Singapore
The fresh potato market

Succeeding from the Federation of Malaysia on August 9, 1965, the Republic of Singapore is an island state comprised of just 637 square kilometres. With an open economy, a strong service and manufacturing sector and excellent international trading links derived from its entrepot history, Singapore is one of the most wealthy nations in South East Asia. However, as a city metropolis with limited land resources, local farms manage to produce only 2% of the fish, 4% of the vegetables and around 32% of the eggs consumed. As a result, Singapore is largely dependent upon imports to sustain the population.

In 1999, Singapore imported almost 355,000 tonnes of fresh vegetables (Table 1). The major vegetables imported included onions and potatoes.

Table 1. Imports of fresh vegetables into Singapore. 1999.

	Volume		**Value**	
	Tonnes	**%**	**$S 000**	**%**
Onions	57,990	16.4	30,117	13.2
Potatoes	33,263	9.5	16,967	7.4
Garlic	28,785	8.1	19,655	8.7
Cabbage	28,486	8.0	16,504	7.2
Cucumbers	25,651	7.2	4,011	1.8
Tomatoes	15,807	4.5	13,937	6.1
Carrots	13,828	3.9	13,472	5.9
Radishes	12,577	3.5	3,671	1.6
Lettuce	8,916	2.5	12,723	5.6
Cauliflower	6,508	1.8	11,534	5.0
Beans	6,478	1.8	3,440	1.5
Chillies	6,111	1.7	5,273	2.3
Leeks	5,866	1.6	4,934	2.2
Other cabbage	5,255	1.5	4,643	2.0
Broccoli	5,225	1.5	11,875	5.3
Celery	4,222	1.2	4,220	1.8
Aubergines	4,010	1.1	1,725	0.8
Other legumes	3,777	1.1	3,938	1.7
Other capsicums	2,260	0.6	3,108	1.4
Spinach	2,219	0.6	2,365	1.0
Mushrooms	1,404	0.4	6,503	2.8
Peas	1,028	0.3	2,224	1.0
Asparagus	633	0.2	3,185	1.4
Brussel sprouts	65		193	
Chicory	62		285	
Artichokes	11		33	
Other vegetables	74,276	21.0	28,063	12.3
TOTAL	354,713	100	228,598	100

According to the statistics, Malaysia was the major supplier of fresh vegetables to Singapore (45%)(Table 2).

Table 2. Major importers of fresh vegetables into Singapore. 1999.

	Volume		**Value**		**V/v**
	Tonnes	**%**	**$S 000**	**%**	**($S/kg)**
Malaysia	160,802	45.4	59,553	26.1	0.37
China	75,506	21.4	50,444	22.1	0.67
Australia	39,882	11.2	53,647	23.5	1.34
Others	20,185	5.7	17,489	7.7	0.86
India	14,198	4.0	8,263	3.6	0.58
Netherlands	12,483	3.5	7,623	3.3	0.61
USA	11,826	3.3	15,197	6.6	1.28
Thailand	10,079	2.8	10,163	4.4	1.01
New Zealand	9,752	2.7	6,219	2.7	0.64
TOTAL	354,713	100	228,598	100	0.64

Malaysia was the major supplier of cucumbers (99%), spinach (97%), salad vegetables (not including lettuce)(93%), aubergines (92%), beans (92%), capsicums (93%), tomatoes (62%) and “other” vegetables (91%). However, it is important to note that vegetable imports from Indonesia are not officially recorded. Furthermore, despite Malaysia's close proximity to the market, vegetable producers in Malaysia are facing increasing competition from lower cost produce grown and imported from China. While China remains the major supplier of garlic (78%), cabbage (65%) and potatoes (28%), the Chinese share of the fresh vegetable import market in Singapore is steadily increasing and currently exceeds 21%.

Potatoes currently comprise over 9% of total imports by volume, but only 7% by value. China is reported to be the largest importer of potatoes by volume (28%), but by value, China (22%) is second to Australia (24%)(Table 3). However, Adiyoga, Fuglie and Suherman (2001) suggest that in 1999, some 6,000 tonnes of potatoes were consigned to the market in Singapore from Indonesia (North Sumatra).

