Repayment of VAT to export meat packers under the rule of GATT is delayed. This is apparently because the calculation of the amount of repayment has been incorrectly made by the government.

1.4.4 Measures to Enhance the Productivity of the Argentine Beef

1.4.4.1 Reasons why enhancing productivity is necessary

As have been explained, the Argentine beef appears to have an international competitiveness. However, if export to the Japanese market is aimed, enhancing productivity furthermore is necessary for the following reasons:

- The Japanese market of grass-fed and frozen beef to which the Argentine beef can penetrate initially, is low value-added, and cost is the most important factor for the Japanese importers to determine the sources of import. Once the Argentine beef begins to be exported to Japan, the US and Australia are expected to reduce their costs to compete with the Argentine beef. For Argentina to maintain its cost advantages, enhancing productivity furthermore would be necessary.

- Financial status of the Argentine meat packers is not very solid while a large amount of capital is expected to be required in the future. Many meat packers seem to be suffering from the low levels of export before 1992 and an accumulated tax in arrears. In order to obtain a sufficient amount of capital for investment, meat packers should improve financial status now.

Measures to enhance productivity would include the following points:

1.4.4.2 Meat packers

(1) Short-term measures

I. Rearrangement of plant lines

Operation in cutting and packing rooms are not very efficient in most exporting meat packing plants in Argentina. To raise efficiency, the rearrangement of plant lines should be implemented with a special attention to the following:

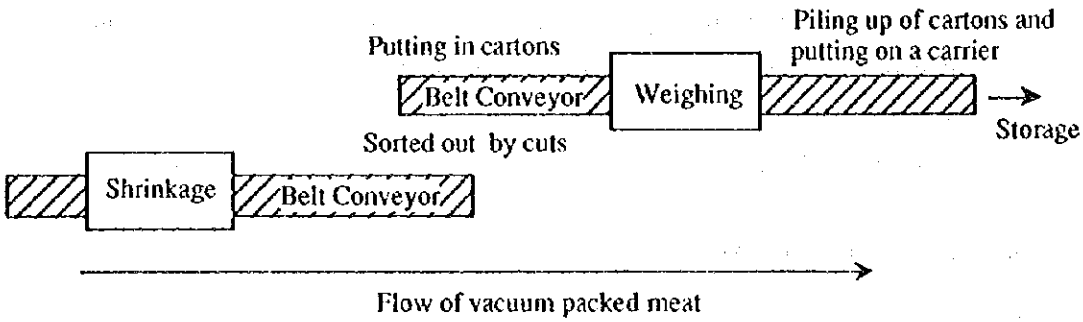
Cutting room

- Bones and meat are on the same belt conveyor even after bones are removed from meat, and the bones are dealt with at the end of line. In Australia, bones and meat use different belt conveyors, and the one who picks up bones at the end of line is not necessary.
- Each worker puts trimmings in his/her own plastic bags. In Australia, the end of line is like a turn table, and all the trimmings are handled by a worker at the turn table. All the works associated with trimmings are concentrated to one person.

Packing room

- While a shock to vacuum packs should be minimized to prevent packs from breaking, many unnecessary shocks have been given to the packs in Argentina. In some plants, packs are even thrown when they are sorted out by cuts. A packed meat goes through a process of shrinking, sorted out by cuts, put in a carton, weighed, piling up of cartons, and put on a carrier. Most process has been handled manually in Argentina, and the packs are given shocks at each stage. In Australia and the US, all the process is operated on belt conveyors as is shown in the following figure, and very little shock is given to packs. Thus, a damage to packs can be minimized.

Figure II-1-4-2 Desirable Beef Packing Lines

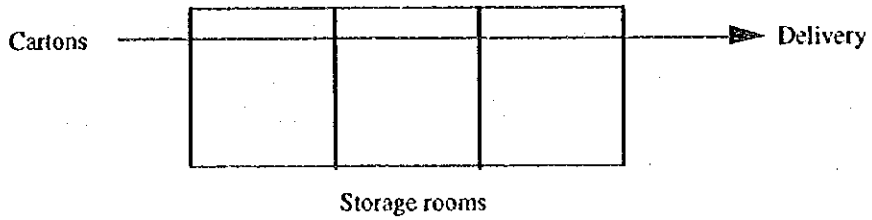


- Some workers turn back in handling meat, but this is an inefficient move. Lines should be laid out so that workers are not required to turn back.
- Most handling of collapsible cartons (setting up, packing etc.) is done by hand in Argentina. Mechanization can be introduced to raise efficiency and to reduce the number of workers.

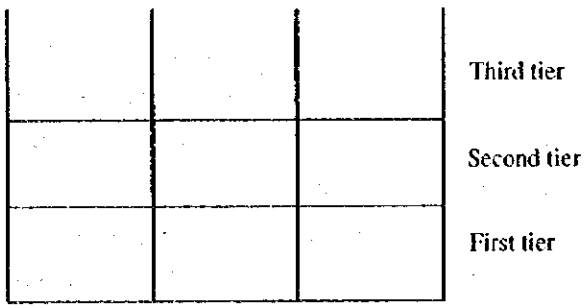
II. Efficient use of storage

In general, storage facilities are not utilized efficiently. There are three options that the Argentine meat packers may introduce.

- The first option is to have storage rooms divided like a following figure in order to save the energy for freezing. Belt conveyors are used to put in and out the cartons.



- The second alternative is to form a framework of a freezing/chilling storage as a figure below. Cartons are put on pallets and stored by forklift trucks.



- The third and the most modern option is to introduce an automated storage system with computer control.

III. Quality control

While most parts of meat packing plants are effectively overseen by SENASA and the countries to which beef is exported, some parts seem to have a room for improvement. Control of the temperature of meat is a key to maintaining a good quality of meat.

- Some carcasses are attached to each other during the process of maturation, which deteriorates the quality of meat. All the carcasses have to be apart.

- Temperature control after the process of cutting is not adequate. As the temperature of meat increases during the process, it should be lowered to 0 degree immediately after cutting.
- Cartons in a storage are attached to each other. There should be a room among cartons to assure that all the cartons are chilled or frozen properly and evenly.

IV. Obtaining new technology

Information on state-of-the-art technology and sources of improvement can be obtained by visiting meat packing plants in foreign countries. The Japanese meat packers often visit meat packing plants in the US to get acquainted with the latest technology and operation systems. In Japan, meat packers association sometimes arrange tours for its members. It might be a good idea for AIAC to set up a tour to visit meat packing plants in the US for its member firms.

(2) Long-term measures

I. Preparing for the order of many kinds

The Japanese importers are likely to ask the Argentine exporters to supply many kinds of cuts as have been so in Australia and the US. The Argentine exporters should be prepared to effectively meet these orders. For example, the Japanese importers would require to put only a few pieces of cuts in a carton. If too many cuts are put in a carton, there would be an excessive pressure on meat, and it may result in an increased amount of drip or breaking of vacuum packs. They may also ask to change the size of cartons by cuts. While the Argentine meat packers may be prepared to meet this kind of request as they have exported to various countries, they can further improve the services.

To meet these demand, introduction of computer management, delivery control, customer control would be necessary. In addition, to effectively practice these measures, further education of workers would be desirable.

II. Construction of a new plant

Enhancing productivity furthermore may require to build a new meat packing plant. Most meat packing plants in Argentina were built a few decades ago, and they have undergone a series of renovation and restructuring. However, as the plant layout is old, there is a limit in enhancing the productivity. To have a meat packing plant as efficient as the one in the US, constructing a new plant would be necessary.

Not only export meat packing plants for export but also those for the domestic market may need to build new plants to cope with a change in distribution systems. At present carcass or quarter is the main form of distribution in the domestic market, but an increasing volume of meat is distributed in boxed beef. Some supermarkets like to receive meat in cuts to reduce their costs to cut the carcass at their own facilities. Distribution in boxed beef is much better from sanitary points of view, too. Once boxed beef becomes the main form of distribution, the role of the cutting sector becomes very important. A small difference in productivity in the cutting sector shall have a large impact on the profitability of plants because the sector requires a lot of workers and it has a greater value added than the slaughtering sector. Those plants that are unable to increase productivity in the cutting sector will be unable to compete in the market.[11] In Japan and the US, when the form of distribution changed from carcass to boxed beef, the number of meat packing plants decreased significantly.

III. Transferring plants to fattening areas

Some meat packing plants for export are located in the suburbs of Buenos Aires, while few meat packing plants are located near the consumption area in the US, Australia, and Japan. This is because in Argentina traditionally more than 80% of cattle were handled at the Liniers market, and it was convenient for meat packers to have plants near the market. Today having meat packing plants in cities away from producers has many disadvantages including the following:

- A greater transportation cost;
- A higher risk of accident of cattle during transportation;
- Lack of interaction with producers;
- Higher labor costs; and
- Environmental problems such as an odor and waste water.

Although having meat packing plants in cities does have some advantages, transferring meat packing plants to fattening areas is expected to benefit meat packers significantly. In addition, the Argentine meat packing plants are sooner or later required to build a new plant taking into account the impact of a change in the form of distribution.

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[11] Development of boxed beef distribution will be largely affected by tax evasion. At present, many domestic market oriented meat packers are alleged to be evading tax. They are supplying carcass to retailers and supermarkets at inexpensive prices because they are not paying 21% value added tax (VAT). Plants that pay VAT cannot compete with these illegal ones even if they supply boxed beef. If tax evasion continues, a change in distribution from carcass to boxed beef will be delayed.

To facilitate the transfer of meat packing plants, both the central and provincial governments may play an important role. The central government may draw a future picture of the location of meat packing plants and induce them to move the plants to rural areas. Provincial governments may provide some incentives such as a reduction in tax to facilitate the transfer of meat packing plants. As meat packing plants employ many workers, the transfer would contribute to improving the rural economy. While some skillful labor forces may need to move with plants, some meat packers have confirmed that the other workers can be recruited in rural areas and trained.

1.4.4.3 Stable supply of high-quality cattle

In spite of the importance of meat packing plants, value-added in the plants through the process of slaughtering, cutting, and packing is not very big. About 80% of the cost of meat packers is raw material (live animals), according to the Table V-1-4-9. Thus, the stable procurement of high-quality (high-yield) cattle is the most critical for a meat packer to enhance productivity. In addition, the Japanese importers are especially concerned with a stable supply. To ensure it meat packers will be required to always procure the same quality of cattle at stable prices. The role of the primary sector (producers) is very important, and a close cooperation between producers and meat packers should be established.

Nevertheless, meat packers' recognition on this point seems to be weak. Relying on a market or an ad-hoc basis procurement from producers has a risk that they might not be able to procure the right type of cattle at reasonable prices.

Relation between producers and meat packers is not very amicable. This unfriendly relation is not unique to Argentina; most countries have the same problem. However, the lack of cooperation and conversation between the two seems to be particularly strong in Argentina. Producers' suspicion on meat packers is founded on the following reasons:

- Cattle is undervalued;
- The terms of payment are disadvantageous to producers;
- Meat packers sometimes do not pay to producers;
- Producers are not well-informed of the popular type of cattle;
- A large size of cattle can only be sold to export meat packers, but the number of export meat packers is limited.

On the other hand, meat packers also have some concern in producers because some producers increased the weight of cattle using peculiar food such as salt.

In spite of these traditional distrust between producers and meat packers, the two have increasingly recognized the necessity to form an amicable relationship. For meat packers to realize the stable procurement of high-quality cattle, the following two methods seem to have a potential to explore further:

(1) The up-stream industry (producers) participates in the down-stream industry (meat packers)

Triggered by an allocation of a part of Quota Hilton to producers, many producers have begun to recognize the necessity to pay more attention to the down-stream industry. Producers had been indifferent to the destiny of their cattle once it was sold to brokers or meat packers. But this kind of attitude has begun to change. AACREA periodically invites people from the down-stream industry to talk on the market situations and the kinds of cattle well-accepted in domestic and external markets.

On the other hand, most export meat packers are in a financially weak position, and they are lack of capital needed for investment. Since the shares of all the exporting meat packers are not sold in a stock market, and a loan from banks is hardly available at reasonable interests rate, meat packers are looking for alternative sources to obtain capital.

Under these situations, a group of producers have formed a partnership with a meat packer and joined the management of the firm. The meat packer has two benefits: capital provided by the producers, and the stable supply of high-quality cattle. Eighty percent of cattle slaughtered by the meat packer is expected to be supplied by the group of producers.

Some producers have begun to participate in the down-stream industry without forming a partnership. They send their own cattle to meat packing plants, have them slaughter the cattle, and export them through their own channels. Although developing a market channel appears to be a main obstacle, this type of business should be highly encouraged. Continued allocation of Quota Hilton to producers and some form of governmental assistance to facilitate an access to foreign markets may promote to expand this trend.

(2) Cooperation between the up- and down- stream industries

A key would be for meat packers to be trusted by producers. One of major meat packers in the US committed to purchase a fixed amount of cattle from producers regardless of market fluctuation. In addition, it paid higher prices to producers when the cattle turned out to be high quality and high yield. Through this process, the meat packer sent a clear message to producers the kinds of cattle it was willing to pay higher prices. With these measures it was successful in acquiring a reliance of the producers. This strategy led it to develop rapidly to be one of major meat packers in the US.

While the strategy in this example is not very easy to follow for the Argentine export meat packers due to financial constraints and market fluctuation, this strategy should be fully respected. Recent expansion of export may provide a good environment for the meat packers to improve relationship with producers.

Improvement in grading systems may be effective. In Japan, each carcass is graded by a public institute, and the grade is referred to when the price of carcass is determined. In Argentina, since the abolishment of Junta Nacional de Carne (JNC) grading has been done by certified employees of meat packers, and there is a concern among producers that each carcass is graded in favor of meat packers. While grading system in nature has some problems,[12] strengthening the system may help foster a mutual understanding between producers and meat packers.

While some meat packers have their own farms, running a farm does not seem to be viable for meat packers. Intrinsically, extensive agriculture such as cattle farming does not suit to firm management because working hours are not fixed, and the opportunity cost of land is significant. On the other hand, intensive agriculture such as feed-lot and poultry farming is suited to firm management. Although meat packers may be involved in cattle raising indirectly through, for example, contract with producers, it seems more appropriate for meat packers to form an alliance with producers than to participate directly in the up-stream industry.

[12] The biggest problem of grading system is that the grade of carcass is not directly linked to its market value. While the value of meat is assessed on cut-basis, carcass is the one that is graded. Difference in taste in each export market also weakens the effectiveness of grading.

1.4.4.4 Farms (Breeders and Fatteners)

The farm sector is the main source of competitiveness of the Argentine beef, but it does not necessarily mean that there is no room for an increase in productivity. As mentioned before, productivity of breeding and fattening is not very high. The principal reasons for this had been unstable economy and inflation. Recent economic liberalization and the halt of inflation, however, have begun to provide a good environment and a right incentive for producers to increase productivity.

A fundamental key for an increase in productivity would be management. While technology, know-how and capital are necessary, these resources are accessible, in a varying degree, for most large and medium-sized producers. However, the lack of recognition that an economic environment has changed has prevented producers from introducing intensive farm management. The tendency appears to be more prominent among the elderly people who are used to traditional extensive farming. Low levels of return from cattle farming are also attributable to little investment on farms.

The government may need to emphasize the importance of management and promote by means of seminars, extension offices, and programs like Cambio Rural. Dissemination of the experiences of successful producers seem effective in facilitating traditional producers to recognize the necessity of intensive farm management. Private initiatives like AACREA should also need to be encouraged. Learning farm management skills from other countries such as the US may be helpful. Training agricultural consultants to disseminate the latest technology and know-how to local farmers would also be effective. Financial assistance to some small- and medium-sized farmers would facilitate to enhance productivity.

Management needs to be strengthened particularly in the fields of data collection, cattle and grasses. With regard to data collection, producers should begin with taking data on their own farms. Many breeders are not aware of the rate of pregnancy and weaning of their own farms. Without data, an increase in productivity can hardly be attained. AACREA and Cambio Rural are promoting the importance of taking data.

Management of grasses are also important. Cattle is a machine that transforms grasses into meat. Since the situations of grasses vary from one parcel to the other, each parcel needs to be managed differently. Thus, the periods of rotation between cattle fattening and crop production can vary from one parcel to the other depending on the situation of grasses. The introduction of those management skills that can be applied with

minimum costs should be encouraged. Fatteners, for example, may introduce electric fences with a little cost. The fences enables intensive management of grasses and cattle.

Cattle management is by no means important. Breeders, for example, should manage cows so that they become pregnant in accordance with the growth of grasses. Elimination of cows that do not bear is also important to improve efficiency.

Among specific techniques, to raise the ratio of pregnancy and weaning at the breeding sector seems to be the most important in improving productivity. This can be achieved by reducing the period between a birth and pregnancy. To enable this, an appropriate management of both cattle and grasses, the elimination of reproductive diseases such as Brucellosis, and some financial / technical assistance to some medium and small sized farms would be necessary.

1.5 Summary and Recommendations for Beef and Beef-based Products

1.5.1 Summary of Current Situation

Market access to Japan, market situations in Japan and the competitiveness of the Argentine beef industry are summarized as follows:

(1) Although the Japanese government is committed to follow WTO's SPS agreement and it has shifted from a zero to minimum risk concept, the stance is that it considers a possibility of importation only from FMD free countries;
(2) The size of the Japanese market of grass-fed and frozen beef was about 90,000 tons in 1994. As the market is not very large, and the value-added in this market is minimum, the expansion of the market through the development of new dishes is very important;
(3) While the Argentine beef holds an international competitiveness in both price and quality, there is a room for improvement in productivity and quality control if the Japanese market is targeted; and
(4) The financial structure of export meat packers, except some firms, does not seem to be strong enough to carry out investment in the machinery and equipment which are necessary for the expansion of production capacity and improvement in productivity.

1.5.2 Recommendations

The Argentine government should take the following strategies and measures to solve the market access problems:

(1) Since there is no short cut for Argentina to use to commence export to Japan, to demonstrate the effectiveness of exporting deboned beef, the Argentine government should make a strong effort to realize export to the US as soon as possible;
(2) At the same time, as the Japanese government may be prepared to undertake risk analysis on a bilateral basis when international standards develop, the Argentine government should continue to express interest in a risk analysis of the export of deboned beef.

The industry should take the following strategies and measures in marketing and production:

(1) Marketing strategies to be devised by:

1) Focusing on the commercial and processing uses in the first stage as they are the primary markets of the Argentine grass-fed and frozen beef;
2) Selecting meat packers and trading houses as primary targets as they are the principal distributors of imported beef. The former has a capability of developing new areas of beef consumption, while the latter holds a wide sales network;
3) Promoting 'whole product' concept to appeal the unique business philosophy, soundness of the financial status, reliability as a source of beef, commitment to the Asian market and the long-term perspectives of the Argentine beef industry;
4) Appealing the real value of the Argentine beef which is 'safe, healthy and produced with environmental consideration';
5) Strengthening the function of the existing exporters' association in the areas of information gathering and sales promotion at its own expenses but with some governmental supports in the area of information production.

(2) Competitiveness of the Argentine beef in the Japanese market should be further enhanced by:

(Possible in the short term)

1) Improving the productivity of meat packing plants by rearranging cutting and packing lines and by utilizing storage facilities in a more efficient way;
2) Improving the quality control of meat packing plants in packing and temperature control through the process of cutting, packing and storing;
3) Establishing a good relation with producers (breeders and fatteners) to ensure the stable supply of high quality cattle;

(To be realized in the medium or long term)

4) Improving productivity through the construction of new plants;
5) Improving productivity through the transfer of meat packing plants to cattle fattening areas by minimizing transportation and commercialization costs and by reducing accidents on cattle. *The government* may support the transfer by designing a relocation plan;

(3) Preparing for the changes in export business, which are expected to take place when the US and Japanese markets are open;

1) Be prepared at the production and distribution sectors for an increase in the order from Japan of many varieties in small lots by, for example, introducing computerization and educating work forces to achieve accurate and quick response; and
2) Be prepared at the cutting and packing lines for an increase in the order of boxed beef (in the form of cuts, not carcass).

Appendix to Chapter 1

Appendix to Chapter 1

1. Korea

1.1 Current Market Situation

1.1.1 Size of the Market

The market size of beef in Korea was 273,000 tons in 1994. Per capita consumption was 6.3 kg in the same year, almost the same size as in Japan. The market expanded with an annual growth rate of 11% during 1990 and 1994. The expansion of the market has been met by an increase in both domestic production and import as is shown in the table below. The ratio of import to the total demand was 46% in 1994, though it fluctuated widely from 43% to 56% during the last 5 years. The market for grass-fed and frozen beef was estimated at 70,000 tons in 1994, around 60% of the total import. This is the potential size of market which the Argentine beef may gain.

Table V-A1-1-1 Demand and Supply Balance for Beef in Korea

(boneless, unit ; '000t)

	1990	(%)	1991	(%)	1992	(%)	1993	(%)	1994	(%)
Production	95	(53)	99	(44)	100	(44)	130	(57)	147	(54)
Import	84	(47)	125	(56)	127	(56)	99	(43)	126	(46)
Export	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
Demand	179	(100)	224	(100)	227	(100)	229	(100)	273	(100)

Source: Ministry of Agriculture, Forestry and Fisheries

Major factors for the expansion of the market would include the following: First, since the price of imported beef is cheaper than that of domestic beef, liberalization of import stimulated the beef consumption in Korea. Second, the Korean people have been gradually changing their pattern of nutrition intake from vegetable-based to meat-based. Third, with an increase in income, people increasingly eat outside such as in fast food restaurants. Fourth, the governmental policy to stabilize the price of beef has contributed to the expansion of the market.

Owing to the above-mentioned factors, per capita beef consumption increased to 6.3 kg in 1994 from 2 kg level in the 1970's and 1980's and 4.1 kg in 1990. It is said that beef consumption accelerated after 1988 when the world Olympic game was held in Seoul.

Table V-A1-1-2 Trend in Beef Consumption Per Capita in Korea

(unit: kg)

1975	1980	1985	1990	1994
2.0	2.6	2.9	4.1	6.3

Source: Ministry of Agriculture, Forestry and Fisheries

It is forecasted that the market will continue to expand in the future, and the size of the market will reach 361,000 tons in 2000. A persistent increase in household income and a change in eating habit are the major reasons. As the government has already committed to open the market year by year as is described later in more detail, the substantial portion of the expansion will be met by an increase in import. Thus, the ratio of beef self-sufficiency is forecasted to decline from 54% in 1994 to 38% in 2000.

Table V-A1-1-3 Future Prospect of the Beef Market in Korea

(unit: '000t, %, '000 head)

	1995	1996	1997	1998	1999	2000
Demand	269	285	306	322	339	361
Import	123	147	167	187	206	225
Production	146	139	139	136	133	136
Self-sufficiency	54	49	49	42	39	38
Number of cattle	2,539	2,417	2,417	2,365	2,313	2,365

Source: National Livestock Co-operatives Federation

1.1.2 Characteristics of the Market

(1) Market segmentation

Consumers' assessment on the Korean and imported beef is quite different. In Korea, the quality of the Korean beef is considered higher than that of imported beef. Among the Korean beef, beef cattle is considered higher quality than dairy cattle. The quality of imported beef is evaluated lower than that of dairy cattle, although some of the imported beef competes with the meat of dairy cattle.

Followings are the advantages and disadvantages of the Korean and imported beef, respectively.

