



Swedish University of Agricultural Sciences  
Faculty of Natural Resources and Agricultural Sciences  
Department of Economics

# **Competitive Strategies for Chinese Mushroom Export to the Japanese Market**

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# Abstract

China is a major country for mushroom production and its export targets the Asian and Japanese markets in particular. The Japanese vegetable import amounted to \$ 2.21 billion and mushrooms were the leading imports, comprising 14 to 18 percent of the total value of Japanese vegetable imports (Dyck & Ito, 2001, p64). The high consumption attracts exporters around the world. More than 10 kinds of imported mushrooms can be found, besides the domestic and the Chinese. In the Japanese market by the year 2000, Chinese mushrooms had a great price advantage. The low price strategy adopted by the Chinese mushroom exporters was able to win market access and approval by the Japanese consumers. After the year 2006, Japan began to increase its trade protectionism which led to a decrease in the price advantage of many exports in its domestic market.

In this study, Porter's Five-Forces is used as the theoretical basis and SWOT<sup>1</sup> as the analytical method to explore the competitive factors of the Chinese mushroom in the Japanese market. The conclusions for necessary competitive strategies will be identified by analyzing the questionnaires collected from experts.

The conclusions are:

If the Chinese mushroom exporters want to maintain and further develop their products in the Japanese market, they will have to maintain certain competitive advantages of their product, they must seek for better product quality by upgrading their production technologies.

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<sup>1</sup> Strength weakness opportunity threat

# Abbreviations

CC	China Customs
CEFA	China Edible Fungi Association
FAO	Food and Agriculture Organization
FAS	Foreign Agricultural Service
GDP	Gross Domestic Product
IMD	International Institute for Management Department
IPR	Intellectual Property Rights
JTASS	Japan Tariff Association
MAFF	Ministry of Agriculture, Forestry and Fisheries
MLW	Ministry of Health, Labor and Welfare
MRL	Maximum Residue Limits
SLU	The Swedish University of Agricultural Sciences
SWOT	Strength Weakness Opportunity Threat
WEF	World Economic Forum
WTO	World Trade Organization



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# 1. Introduction

## 1.1 Problem background and formulation

### ***Problem background***

Mushrooms are worldwide edible fungi 5,000 varieties have been found in the world and of those nearly 100 varieties are under the condition of potted artificially, but most of those varieties are still in natural state (www, SMC 1, 2002).

Mushrooms are an important ingredient in the Japanese diet and they also have a significant place in Japanese culture. In the Japanese market, the popular mushroom varieties are Enokitake, Matsutake, Maitake, Button mushroom, Nameko, Shiitake, Shimeji and Jew's ear.

Matsutake is the one mushroom that the Japanese people love most. Almost all big markets leave a conspicuous place for Matsutake which in turn attracts customers. The excellent taste of Matsutake makes it an exclusive dish rarely seen at an ordinary dinner. In fact, the Japanese Matsutake has a relatively low production quantity, most has to be imported from China and South Korea. Besides, the best-selling mushrooms in wholesale markets are Shiitake and Enokitake in Japan. Shiitake mushrooms can be cooked with soup, egg pudding, and fried vegetables. The Japanese see them as part of a healthy diet. In the *The New of Industry Economic*<sup>2</sup> said, Shiitake is also good for increasing immunity, decreasing blood sugar, protecting the heart, adjusting blood pressure, preventing thrombus, fighting against virus, protecting children's teeth and so on (Fei, 2009).

To turn to the cultivation of these mushrooms, Japan has a large percentage of forest. There are three major forest types that should be noted in connection with growing mushroom: red pine woods, beech forest and larch forest. The forest-based ecosystem provides immense variety of wild mushrooms like *Chroogomphis rutilus*, found in red pine woods and matsutake found in larch forest. The Japanese government encourages and supports mushroom production. They implement a system of origin marking which clearly separates the imported from the products grown domestically. The growing attention to health issues to a certain extent stimulates the consumer's consumption.

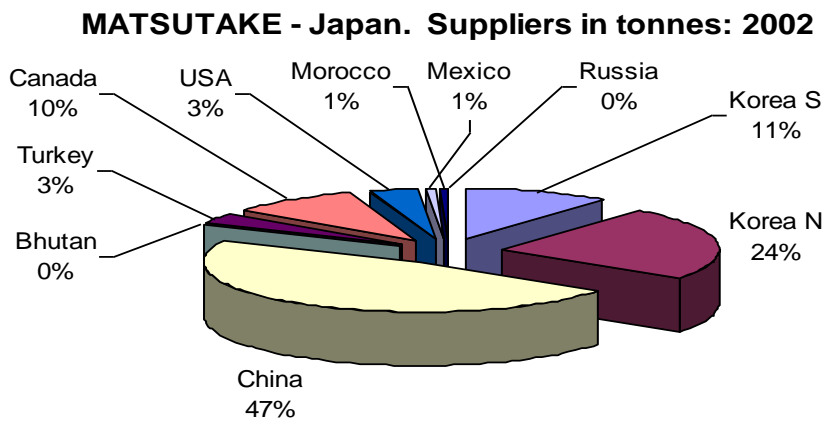
Japan is a large consumes market for vegetables. In 1999 the total wholesale value of vegetables

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<sup>2</sup> One famous newspaper in Japan, may in 2009

was 2.56 trillion Yen or approximately US\$22.49 billion (Dyck and Ito, 2001, p64). The high value of Japanese vegetable consumption reflects a high consumption per person. Mushroom consumption of 3.4 kilogram per person is a significant statistic (Dyck and Ito, 2001, p64).

Due to the unusual geographic conditions<sup>3</sup>, the Japanese need to import large quantities of mushrooms to cope with their high consumption. Figure 1.1 shows the quantity of Matsutake mushroom imported into Japan from other countries in 2002 (MAFF<sup>4</sup>, 2002). Japan imports mushrooms in three forms: fresh, chilled and dried. Japan imported Matsutake mushroom mainly from China, North Korea, South Korea, the United States and Canada. The total amount of Matsutake imported from China was 47% followed by North Korea of 24% and South Korea of 11% (MAFF, 2002).



**Figure 1.1 Japanese mushroom suppliers (MAFF, 2p02, p5)**

At present, over 90% of the 5.000 edible fungi in the world are grown in China (www, kepu, 2009). China has the largest mushroom production and exports in the world. Table 1.1 shows both Chinese mushroom output and world mushroom output from 1978 till 2002. In 1978, Chinese mushroom production was 0.06 million tons, accounting for 6% of the world output. And in 2002, Chinese mushroom production was 8.6 million tons, accounting for 70.6% of the world output which increased steadily at those years (Ibid).

<sup>3</sup> The Japanese main islands stretch almost as far from north to south as the continental United States. Japan's mushroom effective growing season is long. And with covered indoor production, it can be extended even longer. Nevertheless, in the coldest winter months, the production of fresh vegetables in Japan shrinks dramatically, and therefore, creates an opportunity for vegetables to be imported from the Southern Hemisphere and tropical countries into Japan.

<sup>4</sup> The ministry of Agriculture, Forestry and Fisheries

**Table 1.1 Mushroom productions output in China and in the world from 1978 till 2002 (CEFA, 2003)**

Year	World (1000tons)	China (1000tons)	China/world (%)
1978	1.06	0.06	5
1986	2.18	0.59	26.9
1990	3.76	1.00	26.6
1994	4.91	2.64	53.8
1997	6.16	3.42	55.5
2000		6.63	
2002	12.25	8.65	70.6

### ***Problem formulation***

If the Chinese mushroom output is compared to the world's output, Chinese mushroom accounts for a great proportion of the world mushroom output. It amounted to 5% of the world output in 1978 and it comprised 70.6% in 2002(see table 1.2). In 2003 Chinese mushroom output had reached over 8 million tons. Table 1.2 shows the export quantity during the same time span. The phenomena of Chinese mushroom export. Japan went from 58 tons 1995 to 81 tons 2003; the proportion is 23 % ( www, SA1, 2010).

**Table 1.2 Major destinations of Chinese mushroom export (CC, China customs, 2009)**

Year	Quantity(tons)			Proportion (%)		
	1995	2000	2003	1995	2000	2003
Japan	58	71	81	23.0	25.3	23.0
Hong Kong	22.8	21.5	36.1	9.0	7.7	10.3
Germany	30.1	35.7	32.6	12.0	12.8	9.3
U.S.	39.5	8.6	26.4	15.7	3.1	5.3
Malaysia	6.8	8.6	18.0	2.7	3.1	5.3
Russia	0.4	3.4	12.7	0.2	1.2	3.6
Netherlands	5.5	17.0	12.5	2.2	6.1	3.6
South Korea	4.8	8.6	11.8	1.9	3.1	3.4
Total export	168.0			100		

In 2006, the Japanese Ministry of Health, Labor and Welfare (MLW) introduced the positive list system for agricultural chemicals remaining in foods – a system to prohibit the distribution of

foods that contain agricultural chemicals above a certain level if maximum residue limits (MRL) have not been established. At that year Chinese mushroom was found the pesticide residues and radioactive residues did not reach the standard when exported to the Japanese market (law, MHLW, 2003). Chinese mushroom export was restricted because quality after that. In the same year, the Japanese government introduced also the “green box policy”<sup>5</sup> for import countries in order to protect their domestic mushroom production.

Table 1.3 shows the major destinations of Chinese mushroom export in 2008. The first three countries are Japan (369), North Korea (111) and Singapore (93). Compared to Chinese mushroom export to Japan in 2003(See Table 1.2), the quantity is decreased.

**Table 1.3 Major destinations of Chinese mushroom export**

**(Chinese mushroom export, 2008, March)**

<b>Countries</b>	<b>Total Quantity(tons)</b>
<b>Japan</b>	369
<b>North Korea</b>	111
<b>Singapore</b>	93
<b>Hong Kong</b>	91
<b>South Korea</b>	90
<b>U.S</b>	73
<b>Germany</b>	72
<b>Vietnam</b>	60
<b>Total export</b>	

The Chinese mushroom industry responded to this by carefully regulating the use of pesticides for mushroom to make the quality become better, so that the quantity of Chinese mushroom export increased in 2007 and 2008 compared with the export in 2006. But MAFF (2009) detected that the chemical additives of spinach which were imported from China (one of vegetables) were not up to the standard<sup>6</sup>. Even though this did not concern mushrooms, it swayed Japanese consumers’ choices when it came to choosing Chinese mushroom. Following this scandal, Chinese mushroom profits decreased that year (CEFA, 2008).

In the Japanese international mushroom market, Chinese mushroom industry faces many export competitors whom affect Chinese mushroom profits on the Japanese market, for example, North Korea and South Korea. The South Korea mushroom has low price and good quality and they develop new active specie.

This study is concerned with the profitability of Chinese mushroom exports to Japan. In the past few years Chinese profits have not increased steadily and this thesis seeks to find out what

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<sup>5</sup>. This policy forced imported products to increase in price when exported to the Japanese market.

<sup>6</sup> Is found in “xiandai” vegetable market and is part of Kanntou market .see chapter 2.4.2

competitive strategies the Chinese mushroom industry can use in relation to exports to the Japanese market.

