

A Prospect for China's Potential Market of Tropical Fruit*

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ABSTRACT: This paper analyzes the situation and economic effects of China's tropical fruit trade with ASEAN since the establishment of Free Trade Area between China and ASEAN countries. It indicates that the "Early Harvest Agreement" and the zero tariff policy significantly contributed to the rapid growth of China's imports of tropical fruits and processed products, enriched Chinese tropical fruit market, promoted the effects of trade formation and trade diversification for ASEAN countries, and improved the economic efficiency of Chinese tropical fruit trade. China is a major producer of tropical fruit but remains a net importer because of continued consumer demand. Most tropical fruits are imported from Thailand, Vietnam and Philippines. Since China does not have competitive advantage in tropical fruits and processed tropical fruit products, along with the increasing value of RMB, the technological development of preserving freshness and reduction of tariff on sensitive products, China will import more and more quantities of tropical fruits.

Keywords: China – ASEAN, Tropical fruit, Trade effects, Market demand

Çin'in Tropik Meyve Piyasasına Bakış



ÖZET: Bu makale Çin ve Asya ülkeleri arasında Serbest Ticaret Bölgesinin kurulmasından bu yana, Çin'in Asya ülkeleri ile olan tropikal meyve ticaretinin durumunu ve ekonomik etkilerini analiz etmektedir. "Erken Hasat Anlaşması" ve sıfır gümrük tarife politikasının, Çin'in tropik meyve ve işlenmiş ürünler ithalatının oldukça hızlı büyümesine ve tropikal meyve pazarının zenginleşmesine, ASYA ülkelerinde de ticaretin gelişmesine ve çeşitlenmesine ve Çin'in tropikal meyve ticaretinin ekonomik verimliliğinin düzelmesine anlamlı katkıda bulunduğunu göstermektedir. Çin tropik meyve üretiminde başlıca büyük üreticiler arasında olmasına rağmen, aynı zamanda devam eden ve artan tüketici talebi nedeniyle net ithalatçı ülke konumundadır. En çok Tayland, Vietnam ve Filipinlerden tropikal meyve ithal etmektedir. Çin, tropikal meyvelerde ve işlenmiş tropikal meyve ürünlerinde rekabet avantajına sahip olmadığından, Çin para biriminin değerinin artması, tazelik korunma teknolojilerinin gelişmesi ve hassas ürünlerde gümrük tarifelerinin indirilmesi ile birlikte, Çin daha fazla miktarda tropikal meyve ithal edecektir.

Anahtar kelimeler: Çin-Asya, Tropik meyve, Ticari etkiler, Piyasa talebi

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THE PRESENT SITUATION OF TROPICAL FRUIT TRADE BETWEEN CHINA AND ASEAN

Rapid Growth in Fruit Imports of China

China's imports of tropical fruits have been increasing since the "early harvest agreement" implemented by China - ASEAN Free Trade Area (Chen and Chen, 2010), especially after zero tariff policy on fruits since Jan.1, 2006 (Table 1), and most of these fruits are imported from ASEAN countries (Table 2). In China the import of major tropical fruits has increased significantly from 2004 to 2009 (Table 1). Banana import increased by 28.98%; longan import increased by 134.00%; durian import increased by 129.36%; dragon fruit import increased by 1873.74%; coconut import increased by 55.38%; mangosteen import increased by 197.73%; lychee import increased by 574.55%; pineapple import increased by 120.00%; mango import increased by 160.63%. Most of the rates in import are over 1 time and even up to 18 times (Specially for the Dragon Fruit). The reasons of the fast growth rate of import are mainly because of the lower prices of the tropical fruits contributed by the Zero Tariff Policy in ASEAN Countries and partly of the increasing purchasing power in China caused by the increasing income and appreciating RMB.

China imported tropical fruits in particular longan, durian, dragonfruit, coconut, mangosteen and lychee entirely from the ASEAN countries (Table 2). Several

factors may account for this; firstly, the Zero Tariff Policy on fruits resulted in lower prices; secondly, ASEAN countries are the main tropical fruits producing countries owing to their geographical position and the favorable location conduces to high quality and output of these fruits, which make themselves internationally competitive on variety. Thirdly ASEAN countries are closer from China than the other countries which produces the tropical fruits; which indicates that the transport cost is lower leading to a competitive prices of tropical fruits (China Daily, 2008). Therefore the higher qualities and lower prices import of tropical fruits in China primarily rely on ASEAN countries.