Table V-A1-1-4 Advantages and Disadvantages of the Korean and Imported Beef

	Advantages	Disadvantages
Korean beef	--Propaganda as high quality by the government --Existence of meat shops specialized in the sale of the Korean beef (140) --Restricted open market policy	--More expensive than imported beef --Decrease in the number of producers --Relatively high distribution cost
Imported beef	-- Strong price competitiveness against the Korean beef --Development of high quality beef by exporters	--Import quota --Import in frozen condition

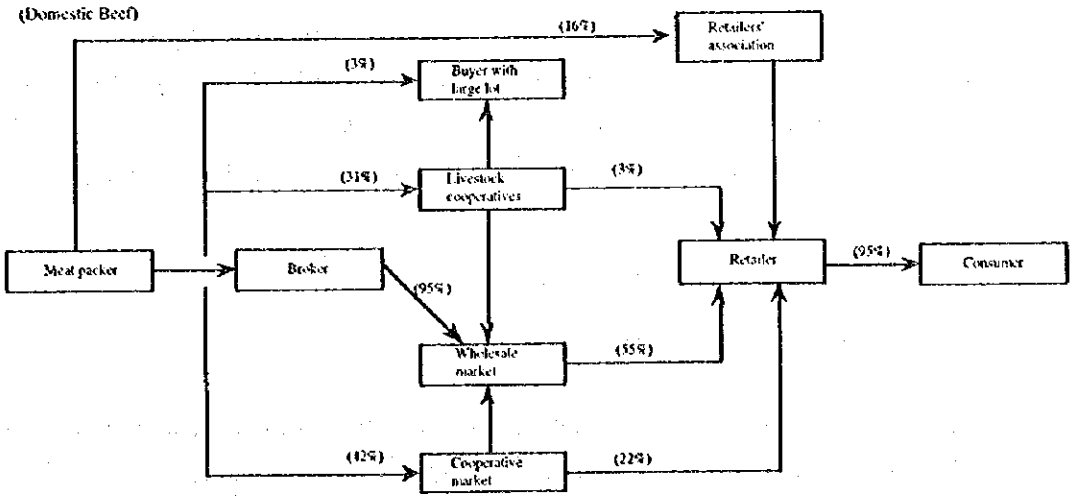
(2) Main user

Ninety five percent of the Korean beef is consumed by the household sector, while the remaining 5% is consumed in the commercial sector such as hotels and restaurants. On the other hand, 85% of imported beef is consumed in the household sector, while 4% goes to processing industries and the remaining 11% is consumed in the commercial sector.

(3) Distribution of beef

Distribution channels are completely different between the Korean and imported beef as is shown below.

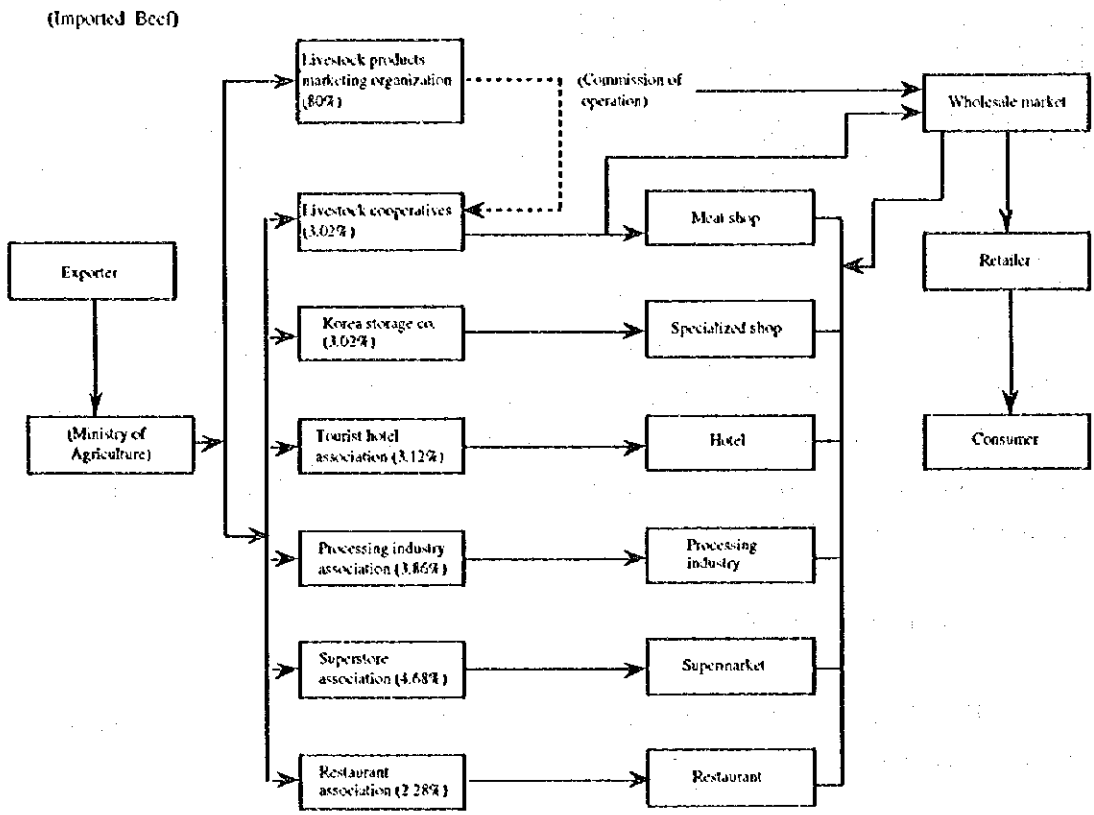
Figure V-A1-1-1 Distribution Channel of the Korean Beef



The distribution channel for the Korean beef is slightly more complicated, and it has resulted in high distribution costs. Hotels and wholesalers are the main large-lot-

buyers, and they can purchase cattle directly from producers and have meat packers slaughter the cattle.

Figure V-A1-1-2 Distribution Channel of Imported Beef in Korea



As is stated later, distribution of imported beef is controlled by the government. Import quota system in Korea is called as Simultaneous Buy and Sale System. Livestock cooperatives, Korea storage co., Tourist hotel association, Processing industry association, Superstore association, and Restaurant association are called 'Super group.'

1.2 Current Market Access Situation

1.2.1 Openness of the Market

In Korea, beef import is only partially liberalized. In accordance with the Foreign Trade Act, Foreign Trade Enforcement , Foreign Trade Regulation, and Export and Import Notice, the government sets a quota on fresh, chilled and frozen beef import. The amount of quota has been set at 123,000 tons in 1995. Among them, 86,100 tons are allocated to Livestock Products Marketing Organization(LPMO), a governmental institution, while the remaining 36,900 tons are allocated to the 'Super group.'

However, the government has committed to reduce the quota gradually and open the market completely in 2001 with the following schedule. The schedule shows that an allocation to the 'Super group' increases gradually.

Table V-A1-1-5 Amount of Quota by Institution in Korea

(unit: '000t)

	1995	1996	1997	1998	1999	2000	2001
LPMO	86.1	88.2	84.5	74.8	61.8	67.3	Liberalized
Super group	36.9	58.8	84.5	112.2	144.2	157.7	Liberalized
Total	123.0	147.0	169.0	187.0	206.0	225.0	Liberalized

Source: Ministry of Agriculture, Forestry and Fisheries

When the Livestock Products Marketing Organization imports beef, it decides the origin of import and volume by a bidding. Since only the Korean distributors can apply for the bidding, foreign exporters have to form a partnership with Korean agents. According to an official in the organization, the quota is awarded to exporters who can supply beef with specific qualification at the cheapest prices. On the other hand, Super group is allowed to import beef from any sources as long as the amount is within a given quota. Sales promotion to the group is necessary if an exporter wants to sell to the group.

Another regulation on the import of beef is that importers are required to indicate a name of country from which the beef was imported (Foreign Trade Regulation). The regulation attempts to protect consumers from unfair competition as well as to levy import tax properly.

The government is promoting consumption of the Korean beef rather than imported beef based on an idea that, generally speaking, local product is more suitable to the health of the Korean people than imported product. Such a policy may be considered one of non-tariff trade barriers.

1.2.2 Sanitary Regulations

Based on the Consolidated Notice and the Domestic Animal Disease Control Law, the government bans an import of beef from countries where FMD is not completely eradicated. Argentina is included in the list. The stance of the Korean government on FMD case is same as that of the Japanese government. It follows the SPS agreement as one of member countries of the WTO. They are ready to import beef from countries where FMD outbreak has not been seen for more than one year without practicing vaccination or which can convince the government of the absence of FMD outbreak and

of the absence of FMD virus. This is an international standard which the OIE adopts when they judges whether a country is clean from FMD or not.

The government does not seem to be reluctant to conduct a risk analysis on the import of deboned beef. However, it considers that it takes some years for every country that joins the WTO to become familiar with the new concept of risk analysis and to make its decision on an import of deboned beef based on the result of such a risk analysis. This is because there still remain many things to be settled for the understanding and penetration of the concept.

Another noticeable attitude of the Korean government is that it is in close contact with the Japanese government. The Korean veterinarians exchange opinions with the Japanese veterinarians frequently and make their decision on sanitary matters based on the discussions. It means that Japan's decision may influence Korea's decision.

1.2.3 Current Import of Beef

As a result of the above-mentioned import regulations, beef is mainly imported from the USA, Australia and New Zealand as is shown in the following table. The USA is the top exporter with a 43% share, and Australia follows with a 39% share. It is clear that Australia has been losing its competitiveness against the USA in the past 5 years. Another feature is that all the import is done in frozen condition. The reason is said to be that the Korean people are not accustomed to dealing with imported chilled products.

Table V-A1-1-6 Korea's Import of Beef by Origin

(unit: '000t, %)

	1990	(%)	1991	(%)	1992	(%)	1993	(%)	1994	(%)
USA	26.8	(25)	47.9	(28)	53.8	(32)	42.6	(36)	62.0	(43)
Australia	72.5	(68)	103.1	(61)	97.9	(59)	58.9	(49)	55.5	(39)
NZ	6.3	(6)	18.0	(11)	14.8	(9)	17.8	(15)	24.3	(17)
Others	0.8	(1)	0.0	(0)	0.0	(0)	0.0	(0)	1.7	(1)
Total	106.5	(100)	169.2	(100)	166.7	(100)	119.7	(100)	143.5	(100)

Source: Foreign Trade Statistics

1.2.4 Recommendation on Clearing Market Access Problems

As the Korean government's stance toward FMD eradication seems tough, it is recommended to ask to conduct a risk analysis on the import of deboned beef. It is also recommended to provide information on the process of the analysis made in Japan if the analysis in Japan precedes.

2. Indonesia

2.1 Current Market Situation

2.1.1 Size of the Market

The current market size of beef is 253,000 tons. While per capita consumption is still low at 2 kg, total demand has increased by around 6.6% per year during 1989 and 1994. Major factors that contribute to the expansion in demand include an increase in household income, changes in eating habit and an increase in the frequency of eating out. While Indonesia's production increased by 5.5% during 1989 and 1994 in response to an increase in demand, import has expanded sharply after 1991 when the import of beef was liberalized. As a result, import dependence has increased from mere 1% in 1989 to 6% in 1994.

Table V-A1-2-1 Demand and Supply Balance for Beef in Indonesia

(unit: '000t, %)

	1989	(%)	1990	(%)	1991	(%)	1992	(%)	1993	(%)	1994	(%)
Production	188	(99)	191	(98)	198	(96)	223	(95)	228	(96)	240	(94)
Import	2	(1)	4	(2)	7	(4)	12	(5)	10	(4)	13	(6)
Export	-		-		-		-		-		-	
Demand	190	(100)	195	(100)	205	(100)	235	(100)	238	(100)	253	(100)

Source: Livestock Statistic, Dept. of Animal Husbandry and Import Statistics

The increasing trend of import will persist in the future, if demand continues to grow at the present rate. However, it is not expected that Indonesia will become a large beef importer due to two reasons. The first is that Indonesia is basically a country where beef self-sufficiency is possible due to its abundant natural resources. The total population of cattle has increased at a modest rate for the last few years. Most cattle produced is beef cattle, and the ratio increased to 97% in 1993. The balance is dairy cattle. Beef cattle is produced all over the country, while dairy cattle is produced mostly in West Java and East Java. This is because the milk processing industry is concentrated in these two areas.

Second is that within the total consumption of meat, beef accounts for only 25% and due to relatively low levels of household income, only limited people can afford to buy expensive imported beef.

Table V-A1-2-2 Livestock Population in Indonesia

(unit: '000 head)

	1970	1975	1980	1985	1990	1993
Dairy Cattle	59	90	103	208	294	351
Beef Cattle	6,137	6,242	6,440	9,318	10,410	11,356

Source: Livestock Statistics, Dept. of Animal Husbandry

Table V-A1-2-3 Household Meat Consumption in Indonesia

(unit : kg per capita / year)

	1970	1975	1980	1985	1990	1993
Meat	2.7	3.3	3.9	5.0	5.7	7.7
Beef	n.a.	n.a.	n.a.	n.a.	1.7	2.0

Source: Livestock Statistics, Dept. of Animal Husbandry

2.1.2 Characteristics of the Market

(1) Market segmentation

No segmentation is found in the Indonesian beef market. The Indonesian consumers are not conscious about the type of cattle. However, they consider that beef from developed countries is higher quality than the Indonesian beef. They evaluate the quality of imported and the Indonesian beef in the following order:

First quality	----------	US beef
Second quality	----------	Australian and New Zealand beef
Regular quality	----------	The Indonesian beef

In steak restaurants, price differentiation is obvious by origin of import. The examples are as follows.

US beef steak	:	Rp. 12,000 to 14,000 per plate or steak
Australian or NZ beef steak	:	Rp. 10,000 per plate or steak, and
Indonesian beef steak	:	Rp. 6,000 per plate or steak

The Indonesian beef is grass-fed, while imported beef is grain-fed except Australian and New Zealand beef.

(2) Main user

The Indonesian beef is mostly consumed by the household sector, which is followed by the commercial and processing sectors such as restaurants and processing industries. Only 10% of imported beef is consumed by the household sector, and the balance of 90% is consumed by the commercial sector (restaurants and hotels) and the industrial sector (meat processing industries).

At the household level, beef is usually boiled or fried with spices, coconut cream and other condiments. However, some households in the higher income class have

begun to eat beef at its original condition, such as a steak and Japanese style dishes. Many Japanese sauces are already available in supermarkets, and these housewives learn a new idea of cooking beef.

(3) Marketing strategy

The Indonesian market for imported beef is neither matured nor sophisticated in a sense that only a small percentage of the population can afford to buy it due to its expensiveness. Under such a situation, it is importers who decide the source of importation. This is because the amount of import by each user is not so big and users do not have direct connection with foreign sources of beef. Therefore, it is very important to have a strong relation with influential importers. Following is a list of importers who are members of the Association of Meat Importers.

Table V-A1-2-4 Beef Importers in Indonesia

Name of Importer	Source of Import
Alamanda Tjandra, PT	Australia
Alamboga Internusa, PT	Australia, New Zealand
Andrawina Praja Sarana, PT	New Zealand
Aqg Duta Sejati, PT	New Zealand, USA, Australia
Arha Puja Abadi, PT	New Zealand, USA, Australia
Boga Catur Rata, PT	New Zealand
Boga Citra Nusapratama, PT	Australia
Bumi Ayu, PT	Australia, New Zealand
Bumi Mandiripuspatama, PT	New Zealand, USA, Australia
Columbia, PT	Australia
Elena Great International, PT	USA
Firuma Hasta	USA, Australia, New Zealand
Heromini Supermarket, PT	USA, Australia
Indoguna Utama, PT	USA (70%), Australia &New Zealand (30%)
Kabul Laksana, PT	New Zealand
Listyo Adhika Utama	Australia
Lo'r Intoserve, PT	n.a.
Masuya Graha Trikencana, PT	Australia, USA, New Zealand
Pangansari Utama, PT	Australia, USA, New Zealand
Pengadaan Makanan Afdol, PT	n.a.
Protara Boga, PT	Australia, France
Puri Mega Sakti, PT	Australia
Rolan Mandiri Lestari, PT	Australia
Sekar Mulia, PT	New Zealand, USA, Australia
Suntory Food Corporation, PT	New Zealand, Australia
Walakaka Pratama Utama, PT	n.a.

Note: n.a. not available.

Among them, the most influential importers are PT Indoguna Utama and PT Bumi Mandiripuspatama. Their market share is estimated around 50% together. PT Indoguna Utama imports 350-400 tons of beef per month. 50% of them is beef livers and the rest 50% is meat. The company distributes their imported beef to the following

three markets; 60% to hotels and restaurants, 10% to their owned meat shops and 30% to super stores and department stores. While beef livers are mainly consumed by local people, beef meats are consumed by high income class of Indonesian and foreigners, especially Japanese and Koreans. US meat packers visit the company three to four times a year. PT Bumi Mandiripuspatama imports 250 tons of beef per month. 35% of their imports is edible offal and the rest 65% is meat. They distribute their imported beef to the following two markets; 50% to meat processing companies and 50% to hotels and restaurants, catering and supermarkets. It is recommended to establish a close business ties with these two importers.

Although the Indonesian beef market is still underdeveloped, Indonesian people are said to have curiosity to new type of product, such as imported beef. This is a reason why some famous hotels and restaurants hold quite often special sales promotion campaign of beef and succeed in their sales. In an initial stage of trying penetration to the Indonesian market, it is recommended that Argentine meat packers hold sales promotion campaign in some influential hotels and restaurants as American, Australian and New Zealand meat packers do.

2.2 Current Market Access Situation

2.2.1 Openness of the Market

Beef import was liberalized in 1990. Before, only two state owned companies, PT. Kerta Niaga and PT. Tjipta Niaga, were allowed to import beef. At present, any firm is allowed to import beef if it is registered as a general importer at the Department of Trade. There exist 27 firms which are registered as general importers and allowed to import beef. Among them, PT. Indoguna Utama and PT. Bumi Mandiripusupatama are the major ones that import 300~400 tons of beef per month, respectively.

There is no import quota set by the government. In this sense, the market is completely open. However, it should be noted that the government softly controls the import of beef with the following manner: First, the government can restrict new registration of general importers, if the government considers it necessary. Second, the government sets the target of import every six or seven months by assessing the total demand and supply balance. The mechanism to control the beef import is explained below:

(1) Total import for 1995 was set at 22,000 tons as a target, a 5% of the total demand.
(2) Importers submitted a proposal to import 22,153 tons of beef from January to July, 1995
(3) The government approved only 13,100 tons of import for the first 7 months.
(4) The rest of 8,900 tons was allocated from August to December, 1995.

The policy lying behind this guideline is that the government decides and approves the amount of import taking account of; (1) sustaining the number of natural livestock, (2) balancing supply and demand, and (3) decreasing import dependence as much as possible. Any complain was not heard about the government's intervention from the importers. This is because the government is very flexible in approving the amount depending on the market situation, and importers do not feel any inconveniences for the government's policy.

2.2.2 Sanitary Regulations

The relevant laws and regulations concerning beef and beef based products are:

(1) Animal, Fish and Plant Quarantine Law, Law No. 16/1992
(2) Agriculture Minister Decree No. 422/1988 Regarding Law Enforcement of Animal Quarantine
(3) Agriculture Minister Decree No. 754/1992 Concerning The Requirements and Control of Imported Meat

The Quarantine Law states basic philosophy of the importation of living organism (animal, fish and plant), including the products (meat), while the decree of the Agriculture Minister states the application or the guidelines of the philosophy.

The Indonesian government takes a strict control on the import of beef from countries where there is a possibility of FMD outbreak. According to the Decree of the Agriculture Minister Concerning the Requirements and Control of the Import Meat, meat must be imported from any country that:

(1) At least within the last 12 months, is stated free from major spreading diseases: FMD and Rinderpest;
(2) Within the last three consecutive years, has not vaccinated for the major spreading diseases: FMD and Rinderpest;

(3) Has established a system of controlling the health of meat in slaughtering houses, and at least meets with standards and other provisions of the regulations in Indonesia

The above strict control comes from a fact that Indonesia has spent millions of US dollars to clean the FMD and Rinderpest. The government follows the OIE standard.

Though the Indonesian government follows the SPS agreement and OIE. standard, they are not yet familiar with a concept of risk analysis. It will take some time for the government to be able to conduct a risk analysis for the import of deboned beef from Argentina.

2.2.3 Current Import of Beef

Major origins of import are Australia, New Zealand and the USA. The largest amount of imported beef and beef-based products is edible offal (liver). The Indonesian people believe that beef liver is high quality, and it can enhance blood regeneration. In traditional markets, the price of the Indonesian beef liver is slightly higher than that of meat itself. The liver is mainly used in the 'Sambal Goreng Ati', a hot spicy curry liver, which is widely served in special occasions such as a wedding party. It is again noted that most beef imported is not chilled but frozen.

Table V-A1-2-5 Indonesia's Beef Import by Country of Origin

(unit: ton, net weight)

	1989	1990	1991	1992	1993	1994
Australia	707	1,533	2,552	5,909	3,879	6,526
New Zealand	733	1,287	2,877	4,281	1,745	3,526
USA	300	691	862	1,400	3,569	2,109
Total (incl. others)	1,832	3,968	7,175	12,413	10,110	13,161

Sources: Import Statistics, CBS

Table V-A1-2-6 Volume of Beef Import in Indonesia

(unit: ton)

	1989	1990	1991	1992	1993	1994
Fresh or Chilled	314	563	621	375	371	359
Frozen	637	860	1,245	1,695	2,679	4,441
Edible Offal	817	2,186	4,363	9,699	6,458	7,721
Processed	64	359	946	644	602	640
Total	1,832	3,968	7,175	12,413	10,110	13,161

Source: Import Statistics, CBS

3. Taiwan

3.1 Current Market Situation

3.1.1 Size of the Market

The current market size of beef in Taiwan is 58,000 tons. Per capita consumption is 2.7 kg. The demand has expanded by 7~8% per year in the last three years. The increase is mainly attributable to an increase in population; an increase in per capita consumption is very modest. Market size of grass-fed and frozen beef is estimated to be around 46,000 tons.

Since there is a limitation in an expansion of Indonesia's supply due to geological and climate condition in Taiwan, the future expansion in demand will be met by an increase in import. Self-sufficiency is declining year by year, and it went down to less than 9% in 1993.

Table V-A1-3-1 Demand and Supply Balance for Beef in Taiwan

(unit: '000t, %)

	1989	1990	1991	1992	1993
Production	6.0 (13.5)	4.9 (11.4)	4.9(9.8)	5.3 (9.9)	4.8 (8.3)
Import	38.5 (86.5)	38.0 (88.6)	44.9 (90.2)	48.3 (90.1)	53.3 (91.7)
Export	--	--	--	0.1(0.0)	0.1(0.0)
Taiwan's Demand	44.5 (100)	42.9 (100)	49.8 (100)	53.5 (100)	57.9 (100)
Per Capita Consumption (kg)	2.4	2.3	2.6	2.8	2.7

Source: Statistical Yearbook of Agriculture

3.2.2 Characteristics of the Market

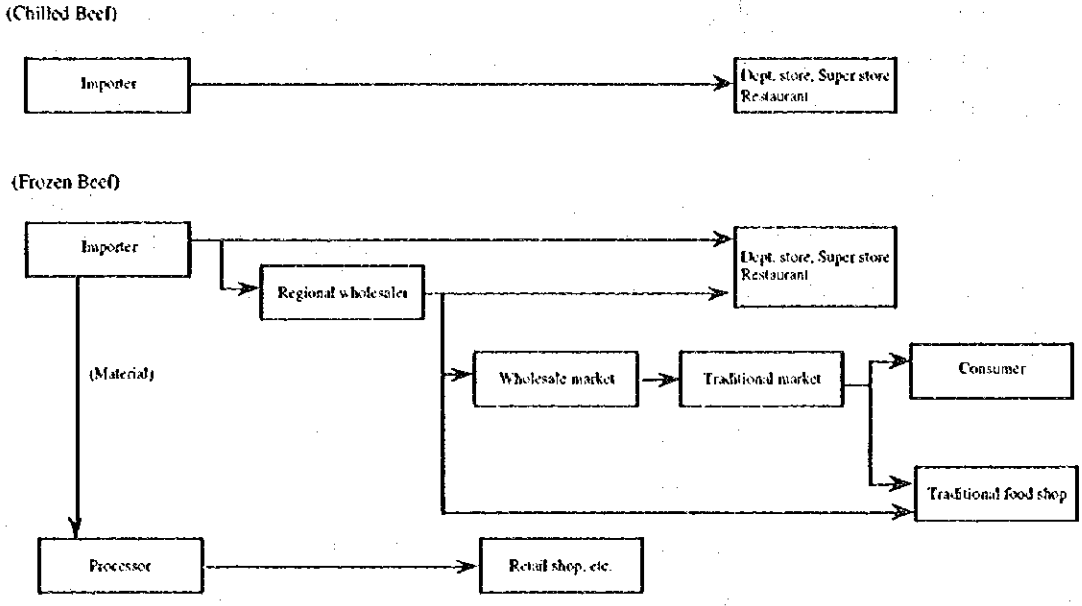
A salient feature of meat consumption in Taiwan is that the Taiwanese is fond of pork and chicken rather than beef. This is clear from the fact that Chinese dishes consume a greater amount of pork and chicken than beef. Further, there prevails among the Taiwanese a traditional notion that cattle is a precious labor force in agriculture. This notion is strongly maintained by the elder people, and they do not eat beef so much. This is especially so in rural areas.

