No.44 (AG-77)
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2000

JETRO Japanese Market Report

–Regulations & Practices–

Mushrooms

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Appendix

Yen-Dollar Exchange Rates

Year	Yen/US$
1995	94
1996	109
1997	121
1998	131
1999	114

Source:"International Financial Statistics," IMF

Introduction

Mushrooms refer to large spore-producing fruit bodies formed by fungi. The Japanese term for mushrooms, ki-no-ko, literally means " child of a tree".

There are some 5,000 kinds of mushrooms in Japan, of which 200 are edible. Cultivated mushrooms number around ten and they include shiitake, bunashimeji, enokitake, nameko and maitake.

Since ancient times the Japanese have used mushrooms in a wide range of dishes, such as nabemono (watery stews), nimono (boiled food) and miso (soup). Because of a growing health-consciousness, mushrooms have attracted attention as health foods. Accordingly, the consumption of mushrooms is steadily increasing.

By contrast, it has become hard to supply domestically grown mushrooms at reasonable prices owing to high costs and other factors, which means that imports must make up for the deficit.

Since there are many species of mushrooms, this market research focuses on fresh and dried shiitake and matsutake, which account for large-volume imports.

Fresh shiitake: HS code 0709.51-020
Dried shiitake: HS code 0712.30-010
Matsutake: HS code 0709.51-010

Chart 1: Characteristics of Typical Mushrooms

Product	Description
Fresh shiitake	Fresh shiitake is the fruit (an organ that produces spores) of shiitake fungus and is a highly popular species of edible mushroom cultivated in Japan. Shiitake grows naturally in many regions of Asia. Since ancient times, shiitake has been valued as food that ensures longevity and recently has attracted public attention as health food effective in preventing adult diseases. Shiitake in Japan, fukurotake in China and southeast Asia, and mushrooms in the West are called the world's "three major mushrooms."
Dried shiitake	Dried shiitake is produced by drying the fruit of shiitake fungus. Depending on their shapes and other factors, dried shiitake is divided into two major categories: donko, the head of which is not fully unfurled, and koshin, the head of which is considerably unfurled. Drying methods can be either natural or artificial. Natural drying uses sunlight and wind but is subjected to weather conditions. Shiitake dried by this method is unsuitable for long storage owing to its high moisture content. Artificial drying uses heat sources such as charcoal, heavy oil and electricity. Before cooking, it is necessary to soften dried shiitake by soaking in water.
Matsutake	Matsutake is a mycorrhizal fungus that lives on the root of active coniferous trees and takes nourishment and water from its host. It grows mainly in akamatsu (Japanese red pine) forests but also in creeping pine and Japanese spruce forests. Matsutake is found in mountainous regions from Sakhalin island and Japan to the Korean peninsula, the east coast of China, and Taiwan. It has a distinct fragrance and is prized as the king of mushrooms. So far it cannot be artificially grown.

I. Market Overview

A. Trends in Domestic Consumption

Forestry Agency statistics show that the consumption of fresh and dried shiitake, the representative types of mushrooms, has registered no marked fluctuation while that of bunashimeji, maitake and other cultivated mushrooms is increasing (Chart 2).

Chart 2: Mushroom Consumption in Japan

(Unit: tons)

Year	Fresh shiitake	Dried shiitake	Matsutake	Bunashimeji	Maitake
1994	98,614	15,157	3,742	54,436	14,103
1995	100,803	15,065	3,726	59,760	22,757
1996	99,551	13,573	3,062	66,657	27,307
1997	100,810	14,906	3,331	72,024	31,135
1998	105,613	14,386	3,495	78,655	36,850

Note: Consumption = production + imports – exports

Source: Forestry Agency

Trends in Japan's consumption of major mushrooms are as follows:

1. Fresh shiitake

In recent years fresh shiitake consumption has held the same level. Use of these mushrooms is divided into two major categories: (a) commercial use (restaurants and prepared foods) and (b) home cooking. Approximately 70% of fresh shiitake is used at home, with the rest going for business purposes. Home consumption of mushrooms, according to the Management and Coordination Agency's 1998 family finance survey report, shows that the annual volume of fresh shiitake purchased per family was 2,128 grams, almost the same as the figure for 1994, which was 2,097 grams.

2. Dried shiitake

The consumption of dried shiitake has continued to ebb in recent years, partly because before cooking it must be softened by soaking in water, which housewives find time-consuming and troublesome. Approximately 60% of the demand for dried shiitake comes from businesses and homes account for the rest. The ratio of dried shiitake eaten at home is on the wane.

3. Matsutake

The consumption of matsutake has declined slightly. In particular its high price has created an ongoing falloff of home consumption.

4. Other mushrooms

The consumption of other mushrooms is increasing steadily, especially since bunashimeji and maitake are affordable and easy to cook.