Some Special Reasons for import the major tropical fruits in China:

Banana: In the production Year 2006, there was a harmful market rumor spread across in China that banana carried a Virus similar to SARS. The rumor resulted in a sharp decrease in consumption of banana, which is domestically produced (Hapsari and Mangunsong, 2006).

Longan: In production Year 2008, due to the colder temperature and winter snowfall the production of longan decreased sharply in China (Beckman and Bugang, 2008).

Lychee: In the year 2008, lychee production decrease was attributed to the winter storms in early 2008 that

Table 1. China imports of major tropical fruits

Year	Banana	Longan	Durian	Dragon Fruit	Coconut	Mangosteen	Lychee	Pineapple	Mango
2004	380.9	109.4	85.5	9.9	83.6	30.8	5.5	0.1	12.7
2006	387.8	168.5	85.2	35.4	112.7	17.2	5.7	4.0	6.5
2009	491.3	256.0	196.1	195.4	129.9	91.7	37.1	12.1	33.1

All the values are in "thousand MT" Sources of data: China Customs Statistics Yearbook, 2005-2007; www.chinacustomsstat.com

Table 2. China imports of major tropical fruits and their sources, 2009

Fruits	Imports (Thousand MT)	Major importing countries (the percentage of total imports)	Imported from ASEAN(%)
Banana	491.3	Philippines 71.7%, Thailand 3.6%, Vietnam 3.9%	98.6
Longan	256.0	Thailand 54.44%, Vietnam 45.56%	100
Durian	196.1	Thailand 100%	100
Dragon Fruit	195.0	Vietnam 99.97%, Thailand 0.03%	100
Coconut	129.9	Vietnam 91.35%, Indonesia 6.04%, Philippines 2%	100
Mangosteen	91.7	Thailand 89.77%, Indonesia 8.90%, Malaysia 1.33%	100
Lychee	17.1	Vietnam 62.04%, Thailand 37.96%	100
Mango	33.1	Burma 93.16%, Thailand 3.58%, Philippines 0.8%	98.5
Pineapple	12.1	Philippines 93.6%, Thailand 0.3%	93.9
Papaya	0.4	Philippines 67.3%, Malaysia 13.17%, Thailand 1.4%	81.86

All the values are in "thousand MT" Sources of data: China Customs Statistics Yearbook, 2005-2007; www.chinacustomsstat.com

destroyed many tropical fruit trees in China Southern Provinces (Beckman and Bugang, 2008).

Mango: The Production of mangoes down in 2007, due in part to poor weather condition (Beckman and Bugang, 2008).

In contrast with the rapid growth of imports, China's exports of major tropical fruits have decreased year by year (Table 3). Banana, longan, lychee, and pineapple exports decreased by 44.02%, 40.00%, 17.53%, and 56.90% respectively. Part of the tropical fruits with comparative advantages, such as pineapple, lychee, from net export to net import, which indicates that China's traditional export products - pineapple and lychee - have not yet internationally competitive (China Daily, 2008).

Table 3. China exports of major tropical fruit

Year	Banana	Longan	Lychee	Pineapple
2004	23.4	1.5	9.7	5.8
2006	22.8	3.1	9.8	3.7
2009	13.1	0.9	8.0	2.5

All the values are in "thousand MT"

Sources of data: China Customs Statistics Yearbook, 2005-2007; Data of 2009 from www.chinacustomsstat.com

Table 4. China imports of major processed tropical fruits

Year	Canned Pineapple	Dried Longan Pulp	Ordinary Pineapple Juice	Canned Lychee	Canned Longan
2004	1622.9	55461.4	82.3	0	107.4
2006	2628.3	58895.3	164.3	0	0.07
2009	6781.8	133616.2	490.1	2.6	160.7

All the values are in "thousand MT"

Sources of data: China Customs Statistics Yearbook, 2005-2007; Data of 2009 from www.chinacustomsstat.com

Table 5. China imports of major processed tropical fruits and their sources, 2009

Fruits	Import, Imports thousand MT	Major importing countries and the percentage of total imports	Imported from ASEAN(%)
Canned Pineapple	6781.8	Philippines 30.29%, Thailand 47.8%, Indonesia 21.5%	99.63
Canned Lychee	2.65	Thailand 91.3%	91.3
Dried Longan Pulp	231.96	Thailand 95.76%, Burma 3.46%	100
Canned Longan	1200.66	Thailand 100%	100

