	51,580	37,403	725	143,322
1986	52,511	41,061	782	161,063
1987	53,427	49,093	919	213,351
1988	54,326	58,724	1,081	248,910
1989	55,214	68,220	1,236	321,359
1990	56,082	80,113	1,428	411,924
1991	56,923	92,129	1,618	386,868
1992	57,760	105,027	1,818	433,292
1993	58,560	115,529	1,972	493,953
1994	59,400	124,772	2,100	572,298

**Source:** Asean Agricultural Development Planning Center. Agricultural Statistical Year Book on Food, Agriculture and Forestry. Kasetsart University, Chaterchat, Bangkok, Thailand.

Department of Statistics. Year Book of Statistics. Singapore.

increased by 25 percent between 1990 and 1992. Household income increased from \$ 2700 in 1990 to about \$ 3389 in 1992. Average annual household expenditures was estimated at \$ 3,133 in 1992. Household expenditures on food account for about 32 percent of household income. Family expenditures on fruits and vegetables account for 12 percent of family expenditures on food and for over 3.7 percent of family income<sup>2</sup>.

As Thailand's PCI increased, the consumption of fruits and vegetables has also increased. As PCI increased the consumption pattern in Thailand has shifted from lower grade fruits and vegetables to those of high quality<sup>3</sup>. The change in consumption pattern toward high quality food resulted in a significant increase in the import of food in general and fruits and vegetables in particular. Food imports increased from \$ 1.36 billion in 1983 to over \$ 5.72 billion in 1994, at an average annual growth rate of over 15 percent. The value of fresh fruits imports increased from \$ 8.3 million in 1983 to over 75 million in 1994 at an average annual rate of 18.4 percent. The consumption of fruits in Thailand has increased at an average annual rate of 3.21 percent and the consumption of vegetables has increased at an annual rate of 2.09 percent. All economic indicators point toward continuous economic growth through the 1990s and increasing demand for imported high quality fresh fruits and vegetables.

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<sup>2</sup> Somporn, Isvilanoda. "Vegetables and Fruits in Thailand". Department of Agricultural and Resource Economics, Kasetsart University, Bangkok, Thailand, 1993.

<sup>3</sup> National Statistical Office. "Report of the 1992 Household Socio-Economic Survey". Office of the Prime Minister, Bangkok, Thailand.

## PART II

### FRESH FRUIT AND VEGETABLE TRADE DISTRIBUTION CHANNELS

The fresh fruit and vegetable market distribution system in Malaysia, Singapore and Thailand basically follows the classic pattern of importer to wholesaler to retailer. The comparative importance of each of the various channels is changing. The distribution channels vary in different countries and according to product. The market distribution system for fresh fruits and vegetables are rapidly developing to accommodate expanding economies with increasing consumer demand. The system ranges from highly advanced in Singapore to less developed in Thailand. The Malaysian distribution channels are rapidly developing in all segments of the marketing chain.

The expanding role of the private sector, associated with the rapid development of free market systems, in this sub-region is changing the relative importance of each of the various stages in the market distribution chain. The expanding role of national and multi-national supermarket chains, with food retail stores in several countries in Southeast Asia, has increased the comparative importance of the retail sector. Relative to the import and wholesale sectors, the role of the retail sector in the marketing chain will continue to increase in the future. Increased per capita income and increase in the percentage of women in labor force of these societies will increase the advantage of one-stop shopping offered by supermarkets.

Political stability, rapid economic growth, and increased demand for fresh produce has enhanced increasing private investments in the development of the market distribution channels. Over the past few years significant investments by the private sector were made in the development of the retail sector for consumer goods in general and for fresh produce in particular. The retail distribution channels for fresh produce in this sub-region has been undergoing significant structural changes. Only a few years ago small independent retailers and specialty shops accounted for the greater part of the retail turnover in fresh produce. Today, however, this leading role has been increasingly taken over by the Supermarkets and other multiple outlets. The small retailers often buy and sell whatever products are available in the morning at the wholesale market. The multiples prefer dependable supplies over 52 weeks a year of high quality products packed and presented in accordance with pre-determined specifications. This development in turn requires greater adjustments from foreign exporters, importers and wholesalers to accommodate the new practices retailing of fresh produce. As competition at the retail level increases and the trade becomes more consumer oriented, supermarkets will be forced to reduce prices and provide consumers with high quality products.

The increasing role of the supermarkets within the marketing chains on one hand and increasing competition among supermarket chains for the consumer's dollars on the other

hand have set two marketing developments in motion. First, for economic and other logistic reasons and because of the multinational nature of most chain supermarkets operating in the sub-region, the chain supermarkets in Malaysia, Singapore and Thailand have initiated a real trend toward an integrated retail-import marketing system. Many chain supermarkets in Malaysia and Singapore, and to a small extent in Thailand, have integrated forward and engaged in direct import of fresh produce from foreign producers and foreign exporters. Other chain supermarkets in Malaysia, Singapore and Thailand are studying the feasibility of a completely integrated system. In general, chain supermarkets are developing their import expertise and increasingly seeking direct contact with foreign producers and foreign exporters. Second, importers/wholesalers, realizing the increasing role of supermarkets in the marketing chain, are integrating backward to the retail sector through consignment arrangements with supermarket chains. The integration process in the fruit and vegetable trade channels is expected to continue until most costs associated with intermediaries are reduced or eliminated.

The structure of the fruit and vegetable trade channels in each of Malaysia, Singapore and Thailand is described in detail in the sections below.

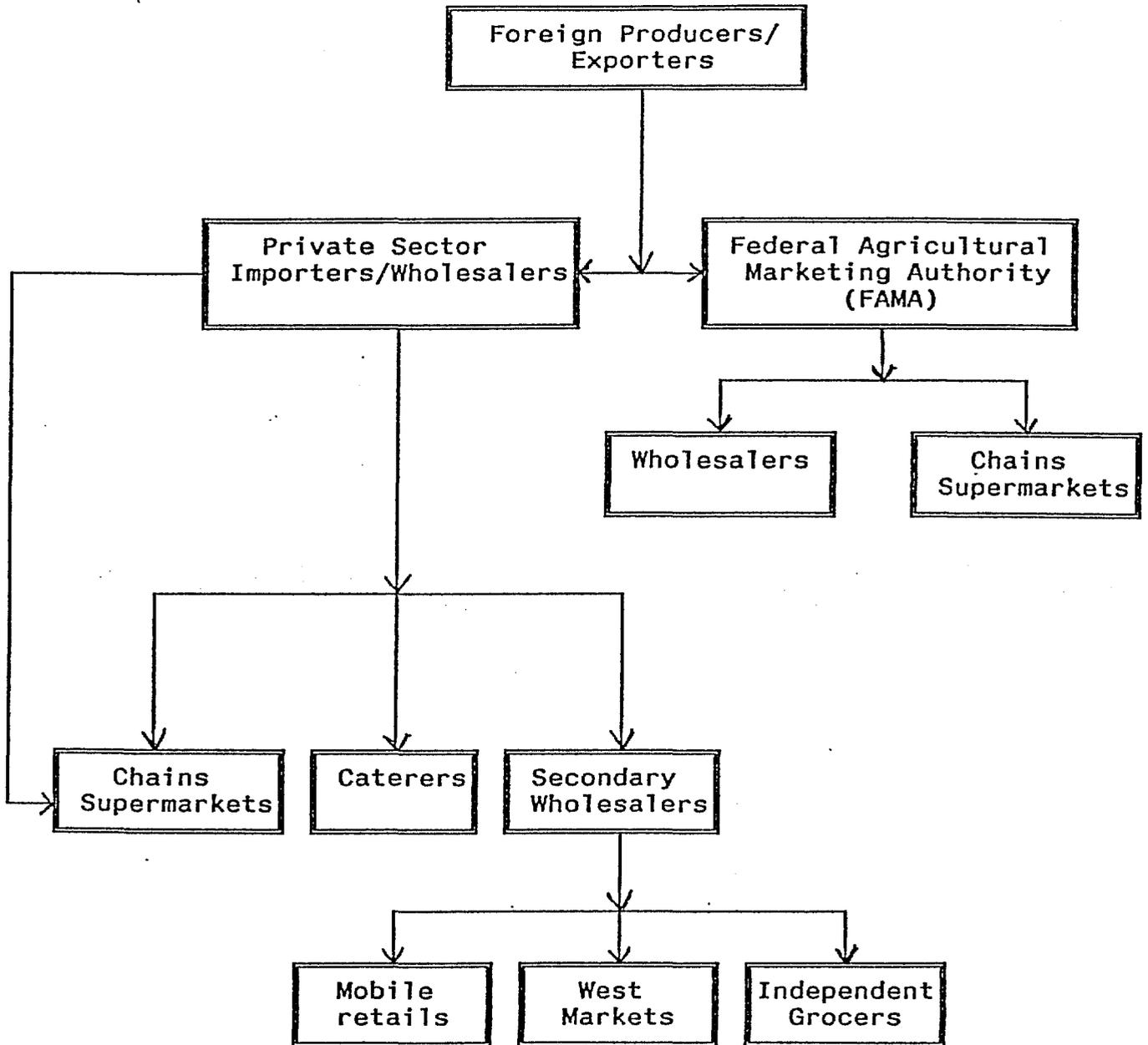
### Malaysia

Political stability and the socio-economic progress of Malaysia are rapidly moving the country to free market systems. Depending on the kind of produce, most fruit and vegetables at the present time are subject to a 5-10 percent import duty except those imported from ASEAN countries. The fruit and vegetable trade in Malaysia is conducted by the public and private sectors. The public sector import is handled by the Federal Agricultural Marketing Authority (FAMA). At the present time an estimated 40 percent of annual Malaysia's import of fresh fruits and vegetables is conducted by FAMA and 60 percent by the private sector. However, the public sector role is rapidly declining and the import function of FAMA will be transferred to the private sector within a few years. The domestic distribution channels, including wholesale and retail, are controlled by the private sector. Private importers/wholesalers and FAMA directly and independently negotiate with foreign producers and foreign exporters for the import of fresh fruits and vegetables. Most imports are conducted on CIF basis.

The two major suppliers of fresh fruits and vegetables to Malaysia are Australia and the United States. Private fruit and vegetable organizations in Australia and the United States such as the **Australian Horticultural Board**, the **California Table Grape Commission**, **Washington Apple Commission**, **SUNKIST Co-operative** maintain promotion centers in Singapore. In cooperation with their respective embassies, the Australian and United States organizations have an extensive promotion campaign organized by their central promotion offices in Singapore. The promotion campaigns are generally for one week and are conducted in each country at least two times per year for each major product they export to the sub-region. The fruit and vegetable commissions and board in Australia and the United States do not engage in import negotiations. This function is left entirely to private producers and exporters.

The normal distribution pattern for imported fresh fruit and vegetables on the Malaysia market is shown in Figure 1. The distribution channel follow the classic pattern of importer to wholesaler to retailer. Most importers are also wholesalers. The importers/wholesalers have

Figure 1 : Distribution Channels for Fresh Fruit and Vegetables in Malaysia



premises in the wholesale market and carry out normal trading in both imported and domestic produce. The importers/wholesalers distribute fruits and vegetables to a rapidly developing chain of supermarkets, secondary wholesalers, and the catering sector. The secondary wholesalers generally distribute to independent stores, greengrocers, wet markets and mobile retailers.

The share of supermarket chains and other multiple outlets in Malaysia retail trade has increased considerably during the last ten years. The role of supermarket chains in Malaysia's fruit and vegetable trade is projected to increase significantly in the future. Most supermarket chains are multi-national with expansion plans in several different locations in Kuala Lumpur, Shah Alam and other developing urban areas of Malaysia.

At the present, supermarket chains obtain the major portion of their requirements of fresh fruit and vegetables from importer and importers/wholesalers. Very small portion of their requirements are imported directly from foreign producers and exporters. However, for economic and other logistic reasons and because of their multi-national nature, there is an emerging trend among most supermarket chains to integrate forward to the import sector. This trend is primarily stimulated by the high costs associated with the number of intermediaries in the fruit and vegetable trade. Some supermarket chains have already engaged in direct import from foreign producers and exporters on a limited basis. However, all supermarket chains in Malaysia are studying the feasibility of forward integration. It is projected that within a few years most supermarket chains will integrate forward and engage in direct import of a significant portion of their fruit and vegetables. The extent of forward integration by Malaysia's supermarket chains will be influenced by two factors. The two factors are: (1) Availability of cold storage facilities either owned or rented by the chains, and (2) The training of personnel and the availability of import expertise.

The other emerging development in fruit and vegetable trade is backward integration by importers/exporters to the retail sector. This is conducted on a limited basis through consignment arrangements between the chains and the importers/wholesalers. This arrangement is based on a commission charged by the supermarket chains for space rent and labor costs for shelving and selling the imported fresh produce delivered to the supermarket. The arrangement is new and still experimental.

The infra-structure in Malaysia is very well developed with modern transportation and highway systems. New modern airport with cold storage facilities to accommodate the exports and imports of perishables, is being constructed. Two major seaports with modern container terminal and cold storage facilities are operational. A modern wholesale market with cold storage facilities is under construction in Kuala Lumpur and is scheduled to open at the end of 1995.

## SINGAPORE

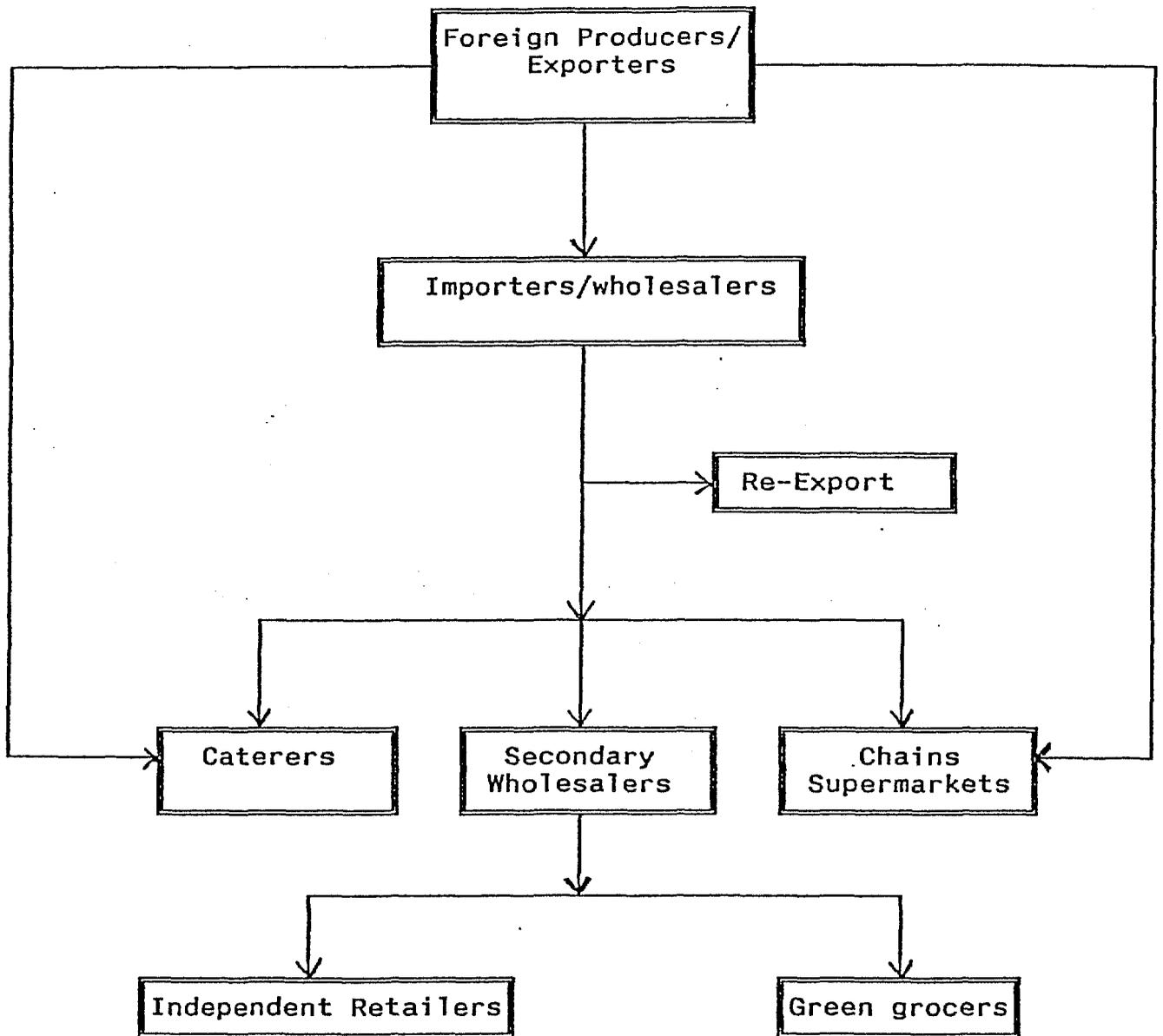
Singapore depends exclusively on the outside world for its food supply, including fresh fruits and vegetables. The fruit and vegetable marketing system is completely controlled by the private sector and free from any government interference. Imports of fresh produce is subject to a 3 percent duty. The marketing distribution channels are highly advanced. As indicated in the previous section, major exporting countries, primarily Australia and the United States maintain promotion centers in Singapore. The promotion centers in Singapore develop and conducted all promotional activities for all products in this sub-region of Southeast Asia. All imports, however, are directly negotiated between importers and foreign exporters or foreign producers.

The structure of the fresh fruit and vegetable distribution system in Singapore is shown in Figure 2. The trade channels basically follow the classic pattern of importer to wholesaler to retailer. The comparative importance of each of the various trade channels is changing with a strongly emerging retail sector. Most importers are also wholesalers. The importers/wholesalers also function as re-exporters. An estimated 30 percent of the imported fresh fruits and vegetables is re-exported primarily to Brunei, Indonesia, Malaysia, and Thailand. The import/wholesale segment of the marketing chain is highly developed and equipped with all modern facilities. Most importers/wholesalers have their own cold storage in addition to utilizing available space from a number of firms specializing in cold storage. All importers/wholesalers have premises in the major wholesale market in Singapore and carry out normal trading in foreign and domestic markets. The domestic trading function of the importers/wholesalers is the distribution of fresh produce to a well organized supermarket chains, catering sector, and secondary wholesalers.

The share of the supermarket chains and other multiple outlets in Singapore retail trade has increased considerably during the past 10 years and is expected to rise further in the future. An estimated 60 percent of fresh fruit and vegetable retail trade is presently handled by supermarket chains and multiple outlets. As in the case of Malaysia, most supermarket chains are multi-national with stores in several countries in Southeast Asia. The supermarket chains are rapidly expanding in Singapore and other countries. An increasing volume of fresh produce is being handled annually by the multi-national supermarket chains. This development has caused most supermarket chains to study the economic feasibility of forward integration to the import sector and utilize the economy of scale and other benefits associated with a completely integrated system. At the present, supermarket chains obtain part or all of their supply of fresh produce from importers/wholesalers. One common trading practice is that supermarket chains and importers/exporters negotiate contracts specifying quantity, quality, and price of each product. The contract may also provide for delivery and pre-packing if necessary. The other trading process is that the purchasing agent of the chain negotiates with importers/wholesalers and secure on a weekly or monthly basis the supply required by all stores in his/her chain.

The process of fresh produce purchase by supermarket chains is rapidly changing. Most major supermarket chains have integrated to the import sector and presently secure up to 40 percent of their stores supply through direct import. These chains maintain their own cold storage and

Figure 2 : Distribution Channels for Fresh Fruit and Vegetables in Singapore



are planning to increase their import to cover up to 70 percent of their required supply within a few years. The other emerging arrangement in retail trade is consignment agreements between supermarket chains and importers/wholesalers or between foreign exporters and the supermarket chains. In short, the retail trading sector in Singapore is dynamic, highly advanced, well managed and has a well trained personnel in all aspects of fresh produce trading.

The catering sector, especially restaurants, hotels and airlines, is another large consumer of imported fresh fruits and vegetables. Singapore is becoming more and more the financial and business center for Southeast Asia. The unique geographic location of Singapore and the political development in Hong Kong have increased demand for Singapore as a regional business and financial center. Singapore presently experience a booming restaurant, hotel and airline business. The demand for fresh fruits and vegetables by the catering sector is projected to increase for high quality products.

The Singapore Airline Transport Service (**SATS**) is the one major single caterer of fresh produce in Singapore. The **SATS** catering provide food service for 52 international and regional airlines. It purchases over 12 thousand tons of fresh produce annually. At the present **SATS** catering service purchases the major segment of the fresh produce it requires from importers/wholesalers and directly imports a small portion from foreign producers and exporters. However, **SATS** catering is planning to integrate to the import sector on a large scale. Purchasing executives of **SATS** are investigating foreign sources for the supply of their fresh produce. The **SATS** catering maintain a very modern cold storage facilities. Fore economic and logistic reasons this catering service prefers to reduce the number of intermediaries and plans to secure its requirements of fresh produce through direct import from foreign producers and exporters. The **SATS** catering service is noted for its emphasis on freshness, crispiness and very high quality fruits and vegetables.

The infrastructure in Singapore is one of the best in the world. By the nature of its unique location in the region, Singapore is increasingly becoming a major shipping center. Its port facilities are very modern and equipped with the most advanced technology, including cold storage and container terminals. Feeder ship lines between Singapore and other **ASEAN** countries are frequent and timely. Customs and other clearing procedures are organized, fast and well managed. It takes less than six hours to clear a container from the time of its landing. Singapore airport is very modern and has modern cold storage and other perishable handling facilities. The airport serves all major international and regional airlines. Singapore also has several firms specialize in cold storage with available space for different quantity and storage time.

## Thailand

The fresh fruit and vegetable trade market in Thailand is not as free nor organized as the markets in Singapore and Malaysia. Two major factors affect the import of fruits and vegetables to Thailand. They are: (1) Legal restriction and heavy import duty, and (2) the oligopolistic structure of the import sector.

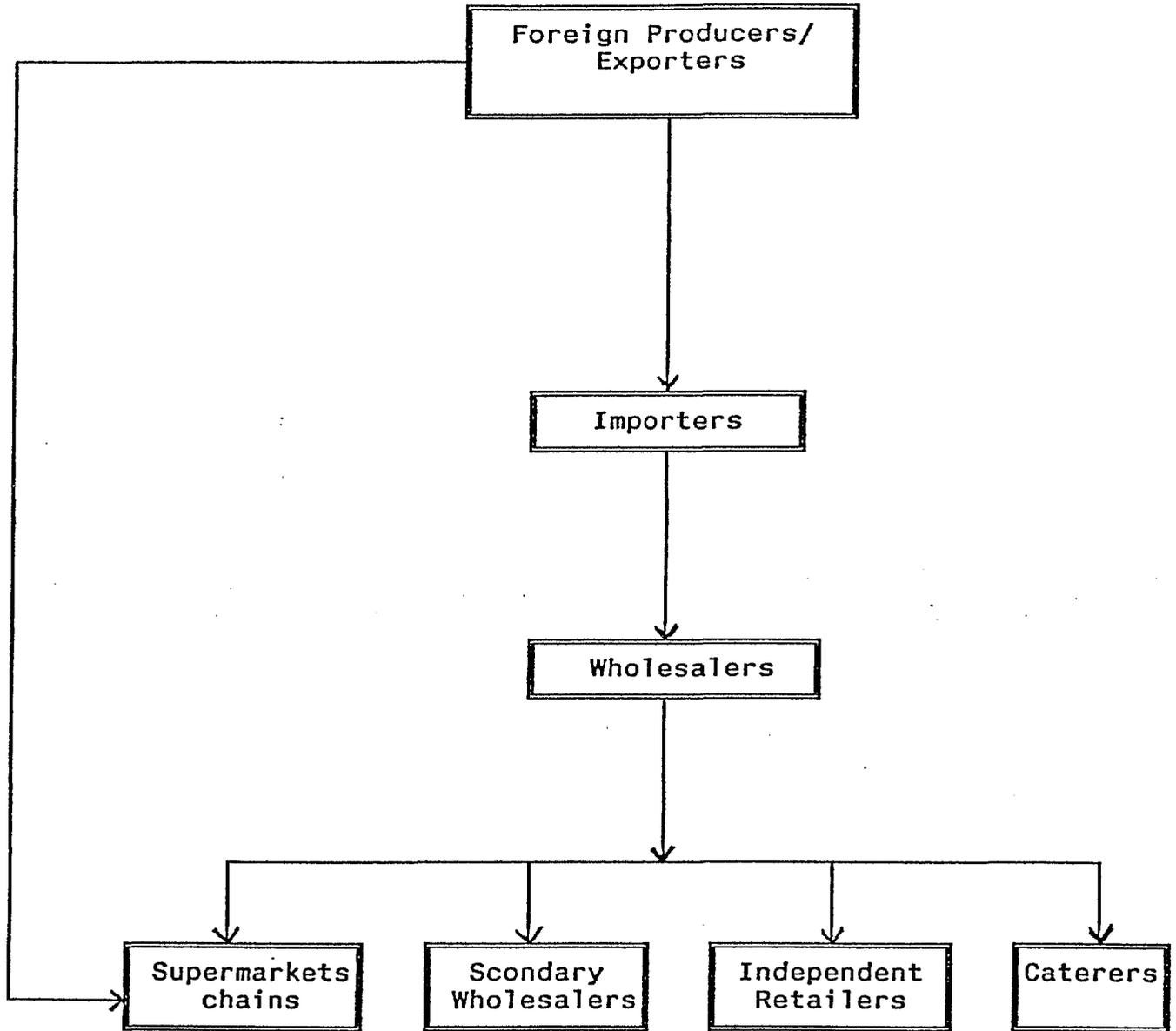
To protect domestic producers, the government of Thailand has imposed heavy import restrictions on some fruit and subjected other fruit to high import duties. The legal restrictions on citrus products, especially fresh orange, is such that for all practical purpose the legal import of fresh orange is impossible in order to protect domestic orange production from disease and insects. In addition to the legal restrictions on fresh orange, the government has also imposed heavy import duties on all imported fresh fruits and vegetables, other than those imported from ASEAN countries. The import duties on fresh produce was 60 percent of the CIF value up to December 1994. It was reduced to 45 percent in January 1995. Import duties on fresh fruits and vegetables is expected to be decreased to 30 percent of the CIF value in January 1996. Thailand, however, is rapidly moving to free market systems. Thailand is now a member of the General Agreement on Trade and Tariff (**GATT**). All import duties will gradually be reduced to comply with the provisions of **GATT**.