The market in Singapore is comprised of three main sectors; (1) the domestic market; (2) the tourist market; and (3) entrepot trade. Despite the high standard of living, the wet markets still dominate retail sales for fresh fruit and vegetables. Currently, there are more than 110 wet markets in Singapore. However, unlike Malaysia and Hong Kong, the Government has recently embarked upon a program of modernisation to relocate and upgrade the standard of food hygiene in the traditional wet markets. While the wet markets continue to meet the needs of the older, indigenous population, younger consumers and expatriates are purchasing what they require from the supermarkets. Currently, there are four major retail chains in Singapore that collectively operate more than 145 outlets. Cleanliness, comfort and convenience are the key drivers for growth in the supermarket sector, although, with increasingly levels of personal disposable income, consumers are becoming more demanding of quality and more aware of brands which promise to deliver consistent quality.

Table 3. Major importers of fresh potatoes into Singapore.
(tonnes) ($S 000)

	1999		**2000**		**2001**	
	Quantity	**Value**	**Quantity**	**Value**	**Quantity**	**Value**
China	10,407	4,254	5,883	2,355	8,727	3,738
Australia	6,803	4,370	6,968	3,783	6,733	3,960
Netherlands	5,785	2,467	6,810	2,411	4,234	1,836
New Zealand	5,374	2,840	6,559	2,671	6,110	2,996
USA	3,024	2,187	4,390	2,755	4,126	3,199
Hong Kong	587	226	56	21	88	38
India	358	112	27	9	130	60
Pakistan	292	98	225	56	321	100
Malaysia	230	101	112	104	416	421
Bangladesh	129	57	187	59	287	118
Taiwan	98	61	-	-	38	16
Vietnam	74	33	33	13	1	1
Japan	24	103	22	95	28	116
UK	23	20	-	-	81	43
France	1	3	5	15	4	19
Myanmar	-	-	-	-	36	7
Belgium	-	-	-	-	17	7
Others	54	34	-	-	-	-
TOTAL	33,263	16,967	31,276	14,348	31,377	16,677

Although Singapore supports a resident population of almost 3.5 million, for most of the time, the population exceeds 4.1 million. The increase in population results from the large number of itinerant workers and tourists. In most years, Singapore receives more than 6 million tourists. While the needs of the food service sector are substantial, hotels generally purchase in only small quantities but demand a wide range of produce. A year-round supply and consistent quality remain paramount in conducting business with the executive chefs.

With more than 66% of the population employed in either commerce or the financial and business sector, Singapore has long been regarded as the gateway for exports to Indonesia, Malaysia and Brunei. In the past, some 30-40% of the fresh produce imported into Singapore was re-exported. However, there is evidence to suggest that as these markets become more liberal, entrepot activity is declining. Greater numbers of international traders are now choosing to deal directly with importers in Indonesia and Malaysia, intensifying competition in the domestic market. As a result, food prices are generally decreasing.

As Singapore maintains a free market economy, fresh produce may be imported without the payment of any tariffs and there are no import quotas. Similarly, with no significant domestic industry to protect, there are no phyto-sanitary regulations. However, as a response to the dramatic increase in global food health scares, Singapore has recently implemented new controls to regulate the level of chemical residues permissible on fresh fruit and vegetables.

With a free and open market, there is a tendency for many fresh fruit and vegetables to be sold on consignment. Consignment selling tends to suppress prices, but is considered necessary in order to respond to the dynamics of the market. Most fruit and vegetables are sold through the central wholesale market at Pasir Panjang, although most of the supermarkets now purchase directly from suppliers. Cool storage is limited. As a result, most importers manage their inventory by maintaining small, regular shipments and maximising the use of refrigerated containers, both at the container terminal and at their premises.