## 1.2 Purpose

The aim of the project is to analyze the competitive advantages of the Chinese mushroom on the Japanese market. It is to answer the following questions:

*-Why, during recent years, has the profitability of exported Chinese mushroom decreased in the Japanese market?*

*-How can the competitiveness of Chinese mushroom in the Japanese market be improved?*

## 1.3 Practical delimitation

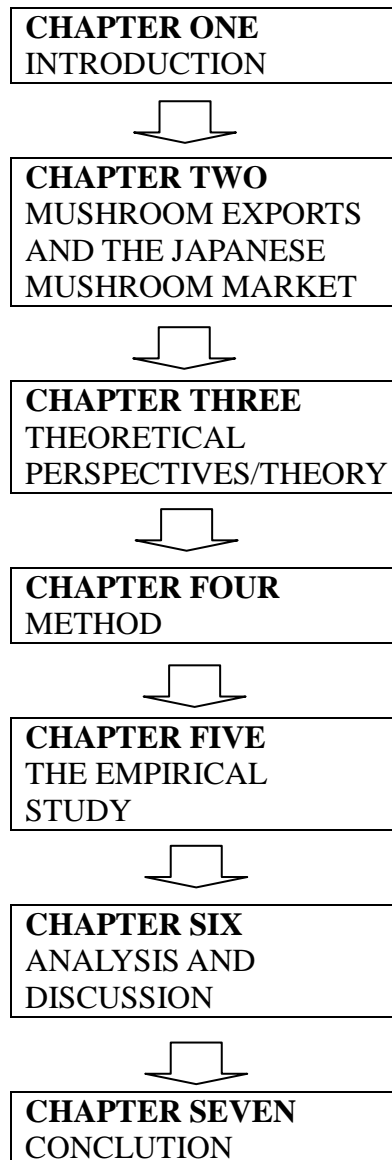
The present study has certain limitations that need to be noted. First, some data was collected through my friends whom work in Gifu University in Japan, although they have done their best, the result cannot always reach the reliability of primary sources.

Second, limited time and insufficient financial resources did not allow me to investigate the Japanese vegetable market in greater detail.

Third, some key information is confidential in both China and Japan and therefore I was not able to obtain this information. For example: the development planning and the specific gravity of the mushroom production. I hope to find more definite answers in the future.

## 1.4 Outline of this paper

When I started this essay, I already had a lot of material about the mushroom trade between China and Japan. However, my study of product competitive advantage requires the authenticity and timeliness of data. Therefore, a field investigation will be carried out before any analysis. The final aim of the data analysis will be to understand the situation of the Chinese mushroom in the Japanese market and to find the best competitive strategies for profit maximization.



**Figure 1.2 structure of this thesis (author's illustration)**

There are seven chapters in this thesis (see figure1.2): The Introductory Chapter has presented the problem background; the problem and the purpose of this thesis and the delimitation of this study. Chapter Two introduces mushroom exports and the Japanese mushroom market. I describe mushroom production and the Japanese market. Chapter Three presents the theoretical approach. Chapter Four states the method applied in this paper. Chapter Five presents the empirical analysis basic data collation. Chapter Six analyzes mushroom competitiveness in the Japanese mushroom market. Finally, Chapter Seven concludes the thesis with an analysis and recommendation for further study.



## 2. Mushroom exports and the Japanese mushroom market

### 2.1 Main world production regions for mushrooms

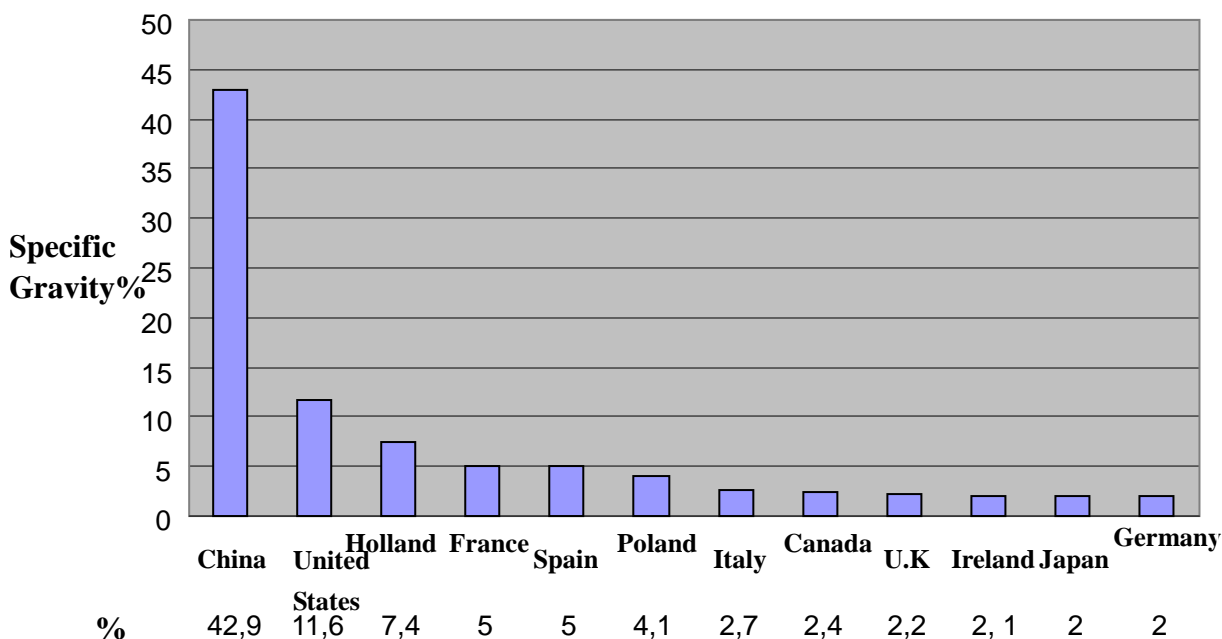
Since the 60's, the world mushroom industry has been developing rapidly and mushroom production has increased significantly. From 1961 to 1979, mushroom production increased from 0.30 million tons to 1.11 million tons, an average annual growth rate of 7.7 % (www, SA1, 2009). The main reasons were improved production facilities and the improvement of cultivation techniques in the major producing countries the United States and the Netherlands.

From 1980 to 1999, the world's mushroom production showed a stable growth. Mushroom production increased from 1.10 million tons to 2.38 million tons, an average annual rate of 4.2% (Chang, 1997, p 291). The most important reason for the increase in world mushroom production was the opening of China to economic reform, which facilitated the rapid development of the mushroom industry. Chinese mushroom yields are greater than the yields in the United States. After 2000, the world's mushroom production has entered a period of prosperity and development of mushroom production which increased from 2.58 million tons (2000) to 3.29 million tons (2005), an average annual growth rate of 5 % (www, SA1, 2009).

At present, the main mushroom production areas of the world are in Asia, Europe and North America. In 2005, the world mushroom production was 3.29 million tons, of which the Asian mushroom production was 1.63 million tons; accounting for 49.4% of the world output (www, SA1, 2009). The European mushroom production was 1.13 million tons, accounting for 34.5% of world output. The North American production was 0.46 million tons, accounting for 14.1% of the world's mushroom production (www, SA1, 2009). Among more than 80 mushroom producing countries, China, the United States, the Netherlands, France, Spain and Poland are the most important, with an annual output of more than 0.10 million tons 76.0% of the world's mushroom production (www, SA1, 2009). In addition, Italy, Canada, the United Kingdom, Ireland, Japan and Germany are also producers of mushrooms, but the production in these countries is relatively small, corresponding to a share of less than 3.0% (figure 2.1). In 2005, Chinese mushroom production was 1.41 million tons, corresponding to 42.9% of the world's mushroom production (www, SA1, 2009). The Netherlands, France and the United States and other developed countries have a technical advantage. For example, the advantages of mechanized production in *Agaricus bisporus*<sup>7</sup> - in these countries mushroom yields have relatively high levels and it can produce 4-6 seasons per year (www, SA1, 2009).

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<sup>7</sup> Is an edible basidiomycete mushroom native to grasslands in Europe and North America and is one of the most commonly and widely consumed mushrooms in the world (Internet, Wikipedia, *Agaricus bisporus*)



**Figure 2.1 Major mushroom producing countries of the world (FAO<sup>8</sup>, 2005)**

Again, from this figure 2.1, you can easily see China almost half major mushroom producing of the world.

## 2.2 Main world export for mushrooms

During the 90's, the world mushroom exports volume from 1991 till 1999 grew very slowly and the annual volume was less than 0.80 million tons (www, SA1, 2009). In the first years of the 21<sup>st</sup> century, the export volume increased, the growth rate was 5 % (www, SA1, 2009).

According to FAO (2005) mushroom report, there are two points to talk about regarding the world mushroom exports': one is export market the other is the type of mushroom exported.

Export market: the main world mushroom export markets are Europe, Asia and North America. Europe is the biggest mushroom exports market, and the export volume is 50.6% of world mushroom exports.

<sup>8</sup> Food and Agriculture Organization

*Type of mushroom exported:* mushroom can are the biggest product, next is fresh mushroom and dry mushroom. In 2005, mushroom can correspond to 57.4% of world mushroom exports. Of those, China and Holland are main mushroom can exporting countries and the total Chinese and Dutch canned mushroom export volume is 75.8% of the world's canned mushroom export.

## 2.3 Chinese mushroom production and the prospect for export

China is one of the countries with the richest biological resources. More than 1,400 mushroom species have been found in China, of which 938 species are wild edible fungi (www, SMC1, 2009). These resources provide great opportunities for both domestic and international industries to further explore not only in the food chain, but also in pharmaceutical usage as well.

**Table 2.1 Export of Chinese mushroom (CC, 2003)**

Year Place	Export quantity 1000 tons			Export value 100 million US \$		
	1995	2000	2003	1995	2000	2003
Asia	1.26	1.50	1.82	504,679	255,780	331,981
Africa	0.006	0.02	0.04	904	2,289	3,208
Europe	0.64	0.80	1.03	108,342	88,639	104,432
Latin America	0.03	0.12	0.10	4,791	8,783	7,580
North America	0.53	0.28	0.45	84,542	34,812	52,302
Australia	0.05	0.06	0.06	8,444	6,483	5,878
<b>Total</b>	<b>2.52</b>	<b>2.78</b>	<b>3.51</b>	<b>711,703</b>	<b>396,786</b>	<b>505,381</b>

China is also a major exporter. According to Chinese customs statistics (2003), the total export of all kinds of mushrooms was 3.51 million tons. The export value reached 505 million dollars. The trend has been for the Chinese mushroom exports to increase until 2003. In a regional perspective Chinese mushroom exports to Asia in 2003 were 1.82 million tons, giving it first place. In second place were Chinese mushroom exports to Europe, with 1.03 million tons, followed by North America with 0.45 million tons (www, SA1, 2009). Latin America received 0.1 million tons, Australia 0.06 million tons, and Africa was 0.04 million tons (www, SA1, 2009 & see Table 2.1). From the exporting countries and regions, Japan is the biggest importer, receiving 0.081 million tons in 2003 (www, SA 1, 2009).