B. Trends in Domestic Production

The trends in the production of major mushrooms in Japan vary from item to item. Production of bunashimeji and maitake is growing, while that of fresh shiitake remains at the same level and that of dried shiitake continues to decline (Chart 3). It has become hard to supply cultivated shiitake at reasonable prices owing to high cost centered on labor. Because of emphasis on freshness, fresh shiitake is produced in Gunma and Ibaraki prefectures and other suburban areas of major consumption centers like Tokyo. Large amounts of dried shiitake are supplied by Oita and Miyagi prefectures and other areas in the Kyushu region. Because matsutake cannot be artificially cultivated, its production is affected by the weather, varying greatly from year to year.

Chart 3: Production of Major Mushroom Types in Japan

(Unit: tons)

Year	Fresh shiitake	Dried shiitake	Matsutake	Bunashimeji	Maitake
1994	74,294	8,312	120	54,436	14,103
1995	74,495	8,070	211	59,760	22,757
1996	75,157	6,886	359	66,657	27,307
1997	74,782	5,786	272	72,024	31,135
1998	74,217	5,552	247	78,655	36,850

Source: Forestry Agency

C. Import Trends

Imports of mushrooms have generally continued to grow (Chart 4), as it has become difficult to supply domestically produced mushrooms at affordable prices owing to high costs and other factors.

Major imported items include fresh and dried shiitake and matsutake. Jew's ears and truffles are also imported.

Chart 4: Mushroom Imports

(Units: tons and million yen)

	1994	1995	1996	1997	1998	
	Volume	Volume	Volume	Volume	Volume	Value
Fresh / refrigerated	28,602	30,403	27,707	29,794	35,489	28,159
Matsutake	3,622	3,515	2,703	3,059	3,248	16,671
Shiitake	24,320	26,308	24,394	26,028	31,396	10,524
Other mushrooms	655	572	600	698	835	684
Truffles	5	7	10	10	10	281
Dried	10,240	9,720	9,589	11,765	11,601	13,419
Shiitake	7,804	7,539	7,206	9,400	9,048	9,693
Jew's ears	2,194	2,075	2,197	2,218	2,308	2,094
Other mushrooms and Truffles	242	106	186	147	245	1,632
Total	38,842	40,123	37,296	41,559	47,090	41,578

Source: " Japan Exports and Imports", Japan Tariff Association

By country, the largest volume of mushrooms comes from China, which accounts for approximately 90% of the total import volume (70% in terms of value) (Chart 5).

Chart 5: Major Countries Exporting Mushrooms to Japan

(Units: tons and million yen)

Country	1994	1995	1996	1997	1998	
	Volume	Volume	Volume	Volume	Volume	Value
China	35,576	37,181	35,270	39,160	44,503	29,581
South Korea	292	900	284	371	556	5,172
North Korea	1,770	1,151	554	617	1,086	2,553
Canada	489	435	582	687	442	2,007
Brazil	6	3	7	17	25	663
United States	87	252	272	345	79	325
Total, including other countries	38,842	40,123	37,296	41,559	47,090	41,578

Source: " Japan Exports and Imports", Japan Tariff Association

The following summarizes mushroom import trends by country.

1. Fresh shiitake

In 1998 major countries from which fresh shiitake was imported were China and South Korea (Chart 6). China's share of total volume is overwhelmingly high at 99.9%. Most Chinese fresh shiitake is produced via the fungus bed cultivation method using sawdust and other materials. Initially, many of China's fresh shiitake were inferior owing to poor technology for maintaining freshness. But as production increased, technology improved for

upgrading quality levels. Currently, general consumers virtually cannot distinguish between Japanese and Chinese fresh shiitake by appearance. Thanks to low labor costs, Chinese fresh shiitake prices are about a third of those for the domestic variety.

Chart 6: Fresh Shiitake Imports by Country

(Units: tons and million yen)

Country	1994	1995	1996	1997	1998	
	Volume	Volume	Volume	Volume	Volume	Value
China	24,114	26,146	24,348	26,022	31,374	10,513
South Korea	49	128	26	2	22	11
Total, including other countries	24,320	26,308	24,394	26,028	31,396	10,524

Source: " Japan Exports and Imports", Japan Tariff Association

2. Dried shiitake

In 1998 the major exporters of shiitake to Japan were China, South Korea and Hong Kong (Chart 7). China's share of the total reached 98.1%. Much of the Chinese dried shiitake is raised using the fungus bed cultivation method and major producing regions include Zhejiang and Fujian provinces. Prices for Chinese dried shiitake are low, approximately a third of those grown in Japan (on trees) and its supply is stable. Mainly for these reasons, most Chinese dried shiitake is used for business purposes.