In categorising the potato market in Singapore, importers suggested that the market was comprised of five segments. Segments One and Two were described as the mainstream retail market, although this segment was subsequently divided into two segments: wet market sales and supermarket sales. This was the major market segment, but it was also said to be the most price sensitive. In order to gain a competitive advantage, importers sought to purchase the best quality potatoes at the lowest price. While Indonesia was the major and most regular supplier to this market, importers often changed suppliers depending on quality and price. China was the largest supplier from June-December (Table 4).

Table 4. Seasonality of supply for fresh potatoes by month. 2001.

	Tonnes				
	China	**Australia**	**Holland**	**US**	**NZ**
January	225	798	717	301	184
February	206	972	658	395	231
March	170	801	627	427	832
April	79	438	103	419	1,028
May	204	412	247	412	1,031
June	1,027	593	225	301	957
July	1,412	315	-	262	897
August	863	376	155	272	544
September	1,031	451	404	234	207
October	1,262	417	461	447	32
November	1,241	525	503	311	1
December	1,007	635	134	345	166
AVERAGE	8,727	6,733	4,234	4,126	6,110

Australia and the Netherlands were the dominant suppliers in January-March, although it was readily apparent that imports from Holland were much more price competitive (Table 5). Even so, the Netherlands were facing increasing competition from lower cost producers including New Zealand, who dominated the market from March-May and Bangladesh, Pakistan and India were all consigning greater quantities to the market in March to May.

Table 5. Average prices for fresh potato imports by month. 2001.

	$S per kg				
	China	**Australia**	**Holland**	**US**	**NZ**
January	0.40	0.52	0.40	0.66	0.52
February	0.48	0.50	0.37	0.62	0.50
March	0.46	0.51	0.36	0.65	0.48
April	0.46	0.56	0.35	0.65	0.47
May	0.57	0.71	0.40	0.65	0.50
June	0.46	0.50	0.37	0.67	0.51
July	0.39	0.55	-	0.83	0.47
August	0.41	0.60	0.52	0.95	0.47
September	0.45	0.75	0.51	1.00	0.53
October	0.37	0.70	0.53	0.96	0.50
November	0.44	0.72	0.51	0.93	2.00
December	0.45	0.65	0.51	0.89	0.53
AVERAGE	0.43	0.59	0.43	0.78	0.49

The mainstream market generally preferred the Indonesian potato (Granola) as it had proven itself most suitable for soups and curries; the potato held its shape after cooking and had a good taste. However, tuber sizes were often too small, depending on the quality at harvest, and there were periodic problems with tuber rotting due to potato tuber moth and bacterial wilt.

Currently, several importers were sourcing Granola from New Zealand. The quality of the tubers was considered superior; tubers were larger, more uniform; there were fewer problems with tuber rotting; and the product was extremely cost competitive. Other than a slightly darker skin colour, the product was indistinguishable from the Indonesian product. However, since the market preferred Indonesian potatoes, the product was being regraded, repacked (into 18 kg bags) and sold as Indonesian product.

China generally supplied the market in 10 kg cardboard cartons. While the product was the most cost competitive during their main season of supply (June-December), the quality was highly variable. At the beginning of the season, the quality was very good, but as the season progressed, the quality often deteriorated quite abruptly.

During March-May, Bangladesh, Pakistan and India were all very cost competitive. However, importers again reported that while the quality of the early shipments was good, as the season progressed, quality declined and importers experienced greater losses from tuber rotting.

For December to March, the Netherlands was the preferred supplier. There were seldom any major problems with tuber rotting and the product readily met the needs of the market. Generally, the mainstream market preferred large, oval, yellow flesh potatoes with preferably a yellow skin. Tubers had to be visually appealing, with a smooth skin and shallow eyes. The preferred tuber size was 180-200 g (5-6 tubers per kg).