## 2.4 The Japanese mushroom market

### 2.4.1 The situation in the Japanese mushroom market

In the Japanese vegetable market, there is a great diversity not only in when it comes to categories but also the price of mushrooms. Different mushrooms come from different places in the world. The categorization can be further specified with the different colours and shapes. The following kinds of mushrooms are the most popular in the market: Enokitake, Maitake, Matsutake, Button Mushroom, Nameko, Shiitake, Shimeji, Jew's ear. See Table 2.2.

**Table 2.2 Varieties of mushrooms in the Japanese market**

Mushroom			Country
Japanese name	Scientific name	Dzonka name	
Enokitake	<i>Flamulina velutipes</i>	Tep kangnag	Japan
Maitake	<i>Griphola frondosa</i>	Metoshamo	Japan
Matsutake	<i>Tricholoma matsutake</i>	Sangay shamo	China ,South Korea, Japan , North Korea
Button Mushroom	<i>Agarius Bisporus</i>	Awashamo	Japan, Indonesia
Nameko	<i>Pholiota nameko</i>	Unknown	Japan
Shiitake	<i>Lentinus edodes</i>	Sokeyshamo	Japan, China,
Shimeji	<i>Lyophyllum fumosum</i>	Ngala shamo	Japan,
Jew's ear	<i>Auricularia auricula-judae</i>	Unknown	China, Japan

Enokitake is a common food on Japanese dinner tables due to its relatively low price. According to my research at the Gifu Market, its price stays around 317 Yan/kg (Shown in Table 2.3). Its rich nutritional value is worth mentioning. In recent years Japanese scientists have found 8 essential amino acids inside its protein, which were helpful for children's growth and intelligence development.

Maitake was originally grown in the remote mountains in the northeastern of Japan, but has been long considered a supreme delicacy. Maitake can be used both as food and medicine. Its history as both can be traced back to Kaibara (1709). Its price belongs to the upper middle group in the

Japanese market, sold at around 643 Yan/kg. Most Maitake found in the market were produced in Japan and rarely imported from other countries.

Matsutake is regarded as the “king of mushrooms” in Japan on account of its rich nutritional value (CEFA). Its high price makes it unaffordable to many people. Compared to other mushrooms matsutake is particularly rich in Vitamin D, B2 and also in calcium. Nevertheless, besides the “king of mushrooms”, some other mushrooms are also popular in Japan. Its high price leads to it being imported from China and South Korea. Its average price is around 6,970Yan/kg.

**Table 2.3 Price of different varieties of mushroom (Gift wholesale market, April 2009)**

<b>Mushrooms</b>	<b>Price</b> Japanese Yan <sup>9</sup>
<b>Enokitake</b>	317 Yan/kg
<b>Maitake</b>	643 Yan/kg
<b>Matsutake</b>	6970 Yan/kg
<b>Button mushroom</b>	894 Yan/kg
<b>Nameko</b>	441 Yan/kg
<b>Shiitake</b>	628 Yan/kg
<b>Shimeji</b>	493 Yan/kg
<b>Jew’s ear</b>	700 Yan/kg

Button Mushrooms are the second highest priced mushrooms in Japan sold at around 1,000 Yan/kg. They are mainly produced in Indonesia. The table 2.3 shows their prices.

There are about 70 kinds of Nameko in the Japanese market. They originally grew wild in Japan, now they are mostly cultivated in Sendai (one small city near Tokyo). They are regarded as carried of a particular beneficial effect in hindering the development of tumors. It is a low priced mushroom, sold at some 440 Yan/kg.

Shiitake is one of the most popular mushrooms in Japan, with over 370 different varieties. Shiitake also is a rich source of Ornithine and calcium, needed by the human body. An ingredient called mushroom polysaccharide can be extracted from it, which is used in medicine to assist cancer therapy. Its production and consumption are both huge but priced in the middle range at about 600 Yan/kg. Japan is the biggest country for Shiitake production with good quality and packaging. Some are also imported from China.

<sup>9</sup> A constant conversion of US\$1.00 = Yan 115 will be used throughout.

Shimeji is exclusively found in Japan and they are exported in countries all over the world. There is rich in nutrition with the low price of 490 Yan/kg in the Japanese market.

Jew's ear has some 37 varieties in the Japanese market. Its consumption in Japan is the largest in the world after China. A very vague statement of it is imported from China and priced at 700Yan/kg.

The different mushrooms bring a good variety to the Japanese vegetable market which in turn brings convenience for the consumers. The Japanese mushroom industry has seen a boom since 1991( Farrar, 2009, p1), 20,000 square feet of production was added to develop Japanese bottle production technology to produce mushrooms on steam-sterilized substrates in auto clavicle, reusable, high-density polypropylene bottles. The Japanese government has in recent years attempted to protect this national industry by building tariff barriers( Farrar, 2009, p1).

#### 2.4.2 Analyzing different mushroom markets

There are three different types of mushroom markets in Japan, named: Kanntou, Kinnki and Chuubu (See Appendix B). Those three different markets divide Japan into three regions from north to south. Each region includes different cities. Kanntou includes: Sapporo, the biggest city in the north of Japan, Tokyo which is the capital of Japan and the biggest city of Japan; Kinniki includes Kyoto which is the old capital of Japan and the second big city of Japan, Osaka which is a developed city and a modern city also; Chuubu includes Fukuka the fourth city of Japan with a very good natural environment.

According to MAFF (2007), there are four forces to affect the mushroom economy in different areas. See the Table 2.4; there are Population density, Demographic aspects, Cognitive education and traditional habit.

MAFF (2007) report of "the consumption level of the Japanese" was written: among the three areas of Kanntou, Kinnki and Chuubu, the female consumers have a higher consumption level than the males and Japanese women are in charge of the daily housework, so their power over food consumption is greater than their man. This could be another factor affecting the mushroom consumption.

Kanntou includes the biggest vegetable market - Tokyo Central Wholesale Market. Because of its location in the capital with great population density, the best institute and Universities, this has the highest mushroom consumption. Kinnki, includes the historical cities like Osaka and Kyoto, has a stable mushroom consumption. In Chuubu, there are abundant forests with growing mushroom.

Different mushrooms have different vitamins. These are good for health, and more and more

people are recognizing this. Thus, the mushroom Cognitive educational level could also affect an area's mushroom consumption, because people with high health education tends to be more concern about their health, therefore, in general, they will perform consume vegetable include mushroom than meats. In kanntou, there are many university, they education perhaps more than other area.

**Table2.4 Four force affects the mushroom consumption in different areas, in Japan**

<b>Region</b>	<b>Force</b>	<b>Population density</b>	<b>Demographic aspects/the number of female and male</b>	<b>Cognitive education</b>	<b>Traditional habit</b>
<b>International mushroom</b>	<b>Kanntou</b>	Highest, Including Tokyo-the biggest city customers area are wide		Higher,accept large information	People come from different place and country
	<b>Kincki</b>	Middle	lower	Middle	
	<b>Chuubu</b>	lower		Alomost same like kincki	
<b>Domestic mushroom</b>	<b>Kanntou</b>	Hightest		middle	
	<b>Kincki</b>	Middle			
	<b>Chuubu</b>	Lower	lower		Prefer local mushroom

Again, from the Table 2.4, Japan is very traditional country; woman will be home to care their family after marriage. Women have the decision for buy what kinds of food. Demographic aspects that means the mostly the consumption of mushroom is depended by women.

Finally, in those three regions, the number of how much woman is very important force affect mushrooms consumption and in some old place the local people they have traditional habit to choose domestic food. There are also other reasons for differences in the mushroom market such as climate, water supply to the agricultural and the natural environment.

### 3. Theoretical perspective/Theory

This chapter presents a literature review, regarding competitive strategy adapted to the characteristics of the mushroom market. This study was referred the theory of competitiveness, the theory of Comparative strategy and the SWOT analysis. Additionally, the theory of competitiveness was used when I explore the type of the "Japanese mushroom market" concept. In general, Porter five-force model can be used in analyzing "the situation of Japanese mushroom market". Particularly, SWOT was used when to analyze Chinese mushroom product and Chinese mushroom industry.

#### 3.1 Literature review on competitiveness

##### 3.1.1. What is competitiveness? (WEF<sup>10</sup>, 1986)

Literature review is "*a critical look at the existing research that is significant to the work that you are carrying out* (www, LC 1, 2010)."

For a company, competitiveness is the ability to provide products and services as or more effectively and efficiently than the relevant competitors.

At the industrial level, competitiveness is the ability of the nation's firms to achieve sustained success against (or compared to) foreign competitors, without protection or subsidies.

For a nation, competitiveness means the ability of the nation's citizens to achieve a high and rising standard of living.

International competitiveness is defined as: "competitiveness is the ability of a nation to compete successfully internationally and sustain improvements in real output and wealth (WEF, 1986)."

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<sup>10</sup> World Economic Forum



### 3.1.2 Theory of competitiveness

There are three main theories of competitiveness: A theory of Comparative advantage, Porter's theory on competitive advantage of nations, WEF and Switzerland Lausanne IMD's<sup>11</sup> Theory of International Competitiveness and Evaluation Systems (www, Thesis net, 2005& www, FM1, 2008).

#### **Theory of Comparative advantage**

Adam Smith (1776) thought that different countries had an absolute advantage in their international division of labor on the basis of trade i.e. that both sides can benefit from trade. However this theory cannot explain how they trade when two countries have high productivity, while one country is weaker than the other for example, China has productivity advantage in planting rice when compared with other countries except the United States. Should China just import rice from the United States and not plant rice any more?

David Ricardo (1871) researched the theory that differentiated prices are produced by other countries. A country should specialize in the production with higher productivity, to exchange goods with lower productivity from other countries.

At the beginning of the 20th century, Heckscher<sup>12</sup> and Ohlin suggested that the result of market competition is the best international division of labor, product prices and factor price convergence in the countries of the world.

#### **Porter's theory on The Competitive Advantage of Nations(1990)**

Porter argued there are some shortcomings in international trade theory. He thought that a country can gain an international success in a particular industry and thus achieve a monopoly in that industry. Porter's The National Competitive Advantage Theory up for deficiencies in international trade theory.

This theory has contributed to the development of economics in the following ways:

- ✓ Important analytical tool: Porter's Five-Forces is an analytical tool on competitive strategies, he presented five forces: the bargaining power of customers, the bargaining power of suppliers, the threat of new entrants, the threat of substitute products and the intensity of competitive rivalry.
- ✓ Emphasizes dynamic competitive advantage: Japan and Korea develop their new products and technology to improve competitive advantage.

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<sup>11</sup> International institute for management department

<sup>12</sup>From Sweden, Ohlin is his student, whom from Sweden too.

- ✓ Emphasizes the importance of external demand - factors such as the structure of the domestic consumption, the nature of the consumers, demand growth, changes of the structure of the demand , play an important role in the competitive advantage.