Chart 7: Dried Shiitake Imports by Country

(Units: tons and million yen)

Country	1994	1995	1996	1997	1998	
	Volume	Volume	Volume	Volume	Volume	Value
China	7,693	7,372	7,176	9,267	8,872	9,206
South Korea	99	137	28	118	167	477
Hong Kong	7	19	0	7	9	10
Total, including other countries	7,804	7,539	7,206	9,400	9,048	9,693

Source: " Japan Exports and Imports", Japan Tariff Association

3. Matsutake

Matsutake is imported from China, North Korea, South Korea, Canada and elsewhere in vast amounts (Chart 8). Matsutake cannot be grown artificially and its production is often affected by the weather. Import volumes are also influenced by weather conditions in the country of origin.

Imported matsutake has a weaker fragrance than domestic produce. Chinese

matsutake is picked in Sichuan, Yunnan and other provinces and shipped to Japan by air. It has a promising future since many pines grow widely in China. South Korean matsutake is of high quality but expensive, thus resulting in its exports to Japan coming in second behind China in terms of value. Canadian matsutake is whitish and large.

Chart 8: Matsutake Imports by Country

(Units: tons and million yen)

Country	1994	1995	1996	1997	1998	
	Volume	Volume	Volume	Volume	Volume	Value
China	1,127	1,191	1,152	1,076	1,313	6,802
North Korea	1,761	1,141	541	615	1,086	2,553
South Korea	139	633	170	249	355	4,662
Canada	447	340	510	618	351	1,938
Total, including other countries	3,622	3,515	2,703	3,059	3,248	16,671

Source: " Japan Exports and Imports", Japan Tariff Association

4. Other mushrooms

The volume of Jew's ears imported in 1998 was 2,308 tons, of which 2,289 tons came from China. Jew's ears is imported in a dry condition.

Truffles are not produced in Japan, so they are imported from China, France, Italy and elsewhere. The distinctive feature of truffles is a unique fragrance and they are highly prized as a delicacy, but they are expensive.

Jew's ears, truffles and other mushrooms are also imported from the U.S. and Canada as well as China.

D. Shares of Imports in the Japanese Market

According to the Forestry Agency, imported fresh shiitake had a 30% share of the total Japanese consumption in 1998. The share of imported dried shiitake topped 60% and that of matsutake reached 93% (Chart 9).

Among these products, the share of imported dried shiitake continues to rise, owing to the decline in domestic production. It is hard to calculate the share of truffles since there are no accurate statistics in Japan, but it is believed that imported truffles monopolize the market.

Chart 9: Imports'Shares of the Japanese Market

Fresh shiitake (Units: tons and %)

Year	1994	1995	1996	1997	1998
Imports	24,320	26,308	24,394	26,028	31,396
Consumption	98,614	100,803	99,551	100,810	105,613
Share	25	26	25	26	30

Dried shiitake

Year	1994	1995	1996	1997	1998
Imports	7,804	7,539	7,206	9,400	9,048
Consumption	15,157	15,065	13,573	14,906	14,386
Share	51	50	53	63	63

Matsutake

Year	1994	1995	1996	1997	1998
Imports	3,622	3,515	2,703	3,059	3,248
Consumption	3,742	3,726	3,062	3,331	3,495
Share	97	94	88	92	93

Note: Share = imports ÷ consumption × 100

Source: Forestry Agency

E. Future Market Outlook

Generally, the demand for mushrooms is expected to steadily expand owing to the growing health-consciousness of consumers, while domestic production is expected to stagnate due to the aging of growers and the difficulty of finding people to replace them. For this reason, mushroom imports will continue to increase, though not as much as in the past.

II. Import Systems and Related Laws and Regulations

A. Statutes and Procedures Applicable at the Time of Import

Mushroom imports are controlled under the Plant Protection Law, the Food Sanitation Law and the Pharmaceutical Affairs Law depending on the uses and types of mushrooms.