Beef is mainly consumed as a steak or an input material for Taiwan's traditional noodle soup. It has not yet penetrated into Chinese dishes. Beef is considered as a luxury good.

Among imported beef, the US beef and Canadian beef are considered high quality, while the Australian and New Zealand beef are considered regular or low quality.

Distribution channel of imported beef is shown below. The channel for chilled beef is very simple, while that of frozen beef is slightly complicated. Major importers are Renpou and Itai. Their import share in total import is estimated to be around 40% and 10~20%, respectively.

Figure V-A1-3-1 Distribution Channel of Chilled and Frozen Beef in Taiwan



3.2 Current Market Access Situation

3.2.1 Openness of the Market

Beef import is basically free in Taiwan. Though some special meat such as offal is not allowed to import (import control item), main parts of meat are allowed to import by anybody. However, the government sets a preferential tariff on 'special quality' grade product, and it provides the US beef a special status. It means that the US beef can be imported with a lower tariff than the Australian or New Zealand beef. In this sense the US beef is given a special favor in the Taiwanese market.

3.2.2 Sanitary Regulations

Though Taiwan has not yet joined the WTO, the government follows the SPS agreement and OIE as international standards. However, since the SPS agreement has not yet stipulated in detail, the government refers to the decisions made by the USA, Japan, Australia and New Zealand. It watches closely the decisions made by, especially, the USA and Japan. Relevant law and regulations are :

(1) Quarantine Requirements for The Importation of Animals and Animal Products into The Republic of China, and
(2) Procedures for Recognition of Disease-Free Status of a Foreign Country

The government requires that a country that is free from FMD should satisfy the following conditions:
(a) no case has been found for at least the preceding one year, and
(b) vaccination program(s) for the disease(s) has been ceased for at least the preceding two years, and
(c) a stamping-out policy should be adopted, in a manner consistent with the statutory provisions, when an outbreak takes place.

Since Argentina can not meet the above requirements at present, it is not allowed to export beef to Taiwan. The government seems to accept a risk analysis concept for the import of deboned beef. Actually, the government sent a risk analysis mission to Argentina in August, 1995, upon a request from the Argentine government. However, it is reported that the mission was sent only for a diplomatic response to a request from Argentina and the Taiwanese government did not consider the action as a commencement of an official study for lifting of the ban on the import of deboned beef.

3.2.3 Current Import of Beef

Frozen beef is the major form accounting for 96% of total import. Australia, New Zealand and the USA are the main countries of origin. Australia holds a 62% share in total import and New Zealand comes next with a 21% share. Types of imported beef are summarized as follows:

Table V-A1-3-2 Type of Imported Beef in Taiwan

(unit: %)

	Grass fed	Grain fed	Total
Chilled	3	1	4
Frozen	82	14	96
Total	85	15	100

Table V-A1-3-3 Import of Beef by Product in Taiwan

(unit: '000t)

	1989	1990	1991	1992	1993	1994
Fresh or Chilled	2.0	0.5	0.9	1.5	1.8	2.1
Frozen	36.4	37.5	44.0	46.6	45.7	49.9
Total including others	38.5	38.1	45.0	48.2	47.6	52.4

Source: Agricultural Trade Statistics of Republic of China

Chapter 2
Fresh Fruits and Fruit Juices

2.1 Fresh Fruits

2.1.1 Scope of the Study

Products to be covered in this study are major fresh fruits which are produced in Argentina as shown in the following table. Dried or processed fruits are not included.

As mentioned in the Phase II proposal, the study for fresh fruits would cover only market access and market situation in Japan.

Table V-2-1-1 Production Volume of Major Fresh Fruits in Argentina

('000 ton)

	1989/90	1990/91	1991/92	1992/93	1993/94
Orange	648.3	773.9	739.0	708.9	802.5
Grapefruit	166.6	203.9	191.9	196.4	254.7
Lemon	534.1	656.0	660.7	612.2	651.1
Mandarin	280.4	346.3	395.3	321.3	427.0
Grape	2,802.0	2,751.0	2,953.0	1,944.6	1,941.6
Apple	975.6	1,067.5	1,053.5	951.2	915.0
Pear	236.1	297.8	302.8	319.5	295.2
Peach	220.0	240.0	235.0	250.0	245.0
Total	5,863.1	6,336.4	6,531.2	5,304.1	5,532.1

Source: DB-INDEC

2.1.2 Current Situation of Market Access

2.1.2.1 Laws and regulations

(1) Import control ordinance

In 1991 the import quota for orange was eliminated, and with that the import of fresh fruits has been completely liberalized. Since then there has been no restriction in import of fresh fruits as long as they meet sanitary and phytosanitary regulations.

(2) Food sanitation law

The law regulates residual pesticide and additives. The criteria on residual pesticide is listed in the appendix of "Estudio del Mercado Japones de Jugos de Frutas" (JETRO, March 1994). Regulated additives are shown in the following table. The quantity of additives allowed to be included in citrus fruits in Japan as almost the same as those in other countries and the guidelines set by FAO and WHO as shown in Table V-2-1-4.

Table V-2-1-3 Criteria on Using Additives

Usage	Additives	Objects	Criteria
Preservation	Ethyl p-Hydroxybenzoate Butyl p-Hydroxybenzoate Propyl p-Hydroxybenzoate Isobutyl p-Hydroxybenzoate Isopropyl p-Hydroxybenzoate	Fruit (Peal)	Not more than 0.012g per 1 kg as p-Hydroxybenzoate
Coating	Polyvinyl Acetate Morpholine Fatty Acid Salt Oxyethlen Higher Aliphatic Alcohol Sodium Oleate	Fruit (Peal)	Only for coating peal no quantitative limitation
Anti-mold and Anti-bacteria	Diphenyl	Grapefruit Lemon Orange	Allowed to use only when it is dipped into paper which is in the container for stock or transport Residual volume should be not more than 0.07g per 1 kg
	O-phenylphenol (OPP) Sodium O-Phenylphenate	Citrus Fruit (except tangerine)	Residual volume should be not more than 0.01g per 1 kg as O-phenylphenol
	Thiabendazole (TBZ)		Residual volume should be not more than 0.01g per 1 kg
	Imazalil		Residual volume should be not more than 0.01g per 1 kg

Source: Ministry of Health and Welfare, Standard on Food and Additives

Table V-2-1-4 Comparison of Criteria on Using Additives

(ppm)

	Diphenyl	OPP	TBZ	Imazalil
Japan	70	10	10	5
USA	110	10	10	10
Germany	70	12	6	5
Netherlands	70	12	6	5
Guidelines of FAO, WHO	110	10	10	5

Source: Japan Fresh Produce Import Facilitation Association, Statistics of Vegetables and Fruits

(3) Plant quarantine law

At present several kinds of whole fresh fruits produced in Argentina are prohibited from being imported to Japan due to the possibility of contamination with certain kinds of insects as follows.

Table V-2-1-5 Target Pests by Fruit

	Med. fruit fly	Codling moth
Citrus fruits & Grape	X	
Apple, Pear & Peach	X	X

Source: Plant quarantine enforcement ordinance(Article 9)

There are two ways to lift the import ban; one is to prove the fruit free of contamination, and the other is to prove harmful insects have been killed with scientific

treatments which are proven to be effective. At present, the Argentine Government is negotiating with the Japanese Government for the lifting of the import ban on citrus fruits by way of cold treatment.

2.1.2.2 Present situation of the negotiations

The negotiations for the lifting of the import ban on citrus fruits has continued between the Argentine and Japanese Governments since 1974. The first experiment to kill harmful insects was conducted with the ethylene bibromide gas treatment method. However, the effectiveness of the method did not satisfy the sanitary standard set by the Japanese Government. In 1985, the Phytosanitary and Technical Commission was formed to carry out a new experiment of cold treatment instead of the ethylene bibromide gas treatment. The commission proceeded with the experiment and submitted the final report to the Japanese Government in 1991. However, the report still did not satisfy the Government because the data and information were insufficient. Specifically, the report did not contain information which the Japanese Government had asked to be included in a letter addressed to the Commission in 1990. The Japanese Government suggested that the Commission conduct another experiment on cold treatment. Upon this suggestion, the Commission proposed a new protocol for the experiment to the Japanese Government in 1994, which was approved in December, 1995. The Commission has begun to prepare for the new experiment based on this protocol.

The cold treatment experiment itself is widely recognized. It no longer poses any difficulties, and has been tried by many countries all over the world. Actually, not a few countries have so far tried the experiment for export of citrus fruits to Japan. Since they succeeded in the experiment and convinced the Japanese Government of its effectiveness, they were allowed to export citrus fruits treated with cold treatment to Japan. The reason why the Argentine Government failed in the experiment of cold treatment seems to lie in a lack of sufficient communication or actual miscommunication between the two Governments and among the Argentine parties concerned.

2.1.2.3 Recommendations

For the success of the next experiment, it is considered important to maintain intimate and good communication between the technical staff of the experiment team and the Japanese quarantine section as well as communication between Argentine parties concerned. In this regard it is recommended for the Argentine Government to send technical people to Japan and hold discussions with the Japanese staff about the detailed experiment plan prior to its commencement.

The experiment will proceed with the following steps: firstly, sensitivity test will be conducted; secondly, small scale experiment will be followed; thirdly and finally, if the effectiveness of the small scale experiment is confirmed, large scale experiment should be conducted. At the end of each step the Argentine staff should submit an interim report to confirm whether the experiment meets the Japanese requirements and discuss the next step with the Japanese side. Through these discussions, it would be possible to confirm that the whole experiment is conducted by due process.

Though at present only citrus fruits are on the negotiation table, non-citrus fruits such as apples and pears will be considered in future. With the prospect of such a situation, it is recommended that an implementation manual be prepared for the coming experiment which is based on the experience of the citrus fruit case and contains the procedure to be taken.

As noted in the section on market access in Korea, it has been confirmed that Korea is prepared to discuss the protocol of the experiment on the effectiveness of cold treatment with Argentina. Since it is supposed that the protocol will be almost same as that of Japan, it would be efficient to start the negotiation with Korea at the same time as with Japan.

(Appendix) Import Tariff

Argentina is a country where the preferential rate is applied. A preferential rate is applied before a WTO rate, a WTO rate before temporary rate and a temporary rate before a general rate.

Table V-2-1-6 Present Import Tariff (as of 1995)

HS code	statistic code	Name	General rate	WTO rate	Preferential	Temporary
0805.10	000	Oranges 1. If imported during the period from 1st June to 30th November 2. If imported during the period from 1st December to 31st May	20% 40%	19.3% 38.7%		
0805.20	000	Mandarins	20%	19.5%		
0805.30	010	Lemons	Free	(4.2%)		
0805.40	000	Grapefruits 1. If imported during the period from 1st June to 30th November 2. If imported during the period from 1st December to 31st May	10%	(11.7%) (22.5%)		
0806.10	000	Grapes, fresh	13%	12.1%		13%
0808.10	000	Apples	20%	19.5%		
0808.20	000	Pears and Quinces	8%	7.5%		
0809.30	000	Peaches	10%	9.3%		

2.1.3 Market Situation in Japan

2.1.3.1 Demand and supply balance

Demand and supply balance of each fresh fruit is shown in the table below. The import of orange, grapefruit and lemon exceeds their domestic production. Other fruits are mainly supplied by local sources. Only domestic consumption of grapefruit has increased since 1990. As for orange, domestic consumption has been fluctuating in recent years. The domestic consumption of mandarin and tangerine, which are typical Japanese citrus fruits, has remarkably declined in recent years.

Domestic production of all of these kinds of fruits are expected to decrease. This is partly because the consumption of fresh fruits is saturated and partly because the total area of orchard has decreased due to the lack of farm workers and the competition with cheaper imported fruits. For example, the crop area of tangerines was 106,900 ha in 1985, but the figure has declined year by year and now reaches to 67,000 ha, which is equivalent to 60% of the area in 1985. The total amount of fresh fruit exports is quite small. While the largest percentage share of export in total supply is recorded in pears and quinces, the number is only 1%. So the almost all products both imported and produced domestically are consumed in theJapanese market.

Table V-2-1-7 Demand Supply Balance

(Tons)

		1990	1991	1992	1993	1994
Orange	Import	145,188	82,017	171,700	165,420	190,376
	Domestic Production	50,000	37,300	39,400	32,700	30,100
	Export	5	0	2	5	4
	Domestic Consumption	195,183	119,317	211,098	198,115	220,472
Grapefruit	Import	156,656	260,784	244,578	237,489	284,965
	Domestic Production	0	0	0	0	0
	Export	0	0	0	0	0
	Domestic Consumption	156,656	260,784	244,578	237,489	284,965
Lemon	Import	103,884	89,079	93,416	89,276	90,322
	Domestic Production	1,894	1,650	2,169	2,482	n.a.
	Export	0	0	0	0	0
	Domestic Consumption	105,778	90,729	95,585	91,758	n.a.
Mandarin &	Import	281	333	1,220	1,590	7,600
Tangerine	Domestic Production	2,162,800	2,028,100	2,176,200	1,880,700	1,652,900
	Export	13,374	12,898	11,548	11,045	6,204
	Domestic Consumption	2,149,707	2,015,535	2,165,872	1,871,245	1,654,296
Grape	Import	12,040	7,568	7,732	7,776	9,648
	Domestic Production	276,100	270,800	276,000	259,500	245,700
	Export	4	3	2	4	3
	Domestic Consumption	288,136	278,365	283,730	267,272	255,345
Apple &	Import	2	31	69	42	242
Pear	Domestic Production	1,496,000	1,196,400	1,468,600	1,407,700	1,421,469
	Export	7,875	9,488	8,424	9,107	6,222
	Domestic Consumption	1,488,127	1,186,943	1,460,245	1,398,635	1,415,489
Peach	Import	5	0	0	0	0
	Domestic Production	237,800	242,600	235,900	224,100	223,200
	Export	7	19	17	12	7
	Domestic Consumption	237,798	242,581	235,883	224,088	223,193

Note: Lemon includes Lime. Figures of domestic production in 1994 are preliminary.
Source: Ministry of Agriculture, Forestry and Fisheries, Production and Shipping Statistics of Fruits
Japan Tariff Association, Japan Exports and Imports

2.1.3.2 Import by country

More than ninety percent of citrus fruits consumed in Japan are imported from the USA. However the market share of the USA is dropping slightly because other countries such as Israel and South Africa have expanded their sales shares.

As for grape, since Chile was allowed to export their fresh grape to Japan, they expanded their market share. At present only two countries, the USA and Chile, dominate the Japanese import market.

Table V-2-1-8 Import by Country (1994)

(Tons / Year)

	Oranges	Lemons	Grapefruits	Grapes
USA	182,517	85,020	262,735	5,093
Australia	3,668	1,381		
South Africa	3,667	2,260		
Israel			12,553	
Swaziland			7,563	
Chile				4,510
New Zealand				43
Others	524	1,661	2,114	1
Total	190,376	90,322	284,965	9,647

Source: Japan Tariff Association, Japan Exports and Imports

2.1.3.3 Characteristics of the market

The Japanese fresh fruits market has already been saturated. Per capita consumption of citrus fruits decreased from 21 kg in 1990 to 18 kg in 1994 as is shown in the table below. Apple and pear are also following the same trend. The reason is that the younger generation prefers fruit juices to fresh fruits. The volume of consumption has fluctuated due to the taste and the price of products cropped in each year.

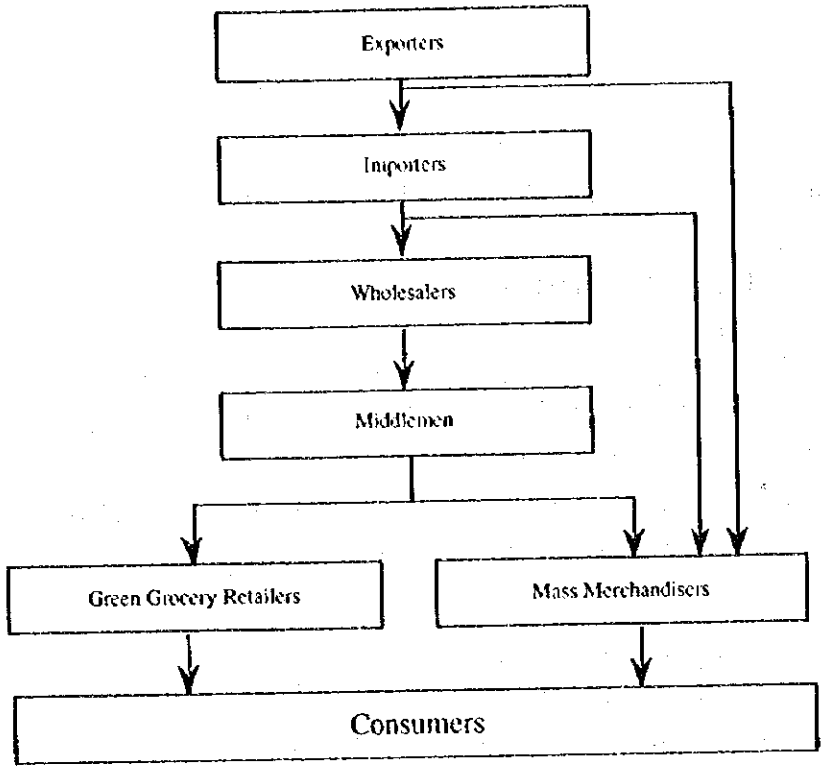
Table V-2-1-9 Per Capita Consumption of Fruits

			1990	1991	1992	1993	1994
	Population ('000)		123,611	124,043	124,452	124,764	125,034
Citric Fruits	Domestic Consumption	(t)	2,607,324	2,486,365	2,717,133	2,398,607	2,252,537
	Per capita Consumption	(kg)	21.1	20.0	21.8	19.2	18.0
Apple, Pear	Domestic Consumption	(t)	1,488,127	1,186,943	1,460,245	1,398,635	1,415,489
	Per capita Consumption	(kg)	12.0	9.6	11.7	11.2	11.3
Grape	Domestic Consumption	(t)	288,136	278,365	283,730	267,272	255,345
	Per capita Consumption	(kg)	2.3	2.2	2.3	2.1	2.0

Source: Calculated from Table V-2-1-7

2.1.3.4 Distribution structure

Distribution route for imported fruits is as follows.



Sunkist has 60% of the import share of oranges and lemons at present. This is partly because the company has been able to provide lemons in summer when the demand is the strongest, but partly because they have developed the Japanese market for a long time, and most Japanese consumers remember first the name of Sunkist when they buy lemons and oranges. However Sunkist's market share has begun to decrease. The reason would be that Southern Hemisphere countries such as Australia and South Africa have been able to export their products.

2.1.3.5 Recommendations

Japanese consumers have their own taste for fresh fruits as do the people of other countries. If Argentine products suit the Japanese taste, the products will penetrate to the Japanese market. For example, the Israel 'sweetie' which was crossbred with grapefruit meets the Japanese taste so that they have expanded their sales volume substantially. On the other hand, some countries misunderstood the characteristics of the Japanese market and failed to meet the Japanese consumers' taste requirement. As a result, they can not yet penetrate their products to the Japanese market as they expected.

It is recommended to study the Japanese market carefully, and to recognize its characteristics. It is recommended to taste fruits which sell well in the Japanese market and to analyze the source of the difference in the taste and in the balance of sugar and acidity.

If the taste of the products produced in Argentina does not suit the Japanese taste, it is necessary to develop a new variety. In order to develop a new variety for fresh fruit which meets the Japanese taste, it is recommended for INTA to extend strong support to the private sector.

2.1.4 Summary and Recommendations for Fresh Fruits

2.1.4.1 Summary of current situation

Market access and market situation in Japan is summarized as follows:

(1) The Japanese government is prepared to open its market to Argentina so long as the Argentine government successfully convinces the former of the effectiveness of cold treatment in killing the Mediterranean flies, and
(2) Communication gaps between the Argentine and Japanese governments, and among the relevant Argentine public institutions seem to be main causes for the prolonging of this problem.

2.1.4.2 Recommendations

The*government* should take the following action to solve the problems:

(1) Speed up the completion of cold treatment method,
(2) In commencing an experiment for cold treatment send an expert to Japan to finalize details of the experiment plan and confirm at each of the main steps that the experiment is being conducted properly,
(3) Record the process of negotiation and associated experiments in a manual, which could be referred to when a similar case occurs in the future.

While the market access problem is, without doubt, the most urgent issue to be solved, it is also imperative to conduct a comprehensive study on the Japanese market for fresh fruits with the aim of developing a variety whose taste is fully accepted by Japanese consumers. Unless the development of a new variety is successfully

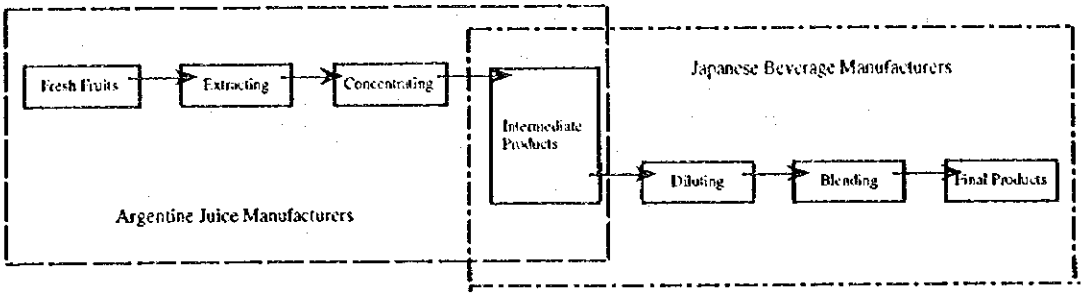
implemented, Argentina would hardly be able to expand the export of fresh fruits to Japan even if the market access problem is solved. In this context, the*industry* should:

(1) Conduct a detailed study on the characteristics of the Japanese market for fresh fruits, paying special attention to 'taste'; and
(2) Based on the result of this study, adjust the tastes of the current varieties or to develop a new variety to suit the tastes of the Japanese consumers.

2.2 Fruit Juices

2.2.1 Definition and Scope of the Products

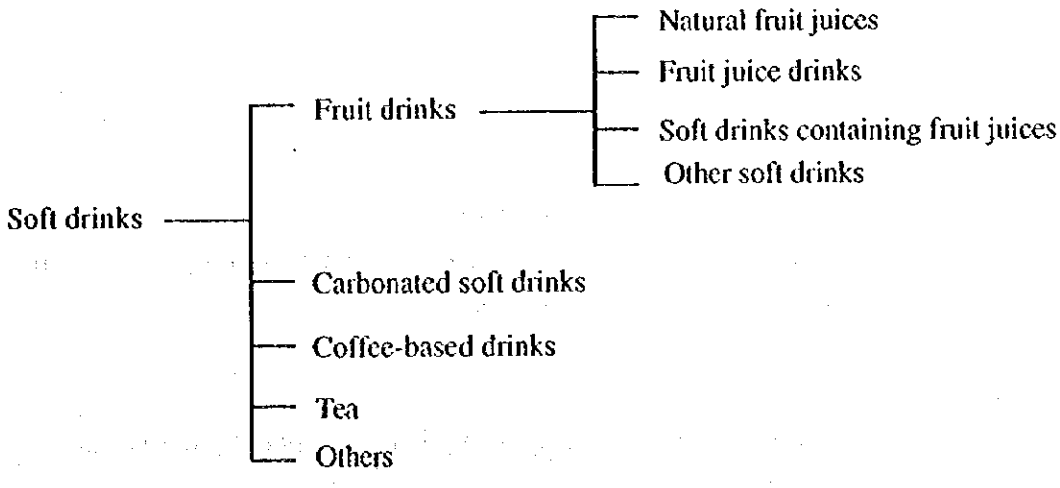
Fruit juices are manufactured in the following processes.