Sources of data: www.chinacustomsstat.com

Table 6. The export of China's major processed tropical fruits

Year	Canned Pineapple	Dried Longan Pulp	Ordinary Pineapple Juice	Canned Lychee	Canned Longan
2004	77064.5	311.2	7583.2	19483.7	1638.7
2006	64501.5	287.0	3532.2	21908.6	2313.9
2009	64462.6	231.9	9687.9	22033.4	1200.7

All the values are in "thousand MT"

Sources of data: China Customs Statistics Yearbook, 2005-2007; Data of 2009 from www.chinacustomsstat.com

Larger Increase in Imports of Major Processed Fruits

Since 2004, the quantities of China imported processed tropical fruits from ASEAN have been increased by a large margin, such as canned pineapple, dries longan pulp, ordinary pineapple juice, etc (Table 4). Canned pineapple imported from 1,622.9 tons to 6,781.8 tons through 2004 to 2009, an increase up to 318%; dried longan pulp imported from 5.5 million tons up to 134,000 tons through 2004 to 2009, the growth rate has reached 141%. Although the quantities of imports in ordinary pineapple juice and canned longan were less than other processed fruit products, the growth rates of imports become also larger within 5 years, increased 496% and 49% respectively. Canned lychee imports increased from zero to 2.6 tons through 2004 to 2009.

In correspondence with rapid growth of imports, some processed fruit products of China have comparative advantages, such as canned pineapple, canned longan, showed declining in export (Table 6). From 2004 to 2009, canned pineapple and canned longan exports decreased by 16.4% and 26.7%, respectively. The export of canned lychee has increased by only 13.8%

from 2004 to 2009. The growth rate of the export in ordinary pineapple juice has been reached to 27.8% in the last 5 years, but its exports have greater volatility, for example, export of ordinary pineapple juice went down to 53.4% in 2006 compared with 2004.

THE ECONOMIC EFFECTS OF TARIFF-FREE TRADE IN TROPICAL FRUITS BETWEEN CHINA AND ASEAN

Enrich the Consumer Market of Tropical Fruits in China

The effects of free trade are to achieve effective allocation of resources, enhance consumer welfare through the full implementation of all countries comparative advantages. Since the implementation of “early harvest agreement” in China-ASEAN Free Trade Area, China’s net imports of tropical fruits are growing fast (Fig. 1), which reflects from one aspect that Chinese consumer’s demand for tropical fruit is increasing day by day. It can be said of China-ASEAN Free Trade Area and the implementation of zero tariff tropical fruit greatly enriched the Chinese consumer market of tropical fruits and effectively met Chinese consumers’ demand for tropical fruits (Balboa et al., 2007).

Improve the Economic Efficiency of Trade

“Early Harvest Agreement” and Tariff-free trade bring out obvious effect of trade creation and trade diversion in the trade of tropical fruit between China and ASEAN (Zou et al., 2006). Banana and lychee, for example, in 2000, China imported 593,000 tons of banana, of which 50.20% were imported from ASEAN countries’ and the others were from Ecuador, Colombia and Costa Rica imports. In 2004, banana imports from ASEAN reached 93.7% of the total; In 2008, banana imports from ASEAN countries accounted for 99.2% of all imports. In 2002, China imported a total of 8,431 tons of lychee, almost 100% from Thailand; In 2009, China imported 37,000 tons of lychee, of which imports of 14,000 tons from Thailand, the share of imports fell to 37.96 %, imports from Vietnam, 23,000 tons, accounting for 62.04% of total imports. These changes in market structure are because of different prices from countries, such as the price of lychee imported from Thailand in 2009 was \$ 1.0 per kg, while the price of lychee imported from Vietnam was only \$ 0.3 per kg. Moreover, the terms of trade of tropical fruits have also been greatly improved. In 2006, the index of China’s terms of trade for banana was 1.07, but in 2009, it reached 1.39. The index of China’s terms of trade for lychee