Politically, Thailand is reducing the public sector role and rapidly moving to free market systems. The government of Thailand has initiated the necessary legislation process to move the country to free market systems. However, the economic structure of the fresh fruits and vegetables import segment of the trade channels will remain an obstacle to free trade. The import of fresh fruits and vegetables is controlled by a few firms. This segment of the fruit and vegetable distribution is a classic case of **oligopoly**. Six firms control 96 percent of the fruit and vegetable imports. Individual importers conduct all imports from small office located in the private residence. Contact with foreign exporters is conducted by telephone and fax.

The structure of the fruit and vegetable trade channels in Thailand follow the classic pattern of importer to wholesaler to retailer (Figure 3). In contrast to Malaysia and Singapore, the comparative importance of the import sector is greater than the wholesale and retail segment of the distribution channels. Typically, importers do not function as wholesalers. Importers maintain their cold storage facilities and truck distribution network. They supply their close net of wholesalers with fresh imported produce on a daily or weekly basis. By the nature of their small number and their control of the import segment, importers influence both quantity and prices of imported fresh produce. The prevailing structure of the import segment in the distribution chain has set in motion two trends. First, an increasing number of young entrepreneurs are analyzing the import market and making entry preparation. Second, an emerging desire by supermarket chains to integrate forward to the import sector. Both developments will speed up movement toward free and open import trade.

The wholesale segment of the distribution channels is distinct without direct link or partnership with importers. Market wholesalers have premises in the wholesale markets and carry out wholesale trading in both imported and domestic produce. Few wholesalers in each of the two wholesale markets in Bangkok specialize in imported produce. The two major wholesale markets in Bangkok are privately owned and open to all domestic and imported fresh produce for a small fee. The premises of the market where wholesalers handle imported fresh produce are equipped with modern facilities, including cold storage, office and communication systems. Wholesalers supply their network of customers of secondary wholesalers, caterers, supermarket chains, and multiple outlets with their weekly or daily requirements of fresh produce. Wholesalers, generally, do not have delivery systems. The secondary wholesalers supply fruit and vegetables to independent retailers, greengrocers, farmer markets, and wet markets.

Figure 3 : Distribution Channels for Fresh Fruit and Vegetables in Thailand



The supermarket chains is one area of the retail sector that are rapidly expanding all over the metropolitan area of Bangkok and other expanding urban areas of Thailand. Several domestic and multi-national supermarket chains are entering the retail market in Thailand. The changing socio-economic structure of the Thai society is increasing consumer demand for one stop shopping and thus the expansion of supermarket retail. As in Malaysia and Singapore, and for similar economic and logistic reasons, some supermarket chains are partially integrated. Others are studying the economic feasibility of forward integration. The forward integration tendency by supermarket chains in Thailand is strongly influenced by the oligopolistic control of a few importers. Supermarket chains in Thailand are looking for new suppliers, making contact with foreign producers and exporters, building their own cold storage, and training personnel in the import of fresh produce. In general, the comparative importance of the retail sector, especially supermarket chains, in Thailand food distribution system is increasing.

The catering sector in Thailand is composed of Thai Airlines, restaurants, hotels and other institutions. Rapid economic growth in Thailand has increased international travel and demand for new modern hotels. This development plus increasing consumer demand for restaurants and outside eating are increasing demand by the catering sector for imported fresh fruits and vegetables.

The infra-structure in Thailand is much less developed than those of Singapore and Malaysia. Bangkok, the main population center, depends on feeder systems from Singapore or Hong Kong for its imported goods. The sea port, about 20 kilometers from Bangkok, is equipped with modern facilities, including cold storage and container terminals. Bangkok airport is modern and expanding. It receives most international airlines and provides free cold storage for perishables for 3 days. Transportation and delivery within Bangkok is a major problem for distribution of fresh produce within the city.

## **PART III**

### **IMPORT OF FRESH FRUITS AND VEGETABLES BY MALAYSIA, SINGAPORE AND THAILAND**

Along with other countries in Southeast Asia, Malaysia, Singapore and Thailand are becoming major markets for fresh fruits and vegetables. The sub-region with its population of about 82 million has a high economic growth and increasing per capita income which have reflected in increasing demand for imported food. The import of fresh fruits and vegetables by the subregion have expanded rapidly in recent years. In addition to an impressive economic growth in the subregion, the increase in fruit and vegetable imports was influenced by several factors. First, consumer's increasing awareness of the value of fresh produce in their daily diet. Second, the development of the infra-structure and the marketing channels essential for the distribution of fresh produce. Third, the declining value of the US dollar against most international currencies.

Consumers world wide are becoming more educated, health conscious, and aware of the value of fresh produce in their daily diet. The per capita consumption of fresh produce has doubled in the developed and most developing countries of the world during the last few years with increasing proportion of household food expenditures allocated to the purchase of fresh produce. Political stability, transformation to free market systems, and rapid rate of economic growth have stimulated increasing public and private investments in infra-structure, transportation systems, and the development of modern trade distribution systems. Most international trade transactions are conducted in US dollars. During the 1988-1994 period the dollar lost 8 percent of its value against the Malaysian ringgit, 32 percent of its value against the Singapore dollar, and 2 percent of its value against the Thai baht. All these developments led to a significant improvement in the import-export sector of the economy of this subregion in general and the imports of fresh produce in particular.

This sub-region of Southeast Asia imports a variety of fruits and vegetables from a large number of countries. Citrus products, apple and grapes are the major fruit items that are imported in large quantity. The United States and Australia are the major suppliers of fresh fruits to this sub-region. Carrots, cauliflower, broccoli, celery, round cabbage, and iceberg lettuce are the major vegetable products imported by the sub-region in large quantities from numerous countries of the world. Jordan produces most of the fruits and practically all of the vegetable products imported by Malaysia, Singapore and Thailand. But Jordan's export of fruits and vegetables to countries in this sub-region is very small. Jordan has a significant balance of trade deficit with all of these countries. However, evaluation of the type and quality of products imported by this sub-region and Jordan's production of these products indicates that Jordan has potential to export certain types of fruits and vegetables to this sub-region and thus improve its balance of trade.

The following sections evaluate the import of major fruits and vegetables by Malaysia, Singapore, and Thailand by quantity, CIF price and source of export.

## MALAYSIA

Malaysia produces a number of vegetables and tropical fruits and also imports a variety of fresh fruits and vegetables. It is rapidly becoming a major southeast Asian market for fresh fruits and vegetables. The import of fresh produce increased significantly during the last 5 to 6 years. Major fruit and vegetable products imported by Malaysia, for which Jordan may have export potential, are discussed in the following section.

### Fresh Oranges

Malaysian imports of fresh oranges during the 1988-1994 period are shown in Table 4 and Figure 4-A. The total quantity of imported oranges to Malaysia remained relatively the same during the 1988-1992 period at about 35-39 thousand tons. The import of fresh oranges increased to 59,508 metric tons in 1993 or an increase of 52 percent over the 1992 imported quantity. The 1994 quantity imported of oranges does not include the December imported quantity. Malaysia imports fresh oranges from over 16 countries. However, Australia and the United States are the two major suppliers of fresh oranges to the Malaysian markets. Australia and the United States account for over 76 percent of the imported oranges to Malaysia. China and Portugal, the other two non-ASEAN countries, provide 18 percent and 2 percent, respectively, of the fresh oranges imported by Malaysia. Malaysia also imports oranges from Thailand and Indonesia (Figure 4-B). Both Thailand and Indonesia are members of ASEAN and their products are subject to less than 3 percent duty. The quality of oranges imported from both Thailand and Indonesia, however, is low quality compared to oranges imported from the rest of the world.

Average CIF price of imported oranges has declined from \$635 per ton in 1988 to about \$440 per ton in 1994. The average CIF price includes the low price of the low quality oranges imported from Thailand and Indonesia. The CIF price of Australian imported oranges has declined from \$653 per ton in 1988 to \$466 per ton in 1994, or a decline of over 40 percent during 6 year period. The CIF price of US imported oranges declined from \$747 per ton in 1988 to \$531 per ton in 1993 or 40 percent decline during this period. The CIF value and quantity of imported oranges from the US in 1994 was effected by heavy frost in the Western part of the US that caused significant crop damage. Thus, the statistical data for the US oranges in 1994 does not represent the US share of the market in a typical year.

Oranges in Malaysia, as in other countries of Southeast Asia, are sold by the piece at the retail stores. The desired quality is the **Thin-Skin** orange that has sweet taste and rich orange color. The desired size is 113-138 pieces in 20 Kg box. On the average, this is equivalent to 6-7 pieces per Kg. The United States SUNKIST Cooperative is providing the desired size and quality at a relatively higher CIF price than Australia and other countries. The results of the field study conducted with Malaysian importers/wholesalers and at retail stores in March, 1995 show that the import price for high quality oranges ranges between \$650-\$900 per ton depending on the season and the size. The wholesale price ranges between \$900 - \$ 1,320 per ton. And the retail price ranges between \$1,600-\$1,900 per ton. The import-wholesale price spread is about 28 percent and the wholesale-retail price spread is about 46 percent.

TABLE 4: MALAYSIA IMPORTS OF FRESH ORANGES, 1988 - 1994

SOURCE	Y E A R													
	1988		1989		1990		1991		1992		1993		1994 (JAN - NOV)	
	QUANTIT	VAL	QUANTI	VALU	QUANTIT	VAL	QUANTIT	VAL	QUANTIT	VAL	QUANTIT	VALUE	QUANTIT	VALU
	(TON)	\$/TON	(TON)	\$/TON	(TON)	\$/TON	(TON)	\$/TON	(TON)	\$/TON	(TON)	\$/TON	(TON)	\$/TON
AUSTRALIA	12812	653	11623	743	13202	674	18692	676	18965	539	28576	466	23272	466
U.S.A	14811	747	15366	763	15948	694	7681	833	14344	641	16991	531	135	345
THAILAND	4107	214	6345	187	4712	217	1574	218	3608	221	10798	232	1	479
CHINA	550	595	752	603	979	594	1086	502	1001	535	932	445	510	436
INDONESIA	0	0	0.34	528	3	499	2	126	32	229	863	222	4436	311
PORTUGAL	29	602	31	549	153	463	326	564	740	450	976	419	2	290
ARGENTINA	824	418	576	393	0	0	0	0	0	0	0	0	0	0
TAIWAN	141	671	197	670	143	572	238	612	114	580	62	620	132	648
CYPRUS	20	538	107	468	56	442	228	449	55	461	1	517	0.30	382
PAKISTAN	39	673	119	586	105	517	110	610	39	688	35	584	0	0
EYGPT	52	427	8	580	35	558	47	479	74	502	35	397	109	461
OTHERS	75.08	703	116.98	648	130.56	564	305.47	752	257.04	572	239.83	460	343.07	376
TOTAL	33460	634	35241	641	35466	617	30289	683	39228	545	59508	438	28941	440

FIGURE 4-A

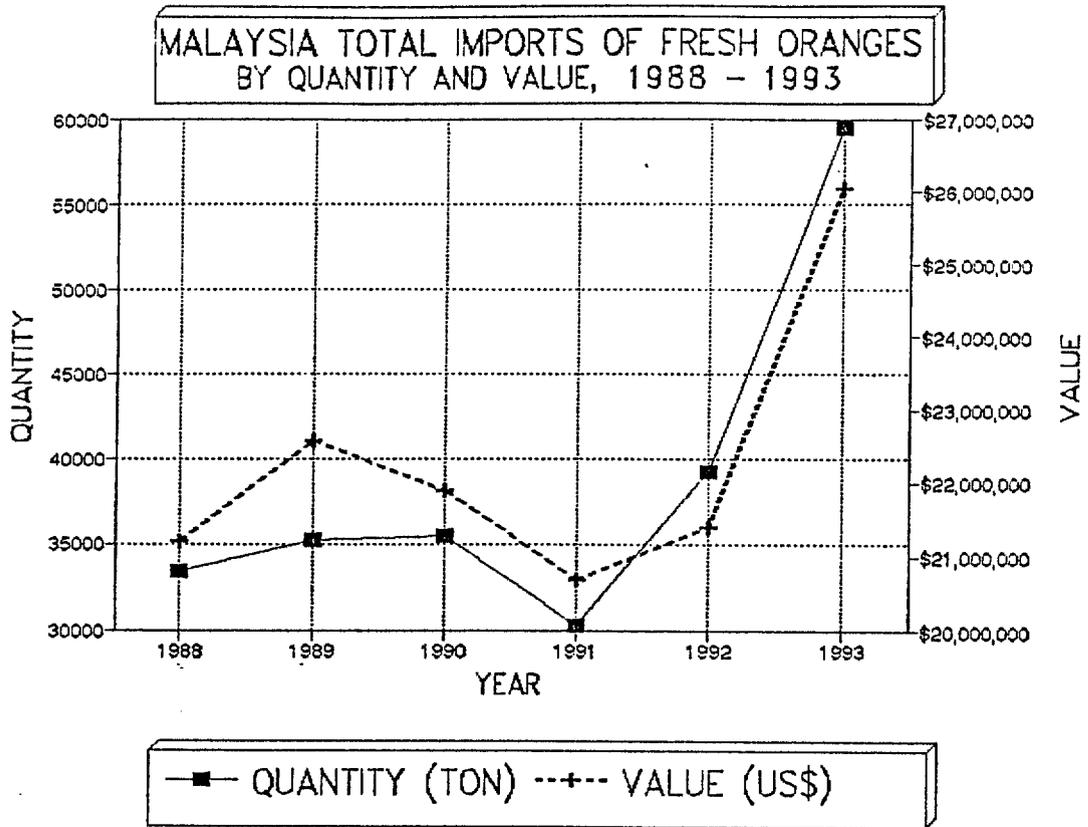
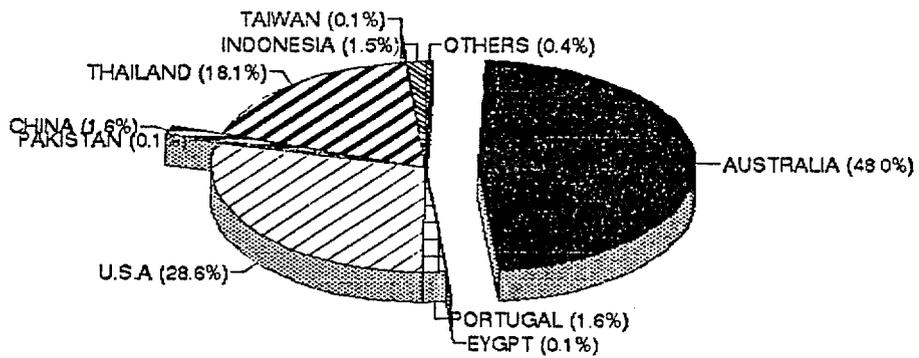


FIGURE 4-B

### FRESH ORANGES MARKET SHARE BY EXPORTING COUNTRY, MALAYSIA 1993



## Orange Juice

In addition to fresh oranges, Malaysia imports several types of orange juice from 15 different countries. The imported orange juice are classified into: (1) frozen ready for immediate consumption, (2) frozen not ready for immediate consumption, (3) unfrozen ready for immediate consumption, and (4) unfrozen not ready for immediate consumption. In 1994, Malaysia imported 492,329 liters of frozen orange juice ready for immediate consumption at an average CIF price of \$.82 per liter. This was an increase of 26 percent over the quantity imported in 1993. Australia, Belgium and Korea accounted for over 56 percent of the import of this type of orange juice (Table 5).

In 1994, Malaysia imported 629,596 liters of frozen orange juice not ready for immediate consumption at an average CIF price of \$1.97 per liter. The United States accounted for 32 percent of this total at a CIF price of \$2.53 per liter. The United States, Brazil, and Australia accounted for over 73 percent of the import of this type of orange juice in 1994. The 1994 import was 26 percent greater than the quantity imported in 1993 (Table 6).

An estimated 177,414 liters of unfrozen orange juice that was ready for immediate consumption was imported by Malaysia in 1994 at an average CIF price of \$.87 per liter. The 1994 imported quantity was 22 percent less than the imported quantity in 1993 and the CIF price in 1994 was 21 percent less than CIF price in 1993 (Table 7). Malaysia also imports unfrozen orange juice that is not ready for immediate consumption. In 1994, Malaysia imported 462,105 liters of this type of orange juice at an average CIF price of \$1.99 per litre. The quantity imported in 1994 was 17 percent less than in 1993 but the CIF price was over 11 percent higher. The United States was the major supplier of this type of orange juice at CIF price of \$2.50 per litre. The United States, Brazil, Taiwan, and Australia supplied about 70 percent of this type of orange juice (Table 8). In general, Malaysia imported over 1.76 million liters of all types of orange juice in 1994.

## Mandarins

Mandarins is the second major citrus product imported by Malaysia. The imports of fresh mandarins have increased rapidly during the 1988-1994 period. Malaysia imported 8,668 tons of mandarins at an average CIF price of \$ 656 per ton in 1988. The quantity imported of mandarins by Malaysia in 1993 was 23,173 tons at an average CIF price \$ 461 per ton. Between 1988 and 1993 mandarins imports increased by 168 percent and CIF price decreased by 43 percent (Table 9 and Figure 5-A). Statistical data for 1994 are unavailable. China accounts for about 93 percent of the mandarins imports to Malaysia (Figure 5-B). Fresh citrus in general and mandarins in particular is used as gift that is exchanged during Chinese New Year. And, thus, Chinese mandarin is preferred by the Chinese population in Malaysia.

The CIF price per ton of mandarins in 1993 dropped significantly due to large quantity of mandarin imported from China at significantly lower price than in previous years. CIF price of mandarins from China in 1993 was 70 percent of the average CIF price in the previous year.

**Table 5: Frozen Orange Juice, Ready for Immediate Consumption, Imported by Malaysia, 1993-1994.**

Source	YEAR			
	1993		1994	
	Quantity (Lt.)	CIF Value (S/Lt.)	Quantity (Lt.)	CIF Value (S/Lt.)
Australia	33,858	1.57	72900	0.88
Belgium	111,492	0.75	73096	0.7
Cyprus	-	-	720	1.3
Germany	-	-	4702	0.75
Jordan	-	-	23969	0.49
Korea	79161	0.5	130424	0.64
Malaysia	-	-	27552	0.95
Netherlands	-	-	41076	0.99
New Zealand	1942	2.04	15281	1.94
Singapore	57486	0.92	65059	0.98
Switzerland	-	-	2160	0.89
Thailand	17280	0.36	12995	1.02
U.K.	-	-	4320	0.5
U.S.	90121	0.8	18073	0.73
Total	391341	0.83	492329	0.82

**Table 6: Frozen orange juice, not ready for immediate consumption, imported by Malaysia, 1993-1994.**

Source	YEAR			
	1993		1994	
	Quantity (Lt.)	CIF Val. (S/Lt.)	Quantity (Lt.)	CIF Val. (S/Lt.)
Australia	38939	2.43	84643	1.95
Brazil	107547	1.33	175905	1.28
Canada	3000	2.92	1350	2.67
China	4800	0.7	-	-
France	29400	2.34	44100	2.35
Japan	370	2.22	7950	2.2
Korea	7738	0.57	12589	0.44
Netherlands	3600	5.05	4627	5.4
New Zealand	13778	2.23	59927	1.88
Singapore	37359	1.01	15399	1.42
Taiwan	-	-	7866	1.14
Thailand	-	-	1440	1.01
U.K.	4475	2.89	12902	3.57
U.S.	225347	2.18	200596	1.97
<b>Total</b>	<b>503355</b>	<b>1.82</b>	<b>629596</b>	<b>1.97</b>

**Table 7: Unfrozen Orange Juice, Ready for Immediate Consumption, Imported by Malaysia, 1993-1994.**

Source	YEAR			
	1993		1994	
	Quantity (Lt.)	CIF Val (S/Lt.)	Quantity (Lt.)	CIF Val (S/Lt.)
Australia	40804	0.95	66814	1.08
Germany	2400	1.37	-	-
Hong Kong	4379	1.05	-	-
Indonesia	16480	0.8	-	-
Japan	4500	0.46	-	-
Korea	68522	1.29	22971	0.43
Netherlands	2400	0.58		
New Zealand	1101	1.02	3464	1.02
Singapore	53222	0.76	31570	0.95
South Africa	-	-	3600	0.48
Taiwan	-	-	2000	0.79
Thailand	2592	1.03	6942	1.05
U.K.	-	-	2400	0.48
U.S.	17064	1.09	17073	1.15
	215465	1.05	177414	0.87

**Table 8: Unfrozen Orange Juice, Not Ready for Immediate Consumption, Imported By Malaysia, 1993-1994**

Source	YEAR			
	1993		1994	
	Quantity (Lt.)	CIF Value (\$/Lt.)	Quantity (Lt.)	CIF Value (\$/Lt.)
Australia	57,346	2.09	49,223	2.42
Belize	--	--	4,200	1.78
Brazil	127,944	1.46	93,870	1.51
China	--	--	18,000	1.09
Japan	18,907	2.14	20,597	2.35
Korea	15,829	1.17	3,309	1.19
Netherlands	630	4.60	1,020	1.84
New Zealand	750	2.90	37,100	1.43
Singapore	33,253	0.84	41,262	0.92
Taiwan	12,756	1.99	53,074	2.25
Thailand	1,080	1.76	2,400	2.94
U.K.	5,564	2.82	14,808	3.49
U.S.	121,065	2.07	123,389	2.50
<b>Total</b>	<b>395,171</b>	<b>1.78</b>	<b>462,105</b>	<b>1.99</b>

TABLE 9: MALAYSIA IMPORTS OF MANDARINS, 1988 - 1994

SOURCE	Y E A R													
	1988		1989		1990		1991		1992		1993		1994(JAN - NOV)	
	QUANTI	VAL	QUANTI	VALU	QUANTIT	VALU	QUANTI	VALU	QUANTIT	VALU	QUANTIT	VALUE	QUANTIT	VALUE
	(TON)	\$/TO	(TON)	\$/TON	(TON)	\$/TON	(TON)	\$/TON	(TON)	\$/TON	(TON)	\$/TON	(TON)	\$/TON
CHINA	7431	650	8884	691	9630	682	10124	648	13108	616	21464	459	NA	NA
TAIWAN	988	733	910	765	955	650	530	715	604	635	498	490	NA	NA
HONGKON	1	759	35	894	14	1670	155	791	264	857	718	441	NA	NA
PAKISTAN	70	589	73	662	81	574	422	554	363	606	82	569	NA	NA
AUSTRALIA	64	728	50	824	54	739	55	734	100	694	323	532	NA	NA
SWITZERLA			1	572	101	494	108	700			5	420	NA	NA
U.S.A	29	446	5	464	27	503	6	500	35	479	6	461	NA	NA
THAILAND	83	334	10	346	3	324			3	191	8	657	NA	NA
OTHERS	2	565	59	631	10	1294	55	875	46	794	69	539	NA	NA
TOTAL	8668	656	10027	698	10874	678	11455	651	14522	621	23173	461	NA	NA

FIGURE 5-A

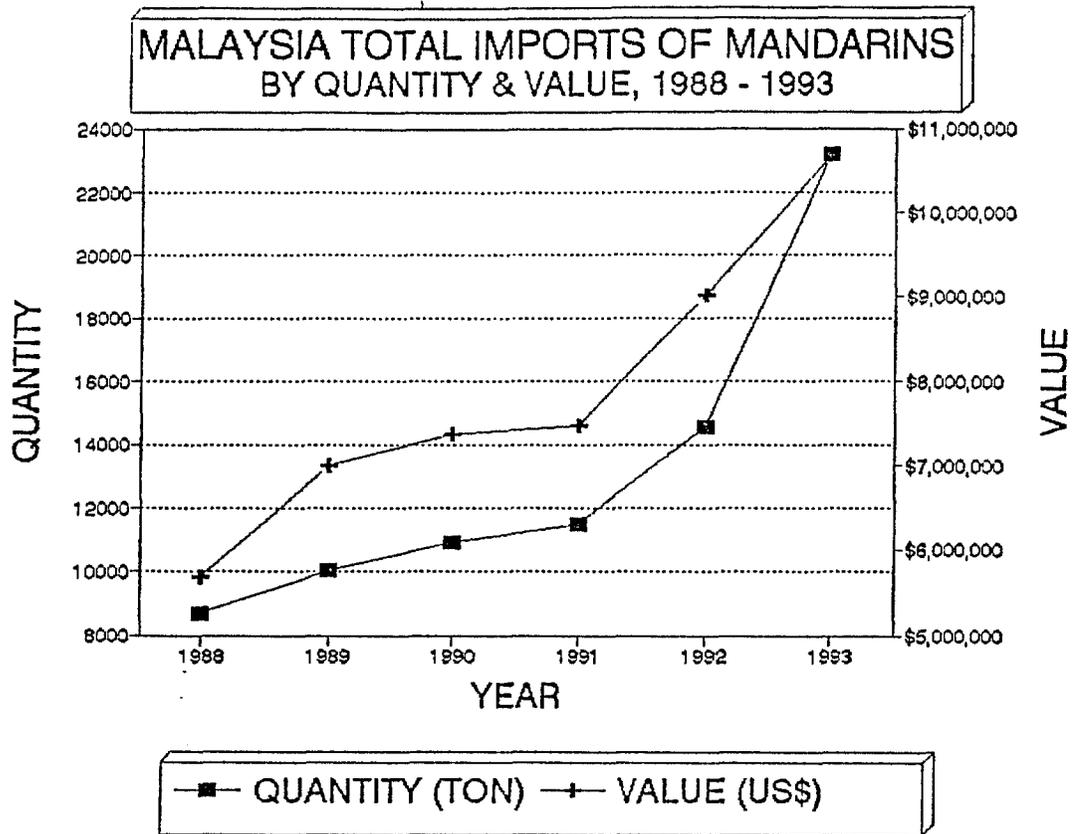
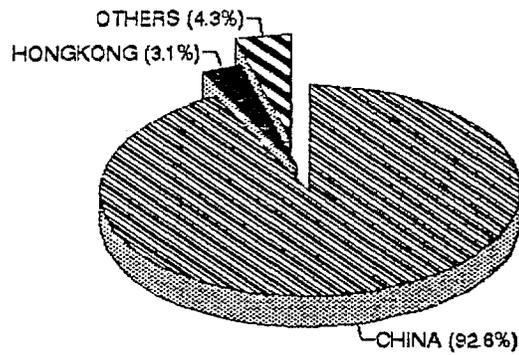


FIGURE 5-B

### MANDARINS MARKET SHARE BY EXPORTING COUNTRY, MALAYSIA 1993



The results of the field study conducted with importers/wholesalers and managers of supermarkets show that there is a 33 percent spread between wholesale and retail prices in mandarins trading. The price spread between import and wholesale is about 22 percent. The quality desired is the firm, juicy and easy peeling type of mandarins.