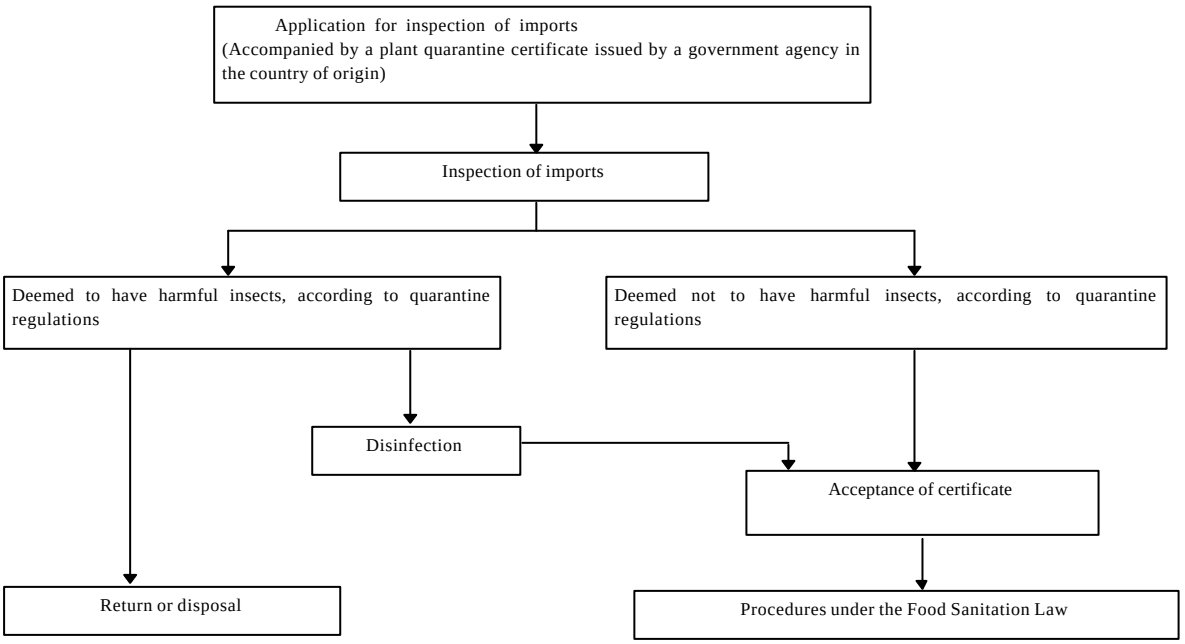
1. Plant Protection Law

The import of mushrooms with soil is prohibited. In general, however, edible mushrooms, including shiitake, matsutake and Jew's ears, are regarded as not harmful to other plants and trees, hence no special procedures are required (Article 7 of the Quarantine Regulations for Imported Plants).

When importing other kinds of mushrooms and those that have never been brought to Japan in the past, importers must submit an application for inspection of the plants, together with a certificate of inspection issued by a government agency in the country of origin (or a copy thereof), to a plant protection station without delay after entering a Japanese port to prevent the invasion of insects harmful to plants. Online applications via connection to plant protection stations are also acceptable.

Mushrooms can be imported only through designated seaports and airports at where suitable plant quarantine procedures are possible. If harmful insects are found in mushrooms by inspection and are deemed unacceptable, orders for disinfection or disposal will be issued.