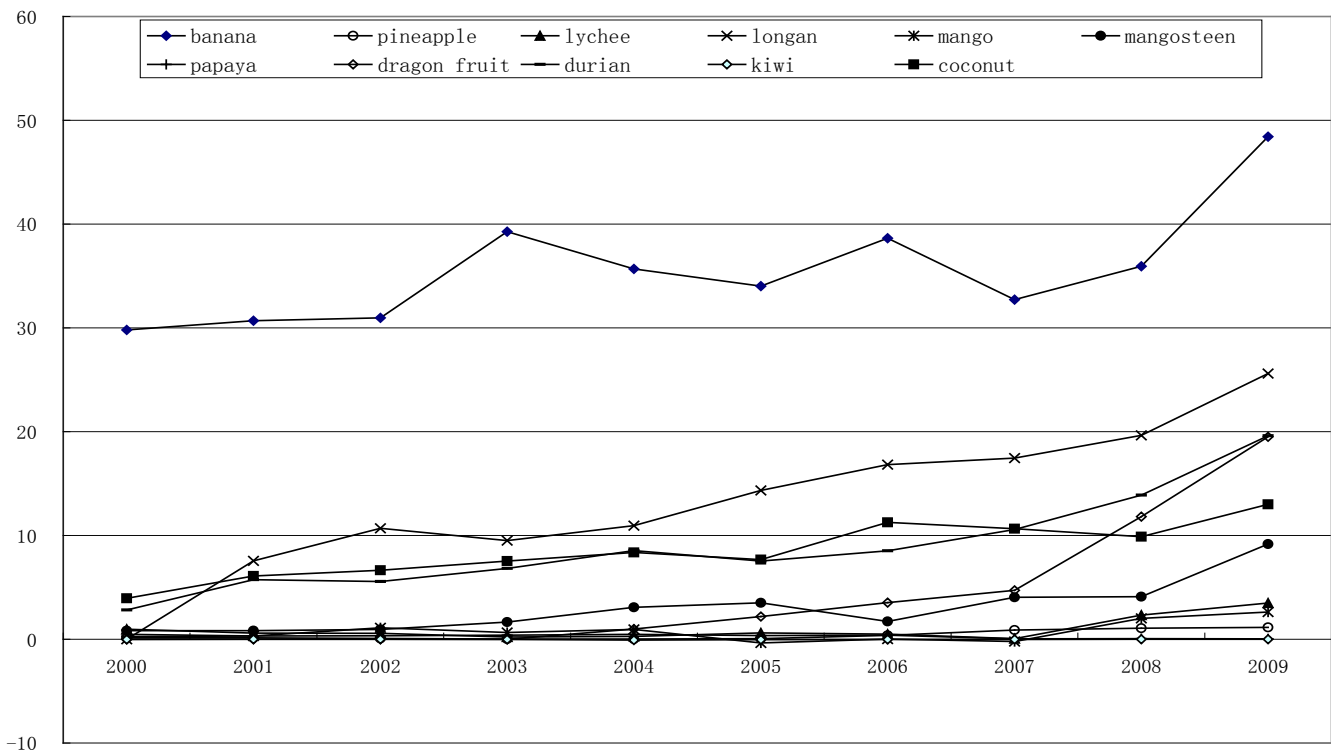


Fig.1 The trend of net imports of major tropical fruits between China and ASEAN,2000-2009

Sources of data: China Customs Statistics Yearbook, 2005-2007; Data of 2009 from www.chinacustomsstat.com

Table 7. Trade deficit between China and ASEAN

Item		2004	2005	2006	2007	2008	2009
Tropical Fruits	Export	0.07	0.11	0.13	0.14	0.15	0.15
	Import	2.88	3.09	3.44	4.46	5.58	8.40
	Deficit	2.81	2.98	3.31	4.32	5.43	8.25
Total Amount	Export	429	554	713	942	1141	1063
	Import	630	750	895	1084	1170	1076
	Deficit	201	196	182	142	29	4

All the values are in "100 million US \$

Note: In this table, tropical fruits include banana, pineapple, guava, mango, mangosteen, papaya, kiwi fruit, durian, dragon fruit, canned pineapple, pineapple juice, mango juice, lychee, longan, canned lychee, dried longan purple, canned longan, and coconut.

Sources of data: China Customs Statistics Yearbook, 2005-2007; Data of 2009 from www.chinacustomsstat.com

was 0.49 in 2004, but in 2009, it reached 3.5. All the phenomena of the changes in import market structure, the improvement of terms of trade have reflected that the economic efficiency has been effectively improved in tropical fruits trade since the establishment of China-ASEAN Free Trade Area.

Led to the Trade Deficit between China and ASEAN

The amount of net imports of China's tropical fruit from ASEAN has been growing since 2000. Especially since the implementation of "Early Harvest Agreement" and zero tariff policy in 2004 and 2006, respectively China and ASEAN further expanded the deficit of tropical fruits (Table 7), from 281 million US \$ in 2004 to 331 million US\$ in 2006, an increase of 17.8%; further expanded to 825 million in 2009, increased by nearly 2-fold compared to 2004 increased 1.5 times of the amount in 2006. At the same time, the total trade deficit between China and ASEAN was significantly reduced year by year, from 20.1 billion US\$ in 2004 decreased to \$ 400 million in 2009. Despite the amount of US\$ 840 million in imports of tropical fruits only account for 0.8% of total imports of goods from ASEAN to China (106.7 billion US \$), but that was the main root of total trade deficit between China and ASEAN. To some extent, China and ASEAN tropical fruit deficit of 825 million US \$ in 2009 detracted the surplus of 425 million US \$ in other goods from ASEAN.