Final products are classified as follows:

- Natural fruit juices (or Straight juices): Extracted juices of fruits, and juices which are reconstituted to an extracted juice state by diluting concentrated juices,
- Fruit juice drinks: Drinks which contain more than 50% of fruit juice,
- Soft drinks containing fruit juices: Soft drinks whose content of fruit juices is 10% to 50%,
- Other soft drinks: Soft drinks whose content of fruit juices is less than 10%

These four products are referred to as fruit drinks. Fruit drinks constitute soft drinks with other drinks such as carbonated soft drinks or coffee-based drinks.



Intermediate products mean fruit juices concentrated with an extracted juice of fruits (excluding the fruit juices sold to consumers to be used for drinking through dilution thereof).

Most Argentine juice manufacturers produce intermediate products, in other words concentrated juices, and export them. Therefore in this study, concentrated juice is mainly referred to. However, there is a possibility to export natural fruit juices (straight juices), both by reconstituting from concentrated juices to extracted juice state and by season pack which means the natural fruit juice is extracted and packed immediately in the harvest season of the material fruit.

2.2.2 Current Situation of Market Access

2.2.2.1 Laws and regulations

(1) Import control ordinance

Imports of lemon juice and apple juice were liberalized in 1970 and 1990 respectively. Import quota has been enforced for grape juice since 1971, but was liberalized in 1992. Import of any amount by anyone at any time is now allowed. There is no longer any import control of fruit juices as far as the import meets sanitary requirements.

(2) Food sanitation law

Major regulations in the Food Sanitation Law concerning fruit juices are:

- Standard of contents,
- Standard of preservation,
- Criteria of additives, and
- Criteria of residual pesticide.

Standard of contents

Contents of insoluble solids should not exceed 30 % in volume. Arsenic (As), lead (Pb) and cadmium (Cd) should not be detected, and contents of tin (Sn) should be under 150 ppm. Colitis germ test should be negative.

Standard of preservation

Intermediate fruit juice for producing final products should be preserved at a temperature of minus 15 degrees centigrade.

Criteria of additives

"Regulation for Food, Additives and Others" under the Food Sanitation Law restricts the content of more than two hundred kinds of additives for specialized foods. An particular problem for the Argentine juice industry (especially grape must) would be the content of sulfite (used as sodium pyrosulfite or potassium pyrosulfite). This additive is usually added to grape must for the purpose of prevention of rotting and oxidation. Content of this additive is regulated to be less than 0.15 g per 1 kg of concentrated juice which is diluted five times for making the final product. Content of sulfite in straight juice should be less than 0.03 g per 1 kg.

Criteria of residual pesticide

These criteria are set for fresh fruits and vegetables, not for fruit juices. However, Japanese beverage manufacturers usually adopt them as criteria for fruit juices under the guidance of the Ministry of Health and Welfare.

(3) Japanese agricultural standard (JAS)

JAS sets the standard for each type of fruit drink. The standard for the concentrated fruit juices is as follows.

Table V-2-2-1 Standard for Concentrated Fruit Juices (Article 3)

Item	Standard
Soluble solids	Content percentage or more obtained through multiplying the standard content percentage of soluble solids by the reciprocal of the rate of concentration
Acid	Weight or more obtained through multiplying the standard content of acid by the reciprocal of the rate of concentration
Amino nitrogen	Weight or more obtained through multiplying the standard content of amino nitrogen by the reciprocal of the rate of concentration
Ash	Weight or more obtained through multiplying the standard content of ash by the reciprocal of the rate of concentration
Synthetic sweetness, Synthetic colors, Sterilizing agent, Synthetic thickening agent, Bleaching agent, and Synthetic flavors	Not contained
Net content or volume	The net content or volume shall be the labeled content or volume
Labeling	1. The name of product shall be labeled clearly as "Concentrated Fruit Juice". 2. The name of the fruit used as raw material shall be labeled clearly. 3. With respect to mixed fruit juices, the fact of the mixing and the fruit-juice-mix ratios of all the squeezed juices of fruits contained shall be labeled clearly 4. The rate of concentration shall be labeled clearly. 5. The date of manufacture or its code shall be labeled clearly. 6. With respect to the products to which as been added a synthetic preservative or an antioxidant, the addition of the synthetic preservations or the antioxidants shall be labeled clearly. 7. The net content or volume shall be labeled clearly. 8. The name or denomination and the address of the manufacturer, or the name or denomination and the address of the distributor and the fact of distribion shall be labeled clearly. 9. The letters, pictures and other indications shall coincide with the contents and shall not allow confusion or misconception of the contents.

Source: Ministry of Agriculture, Forestry and Fisheries

This standard is not compulsory. Most beverage manufacturers used to get the JAS mark until around 1987. This is largely because products with the JAS mark were exempt from commodity tax. However after the enforcement of sales tax, the commodity tax was repealed and the advantage disappeared. At present, it is estimated that 30% to 40% of the total volume of fruit drinks do not get the JAS mark.

According to the standard, sulfite is not allowed to be contained in concentrated fruit juices, natural fruit juices and fruit juice drinks.

2.2.2.2 Import tariff

Existing import tariff rates are shown in the following table, and according to the result of the WTO negotiation, the rates will be reduced gradually up to the goal in 2000.

Table V-2-2-2 Import Tariff Rates for Fruit Juices (as of 1995)

HS		Description	General rate	WTO rate	Temp. rate	Rate in 2000
2009.70		Apple Juice:				
		1. Containing added sugar	35% or 27 Yen / kg whichever is the greater			
	110	Not more than 10% by weight of sucrose, naturally and artificially contained		27%		23.0%
	190	Other			40% or 27 Yen / kg whichever is the grater	34.0%
		2. Other	30%			
	210	Not more than 10% by weight of sucrose		22.5%		19.1%
	290	Other			35%	25.5%
2009.60		Grape Juice				
		1. Containing added sugar	35% or 27 Yen / kg whichever is the greater			
	110	Not more than 10% by weight of sucrose, naturally and artificially contained		27%		23.0%
	190	Other		35% or 27 Yen / kg whichever is the greater		29.8%
		2. Other	30.0%			
	210	Not more than 10% by weight of sucrose		22.5%		19.1%
	290	Other		(30.0%)		25.5%
2009.30	211	Lemon Juice	30%	(10%)	8%	6.0%

Source: Japan Tariff Association

2.2.2.3 Market access problems in the private sector

There is no barrier in Japanese business practice to keep the Argentine juice manufacturers out of the Japanese market. In fact, as is described in sections 2.2.3.3 and 2.2.4.4, Japanese beverage manufacturers, in other words, importers of concentrated juices, usually import through trading houses. Trading houses' intervention tends to make the import business more complicated and to increase distribution cost. For this reason, the Japanese distribution system is quite often blamed as inefficient and one of the non tariff barriers for exports from foreign countries.

However, the system has a long history of creation and development. Further, it has some advantages for importers. Firstly, they can save money by letting trading houses carry out import operations because trading houses are experts. Secondly, when

importers have some claims on imported products, they can leave the negotiation to the trading houses and devote themselves to their business. Since concentrated juices are food products, claims on their quality can happen very easily and it takes much time to find out the cause of the claims and settle them. Thirdly, it is very easy for trading hoses to find an alternative source of concentrated juices when the existing suppliers fail to supply for one reason or another. Trading houses have a world-wide information network for concentrated juice suppliers and are always to ready to negotiate with one of them immediately on request.

However, this does not mean that Argentine exporters can not deal directly with beverage manufacturers. If they can propose an efficient way to cope with problems caused by claims from Japanese importers and assure stable supply of their products, Japanese importers may skip the intervention of trading houses, because it saves money . Actually, some leading beverage manufacturers are considering to import concentrated juices without going through trading houses.

2.2.2.4 Suggestion on clearing the market access problem

As mentioned above, there is no market access problem which is based on import control. If there is a problem, it comes from sanitary regulations. However, even for sanitary regulations, there is basically no major problem with respect to the market access for apple and lemon juices.

As for grape must, Argentine manufacturers will have difficulty, because they use sulfite for extracting juice to prevent oxidation. They are not equipped with cold storage tanks for straight must which is preserved until the concentration process, because they mainly produce wine for which the usage of sulfite is allowed.

The usage of sulfite is regulated by the Food Sanitation Law and the Japanese Agricultural Standard as stated above. The Food Sanitation Law permits the use of sulfite for concentrated fruit juices, but with a certain standard. The JAS prohibits such use. In this context, it is possible to export concentrated fruit juices with sulfite not only for wine but also for fruit juices as long as exporters do not care about the JAS mark.

Sulfite has an advantage in preventing rotting, oxidation, darkening and disintegration of vitamin C. On the other hand, the material has some disadvantages such as causing a change of taste and synthesizing hydrogen sulfide which corrodes iron containers when it soaks through the coating. Japanese beverage manufacturers have not used concentrated grape must with added sulfite because of these disadvantages. And a

certain American grape must manufacturer, who has the largest market share of concentrated grape must in Japan, has already provided grape must without sulfite.

If the Argentine suppliers intend to export their grape must to the Japanese market, they have to produce the type without sulfite. It is said that investment for refrigerating deposit tanks would be required for such products. However, some experts on fruit juices, who are in charge of manufacturing management, said that it is possible to produce it with a change in the production schedule.

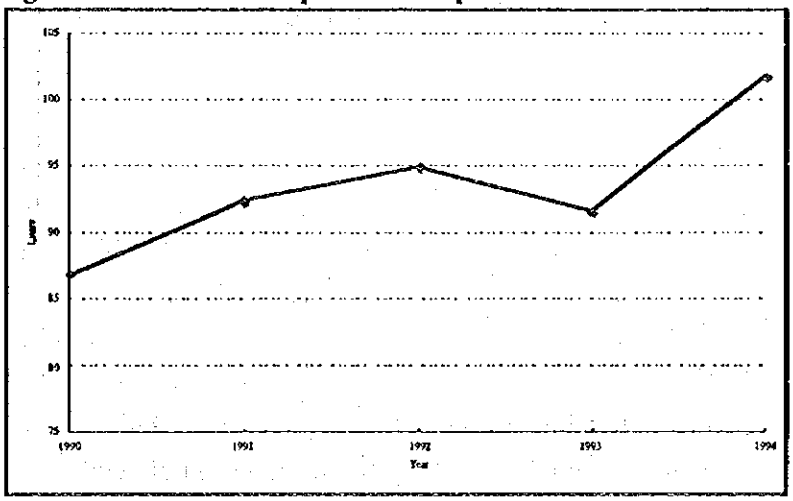
2.2.3 Market for the Final Products in Japan

2.2.3.1 Market size and characteristics of the final products

Per capita consumption of soft drinks has increased gradually, though the consumption in 1993 declined compared with that in the previous year. In this study soft drinks means packaged non alcoholic drinks and excludes coffee and tea served in a pot. Even though the consumption in 1994 exceeded 100 liters, the consumption level of the Japanese is relatively low compared with that of developed countries; e.g. 279 liters in USA, and 146 liters in western Europe. Future consumption in Japan is expected to increase gradually. The reasons are:

- familiarity of the packed soft drinks for younger generation,
- convenience to buy soft drinks in vending machines and at convenience stores,
- change in drinking habits (increase in winter and autumn season), and
- distrust of the safety of city water(quality of water supply).

Figure V-2-2-1 Per Capita Consumption of Soft Drinks



Source: The Soft Drinks Association, Statistics of soft drinks

Compared to traditional drinks, fruit drinks and carbonated soft drinks have not increased in the last few years as shown in the table and figure below. The percentage share of fruit drinks and carbonated soft drinks together out of total soft drinks declined from 52% in 1990 to 41% in 1994. Among carbonated soft drinks, only cola expanded its share, while shares of other carbonated soft drinks have declined. On the other hand, new products in "others" in the table, such as oolong tea, isotonic water and mineral water, have increased their share.

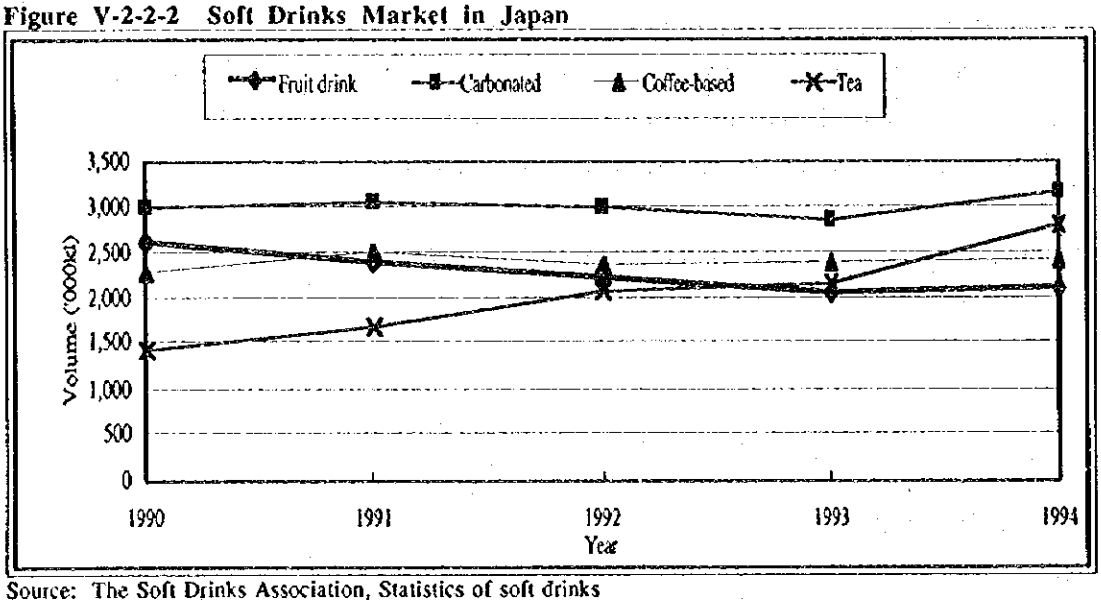
Table V-2-2-3 Soft Drinks Market in Japan

('000 k liters, %)

	1990	1991	1992	1993	1994
Fruit drink	2,610	2,402	2,219	2,058	2,110
	(24.3)	(21.0)	(18.8)	(18.0)	(16.6)
Carbonated	2,995	3,040	2,975	2,850	3,162
	(27.9)	(26.5)	(25.2)	(25.0)	(24.9)
Coffee-based	2,270	2,500	2,375	2,400	2,415
	(21.1)	(21.8)	(20.1)	(21.0)	(19.0)
Tea	1,425	1,685	2,080	2,170	2,779
	(13.3)	(14.7)	(17.6)	(19.0)	(21.8)
Others	1,443	1,829	2,165	1,942	2,254
	(13.4)	(16.0)	(18.3)	(17.0)	(17.7)
Total	10,743	11,456	11,814	11,420	12,720
	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)

Source: The Soft Drinks Association, Statistics of soft drinks

Figure V-2-2-2 Soft Drinks Market in Japan



Source: The Soft Drinks Association, Statistics of soft drinks

Consumption of fruit drinks is trending towards decrease. However, three factors affect the annual consumption of fruit drinks. They are development of new products, temparature and sales promotion activity. The consumption tends to increase extraordinarily in a year when some new products are developed and introduced to the

market. When the temparature is higher than the average, the consumption goes up. On the other hand when the market price of the products slackens or raw material cost goes up, the consumption will decrease because suppliers tend to curb sales promotion activity to trim sales promotion cost and recover the decrease in profit.

Considering these, it is very difficult to make a reliable prediction on future consumption level of fruit drinks. This is a main reason why even the Japan Fruit Juice Association does not predict future demand for fruit drinks.

While total consumption of fruit drinks has decreased, consumption of a product which contains a high percentage of pure fruit juice has increased. The decline in the total amount of fruit drinks is a result of the decrease in soft drinks containing less fruit juice. Thus the demand for the intermediate product hasn't been so much affected by the decline.

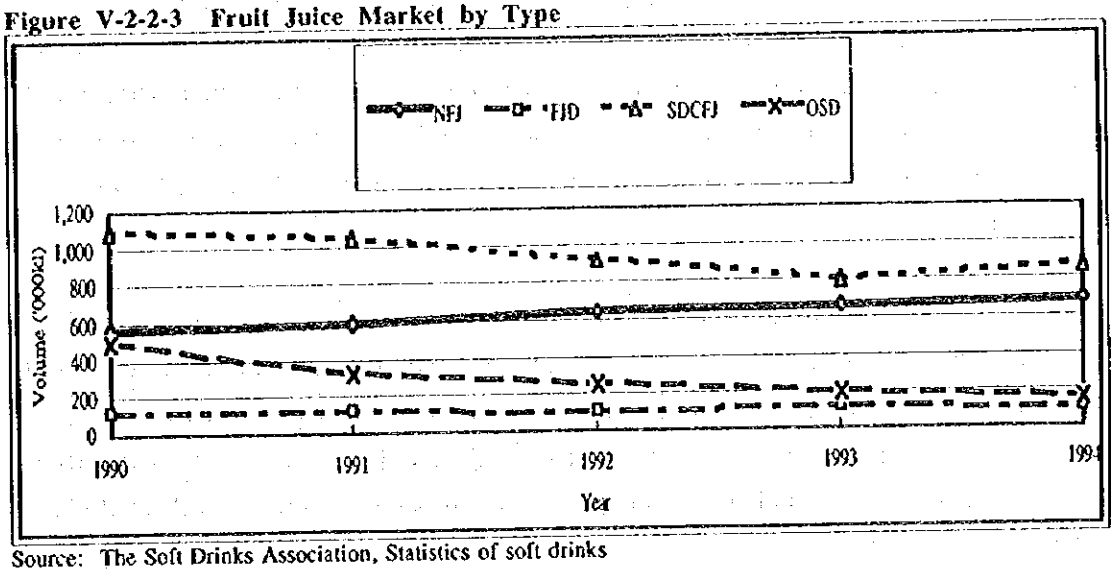
Table V-2-2-4 Fruit Juice Market by Type

('000kl)

	1990	1991	1992	1993	1994
NFJ	570	600	640	670	705
FJD	115	125	110	120	102
SDCFJ	1,100	1,050	925	800	864
OSD	500	320	256	200	154

Note: NFJ; Natural fruit juices (containing 100% of pure fruit juice)
FJD; Fruit juice drinks (containing 50% and more of fruit juice)
SDCFJ; Soft drinks containing fruit juice (containing 50% and more of fruit juice)
OSD; Other soft drinks (containing less than 10% of fruit juice)
Source: The Soft Drinks Association, Statistics of soft drinks

Figure V-2-2-3 Fruit Juice Market by Type



Source: The Soft Drinks Association, Statistics of soft drinks

2.2.3.2 Demand and supply balance

Almost all imports of fruit juices are concentrates. Import of straight juices is very small. On the other hand, exports of fruit juices consist of final products. This is because the price of concentrated juices made in Japan is high compared to competitors such as the USA.

Total amount of fruit juices exported in 1994 was negligible, only 200 kilo liters, equivalent to 0.009% of total production in Japan as shown in the following table. So it can be concluded that the Japanese beverage manufacturers produce mainly for the domestic market.

Table V-2-2-5 Export of Fruit Juices (1994)

(liters)

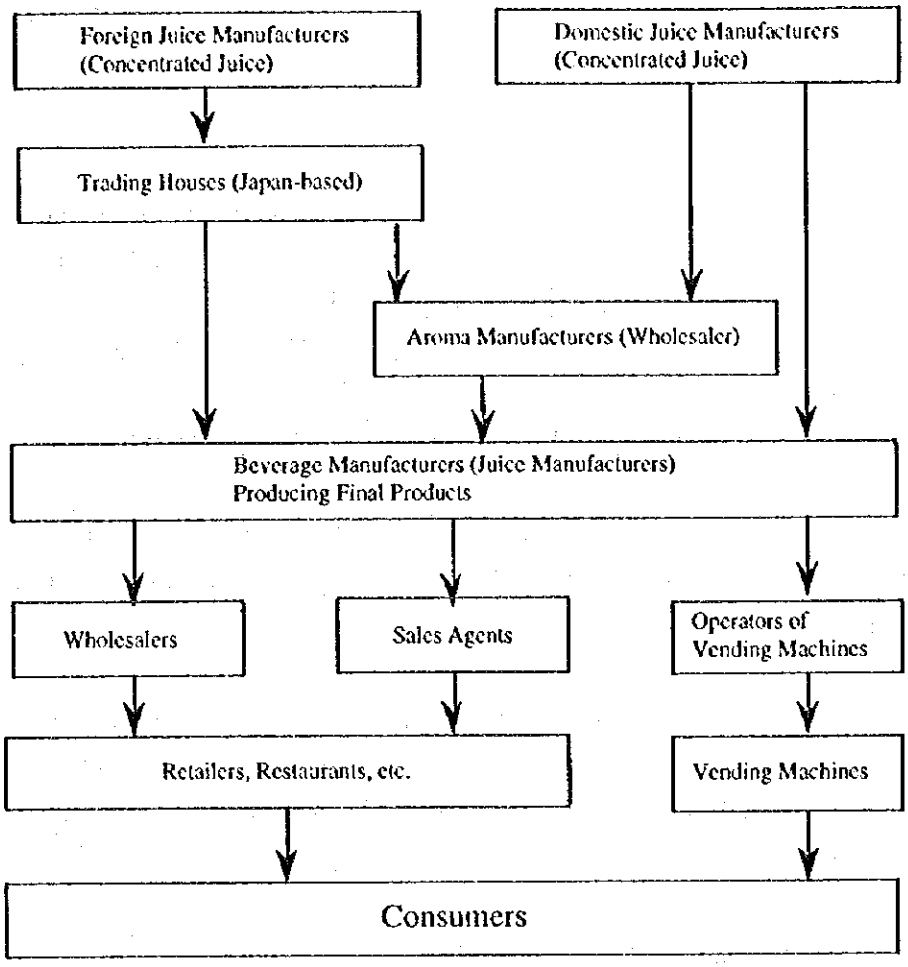
	Apple Juice	Orange Juice	Grapefruit Juice	Other Citric Juice	Total
Korea		115,203	64,830		180,033
Hong Kong	521			548	1,069
Taiwan	6,207				6,207
Singapore	2,957				2,957
Thailand	900				900
Philippines	680				680
North Korea		252			252
Russia		7,500			7,500
USA				648	648
UK				309	309
Total	11,265	122,955	64,830	1,505	200,555

Source: Japan Tariff Association, Japan Exports and Imports

2.2.3.3 Domestic suppliers

Distribution channels of fruit juices are as follows. Most of the Japanese beverage manufacturers usually purchase concentrated fruit juices through certain trading houses. These trading houses provide the Japanese beverage manufacturers with some services such as negotiation with material suppliers as a representative in the event of any trouble, and finding of a new suppliers when existing suppliers fail to provide raw materials.

The Japanese beverage manufacturers have been increasing their purchase of concentrated fruit juices from abroad since imports have been liberalized. As a result of accumulation of the experience of purchasing from foreign sources, some leading Japanese beverage manufacturers are considering the purchase of major raw materials directly from foreign suppliers. If such a trend continues, the distribution channel will become more simple.