Chart 10: Import Procedures under the Plant Protection Law



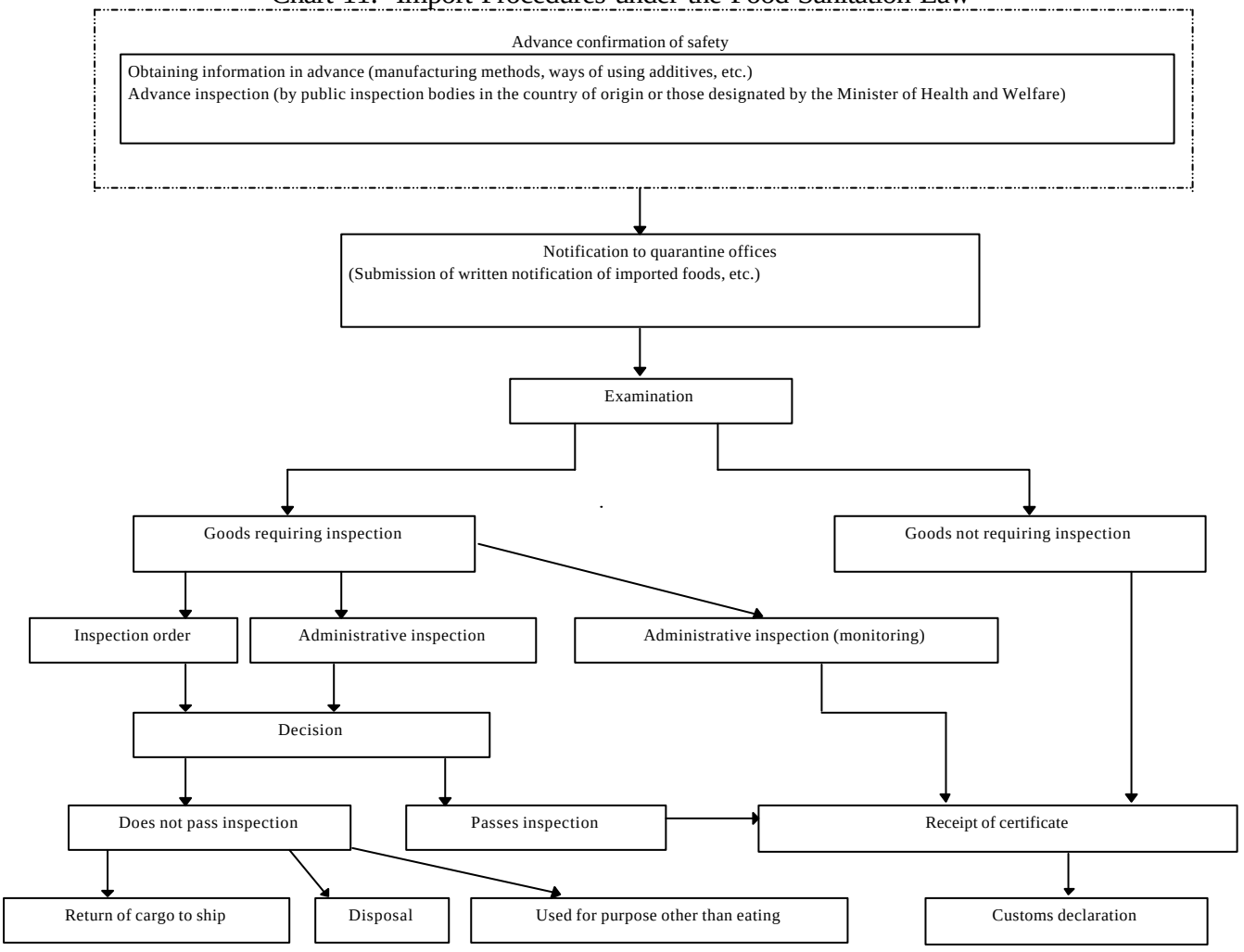
2. Food Sanitation Law

When bringing in edible mushrooms, importers must submit written notification of imported foods, etc., plus other necessary documents, to a food inspector at a quarantine office that has jurisdiction over the seaport or airport through which the cargo will pass. Online applications via connection to the Ministry of Health and Welfare are also acceptable.

Mushrooms deemed to require inspection as a result of reviewing the written import notification will be inspected in a bonded area to determine whether or not they can be imported. If judged unacceptable, measures such as removing them from the country or their disposal must be taken.

If mushrooms are voluntarily inspected in advance by a domestic inspection body in Japan designated by, or an overseas inspection entity registered with, the Minister of Health and Welfare, the results are treated as comparable to an inspection conducted by Japan's quarantine offices, and inspection on arrival can be waived, expediting import procedures.

Chart 11: Import Procedures under the Food Sanitation Law



3. Pharmaceutical Affairs Law

Certain mushrooms, such as Pachyma hoelen and hog-tubers, are used in Chinese medicine and subject to the provisions of the Pharmaceutical Affairs Law.

B. Statutes and Procedures Applicable at the Time of Sales

Mushroom sales are regulated by the Law Concerning Standardization and Proper Labeling of Agricultural and Forestry Products (JAS Law), the Food Sanitation Law, the Measurement Law and/or the Pharmaceutical Affairs Law, depending on the product.

1. Law Concerning Standardization and Proper Labeling of Agricultural and Forestry Products (JAS Law)

Recently, the law was amended to set quality labeling standards for edible mushroom sales. The revised law, scheduled to be enforced on April 1, 2000, requires that the country of origin be displayed for fresh mushrooms.

2. Food Sanitation Law

Under this law, labeling is required when processed mushrooms, such as dried shiitake, are packaged or put in containers for marketing.

3. Measurement Law

Under this law, proper measurement and labeling is required when processed mushrooms, like dried shiitake, are put in containers or packaged for sales.

4. Pharmaceutical Affairs Law

As mentioned, certain mushrooms, such as Pachyma hoelen and hog-tubers, are used in Chinese medicine and subject to the provisions of the Pharmaceutical Affairs Law.

C. Labeling Methods for Sales

1. Labeling based on statutory regulations

Processed mushrooms such as dried shiitake:

When marketing processed mushrooms such as dried shiitake, the Law Concerning Standardization and Proper Labeling of Agricultural and Forestry Products (JAS Law), the Food Sanitation Law and the Measurement Law require sellers to display the following facts on their products:

- Product name
- Name(s) of ingredient(s)
- Content (amount)
- Freshness date (date until which the product quality remains good)

- Storage method
- Name or designation and address of manufacturer
  (importer in the case of foreign goods)
- Country of origin (for imports)

Chart 12: Example of Labeling for Dried Shiitake

Product name:	Dried shiitake
Name(s) of ingredient(s):	Shiitake (grown in fungus beds)
Content:	100 g
Freshness date:	Year/Month/Day
Storage method:	Avoid direct sunlight. Store in low humidity.
Country of origin:	China
Importer:	## Co., Ltd. ## , X City, Y Prefecture

Fresh mushrooms such as fresh shiitake:

When marketing fresh mushrooms such as fresh shiitake, the revised JAS Law requires sellers to display the following facts on their products.

- Product name
- Name of producing region (country of origin for imports)

2. Voluntary labeling based on laws

General quality labeling guidelines for vegetables and fruit:

In February 1991 the Ministry of Agriculture, Forestry and Fisheries set general quality labeling guidelines for vegetables and fruit, which provide guidance to producers so that they display certain information on their products to help consumers make proper choices when purchasing. These guidelines, enforced in April of the same year, cover edible fresh vegetables and fruit, including fresh mushrooms, as follows:

- Product name or type
- Producing region or country of origin
- Name and address of producer, marketer, or importer
- Content (amount)
- Size or quality level

JAS Law :

Dried shiitake is subject to the Japanese Agricultural Standards (JAS). Dried shiitake conforming to JAS standards in terms of the shape of its head, fleshy thickness and extent of unfurling, content, and condition of packaging can bear the JAS mark on its packaging.