**International Competitiveness and Evaluation System.**

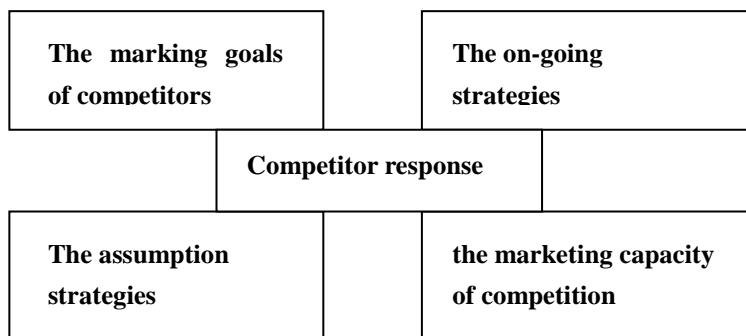
A theory of international competitiveness is when “a country or a company has capability to produce more than other competitors in the world market” and is the unity of competitive assets and competitive process. Assets are inherent (for example: natural resource) or created (for example infrastructure); process means transforming assets to economic ones, then through the result of comparing the international market to assess the level of competitiveness This theory is used in assessing production competitive problems (WEF & IMD, 1994).

**3.2 Theory of competitive strategy**

Compared to a theory of Comparative advantage and international competitiveness and Evaluation system, Porter’s theory proposes the theory of competitiveness based on the causes of the productivity with which companies compete and introduces Competitors strategies, a five-force model and the basic competitive strategies to understand the competitive position of a company (Wu, 2007).

**3.2.1 Competitors strategies**

Competitors strategies includes four parts, which are: the marking goals of competitors, the on-going strategies, the assumption strategies, the marketing capacity of competition, See Figure 3.1.

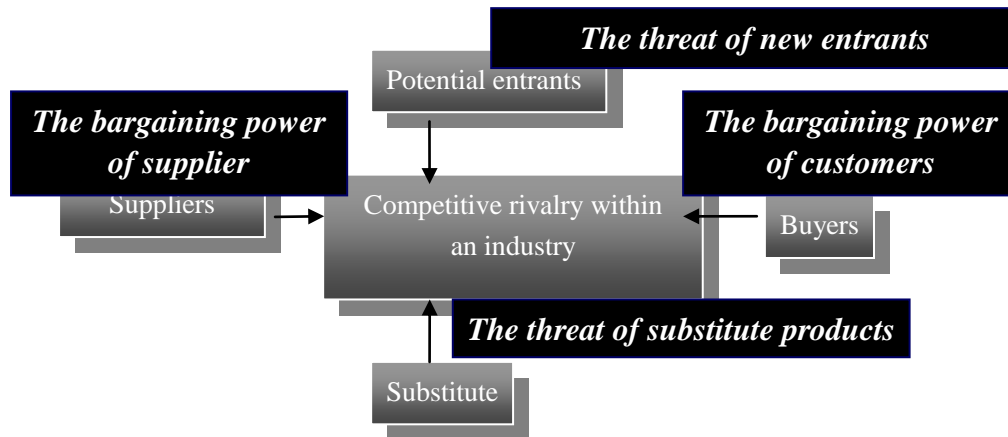


**Figure 3.1 Four parts of competitors strategies (Wu Qiming, 2007, p3)**

The aim of competitors strategies is comprehend completely competitive spur, capacity of competition and cause by reaction to competitiveness.

### 3.2.2 Porter's five –forces model

Michael Porter (1979) presents competitive strategy theory as depending on five forces: the bargaining power of customers, the bargaining power of suppliers, the threat of new entrants, the threat of substitute products and the intensity of competitive rivalry. (See Figure 3.2)



**Figure 3.2 Michael Porter's five forces model**  
(www, QMBA1, 2009 & www, IBPS1, 2009)

*The bargaining power of suppliers:* the supplier could affect the existing players and their profit and product competition by raising prices and lowering the cost.

*The bargaining power of customers:* Buyers, primarily through demanding lower prices and requiring a higher quality of the product or service, have the ability to affect the industry and the profitability of existing enterprises.

*The threat of new entrants:* the new entrants to the industry bring new production capacity, new resources .they hope to gain a place among the existing enterprises in the market.

*The threat of substitute products:* Two competitors in the same industry or companies in different industries may produce alternative products that compete with each other.

*Competitive rivalry within an industry* Competition among existing firms is often reflected in the price, advertising, product introduction; after-sales service. Its competitive strength is affected by many other factors.

### 3.2.3 The basic competitive strategies

Porter (1985) present basic competitive strategies which includes three parts: low-cost strategy, differentiation strategy and focus strategy source. Table 3.1 describes the competitive strategy.

**Table 3.1 The three basic competitive strategies (www, MBAlib1, 2010)**

		Strategy advantage	
Strategy goal	Classification of industries	Low-cost strategy	Differentiation strategy
	Classification of markets	Focus strategy	
		Cost focus	Characteristic focus

From strategy advantage including low-cost strategy, differentiation strategy and focus strategy; form strategy goal which including classification of industries and classification of markets. Low-cost strategy: through reducing production costs and selling price to obtain competitive advantage. Differentiation strategy: aiming at a specific market; developing new products and service to obtain competitive advantage Focus strategy: be concentrated in one or several target markets, access to local competitive advantage.

There are different demands in implementing different basic strategies on the resource and ability of the company, which means the style differences in the organization, control systems, innovation systems, corporate culture and leadership. Porter (1985) thinks that a company chooses the best state of one of the three basic strategies. They should choose their basic strategy which is the best use of its advantages and the least conducive for its competitors to imitate (www, MBAlib1, 2010)

### 3.3 SWOT analysis

The SWOT theory is a situation analysis model, proposed by Heinz Wehrich, a professor of management at the University of San Francisco in the 1980s. It can be used to establish a company's strategic plan and to analyze competitors. Table 3.2 shows the SWOT analysis<sup>13</sup> approach. The strength of the SWOT approach is in showing a producer how their own production can have a competitive advantage over other producers. It includes technological skills, leading brands, distribution channels, customer loyalty, production and management and shows how weaknesses can be improved that includes revealing the “absence of important skills, weak brands, poor access to distribution, low customer retention, unreliable products, and ineffective management (see table 3.2)”. Strengths and Weaknesses are called internal factors.

**Table 3.2: The SWOT model (Strategy –SWOT analysis, 2009)**

<b>Internal Factors</b>	<p><b>Strengths</b></p> <ul style="list-style-type: none"> <li>Technological skills</li> <li>Leading Brands</li> <li>Distribution channels</li> <li>Customer loyalty</li> <li>Sale</li> <li>Production</li> <li>Management</li> </ul>	<p><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>Absence of important skills</li> <li>Weak brands</li> <li>Poor access to distribution</li> <li>Low customer retention</li> <li>Unreliable product</li> <li>Management</li> </ul>
	<b>External Factors</b>	<p><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>Changing customer tastes</li> <li>Liberalisation of geographic markets</li> <li>Technological advances</li> <li>Changes in government politics</li> <li>Lower personal taxes</li> <li>Change in population age-structure</li> <li>New distribution channels</li> </ul>

External factors include Opportunities and Threats. Threats are the factors that might affect

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<sup>13</sup> The SWOT analysis section draws from the market audit. It is a brief list of the critical success factors in the market, and rates strengths and weaknesses against the competition. (Philip Kotler et al., 2001)

business targets. Threats are beyond the target company's control. They include changing customer tastes, liberalisation of geographic markets, technological advantages, changes in government policies, lower personal taxes, and change in a population age-structure and new distribution channels (Gant, 1997)

There are opportunities to assess the external attractive factors that represent the reason for the business to exist and expand. The opportunities that the business has are reflected in the potential to realize the market growth, lifestyle changes, resolution of problems associated with the current situation, positive market perceptions about your business, or the ability to offer greater value that will create a demand of the services. It changing customer tastes, liberalisation of geographic markets, technological advantages, changes in government policies, lower personal taxes, change in population age-structure and new distribution channels (Gant, 1997).

This analyze tool that it will be use to analysis Chinese mushroom production in chapter six.

## 4. Method

According to Mikkelsen (1995, p 223), research methods can be described as tools which are used to answer specific questions and to solve various scientific and practical problems. In this thesis, relevant data was collected and interviews performed, since purpose was to study.

### 4.1 Research introduction

A thorough research of the proposed international market is very important before launching a new product or service. Although it is complex, it can be an extremely beneficial process (Wiley&Sons, publish, 2001).

The competitive strategy of the Chinese mushroom of concept analysis is conducted through theoretical knowledge (the theoretical knowledge has been presented in Chapter 3 already) and personal observations.

### 4.2 Research approach

There are both qualitative and quantitative research approaches. Through a quantitative approach can identify why a certain event takes place but it is not possible to make generalizations. The quantitative approach is limited in drawing conclusions on why it has happened (Ragnar, 2006, p6).

Qualitative research methods are a way to avoid or downplay statistical techniques and the mechanics of the kind of quantitative methods used in, say, survey research or epidemiology. Qualitative methods are appropriate when for instance you want to discover how people intend to vote. On the other hand, to study people's life histories or everyday behaviour, a qualitative method, like an interview, may be the most appropriate choice (Silverman, 2005, p9). Table 4.1 shows which method you should use when you have deferent type of data.

**Table 4.1 Comparison of qualitative and quantitative research approaches (Morra-Imas, 2008, p20-22)**

<b>Approach</b>	<b>Characteristic</b>	<b>Applied</b>
<b>Qualitative</b>	Easier to develop Can provide “rich data” — detailed and widely applicable Is challenging to analyze Is labor intensive to collect Usually generates longer reports Less structured	-want anecdotes or in-depth information -are not sure what you want to measure -do not need to quantify
<b>Quantitative</b>	More structured Attempts to provide precise measures Reliable Harder to develop Easier to analyze	-want to do statistical analysis -know exactly what you want to measure -want to cover a large group

Again, from the Table 4.1, the characteristic of data of qualitative is detailed and widely applicable, which is easier to develop, challenging to analyze. The characteristic of data of quantitative is reliable, easier to analyze, more structured and harder to develop (Morra-Imas, 2008, p21).

For this study, a qualitative approach was chosen to investigate information on the Japanese market.

## 4.3 Data collection

There are a variety of data collection approaches to answer different questions. So to choice which approach depends on what the situation.

### 4.3.1 Interviews

I have been in Japan and in 2009, a friend of mine helped me to visit the 3 wholesale mushroom markets in Gifu of Japan (see table 4.2), where he talked with the managers of those markets. That is useful for in depth understanding of mushrooms. Those three markets are a medium to large sized markets and each market sale mushroom and import mushroom.



**Table 4.2 Three vegetable wholesale markets**

Vegetable wholesale markets		
Name	Address	Chief mushrooms
<b>Zhida</b> (岐大前店) <sup>14</sup>	oa za o ri ta te a za ki ta u ra	Shiitake , Enokitake
<b>Valor</b> (连锁店 Valor) <sup>15</sup>	2-15si ha si Gifu, JAPAN	Shiitake , Enoki , Button
<b>Tomydia</b> (トミダヤ) (连锁店トミダヤ鏡島店)	yi chi ka mi si ma mi na mi  Gifu, JAPAN	Oyster, Shiitake, Enokitake, Button

#### 4.3.2. Surveys

Through sent questionnaires to experts for both China and Japan by email. Investigation time from: March 1, 2009 to May 31, 2009. There is 18 questions in each questionnaire and it should take about 20 minutes for the expert to answer the questions.