Percentage shares of each distribution channel of fruit juices in retailing are shown in the following table. According to the table, mass-merchandise chains control half of the retail market, and convenience stores chains follow them. These two categories are increasing their market shares, while independent small retailers are losing their market share. The share of vending machines is stable, because there are no more good locations left to install additional vending machines.

Table V-2-2-6 Share of Retailers

Categories	Share(%)
Mass-merchandise chains	50
Convenience store chains	16
Independent small stores	14
Vending machines	12
Others	8

The most important distribution channel would be mass-merchandise chains. These companies have developed their own products (so called "private brand") by

themselves, however they still rely on beverage manufacturers, the so called "national brand makers".

While there are around 700 juice manufacturers in Japan, the number of influential manufacturers is small. There are 130 companies, most of them medium or large-sized companies, who are the major fruit juice manufacturers and members of Japan Fruit Juice Association. These companies are grouped in two categories:

- The type of company which has its own brand, develops and produces its own products and decides the suppliers by itself, and
- The type of company which only has the function of producing products for other brand owners.

Companies of the former type are usually diversified from other beverage or food companies. Some companies belonging to the latter type also produce concentrated fruit juices with domestic materials.

The leading companies producing natural fruit juices are listed below; six of them had their origin in the business of milk products and the beer sector. Whole fruit juice manufacturers are listed in the appendix of "Estudio del Mercado Japones de Jogos de Frutas (JETRO, Mar. 1994)".

Table V-2-2-7 Leading Fruit Juice Manufacturers

	Company	Principal business	Sales of natural fruit juice (1994)
1	Coca-cola (Japan)		471
2	Kirin Beverage	Beer	293
3	Suntory	Beer	203
4	Ehimeken seikaren	Agro. Coop.	135
5	Morinaga Milk Industry	Milk	128
6	Snow Brand Milk Products	Milk	120
7	Zen-noh Chokuhan	Agro. Coop.	111
8	Kagome	Tomato Products	100
9	Asahi Breweries	Beer	92
10	Meiji Nyugyo	Milk	65

2.2.4 Concentrated Fruit Juice Market in Japan

2.2.4.1 Demand and supply balance

The following table shows the import and domestic production of concentrated fruit juices.

Table V-2-2-8 Concentrated Fruit Juice Imported and Produced

(Tons)

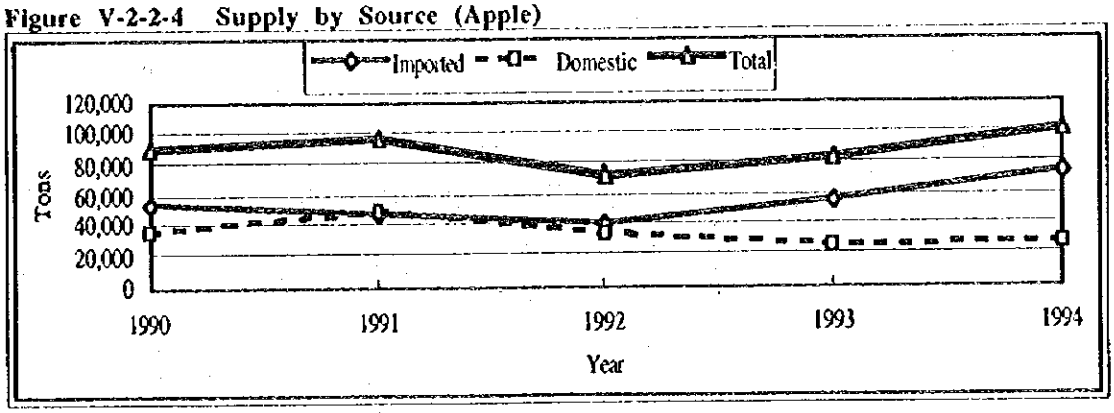
		1990	1991	1992	1993	1994
Apple	Imported	53,832	47,192	40,132	56,600	74,078
	Domestic	36,125	48,777	33,197	26,090	27,200
	Total	89,957	95,969	73,329	82,690	101,278
Grape	Imported	9,499	14,569	13,164	15,264	18,139
	Domestic	877	968	629	758	660
	Total	10,376	15,537	13,793	16,022	18,799
Lemon	Imported	11,744	5,095	4,913	7,357	7,604
	Domestic	0	0	0	0	0
	Total	11,744	5,095	4,913	7,357	7,604

Source: Ministry of Agriculture, Forestry and Fisheries, Production and Shipping Statistics of Fruits
Japan Tariff Association, Japan Exports and Imports

(1) Apple juice

Approximately 80% of fresh apples which are produced domestically are shipped for a fresh market, and only 15% are directed to the juice industry. Apples for the juice industry are low grade ones which cannot be sold in the fresh market. So long as farmers continue to grow apples for the fresh market, apples for fruit juice are available. However, it can not be expected that supply of apples for the industry will increase. This is because the total orchard area has been gradually declining in Japan. It is a consensus that the demand for imported concentrated apple juice will increase with the growth of the demand for natural apple juice and mixed juice.

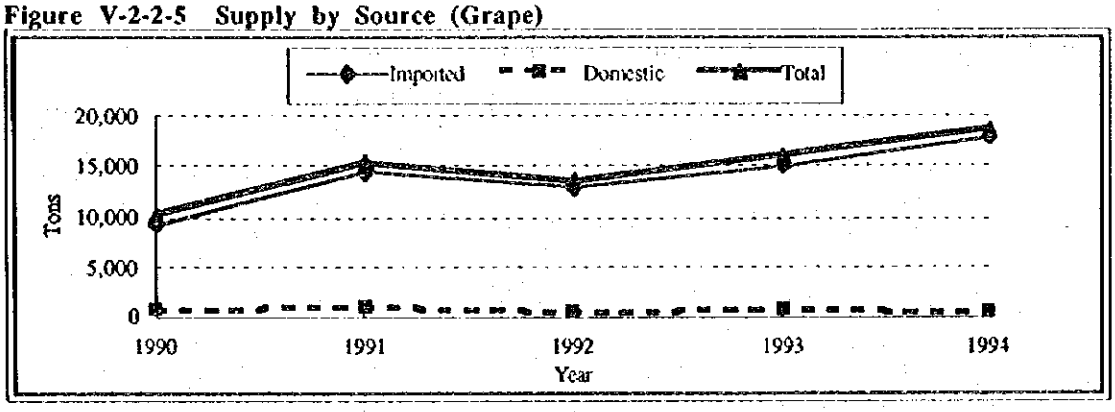
Figure V-2-2-4 Supply by Source (Apple)



(2) Grape juice

80% of grapes grown in Japan are shipped to a fresh market. Only 2% are extracted to juice. Locally produced concentrated grape must holds only a 3.5% share of the total supply.

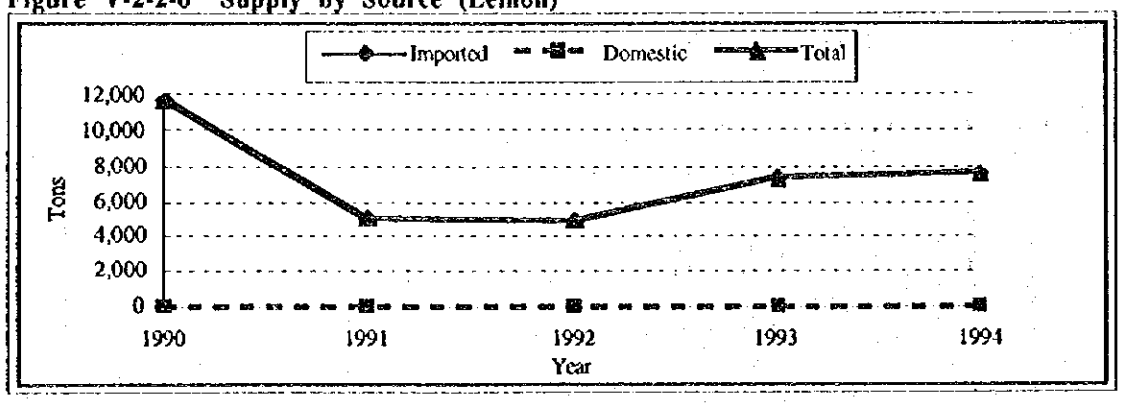
Figure V-2-2-5 Supply by Source (Grape)



(3) Lemon juice

Concentrated lemon juices are not produced in Japan. In 1990 the demand recorded an unexpectedly high level of 12 thousand tons. This is mainly attributable to the extraordinarily successful sales of a new product containing lemon juice. However, the boom did not last and consumption dropped sharply in the next year. Demand for concentrated lemon juice is expected to increase, though the growth rate is modest, because many soft drinks contain some amount of lemon juice as a taste adjuster.

Figure V-2-2-6 Supply by Source (Lemon)



2.2.4.2 Domestic suppliers

There are approximately 30 companies who produce concentrated juice as members of the Japan Fruit Juice Association. Most of them were established as subsidiaries of regional agricultural cooperation to process excess fruits or lower grade fruits. Reflecting the history of their origin, these companies are located in the regions of the major crop areas of tangerines and apples.

Since the key to success in business is the ability to raise the operating rate of plants, they are making every effort in this direction. This is the reason why they extract not only fruit but also vegetables which are harvested in different seasons, or produce not only concentrated juices but also final products.

2.2.4.3 Import by country

The percentage share of apple juice supplied from the Northern Hemisphere in total amount imported fluctuates in the range of 56% to 70%. Austria and China have increased their exports to Japan three times and 3.7 times respectively over the last five years. Strong competitors to Argentina in the Japanese market are New Zealand and Chile because they are located in the same Southern Hemisphere as Argentina .

As for grape must, while the USA had dominated the Japanese market until 1990, Spain, Australia and South Africa have expanded their exports so that the supply sources are going to be diversified in the coming years. Since Argentina has exported much grape must for the intermediate material of wine to Japan, its total export of grape must is far bigger than the figures in this table . However they contain one percent of alcohol and are classified as another commodity group which can enjoy a preferential tax on import. Strong competitors to Argentina in the Japanese market are the USA and Australia. The price of products produced in the USA is higher than those of other suppliers, however the quality of their products has a high reputation among Japanese beverage manufacturers.

As for lemon juice, Israel and Italy have good reputations so they keep their market shares. These two countries are strong competitors to Argentina.

Table V-2-2-9 Import by Country

(kilo liters)

		1990	%	1991	%	1992	%	1993	%	1994	%
Apple	N. Hemisphere	27,810	65	26,477	71	17,743	56	30,280	67	40,599	69
	USA	14,111	34	13,288	36	8,526	28	13,905	30	14,673	25
	Austria	4,880	11	6,631	18	5,228	16	8,999	20	14,205	24
	Germany	4,049	9	665	2	359	1	2,229	5	5,199	9
	China	1,302	3	2,029	5	1,025	3	3,476	8	4,755	8
	Others	3,468	8	3,863	10	2,606	8	1,670	4	1,767	3
	S. Hemisphere	14,913	35	10,976	29	14,107	44	14,641	33	18,193	31
	New Zealand	3,481	8	3,480	10	3,600	11	3,179	7	5,987	10
	Chile	4,275	10	1,212	3	3,055	10	3,463	8	5,096	9
	South Africa	2,704	6	2,788	7	3,914	12	3,614	8	3,041	5
	Argentina	2,839	7	1,881	5	1,039	3	2,192	5	2,444	4
	Others	1,614	4	1,616	4	2,499	8	2,193	5	1,625	3
	Grand Total	42,723	100	37,454	100	31,851	100	44,921	100	58,792	100
Grape	N. Hemisphere	6,614	88	8,119	70	7,568	72	8,693	72	10,506	73
	USA	5,907	78	7,498	65	6,943	65	6,424	53	6,768	47
	Spain	365	5	119	1	276	3	1,623	13	2,632	18
	Austria	192	3	346	3	265	3	551	5	804	6
	Others	150	2	155	1	84	1	95	1	303	2
	S. Hemisphere	925	12	3,441	30	2,880	28	3,422	28	3,890	27
	Australia	304	4	2,320	20	1,886	18	2,015	16	1,754	13
	South Africa	0	0	213	2	159	2	334	3	1,304	9
	Brazil	583	8	767	7	633	6	795	7	791	5
	Argentina	13	0	141	1	188	2	45	0	41	0
	Others	24	0	1	0	15	0	233	2	0	0
	Grand Total	7,539	100	11,560	100	10,448	100	12,115	100	14,396	100
Lemon	N. Hemisphere	8,640	87	3,698	86	4,811	93	5,855	94	5,858	91
	Israel	4,080	41	1,604	38	1,954	37	2,290	37	2,801	43
	Italy	2,981	30	1,444	33	865	17	1,915	31	1,809	28
	USA	1,249	13	573	13	1,952	38	1,517	24	974	15
	Spain	261	3	66	2	40	1	133	2	273	4
	Others	69	1	11	0	0	0	0	0	0	0
	S. Hemisphere	1,313	13	620	14	353	7	380	6	587	9
	Argentina	1,313	13	620	14	353	7	380	6	586	9
	Australia	0	0	0	0	0	0	0	0	1	0
	Grand Total	9,952	100	4,318	100	5,164	100	6,234	100	6,444	100

Source: Japan Tariff Association, Japan Exports and Imports

2.2.4.4 Primary factors affecting the selection of suppliers

The following table shows the present situation of the purchase of Argentine concentrated juice by major Japanese beverage manufacturers. Few of them purchase Argentine products. Only when the demand and supply balance becomes tight, trading houses introduce Argentine products to the Japanese beverage manufacturers. However, they do not purchase products from Argentina in normal years, so the country is still a marginal supplier for Japanese beverage manufacturers. There are many concentrated juice suppliers in the world and so far the supply has exceeded the demand.

Almost all Japanese beverage manufacturers have relied on trading houses to import concentrated juices. The Japanese beverage manufacturers did not pay attention to import products themselves. They only had limited information about foreign juices

manufacturers, and they have not intended to develop new supply sources. This is because the concentrated juices were expensive and their imports regulated until the beginning of the 1990s, so that the total amount of imports of concentrated juices was small.

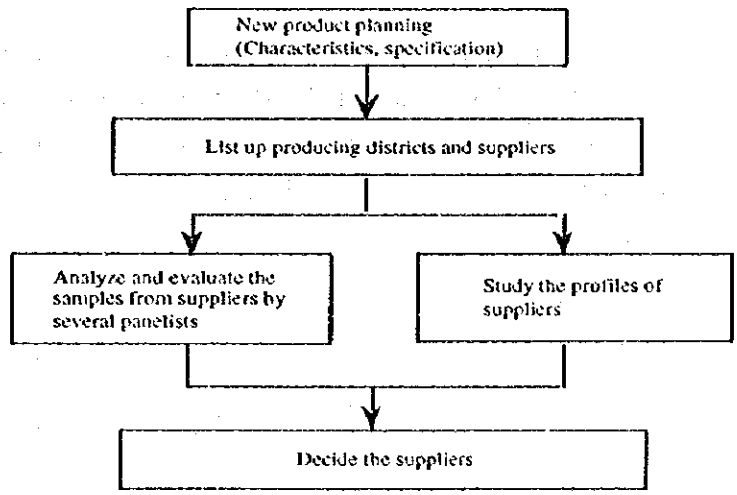
Beverage manufacturers have usually two or three sources of concentrated juices which are decided at the beginning of the development of new products. They do not change the suppliers as long as there is no trouble. However, it could happen that they procure materials from the spot market at a moment of shortage of supply.

Table V-2-2-10 Present Situation of Argentine Material

Origin	Company	Apple	Grape	Lemon
Beer	A			
	B			X
Milk	C	(X)		
	D			X
	E		-	
	F			
Other Food	G	X	-	
	H	X	X	X
	I		-	-
Retail	J		-	-
	K		-	(X)

Source: Interview with each company

Supply sources are determined in the following process.



First of all, it is necessary for the Argentine exporters to be included in the list of candidates of suppliers for concentrated juice manufacturers. Generally speaking the Japanese juice manufacturers do not have enough information about suppliers spread all

over the world. So they ask trading companies to collect material samples of potential suppliers and related information about the suppliers.

In the process of evaluation of suppliers, it is necessary to meet the specification of the new product. Many procurement managers in major beverage manufacturers say that there are three important factors for deciding suppliers; safety, stability of quality, and cost.

(1) Safety of the materials

Japanese beverage manufacturers have paid attention not only to prevent residual pesticide and heavy metals but also microbes. A certain beverage manufacturer received quite frequent publicity by because of microbes contained in the final product. It is said that there are some microbes which are vitalized only in humid countries like Japan, so Japanese beverage manufacturers are nervous about this possibility.

(2) Stability of the material quality

Stability means that the same levels of sucrose, acidity, contained pulp and color is secured in every lot of delivery. If the quality is not stable, beverage manufacturers cannot provide final products with the same specification.

(3) Cost of the materials

While many beverage manufacturers often cite importance of safety and stability , it does not mean that cost of the material is not important. The majority of procurement managers of Japanese beverage manufacturers state that the price of the concentrated juices produced in Argentina is not so high compared with those of other competitors.

2.2.5 Argentine Juice Industry

2.2.5.1 Production and export

The Argentine juice industry is basically export oriented, though as shown in the table below, the ratio of export against domestic production (E/P ratio) fluctuates. Depending on the condition of the world demand and supply balance and of the crops in each year, the export ratio is quite high.

Table V-2-2-11 Production & Export of Concentrated Juice

(Ton)

		1991	1992	1993	1994	1995
Apple	Production	65,000	66,000	59,000	67,000	73,751
	Export	56,848	63,969	59,095	61,058	66,376
	E/P Ratio	87.5	96.9	100.2	91.1	90.0
Grape	Production	44,928	78,439	22,568	46,614	179,121
	Export	31,869	38,379	1,968	12,392	61,898
	E/P Ratio	70.9	48.9	8.7	26.6	34.6
Lemon	Production	25,300	23,700	26,400	27,350	26,700
	Export	18,343	18,523	16,592	15,306	n.a.
	E/P Ratio	72.5	78.2	62.8	56.0	n.a.

Source: Production; CINEX, INV, CICA Export; DB-INDEC

2.2.5.2 Export by country

As for export of apple juice, more than 90% of total export is directed to the USA. Though Japan holds second position next to the USA, the volume of exports is far less. This is partly because of the distance between the two countries, and partly because of the differentiation of product types. While most of the Japanese consumers prefer the cloudy type which includes a lot of fruit fibers, the Argentine apple juice manufacturers mainly produce the clear type which US consumers prefer.

Grape juice was also exported mainly to the USA up to 1992, but Spain became the largest importer from Argentina in 1994 due to the poor harvest of grapes in Spain in 1993 and 1994. Exports to Japan are negligible. This is because, as mentioned before, the Argentine grape juice manufacturers hardly produce any concentrated non-sulfite grape juice.

Half of the exports of lemon juice are directed to Europe, especially to the Netherlands. While exports to Japan are in the third position, next to Netherlands and the USA, the volume is far less.

Table V-2-2-12 Export by Country

(Tons)

		1991	1992	1993	1994
Apple	USA	54,328	59,299	55,887	56,557
	Japan	2,145	1,410	2,750	3,459
	Others	375	3,260	458	1,042
	Grand Total	56,848	63,969	59,095	61,058
Grape	Spain	0	0	0	8,250
	USA	17,811	30,277	484	1,605
	Canada	5,734	4,257	380	1,121
	Colombia	99	275	164	42
	Chile	418	800	411	382
	Japan	655	361	42	0
	Taiwan	269	181	224	21
	Others	6,881	2,227	262	972
	Grand Total	31,869	38,379	1,968	12,392
Lemon	Europe	10,507	9,114	5,760	7,268
	Netherlands	7,795	6,969	4,645	5,944
	France	1,020	1,380	943	614
	UK	31	82	101	176
	Germany	599	333	53	534
	Italy	1,062	350	18	0
	North America	6,802	8,321	9,817	4,883
	USA	5,929	8,007	9,369	3,914
	Canada	504	302	524	229
	Japan	873	314	448	970
	Israel	217	236	135	259
	Australia	91	249	251	589
	Others	223	301	107	1,337
	Grand Total	18,343	18,523	16,592	15,306

Source: DB-INDEC

2.2.5.3 Industrial structure

(1) Apple juice

Most of the major apple juice manufacturers are located in Rio-Negro and Neuquen provinces. Altogether, there are 10 companies which possess 13 factories for concentrated juice in these provinces.

Table V-2-2-13 Apple Juice Manufacturers

Company	Coop.	Location	Large	Medium	Small
Jugos Del Sur S.A.		Neuquen & Rio-Negro	X		
Jugos S.A.		Rio-Negro	X		
Zumos Argentinos S.A.		Rio-Negro	X		
Urundel Del Valle S.A.		Rio-Negro		X	
Orfiva S.A.		Neuquen		X	
Aca	X	Rio-Negro		X	
Proin	X	Rio-Negro		X	
Choele	X	Rio-Negro			X
Millaco	X	Rio-Negro			X
Industrias Cipolletti S.A.		Rio-Negro			X

Note: Jugos del Sur has three factories; one in Neuquen, and the other two in Rio-Negro.
Aca: Coop. de Commercialization y Transformation de Colonia Julia y Echarren LTDA
Choele: Coop. Agricola Colonia Choele Choel LTDA.
Millaco: Coop. Fruti-Vinicola Alen LTDA.
Size (large ~ small) indicates production capacity which is estimated by the volume of the export in 1995.
Source: CINEX

(2) Grape Juice

There are many wine and grape must manufacturers in Argentina, concentrated in Mendoza and San Juan provinces.

Table V-2-2-14 Grape Must Manufacturers

Region	Company	Capacity
Mendoza	Altrapec SRL, Berrotti, B.V. Santa Ana S.A., B.V. Recoaro S.A., Coarex S.A. Recero S.A., La Aericola, Llaver Agticola S.A., Penaflor S.A., Uvexport S.A.	
San Juan	Penaflor S.A.	12,000t/y
	Estornell S.A.	12,000
	Mosto Mat	6,000
	West Frut	2,000
	Lenca	2,000
	Alcoba Francisco	1,000
	Yanello S.A.	1,000

Note: Capacity in Mendoza region is not available.
Source: Chamber and some grape juice companies

(3) Lemon Juice

The major production area of lemon juice is Tucuman province where the percentage share is around 70% in terms of production capacity.

Table V-2-2-15 Lemon Juice Manufacturers

Region	Company	Capacity (Tons / Year)	Self-sufficiency of material (%)
Tucuman	S.A. San Miguel	120,000	50
	Unicente Trapani	100,000	40
	Cota	70,000	100
	Citrusvil	60,000	50
	Citrus Trade Famailla S.A.	50,000	20
	Citromax	45,000	60
	Carlos Trapani	5,000	n.a.
Salta	San Martin del Tabacal	15,000	n.a.
Jujui	Citrinor	43,000	30
Misiones	Coop. El Dorado	6,000	n.a.
Entre Rios	Pindapoy	55,000	50
	Litoral Citrus	24,000	30
	Eca	15,000	70
Corrientes	Pindapoy	45,000	85
	Rio Bermejo	25,000	n.a.