### Grapefruits

Grapefruits is new introduction to Southeast Asia. In general, the majority of the population of Malaysia is not accustomed to grapefruits. It is generally purchased by very small and selected segment of the population and by hotels and restaurants for foreign visitors. The type of grapefruits desired by consumers in this Subregion is the Ruby and thin skin grapefruits. Malaysia imported 223 tons of grapefruits in 1994 at an average CIF price of \$ 639 per ton. The quantity of grapefruits imported in 1994 was 46 percent more than in 1988 and the CIF price was 16 percent higher (Table 10 and Figure 6-A). The United States accounts for 55 percent of the grapefruit import to Malaysia at a CIF price 15 percent higher than the average. Australia accounts for about 27 percent of the grapefruits imports to Malaysia.

### Lemons

Malaysia has imported an average of 329 tons of lemons per year during the 1988-1994 period at an average CIF price of \$660 per ton (Table 11 and Figure 7-A). Australia and the United States are the major suppliers of lemons to Malaysia accounting for 53-72 percent of the total annual imports (Figure 7-B). Lemons import by Malaysia have declined significantly between 1988 and 1992. However, lemons import increased significantly in 1993 and 1994. In 1993 Malaysia imported 418 tons of lemons at an average CIF price of \$418 per ton. In 1994 lemon imports increased to 491 tons at an average CIF price of \$544 per ton.

### Grapes

In addition to fresh oranges, table grapes is the other major fruit imported by Malaysia. The imports of table grapes have expanded rapidly during the 1988 - 1994 period at an average annual rate of over 25 percent (Table 12 and Figure 8-A). The imports of table grapes increased from 3513 ton in 1988 to 9707 tons in 1994. Average CIF price per ton has declined from \$ 1521 per ton in 1988 to \$ 992 per ton in 1994, or a decline of 34 percent. The United States is the major supplier of table grapes to Malaysia followed by Australia and Chile (Figure 8-B). The United States share of the Malaysian imported table grapes market has been increasing since 1988 reaching 68 percent in 1993 and 60 percent in 1994. The United States table grapes also receives the highest CIF price in the Malaysian market. The imports of table grapes from the United States increased from 1800 tons in 1988 to 5788 ton in 1994, or an increase of 221 percent. The CIF price of table grapes from the United States declined from \$ 1610 per ton in 1988 to \$ 1031 per ton in 1994, or a decrease of 56 percent. In general, increase quantity of imported of table grapes was influenced by a significant reduction in price.

TABLE 10: MALAYSIA IMPORTS OF GRAPEFRUITS, 1988 - 1994

SOURCE	Y E A R													
	1988		1989		1990		1991		1992		1993		1994 (JAN - NOV)	
	QUANTIT (TON)	VALU \$/TON	QUANTIT (TON)	VALU \$/TON	QUANTITY (TON)	VALUE \$/TON	QUANTIT (TON)	VALU \$/TON	QUANTIT (TON)	VALU \$/TON	QUANTIT (TON)	VALUE \$/TON	QUANTIT (TON)	VALUE \$/TON
U.S.A	50	591	44	766	46	856	22	631	26	824	77	614	122	733
AUSTRALIA	52	557	36	590	28	514	16	814	20	571	57	589	60	564
THAILAND	12	239	3	399	44	228	0	0	11	242	5	217	16	273
INDONESIA	0	0	0	0	0	0	0	0	40	202	3	231	2	229
CYPRUS	4	499	8	447	8	450	0	0	0	0	0.42	547	0.14	611
CHINA	0	0	0	0	1	342	3	496	2	225	8	395	2	467
PORTUGAL	0.39	612	1	882	6	566	0	0	0	0	3	650	1	655
OTHERS	1	623	1	1075	2	634	0	0	2	972	1	470	7	727
TOTAL	120	539	93	664	136	538	41	694	100	455	154	573	223	639

FIGURE 6-A

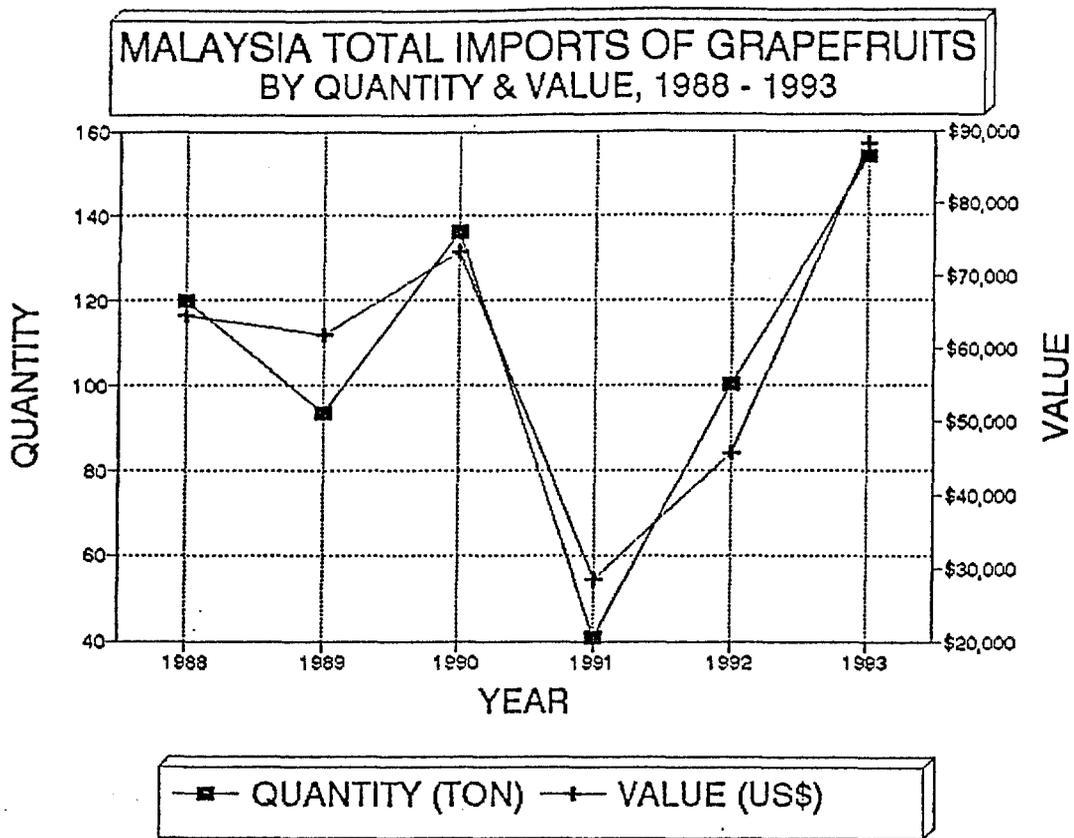


FIGURE 6-B

### GRAPEFRUITS MARKET SHARE BY EXPORTING COUNTRY, MALAYSIA 1993

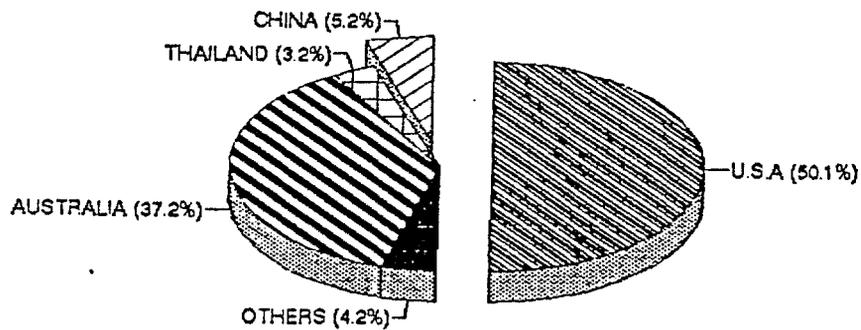


TABLE 11: MALAYSIA IMPORTS OF LEMONS, 1988 - 1994

SOURCE	Y E A R													
	1988		1989		1990		1991		1992		1993		1994 (JAN - NOV)	
	QUANTI (TON)	VAL \$/TO	QUANTI (TON)	VALU \$/TON	QUANTIT (TON)	VALU \$/TON	QUANTI (TON)	VALU \$/TON	QUANTIT (TON)	VALU \$/TON	QUANTIT (TON)	VALUE \$/TON	QUANTIT (TON)	VALUE \$/TON
AUSTRALIA	179	626	175	609	64	631	86	792	103	713	159	620	159	628
U.S.A	145	669	98	763	21	844	50	819	45	728	112	648	100	650
PORTUGAL	3	669	4	740	5	663	25	688	38	739	65	683	58	752
NEWZELAND	26	752	38	793	14	677	12	698	30	675	23	692	5	794
CYPRUS	19	480	49	565	9	613	15	709	7	730	20	586	28	633
THAILAND	66	240	6	290	3	221	0	0	14	247	2	267	8	339
INDONESIA	2	57	0	0	0	0	0	0	0	0	6	290	79	104
SOUTH AFRIC	0	0	0	0	0	0	0	0	0	0	0	0	49	468
SPAIN	0	791	3	550	0	687	14	793	0	0	27	645	1	1080
OTHERS	9	621	6	749	3	712	4	750	6	821	5	787	6	536
TOTAL	450	581	380	660	118	667	205	774	243	692	418	637	491	544

FIGURE 7-A

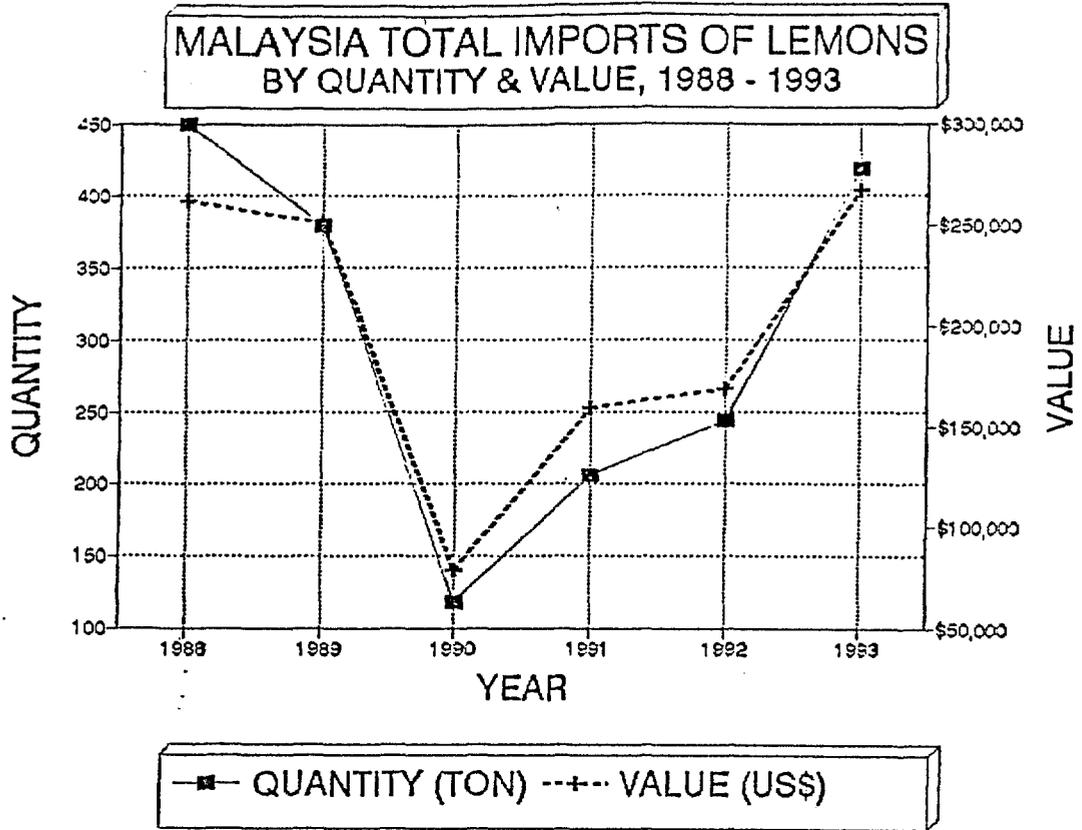


FIGURE 7-B

### LEMONS MARKET SHARE BY EXPORTING COUNTRY, MALYSIA 1993

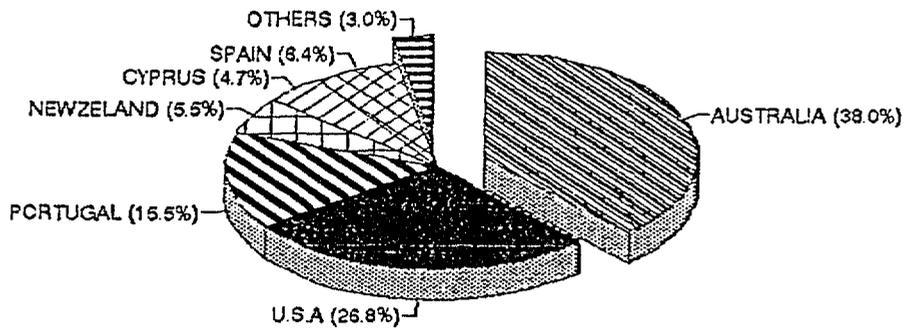


TABLE 12: MALAYSIA IMPORTS OF GRAPES, 1988 - 1994

SOURCE	Y E A R													
	1988		1989		1990		1991		1992		1993		1994 (JAN - NOV)	
	QUANTIT	VALUE	QUANTIT	VALUE	QUANTITY	VALUE	QUANTIT	VALU	QUANTIT	VALU	QUANTIT	VALUE	QUANTIT	VALUE
	(TON)	\$/TON	(TON)	\$/TON	(TON)	\$/TON	(TON)	\$/TON	(TON)	\$/TON	(TON)	\$/TON	(TON)	\$/TON
U.S.A	1800	1610	2129	1580	2775	1483	3428	1519	2152	2313	5591	1089	5788	1031
AUSTRALIA	1448	1564	1048	1610	1067	1342	1642	1260	1886	1256	1519	907	1940	919
CHILE	58	1209	92	1165	142	1754	406	1291	454	1630	898	1103	1620	979
THAILAND	191	481	969	408	542	457	42	389	29	460	155	501	100	428
CHINA	5	1154	1	997	4	1109	5	864	11	942	11	1081	117	1015
NEWZELAND	5	1035	31	1091	6	589	0.28	1050	62	296	1	764	6	696
SWITZERLAN		ERR		ERR	16	1345	12	1449	13	1508	26	1303	13	2363
PORTUGAL	5	1128	2	1467	5	1152	3	899	7	628	14	1173	20	1180
OTHERS	2	1634	10	1369	21	1107	12	1118	89	1875	14	921	105	751
TOTAL	3513	1521	4281	1309	4578	1333	5550	1415	4703	1212	8228	1046	9707	992

FIGURE 8-A

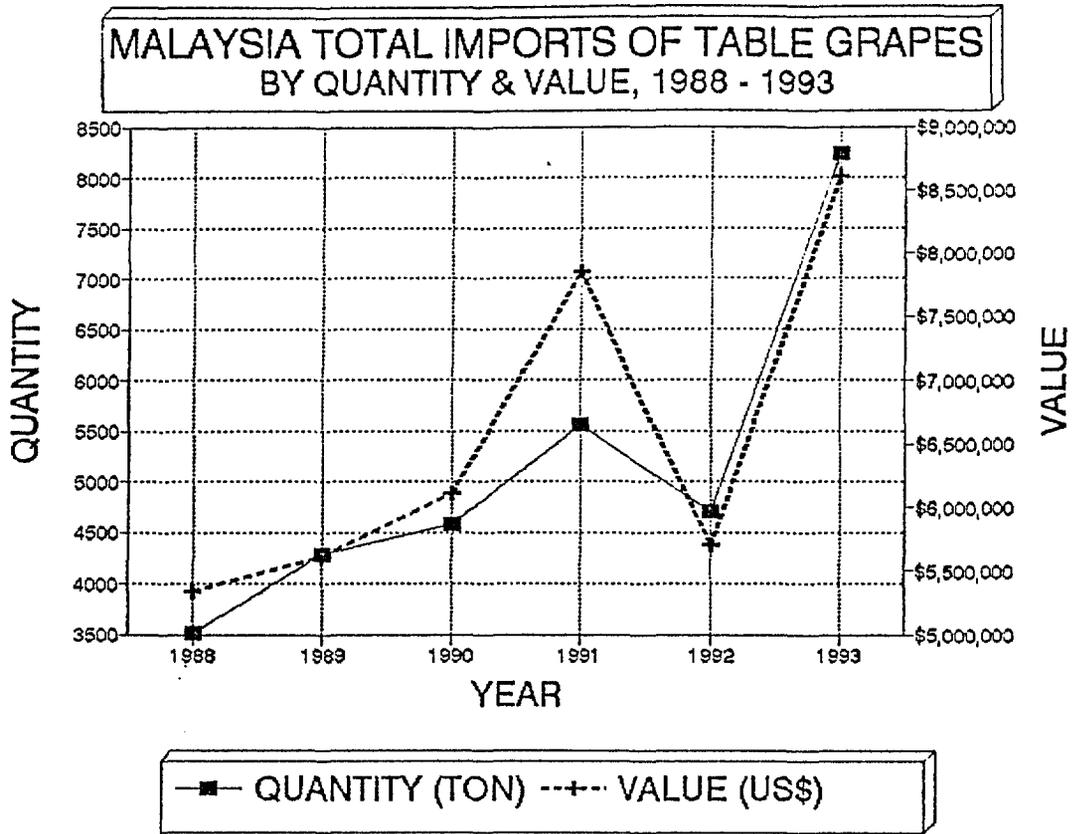
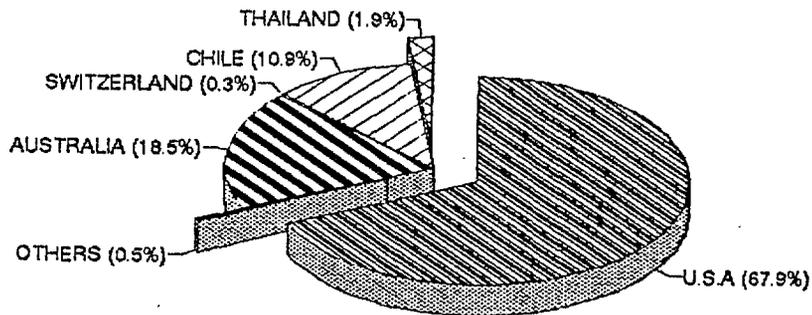


FIGURE 8-B

### TABLE GRAPES MARKET SHARE BY EXPORTING COUNTRY, MALAYSIA 1993



Malaysia imports several different varieties of table grapes. Import statistics by varieties are not available. However, information obtained from importers/wholesalers indicates that Red Globe, Thompson Seedless, Red Flame and Superior are the major Table grapes varieties imported by Malaysia. Red Globe is the top imported variety and receive the highest price at all stages of the market channels. The results of the field survey and interviews conducted with importers / wholesalers and purchasing managers of supermarkets chains during March-April, 1995 in Kuala Lumpur and vicinities show that the importer price ranges between \$1,800 to \$2,300 per metric ton depending on the season and the quality of grapes. The importer-wholesaler price spread is generally between 22-24 percent and the wholesale-retail price spread is between 40-55 percent. The qualities of Red Globe preferred by consumers are dark red, large, crunchy, and compact cluster sweet grapes. Thompson Seedless is second to Red Globe in consumers preference and quantity imported. It is generally 5-7 percent less in price than the Red Globe. The qualities of Thompson Seedless preferred by consumers are large, firm texture, sweet and compact cluster grapes. The Red Flame and Superior varieties are imported in small quantities and generally at times when Red Globe and Thompson Seedless are not available or hard to obtain. The prices of Red Flame and Thompson Seedless are about the same as Thompson Seedless. In addition to the above four varieties of table grapes, Malaysia also import small quantity of Black Exotic and Rubby varieties.

Consumer demand for high quality grapes is projected to expand at an annual growth rate of 10-15 percent. Grapes is preferred by consumers in Southeast Asia and the imports of this type of fruit will continue to increase in the future.

### **Melon**

Malaysia imports small quantities of Cantaloupe primarily from Australia by Air. The import of Cantaloupe by Malaysia increased from 69 tons in 1993 to about 91 tons in 1994, or an increase of 32 percent (Table 13 and Figure 9-A). The high retail price Cantaloupe, ranging between \$3-\$4.8 per Kg., is seen by the trade is the major obstacle to sale. In addition, Malaysia produce some varieties of melon and import a honeydew variety from Thailand. Australia controls 97 percent of the market (Figure 9-B).

TABLE 13: MALAYSIA IMPORTS OF MELONS (CANTELOPE), 1988 - 1994

SOURCE	Y E A R													
	1988		1989		1990		1991		1992		1993		1994	
	QUANTIT	VALUE												
	(TON)	\$/TON												
AUSTRALIA	60	913	44	889	51.70	873	10.21	1149	25	1011	86	776	88	858
U.S.A	2	987	1	744	8.00	541	0.44	1062	1	527	0	857	0	1142
PAKISTAN	7	805	4	762	0.11	562	0.00	0	0	0	0	0	0	0
JAPAN	1	15034	1	11187	0.80	6872	0.10	4210	0	0	0	0	0	0
FRANCE	0	3454	0	5880	0.90	565	0.00	0	0	0	0	0	0	0
AUSTRIA	0	0	0	0	0.32	736	0.00	0	0	0	0	0	0	0
NEWZELAND	0	0	0.30	611	0.00	0	0.00	0	0	0	0	0	0	0
HONGKONG	0	0	0	0	0.07	3593	0.00	0	0	0	0	0	0	0
OTHERS	0.05	4359	0	0	0.34	723	0.00	0	1	2115	3	1193	2	3107
TOTAL	69	1030	50	1061	62	905	11	1174	27	1034	89	788	90	905

FIGURE 9-A

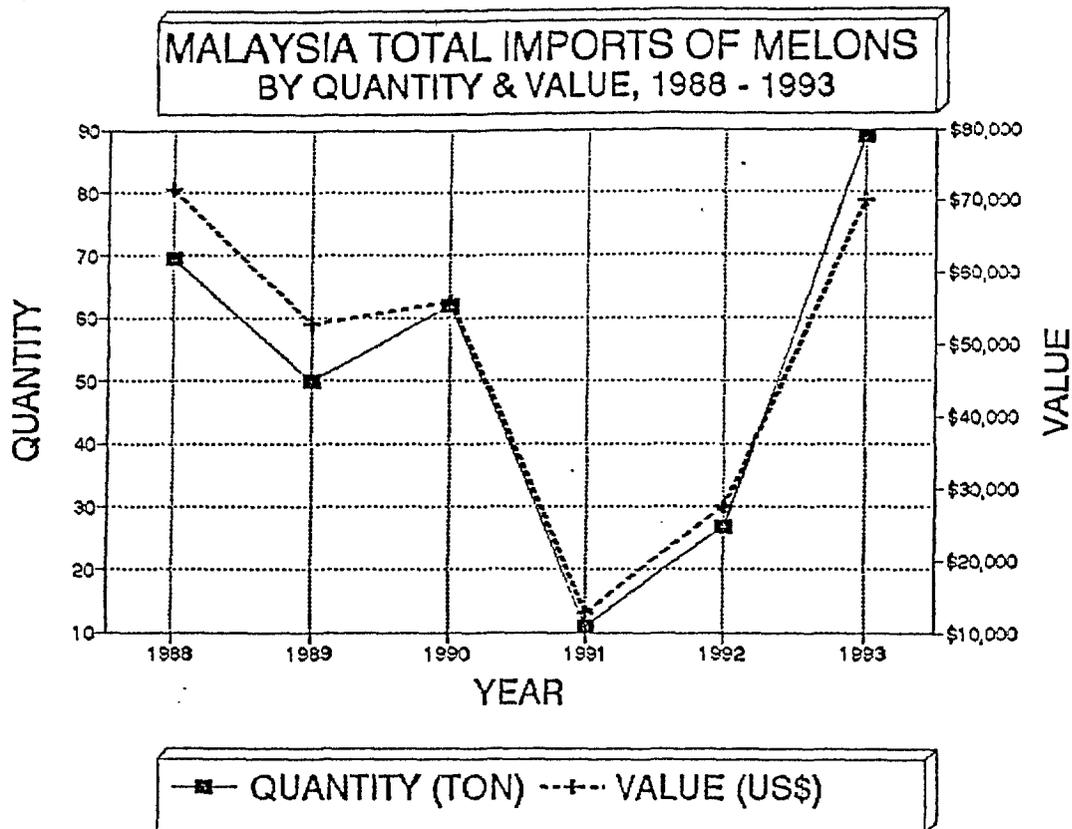
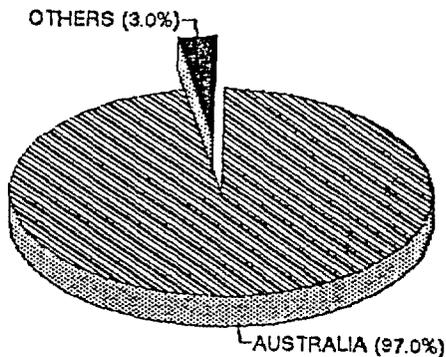


FIGURE 9-B

### MELONS MARKET SHARE BY EXPORTING COUNTRY, MALAYSIA 1993



## Apples

In addition to citrus products and table grapes, for which Jordan has export potential, Malaysia also imports a large quantity of high quality apples from 14 foreign countries. Apple is the single major fruit imported by the three countries in this part of Southeast Asia. Apple imports by Malaysia have been grown at over 10 percent per year for the last few years. Red Delicious and Yellow Delicious are the two most imported varieties. During the first 10 months of 1994, Malaysia imported 44,793 tons of apples. This was 11 percent higher than its import in 1993. An estimated 43 percent of Malaysia's apple imports are from the United States, 23 percent from Australia, and 16 percent from New Zealand. The remaining 18 percent is from 11 different countries in the world (Table 14).

As quantity of imported apples increased, CIF price decreased. Between 1993 and 1994, average CIF price of imported apple declined from \$609 per ton to \$581 per ton. This reflects a decrease of 5 percent in price associated with 11 percent increase in quantity imported. The United States share of the market increased from 33 percent in 1993 to 43 percent in 1994. The increase in the United States share of the apple market was at the expense of Australia. The CIF price of apples imported from the United States declined from \$678 per ton in 1993 to \$602 per ton in 1994, or a decrease of over 11 percent. Australia's share of the Malaysian apples market declined by about 11 percent between 1993 and 1994 and the CIF price of Australian apples decreased by over 1 percent. New Zealand share of the market increased by about 14 percent which was associated with a 5 percent decrease in its CIF price per ton.