#### 4.3.3 Documentation

The data I collection in this paragraphs are as follow and all other sources used were relevant literature in the form of books, scientific journals, internet and newspapers.

### 4.4 Data analysis

Data analysis can be used on two types of studies: Experimental studies and Quantitative studies (Karimi, 2010). Experimental studies including data cleaning, from all the data information to inspect what data is necessary, preferable and possible-corrected. Quantitative studies including chose the model and analyzed.

In this paper, porter's five force model and SWOT model can be used on analyzing Japanese mushroom market and Chinese mushroom production.

<sup>14</sup> <http://www.kanesue.co.jp/storelist.php>

<sup>15</sup> [http://wbt.valor.co.jp/vghp/map/f\\_shop.html](http://wbt.valor.co.jp/vghp/map/f_shop.html)

## 5. The empirical study

In this chapter, analysis will be based on empirical study of the Chinese mushroom.

### 5.1 Experts questionnaires

The analysis of competitiveness was carried out with the help of the answers provided to questions in the questionnaire (see Appendix C) – what are the best choices for customers, what determines the mushroom industry's success and what government policies are optimal etc. there are fifty experts chosen who have authoritative position in mushroom marketing in China and Japan; even they are from different fields which include university, government, company, and media etc but all of them have areas of expertise of marketing and diverse export knowledge and these experts through my own experience and the help of my friends.

The investigation took three months: March to May in 2009 and was conducted through a questionnaire sent by email contact. In the investigation process exactly how the responses are to be entered is specified. The appendix A 1 and A 2 are the questionnaires, versions of questionnaires (English and Chinese) were used for both the Chinese experts and the Japanese experts, and appendix C illustrates the answers to the 18 questions in the questionnaire.

The aim is to understand what advantages of Chinese mushroom and to find out what competitive strategies the Chinese mushroom industry can use in relation to exports to the Japanese market in order to increase Chinese mushroom production and market share steadily.

In this process; first, the questionnaire was sent. If no reply was received after one month, I called them to ask them to complete the questionnaire. The questionnaire, which was for both Chinese and Japanese mushroom experts, reached 100 people (50% Chinese experts, 50% Japanese experts). The completion rate of the questionnaires was 100%, and the useful rate was 85%.

## 5.2 The decision of Chinese export and Japanese import

As Table 5.1 shows Chinese experts have different answer with Japanese experts on the same questions for questionnaires.

The Chinese experts thought the main type of mushroom are wood ear, oyster, and main export country is Japan and Korea, the Chinese mushroom can be improved in package the products and Chinese experts thought to emphasise management control is a important points for keeping competitiveness and should be paid attention on keep in good international market condition and wide service.

The Japanese experts thought the main type of mushroom are enokitake, button and Chroogomphis rutilus.the main mushroom import country is China because those are good quality, assured to eat and low price. The important points for keeping competitiveness are to emphasise technology innovation. For Japanese experts thought they should protect domestic industries when import and export.

**Table 5.1 Different decision between Chinese experts and Japanese experts**

	<b>Chinese experts</b>	<b>Japanese experts</b>
<b>The main type of mushroom</b>	shiitake, Jew's ear,tremella mesenterica,oyster,strw,enokitake,	Shiitake,enokitake ,oyster pleurotus, Enokitake,Button,Chroogomphis rutilus
<b>Which are the main countries mushroom in Japanese market</b>	Japan, Korea	China
<b>what do you think about mushroom import</b>		Good quality and assured to eat,low price
<b>Important factor for successful mushroom export</b>	Good leader, profession advantage	
<b>Important points for keeping competitiveness</b>	Emphasise management control	Emphasise technology innovation
<b>What should we pay attention to when mushroom export(or import)other countries</b>	Kept in good international market condition, wide service	Protects domestic industries

From the answers of the questionnaire almost 100% of the experts knew about Chinese mushrooms. They thought Chinese mushrooms were a major export to Japan and were better than other countries' mushrooms. Japanese domestic's consumers had the habit of buying them. 100% of the experts thought that Chinese mushrooms had a good price. 44% of the experts thought it was important for the Chinese mushroom to stay at a low price.

## 5.3 Analysis on competitiveness of Chinese mushroom Production

According to Porter (2005) and Wu (2007, p2-3), there are four parts to analyze marketing competitiveness. Which are: the marketing goals of competitors, the on-going strategies, the assumption strategies and the marketing capacity of competition.

### **The Marketing goals of Competitors**

With the coming of the 21st century, the Chinese mushroom industry entered a golden period of rapid development. Through the investigations into research concerned with mushrooms, farm management, the mushroom market, marketers, producers and consumers to we learned that the vast majority of respondents believe from now on, China's mushroom production will continue to grow. The average annual growth has been 20 % ( questionnaire, 2009).

### **The on-going strategies**

Regarding the state of mushroom exports, although the total export volume decreased, the decrease was not significant.

Regarding the trade in mushroom with Japan, China has in recent year become major supplier, increasing both in the fange and volume of fresh mushroom exports into Japan. China is recognized as one of the foremost low-cost suppliers to Japan. Other overseas producers will be challenged to supply high quality mushroom at low competitive prices (Aaker, Kumar, Day, 2000).

### **The assumption strategies**

In spite of the great variety of Chinese mushrooms, its main production and exports focus on Shiitake, Jew's ear, Matsutake and Oyster, the original production. Japan has a limited land area, but a high population density. The Japanese's particular love of mushrooms makes mushroom consumption one of the highest in the world. That is the reason that Japan can attract mushroom exporting competitors worldwide.

### **The marketing capacity of competition**

80% of the experts believed that Shiitake is the Japanese favorite mushroom and also the major imports from China. Other countries' Shiitake and even the Japanese Shiitake could not compete with the Chinese in quality, taste and price. The Chinese mushroom industry needs to increase the quality of its production to have greater success.

## 6. Analysis and Discussion

Using Michael Porter's presented competitive strategies theories (1979) the right reactions were explored and strategies to be taken and accessed and apply it to other vegetable production.

### 6.1 Market background

Data was collected in the three wholesale markets of Gifu City (See table 4.1). Gifu is a famous agricultural city in Japan. Because of the excellent Japanese road system, logistics, and price reporting system, what happens in Gifu wholesale markets is rapidly known throughout the whole of the country's wholesale markets. Thus, prices of mushrooms in Gifu accord to prices throughout the whole of the Japanese wholesale markets and those wholesale markets in Zhida, Valor and Tomidya are representative.

The Japanese international mushroom market includes produce from seven countries: Japan, China, North Korea, South Korea, United States, Canada and Germany. The mushrooms of the seven countries of supply all have their own production advantage. For example: the different advantages are Chinese variety, South and North Korea's low price, Japan's quality and Canada's good technological production process<sup>16</sup>. The Japanese consumers are more interested in Chinese mushrooms and these have the highest market share.

### 6.2 Applying Porter's Five-Forces theory in Japanese mushroom market

The Japanese mushroom market is an open and competitive monopolistic market. MAFF does not directly control the mushroom industry, but it also does not give Japan a local or a country-wide mushroom vendor franchise. Mushrooms from different countries face equal competition. A visible strategy should fully identify and assess those Porter (1979) five forces which also have variables.

#### **The bargaining power of suppliers**

Many countries have paid much attention to the Japanese mushroom market. For example, the United States will continue to increase its investment and cooperation in Japan to seek to obtain a 10% market share of mushrooms. China hopes to take 20-40% of the market share in Japan and

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<sup>16</sup> For example, the advantages of mechanized production in *Agaricus bosporus*

plans to expand export capacity by 2010 to 262,000 tons.

The current situation shows that China, South Korea, the United States, Canada and other mushroom producers in the world export market have created a major competitive market in Japan.

### **The bargaining power of buyers**

For buyers, several factors will improve their bargaining power. Buyers, primarily through lower prices and the requirement to provide a higher quality product or service could influence the profitability of the industry. However, the increase in Japan's tariff also affects the price of imported mushrooms.

### **The threat of new entrants**

Many importing countries seek to achieve price competitiveness in the Japanese mushroom market. The South Korean mushroom has a similar variety and low price as its Chinese competitor. In recent years, the Koreans have continued to make progress in technological research and development of new active species to sell in the international market, such as that of the United States.

It is reported that the Office of Forestry Research Institute of Korea, has developed a new species of mushroom-"Forest 9". Its yield is 16% higher than the current mushroom. The new mushroom can be grown under the high temperature of 14-28 degrees Celsius. Test results showed an output of 161.9 kg per cubic meter. Common mushrooms are generally grown in the period from May to June and from August to November. But the majority (65%) of the new mushrooms could grow from August to September; this could save a huge amount of labor (www, glqzny, 2005).

The Forestry Research Institute said that the "Forest 9" could greatly increase their competitiveness in the mushroom industry and also the income of farmers. The Japanese market started to access such mushrooms last year. Its relatively big size and high quality attracted many consumers.

These competitive new products will occupy their place either through their quality or price. For example, the Chinese "Xiaogu 93" (CEFA, 2005), as a new product unaffected by high temperature. It will take a longer time to get its international market recognition because of its high price.

Potential new entrants are a vital force for competition in the industry. Most of these new entrants have new production capacity and some of the necessary resources, which should lead to the establishment of a favorable market position. These new entrants will bring a greater production capacity, a higher demand for a share of the market and fierce competition with the existing rivals.

This will also cause a price competition. On the other hand, the extra resources that the new entrants require will make the industry's costs increase. Both factors will result in a decreased profitability.

### **The threat of the alternatives**

Soy products have a big share in the Japanese market (JTASS<sup>17</sup>). In recent years, new soy foods with mushroom flavor have been developed. Because the price of soy products is lower than that of mushrooms, it would be a good economic choice for the people who want to try soy products with the flavor of mushrooms. Two soy products from different industries might end up by replacing one another. This could mean that the competition between the soy industry and mushroom industry could lead to new competition within the existing mushroom industry. In order to compete with the industry of alternative products, it is required that the whole mushroom industry unites and acts collectively. The lower the price of the alternatives and the better the quality they have, the stronger will be the competition they cause. Such competition pressure from the producer of the alternatives can be assessed by investigating their sales growth, their production capacity and their profit expansion in detail.

### **The Competition within an Industry**

The interests of most imported mushroom and the Japanese mushroom are the same. The strategies for making themselves more competitive than their competitors inevitably cause friction and resistance. Such competition might become a competition between the producing countries. Competitive strength has many factors, usually demonstrated in price, advertising product introduction, after sales service and so on.