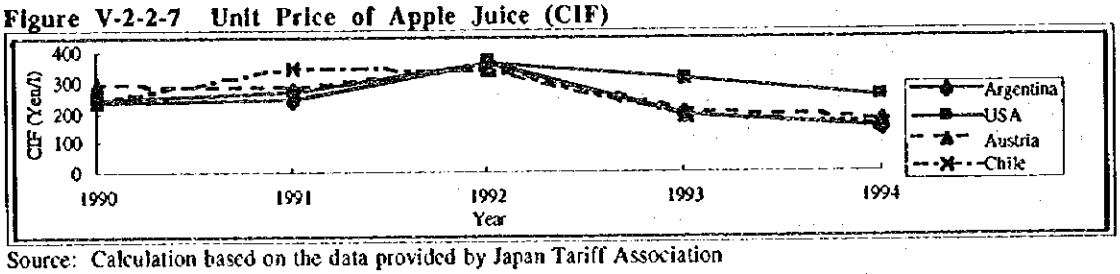
Source: Some of lemon juice companies

2.2.5.4 Price competitiveness

(1) Present situation

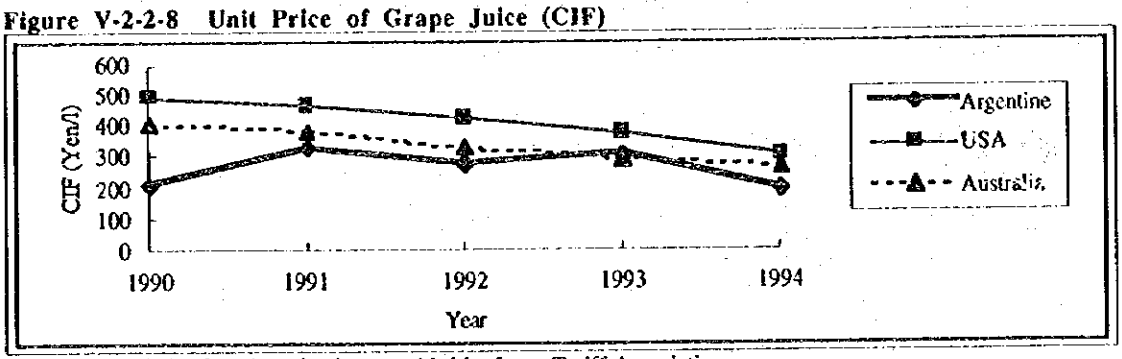
As is shown in the following tables, the Argentine juice industry, especially the lemon juice industry, has international price competitiveness as far as export to Japan is concerned. According to a certain industrial source of lemon, the yield of fresh lemon per ha in Tucuman, which produces 80% of total production in Argentina, is twice that of Spain. As for the two other fruit juices, the Japanese beverage manufacturers say that the prices have been so far equal to or slightly lower than those of other suppliers.

Figure V-2-2-7 Unit Price of Apple Juice (CIF)



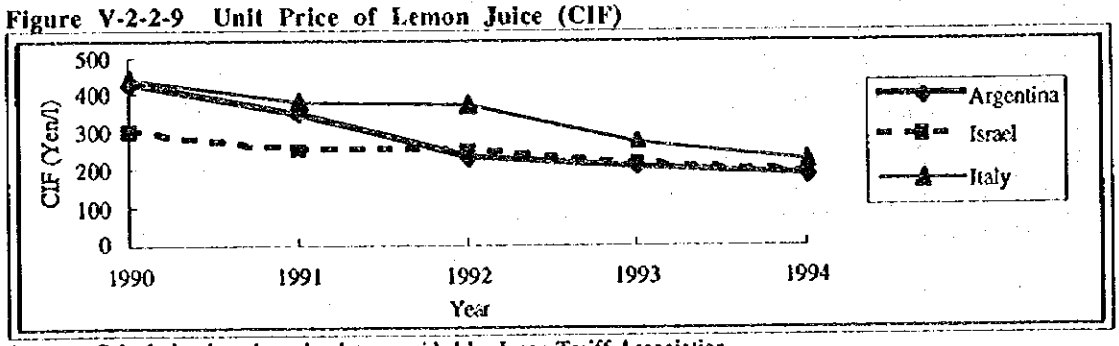
Source: Calculation based on the data provided by Japan Tariff Association

Figure V-2-2-8 Unit Price of Grape Juice (CIF)



Source: Calculation based on the data provided by Japan Tariff Association

Figure V-2-2-9 Unit Price of Lemon Juice (CIF)



Source: Calculation based on the data provided by Japan Tariff Association

(2) Future prospects

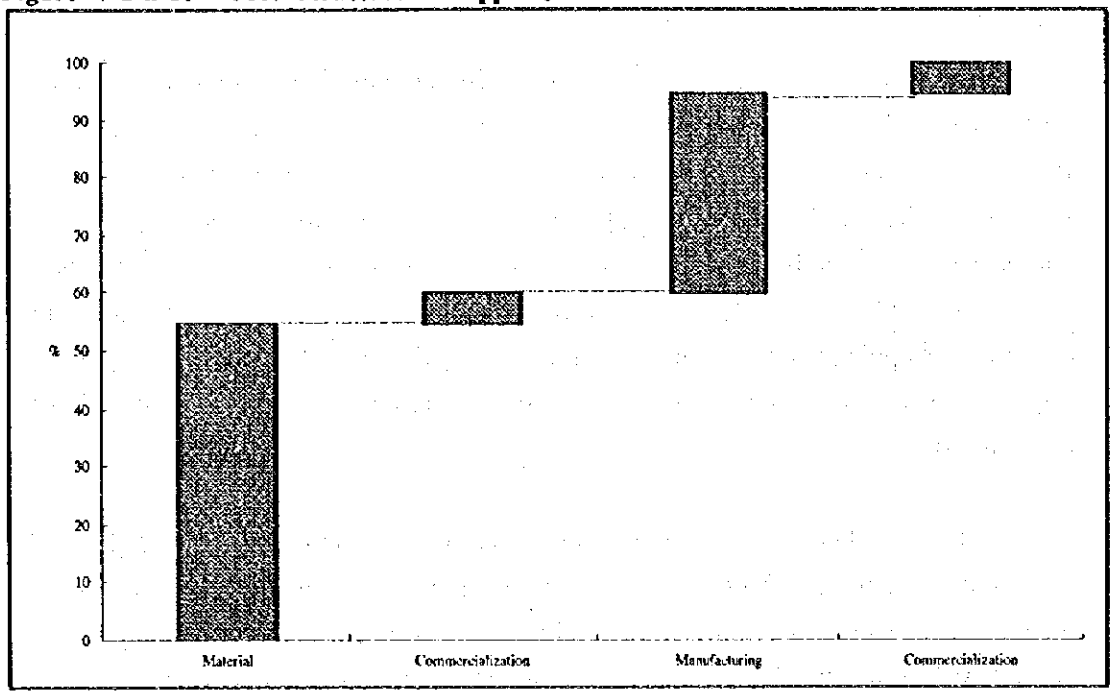
The cost structure of each product is shown in the following figures. Around 50% of the total cost is shared by the cost of raw materials. The price of fruits have fluctuated according to the climate and weather of each year. The apple industry was struck by the hike in the price of the apple in 1995. According to some apple juice companies, the reason is that apple juice companies rushed into purchasing apples, and the price jumped to two times the price of the previous year. As a result, it is said that ten out of eleven apple juice companies suffered financial losses in 1995. It is thus very important to continue to make efforts to reduce the material cost with the cooperation of orchard farmers .

The second largest cost item is manufacturing cost. In the case of apple juice, the major cost elements of manufacturing cost are labor, depreciation and financial cost, three elements which share 60% of the total manufacturing cost. As for lemon juice, around 30% of the total is manufacturing cost. The major cost elements are labor, packaging, electricity and depreciation and maintenance costs amounting to 90% of the total manufacturing cost. For grape juice, details of the manufacturing cost are not available.

Manufacturing cost is broken down into controllable costs and uncontrollable costs from the viewpoint of the individual manufacturer. The former is represented by depreciation cost, and the latter by labor cost or electricity cost. It is true that high unit labor cost and expensive electricity charges are substantial problems in Argentina. However it takes a long time to solve these problems, so it is necessary to concentrate on the reduction of controllable costs.

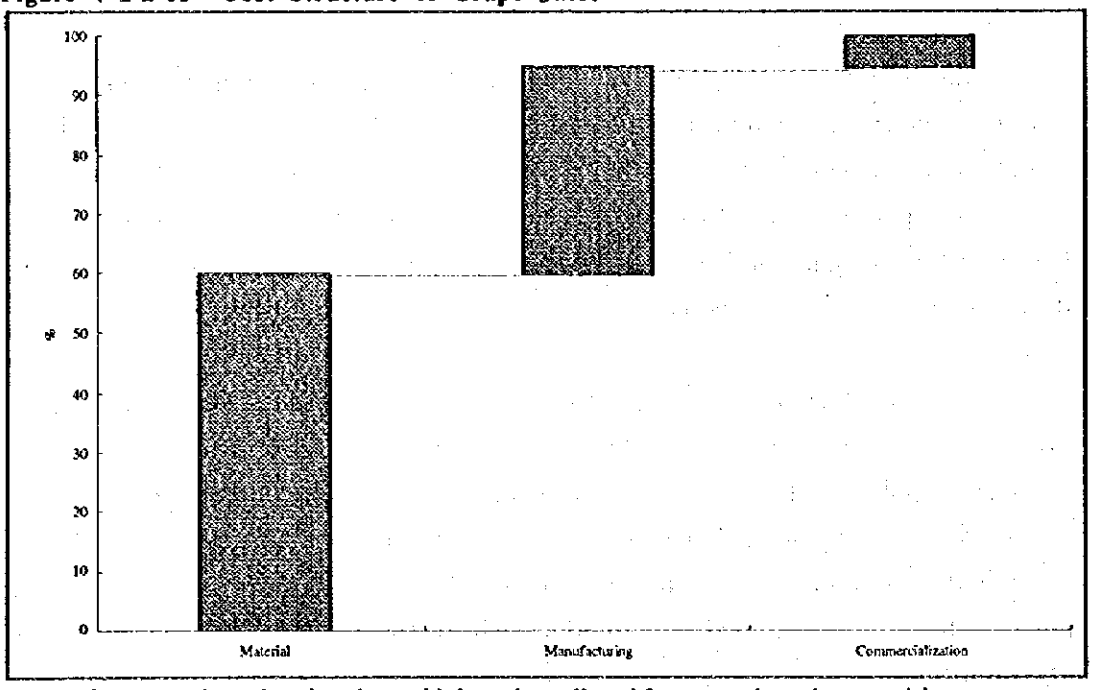
The ratio of depreciation cost against the sales price depends on operating rate. Figure V-2-2-13 shows the volume of apples crushed for juice by month. According to the figures, apple juice factories operate at full capacity only during March to May. If they produce not only apples but also other crops which are harvested in spring and summer, their operation will become more stable and their production cost will be reduced. It is necessary to find other products which can contribute to the equalization of production throughout the year.

Figure V-2-2-10 Cost Structure of Apple Juice



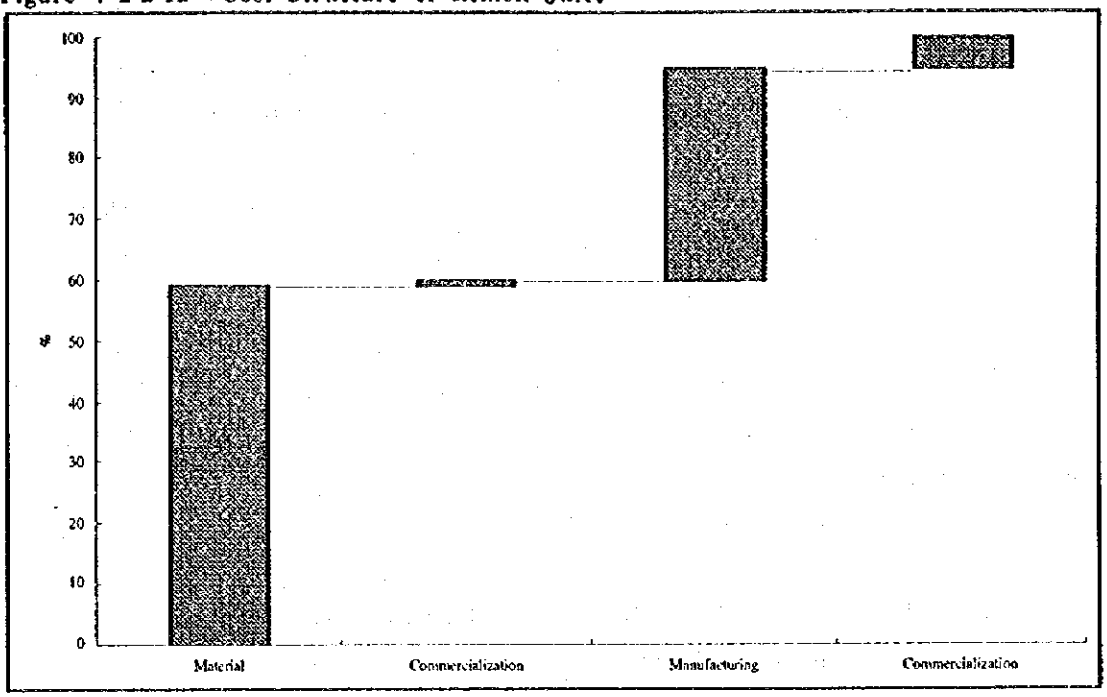
Source: Our own estimate based on data and information collected from some Argentine apple juice manufacturers

Figure V-2-2-11 Cost Structure of Grape Juice



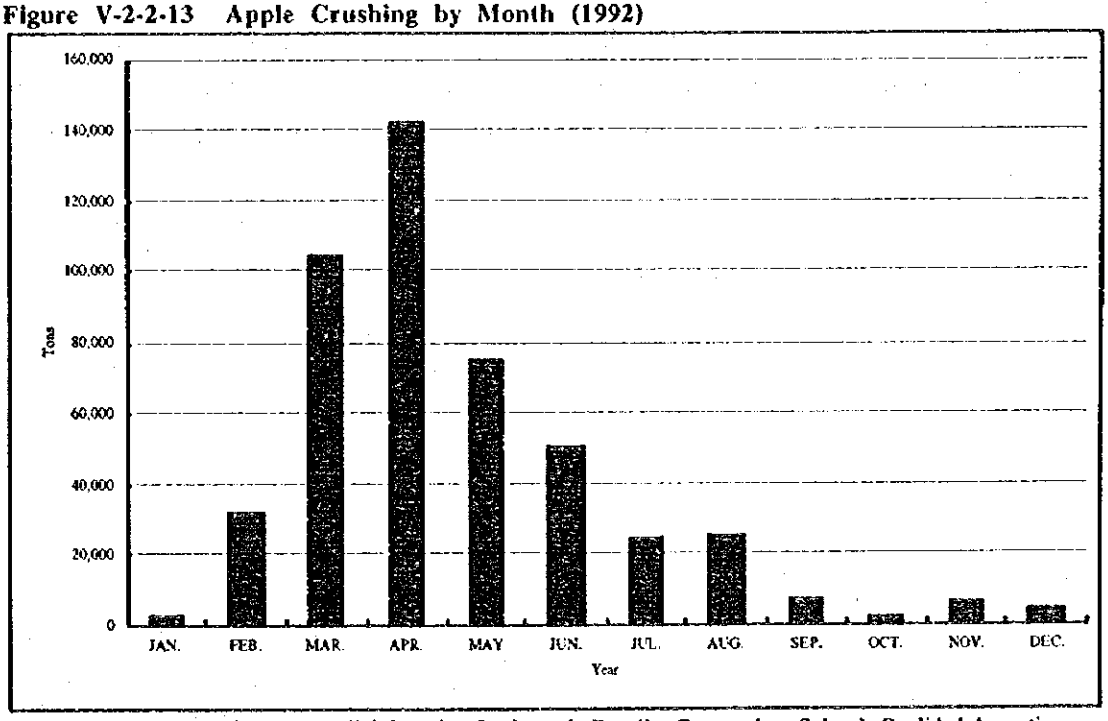
Source: Our own estimate based on data and information collected from some Argentine grape juice manufacturers

Figure V-2-2-12 Cost Structure of Lemon Juice



Source: Our own estimate based on data and information collected from some Argentine lemon juice manufacturers

Figure V-2-2-13 Apple Crushing by Month (1992)



Source: Fundacion Mediterranea- Filial Comahue Instituto de Estudios Economicos Sobre la Realidad Argentina y Latinoamericana

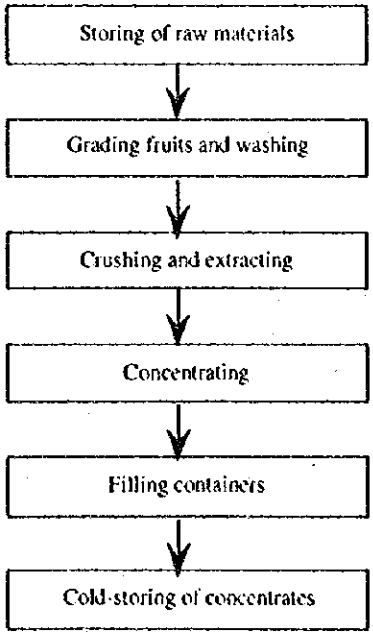
2.2.5.5 Quality competitiveness

The quality of juice is affected largely by the species of fruits and the measures of processing. Some Japanese buyers say major Argentine apples are Red Delicious and Granny Smith and these species are not preferred in the Japanese market. However, other buyers insist that it is hard to say which species are better in the Japanese market, because it depends on the characteristics of new products which beverage manufacturers develop.

As for grape must, while species of grapes grown in Argentina are suitable for wine, Argentine grape must is of less body and not suitable for juice. However, it is said that this type of grape must is rather good as part of the content of mixed juices which are now familiar to the Japanese market.

As for the question of changeable quality which affects conditions of manufacturing, according to the Japanese beverage manufacturers who currently purchase or who used to buy Argentine concentrated juices, their quality is not so bad when compared with other suppliers.

However, there is still some room for improvement in sanitary circumstances from the viewpoint of the Japanese buyers. Concentrated juices are produced in the following process. There is a possibility that dust or insects come into the products in the filling process.



2.2.5.6 Delivery competitiveness

It takes 45 days to transport concentrate products by ship from Argentina to Japan, while it takes only two weeks from the USA, one of Argentina's largest competitors, to Japan. Some beverage manufacturers, who stock materials in as small a volume as possible, do not buy from suppliers, like Argentina, which are located far from Japan in terms of transportation time. Even though Argentine suppliers are competitive in price and quality in the Japanese market, this disadvantage in delivery makes it difficult for them to expand their market share.

2.2.6 Recommendations

2.2.6.1 Keys to success for export expansion

As mentioned before, Japanese beverage manufacturers do not have enough information about the Argentine juice industry, and have no strong intention to collect information. In the same manner, the Japanese market has not been attractive for Argentine juice manufacturers whose products have been mainly exported to Europe and the USA, so they have had litttle information concerning Japanese market. To sum up, both Argentine and Japanese juice industries do not have strong interest in each other's activities.

There are many concentrated juice suppliers in the world. Supply of concentrated juices has exceeded the demand in recent years. In the past, however, there were some years when the demand and supply balance became tight due to the effect of unfavorable weather on the fruit crops. In these years Japanese buyers rushed to Argentina to import their concentrated juices.

Argentina is only a marginal supplier for Japanese beverage manufacturers. If the Argentine juice manufacturers want to expand their market share in the Japanese market, it is necessary to strengthen information gathering functions and to establish certain differentiation strategies concerning their products, organization structure for sales promotion and distribution systems.

Keys to success for export expansion are:

- Promoting mutual understanding, and
- Strengthening differential advantage in Argentine products and their distribution

2.2.6.2 Recommendation for promoting mutual understanding

(1) Establishing Tokyo office

1) Present situation

Argentina has already promoted the expansion of their exports to the Japanese market. The Argentine Embassy has visited many beverage manufacturers to introduce Argentine concentrated juice, and some particularly zealous Argentine juice manufacturers visited Japan to take part in the Foodex to promote their products. However, suppliers from competing countries have already cornered their customers, and it is not so easy to expand market share. Japanese beverage manufacturers have little knowledge about Argentina, even such fundamental information as the soundness of the economy or the name of the pesticide usually used by orchard farmers.

On the other hand, the Argentine juice manufacturers have targeted Europe and the USA as their major market, so they have not been so eager to export to Japan. The Argentine juice manufacturers therefore have scarce information concerning the Japanese market because they do not have any branch in Japan and have exported their products only through Japanese trading houses.

2) Information required

There are three categories of information which are required by both Argentine and Japanese sides.

Information required by Japanese beverage manufacturers are:

- Profiles and business conditions of Argentine juice companies, (If certain Japanese buyers intend to deal with Argentine juice manufacturers, the buyers want to know the reliability of the exporters),
- Production condition of orchard (e.g. how to harvest and how to preserve), and
- Technical issues both of juice manufacturing and orchard farming (e.g. Pesticides which are used in the orchard and after harvest).

Information which should be made available to Japanese beverage manufacturers are:

- Safety of Argentine products, and
- Advantage of Argentine products.

Information required by the Argentine juice manufacturers are:

- Latest information with respect to the sanitary regulation for fresh fruits and fruit juices,

- Changes in the Japanese market,
- Profiles of Japanese beverage manufacturers,
- Issues for the development of new products, and
- Latest technology in the industry.

3) Two alternatives for an information center

Information should be gathered and provided not by the Embassy people or trading companies but by staff who can devote their full attention to the task and who know these industries very well, because the information required is technical and should be transferred to the industries as soon as possible. Therefore it is best for each Argentine juice company to establish a Tokyo branch. Their activities are quite similar to those of sales. However, it is hard for each company to open an office considering the cost of maintenance involved. Furthermore, it is even uneconomical to do so because some information collected is common to other companies. So there are two alternatives; one is to establish by chamber of industry and the other to establish by consortium organized by a number of companies interested in the Japanese market.

The former scheme has the advantage that the organizations of implemention are already in place. However, there are two types of members; those who are strongly interested in the Japanese market and those who are not. So the diffiulty of establishing a consensus between the two is easy to imgine. While the consortium scheme needs some effort to establish a new organization, it is easy to promote the project once the consortium is organized since they are direct beneficiaries from the project. It is thus recommended that a consortium scheme be adopted.

4) Roles and activities of Tokyo office

The roles of the Tokyo office are to promote mutual understanding between Argentine and Japanese juice manufacturers, and to make sales promotion to Japanese trading houses concerned. The activities of the staff are as follows.

a. To visit the Japanese users to give information about the Argentine juice and related industries
b. To gather information about the Japanese market both of final products and concentrated juice with special attention to technical matters
c. To prepare a monthly report which introduces the Japanese market to the Argentine juice manufacturers including the following:
   - Tendency of the Japanese consumer's preference,
   - Profiles of Japanese beverage manufacturers, and
   - Major issues in the development of new products in the Japanese market

Requirements for the residential staff should be:

- Technical knowledge with respect to juice production and fruit growing,
- Experience in the Argentine juice industry, and
- Communication skill in Japan

5) Implementation procedure

First, representatives of related chambers such as apple juice, grape juice and lemon juice should meet and establish general policies and principles, e.g. membership and cost sharing. Then they should found a consortium to promote export to Japan. If possible, the consortium should include not only the juice industry but also the fresh fruit industry.

As mentioned above, it is desirable to establish a local office in Japan by individual company. In this regard it is recommended to review whether the Tokyo office is still necessary or should be closed after several years.

(2) Promotion campaign

Number of importers of concentrated juices is not so big. Primary importers counts only ten and, even if medium sized companies are included, the number does not exceed sixty. Therefore, it is not recommended to strengthen sales promotion activity using mass medias such as television and magazines. Mass marketing is too inefficient to cover the very expensive sales promotion cost. Direct contact marketing to the importers through the above mentioned Tokyo office is more efficient and useful so long as it is done continuously and supplemented by the seminar mentioned below.

It is recommended that representatives of the Argentine export consortiums visit Japan once or twice in a year to hold a seminar to present current situation on development of new products, availability of raw materials and the industrial structure to the Japanese bottlers. Arrangement of the seminar should be asked to the Japan Fruit Juice Association who has a strong interest in foreign sources of concentrated juices and has functioned as a window for the arrangement of such seminar. Actually, with collaboration of the association, one of orange juice manufacturers associations in Brazil had held the similar seminar in Tokyo several years ago. In planning the seminar, it is essential to hold it continuously because only one seminar is not enough to let Japanese importers understood the message which Argentine exporters want to convey.