The second retail market segment was the baking potato. Dominated again by imports from the US, the demand for this market segment ranged between 230-450 tonnes per month, with an average of 350 tonnes per month. Prices were constant for most of the year, but as the supply began to diminish in June, there was a marked increase in the average price. Not unlike Malaysia, the cost sensitive nature of the Singapore market had resulted in consumers preferring a smaller tuber size (205g)(110 tubers per carton). Importers suggested that they would welcome competition in this segment of the market for there was a general perception that quality had deteriorated. An alternative supplier might be able to offer a more cost competitive product, but also seek to develop the market further, for it was reported that the food service sector required a larger tuber. It was also reported that most consumers understood that Russett was the predominant variety used for the manufacture of French fries.

The third retail market segment was for the premium washed potato. This product was required only by those supermarkets who sought to target the most affluent consumers. Considered to be the smallest market segment, this segment was perceived to be already saturated with product consigned primarily from Australia.

For the food service market, there were two clear subdivisions based primarily on tuber size. While most restaurants preferred large potatoes for baking or the preparation of French fries on the premises, others (including Singapore Airlines) required small baby potatoes.

It was reported that the demand for potatoes was consistent throughout the year. Imports in March, June and July were observed to marginally increase, primarily because of the increased supply (Table 6).

Table 6. Volume and value of fresh potato imports by month.
(kg) ($S 000)

	2000			2001		
	Volume	**Value**	**V/v**	**Volume**	**Value**	**V/v**
January	2,403	1,076	0.45	2,281	1,134	0.49
February	1,658	783	0.48	2,556	1,253	0.49
March	2,377	1,109	0.47	3,094	1,491	0.48
April	2,789	1,176	0.42	2,520	1,270	0.50
May	2,263	1,072	0.47	2,431	1,368	0.56
June	3,122	1,419	0.45	3,131	1,585	0.51
July	2,853	1,297	0.45	2,931	1,423	0.48
August	3,075	1,408	0.46	2,245	1,219	0.54
September	2,852	1,349	0.47	2,425	1,433	0.59
October	2,399	1,127	0.47	2,749	1,529	0.56
November	2,949	1,324	0.45	2,666	1,559	0.58
December	2,536	1,208	0.48	2,349	1,413	0.60
TOTAL	31,276	14,348	0.46	31,378	16,677	0.53

There was also evidence to suggest that the average price for potatoes was increasing. With competition intensifying from low cost producers such as China, Bangladesh, India and Pakistan, this does seem surprising.

Fresh potato exports

Singapore continues to consign an average of 13,000 tonnes of fresh potatoes per year to neighbouring countries; predominantly Malaysia and Brunei (Table 7).

Table 7. Exports of fresh potato from Singapore.
(tonnes) ($S 000)

	1999		2000		2001	
	Quantity	**Value**	**Quantity**	**Value**	**Quantity**	**Value**
Brunei			858	536	848	605
Malaysia			11,875	5,885	12,631	6,368
TOTAL			12,733	6,421	13,479	6,973

Frozen potato imports

In 2001, Singapore reportedly imported just over 5,100 tonnes of frozen potato products (Table 8). The major suppliers were the USA (78%) and Canada (17%). No doubt, the majority of this product was imported to meet the needs of the fast food franchises.

Table 8. Major importers of frozen potatoes into Singapore.
(tonnes) ($S 000)

	1999		2000		2001	
	Quantity	**Value**	**Quantity**	**Value**	**Quantity**	**Value**
USA			3,778	5,648	4,074	6,385
Canada			1,043	1,343	888	1,177
Netherlands			107	221	55	129
Belgium			69	92	90	121
France			5	5	-	-
TOTAL			5,002	7,309	5,107	7,812

Frozen potato exports

In turn, Singapore re-exported some 180 tonnes of frozen potato products (Table 9). The major destinations were Malaysia (40%), Sri Lanka (27%) and Brunei (22%).

Table 9. Exports of frozen potato products from Singapore.
(tonnes) ($S 000)

	1999		**2000**		**2001**	
	Quantity	**Value**	**Quantity**	**Value**	**Quantity**	**Value**
Brunei			67	113	40	60
Malaysia			90	138	74	114
Maldives			-	-	22	49
Sri Lanka			124	179	50	76
Thailand			19	49	-	-
TOTAL			300	479	186	299