Analysis of consumers preference in Malaysia indicates growing demand for apple. Improvement in the quality of apple, a well-organized promotional campaign by the Washington State Apple Commission and the Australian Horticultural Board will increase consumers demand for imported apples.

## Asparagus

Malaysians are gradually developing a taste for Asparagus. The imports of Asparagus by Malaysia have increased significantly during the 1988-1994 period (Table 15 and Figure 10-A). Only 19 tons of asparagus were imported in 1988 at an average CIF price of \$1430. In 1994, however, Malaysia imported 115 tons of asparagus from several countries at an average CIF price of \$587. Thailand accounts for 53 percent of the imported asparagus in 1994. The Thai asparagus is generally low quality and enters Malaysia at less than 3 percent duty. It has a relatively low CIF price of \$348 per ton. China entered the Malaysia asparagus market at a relatively large volume for the first time in 1994. China accounted for over 18 percent of the imported Malaysian asparagus in 1994 at a low price of \$436 per ton. Australia exports of asparagus to Malaysia has been increasing gradually since 1988. It increased to 33 tons in 1993 and declined to 21.5 tons in 1994 (Figure 10-B). The CIF price of Australian asparagus declined from \$2355 per ton in 1988 to \$790 per ton in 1994. The United States share of the Malaysian asparagus market reached 5.7 percent in 1994 at CIF price of \$1977 per ton.

Table 14: Apple Imports by Malaysia, 1993-1994

Source	YEAR			
	1993		1994	
	Quantity (Ton)	CIF Val (\$/ton)	Quantity (Ton)	CIF (\$/ton)
Australia	11394	548	10179	541
Canada	128	603	172	635
Chile	2672	551	3144	552
China	2653	413	2166	376
France	3579	594	2186	572
Japan	22	1545	14	2321
Korea	289	865	129	820
New Zealand	6106	680	6937	646
Portugal	54	523	18	537
USA	13248	678	19385	602
Others	74	580	481	525
<b>Total</b>	<b>40219</b>	<b>609</b>	<b>44793</b>	<b>581</b>

TABLE 15: MALAYSIA IMPORTS OF ASPARAGOS, 1988 - 1994

SOURCE	Y E A R													
	1988		1989		1990		1991		1992		1993		1994 (JAN - NOV)	
	QUANTITY	VALU	QUANTITY	VALUE	QUANTITY	VALUE	QUANTITY	VALU	QUANTITY	VALUE	QUANTITY	VALUE	QUANTIT	VALUE
	(TON)	\$/TON	(TON)	\$/TON										
THAILAND	12.4	1402	12.1	459	11.3	245	3.5	1677	6.2	1221	78.9	322	61.1	348
AUSTRALIA	1.7	2355	4.0	1582	17.6	1147	19.4	1077	16.7	1614	33.8	933	21.5	780
CHINA			0.1	1336	0.2	382					0.8	382	21.2	438
U.S.A	0.1	1309	1.1	2782	0.7	1220	0.3	3885	5.4	3726	2.5	1072	6.6	1977
MALAYSIA	3.0	1065	1.5	1022	0.8	1516	0.1	1472	0.7	1034	4.6	999	2.3	883
NEWZELAND	0.2	1639			1.3	2632	0.2	3511	2.4	2651	4.3	1119	1.1	762
TAIWAN	1.3	1255	0.2	710	1.1	927	0.4	878	0.1	3083	0.9	674	0.1	859
SINGAPORE	0.2	1659	0.02	4256	1.2	814	0.6	3687	0.3	9535	0.02	1412	0.7	1539
OTHERS	0.0	3690	0.03	10013	0.6	1555	0.1	*****	0.2	5321	0.6	6278	0.5	6314
TOTAL	19	1430	19	899	35	904	25	1339	32	2063	126	581	115	587

40

FIGURE 10-A

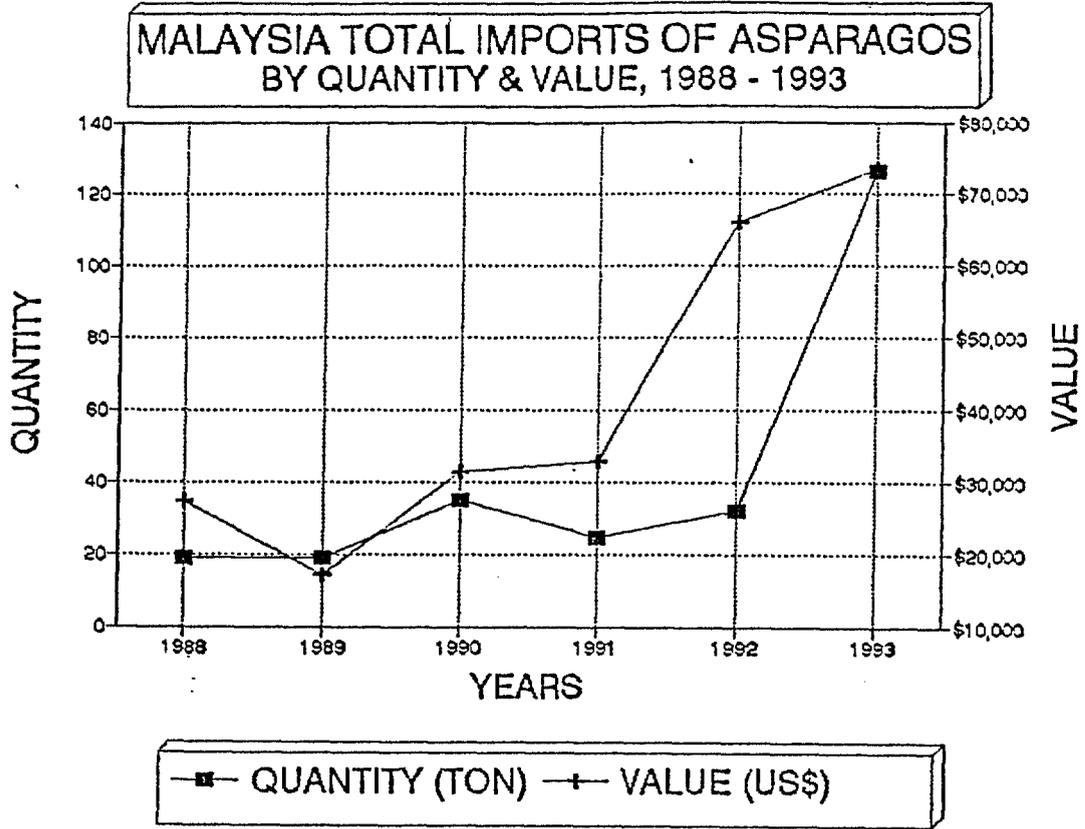
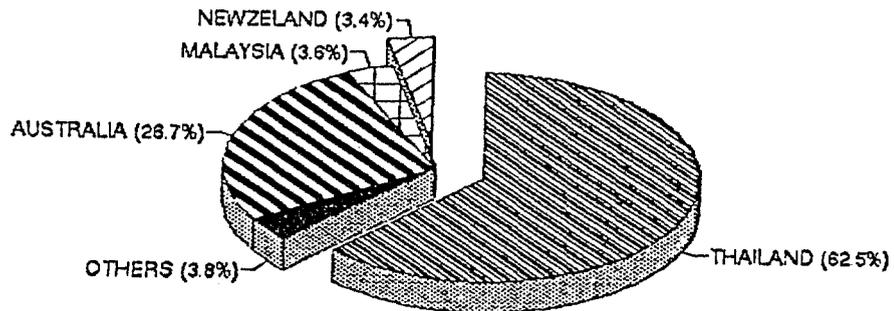


FIGURE 10-B

### ASPARAGOS MARKET SHARE BY EXPORTING COUNTRY, MALAYSIA 1993



## Broccoli

Broccoli is increasingly becoming a vegetable item desired in the diet of the upper income-health conscious segment of the Southeast Asian population. Malaysia imports fresh broccoli primarily from Australia and the United States. Small quantities also imported from six other countries, including European countries. The imports of broccoli increased from 3652 tons in 1988 to about 8764 tons in 1994, or an increase of 140 percent (Table 16 and Figure 11-A). The CIF prices of imported broccoli have also increased during this period. The CIF price for broccoli imported from Australia increased by 12 percent, from the United States by over 39 percent, and from other countries by 147 percent. In 1994, the CIF price for Australian broccoli was \$1053 per ton, for United States broccoli was \$1202, and for other countries was \$2267 per ton. Australia controls over 87 percent of the market (Figure 11-B). Analysis of weekly quantity sold by supermarkets indicates strong demand for broccoli by the upper and the upper-middle income segments of the population in Kuala Lumpur. Fresh produce managers in most supermarkets predict continuous strong demand for broccoli in the future.

## Cauliflower

Malaysia produces cauliflower and imports cauliflower from other Southeast Asian Countries. Major suppliers of cauliflower are Taiwan, Thailand, China and Indonesia (Table 16) In 1995, Malaysia imported an estimated 2755 tons of cauliflower. Over 85 percent of the cauliflower imported by Malaysia was from Taiwan at an average CIF price of \$604 per ton. As its domestic production increased, Malaysia reduced its import of cauliflower. In 1994, Malaysia imported only 778 tons of cauliflower, primarily from Taiwan, Thailand and China. The CIF price of the cauliflower imported from Taiwan was \$407 per ton, from China was \$400 per ton, and from Thailand was \$219 per ton. Both Taiwan and China are not members of the ASEAN countries and thus their products are subject to a higher duty than products imported from Thailand. In addition, the quality of cauliflower imported from Taiwan and China is higher than the cauliflower imported from Thailand.

## Carrots

Carrots are a major vegetable product imported by Malaysia. Carrot imports have been increasing at an average annual rate of 11 percent during the 1988-1994 period. Carrot imports increased from 10,800 ton in 1988 to 17,350 ton in 1994. Carrot imports by Malaysia peaked in 1993 to 19,777 ton (Table 17 and Figure 12-A). Australia is the major supplier of carrots to Malaysia accounting for about 93 percent of the market (Figure 12-B). Average CIF price of imported carrots increased from \$483 per ton in 1988 to \$648 per ton in 1994, or an increase of over 34 percent. Australian carrots receive the highest price in the Malaysian market. In 1994, the CIF price for Australian carrots was \$668 per ton.

The quality of carrots demanded by consumers is rich orange color, smooth surface, about 2-2.5 centimeters in diameter, and about 15 centimeters in length. Carrots are shipped from Australia by sea freight in 20 kg boxes.

TABLE 16: MALAYSIA IMPORTS OF CAULIFLOWER & BROCCOLI, 1988 - 1994

SOURCE	Y E A R													
	1988		1989		1990		1991		1992		1993		1994 (JAN - NOV)	
	QUANTITY	VALUE	QUANTIT	VALUE										
	(TON)	\$/TON	(TON)	\$/TON										
AUSTRALIA	3570	942	4081	1110	4060	1115	4475	1148	6581	995	8931	890	8632	1053
TAIWAN	2338	604	1813	459	1871	466	1519	473	1122	444	805	395	347	407
THAILAND	177	163	561	198	328	205	108	234	65	231	379	214	397	219
U.S.A	66	862	111	1109	276	1173	235	1433	126	1175	55	1308	82	1202
CHINA	43	199	35	512	44	362	153	638	50	494	24	369	34	400
INDONESIA	167	108	23	221	22	186	6	716	3	261	0.1	252	1	1170
OTHERS	16	915	48	596	32	679	36	490	6	1537	35	1812	50	2267
TOTAL	6377	769	6672	847	6632	879	6532	970	7954	911	10228	830	9542	1000

FIGURE 11-A

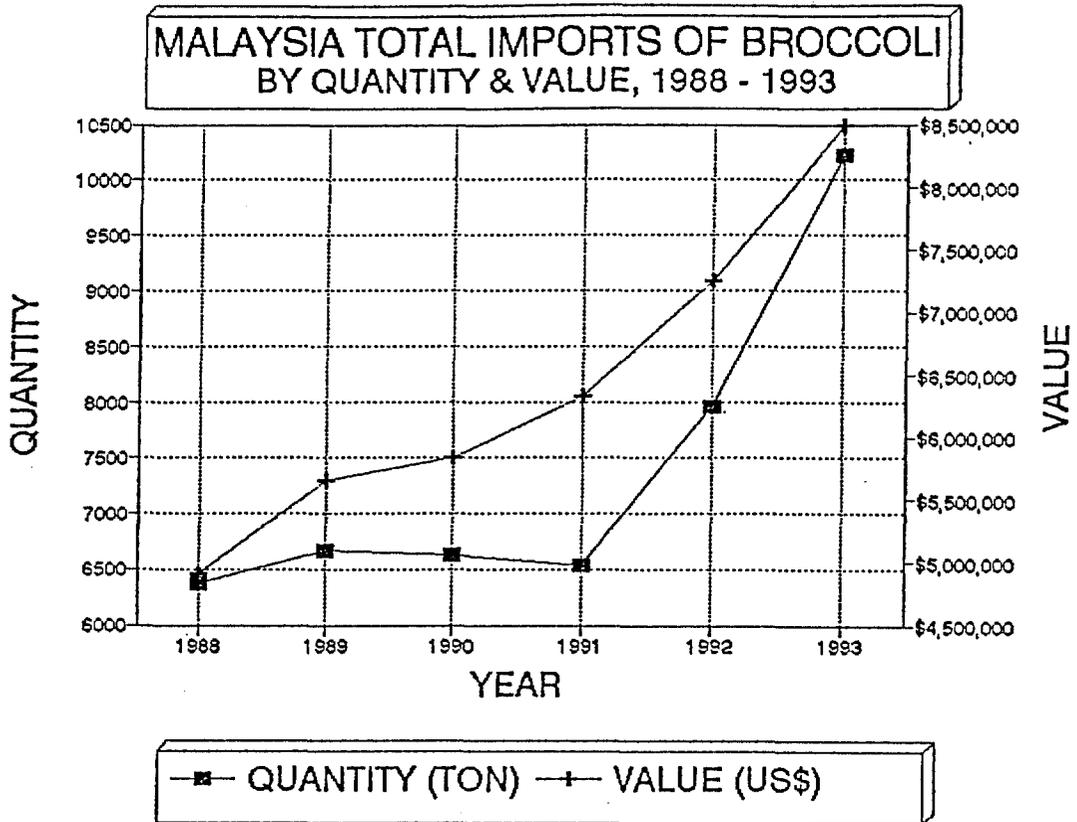


FIGURE 11-B

### BROCCOLI MARKET SHARE BY EXPORTING COUNTRY, MALAYSIA 1993

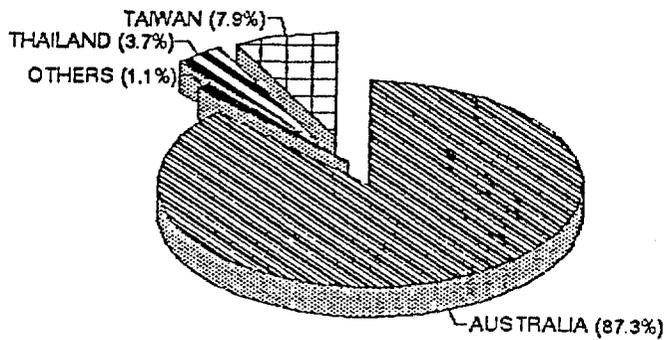


TABLE 17: MALAYSIA CARROTS IMPORTS, 1988 - 1994

SOURCE	Y E A R													
	1988		1989		1990		1991		1992		1993		1994 (JAN - NOV)	
	QUANTIT	VALUE	QUANTIT	VALUE	QUANTITY	VALUE	QUANTITY	VALU	QUANTITY	VALUE	QUANTIT	VALUE	QUANTIT	VALUE
	(TON)	\$/TON	(TON)	\$/TON	(TON)	\$/TON	(TON)	\$/TON	(TON)	\$/TON	(TON)	\$/TON	(TON)	\$/TON
AUSTRALIA	7384	597.9	7971	592	10490	568	12660	638	15576	569	18126	538	16167	668
INDONESIA	2451	136.3	3067	136	1477	135	754	139	603	137	1109	143	751	150
TAIWAN	447	413.7	500	301	463	298	183	355	126	435	61	422	114	527
U.S.A	396	574.7	349	521	54	499	44	740	42	844	52	520	47	363
THAILAND	78	162	247	177	307	179	21	209	1	382	137	174	55	234
NEWZELAN	0	0	0.1	781	0.01	7176	0	0	0	0	130	353	139	476
CHINA	6	377.5	12	516	7	462	26	536	52	477	26	380	15	305
MALAYSIA	16	345.1	4	397	4	41	3	391	13	470	70	478	10	455
OTHERS	23	1570	40	524	79	455	34	1193	17	1698	66	1857	51	2947
TOTAL	10800	483.1	12189	455	12881	498	13725	608	16430	554	19777	516	17350	648

FIGURE 12-A

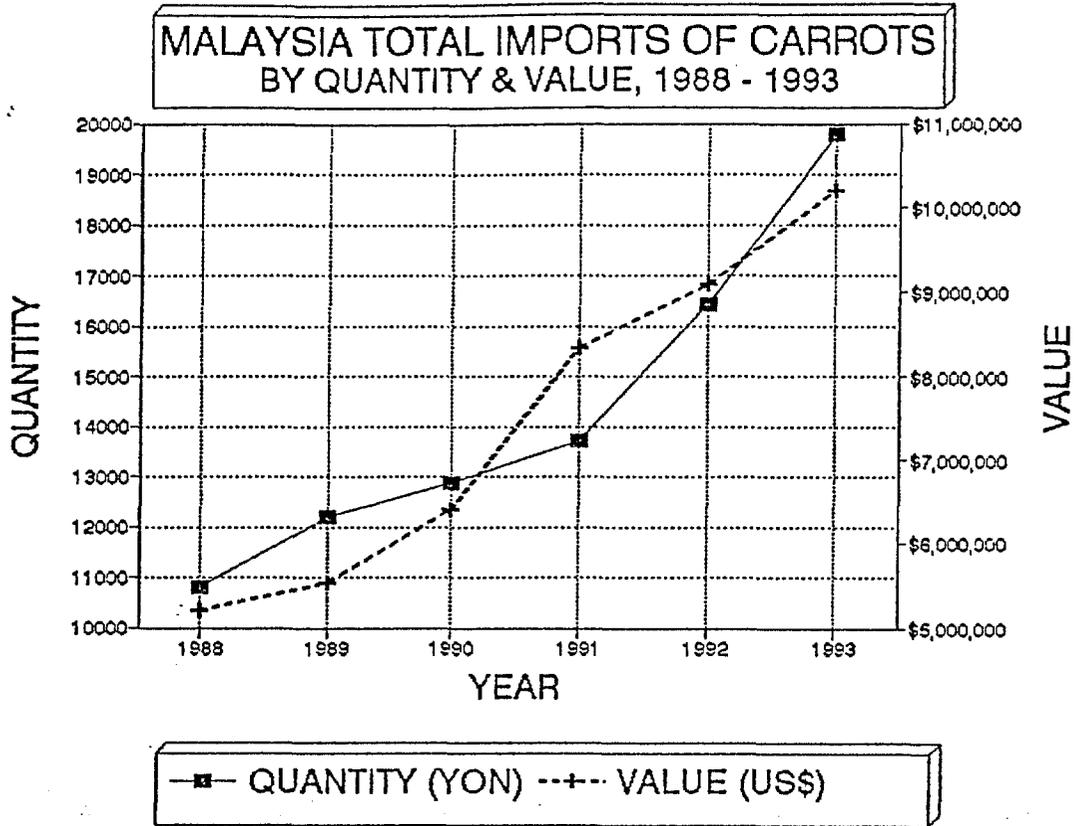
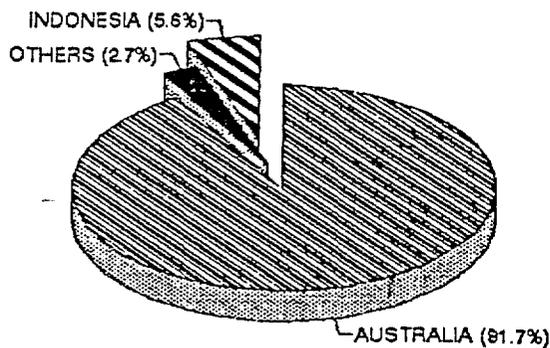


FIGURE 12-B

### CARROTS MARKET SHARE BY EXPORTING COUNTRY, MALAYSIA 1993



## Celery

Malaysia imports a limited quantity of celery. Celery imports by Malaysia increased from 1425 ton in 1988 to 2072 ton in 1994 (Table 18 and Figure 13-A). Australia and the United States are the two major suppliers of celery to Malaysia. Australia controls 50 percent of the celery import market and the United States controls 40 percent (Figure 13-B). Taiwan accounts for 7.5 percent of the imported celery to Malaysia. The CIF price increased from \$531 per ton in 1988 to \$588 per ton in 1994. Australian celery receives the highest price in the Malaysian market. In 1994, the CIF price for Australian celery was \$648 per ton followed by the United States with \$568 per ton.

## Lettuce

Malaysia imports a limited quantity of iceberg lettuce. The import of iceberg lettuce has been increasing at a rapid rate in recent years. Imports of iceberg lettuce increased from 151 tons in 1988 to 1408 tons in 1994, or an increase of 1106 percent (Table 19 and Figure 14-A). The significant increases in lettuce imports occurred in 1993 and 1994. Australia and the United States control over 94 percent of the iceberg lettuce market (Figure 14-B). The CIF average price for lettuce in 1994 was \$758 per ton. Australian lettuce received the highest price of \$886 per ton in 1994.

## Round Cabbage

Malaysia imports a large quantity of round cabbage. The imports of round cabbage by Malaysia remained relatively the same during the 1988-1994 period at almost constant CIF price per ton. In 1988 Malaysia imported 20,537 tons of round cabbage at an average CIF price of \$164.30. In 1994, Malaysia imported 27,302 tons of round cabbage at an average CIF price of \$161.50 per ton (Table 20 and Figure 15-A). Indonesia is the largest supplier of round cabbage to the Malaysian market accounting for about 94 percent of Malaysia's total imports of round cabbage (Figure 15-B). Indonesia CIF price is the lowest at about \$149 per ton in 1994. Countries in Southeast Asia are the only exporters of round cabbage to Malaysia.

TABLE 18: MALAYSIA IMPORTS OF CELERY, 1988 - 1994

SOURCE	Y E A R													
	1988		1989		1990		1991		1992		1993		1994 (JAN - NOV)	
	QUANTIT	VALUE	QUANTIT	VALUE	QUANTIT	VALUE	QUANTIT	VALUE	QUANTITY	VALUE	QUANT	VALUE	QUANTIT	VALUE
	(TON)	\$/TON	(TON)	\$/TON	(TON)	\$/TON	(TON)	\$/TON	(TON)	\$/TON	(TON)	\$/TON	(TON)	\$/TON
AUSTRALIA	656	636	587	706	625	723	403	812	490	772	1052	617	1040	648
U.S.A	452	535	621	577	779	569	649	656	619	692	733	600	834	568
TAIWAN	130	460	103	380	113	346	187	319	182	360	181	315	154	313
THAILAND	174	196	21	205	17	203					2	211	2	190
CHINA	0.3	344	1	419	8	344	4	343	1	717	5	503	36	441
MALAYSIA	7	305	2	474	0.19	550	6	485	0.30	1089	2	662	0.22	607
HONGKON			0.01	5038					2	909	1	900	4	863
OTHERS	5	290	3	381	3	370	5	382	0.10	7897	4	413	1	1106
TOTAL	1425	531	1339	612	1546	609	1252	653	1294	676	1980	582	2072	588

FIGURE 13-A

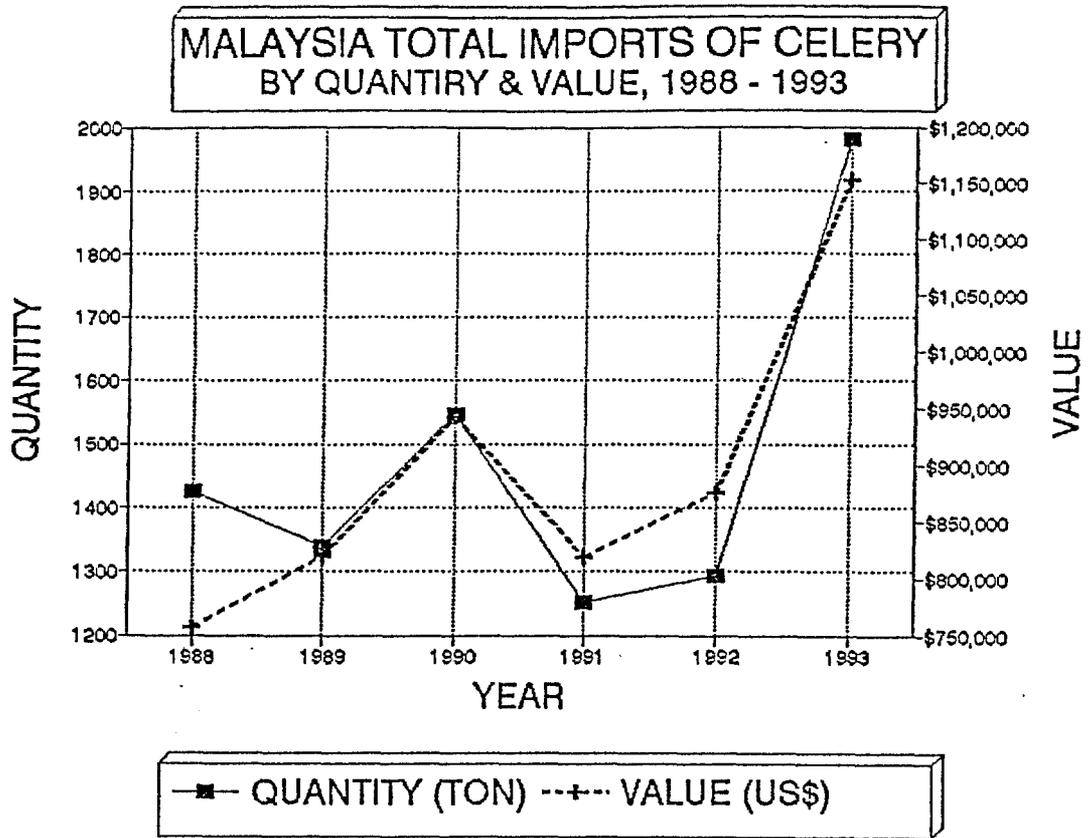


FIGURE 13-B

### CELERY MARKET SHARE BY EXPORTING COUNTRY, MALAYSIA 1993

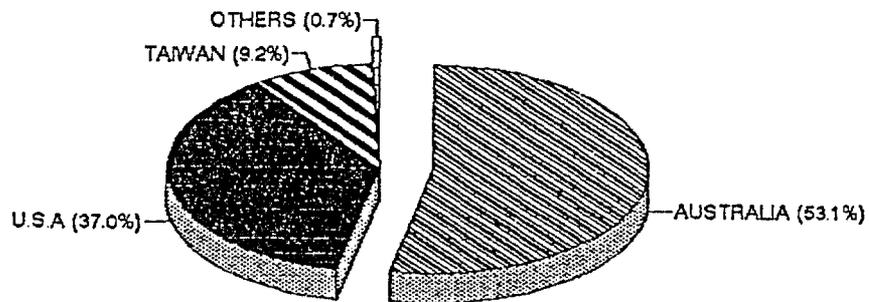


TABLE 19: MALAYSIA IMPORTS OF LETTUCE, 1988 - 1994

SOURCE	Y E A R													
	1988		1989		1990		1991		1992		1993		1994 (JAN - NOV)	
	QUANTI	VALUE	QUANTI	VALUE	QUANTIT	VALUE	QUANTI	VALUE	QUANTIT	VALUE	QUANTIT	VALUE	QUANTIT	VALUE
	(TON)	\$/TON	(TON)	\$/TON	(TON)	\$/TON	(TON)	\$/TON	(TON)	\$/TON	(TON)	\$/TON	(TON)	\$/TON
AUSTRALIA	109	942	43	845	42	1023	197.5	1206	221	1040	539	931	503	886
U.S.A	11	505	9	485	14	576	19.2	671	51	532	167	482	852	670
TAIWAN	22	407	9	406	0	0	0.8	382	2	267	2	769	18	333
THAILAND	4	340	3	191	14	210	0.0	0	0	0	6	227	10	194
NETHERLAND	0	0	0	0	0	5769	0.0	0	3	2190	16	1920	17	2077
CHINA	0	0	2	298	12	231	0.5	530	0	0	17	313	2	497
INDONESIA	2	382	0	0	16	119	0.0	0	0	0	0	0	3	174
MALAYSIA	4	748	3	620	1	587	0.9	694	3	552	2	1029	1	673
OTHERS	0.13	2886	0.52	3491	9.05	2329	0.0	0	7.96	942	2	1227	3.33	1932
TOTAL	151	809	70	707	108	754	219	1152	288	951	752	832	1408	758