Years of experience have shown that the advantage of independent brands has greatly increased. Predicting the development of the mushroom industry can promote the economic development in two ways: by stimulating Gross domestic product (GDP) growth and upgrading the industrial structure. The famous Japanese mushroom brand Shiitake began to be marketed in the 18<sup>th</sup> century. The biggest Shiitake factory is located in Tokushima, with many small ones around it. The good environment and good quality water supply, plus the combination of natural resources and technology, not only increase its production capacity, but also its competitive advantage. By the year 2004, Japanese Shiitake yielded a total output of 66,188 tons, 1% growth compared with the year before (MAFF, 2004).

Furthermore, the competition among other countries is undeniable. For example, in order to avoid losing its market share in Japan, the Chinese mushroom adopted many marketing strategies:

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<sup>17</sup> Japan tariff Association

1. Adjusting the low price strategy to make sure its advantage works.
2. Investing more to attract overseas buyers
3. Changing agents in particular markets.

Although faced with intense competition from other countries and Japanese mushrooms, resulting in nearly two years of decreasing mushroom prices, the Chinese mushroom still plans to increase production capacity and shows confidence in the Japanese market. The new target of the Chinese mushroom industry is no longer the low income group.

Summary to the discussion of the five competitive forces above, enterprises can try as much as possible to protect their own product from the forces of competition and to affect competition rules in the industry for the sake of self-interest. Firstly they seek to gain a favorable position in the market competition and then attack their rivals by means of actions to inhibit the five

## 6.3 SWOT analysis of the Chinese mushroom

SWOT will be used in this section. Analyzed the strength, weakness, opportunities and threats in current Chinese mushroom industry.

### **Strengths**

Prioritizing technology. Both the Chinese government and industries are interested in paying much attention to the improvement of technologies related to mushroom production. The price of Chinese mushroom is low mostly because the mushroom is got by hand rater than by machine. In China, the labor is cheap. There are more than 1,400 mushrooms species have been found in China (presented part 2.3) people may have many choices from them. Matsutake is a traditionally popular mushroom in China(CEFA,2009). There is a stable consumer base and positive brand effect for the Chinese mushroom.

### **Weaknesses**

In Japanese mushroom market, some customers reject international imports. Some products are poor in quality, in 2006; it was found the chemicals above MRL (presented part 1.1). China lacks IPR and Environmental protection awareness. And the system of mushroom management is very disordered.

### **Opportunities**

After China joined World Trade Organization (WTO) in 2005, China has cooperation with other countries, including the Unite States, Germany, to learn international management and information



accepted abroad.

Traditional and classical mushroom consumption is strong. New products can also be developed. China can lower the price to improve the competitiveness and build brand image

### **Threats**

Some of varieties are more expensive, and are therefore not attractive compared with other mushrooms. Because young Japanese people don't know about Chinese mushrooms, Chinese mushroom exporters should open that market and to build New brands and good reputation.

According to the SWOT analysis, in order to use all of resources in Chinese mushroom strengths and the most of opportunities, and let international mushroom market strategy become clear.

## **6.4 Discussion**

This research has analyzed the situations of the main export countries in Japanese mushroom market. The conclusions from this research will be beneficial for the policies makers in Japan government to adjust the import strategies.

Due to the fact that the Chinese mushroom production not only exports to Japan but also some other countries or districts, such as Hong Kong, Germany, etc. (CC, 2009), this study will give the Chinese a better understanding on advantages and disadvantages of their mushroom products, which will be beneficial to enhance the products' competitiveness.

This study also provides a method for studying the export products from an agricultural country. In 2005, Chinese agricultural export is 23, 39 billion U.S dollars (www, wtojob 1, 2009). Some of the export products have strong competitiveness like horticulture, livestock, etc. However, some products have weaker competitiveness like rice, wheat, corn, etc. And this study is a good reference for studying those products.

## 7. Conclusions and recommendation

### 7.1 Conclusions

Through empirical analysis in Gifu wholesale mushroom market and performing a SWOT analysis of the situation of the Chinese mushroom in the Japanese market has been analyzed. This has been related to Porter's Five-Forces (mentioned in the literature review). This has given some interesting conclusions by answering the questions in purpose of part 1.2:

*-Why during recent years, has the profitability of exported Chinese mushrooms decreased in the Japanese market?*

The Japanese consumers choose Chinese mushroom is because their price is low and there are a lot of varieties. Even though the Chinese mushroom has had bad publicity in recent years, most Japanese people still believe that Chinese mushrooms have a good attraction.

The Chinese mushroom has an established market in Japan. There is a long history of Chinese mushroom export to the Japanese market. Since around 1978, Chinese mushrooms have been a familiar brand name for Japanese people (CEFA&JTASS<sup>18</sup>). The message is "if you want to eat good mushrooms, then choose Chinese ones" Some varieties found in China, like Matsutake, are among the mushrooms that the Japanese love most.

Since 2006 year, there have been problems in both output and exports of Chinese mushrooms. The main mushroom importing countries, like Japan, United States, Germany, and Eastern Europe, have all kept away from Chinese edible fungus. Therefore the output and exports of Chinese mushrooms has decreased. There are two reasons:

The Chinese mushroom's own problem

The Chinese mushrooms had a big problem with their quality, especially in recent year. The remains of drugs were found in Chinese mushrooms when those export to the Japanese market. According to the Indicators of MRL, there are 9,052 in Japanese codex, relatively small codex in China. Pesticide residues, radioactive residues and chemical additives also did not reach the international standard. For example, regarding mushrooms, the European Union Revised the MRL standard Fungicide named "carbendazim" from 1PPM<sup>19</sup> to 0.1PPM; "cabendazim" is always used

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<sup>18</sup> Japan tariff association

<sup>19</sup> ppm(Parts per million) is a measurement. One ppm means one (defect or event) in a million or 1/1000000.

as fungicide in Chinese mushrooms. This made a significant impact in China.

The barrier of environmental pollution and the Intellectual Property Rights (IPR) have led to the plight of the Chinese mushroom. In China, there was a lack of IPR and Environmental protecting awareness.

The Chinese mushroom industry is located in the countryside. The system of mushroom management there was very disordered.

#### Competition in the Japanese mushroom market

China is the most important mushroom exporting country for Japan, because Chinese mushrooms have a low price and a lot of varieties. There are six competitors for the Chinese mushroom. North and South Korea are among them. Both have the same advantages as the Chinese mushroom, but the biggest competition is from the Japanese mushroom. The domestic mushroom can attract the local Japanese consumers with its good quality, its position in the traditional food culture and established consumer behavior. Buying domestic products can also be seen as protecting domestic industries.

*- How can the competitiveness of the Chinese mushroom in the Japanese mushroom market be improved?*

In part 6.3, a discussion concerning what strengths, weaknesses, opportunities, and threats that exist for Chinese mushrooms. Linked this with Michael Porter's theories of competitive strategies (Part 6.2). If the Chinese mushroom wants to keep its competitive advantages and not to be replaced by either the Japanese or other mushrooms, it should keep a good price, strengthen the mushroom industries management and pay attention on chemicals remaining in mushroom so as to keep learning more, expand professional techniques and develop new varieties. It should also seek to cooperate with other mushroom exporting countries.

## 7.2 Recommendation

The relation between strategy and conduct was thinking about like “Do right things” and “Do things right”. As in Figure 3.3, both are combined together (www, epochtimes, 2009).

It is long process in conducting to implement the necessary improvements. For China, success in their local market may depend on a changed strategy. China has no way of changing the customers and do not take part in promoting the building of innovation by other countries in Japanese mushroom market. China has to focus its own products. Both goodwill and quality are fundamental to developing products. China must develop better quality .The Chinese government should urge the mushroom industry to improve the system of the safe production of edible fungus to ensure that no disease develops during the production chain.

The Chinese mushroom industry has often encountered different trade barriers and trade friction due to its insufficient understanding of and communication with the international mushroom community. China must strengthen international cooperation and ethical standards of production and do a lot of advertising to let the world know more about the qualities of Chinese edible fungi.

# Epilogue

Two questions were presented to finish this paper. These are:

## 1. Why study Chinese mushroom in the Japanese market?

I have been in Japan for a long time. During that time, I felt that Japanese eating habits have much in common with those of the Chinese. Especially, both peoples like mushrooms. I was there in 2002. At that time you could find a lot of mushrooms in the wholesale market, most of which had been imported from China. So before I thought of this topic, I thought I would write about how successful Chinese mushrooms were in the Japanese market. Last year in March, I was talking to a friend of mine. He was in Japan to collect some data on the Japanese mushroom market. Through him I found out that the Chinese mushroom still had the biggest share of the market, but that more and more local mushrooms and mushrooms from other countries were filling the markets. This looked like a trend with other mushrooms replacing the Chinese ones. I knew from CEFA data after 2003, that there had been an increase of exports to Japan but that the export amount was not developing well. For example, in 2004, the Chinese Shiitake export amount was 87% in the Japanese market, but in 2006 it had gone down to 77 % (CEFA, 2006). Since then it has remained the same. If the Chinese mushrooms want to develop in Japan how can it improve its competitiveness in the market? How can the Chinese mushroom production be more successful and increase its exports to this market? Therefore I decided to study this topic.

## 2. How does this research relate to the Swedish market?

This is a general phenomenon on product competitiveness in every country's market, including the Swedish market. I have lived here for almost three years and have been very conscious of local product protection. When I have gone to ICA, Wills and COOP to buy something, I have found even the same product there has a different price because of its country of origin. The local product's price is higher than that of products imported from other countries. My Swedish friends always explain "because of their good quality". I think that through this research applied to Sweden, you can also think about how to develop your local products in the future using competitive strategy because Swedish vegetable market also is international market.

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## Personal messages

Li, Bailiang

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Zhou, Xiangrong

The Department of Intelligent Image Information, Division of Regeneration and Advanced Medical Sciences,  
Gifu University, Japan

Personal interview, 21.04,2009



# Appendix

## Appendix A. Questionnaires for experts

A) 1. Questionnaire for Japan

Questionnaires No:

Investigation time from: March 1, 2009 to May 31, 2009

### Japanese mushroom imports

Name:

Occupation:

Contact:

Tele:

Email:

Time to complete:

QuestionnaireDescription:

The investigation is very professional, in order to know the import status in Japan mushrooms, environment policy and socio-economic environment, it is better to analyse the mushrooms competitiveness in the international market .the author made the questionnaire

Really hope you take a little time to answer the following questions. When you finish it, please sent the questionnaire to my Email: [wesu0001@stud.slu.se](mailto:wesu0001@stud.slu.se)

1. Do you know what types of mushrooms these are?

1 Shiitake /Lentinula( ) 2 Jew's ear /Auricularia ( ) 3 Tremella mesenterica ( ) 4 Oyster/pleurotus ( ) 5 Straw/Volvariella ( ) 6 Enokitake/Flammulina ( ) 7 Agaricus Bisporus ( ) 8 Netted Stinkhorn ( ) 9 Button ( ) 10 Porcino ( ) 11 Morel /Morchella esculent ( ) 12 Chroogomphis rutilus ( ) 13 Gomphidius rutilus ( ) 14 Suillus bovinus ( ) 15 Russula alutacea ( ) 16 Matsutake( ) 17Maitake( ) 18Nameko( )

2. what are the main type of mushrooms ?