3. Voluntary labeling

There are no requirements concerning the industry's voluntary labeling for mushrooms.

D. Related Tax Systems

1. Tariffs

Chart 13: Tariff Rates

HS code	Product name	Tariff rates			
		General	WTO	Preferential	Temporary
0709	Other vegetables (fresh and refrigerated)				
0709-51	Mushrooms	5%			
-010	(1) Matsutake		3.3%	No tariff	
	(2) Other mushrooms		4.4%		
-020	A. Shiitake				
-090	B. Other				
0709-52-000	Truffles	5%	3.3%		
0712	Dried vegetables (limited to whole, cut and powdered and excluding those further prepared)				
0712.30	Mushrooms and truffles	15%			
-010	(1) Shiitake		13.2%		
	(2) Other mushrooms		10%	9% *No tariff	
-091	A. Jew's Ears				
-099	B. Other				

* Least developed countries only.

2. Consumption tax

A 5% consumption tax(similar to a sales tax) is levied on the sale of mushrooms.

III. Distribution and Trade Practices

A. Distribution Channels

There are two general distribution channels for mushrooms. One is for fresh shiitake and other fresh mushrooms, and is basically the same as the channel for vegetables and fruit since they are difficult to store for long periods of time. Specifically, the mushrooms leave the producers and reach the wholesale market through agricultural cooperative associations, marketing cooperatives and other organizations. They are traded by middlemen wholesalers and then go to retailers, food processors and other organizations.

The other channel is for dried mushrooms, including shiitake. Producers consign the sale of these mushrooms to agricultural cooperatives, forestry associations and produce organizations, which sell them to packers (wholesalers that sort, package and do basic processing) and other firms. Dried shiitake considered a dried good and once was positioned as a high-grade mushroom, so it has its own distribution channel.

In the case of imports, fresh mushrooms are distributed through the channel for vegetables and fruits. They reach the wholesale market via trading firms and subsequently follow the route for domestically produced mushrooms. In general, dried mushrooms are distributed to wholesalers, retailers, food processors and other organizations through trading firms. For 60%-70% of imported dried shiitake, however, packers also serve as importers; importers other than packers are called “outsiders.”

Distribution channels have been diversified as producers and importers sell mushrooms directly to supermarkets, food processors and other organizations to cut distribution costs and for other reasons.