THE POTENTIAL MARKET FOR TROPICAL FRUITS IN CHINA

The Tropical Fruits

The large quantities of importing tropical fruits from ASEAN have not affected China's production of major tropical fruit products (Table 8), which indicates that there is a huge potential market of tropical fruits in

China. Since China has vast area, tropical fruits could not be presented in many northern cities. If the technology to preserve freshness is good enough, Chinese tropical fruit market will be unpredictable (Chia, 2004). On the other hand, China's tropical fruits have not international competitiveness because of higher producing cost (Beckman and Bugang, 2008). At present, the unit price of almost all Chinese imports of tropical fruits were lower than the unit price of export, and the gap between import and export prices has been growing larger and larger (Table 9). IT is foreseeable that large import quantities of tropical fruits from ASEAN will be inevitable along with the increase in value of RMB.

Processed Tropical Fruits

China has a certain comparative advantage in some processed tropical fruit products, such as canned pineapple, ordinary pineapple juice, canned lychee, and canned longan (Table 10). These four kinds of products are in the net exports from 2004 to 2009. However, compared with ASEAN countries, China has not competitive in canned pineapple. From 2004 to 2009, China was in a situation of net import in canned pineapple (Table 11), and the volume of net imports were increasing year by year, from 1,358.67 tons in 2004, increased to 6,273.25

Table 8. The output of China's major tropical fruits

Year	Banana	Lychee	Pineapple	Longan
2001	527.2	95.4	86.9	62.1
2002	555.7	152.3	82.7	94.4
2003	590.3	112.3	82.2	91.1
2004	605.6	155.5	80.8	101.8
2005	651.8	144.1	84.8	109.1
2006	690.1	150.7	89.1	110.7
2007	779.7	170.7	90.5	116.9
2008	783.4	150.7	93.4	127.1
2009	883.4	169.6	104.26	126.0

All the Values are in "thousand MT" Source of data China Agricultural Statistical Information 2001-2009.

Table 9. Comparison with import price and export price of China's major tropical fruits

Year	Banana		Lychee		Durian		Longan	
	Ex. Price	Imp. Price	Ex. Price	Imp. Price	Ex. Price	Imp. Price	Ex. Price	Imp. Price
2004	0.28	0.25	0.59	1.21	0	0.61	0.73	0.63
2005	0.32	0.30	0.75	1.35	0	0.64	0.41	0.51
2006	0.32	0.30	0.61	0.90	0	0.63	0.69	0.51
2007	0.32	0.34	0.76	0.87	0	0.67	0.76	0.56
2008	0.45	0.38	1.21	0.35	0	0.67	1.25	0.63
2009	0.51	0.36	1.19	0.56	0	0.63	0.91	0.61

All the values are in "US\$/Kg" Note Durian in China never exports.

Sources of data: China Customs Statistics Yearbook, 2005-2007; Data of 2009 from www.chinacustomsstat.com

Table 10. China's import and export of major processed products of tropical fruits from the world

Year	Canned Pineapple		Ordinary Pineapple Juice		Canned Lychee		Canned Longan	
	Export	Import	Export	Import	Export	Import	Export	Import
2004	77064.49	1622.95	7583.20	82.33	19483.67	0.00	1638.67	107.44
2005	72083.65	2832.65	4941.21	113.32	23071.68	0.00	1868.26	0.11
2006	64501.49	2628.27	3532.19	164.28	21908.57	0.00	2313.89	0.07
2007	80864.66	2957.85	5078.90	180.62	21430.84	94.00	2047.28	8.54
2008	76766.34	5526.27	5178.19	256.27	26031.73	2.00	2480.40	1.33
2009	64462.56	6781.78	9687.92	490.09	22033.43	4.36	1200.66	160.70

All the Values are in "thousand MT"

Sources of data: China Customs Statistics Yearbook, 2005-2007; Data of 2009 from www.chinacustomsstat.com

tons in 2009. Although in general overall sense of pineapple juice is also in net exports, but trade with ASEAN is also in a situation of net imports (net imports of 168.98 tons in 2009). Others such as concentrative pineapple juice, dried longan pulp, copra, coconut juice*, mango juice are all in the net import position.