1 Shiitake /Lentinula( ) 2 Jew's ear /Auricularia ( ) 3 Tremella mesenterica ( ) 4 Oyster/pleurotus ( ) 5 Straw/Volvariella ( ) 6 Enokitake/Flammulina ( ) 7 Agaricus Bisporus ( ) 8 Netted Stinkhorn ( ) 9 Button ( ) 10 Porcino ( ) 11 Morel /Morchella esculent ( ) 12 Chroogomphis rutilus ( ) 13 Gomphidius rutilus ( ) 14 Suillus bovinus ( ) 15 Russula alutacea ( ) 16 Matsutake( ) 17Maitake( ) 18Nameko( )

3. Are any of the following countries' mushrooms sold in the Japanese market?

1. Japan ( ) 2 China ( ) 3 Germany ( ) 4 UNITED STATES ( ) 7 Netherlands ( ) 8 Korea ( ) 9 India ( ) 10Thailand ( )  
11 Others:

4. Which are the main countries selling mushrooms in the Japanese market?

1. Japan1 ( ) 2 China ( ) 3 Germany ( ) 4 UNITED STATES ( ) 7 Netherlands ( ) 8 Korea ( ) 9Indian ( ) 10 Thailand ( )  
11 Others:

5. How can the local market for their mushrooms be improved?

1 Development of new varieties ( ) 2 packaging the products( ) 3 advertising ( ) 4 reasonable price ( )  
5 Others:

6. Which country's mushroom do you like best?

1. Japan ( ) 2. China ( ) 3. Germany ( ) 4. UNITED STATES ( ) 7. Netherlands ( ) 8. Korea ( ) 9. Thailand ( )  
9 Others:

7. Why do you prefer what you have selected?

1. Supporting local industries ( ) 2. good quality and safe to eat ( ) 3. long shelf-life ( ) 4. low price ( ) 5. buying habit ( ) 6. variety ( ) 7. propaganda ( )  
8 Others:

8. What do you think about mushroom imports?

1. taste the same as local mushroom ( ) 2. low price ( ) 3. high price ( ) 4. good quality ( ) 5. taste good ( ) 6. good outer packing ( ) 7. buying habit ( ) 8. variety ( ) 9. propaganda ( )  
10 Others:

9. What are the important factors for successful mushroom export?

1. good lead ( ) 2. good policy ( ) 3. combining produce, research and study ( ) 4. size of industries and economic strength ( ) 5. professional advantage ( )

10. What is important in mushroom export to international vegetable markets?

1. emphasize investigation to develop own brand ( ) 2. protect own brand through law ( ) 3. foster talent ( ) 4. build own product ( ) 5. improve product quality ( ) 6. increase investment in advertisement ( ) 7. build sale internet ( ) 8. utilize internal and external service ( ) 9. increase ability overcome crises ( )

11. Which are the most important points for keeping competitiveness?

1. Emphasise technological innovation ( ) 2. emphasise technological accumulate ( ) 3. emphasise talent ( ) 4. emphasise management control ( ) 5. others ( )

12. Which are the more important factors in mushroom imports into the Japanese market?

1. low price ( ) 2. high Price ( ) 3. good quality ( ) 4. taste good ( ) 5. good outer packing ( ) 6. buying habit ( ) 7. variety ( ) 8. propaganda ( )  
9 Other:

13. Apart from the local mushrooms which country do you think is the most competitive in the Japanese market? Why?

1. Japan ( ) 2. China ( ) 3. Germany ( ) 4. UNITED STATES ( ) 5. Netherlands ( ) 6. Korea ( ) 7. Thailand ( ) 8. India ( ) 9. Others:

14. What should we pay attention to when exporting mushrooms to other countries?

1. protect domestic industries ( ) 2. keep in good international market condition ( ) 3. Charges that are below a just and reasonable level ( ) 4. no crafty dealing ( ) 5. wide service ( ) 6. variety ( ) 7. good after-sales service ( ) 8. efficiency ( ) 9. others

15.

What is the most needed support by Government in imports or exports ?

16. Do you have a new import plan in the next 5 years?

1. no ( ) 2. yes. Objectives are:

17. Do you have a new produce export plan in next 5 years? (for Chinese exports)

1. no ( ) 2. yes. in the total export rising \_\_\_\_\_ percent

18. What are the main sources of revenue?

A) 2. Questionnaires for China (In Chinese)

调查问卷编号:

本调查的报告期 2009 年 3 月 1 日至 2009 年 5 月 31 日。

**中国蘑菇出口的情况**

填报人的姓名: \_\_\_\_\_

职业: \_\_\_\_\_

联系方式: \_\_\_\_\_

电话: \_\_\_\_\_

电子信箱: \_\_\_\_\_

填报的时间: \_\_\_\_\_

问卷说明:

为了了解中国蘑菇的出口的现状,政策环境和社会经济环境,为作者更好分析蘑菇在国际市场上的竞争能力提供参考依据,特制本调查问卷。

本次调查是一项专业性强的数据调研活动,殷切期待相关的专家能在百忙之中抽空填答。问卷数据只以统计数据的形式表现和研究作用,不作任何用途,作者将严格履行保密义务。

本问卷填写完成后,请发送到以下电子信箱: wesu0001@stud.slu.se

一. 你知道的蘑菇种类有那些?

- 1 香菇 ( ) 2 木耳 ( ) 3 银耳 ( ) 4 平菇 ( ) 5 草菇 ( ) 6 金针菇 ( ) 7 双孢菇 ( ) 8 竹荪 ( ) 9 口蘑 ( ) 10 牛肝菌 ( ) 11 羊肚菌 ( ) 12 红蘑 ( ) 14 粘盖牛肝菌 ( ) 15 正红菇 ( ) 16 松茸 ( ) 17 舞茸 ( ) 18 滑子菇 ( )

二. 蘑菇的类型中你认为重要的哪几种?

- 1 香菇 ( ) 2 木耳 ( ) 3 银耳 ( ) 4 平菇 ( ) 5 草菇 ( ) 6 金针菇 ( ) 7 双孢菇 ( ) 8 竹荪 ( ) 9 口蘑 ( ) 10 牛肝菌 ( ) 11 羊肚菌 ( ) 12 红蘑 ( ) 14 粘盖牛肝菌 ( ) 15 正红菇 ( ) 16 松茸 ( ) 17 舞茸 ( ) 18 滑子菇 ( )

三. 蘑菇出口的国家有哪些?

- 1 日本 ( ) 2 香港 ( ) 3 德国 ( ) 4 美国 ( ) 5 马来群岛 ( ) 6 俄罗斯 ( ) 7 荷兰 ( ) 8 韩国 ( ) 9 其他:

四. 主要的出口国是哪些?

- 1 日本 ( ) 2 香港 ( ) 3 德国 ( ) 4 美国 ( ) 5 马来群岛 ( ) 6 俄罗斯 ( ) 7 荷兰 ( ) 8 韩国 ( ) 9 其他:

五. 怎样提高食用蘑菇的市场?

- 1 开发新品种 ( ) 2 对已有的品种进行包装 ( ) 3 其他:

六. 哪个国家的蘑菇你比较喜欢?

1. 日本 ( ) 2. 中国 ( ) 3 德国 ( ) 4 美国 ( ) 5 荷兰 ( ) 6 韩国 ( ) 7 泰国 ( ) 8 其他

七. 为什么你会选择那些国家的产品?

- 1 支持国货 ( ) 2 好的质量 ( ) 3 长的保质期 ( ) 4 价格低 ( ) 5 购买的习惯 ( ) 6 种类繁多 ( ) 7

广告宣传 ( ) 8 其他

八. 为什么会选择进口蘑菇?(日本专家回答)

1. 和当地的蘑菇一样 ( ) 2 价格低 ( ) 3 价格高 ( ) 4 质量好 ( ) 5 口感好 ( ) 6 外部包装好看 ( ) 7 购买的习惯 ( ) 8 多样化 ( ) 9 广告的宣传 ( ) 10 其他

九. 促进蘑菇出口创汇的主要因素有哪些?

1 好的领导者 ( ) 2 优惠政策的扶持 ( ) 3 产学研合作 ( ) 4 企业的规模和经济实力 ( ) 5 行业的优势 ( )

十. 蘑菇进入国际市场哪方面的因素更为重要?

1 着重进行市场调研, 加强品牌的创建与发展规划 ( ) 2 利用法律手段, 如商标注册等, 加强对品牌的保护 ( ) 3 加强对人才的培养 ( ) 4 建立自己的产品生产基地 ( ) 5 提高产品质量 ( ) 6 加大广告宣传方面的投入 ( ) 7 加强品牌营销能力, 建立和完善营销网络 ( ) 8 充分利用国内外的中介服务 ( ) 9 加强应对危机的能力 ( )

10 其他:

十一 保持持续竞争力的关键有哪些?

1 重视技术创新 ( ) 2 重视技术积累 ( ) 3 重视技术人才 ( ) 4 重视管理控制 ( ) 5 其他:

十二 进口到日本的蘑菇的原因?

1 价格低 ( ) 2 价格高 ( ) 3 质量好 ( ) 4 口感好 ( ) 5 外部包装好看 ( ) 6 购买的习惯 ( ) 7 多样化 ( ) 8 广告的宣传 ( ) 9 其他

十三 在日本市场上除了本地产的蘑菇, 你觉得哪些国家的蘑菇最具有竞争力? 为什么?

1 中国 ( ) 2 德国 ( ) 3 美国 ( ) 4 荷兰 ( ) 5 韩国 ( ) 6 泰国 ( ) 7 印度 ( ) 8 其他

十四 在出口过程中哪些我们应该注意?

1 体制完善 ( ) 2 保持国际市场持续良好 ( ) 3 收费合理 ( ) 4 不存在欺诈行为 ( ) 5 服务能力广 ( ) 6 品种多 ( ) 7 售后服务态度好 ( ) 8 效率高 ( ) 9 向国外宣传详细 ( ) 10 其他:

十五 在进出口过程重, 最需要政府在哪些方面给予支持?

1 加大政策的宣传力度, 帮助企业树立发展品牌的意愿和信心 ( ) 2 加大对产品出口建设的资金扶持力度 ( ) 3 搞好对自主品牌出口企业的宣传和推广活动 ( ) 4 加强信息服务工作, 为企业的出口自主品牌建设提供咨询服务 ( ) 5 维护市场秩序, 加强对出口产品的品牌保护以及对海外经营活动的保护 ( ) 6 为企业提供国际交流合作与机会 ( ) 7 其他:

十六 在未来的 5 年里有新的进口规划吗? (日本专家)

1 没有 ( ) 2 有, 目标是:

十七 在未来的 5 年里有提高新产品出口的比重吗?