2.2.6.3 Recommendations for strengthening differential advantage

(1) Safety certification of the products

1) Present situation

As mentioned before, Japanese beverage manufacturers are sensitive to the safety of the materials and are reluctant to change their material suppliers. At this moment they do not have sufficient knowledge of Argentine concentrated juices. As a result, they feel a vague distrust of Argentine products. According to the study on concentrated apple juice conducted by Japan Fruit Juice Association in 1995, 60% of the Japanese beverage manufacturers feel a distrust for foreign suppliers especially as to the safety of their products, as shown in the table below. If the Argentine suppliers want to increase the export of their products or expand their market shares, they should pay continuous effort to improve this situation.

Table V-2-2-16 Evaluation on the Safety of Concentrated Apple Juice

	Domestic source	Foreign source
Trustworthy	27.8%	0.0%
Less trustworthy	50.0	27.8
Almost untrustworthy	13.0	46.3
Untrustworthy	1.9	14.8
No answer	7.4	11.1
Total N=54	100.0	100.0

Source: Japan Fruit Juice Association, Demand survey on the apple juice produced domestically

In Argentina there already exist publicly and privately owned laboratories which test whether the locally produced juices meet the conditions for the Argentine quality and sanitary standard. Instituto Nacional de Vitivinicultura (INV), which is the national institution based in Mendoza, tests quality and sanitary conditions and issues certification for wine whether it is exported or consumed domestically. This test is compulsory only for wine. The institute also tests grape must upon request of the buyers. Centro de Investigacion y Asistancia Tecnica a la Industria (CIATI),which was established with cooperation between public and private sectors, certifies quality and sanitary conditions of concentrated apple juice upon request of buyers. It is recommended to impose the necessity for all concentrated juice exporters to get a certification for their products.

2) Certification

There are two ways to certify the safety of the Argentine juice; one is to test each lot of products to be exported, and the other is to test some samples of products in a factory and certify the *factory* every year. The latter approach is now adopted in the case of export to Germany. As for Japan, the buyers prefer the former method which

conducts tests for all of the lot for export. So it is recommended to certify all the lots for export to Japan.

The certification items include residual pesticide, heavy metals and microbes which should be decided in consultation with the Japanese laboratories which are now conducting the same tests.

3) Laboratories for certification

The test should be conducted by reliable laboratories. National institutions such as INV seems to be the best to conduct the test. In case private laboratories conduct the test, it is necessary for them to obtain an authorized qualification such as ISO (International Organization for Standardization).

(2) Production of organic juices

1) Definitions

Organic fruit juices are defined as fruit juices made from organic fruits. The only difference with normal juices is in the materials of juice, the fruits. The definition of organic fruits differs somewhat by nation. The following table shows the Japanese definition which is the only guideline for organic fruits. In Japan organic products include not only " organic products " in the narrow sense but also products listed in the table below such as those produced without pesticide. As far as the organic products in a narrow sense are concerned, the definition is the same in Japan and the European Union. In this report only organic fruits in this narrow sense are referred to.

Table V-2-2-17 Definition of Organic Products in Japan

	Use of chemical pesticide	Use of chemical fertilizer	Remarks
Organic products	no	no	no less than 3 years since ceased to use chemical pesticide and chemical fertilizer
Intransit organic products	no	no	no less than 6 months since ceased to use chemical pesticide and chemical fertilizer
Products without pesticide	no (not only chemical)	possible	
Products without chemical fertilizer	possible	no	
Products with less pesticide	less than 50% as usual	possible	Frequency: less than 50%, compared with traditional growing in the same district and the same season
Products decreased chemical fertilizer	possible	less than 50% as usual	Volume: less than 50%, compared with traditional growing in the same district and the same season

Source: Ministry of Agriculture, Forestry and Fisheries, The guidelines of organic products

2) Regulation for organic fruits

Ministry of Agriculture, Forestry and Fisheries of Japanese Government has issued the above "Guidelines on the Labeling of Organic Products" and "Guidelines on the Production Control of Organic Products". The major points of the latter guidelines are as follows.

a. Organic orchards have to be distinguished from other orchards so that inspectors might check them at any time.
b. Orchard farmers should build a signboard indicating an organic plantation.
c. Orchard farmers should submit a growing plan prior to farming.
d. Orchard farmers should submit a record of farming after harvesting.
e. Orchard farmers should submit a record of each shipment within a certain period.
f. Inspectors should confirm these documents as true and keep them for three years.

These guidelines are not compulsory, but it would be better to observe them if the products are to be sold as organic. Because products are produced in obedience to the guidelines, they are allowed to be labeled as organic products.

Argentina has already established the regulation of organic products and their production, which is almost the same as the regulation enforced in the European Union, and it would be approved internationally. In actual fact, Argentina has exported organic products to Europe and North America.

3) Market for organic juice

Few beverage manufactures have introduced organic fruit juices to the Japanese market. Unfortunately there is no data concerning the market of organic fruit juice. According to some beverage manufacturers, the current organic market is relatively small. However, it is said that the market will expand in the near future due to the mounting of health consciousness.

4) Present situation of organic orchard

It is said that Argentina is a country suitable for the production of organic fruits and vegetables, due to the climatatic conditions. Total area of the fields which are used for growing all kinds of organic products are 115,206 ha. The areas of orchard for materials for three of the products under study are shown in the table below.

Table V-2-2-18 Organic Orchard

Fruit	Area (ha)
Apple	247.79
Grape	227.25
Lemon	32.03
Total	507.07

Source: Argencert S.R.L.

5) Implementation Program

Argentina has much experience in growing organic fruits and has a system and organization for the control of organic production. The most important thing would be sales promotion. It is recommended to inform Japanese beverage manufacturers that Argentina is one of the few countries really suitable for organic plantation. It is also recommended to conclude a production and sales agreement of organic fruit juice with them.

(3) Delivery from the stock point in Japan

As mentioned above, Argentina is less competitive in delivery service of their products to Japan.

Some major orange juice manufacturers which are based in Brazil have stock points in Shizuoka Prefecture which is located in central Japan and they deliver their products to buyers within a short period.

If it is possible to deliver the products within a week, it would be a significant advantage against other suppliers. It is true that suppliers have to pay freight charge, insurance and stock charge resulting from having additional stock. Furthermore they have to take an inventory risk. However, there is the advantage that the suppliers can control the price themselves because the stock is used for emergency and, generally speaking, the user does not care so much about the price.

It is recommended for the Argentine juice industry to stock its own products and sell them mainly in the spot market. In future, the industry would be expected to supply the beverage manufacturers whose policy it is to control strictly the amount of their stock.

It is necessary for the Argentine suppliers to make an implementation plan, including who makes decisions on prices and the level of stock, because it seems to be rather difficult to conduct such a task in faraway Argentina.

2.2.6.4 Recommendations for other areas

(1) Improvement in production department

The Argentine concentrated juice industry is competitive in terms of quality as mentioned before. However, if the Argentine exporters want to expand their export to Japan, there are two issues central to the enhancement of their competitiveness in quality control.

- Improvement of sanitary circumstances
- Improvement of operation management

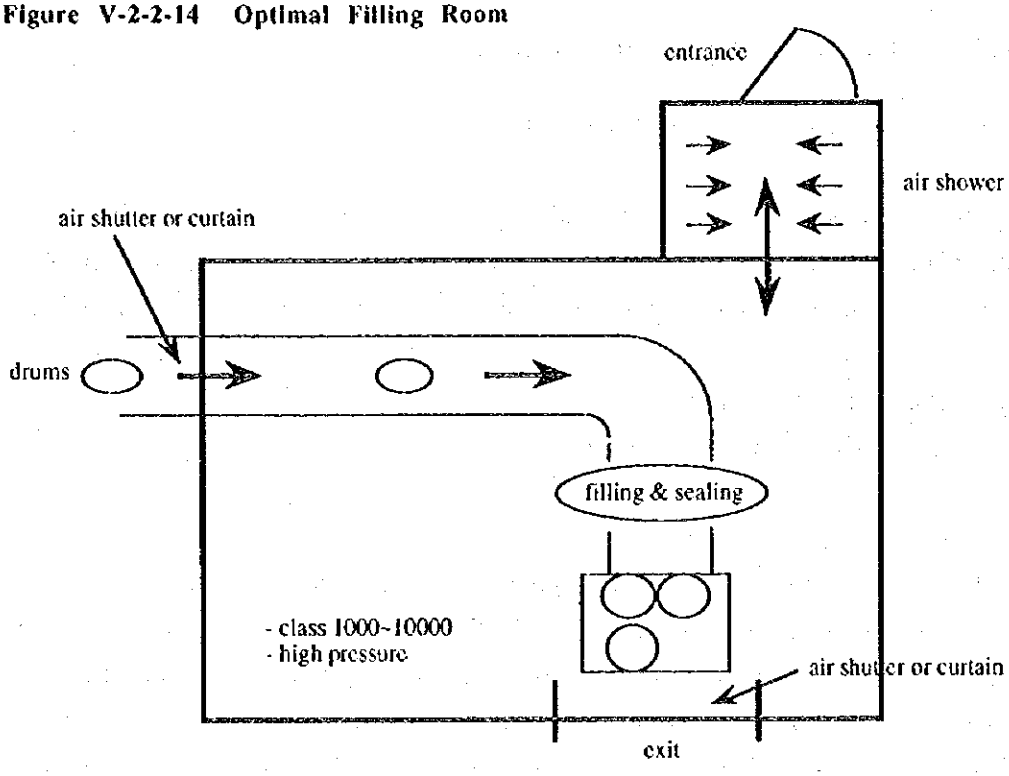
1) Sanitary circumstances

There is a fear that products will be contaminated with dust or insects because they are exposed to the open air, especially in the final filling process. A large number of fruit juice factories do not have a filling room which can prevent dust and insects from entering the products. While some factories have a filling room, the room is not up to a sufficient standard. If by chance dust or insects enter the products, the suppliers will lose their reputation and their business not only with existing but also potential customers. It is urgent to improve the filling process.

The optimal filling room is shown below. The filling room should be isolated from outside. It is expected for the air in the room to maintain a dust level of one thousand to ten thousand. To prevent dust and insects from entering and to maintain the low level of dust, some devices are required:

- the pressure of the room should be kept higher than that of outside,
- the entrance and exit for drums (containers) should be equipped with an air shutter or curtain, and
- the entrance for operators should be equipped with an air shower to get rid of dust on the clothes of the operators.

Figure V-2-2-14 Optimal Filling Room



Furthermore, it is necessary to improve the sanitary circumstances of the whole process. It would be useful to introduce the method "Hazard Analyses - Critical Control Point (Inspection) System (HACCP)" which is going to be introduced in other industries such as some fisheries processing plants in Argentina. The key elements of the system are:

- to list all hazards (risks) in the whole production process,
- to analyze the degree of damage incurred by the hazards based on the criteria,
- to set control criteria depending on the degree of the damage,
- to take measurers which prevent the hazards, and
- to set countermeasures for the hazards in advance.

2) Operation management

It is said that the taste and body of fruit juices are affected not only by the freshness of raw materials but also by the temperature and pressure in processing. At present, operation conditions are not recorded in the factories.

To specify the cause of defects which happen unexpectedly and to make operators understand the importance of operating conditions, it is necessary to record the operating conditions for every process and at every hour.

(2) Product diversification

As mentioned above, cost reduction should be looked for as much as possible in international competition. Since the cost of fruits depends mainly on the climate and weather conditions, the main source of cost reduction will be in the area of the operating rate of plants.

To increase their operating rate, it is necessary to diversify their business from manufacturing juice of a single fruit to multiple fruit or vegetable juices, and such diversification has already been undertaken by some companies. The important thing is to have access to information on what kinds of raw materials are to be exported. This kind of information is derived from discussions with the Japanese beverage manufacturers. The Argentine laboratories may be another source of such information because they analyze nutritional elements of fruits and vegetables from the viewpoint of preventing disease or promoting human health and are thus in a position to know what kind of juice could be developed.

(3) Exporting final products

At this moment almost all juices imported to Japan are concentrated. However certain Japanese companies have imported juices in the states of final products, instead of concentrated juices, from the USA.

The possibility of exporting final products depends exlusively on the total cost of the products, including transportation costs. A certain mass-merchandise store chain says that it is possible to import final products from the Argentine manufacturers if they can supply at the price of Yen 110 per liter in CIF. However, there are two risks in this type of business. One is market risk: a final product which is designed to the customer's specification lacks trade liquidity compared to an intermediate product whose specification is adjustable by order. Another risk is the exchange risk: suppliers have to absorb this risk in cases where the price of the product is fixed,at say,Yen 110.

Priority is given to concentrated juice export. It is recommended that only after the success of concentrated juice export, export of final products should be planned and tried.

2.2.7 Summary and Recommendations for Fruit Juices

2.2.7.1 Summary of current situation

Market access and the market situation in Japan as well as the present situation of the Argentine juice manufacturing industry are summarized as follows:

(1) The Argentine industry holds competitiveness in both productivity and quality in the international market;
(2) The industry, however, is no more than a marginal supplier to the Japanese market in the sense that the Japanese buyers are not relying on Argentina as a major source of juice materials, and they would not feel any inconvenience even if the Argentine suppliers disappeared from the market;
(3) Therefore, an active sales promotion is necessary for the Argentine suppliers to maintain their position in the market and to expand their market share; and
(4) Argentina is one of a few countries in the Southern hemisphere where organic plantation is feasible, and some Japanese juice bottling firms are interested in organic juice produced in Argentina.

2.2.7.2 Recommendations

The *Argentine industry* should take the following strategies and measures for the expansion of exports to Japan.

(1) To form an export consortium and set up a new information center in Japan at their own expense with the aim of exchanging information, especially on corporate profile, technology, and development of new products, and to promote mutual understanding betweeen Argentine suppliers and Japanese buyers;
(2) To differentiate their products by
    1) Establishing a safety guarantee system under which *the governmental institution* issues an official certificate of the safety and the high quality of juices;
    2) Developing unique organic juices in the case of apples and grapes; and
    3) Facilitating quick response and delivery of fruit juices by setting up a stockyard in Japan.
(3) To minimize the risk of the 'one fruit, one business', it is necessry to develop actively and to deal with different kinds of fruits and vegetables by:
    1) Accelerating the gathering of market information in Japan on agriculture-based juices; and

2) Promoting a study of the beneficial contents of Argentine fruits and vegetables in collaboration with *the governmental institutions.*

(4) Upgrading sanitary and operational controls in the following areas which are not always satisfactorily implemented from the viewpoint of the Japanese buyers;

1) The environment of the filling process and the introduction of Hazard Analysis-Critical Control Point (HACCP) system;

2) Recording of operations, by which the cause of defects can easily be traced when they occur.

Appendix to Chapter 2

Appendix to Chapter 2 - (1) Fresh Fruits

1. Korea

1.1 Current Market Situation

Demand and supply balance for main fruits is shown as follows. Trade in fruits is very small except for lemons which are not cropped in Korea. Self -sufficiency in fruits is almost achieved. The Korean market is not so attractive for export with the exception of the lemon. However, since the small import of grape is partly attributable to the Korean government's import control which is explained below, after 1996 when the import control is lifted, there is a possibility that the import of grape will expand.

Table V-A2(1)-1-1 Demand and Supply Balance for Apple

(unit: '000t)

	1990	1991	1992	1993	1994
Production	629	542	695	616	617
Import	-	-	-	-	-
Export	8	7	8	5	2
Domestic demand	621	535	687	611	615

Source: Agriculture-Forestry-Fisheries Statistic Yearbook

Table V-A2(1)-1-2 Demand and Supply Balance for Grape

(unit: '000t)

	1990	1991	1992	1993	1994
Production	131	148	146	164	212
Import	6	5	5	4	4
Export	-	-	-	-	-
Domestic demand	137	153	151	168	216

Source: Agriculture-Forestry-Fisheries Statistic Yearbook

Table V-A2(1)-1-3 Demand and Supply Balance for Lemon

(unit: '000t)

	1990	1991	1992	1993	1994
Production	-	-	-	-	-
Import	2	2	2	3	3
Export	-	-	-	-	-
Domestic demand	2	2	2	3	3

Source: Agriculture-Forestry-Fisheries Yearbook

Locally produced fruits are mainly consumed fresh. Their consumption after processing is only 15% except for lemon for which the ratio is 30%.

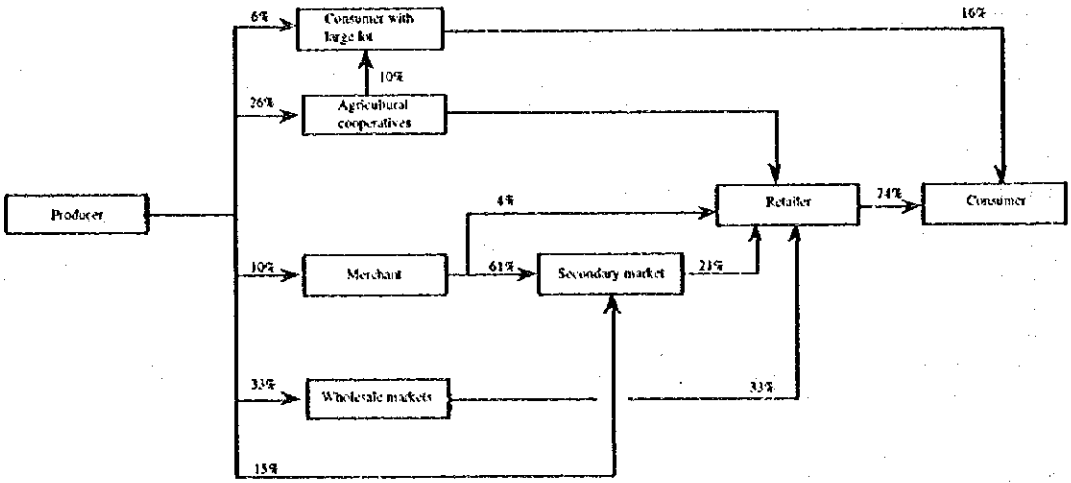
Table V-A2(1)-1-4 Consumption of Fruits

(unit: '000t)

		1990	(%)	1991	(%)	1992	(%)	1993	(%)	1994	(%)
Apple	Fresh	601.0	(95)	513.1	(95)	587.7	(84)	529.4	(86)	530.0	(86)
	Juice	24.6	(4)	23.8	(4)	93.4	(14)	61.1	(10)	62.0	(10)
	Others	3.4	(1)	5.1	(1)	13.9	(2)	25.5	(4)	25.0	(4)
	Total	629.0	(100)	542.0	(100)	659.0	(100)	616.0	(100)	617.0	(100)
Grape	Fresh	104.0	(79)	123.3	(83)	123.8	(85)	135.1	(82)	180.0	(85)
	Juice	4.7	(4)	10.4	(7)	9.2	(6)	11.4	(7)	13.0	(6)
	Others	22.3	(17)	14.6	(10)	13.0	(9)	17.5	(11)	19.0	(9)
	Total	131.0	(100)	148.0	(100)	146.0	(100)	164.0	(100)	212.0	(100)
Lemon	Fresh	2.2	(92)	2.1	(87)	2.5	(89)	2.5	(89)	2.8	(70)
	Juice	0.2	(8)	0.3	(13)	0.3	(11)	0.3	(11)	1.2	(30)
	Total	2.4	(100)	2.4	(100)	2.8	(100)	2.8	(100)	4.0	(100)

Source: Agriculture-Forestry-Fisheries Yearbook
Note: 'Others' includes canned products and jam

Fresh fruits are distributed in the following channels. It is reported that agricultural cooperatives and wholesale markets are expanding their shares in distribution.



Source: Korea Economic Institute

Regarding imports, the USA is a major origin of imports for both lemon and grape.

1.2 Current Market Access Situation

1.2.1 Openness of the Market

While import of lemon and apple has been completely liberalized since 1984, import of grape is still controlled. Only importers who get recommendation of import from Minister of Agriculture, Forestry and Fisheries are allowed to import grape. Recommendation is only given to importers who import grape not for direct consumption

but for processed use. However, the import of grape is to be completely liberalized after 1996. Import of orange is to become free after 1997.

1.2.2 Sanitary Regulations

According to Plant Quarantine Law of Korea, it is not allowed to import the above fresh fruits from Argentina due to Mediterranean fruit fly and Codling moth. However, such a regulation dose not mean an absolute prohibition but, if an appropriate measure such as cold treatment is taken, import is allowed. Actually, Chile has been recently allowed to export lemon and apple since they succeeded in development of cold treatment and Methyle bromide fumigation treatment method and the Korean government confirmed their effectiveness.

How Chile cleared the problem will provide a hint for Argentina. Following is the process which was taken by Chile to clear the problem.

(1) First, the Chilean government requested the Korean government to allow import with cold treatment.

(2) At the same time the Chilean government submitted to National Plant Quarantine Service(NPQS) in Korea some data regarding the result of experiment with cold treatment for the diseases in Chile.

(3) NPQS will scrutinized the data from the viewpoint of risk analysis.

(4) After it was confirmed that the Chilean cold treatment was effective, the Chilean government requested to the NPQS to take a due process for lifting prohibition.

(5) The Chilean and Korean governments formed a joint team which conducted an experimental test for the Chilean proposal together.

(6) After the team confirmed that the treatment was effective, the Korean government began the legal procedure to obtain approval for the imports from Chile.

It was confirmed that the Korean government is ready to follow the above process if the Argentine government wishes.

2. Indonesia

2.1 Current Market Situation

Growth in fresh fruits production is very modest, at around 3.6% per year in Indonesia. The highest production is found in tropical fruits such as banana, mango papaya, pineapple and orange. For other tropical fruits, Indonesia relies greatly on import supply for domestic consumption. Import of fresh fruits has increased dramatically in the last five years. This is mainly explained by the fact that the Indonesian government has lifted the import control and liberalized the market.

Major fresh fruits for which imports sharply increased are : (1) oranges, (2) mandarins, (3) grapes, (4) apples and (5) pears. These imported fresh fruits are distributed not only to big cities but also to small cities. In addition to the liberalization of imports, sales campaigns by exporters have contributed to the increase. Campaigns for Washington apple by USA and for Red apple by New Zealand are examples of success stories for good import performance in Indonesia. The growth of imported fresh fruits is expected to continue in future. The most promising areas are oranges, apples, pears and grapes.

Table V-A2(1)-2-1 Production Development of Major Fruits

(unit: '000t)

	1988	(%)	1989	(%)	1990	(%)	1992	(%)
Banana	2,308	(44)	2,192	(48)	2,500	(43)	2,651	(45)
Mango	532	(10)	445	(10)	547	(9)	485	(8)
Papaya	346	(7)	323	(7)	400	(7)	407	(7)
Pineapple	358	(7)	215	(5)	409	(7)	376	(6)
Orange	445	(8)	269	(6)	358	(6)	396	(6)
Rambutan	227	(4)	147	(3)	266	(5)	273	(5)
Apple	101	(2)	112	(2)	160	(3)	122	(2)
Durian	193	(4)	139	(3)	276	(5)	153	(3)
Others	1,098	(14)	1,047	(16)	892	(15)	987	(18)
Total	5,250	(11)	4,599	(100)	5,808	(100)	5,850	(100)

Source: Directorate of Agriculture

Table V-A2(1)-2-2 Import of Major Fruits

(unit: t)

	1989	1990	1991	1992	1993	1994
Orange	5	179	2,655	9,659	17,889	18,447
Mandarin	-	2	327	1,993	4,645	8,851
Lemon	-	13	808	726	146	127
Grapefruits	-	8	33	81	164	150
Pamelo	-	-	-	-	28	1
Grape	54	249	2,549	6,195	6,461	4,791
Melon	0	1	26	53	92	140
Apple	342	2,178	5,757	14,456	25,454	31,428
Pears	361	1,407	2,475	5,717	7,044	7,730

Source: Import Statistics

Current major exporting countries are as follows by fruit.