FIGURE 14-A

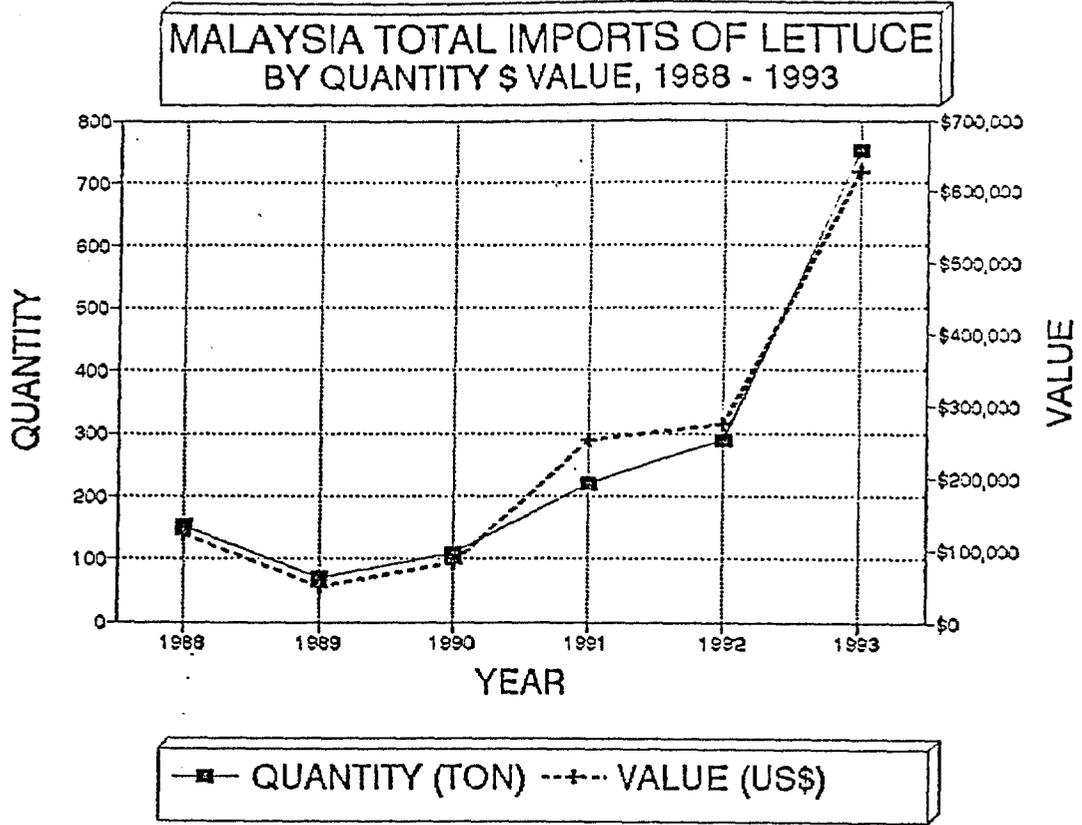


FIGURE 14-B

### LETTUCE MARKET SHARE BY EXPORTING COUNTRY, MALAYSIA 1993

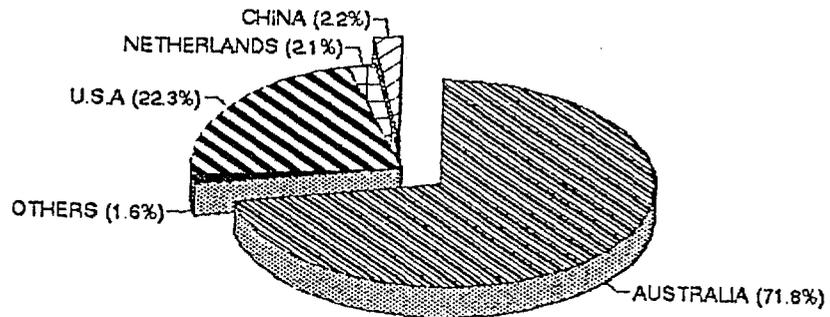


TABLE 20: MALAYSIA ROUND CABBAGE IMPORTS, 1988 - 1994

SOURCE	Y E A R													
	1988		1989		1990		1991		1992		1993		1994 (JAN - NOV)	
	QUANTI	VALUE	QUANTI	VALUE	QUANTIT	VALUE	QUANTI	VALUE	QUANTIT	VALUE	QUANTIT	VALUE	QUANTIT	VALUE
	(TON)	\$/TON	(TON)	\$/TON	(TON)	\$/TON	(TON)	\$/TON	(TON)	\$/TON	(TON)	\$/TON	(TON)	\$/TON
INDONESIA	16945	144	14880	139	25530	108	26387	138	22171	140	24394	148	25253	149
TAIWAN	2587	231	2030	254	1882	307	1520	343	1457	337	795	337	202	398
CHINA	229	180	343	210	222	198	982	224	994	244	1168	229	916	231
AUSTRALIA	525	404	343	410	508	576	437	528	560	413	716	393	580	439
MALAYSIA	228	324	140	300	160	378	208	419	415	382	234	434	106	468
THAILAND	24	225	217	132	366	147	24	195	94	278	35	189	78	191
INDIA	0	0	42	163	165	153	47	119	80	227	14	95	104	287
OTHERS	0	0	24	188	3	215	10	146	55	187	3	333	64	211
TOTAL	20537	164.3	18018	159.5	28834.8	132.6	29615	158.8	25825.1	165.6	27358.3	165.6	27302.5	161.5

FIGURE 15-A

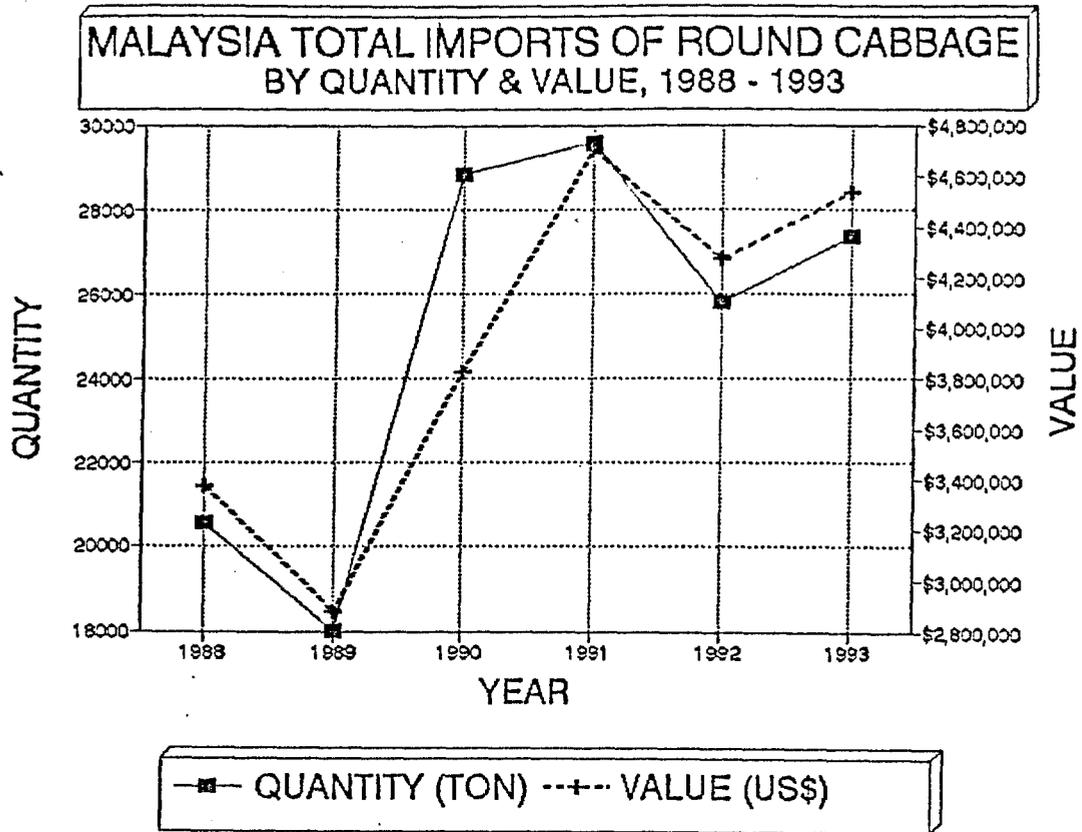
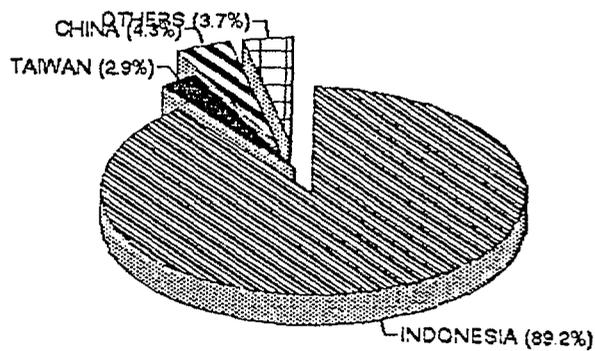


FIGURE 15-B

### ROUND CABBAGE MARKET SHARE BY EXPORTING COUNTRY, MALAYSIA 1993



## SINGAPORE

Singapore is becoming the major distribution center for fresh fruits and vegetables for the six ASEAN countries of Brunei, Indonesia, Malaysia, Philippines, Singapore and Thailand. A large quantity of all types of fresh produce imported by Singapore for its own population consumption and for re-export to other members of ASEAN countries. Singapore, generally, imports the highest quality of fresh produce from many countries of the world. The import of major fruits and vegetables by Singapore is discussed in the following section.

### Fresh Oranges

Singapore imports a large quantity of fresh oranges from over 18 different countries in the world. The import of fresh oranges by Singapore remained fairly stable during the 1988-1994 period at about 45,000 tons per year. Singapore imports of fresh oranges reached its peak of 52,167 ton in 1993 (Table 21 and Figure 16-A). The United States controls about 37 percent of the imported orange market in Malaysia followed by Australia with 34 percent, South Africa with 15 percent, and Israel with about 8 percent (Figure 16-B). Average CIF price for oranges imported by Singapore decreased from \$967 per ton in 1988 to \$753 per ton in 1994, or a decrease of 28 percent. Oranges exported from the United States received the highest CIF price per ton. In 1994, average CIF prices for United States oranges was \$874 per ton followed by China with \$792 per ton, Pakistan with \$720 per ton and Australia with \$711 per ton. Oranges imported from South Africa had a CIF price of \$595 per ton in 1994 and oranges imported from Israel had a CIF price of \$502 per ton.

The quality of oranges preferred in Singapore is the rich orange color, thick skin, juicy, and sweet. The size preferred is 113 pieces in 20-21 kg. box. Generally, the SUNKIST-navel oranges are the preferred variety. Oranges at the retail stores are generally sold by pieces. The average retail price for high quality oranges ranges between \$1,900 - \$2,100 per ton. The wholesale-retail price spread ranges between 45-50 percent and the import-wholesale price spread ranges between 20-25 percent.

### Orange Juice

Singapore imported 8.9 million of all type of orange juice in 1993 from 19 different countries at an average CIF price of \$1.41 per liter. The United States controls 29 percent of the orange juice market in Singapore. The CIF price of orange juice imported from the United States was \$2.03 per liter, the highest among other importing countries (Table 22).

### Mandarin

Singapore imports of mandarins rapidly increased during the 1988-1994 period at an average annual rate of over 12 percent. During this period the imports of mandarins increased from 15,190 ton to 28,377 ton, or an increase of about 87 percent. The average CIF price declined from \$980 per ton in 1988 to \$697 per ton in 1994, or a decrease of 29 percent (Table 23 and Figure 17-A).

TABLE 21: SINGAPORE ORANGE IMPORTS, 1988 - 1994

SOURCE	Y E A R													
	1988		1989		1990		1991		1992		1993		1994	
	QUANTITY (TON)	VALUE (\$/TON)												
USA	21180	990	20561	1068	21392	986	5962	1220	17306	891	15009	902	17618	874
AUSTRALIA	8303	935	8281	936	11015	909	22700	975	18119	799	23645	711	18144	711
S.AFRICA	6895	974	7182	979	5426	986	7026	1111	7071	1102	7697	870	6460	595
ISRAIL	3278	1351	2993	1080	2096	996	3658	939	3447	839	1858	761	1284	502
CHINA	2247	908	1632	964	2111	837	2201	848	1705	753	895	740	702	792
THAILAND	1459	610	1455	603	417	625	437	413	0	0	0	0	0	0
TAIWAN	798	1023	591	1048	529	932	244	866	362	825	195	589	71	1090
ARGANTINA	1640	604	500	829	0	0	0	0	0	0	0	0	0	0
CYPRUS	266	759	223	777	269	821	727	957	80	885	0	0	0	0
HONGKON	0	0	69	1052	144	951	115	968	341	775	293	831	590	666
EGYPT	372	467	0	0	0	0	223	555	104	1070	521	551	279	540
MOZAMBIQ	0	0	0	0	0	0	0	0	1259	971	0	0	0	0
PAKASTAN	102	799	278	574	59	636	179	522	267	511	164	737	167	720
S.ARABIA	0	0	0	0	0	0	0	0	0	0	817	952	0	0
MALAYZIA	201	560	61	615	142	788	0	0	143	583	0	0	0	0
OTHERS	162	1025	259	1039	102	1272	293	1373	113	1391	273	1186	147	1101
TOTAL	46903	967	44085	1002	43702	954	43765	1013	50317	879	52167	799	45532	753

FIGURE 16-A

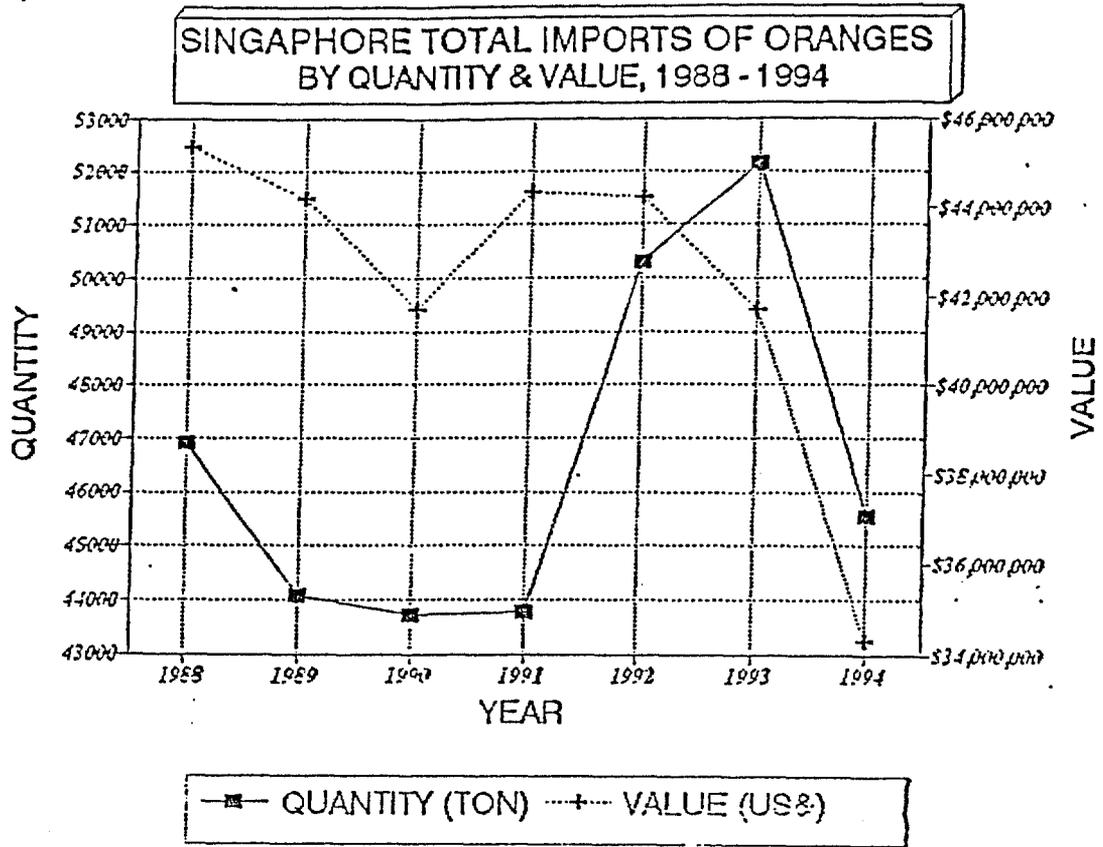


FIGURE 16-B

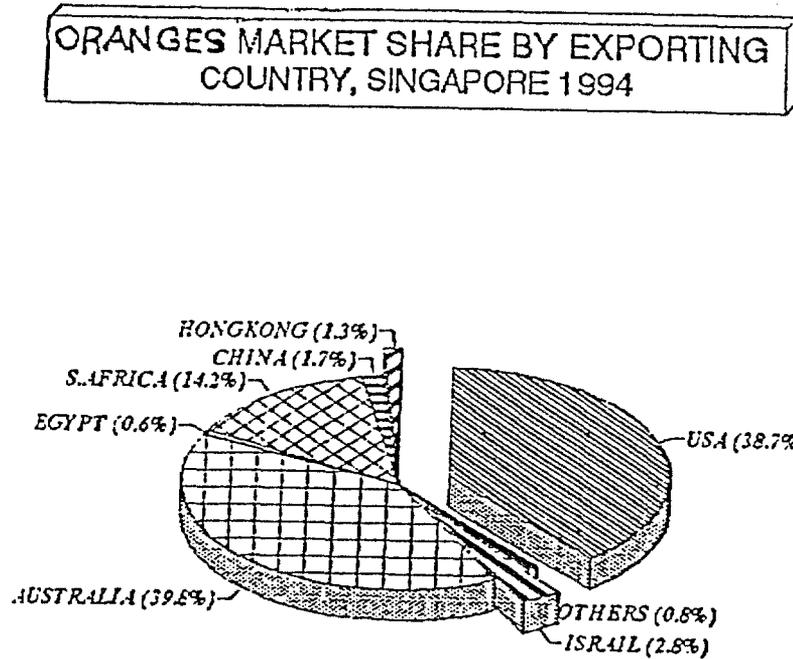


Table 22: Orange Juice Imports by Singapore 1993

Source	Quantity (Lt.)	CIF Val. (S/Lt.)
Australia	842,443	1.81
Austria	108,460	0.75
Belgium	35748	0.76
Brazil	994,962	1.80
China	273,792	1.32
Cyprus	71685	0.65
Denmark	212177	2.57
Germany	136995	3.85
Israel	579005	1.53
Japan	61111	1.22
Korea	1815821	0.9
Malaysia	745217	1.47
Mozambique	41940	0.74
Netherlands	89179	0.86
OC Africa	91687	1.11
Switzerland	48053	0.96
Taiwan	166896	1.21
Thailand	36728	0.97
US	2546379	2.03
Total	8898284	1.41

TABLE 23: SINGAPORE MANDARINS IMPORTS, 1988 - 1994

SOURCE	Y E A R													
	1988		1989		1990		1991		1992		1993		1994	
	QUANTITY	VALUE												
	(TON)	(\$/TON)												
CHINA	8382	930	8021	910	8320	887	9961	872	15069	780	14849	697	21717	646
TAIWAN	6050	1035	5398	932	4912	971	4302	925	4221	870	2920	729	1436	768
PAKASTAN	254	816	453	654	1041	623	3298	694	2864	546	1524	630	1798	657
HONGKONG	69	1165	120	675	200	690	524	880	1854	863	1597	829	1922	622
AUSTRALIA	252	1630	453	1591	498	1696	746	1644	845	1412	1215	1371	1351	1570
JAPAN	26	1603	16	2158	7	2381	7	4082	20	2440	34	2188	22	2462
THAILAND	122	449	0	0	0	0	0	0	0	0	0	0	0	0
SPAIN	16	1339	0	0	44	1393	0	0	0	0	0	0	20	1429
S.AFRICA	0	0	0	0	0	0	0	0	0	0	0	0	56	712
OTHERS	19	940	16	670	39	977	89	936	23	647	53	505	55	671
TOTAL	15190	980	14477	930	15061	923	18927	865	24896	797	22192	745	29377	697

FIGURE 17-A

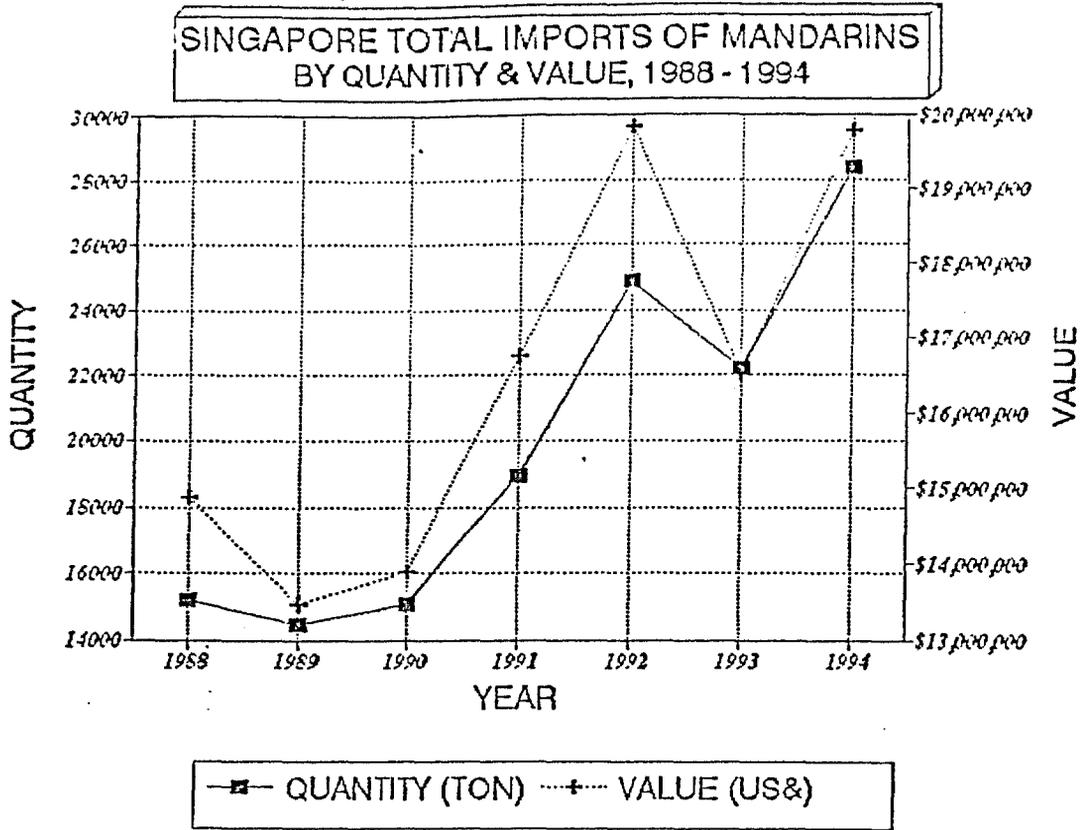
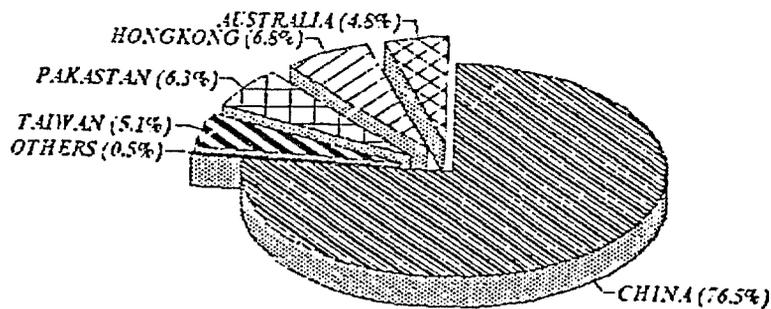


FIGURE 17-B

### MANDARINS MARKET SHARE BY EXPORTING COUNTRY, SINGAPORE 1994



China is the principle supplier of mandarins to the Singapore market. It controls about 76 percent of the mandarins market in Singapore. Taiwan, Pakistan, Hong Kong, and Australia supplied 23 percent of the mandarin imported by Singapore. About one percent was imported from several other countries (Figure 16-B). Mandarins from Japan had a CIF price of \$2,462 per ton in 1994. Australian mandarins had a CIF price of \$1,570 per ton. Mandarins from China had a CIF price of \$646 per ton. The retail-wholesale and wholesale-import price spreads for mandarins are the same as those for oranges. The quality of mandarins preferred by Singapore is the same as that in Malaysia.