1 没有 ( ) 2 可能, 出口总额的比重将会提高到: %

十八 主要税收来源是什么

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## Appendix B. A map of Japan and mushroom market in Japan<sup>20</sup>



### Mushroom market in Japan

Sapporo Central Wholesale Market,	关西札幌市中央卸売市場、
the central wholesale market in Hakodate,	函館市中央卸売市場、
Muroran City Central Wholesale Market,	室蘭市中央卸売市場、
Aomori Central Market,	青森、セントラルマーケット、
Hachinohe City Central Wholesale Market,	八戸市中央卸売市場、
Morioka Central Market,	盛岡市中央市場、
Sendai City Central Wholesale Market,	仙台市中央卸売市場、
Akita Central Market, Yamagata Central Market,	秋田中央市場、山形県、セントラルマーケット、
Fukushima Central Market,	福島、セントラルマーケット、
Iwaki City Central Wholesale Market,	いわき市中央卸売市場、
Utsunomiya Central Market,	宇都宮セントラルマーケット、
Chiba City Central Wholesale Market,	千葉県千葉市中央卸売市場、
Funabashi City Central Market,	船橋市中央市場、
Tokyo Metropolitan Central Wholesale Market,	東京都中央卸売市場、
Tsukiji market, the market in Daejeon, Kitaadati market ,	築地市場、大田、Kitaadati 市場での市場は、
Kanazawa Central Wholesale Market,	金沢市中央卸売市場、
Kasai Market,	葛西市場
Toshima markets,	豊島市場
Bridge market,	橋市場
Setagaya Market,	世田谷市場
Kawasaki Central Market,	川崎市中央市場、
Pangyo markets,	板橋市場は、
Tama New Town market,	多摩ニュータウン市場
Yokohama Central Wholesale Market,	横浜市中央卸売市場、
Kofu City Central Market,	甲府市中央市場、
Gifu City Central Wholesale Markets ,etc.	岐阜県岐阜市中央卸売市場など

Source from: <http://zhidao.baidu.com/question/31613259.html?fr=qrl&cid=170&index=3>

<sup>20</sup> Map from Google web side

## Appendix C. Range of permissible values for questionnaire

Question number	Question Description	Range of permissible values																																	
1	"type of mushroom"	<table border="0"> <tr><td></td><td>n</td><td>%</td></tr> <tr><td>shiitake</td><td>100</td><td>100%</td></tr> <tr><td>wood ear</td><td>80</td><td>80</td></tr> <tr><td>tremella</td><td>65</td><td>65</td></tr> <tr><td>enolitake</td><td>30</td><td>30</td></tr> <tr><td>phallus indusiatus</td><td>33</td><td>33</td></tr> <tr><td>oyster</td><td>65</td><td>65</td></tr> <tr><td>enoki</td><td>55</td><td>55</td></tr> <tr><td>oyster</td><td>20</td><td>20</td></tr> <tr><td>flammulina</td><td>32</td><td>32</td></tr> <tr><td>matsutake</td><td>40</td><td>40</td></tr> </table>		n	%	shiitake	100	100%	wood ear	80	80	tremella	65	65	enolitake	30	30	phallus indusiatus	33	33	oyster	65	65	enoki	55	55	oyster	20	20	flammulina	32	32	matsutake	40	40
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enoki	55	55																																	
oyster	20	20																																	
flammulina	32	32																																	
matsutake	40	40																																	
2	"main type of mushroom"	<table border="0"> <tr><td></td><td>n</td><td>%</td></tr> <tr><td>shiitake</td><td>100</td><td>100%</td></tr> <tr><td>wood ear</td><td>80</td><td>80</td></tr> <tr><td>enoki</td><td>67</td><td>67</td></tr> <tr><td>matsutake</td><td>40</td><td>40</td></tr> </table>		n	%	shiitake	100	100%	wood ear	80	80	enoki	67	67	matsutake	40	40																		
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3	"the countries which export to Japan"	<table border="0"> <tr><td></td><td>n</td><td>%</td></tr> <tr><td>China</td><td>100</td><td>100</td></tr> <tr><td>UNITED STATES</td><td>100</td><td>100</td></tr> <tr><td>Korea</td><td>100</td><td>100</td></tr> <tr><td>Germany</td><td>54</td><td>54</td></tr> </table>		n	%	China	100	100	UNITED STATES	100	100	Korea	100	100	Germany	54	54																		
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4	"chief export mushroom countries"	<table border="0"> <tr><td></td><td>n</td><td>%</td></tr> <tr><td>China</td><td>100</td><td>100</td></tr> </table>		n	%	China	100	100																											
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5	"improve local market"	<table border="0"> <tr><td></td><td>n</td><td>%</td></tr> <tr><td>package the products</td><td>100</td><td>100</td></tr> <tr><td>advertising</td><td>50</td><td>50</td></tr> <tr><td>Other answer</td><td>no</td><td>100</td></tr> </table>		n	%	package the products	100	100	advertising	50	50	Other answer	no	100																					
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6	"better countries"	<table border="0"> <tr><td></td><td>n</td><td>%</td></tr> <tr><td>China</td><td>44</td><td>44</td></tr> <tr><td>Other answer</td><td></td><td></td></tr> </table>		n	%	China	44	44	Other answer																										
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7	"the reason for your selection"	<table border="0"> <tr><td></td><td>n</td><td>%</td></tr> <tr><td>good quality and assured to eat</td><td>100</td><td>100</td></tr> <tr><td>low price</td><td>44</td><td>44</td></tr> <tr><td>other answer</td><td></td><td></td></tr> </table>		n	%	good quality and assured to eat	100	100	low price	44	44	other answer																							
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8	"mushroom import"	<table border="0"> <tr><td></td><td>n</td><td>%</td></tr> <tr><td>taste good</td><td>100</td><td>100</td></tr> <tr><td>other answer</td><td></td><td></td></tr> </table>		n	%	taste good	100	100	other answer																										
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9	"factors for import"	<table border="0"> <tr><td></td><td>n</td><td>%</td></tr> <tr><td>good quality</td><td>100</td><td>100</td></tr> <tr><td>taste good</td><td>100</td><td>100</td></tr> <tr><td>other answer</td><td></td><td></td></tr> </table>		n	%	good quality	100	100	taste good	100	100	other answer																							
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good quality	100	100																																	
taste good	100	100																																	
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10	"important for mushroom export to International markets "	<table border="0"> <tr><td></td><td>n</td><td>%</td></tr> <tr><td>emphasize investigation to develop own brand</td><td></td><td></td></tr> <tr><td>protect own brand through law way</td><td></td><td></td></tr> <tr><td>foster talent</td><td></td><td></td></tr> <tr><td>build own product</td><td></td><td></td></tr> <tr><td>improve product quality</td><td></td><td></td></tr> <tr><td>increase investment in advertisement</td><td></td><td></td></tr> <tr><td>build sale internet</td><td></td><td></td></tr> <tr><td>utilize internal and external service</td><td></td><td></td></tr> <tr><td>increase ability forward the crisis</td><td></td><td></td></tr> </table>		n	%	emphasize investigation to develop own brand			protect own brand through law way			foster talent			build own product			improve product quality			increase investment in advertisement			build sale internet			utilize internal and external service			increase ability forward the crisis					
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increase ability forward the crisis																																			
11	"point for keeping competitiveness"	<table border="0"> <tr><td></td><td>n</td><td>%</td></tr> <tr><td>technology innovation</td><td></td><td></td></tr> <tr><td>technology accumulate</td><td></td><td></td></tr> <tr><td>talent</td><td></td><td></td></tr> <tr><td>management control</td><td></td><td></td></tr> </table>		n	%	technology innovation			technology accumulate			talent			management control																				
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technology accumulate																																			
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12	"important factor in mushroom imports into Japanese market"	<table border="0"> <tr><td></td><td>n</td><td>%</td></tr> <tr><td>low price</td><td></td><td></td></tr> <tr><td>high Price</td><td></td><td></td></tr> <tr><td>good quality</td><td></td><td></td></tr> <tr><td>taste good</td><td></td><td></td></tr> <tr><td>good outer packing</td><td></td><td></td></tr> <tr><td>buying habit</td><td></td><td></td></tr> <tr><td>variety</td><td></td><td></td></tr> <tr><td>propaganda</td><td></td><td></td></tr> <tr><td>others</td><td></td><td></td></tr> </table>		n	%	low price			high Price			good quality			taste good			good outer packing			buying habit			variety			propaganda			others					
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13	"competitive countries"	<table border="0"> <tr><td></td><td>n</td><td>%</td></tr> <tr><td>China</td><td>100</td><td>100</td></tr> <tr><td>UNITED STATES</td><td>100</td><td>100</td></tr> </table>		n	%	China	100	100	UNITED STATES	100	100																								
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14	"what we should attention"	<table border="0"> <tr><td></td><td>n</td><td>%</td></tr> <tr><td>Kept in good international Market condition</td><td>100</td><td>100</td></tr> <tr><td>Other answer</td><td></td><td></td></tr> </table>		n	%	Kept in good international Market condition	100	100	Other answer																										
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Kept in good international Market condition	100	100																																	
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15	"support by government"	About 50% answer :very healthy and nutrition; others no answer																																	
16	"import plan"	<table border="0"> <tr><td></td><td>n</td><td>%</td></tr> <tr><td>Yes</td><td>100</td><td>100</td></tr> </table>		n	%	Yes	100	100																											
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Yes	100	100																																	
17	"raise new produce"																																		
18	"main revenue"																																		

*In this questionnaire, there are some questions for different countries. That means there are some questions Japanese experts answer and Chinese experts don't need to answer.*

## Appendix D. Seven mushroom countries in Japanese wholesale market

	China	Japan(local )	North Korea	South Korea	United States	Canada	Germany
<b>What are the advantages?</b>	Much attention on accumulation of technology, management and attracting excellent personnel	Customer buying behavior, Good technology	Low price and many variety	Many variety and nearest to Japan	U.S is biggest Agricultural country with abundant natural resources	Professional growing techniques , High quality , High level of cooperation	
<b>What major competitiveness will be taken?</b>	Low price	Customer buying behaviour	Low price	Low price	Good technology and Breed abundant, Many species	High quality	Mushroom cans
<b>What is the major source of revenue?</b>	Export 262000tons About \$0,353billion	\$320 million maitake market			During the 2001/02 reached a record \$912 million, up 5 percent from a year earlier. Mushrooms were the fourth-leading vegetable commodity		Occident consumption
<b>What are successes?</b>	Good government politics; industrial-advantage	Maitake (Grifola frondosa) has become a fast favourite in top restaurants across the country	Many variety	Develop new variety, and police	leading U.S. specialty crop	Favourable geographical position in Europe	
<b>What weak areas can you overcome?</b>	Absence of important technological skill; no innovation; shortage of information on markets	Breed singularity; price more expensive				Small home market	higher prices
<b>What weaknesses can you not overcome?</b>	Buying behavior		Policy	Policy	Far place	more expensive	
<b>What areas are there working problems?</b>	Decision marking process and decision failure risks	Distribution channels					
<b>What areas are in deficit?</b>		Export				Falling consumption of canned and modern trade market of mushroom outlook is not good	
<b>What area can be improved?</b>	Strengthen co-operation with university ;technological advance	price			Decrease price	Can develop new varieties and process	Decrease price

Source from: *Questionnaires for both China and Japanese Experts; "Mushroom Production"*