It is noteworthy that the (non-use of vinegar) pineapple, canned pineapple, pineapple juice, canned longan and coconut juice are treated as sensitive products for China. China has been imposed 10% - 15% tariff on these products. Under the agreement, China's tariffs on sensitive products will be reduced to below 5% within 2018. It can be expected that China will import more and more processed tropical fruits in 8 years later (Beckman and Bugang, 2008).

CONCLUSION

This study indicates that, since the launch of establishment of Free Trade Area between China and ASEAN, China's import of major tropical fruits both fresh and processed have increased from ASEAN countries,

* According to Chinese Customs statistics, from January to August in 2010, China exported 113.3 tons of coconut milk, imported 2690.2 tons, net import reached 2,576.9 tons, including net imports of 2,689.3 tons from ASEAN countries.

owing to "early harvest agreement" and zero tariff policy. In contrast, the exported volumes of the same products have declined in China indicating that net import of these products in China has increased. There is good potential for growth in consumption of tropical fruits, particularly in the larger cities like Shanghai, Guangzhou, Beijing and other cities in the prosperous eastern coastal provinces as well as in other provinces where the current per capital consumption levels are low but increasing in tandem with strong economic growth in China. In order to increase the market access of tropical fruits from Malaysia, more aggressive marketing efforts need to be done by Malaysian companies, especially in the bigger cities of Guangzhou, Shanghai and Dalian. Beside tropical fruits, rapid growth is expected in the consumption of processed fruit products, particularly juices, as income growth resumes after the current economic difficulties and consumers are attracted to the convenience factor of such products. Fresh juices, especially papaya and watermelon juices are now very popular as they are commonly served in large restaurants in all the big cities (China Daily, 2008).

In the higher income groups there is scope for some substitution of temperate fruits by tropical fruits, but the full realization of this potential will depend on

Table 11. China's import and export of major processed products of tropical fruits from ASEAN

Year	Canned Pineapple		Ordinary Pineapple Juice		Canned Lychee		Canned Longan	
	Export	Import	Export	Import	Export	Import	Export	Import
2004	261.66	1620.23	304.00	37.12	7874.84	0	1245.68	107.44
2005	358.22	2813.68	0.00	90.86	9069.40	0	1109.00	0.11
2006	1288.76	2615.80	0.00	97.97	8709.07	0	1850.61	0.07
2007	232.62	2916.60	30.40	154.50	8555.46	1.73	1409.56	8.54
2008	503.66	5517.80	80.00	211.94	11125.26	1.40	2091.51	1.33
2009	483.55	6756.80	282.50	451.48	10054.53	2.42	946.46	160.70

Year	Dried Longan Puple		Concentrated Pineapple Juice		Copra		Mango Juice	
	Export	Import	Export	Import	Export	Import	Export	Import
2004	218.69	55446.75	0.00	51.99	0.00	188.57	12.03	97.33
2005	190.25	44384.92	2.22	40.84	0.00	326.16	30.00	28.24
2006	192.99	58895.17	0.00	53.96	0.00	456.65	53.60	74.43
2007	189.82	80995.68	0.00	63.21	0.00	1062.89	23.94	62.08
2008	161.45	76116.72	0.00	37.28	0.00	1545.87	39.56	134.38
2009	161.23	133615.45	0.00	109.13	0.00	2913.40	8.00	226.42

All the Values are in "thousand MT"

Sources of data: China Customs Statistics Yearbook, 2005-2007; Data of 2009 from www.chinacustomsstat.com

the success of promotional activities and heightened perception of quality. All in all, the market for tropical fruits in China looks promising. There are opportunities also for imported tropical fruits but it is advisable that exporters create strategic alliances with Chinese importers before embarking on major exporting efforts. Choosing the right channels to market and promote, especially through the foreign hypermarkets like Carrefour and METRO is especially important to be successful in the huge China market (Beckman and Bugang, 2008).

In this context however, the productions of these products in China were still increasing, which means that China's demand for tropical fruit and correlative processed products is increasing. Therefore the potential market of these products is huge and unpredictable.

The study also verified that, during 2004 to 2009 in China, the trade deficit of tropical fruits was gradually increasing while the deficit of total amount was gradual falling. Especially in 2009, the trade deficit of tropical fruits exceeded the one of total amount for the first time, which means that China produced other products to exchange tropical fruits from ASEAN.

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