### **Grapefruit**

Singapore imports a limited quantity of grapefruit. In 1988, Singapore imported 955 tons of grapefruit. In 1994, it imported 2,351 tons. Average CIF prices for grapefruit declined from \$1040 per ton in 1988 to \$722 per ton in 1994, or a decrease of over 30 percent (Table 24 and Figure 18-A). The United States supplied 30 percent of the grapefruit imported by Singapore in 1994 at a CIF price of \$820 per ton. Israel, South Africa, Malaysia, Australia and Thailand supplied 69 percent. Less than one percent was supplied by several other countries (Figure 18-B).

The retail-wholesale and the wholesale-import price spreads is similar to oranges. The quality of grapefruit desired by consumers in Singapore is the Ruby-thin skin variety.

### **Lemons**

Singapore imported 5200 tons of lemons in 1994. This was an increase of 27.5 percent over the 1988 imported quantity. Average CIF price of lemons decreased from \$628 per ton in 1988 to \$511 per ton in 1994 (Table 25 and Figure 19-A). Malaysia is the major supplier of lemons to the Singapore market accounting for about 51 percent of total Singapore imports. The remaining 49 percent was imported from several countries (Figure 19-B). The Malaysian lemon is generally of lower quality and has the lowest CIF prices. The CIF price of the imported Malaysian lemon was \$261 per ton in 1994. Lemons imported from Thailand generally had the highest CIF prices during the last 6 years. In 1994, lemons imported from Thailand had a CIF price of \$1247 per ton, from the United States \$960 per ton, from Cyprus \$914 per ton and from Australia \$844 per ton.

### **Grapes**

Singapore import of table grapes increased from 8122 tons at an average CIF price of \$2422 per ton in 1988 to 12,096 tons at average CIF price of \$2,249 per ton in 1994. The imports of table grapes by Singapore increased by about 49 percent during this period and the average CIF price decreased by over 7 percent (Table 26 and Figure 20-A). The United States is the principle supplier of table grapes to Singapore. In 1994, the United States share of the table grape market in Singapore was over 59 percent and its grapes had the highest CIF price of \$2,338 per ton. Australia controlled about 22 percent of the market at a CIF price of \$2,276 per ton. Chile market share of the Singapore table grapes market was over 13 percent at a CIF price of \$1,978 per ton. About 94.4 percent of the table grapes market is controlled by the United States, Australia and Chile (Figure 20-B).

TABLE 24: SINGAPORE GRAPEFRUIT IMPORTS, 1988 - 1994

SOURCE	Y E A R													
	1988		1989		1990		1991		1992		1993		1994	
	QUANTITY (TON)	VALUE (\$/TON)												
USA	519	1018	488	966	227	1324	490	1086	758	1020	617	1071	701	820
ISRAEL	181	1144	76	1089	546	893	123	973	286	1126	156	859	102	630
S.AFRICA	189	1046	213	1012	156	1184	65	1612	136	1287	105	1003	114	684
MALAYSIA	0	0	0	0	0	0	0	0	0	0	0	0	835	577
AUSTRALIA	0	0	12	2133	20	1686	149	1039	143	803	104	1236	140	945
THILAND	0	0	0	0	0	0	0	0	0	0	45	410	429	791
CYPRUS	52	813	22	847	64	893	0	0	0	0	0	0	0	0
OTHERS	14	1276	17	805	3	2183	18	992	22	1326	40	1280	22	893
TOTAL	955	1040	828	1002	1016	1108	845	1100	1355	1052	1067	1029	2351	722

FIGURE 18-A

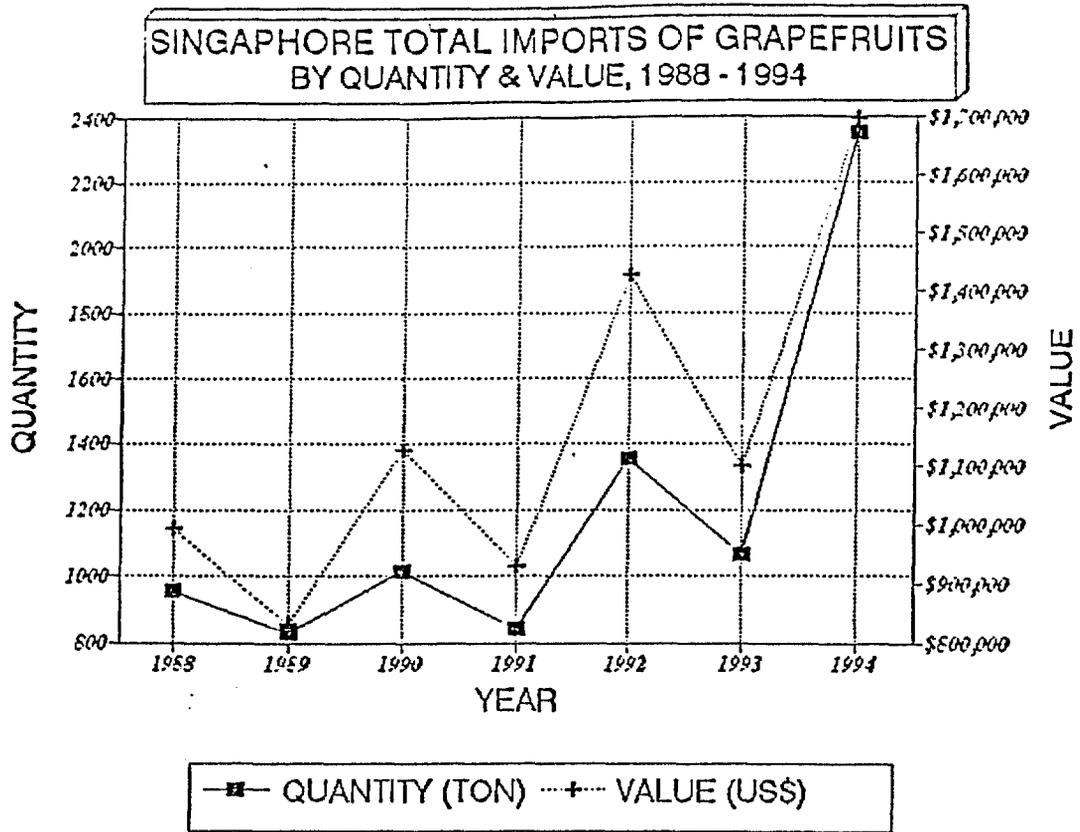


FIGURE 18-B

**GRAPEFRUITS MARKET SHARE BY EXPORTING  
COUNTRY, SINGAPORE 1994**

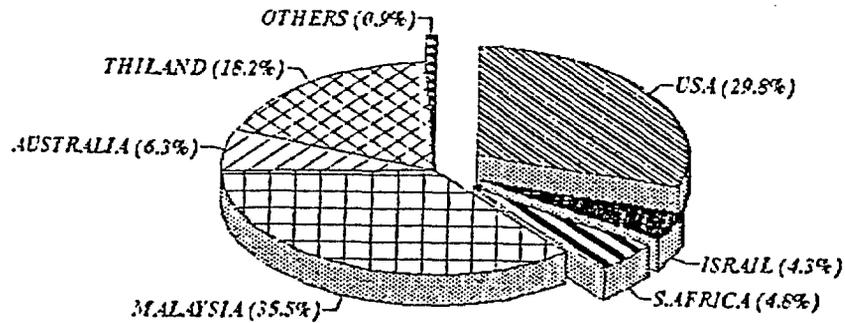


TABLE 25: SINGAPORE LEMONS IMPORTS, 1988 - 1994

SOURCE	Y E A R													
	1988		1989		1990		1991		1992		1993		1994	
	QUANTITY (TON)	VALUE (\$/TON)												
MALIZIA	1944	254	1736	272	1616	253	2695	283	2849	277	3375	311	2847	281
AUSTRALIA	540	933	412	867	563	868	710	862	668	756	500	895	610	844
S.AFRICA	384	1015	435	1017	512	1031	449	1112	581	1096	633	944	725	595
ISRAIL	136	937	428	790	296	1078	528	954	745	803	671	674	325	722
USA	645	1052	274	1075	161	1154	318	1275	345	933	580	905	467	960
CYPRUS	288	833	412	795	304	781	204	1030	87	883	122	864	125	814
SPAIN	100	917	77	904	0	0	258	1073	0	0	130	783	0	0
THAILAND	0	0	29	1560	42	1460	168	981	114	1457	114	1034	42	1247
TURKY	26	755	0	0	0	0	0	0	44	622	50	1000	0	0
OTHERS	16	1042	14	1105	12	1687	57	1337	41	1670	65	962	51	1109
TOTAL	4079	628	3817	619	3506	642	5387	652	5474	593	6328	567	5200	511

FIGURE 19-A

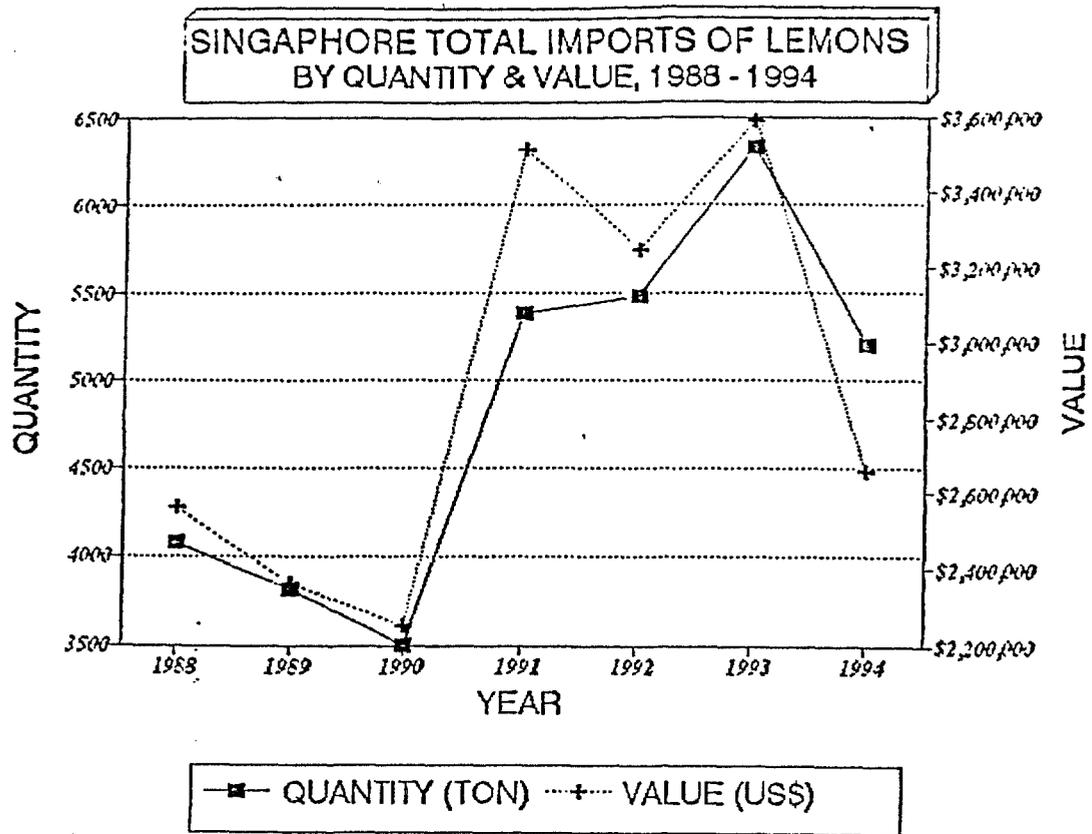


FIGURE 19-B

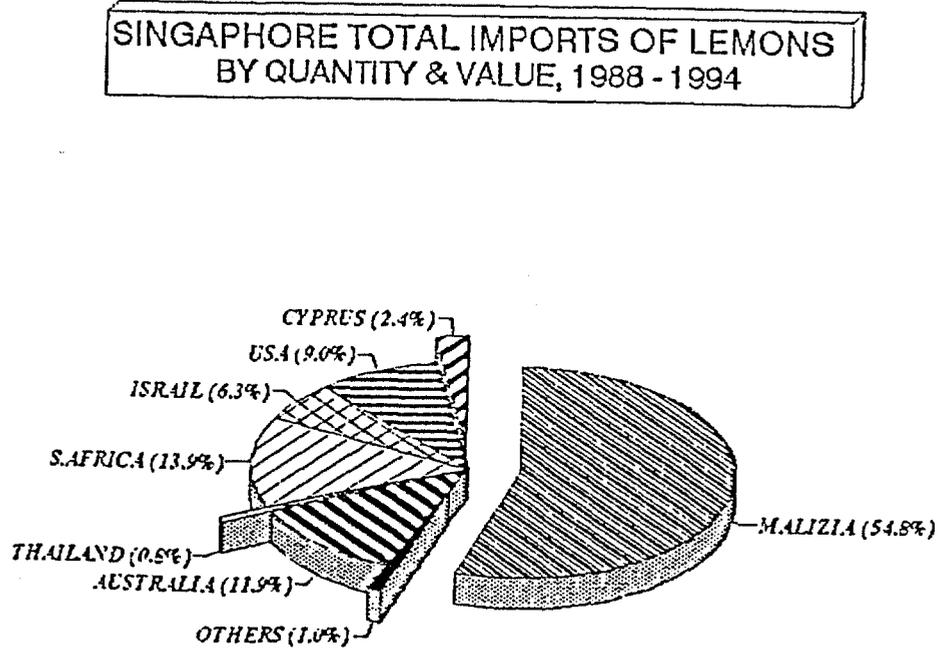


TABLE 26: SINGAPORE GRAPES IMPORTS, 1988 - 1994

SOURCE	1988		1989		1990		1991		1992		1993		1994	
	QUANTITY VALUE		QUANTITY VALUE		QUANTITY VALUE		QUANTITY VALUE		QUANTITY VALUE		QUANTITY VALUE		QUANTITY VALUE	
	(TON)	(\$/TON)												
USA	4261	2537	5471	2399	6218	2313	7525	2294	6022	2234	7245	2379	7159	2338
AUSTRALIA	3246	2356	2670	2390	3000	2343	4076	2378	4440	2337	2579	2470	2649	2276
CHILE	207	1889	449	1240	396	2231	999	2526	1246	2425	1705	2166	1613	1978
BOSTWANA	306	2120	247	2157	356	2159	314	2383	367	2378	14	2381	0	0
S.AFRICA	0	0	0	0	0	0	0	0	14	2041	355	2379	408	1450
HONGKONG	0	0	48	1922	14	2679	0	0	0	0	28	2275	67	2950
MALISIA	0	0	0	0	15	3492	0	0	0	0	0	0	119	2066
CHINA	0	0	0	0	0	0	20	1458	30	1944	19	2193	26	3068
IZRAIL	0	0	25	976	0	0	50	1286	0	0	0	0	13	2015
LEBANON	18	1455	32	1786	0	0	0	0	0	0	0	0	0	0
OTHERS	84	1729	74	1528	99	2465	69	2683	49	2235	40	2589	42	2523
TOTAL	8122	2422	9016	2314	10098	2317	13053	2337	12168	2295	11985	2369	12096	2249

FIGURE 20-A

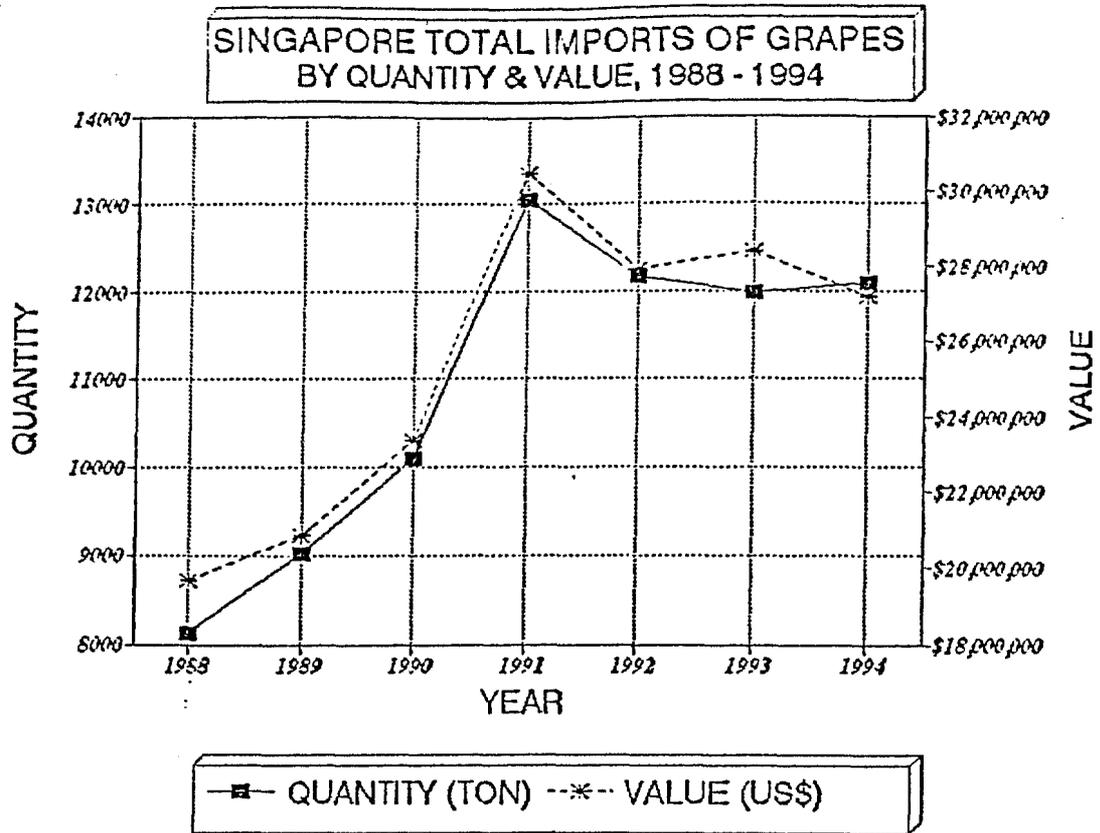
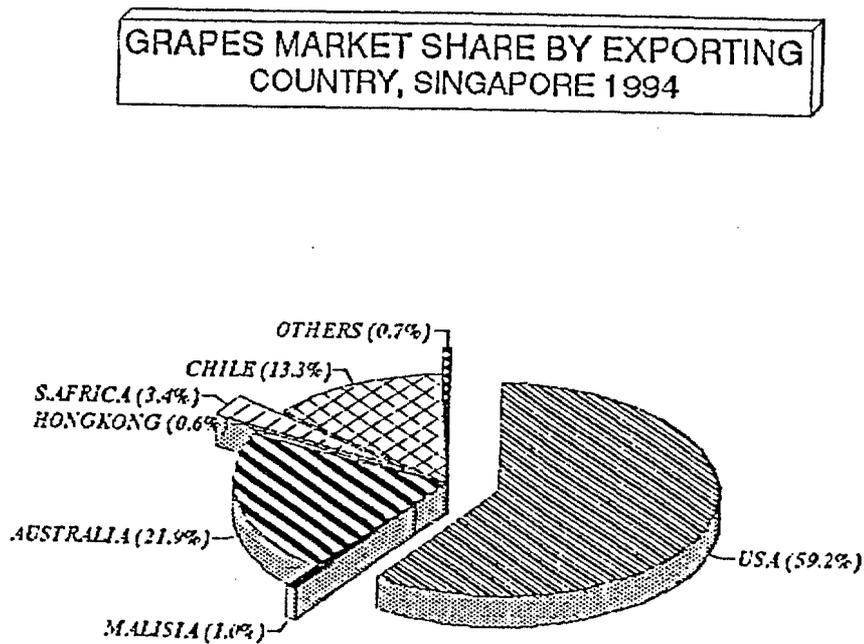


FIGURE 20-B



The varieties of table grapes preferred by consumers in Singapore differ from those in Malaysia. The distribution of table grapes sale in supermarkets in Singapore is: 50 percent Thompson seedless, 30 percent Red Flame, and 20 percent Red Globe. The Singapore market demand the highest quality of table grapes with minimum chemical residue. The quality of grapes demanded by the Singapore market is similar to that described for Malaysia. The retail-wholesale price spread ranges between 35-40 percent and the wholesale-import price spread is between 18-22 percent.

### Melons

Singapore imports of melons increased from 475 ton in 1988 to 2,666 ton in 1994. The average CIF price increased from \$1070 per ton in 1988 to \$1155 per ton in 1994 (Table 27 and Figure 21-A). Australia controls 89 percent of the Singapore melons market (Figure 21-B). In 1994 the CIF price of Australian melons was \$1206 per ton.

### Apples

Apples are the major fruit commodity imported by Singapore. In 1994, Singapore imported about 51,000 ton of apples at an average CIF price of \$1,091 per ton. The United States, New Zealand, and Australia control 74 percent of the apples market in Singapore. The United States market share of the apples market is 37 percent, the New Zealand share is 21 percent and the Australian share is 15 percent. In 1994, the CIF price of apple imported from the United States was \$1114 per ton, from New Zealand was \$1,014 per ton and from Australia was \$1,199 per ton (Table 28).

### Broccoli

Singapore import of broccoli increased from 1,190 ton at CIF price of \$2,195 per ton in 1988 to 3,795 ton at CIF price of \$2,031 per ton in 1994. The import of broccoli increased at an average annual rate of 31.3 percent during the 1988-1994 period (Table 29 and Figure 22-A). Australia controls 80 percent of the broccoli market in Singapore (Figure 22-B). In 1994, the CIF price per ton of broccoli imported from Australia was \$1944 and it was about 6 percent below the average CIF price for all broccoli imported by Singapore. The United States controls over 13 percent of the broccoli market. The 1994 CIF price of broccoli imported from the United States to Singapore was \$2471 per ton and it was 22 percent higher than the average CIF price of all imported broccoli. Taiwan has 2.5 percent of the broccoli market in Singapore. In 1994 the CIF price of broccoli imported from Taiwan was \$2505 per ton or 23.3 percent above the average CIF price for all broccoli imported in that year. New Zealand controls about 3.7 percent of the broccoli market in Singapore. The New Zealand CIF price in 1994 was \$2305 per ton and it was 13.5 percent greater than the average CIF price of imported broccoli. Japan exports a limited quantity of broccoli to Singapore accounting for less than 1 percent of the broccoli market. But broccoli imported from Japan had a CIF price of \$8677 per ton.