Chart 14: Distribution Channels for Fresh Shiitake

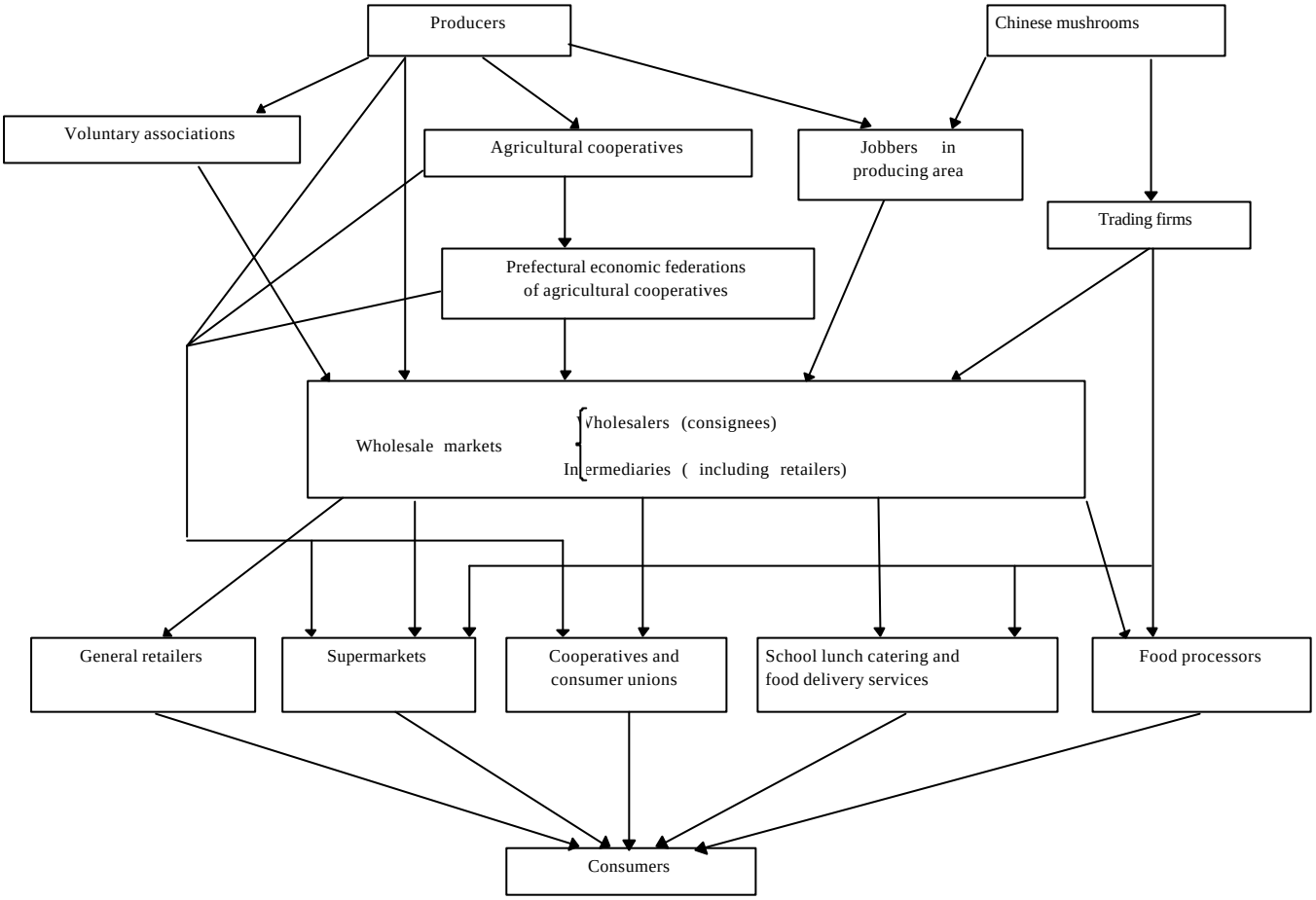
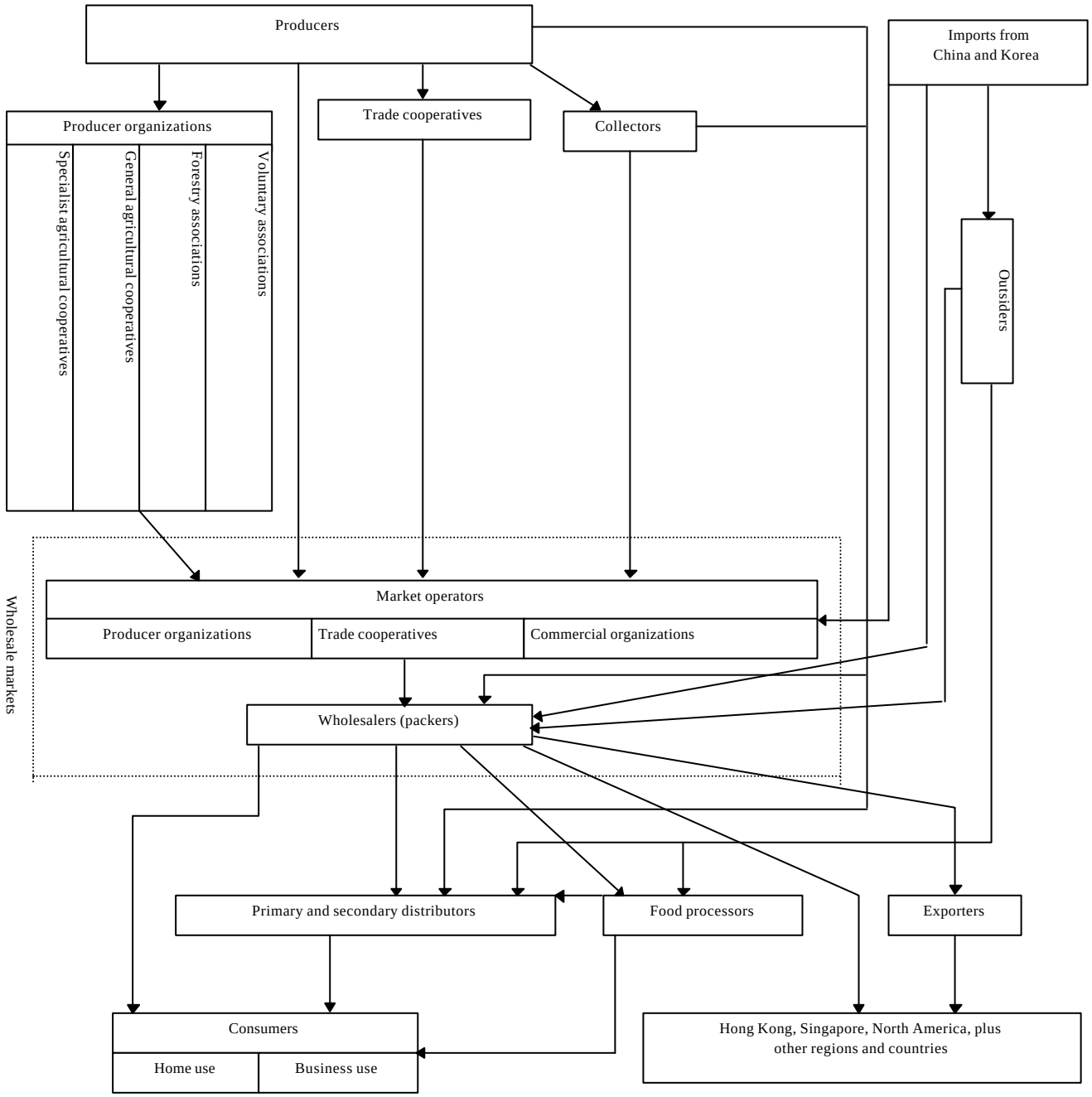


Chart 15: Distribution Channels for Dried Shiitake



B. After-Sales Service

After-sales service is generally not required.