Broccoli consumption by consumers in Singapore is rapidly increasing. Demand for broccoli

TABLE 27: SINGAPORE MELONS IMPORTS, 1988 - 1994

SOURCE	Y E A R													
	1988		1989		1990		1991		1992		1993		1994	
	QUANTITY (TON)	VALUE (\$/TON)												
AUSTRALIA	91	1223	1302	1130	1412	1233	1569	1234	2118	1134	2064	1219	2371	1206
CHINA	304	940	672	635	275	814	384	798	416	788	283	778	222	617
BAKISTAN	0	0	72	967	58	647	0	0	0	0	0	0	0	0
JAPAN	0	0	5	3452	21	2834	47	735	6	5357	9	4497	9	4696
SPAIN	34	1471	38	1222	0	0	0	0	0	0	0	0	0	0
IRAN	39	1160	0	0	0	0	0	0	0	0	0	0	0	0
USA	0	0	12	1786	0	0	0	0	0	0	0	0	0	0
SRILANKA	0	0	0	0	0	0	0	0	12	1389	0	0	0	0
OTHERS	7	2296	11	2002	22	1163	30	1310	9	1786	22	2354	66	658
TOTAL	475	1070	2112	962	1788	1168	2030	1141	2561	1091	2378	1189	2668	1155

FIGURE 21-A

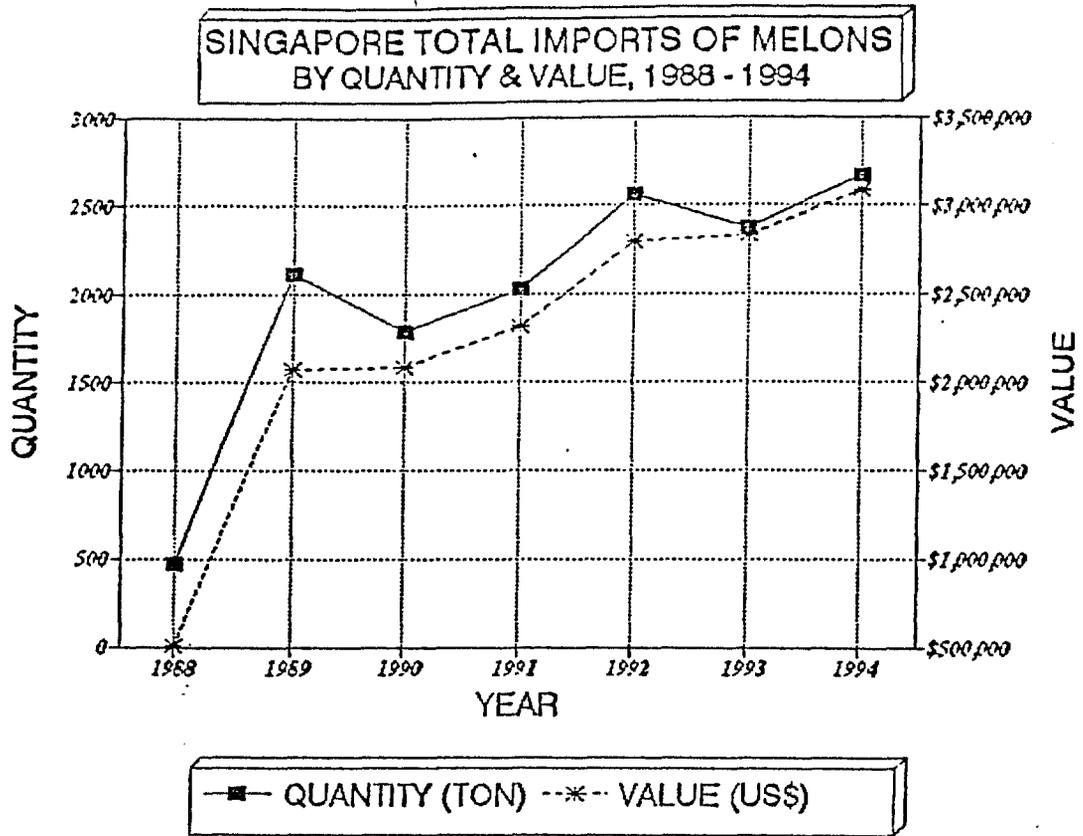
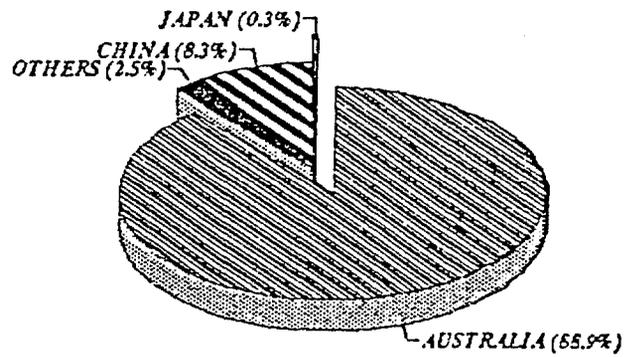


FIGURE 21-B

### MELONS MARKET SHARE BY EXPORTING COUNTRY, SINGAPORE 1994



**Table 28: Apple Imports by Singapore, 1993 - 1994**

Source	YEAR			
	1993		1994	
	Quantity (Ton)	CIF Value (\$/ton)	Quantity (Ton)	CIF (\$/ton)
Australia	10039	1200	7683	1199
Botswana	420	1199	-	-
Canada	1210	1082	2142	928
Chile	1775	720	991	716
China	993	1289	1318	956
France	8547	943	6255	908
Israel	133	901	-	-
Japan	158	3631	157	3980
Korea	1352	2258	578	2144
Malaysia	112	1070	222	968
New Zealand	10191	1476	10898	1014
OC Africa	973	1134	1593	1008
US	13984	1280	19019	1114
Other	95	1046	92	1525
<b>Total</b>	<b>49982</b>	<b>1244</b>	<b>50948</b>	<b>1091</b>

TABLE 29: SINGAPORE BROCCOLI IMPORTS, 1988 - 1994

SOURCE	Y E A R													
	1988		1989		1990		1991		1992		1993		1994	
	QUANTITY (TON)	VALUE (\$/TON)												
AUSTRALIA	630	2306	455	2915	674	2495	1229	2237	2007	2158	2715	1951	3037	1947
USA	61	3591	220	2270	190	2860	169	3395	514	2032	322	2634	495	2471
TAIWAN	0	0	319	1763	281	1923	313	1925	158	2106		0	96	2505
NEWZELAND	21	2579	0	0	75	4317	80	3876	22	6791	156	2427	141	2305
CHINA	429	1665	0	0	0	0	0	0	0	0	0	0	0	0
SRILANKA	0	0	0	0	0	0	0	0	172	2907	0	0	0	0
NETHERLAN	35	3350	33	4383	25	6333	25	5810	0	0	42	2735	0	0
JAPAN	0	0	0	0	0	0	22	6683	43	3876	28	7462	26	8677
OTHERS	14	3869	28	2275	0	0	0	0	0	0	0	0	0	0
TOTAL	1190	2195	1055	2461	1245	2609	1838	2464	2916	2259	3263	2070	3795	2031

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FIGURE 22-A

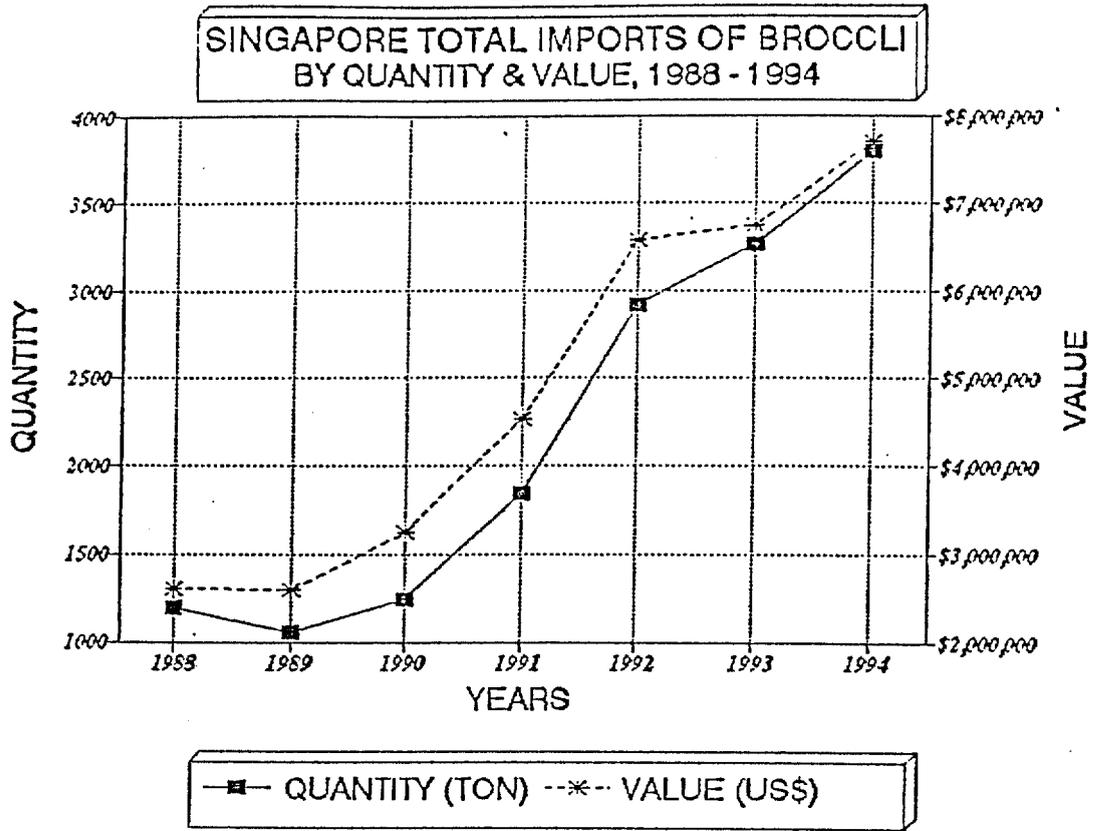
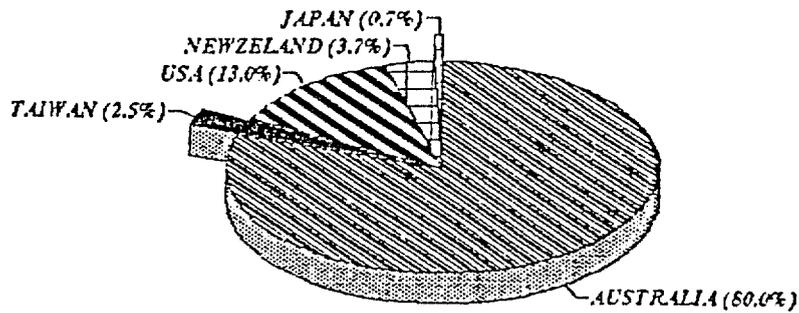


FIGURE 22-B

**BROCCOLI MARKET SHARE BY EXPORTING COUNTRY SINGAPORE, 1994**



is projected to increase at a rapid rate in the future. The quality of broccoli demanded by the supermarkets is short stem, firm, completely green head, and free of any yellow spots.

### Cabbage

Singapore imports of cabbage have decreased from the highest level of 19,792 tons in 1988 to an average of 12,000 ton per year during 1989-1993. But import of cabbage by Singapore increased to 18,394 ton in 1994. Average CIF price of cabbage remained the same at about \$455 per ton during the 1988-1994 period (Table 30 and Figure 23-A). China controls about 49 percent of the cabbage market in Singapore (Figure 23-B). Malaysia controls about 23 percent of the cabbage market in Singapore at a relatively low CIF price of \$304 per ton. In 1994, Australia controlled 13.3 percent of the Singapore cabbage market at a CIF price of \$853 per ton. Taiwan, Thailand, Hong Kong and Viet Nam supplied about 15 percent of total cabbage imported by Singapore in 1994. Japan and the United States each had less than one percent of the cabbage market at CIF price of \$1880 per ton and \$668 per ton, respectively.

### Cauliflower

Singapore imports of cauliflower remained the same during the 1988-1994 period at about 5,500-6,500 tons. Average CIF price was almost constant at about \$1,320 per ton between 1988-1991. Average CIF price declined in 1992 and 1993 and increased to \$1188 per ton in 1994 (Table 31 and Figure 24-A). Australia controls over 92 percent of the cauliflower market in Singapore (Figure 24-B). In 1994, Australian cabbage received a CIF price of \$1207 per ton. The desired cauliflower quality is short stem, firm head, uniform color, and about 1-1.5 Kg per head.

### Carrots

Singapore imports of carrots increased at an average annual rate of 3.5 percent during the 1988-1994 period. Average CIF price of imported carrots during this period declined from \$795 per ton in 1988 to \$691 per ton in 1994 (Table 32 and Figure 25-A). Australia controls 93 percent of the carrots market (Figure 25-B). The 1994 CIF price of imported Australian carrots was \$697 per ton (Table 32). The desired quality of carrots is similar to that in Malaysia-deep orange color, smooth surface, 2-2.5 centimeters in diameter and about 15 centimeters in length. Limited quantity of baby carrots are imported by Singapore Air Transport Service Catering.

### Leafy or Stem Vegetables

Singapore imports of leafy or stem vegetables expanded at an average annual rate of about 9 percent during the 1988-1994 period. Celery is the principle leafy or stem vegetable imported by Singapore. Average CIF price of these products remained relatively the same during this period at about \$1050-\$1200 per ton (Table 33 and Figure 26-A). The United States and Australia control over 96 percent of the imported leafy and stem vegetables market in Singapore. In 1994, the United States share of this market increased to 66 percent compared to previous years average of 40-46 percent (Figure 26-B). The CIF price of the products

TABLE 30: SINGAPORE CABBAGE IMPORTS, 1988 - 1994

SOURCE	Y E A R													
	1988		1989		1990		1991		1992		1993		1994	
	QUANTITY (TON)	VALUE (\$/TON)												
CHINA	4058	407	3236	387	3894	384	3578	372	3721	361	4850	392	8933	404
MALAYSIA	5319	226	3783	245	1778	233	2815	244	4736	241	3341	248	4211	304
TAIWAN	7404	518	3736	516	5109	572	2295	637	2474	597	1939	471	1112	491
AUSTRALIA	2223	724	969	846	1197	901	1924	857	2019	889	2509	805	2434	853
THAILAND	684	922	347	921	359	933	284	1017	190	1131	168	726	166	688
HONG KONG	45	569	49	364	87	438	48	335	182	363	498	391	953	422
VITNAM	0	0	0	0	0	0	0	0	0	0	66	406	483	320
JAPAN	27	1389	89	943	43	1274	45	1521	47	1178	55	1634	38	1880
USA	0	0	14	1190	47	1178	27	992	41	769	0	0	49	668
OTHERS	32	967	32	632	0	0	3	595	31	730	82	617	15	1071
TOTAL	19792	456	12255	440	12614	510	11019	502	13441	457	13508	455	18394	451

FIGURE 23-A

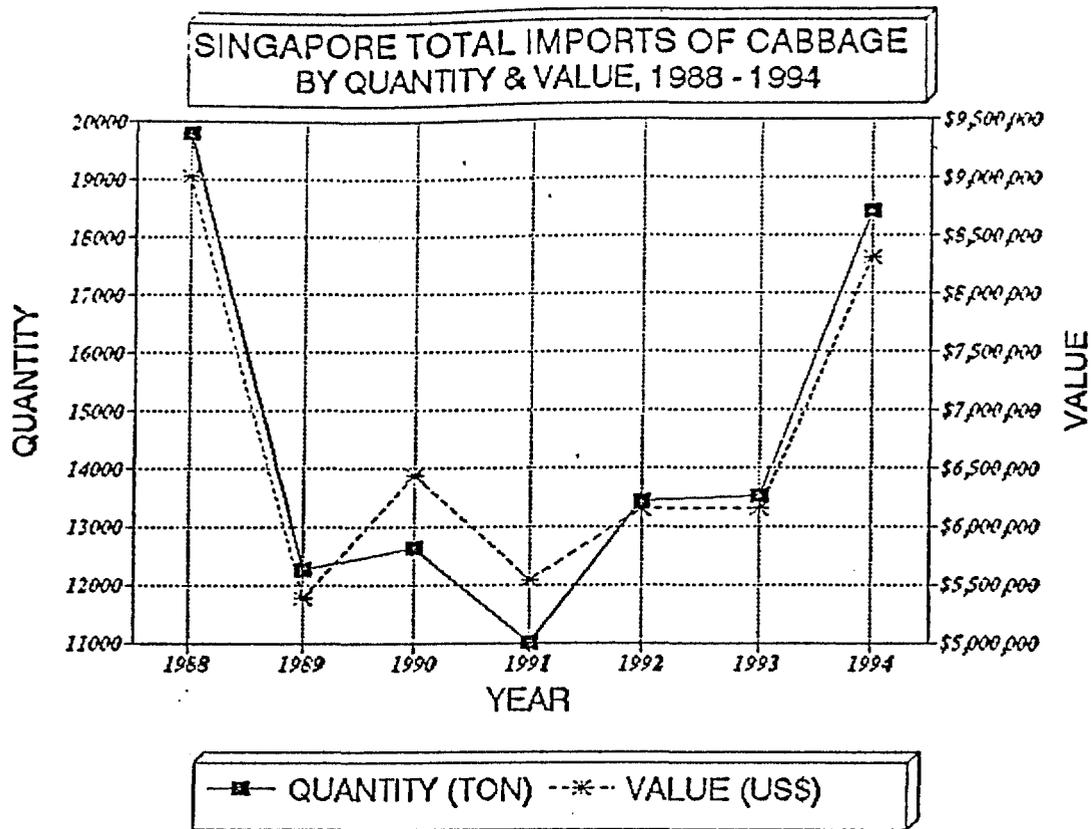


FIGURE 23-B

### CABBAGE MARKET SHARE BY EXPORTING COUNTRY, SINGAPORE 1994

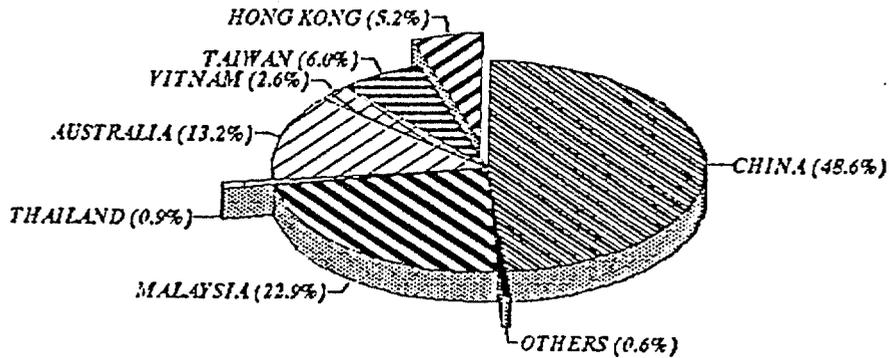


TABLE 31: SINGAPORE CAULIFLOWER IMPORTS, 1988 - 1994

SOURCE	Y		E		A		R		1993		1994			
	1988		1989		1990		1991		1992		1993		1994	
	QUANTITY (TON)	VALUE (\$/TON)												
AUSTRALIA	2754	1474	3394	1487	3441	1474	4175	1411	5533	1268	6145	1184	6350	1207
CHINA	85	756	27	1168	24	769	117	977	0	0	0	0	46	802
KORIA	0	0	15	1230	0	0	0	0	0	0	0	0	0	0
TAIWAN	2138	1150	1404	949	1680	991	1194	1081	920	1040	504	826	320	1023
USA	65	1328	56	1052	97	1669	159	1374	211	1120	38	1034	48	1513
BELGIUM	0	0	0	0	15	1270	24	1091	22	1028	36	959	0	0
HONG KON	0	0	0	0	0	0	0	0	0	0	0	0	105	573
OTHERS	8	1116	28	1127	10	714	10	1190	52	710	30	913	9	1389
TOTAL	5050	1322	4924	1324	5298	1314	5679	1330	6738	1192	6753	1154	6878	1188

FIGURE 24-A

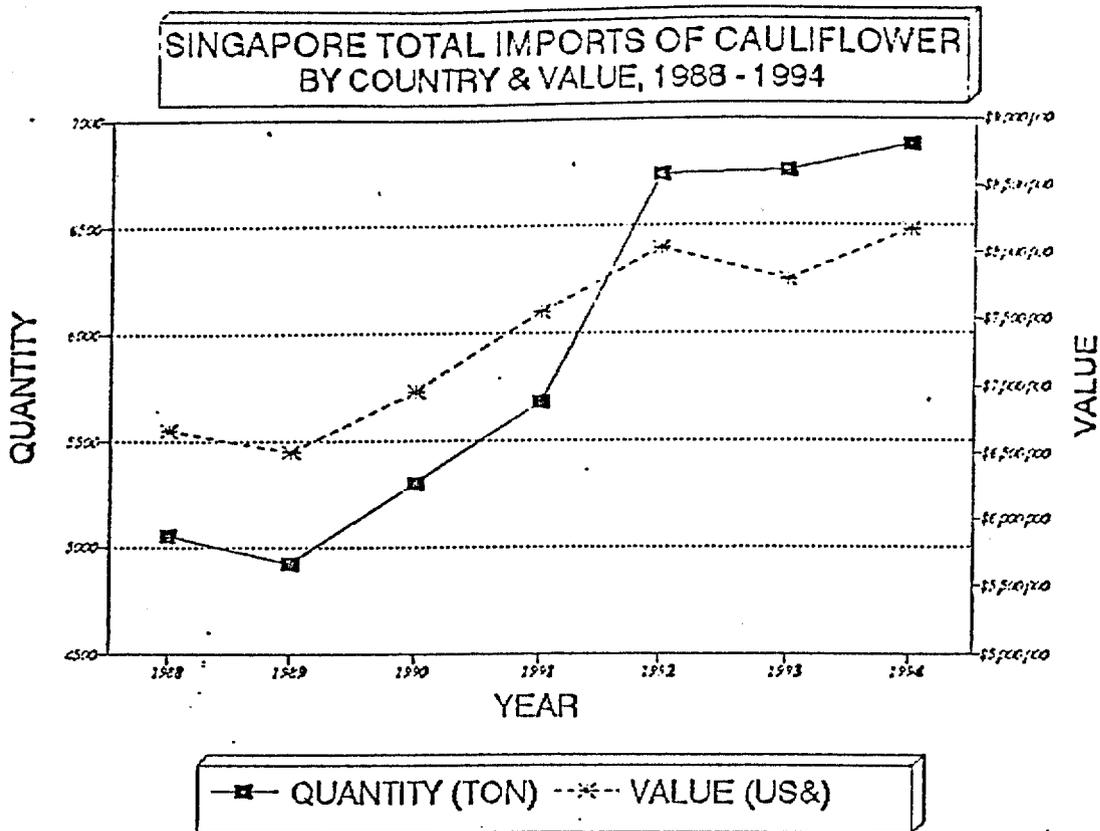


FIGURE 24-B

**CAULIFLOWER MARKET SHARE BY EXPORTING  
COUNTRY, SINGAPORE 1994**

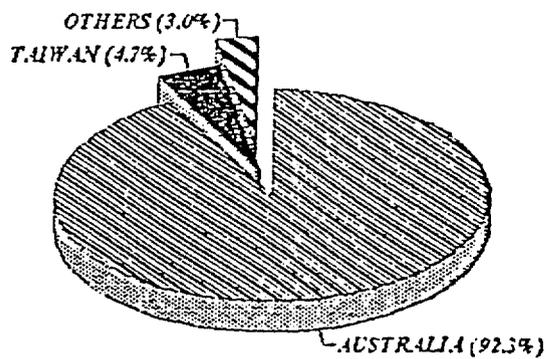


TABLE 32: SINGAPORE CARROTS IMPORTS, 1988 - 1994

SOURCE	Y E A R													
	1988		1989		1990		1991		1992		1993		1994	
	QUANTITY (TON)	VALUE (\$/TON)												
AUSTRALIA	8742	791	8065	780	9899	660	11118	653	12019	644	11217	589	11201	687
TAIWAN	167	606	641	615	220	668	160	662	102	648	122	634	199	562
USA	634	921	426	815	50	845	12	1488	13	1648	27	1014	151	568
NEWZEALAND	0	0	0	0	0	0	0	0	0	0	453	678	369	581
BELGIUM	22	1163	38	987	77	1005	46	893	71	864	46	802	0	0
FRANCE	0	0	0	0	0	0	0	0	0	0	0	0	112	500
JAPAN	6	2480	0	0	11	2273	13	2106	11	2327	34	1383	13	2701
CHINA	42	411	0	0	0	0	0	0	0	0	0	0	0	0
NETHERLAND	0	0	0	0	0	0	8	2232	30	1409	0	0	0	0
KOREA	0	0	23	725	0	0	0	0	0	0	0	0	0	0
OTHERS	139	544	41	1147	27	904	8	2232	51	1144	14	1403	45	926
TOTAL	9710	795	9211	773	10284	666	11357	657	12246	650	11913	607	12090	691

FIGURE 25-A

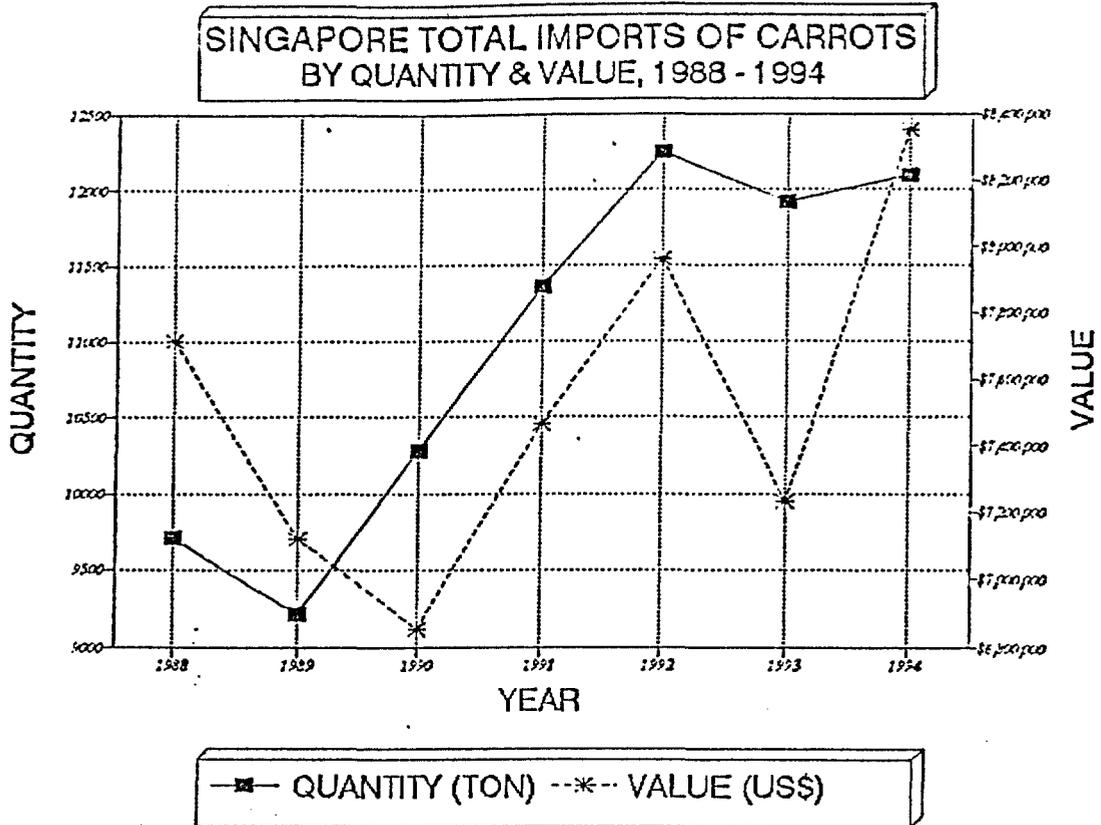


FIGURE 25-B

**CARROTS MARKET SHARE BY EXPORTING  
COUNTRY, SINGAPORE 1994**

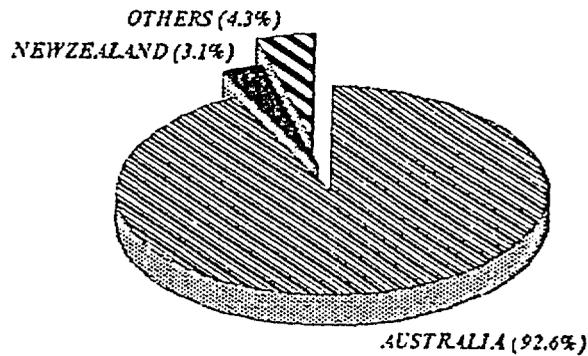


TABLE 33: SINGAPORE LEAFY OR STEM VEGETABLES IMPORTS, 1988 - 1994

SOURCE	Y E A R													
	1988		1989		1990		1991		1992		1993		1994	
	QUANTITY (TON)	VALUE (\$/TON)												
AUSTRALIA	2914	1249	2925	1189	2594	1882	2882	1828	3947	1375	4250	1376	2894	1383
USA	1417	1026	2150	1109	2480	1017	2888	965	3280	994	3900	876	6290	779
TAIWAN	820	1222	1525	789	954	680	802	959	970	791	72	4679	0	0
CHINA	703	771	871	1080	0	0	0	0	0	0	0	0	0	0
JAPAN	9	7077	0	0	90	4802	0	0	83	6096	0	0	126	5060
NETHERLAND	0	0	0	0	105	5125	0	0	82	5444	0	0	118	4146
SOUTH AFRICA	0	0	0	0	0	0	0	0	101	2057	171	3665	12	3522
BELGIUM	0	0	15	1548	40	1905	21	2891	42	3557	81	2976	55	3669
NEWZELAND	0	0	10	3988	21	3430	32	2511	31	2189	34	3064	37	4022
HONGKONG	16	3943	7	2296	0	0	0	0	95	1472	0	0	0	0
OTHERS	0	0	0	0	0	0	0	0	0	0	4	4167	4	4911
TOTAL	5879	1150	7503	1078	6284	1460	6625	1353	8631	1272	8512	1244	9536	1095

FIGURE 26-A

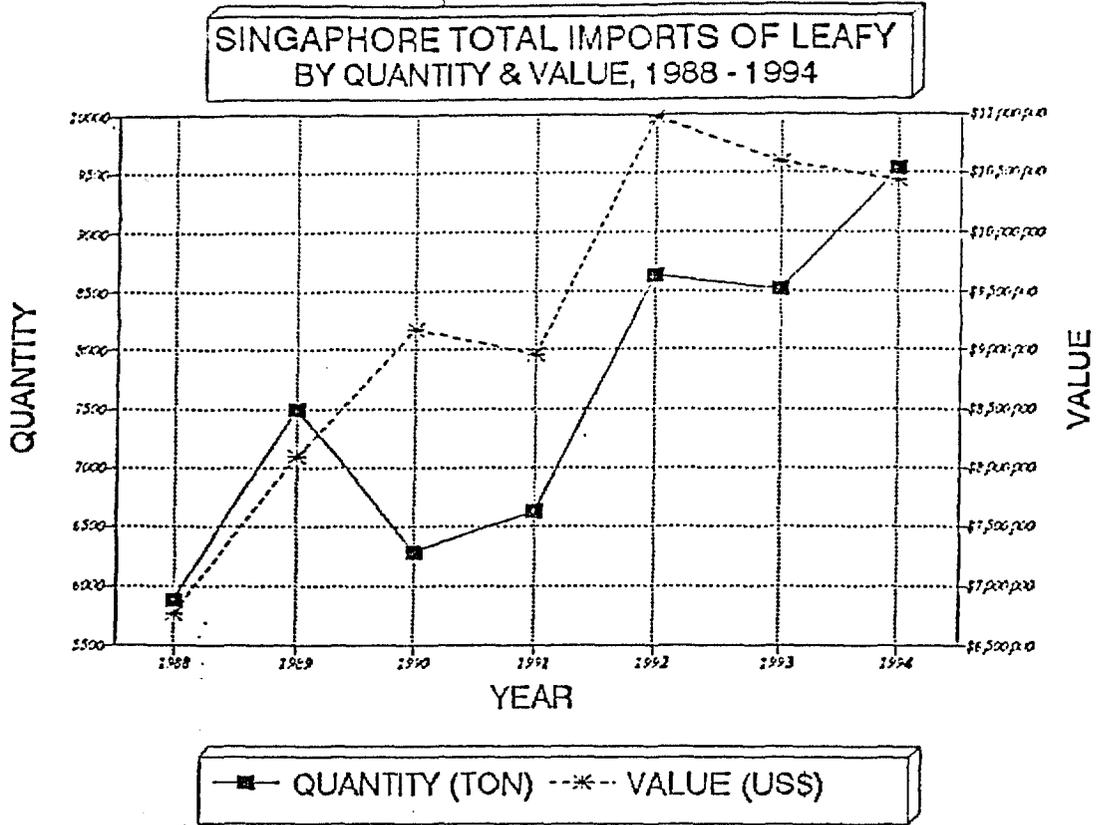
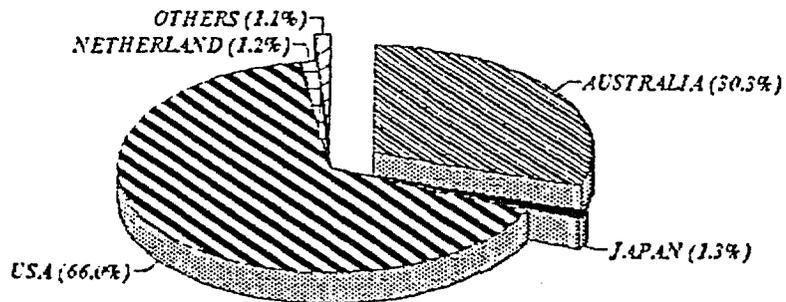


FIGURE 26-B

**LEAFY MARKET SHARE BY EXPORTING  
COUNTRY, SINGAPORE 1994**



imported from the United States was \$779 per ton in 1994. Celery is main vegetable in this group of vegetables that the United States exports to Singapore. In 1994, Australia controlled 30 percent of the market for leafy and stem vegetables at CIF price of \$1383 per ton.

### Tomatoes

Singapore imports of tomato increased from 7974 tons in 1988 to 8,752 tons of tomato in 1994 from several countries in the World (Table 34 and Figure 27-A). Malaysia and Thailand controlled 78 percent of the tomato market at CIF price ranging between \$350 to \$359 per ton (Figure 27-B). Malaysia and Thailand are members of the ASEAN countries and their tomato is generally low quality at low CIF price. Australia controlled about 20 percent of the tomato market in 1994 at CIF price of \$1,207 per ton. Netherlands exported 54 tons of tomato at CIF price of \$3,483 per ton. Japan and Belgium exported limited quantity of tomato at high CIF price of \$7,738 per ton and \$3,333 per ton, respectively. The high price tomatoes from Netherlands, Belgium and Japan are organically grown, uniform size, rich red color, chemical residue free with long shelf life.

TABLE 34: SINGAPORE TOMATO IMPORTS, 1988 - 1994

SOURCE	Y E A R													
	1988		1989		1990		1991		1992		1993		1994	
	QUANTITY (TON)	VALUE (\$/TON)												
MALAYSIA	6361	234	4963	229	3937	249	3682	292	3860	294	4134	304	4822	350
THILAND	569	273	763	318	660	347	984	313	1386	351	1794	369	1981	359
AUSTRALIA	904	1338	534	1270	456	1505	1361	1122	956	1215	1401	1174	1734	1207
CHINA	85	420	23	802	0	0		0	0	0	0	0	45	463
NETHERLAN	17	4167	17	3291	6	3373	5	4762	9	4299	20	3423	54	3483
USA	21	2466	0	0	16	1637	0	0	4	3869	0	0	0	0
TAIWAN	9	1587	0	0	0	0	0	0	0	0	0	0	0	0
JAPAN	0	0	0	0	0	0	0	0	0	0	4	8780	3	7738
BELGIUM	0	0	0	0	0	0	0	0	0	0	0	0	5	3333
OTHERS	8	2679	16	1860	4	4315	9	2844	30	1071	56	670	8	1414
TOTAL	7974	382	6316	342	5079	393	6041	490	6245	459	7409	500	8762	547

FIGURE 27-A

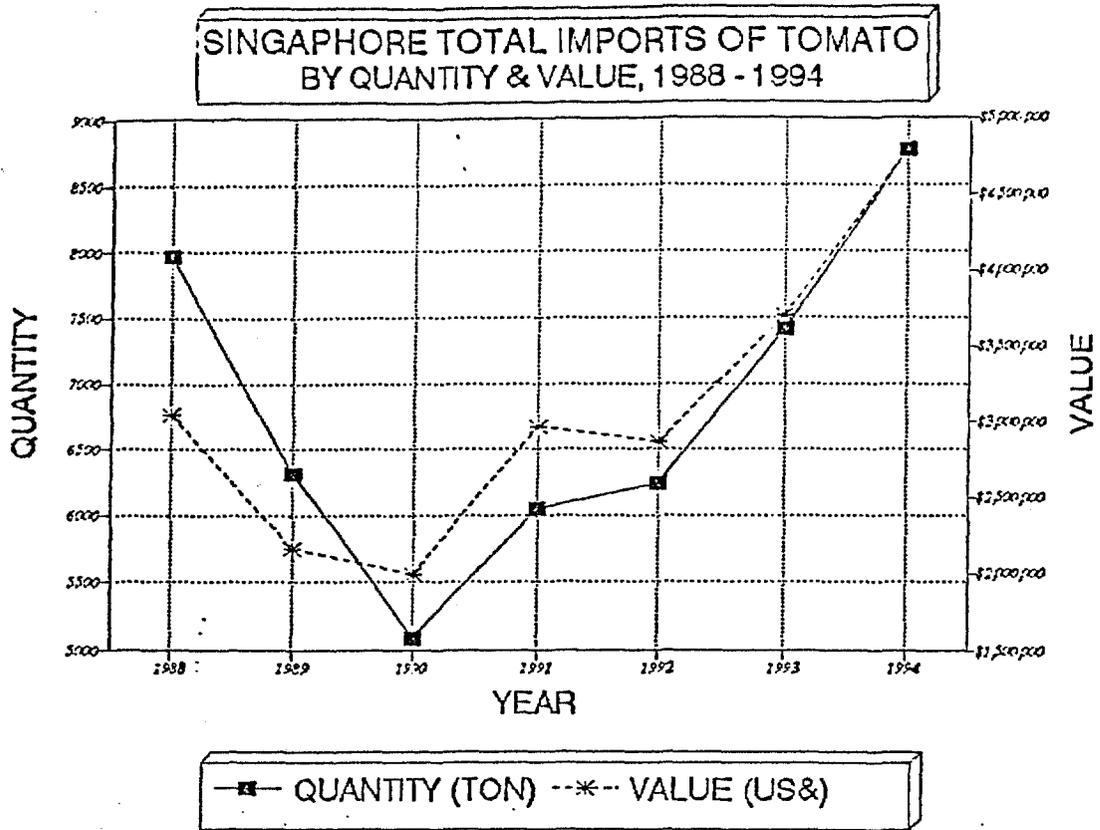
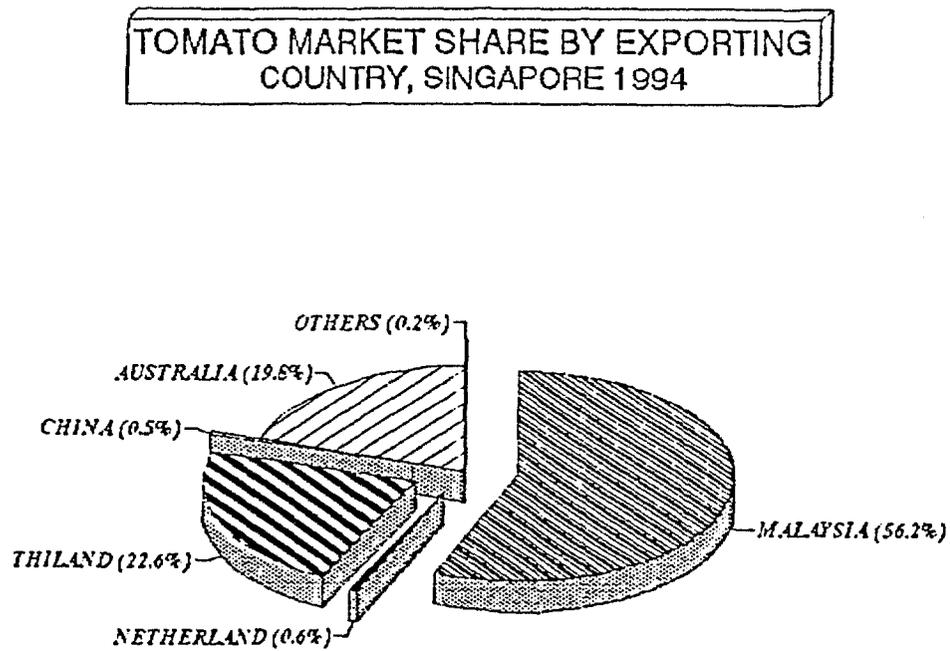


FIGURE 27-B



## THAILAND

Thailand produces most of the vegetables it consumes. It has surplus which it exports to other ASEAN countries. Import data for individual fruits or vegetables products are not available for Thailand. However, data obtained from department of customs shows that the total value of fruits and vegetables imported by Thailand increased from \$ 61.8 million in 1989 to \$ 177.35 million in 1993, or an increase of 199 percent. Apples, grapes and stone fruits are the major fruits imported by Thailand. Import data is only available for apples. Oranges are prevented from entering Thailand. With the exception of potato, Thailand import very small amount of fresh vegetables. Broccoli one vegetable product that Thailand began to import for which Jordan may have export potential.

### Apples

The consumption of imported apples has been increasing at a rapid rate. This is due in part to a well organized promotional campaign by Apple Commission in the United States. Available import data shows that apple import by Thailand increased from 527 ton at about \$ 1032 per ton in 1990 to 23,571 ton at \$ 1126 per ton in 1993. Apples import in recent years increased significantly. In 1994, Thailand imported an estimated 35,356 ton of apples from the United States, Canada, France and Chile. The average CIF price in 1994 was \$ 1434 per ton. The Red Delicious is the variety of apple preferred by consumers. The sell of apple by supermarkets has been increasing at 8-10 percent annually during the last few years. Apples are bought by importers directly from brokers in the United States on CIF basis.

### Grapes

As in Malaysia and Singapore, demand for imported table grapes is increasing at a rapid rate. The results of the survey conducted with wholesalers and supermarkets managers in Bangkok, indicate that imported table grapes consumption has been increasing at 10-15 percent per year during the last few years. Strong future demand is projected. Data on the quantity of fresh table grapes imported by Thailand is not published and remain controlled by importers. However, price data for 1994-1995 was obtained through personal interview with several wholesalers and supermarkets managers. The CIF price ranges between \$ 3,000 -\$ 4,000 per ton depending on the variety and the season. Custom duty on grapes was 60 percent of the CIF value in 1994 and 45 percent of the CIF value in January 1995.

Red Globe is the best selling variety followed by the Thompson Seedless and Rubby Seedless. Importers buy grapes directly from brokers in the United States, Australia and Chile on CIF basis. The average wholesale price for Red Globe ranges between \$ 7.3 to \$ 8.3 per kg, and the retail price ranges between \$ 9.2 to \$ 13 per kg. Thompson Seedless prices are about 4 percent less than the prices of Red Globe. The Rubby Seedless prices are about 8 percent less than the price of Red Globe. Table grapes in Thailand are purchased by the upper income and middle-upper income segments of the population. The qualities demanded are the same as those in Malaysia and Singapore.

## **Broccoli**

The sell of broccoli in supermarkets in Bangkok has been increasing at a rapid rate in recent years. Most of the broccoli is imported from the United States and Australia. Exact quantity or CIF price of broccoli imported by Thailand is not known. However, the retail price ranges between \$ 3.5 to \$ 4.5 per kg for short stem and high quantity broccoli. Chain supermarkets managers predict that their sell of broccoli will increase as the proportion of high and middle income groups increases and as the number of foreign visitors increases.

## PART IV

### SUMMARY AND CONCLUSIONS

Southeast Asia is one of the World's fastest grown region. Malaysia, Singapore and Thailand have the fastest expanding economies in the region. The Gross National Product (GNP) of this sub-region has been increasing at an average annual rate of over 15 percent. Average annual increase in Per Capita Income (PCI) of this sub-region has exceeded 13 percent in recent years. Rapid economic growth and increase in PCI have reflected in increase demand for high quality imported food products. Food imports by Malaysia, Singapore, and Thailand have been increasing at an average annual rate of over 14 percent. Total food imports by this sub-region was estimated at about \$ 12 billion in 1994. High quality fresh fruits and vegetables represent a significant portion of total food imports. It is estimated by managers of supermarkets that fresh imported produce consumption is increasing at annual rate of 10-25 percent in recent years.

The market distribution channels for fresh fruits and vegetables are rapidly developing. The distribution channels in Malaysia, Singapore and Thailand basically follow the classic pattern of importer to wholesaler to retailer. The comparative importance of each of the trade channels, however, is rapidly changing. The market distribution system for fresh fruits and vegetables ranges from highly advanced in Singapore to less developed in Thailand. The Malaysian distribution channels are rapidly developing with the application of advance technology in all segments of the marketing chain.

The expanding role of national and multi-national supermarket chains has increased the comparative importance of the retail sector in the fresh produce handling system. The retail sector has been undergoing significant structural changes. The leading role in fresh produce retailing is increasingly taken over by the supermarkets. As competition at the retail level increases and the trade becomes more consumer oriented, supermarkets are considering better alternatives to offer consumers high quality of fresh produce at lower prices. These developments have increased trend toward forward integration by supermarket chains and backward integration by importers / wholesalers. A more integrated distribution system is rapidly emerging. Multi-national supermarket chains are directly importing increasing portion of their fresh produce from foreign producers and foreign exporters. On the other hand, some importers / exporters are integrating backward to the retail sector through consignment arrangements with supermarket chains.

Consumers worldwide are becoming more educated, health concious and aware of the value of fresh produce in their daily diet. Increasing proportion of household food expenditures in this sub-region of Southeast Asia is allocated to the purchase of fresh produce. The rapid expansion of fresh produce imports by Malaysia, Singapore, and Thailand is influenced by a

rapid increase in PCI, development of the infra-structure, and improvement in the fresh produce trade distribution channels. This sub-region of Southeast Asia imports a large varieties of fresh produce from several different regions of the World. Fresh citrus products, apple, and table grapes are the major fruit products that are imported in large quantity. In addition, a large quantity of orange juice is also imported annually. Broccoli, cabbage, cauliflower, carrots, celery and iceberg lettuce are the vegetable products imported in large quantity by Malaysia and Singapore.

Jordan has a significant balance of trade deficit with each of Malaysia, Singapore and Thailand. However, evaluation of the type and quality of fresh fruits and vegetables imported by this sub-region and Jordan's production of these products indicates that Jordan has potential to export fruits and vegetables to this sub-region. The fresh fruits for which Jordan has export potential to this sub-region are: (1) oranges, (2) mandarins, (3) grapefruits, (4) lemons, and (5) table grapes. In addition to fresh fruits, Jordan has potential to export orange juice. The vegetable products for which Jordan has export potential to this sub-region are: (1) broccoli, (2) cauliflower, (3) carrots, (4) celery, and (5) iceberg lettuce. Jordan also has a good opportunity to export high quality tomato to Singapore.

The sub-region of Malaysia, Singapore, and Thailand imports a large quantity of fresh oranges. The desired quality of fresh oranges is thin skin, deep orange color, juicy and sweet. The size preferred is 113 piece in 20 kg box. The Sunkist Navel Orange is generally the most preferred variety. Malaysia and Singapore jointly import about 110 thousand ton of fresh oranges annually. Australia and the United States are the principle exporters of fresh oranges to these countries. Australia controls 48 percent and the United States controls 29 percent of the orange markets in Malaysia and Singapore. Thailand has various regulations that prevent normal import of fresh oranges. These regulations are intended to protect local production. All fresh oranges are imported on CIF basis. Generally, payments are made to exporters after 20 days of delivery. The CIF price of Australian imported oranges by Malaysia ranges between \$ 460 to \$ 500 per ton. The CIF price of oranges imported from the United States by Malaysia ranges between \$ 530 to \$ 600 per ton. The CIF price of Australian oranges imported by Singapore ranges between \$ 710 to \$ 750 per ton. The CIF price of imported oranges from the United States by Singapore ranges between \$ 870 per ton to \$ 900 per ton. In addition to fresh oranges, Malaysia & Singapore import over 10 million litres of orange juice annually.

Malaysia and Singapore imports an estimated 50 thousand tons of mandarins annually. China, Taiwan, Hong Kong, Pakistan and Australia are the principle suppliers. The CIF price of mandarins imported by Malaysia ranges between \$ 450 to \$ 550 per ton. The CIF price of mandarins imported by Singapore ranges between \$ 650 to \$ 1,500 per ton. The quality of mandarins desired is firm, juicy, sweet, and easy peeling fruit.

Malaysia and Singapore import an estimated 2,600 tons of fresh grapefruits annually. The United States, Israel, South Africa, and Australia are the major suppliers of grapefruits to this sub-region. The Rubby - thin skin fruit is the preferred variety of grapefruits. The CIF price for grapefruits imported by Singapore ranges from a low of \$ 630 per ton for Israeli product to a high of \$ 945 per ton for Australian product. The imported graefruit from the United States has a CIF price of \$ 820 per ton.

Malaysia and Singapore import about 5700 tons of fresh lemons annually from several countries in the World. High quality lemons are imported from Australia, the United States, South Africa, Israel, and Cyprus. The CIF price ranges between \$ 600 per ton to \$ 950 per ton.

Large quantity of table grapes is imported by Malaysia, Singapore and Thailand. Red Globe, Thompson Seedless, and Rubby Seedless are the preferred varieties. An estimated 22 thousand tons of table grapes are imported by Malaysia and Singapore annually. Data for quantity of fresh table grapes imported by Thailand is not available. The United States, Australia, and Chili control over 94 percent of the imported table grapes market in Malaysia and Singapore. The average CIF prices for imported table grapes by Malaysia range between \$ 2,100 to \$ 2,600 per ton. The CIF price for table grapes imported by Singapore ranges between \$ 1,980 per ton to \$ 2,400 per ton. The CIF price for table grapes imported by Thailand ranges between \$ 3,000 to \$ 4,000 per ton.

An estimated 12,500 tons of broccoli is imported by Malaysia and Singapore. Data for broccoli imported by Thailand is not available. Australia, United States, Taiwan and New Zealand are the major exporters of broccoli to Malaysia and Singapore. Australia controls 80 percent of the broccoli market. The CIF price ranges between \$ 1,202 to \$ 2,200 per ton in Malaysia, and \$ 1,950 to \$ 2,500 per ton in Singapore. The quality of broccoli desired is short stem, firm, and green head.

Malaysia and Singapore import an estimated 7,700 ton of Cauliflower per year. The desired cauliflower quality is short stem, firm, uniform color, and about 1- 1.5 kg per head. Australia is the major supplier of cauliflower, accounting for over 92 percent of the market share. The CIF price of cauliflower imported from Australia is over \$ 1,200 per ton and from the United States is over \$ 1,500 per ton.

Malaysia and Singapore import about 30 thousand tons of Carrots each year. Australia controls about 93 percent of the carrots market. In 1994, the CIF price of carrots imported from Australia was \$ 668 per ton in Malaysia and \$ 697 per ton in Singapore. The quality of carrots desired is rich orange colour, smooth surface, 2-2.5 centimeters in diameter, and about 15 centimeters in length.

Over 11 thousand tons of Celery and other leafy or stem vegetables are imported annually by Malaysia and Singapore. Australia and the United States are the major exporters of these types of vegetables. In 1994, Australia controlled 52 percent of the Malaysian market and 30 percent of the Singapore market. The United States controlled 40 percent of the Celery market in Malaysia and 66 percent of the market in Singapore. In 1994, the CIF price for imported Australian and United States Celery by Malaysia was \$ 648 per ton and \$ 568 per ton, respectively. The CIF price of Australian and United States leafy and stem vegetables imported by Singapore was \$ 1,383 and \$ 779 per ton, respectively.

## CONCLUSIONS

The fruits and vegetables market in Malaysia and Singapore is dynamic and rapidly expanding. The market is free with a well developed distribution channels. In Thailand the market for imported fresh produce is expanding and rapidly moving toward free market systems. The distribution channels for fruits and vegetables in Thailand is developing. The import markets for fresh produce in this sub-region of Southeast Asia is very competitive with products being imported from several different regions of the World. The United States and Australia control the significant share of the market for most major imported fresh produce.

The competitive advantage of Australia and the United States for fresh fruits and vegetables in this sub-region is influenced by many factors. Both the United States and Australia have large production capacity and are able to supply the desired quantity and quality of a variety of fresh produce at competitive prices. In addition, the domestic production and marketing systems in both the United States and Australia are highly developed and able to adjust to a rapidly changing import markets in this sub-region. Furthermore, both sea and air transportation lines between the United States and this sub-region and between Australia and this sub-region are competitive, timely, highly organized, and equipped with all advanced technology essential for the transfer of fresh produce. The United States, in particular, and Australia, in general, have an excellent grading system and apply the most advanced scientific methods in their post-harvest treatments of exported fresh produce. The competitive advantage of Australia and the United States further enhanced by the organized promotion campaign conducted in this sub-region by commodity commissions in the United States and the Australian Horticultural Board. Australian and the United States products are becoming household items at the homes of most upper and middle income groups of the population in Malaysia, Singapore, and Thailand.

The import markets in this sub-region are open and presently accommodate products from several countries in the World in addition to Australia and the United States. The import market for fresh produce in this sub-region of Southeast Asia is becoming increasingly quality conscious. The fresh produce import markets adhere to a very specific grading standard, product quality, and chemical residue control. Singapore in particular, and Malaysia and Thailand to a large extent adopted the United States Department of Agricultural Grading Standard, the United States Food and Drug Administration Chemical Residue Tolerance, and European quality specifications. Quality and Shelf life of fresh produce are influenced by a set of post-harvest treatments. Pre-cooling, grading, packaging and other technologically advanced post-harvest treatment are essential for a successful entry to the import markets in this sub-region. This is particularly true for those products that will be shipped by sea in order to reduce quality loss and improve the shelf life of the products. For Jordan to capture part of this expanding import market, producers and/or exporters of fresh fruits and vegetables must implement all essential modern post-harvest technology, including chemical residue control. Program to improve the application of post-harvest technology for fresh fruits and vegetables

in Jordan is outlined in detail in the **Strategic Plan** developed for the Agricultural Marketing Organization<sup>1</sup>.

Jordan competitive position in this sub-region of Southeast Asia will also depend upon a well developed low-cost international transportation system. At the present time the Australian government heavily subsidize air cargo shipment of fresh produce from Australia to countries in this sub-region. This has enhanced Australia's competitive advantage compared to other exporting countries. Direct air cargo links between Jordan and each of Malaysia, Singapore and Thailand are well developed. The sea route is not direct but is via feeder ships from Aqaba to Jada, Saudi Arabia. Geographically, Jordan has transportation advantage to Southeast Asia compared to the United States, South America, and Europe. Australia is closer than Jordan to major ports in this sub-region. Transportation cost will effect Jordan's entry to the markets in this sub-region. Several transportation feasibility studies are outlined in the **Strategic Plan**. The results of these studies, if conducted, will determine the mode and route for efficient transfer of Jordan's fresh produce to the export markets in Southeast Asian market.

Analysis of the markets in Malaysia, Singapore, and Thailand show that Jordan produces several products with the quality demanded by these markets. However, the quality of Jordan's fruits and vegetables are not known to consumers, retailers, and most importers / wholesalers. There is a positive attitudes among all segments of the marketing chain to help promote Jordanian fresh produce. Several international agricultural exhibits are held annually in these countries. Practically, all supermarkets chains expressed interest in promoting Jordanian products in their stores. In order to enhance Jordan's successful entry into the markets in these countries, it is highly recommended that the private and public sectors in Jordan organize **Jordan Week** to promote Jordanian fresh fruits and vegetables. **Jordan's Week** to promote fresh produce in supermarkets may be organized to coincide with the timing of agricultural exhibit in each country.

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<sup>1</sup> Araji, A.A. "Export Plan for Fresh Fruits and Vegetables". Agricultural Marketing Development Project and U.S. Agency for International Development, Amman, Jordan, December, 1994.