IV. Advice on Access to the Market

A. Sales Channels

Exporting fresh mushrooms to Japan for the first time involves two key issues: (1) understanding the nation's wholesale markets where vegetables and fruits are traded by auction and (2) distribution costs. Selling fresh mushrooms via wholesale markets doesn't necessitate finding buyers, since the sale of fresh mushrooms is consigned to the market. This channel has several advantages, including the ability to move all goods on the day of consignment, leaving nothing unsold. Moreover, imported fresh mushrooms are generally shipped by air to maintain freshness, which makes it necessary to give full consideration to refrigeration, transport and other costs in addition to pricing.

When exporting mushrooms to Japan on a continuous basis, it is important to find prospective buyers (restaurants, food processors, etc.) in advance.

Moreover, exporting new types of mushrooms to Japan for the first time requires developing domestic demand and advertising ways of handling, cooking and eating them.

B. Quality

The Japanese market judges products very severely with regard to quality and standards compliance. Close attention should be paid to freshness, protection from bruises, size, color, etc.

C. Legal Knowledge

Importing and selling mushrooms in Japan demands a thorough grasp of the Food Sanitation Law, the Law Concerning Standardization and Proper Labeling of Agricultural and Forestry Products (JAS Law), and other statutes.

Appendix

I. Related Organizations

A. Government Agencies

1. Mushrooms in general

Special Forest Products Office, Forest Products Division, Forest Policy Planning Department, Forestry Agency
2-1, Kasumigaseki 1-chome, Chiyoda-ku, Tokyo
Phone: 03-3502-8111 Fax: 03-3591-6319
Internet URL: http://www.maff.go.jp/

2. Plant Protection Law

Plant Protection Division, Agricultural Production Bureau, Ministry of Agriculture, Forestry and Fisheries
2-1, Kasumigaseki 1-chome, Chiyoda-ku, Tokyo
Phone: 03-3502-8111 Fax: 03-3591-6640
Internet URL: http://www.maff.go.jp/

3. Food Sanitation Law

Food Sanitation Division, Environmental Health Bureau, Ministry of Health and Welfare
2-2, Kasumigaseki 1-chome, Chiyoda-ku, Tokyo
Phone: 03-3503-1711 Fax: 03-3591-8029
Internet URL: http://www.mhw.go.jp/

4. Measurement Law

Weights and Measures Office, Machinery and Information Industries Bureau, Ministry of International Trade and Industry
3-1, Kasumigaseki 1-chome, Chiyoda-ku, Tokyo
Phone: 03-3501-1511 Fax: 03-3580-2768
Internet URL: http://www.miti.go.jp/

5. Law Concerning Standardization and Proper Labeling of Agricultural and Forestry Products

Standards and Labelling Division, Food and Marketing Bureau, Ministry of Agriculture, Forestry and Fisheries
2-1, Kasumigaseki 1-chome, Chiyoda-ku, Tokyo
Phone: 03-3502-8111 Fax: 03-3502-0438
Internet URL: http://www.maff.go.jp/

6. Pharmaceutical Affairs Law

Planning Division, Pharmaceutical Affairs Bureau, Ministry of Health and Welfare

2-2, Kasumigaseki 1-chome, Chiyoda-ku, Tokyo

Phone: 03-3503-1711 Fax: 03-3591-9044

Internet URL: http://www.mhw.go.jp/

B. Trade Organizations

1. Japan Special Forest Product Promotion Association

Koei Bldg., 3-5, Uchikanda 1-chome, Chiyoda-ku, Tokyo

Phone: 03-3293-1197 Fax: 03-3293-1195

2. Federation of Nippon Shiitake Agricultural Cooperative Association

Tanaka Bldg., 1-10, Nihonbashi-Muromachi 3-chome, Chuo-ku, Tokyo

Phone: 03-3270-6068 Fax: 03-3242-2159

3. The Japan Kinoko Research Center Foundation

96, Tomiyasu 2-chome, Tottori, Tottori Prefecture

Phone: 0857-22-6161 Fax: 0857-29-1292

4. The Mushroom Research Institute of Japan

1, Hiraicho 8-chome, Kiryu, Gunma Prefecture

Phone: 0277-22-8165 Fax: 0277-46-0906