Orange----------	Australia and USA
Mandarine-------	Australia, Pakistan and China
Grape-----------	Australia and USA
Apple-----------	USA, Canada, Chile and New Zealand
Pear-------------	China and Australia

2.2 Current Market Access Situation

2.2.1 Openness of the Market

The Indonesian government ceased tohas no control the importation of fresh fruits from 1991. Before, there were only two state owned companies under the Minister of Trade allowed to import (PT. Kerta Niaga and PT. Tjipta Niaga). Currently any company registered as a General Importer can import fresh fruits as long as it has: (1) a special permit from the government and (2) a plant health (phytosanitary) permit. A special permit is given as long as the company meets requirements of an importer.

2.2.2 Sanitary Regulations

(1) Animal, Fish and Plant Quarantine Law, Law No.16/1992

(2) The Decree of the Agriculture Minister No. 38/1990 concerning the requirements and the action of quarantine for the import of plants.

According to Decree No.38/1990, there are several pests and diseases which limit the import of fresh fruits, such as :

(1) Apple borer for apples
(2) South American fruit fly for oranges(including lemons), grapes and apples
(3) Mexican fruit fly for apples, etc.

Argentine is not allowed to export their fruits because of the above diseases. However, it was confirmed on contacting the Center of Quarantine Office in Jakarta, Indonesia, that the regulation does not mean any absolute prohibition and if Argentina verifies the effectiveness of some special treatment for killing insects in Argentina ,such as cold treatment, it will be allowed to export.

3. Taiwan

3.1 Current Market Situation

Many types of fresh fruits are available in the tropical climate of Taiwan. However, import of fresh fruits shows an increase partly due to pressure for import liberalization from the USA and but partly due to weakened competitiveness resulting from wage hikes in the Taiwanese agricultural sector.

Table V-A2(1)-3-1 Demand and Supply Balance for Fresh Fruits

(unit: '000t)

	1989	(%)	1990	(%)	1991	(%)	1992	(%)	1993	(%)
Production	2,440	(100)	2,327	(94)	2,344	(94)	2,855	(94)	3,167	(93)
Import	174	(7)	290	(12)	299	(12)	420	(14)	452	(13)
Export	166	(7)	130	(6)	152	(6)	237	(8)	199	(6)
Consumption	2,448	(100)	2,487	(100)	2,491	(100)	3,038	(100)	3,420	(100)

Source: Agricultural Yearbook

Table V-A2(1)-3-2 Demand and Supply for Major Fresh Fruits

(unit: '000t)

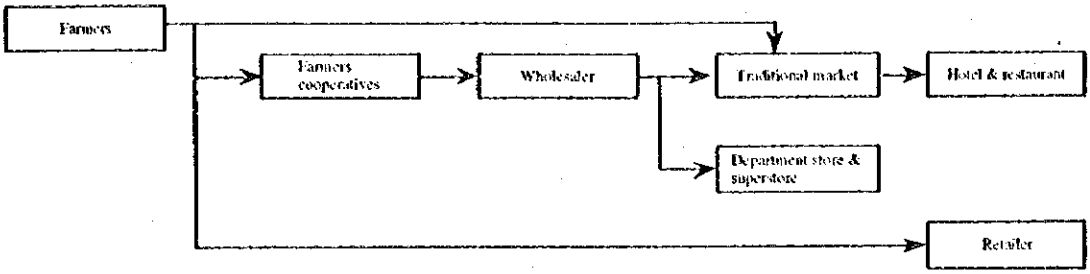
		1990	1991	1992	1993	1994
Apples	Production	13	17	13	8	8
	Import	98	78	116	107	122
	Export	-	-	-	-	-
	Consumption	111	95	129	115	130
Grapes	Production	103	114	129	165	159
	Import	14	9	15	14	15
	Export	-	-	1	-	-
	Consumption	117	123	143	179	174
Lemons	Production	13	12	13	13	13
	Import	-	-	-	-	-
	Export	-	-	-	-	-
	Consumption	13	12	13	13	13

Source: Agricultural Yearbook, Trade Statistics

Current major exporting countries of fruit are as follows by fruit.

Apple---------- USA (89%), Chile (6%) and New Zealand(2%)
Grape---------- USA (100%)
Lemon---------- USA (100%)

Fresh fruits are distributed in the following channels. Traditional market deals with around 80% of the distribution.



3.2 Current Market Access Situation

3.2.1 Openness of the Market

Import of fresh fruits is strictly controlled. Type of control is different by fruit as follows.

(1) Oranges, lemons and grapefruits: Import permit issued by Bureau of Foreign Trade
Importation is only possible from USA
South Africa is allowed to export oranges and grapefruits in accordance with quota system

(2) Grapes: Import permit issue by Bureau of Foreign Trade
Importation is only possible from USA

(3) Apples: Import permit issue by Bureau of Foreign Trade
Apples of USA and Canadian origin are permitted to import
Apples of Chile, South Africa, Australia, New Zealand and France are allowed to import in accordance with quota system

The reason why South Africa is given specially favorable treatment is that the country diplomatically recognizes Taiwan as a country . The USA is also given a special position because of its political support for Taiwan against China.

Materials regarding the quota system are not made public. The Taiwan agriculture committee disclosed the quota allocation for apples for the year 1994 as follows. It is not known why Japan and Korea are given a quota, notwithstanding that these countries are not on the list of quota allocation. It may be allocated for political reason. This means that the Taiwan government is very flexible in actual allocation of quota.

Quota allocation (1994)

(unit: ton)

Chile	9,000
New Zealand	4,000
South Africa	1,200
Australia	1,200
France	300
Japan	600
Korea	4,000
Total	20,300

3.2.2 Sanitary Regulations

Import of fresh fruits is not allowed from areas where plant diseases are found according to Plant Quarantine Law. However, if such an adequate treatment as cold treatment is applied, import is allowed.

Appendix to Chapter 2 - (2) Fruit Juices

1. Korea

1.1 Current Market Situation

Though the history of juice production in Korea goes back to 15 years ago, development of new products accelerated after 1980 and demand has expanded. While the main fruit juice produced in Korea is apple juice, the highest growth rate is seen in grape juice. Since fresh lemon is not available in Korea, lemon juice is entirely imported, while apple and grape juice are basically supplied by domestic production based on the locally produced fresh fruits. Since production of fresh fruits directed for juice is not enough to meet the increase in demand, import of juice is expected to continue to increase.

Table V-A2(2)-1-1 Demand and Supply Balance for Fruit Juice

(unit: t)

		1990	1991	1992	1993	1994
Apple Juice	Production	24,603	23,752	93,425	61,088	62,000
	Import	29	23	45	39	1,174
	Export	32	-	2	23	282
	Consumption	24,600	23,775	93,468	61,104	62,892
Grape juice	Production	4,716	10,398	9,170	11,411	13,000
	Import	13	10	35	118	10,842
	Export	106	2	-	-	704
	Consumption	4,623	10,406	9,205	11,529	23,138
Lemon juice	Production	-	-	-	-	-
	Import	171	297	289	327	1,155
	Export	-	-	-	13	-
	Consumption	171	297	289	314	1,155

Source: Agricultural Statistics, Trade Statistics
Note: Includes juice which is chiefly on the basic of each materials.

Major origins of import are China, South Africa and the USA for apple juice, USA, Taiwan and Australia for grape juice and the USA and Italy for lemon juice.

Most of the import is concentrate. There are 12 major bottlers of juice and their shares in the market acccount for 90%, among which the influential companies are : Lotte Chilsung Beverage, Haitai Beverage, Ilhwa, Cheil Food & Chemicals and Jinro General Food.

1.2 Current Market Access Situation

1.2.1 Openness of the Market

While import of lemon juice is liberalized, import of grape juice and apple juice are still controlled. The import of grape and apple juice is not allowed without recommendation from the Minister of Agriculture. The Minister issues the recommendation only when he feels that it is necessary to import them from a viewpoint of demand and supply balance in Korea. The recommendation is only given to special institutions such as agricultural cooperatives.

Besides the above explicit import control, the government appeals to the public that products consuming locally produced raw materials are best for Korean people's health. Such a message is called as *' Shi-do-fu-ji '*.

1.2.2 Sanitary Regulations

There is no special regulation on fruit juice.

2. Indonesia

2.1 Current Market Situation

Based on available sources of data, the total national production of fruit juice was estimated as 90,000 kl in 1990, with an increasing rate of around 8% per annum in 1986~1990.

The current growth rate is believed to be very modest, below 5% per year. The increase in fresh fruits consumption is the main reason for such a trend as well as the increase in many types of beverage ready to drink in the market.

Table V-A2(2)-2-1 Production of Fruit Juice Ready to Drink

(unit: kl)

1986	1987	1988	1989	1990
65,935	71,670	76,675	83,817	90,199

Source: CIC research

There are five biggest producers of fruit juices. They are PT. ABC Central Food, PT.Ultra Jaya, PT. Aorta, PT.Suba Indah and PT.Mushika Ratu. These major producers are believed to be holding more than 60% of the Indonesian market for fruit juices which are ready to drink. Orange juice, apple juice and grape juice are the biggest three items in Indonesia.

There are no juice concentrate producers in Indonesia. Dependence on imports of raw materials for the production of fruit juice is very high, above 90%. Demand for concentrate for fruit juice is shown by type of juice in the following. This demand is met by import. Major origins of import are the USA and Austria for apple juice andthe USA, Austria and the Philippines for grape juice.

Table V-A2(2)-2-2 Demand for Fresh Juice Concentrate

(unit: t)

	1989	1990	1991	1992	1993	1994
Apple juice	1	21	42	49	91	86
Grape juice	59	27	-	21	12	10
(Apple-straight)	(57)	(165)	(179)	(183)	(157)	(269)
(Grape-straight)	(13)	(14)	(11)	(22)	(22)	(260)

Source: Trade Statistics

2.2 Current Market Access Situation

2.2.1 Openness of the Market

Import of fruit juice is entirely free since 1991. Any company registered as a general importer is allowed to import.

2.2.2 Sanitary Regulations

Currently there are the following three regulations.

(1) The Decree of the Minister of Health No.38/1989, concerning the Registration of Food. This decree governs that all food products domestically produced or imported intended for retail distribution and directly consumed by consumers require registration. The purpose of the decree is to secure safety for consumers.

(2) The Circulation Letter of the Director General for Food and Drug Control No.1066/1986, concerning imported food.

(3) The Circulation Letter of the Director General for Food and Drug Control No.00186/1990, concerning the health certificate and free radiation certificate.

3. Taiwan

3.1 Current Market Situation

Data on demand and supply of fruit juice is not available in Taiwan. The only available data is sales data compiled by the Taiwan fruit juice producers association. Per capita consumption of fruit juice is decreasing because of the increase in tea-based beverages consumption.

Table V-A2(2)-3-1 Sales Amount of Fruit Juice

(unit: '000kl)

	1989	1990	1991	1992	1993
Mixed juice	2,758	5,231	8,234	9,828	9,521
Grape	11,907	5,174	5,212	6,467	11,593
Apple	6,491	3,679	2,853	2,455	2,850
Lemon	1,082	1,181	3,626	5,590	3,019
(Ref.) Per capita consumption(l)	17.29	14.98	16.30	15.18	14.08

Source : Taiwan Fruit Juice Producers Association

Import of fruit juice is shown in below by natural and concentrate juice. Import of lemon is negligible. Major origin of import is the USA for both grape and apple juice.

Table V-A2(2)-3-2 Import of Fruit Juice

(unit: t)

		1989	1990	1991	1992	1993
Grape	nature	557	1,434	1,396	2,577	2,310
	concentrate	353	787	802	979	2.079
Apple	nature	385	1,054	1,764	1,922	2,126
	concentrate	355	441	216	442	483

Source: Trade Statistics

3.2 Current Market Access Situation

3.2.1 Openness of the Market

Import of fruit juice is entirely liberalized. There is neither restriction nor control on imports.

3.2.2 Sanitary Regulations

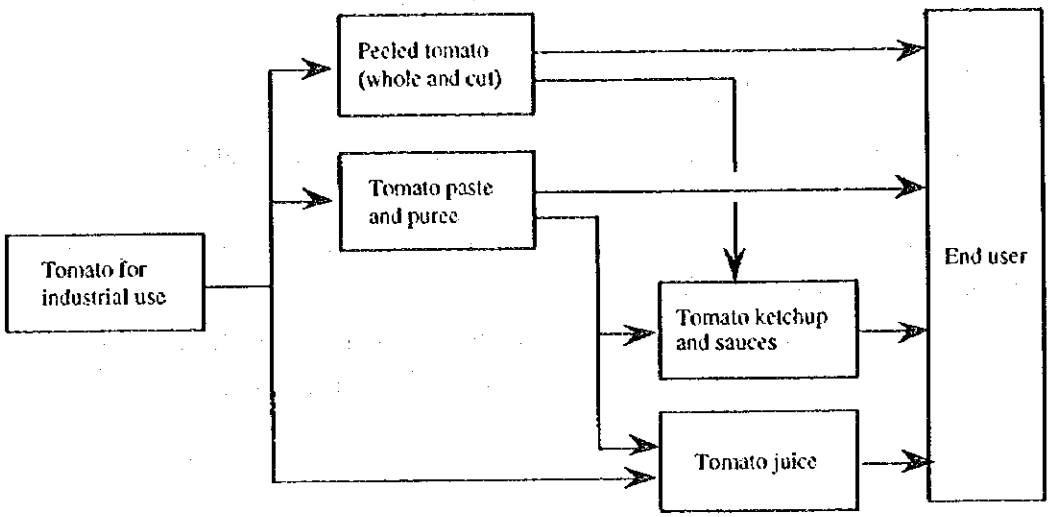
Fruit juice is an item subject to legal import inspection announced by the Bureau of Commodity Inspection & Quarantine, Ministry of Economic Affairs. Taiwan's quarantine system is not a special case, since it has been developed with reference to the systems in the USA and Japan.

Chapter 3
Tomato-based Products

3.1 Scope of the Study

Products to be covered in this study include finished products such as tomato juice, tomato ketchup and tomato sauces as well as peeled tomatoes, tomato puree and paste which are mainly traded as their intermediate products in the international market.

Figure V-3-1-1 Product Chain of Tomato-based Products



3.2 Present Situation of Japanese Market

3.2.1 Market Access

There is neither import control nor regulation on tomato-based products. Therefore, as far as the public sector is concerned, there is no market access problem. However, Japanese consumers' requirement for quality of the products is very high. This may constitute an obstacle to exporting to Japan.

3.2.1.1 Import tariff rates

Since 1989 import of tomato-based products has been completely liberalized.

Import tariff rates of tomato-based products are shown in Table V-3-2-1. They are different by product as follows;

- Paste for domestic processing of ketchup and sauce is free from import tax.
- Tariffs are different between products with sugar and without sugar in the same item.

Table V-3-2-1 Current Import Tariff Rates

(unit; %)

HS	Product	Tariffs
2002.10-100	Peeled tomato(whole or cut)	9.6
.90-100	Do (with sugar)	20.9
.90-211	Tomato puree or paste (for processing ketchup or sauces)	0.0
.90-221	Do	
.90-219	Tomato puree or paste (others)	19.3
.90-229	Do	
2009.50-100	Tomato juice (with sugar)	34.1
.50-200	Do (without sugar)	24.4
.90-210	Tomato mixed juice (with sugar)	10.8
.90-220	Do (without sugar)	7.2
2103.20-010	Tomato ketchup	24.4
2103.20-090	Tomato sauce	19.5

Source: Ministry of Agriculture, Forestry and Fisheries, Materials of tomato for industrial use

3.1.1.2 Food sanitation law

This law aims to prevent sanitary harms caused by eating and drinking of foods and beverages, and to improve the public health condition of the people. Every country has this kind of law. As for tomato-based products, Japanese standards of this law are not so strict compared with those in other countries, so this law cannot be an obstacle to imports. Major regulations relevant to imported foods are as follows;

(1) Poisonous or deteriorated substances (article 4):

Imports of deteriorated or moldy foods are prohibited. However, since tomatoes for industrial use are produced in a dry area with little rain, mold can rarely be a problem. Japanese manufactures of tomato-based products set their standard of mold count at 40, but in rainy years, it is relaxed to 50.

(2) Food additives (article 6, 7):

Concerning imported foods, about 70 to 80% of violation of the food sanitation law occurs in food additives. However tomato products do not contain food additives, so these prohibitions cannot be obstacles.

(3) Residual of agro-chemicals:

There is no regulation on processed foods. However Japanese manufacturers of tomato-based products, which are the main importers, check agricultural chemicals strictly with their own standards.

(4) Sterilization of canned foods (article 7):

Following the international standards, Japan sets different temperature and time for sterilization depending on PH of the products. Japanese standards are not specially strict compared with the international standards.

(5) Expression of manufacturing date (article 11):

Since May 1995, it was changed to indicate the expiring date instead of the manufacturing date, according to the international standards. After a two-year grace period, new indication will completely come into operation from May 1997. In the case of foods which are not rapidly perishable, in which tomato-based products are included, the date when the taste begins to deteriorate is suggested to be indicated, while for rapidly perishable foods, the latest date when people are able to consume them need to be indicated.

The expression of expiring date is set up with manufacturer's own responsibility. Tomato Industry Association is going to set up standards of 24 months for canned food and 18 months for tube ketchup.

Even under the new rule, big supermarkets and consumers' cooperatives are going to require the expression of the manufacturing date in addition to the expiring date. Many of them return the products to the suppliers six (sometimes four) months after themanufacturing dates, even if they are still before the expiring date.

When tomato paste and peeled tomatoes are used as intermediates, any kind of date expression is not necessary. Since tomato-based product exporters start their business with intermediate products, the regulation on the date indication does not pose any problem.

3.2.1.3 JAS standard

It is a standard set up by Japanese Ministry of Agriculture, Forestry and Fishery to guarantee the quality. It is not compulsory to meet the standard. When foods are supplied to public entities like public school, food suppliers are required to satisfy JAS standard. However consumers are not conscious about JAS standards, so distributors do not consider that imported goods need to get the JAS standard. Since Japanese manufacturers set a more strict standard than JAS standard by themselves, they do not think it can be an obstacle to importation.

3.2.2 Demand, Domestic Supply and Import

Looking at growth of domestic consumption in the long term by product, the following characteristics are observed:

First, the consumption of concentrates, such as paste and puree, recorded a very big increase between 1965 to 1975, but it flattened in 1975 to 1985. After 1985, the consumption turned to an increase again.

Secondly, the consumption of juices also showed a rapid growth in the period form 1965 to 1980. However, it turned to a declining trend after 1980.

Thirdly, on the other hand, the consumption of tomato mixed juices and tomato ketchup are still keeping their increasing trend.

Fourthly, as consumption of tomato products as a whole is keeping an expanding trend, it is coming close to a saturated zone..

Table V-3-2-2 Growth of Domestic Consumption

(unit; t)

	1965	1970	1975	1980	1985	1990	1994
Tomato concentrates	11,814	18,479	67,489	61,378	66,262	83,429	91,995
Tomato juice	11,094	21,399	94,058	129,111	86,620	73,920	69,974
Tomato mixed juices	307	966	9,719	36,468	33,236	37,283	50,682
Tomato ketchup	27,095	35,376	85,579	98,841	108,026	109,759	114,302
Total including others	50,940	82,582	266,928	343,946	322,988	346,037	382,275

Source: Ministry of Agriculture, Forestry and Fisheries, Materials of tomato for inudstiral use

Domestic demand for tomato-based products is expected to increase constantly in future. This is because current per capita consumption is far small in Japan compared to those in North American and European countries as is shown in the following table.

Table V-3-2-3 Per Capita Consumption of Tomato-Based Products by Country (1990)

(unit; kg/year)

Country	France	Italy	USA	Canada	Brazil	Chile	Argentina	Japan
Consumption	12.4	31.6	37.4	30.7	3.5	10.3	5.9	5.2

Source: Tomato News

However, the increase rate will differ by product. Demand for condiments such as ketchup and tomato sause will continue to increase mainly due to the increase in consumption of fast food and Italian dishes. However, it can not be expected that the per capita consumption of the tomato-based condiments in Japan reaches the same level as those in North American and European countries. It is because major condiments for Japanese dishes are still soy sauce -based and *Ajinomoto* - based condiments.

Demand for tomato-based beverage expanded rapidly until 1980 reflecting an increase in awareness for health but has turned to a declining trend after the early part of 1980s due to the development of many other healthy products. Recently, due to a development of vegetable juice, a mixture of tomato and other green vegetables, the demand for the tomato-based beverage is showing a recovery. However, among various vegetable juices, a mixture of carrot and other vegetables or apples is expected to increase its demand partly because carrot is easily mixed with other vegetables or fruits than tomatoes but partly because it is especially popular to younger generation and females. On the other hand, tomato-based beverage is a matured product which males in 30 to 40s are fond of.

Demand and supply of major tomato-based products in recent years are shown in the following table. By this table, it is clear that Japanese manufacturers import tomato paste and puree as intermediates, and process them to produce final products such as ketchup, sauce and juice. This is because domestic supply of tomatoes for industrial use is not enough to sustain the production of products. Supply of tomatoes for industrial use has decreased drastically from 402,000 tons in 1975 to 56,000 tons in 1995.

Table V-3-2-4 Demand and Supply by Product

(unit; t)

	Year	Paste & Puree	Peeled tomato	Sauces & Ketchup	Juices
Domestic production	89	8,597	372	114,696	102,844
	1994	13,422	596	113,003	119,796
	94/89	1.56	1.60	0.99	1.16
Export	1989	-	-	25	26
	1994	-	2	18	7
	94/89	-	-	0.72	0.27
Import	1989	76,123	22,205	5,799	776
	1994	84,806	36,836	11,786	1,467
	94/89	1.11	1.66	2.03	1.89
Domestic consumption	1989	84,720	22,577	120,470	103,594
	1994	98,248	37,432	124,771	121,256
	94/89	1.16	1.66	1.04	1.17
Import / Consumption	1989	0.90	0.98	0.05	0.01
	1994	0.86	0.98	0.09	0.01

Source: Ministry of Agriculture, Forestry and Fisheries, Materials of tomato for industrial use)

Table V-3-2-5 Domestic Supply of Tomatoes for Industrial Use

	1970	1975	1980	1985	1990	1995
Production (t)	167,388	402,259	360,264	141,683	76,407	55,651
Areas (ha)	2,634	5,230	5,288	2,162	1,046	933
Yield (t/ha)	64	77	68	66	73	60

Source: Ministry of Agriculture, Forestry and Fisheries, Materials of tomato for industrial use)

While the import of paste and puree is quite big, the import of sauce and ketchup is not big, though the growth rate of the import is almost twice as that of paste and puree. The small amount in import of sauce and ketchup is explained by the following two reasons. First, it is difficult for the foreign manufacturers to meet the requirements in taste and quality of Japanese consumers. Secondly, it takes a lot of time and effort for the foreign manufacturers to establish their brand in their finished products in the Japanese market.

Among tomato-based products, consumption and import of peeled tomatoes show a remarkable increase. This is attributable to a spread of Italian foods such as pasta and pizza and to an expansion of usage not only in restaurants but also by individual households in Japan. This increasing trend is expected to continue, although the pace will slow down.

Reflecting the shortage of raw materials, tomatoes for industrial use, dependence on import is gradually increasing in major tomato-based products. It seems that dependence on import is very low for juices including mixed juices, but considering that imported tomato concentrates are consumed for producing juices and that its dependence on import is more than 90%, dependence on import for juices is substantial.

Table V-3-2-6 Dependence on Import

(unit; %)

	1965	1970	1975	1980	1985	1990	1994
Tomato concentrate	2.9	17.2	39.3	79.7	90.0	92.2	92.2
Tomato juices	1.7	1.2	0.3	0.4	0.3	0.3	0.7
Tomato mixed juices	100.0	100.0	7.9	3.8	1.3	1.7	1.9
Tomato ketchup	0.0	0.0	0.9	1.6	1.2	4.7	10.1
Total including others	1.7	6.5	11.3	17.3	23.9	31.1	35.3

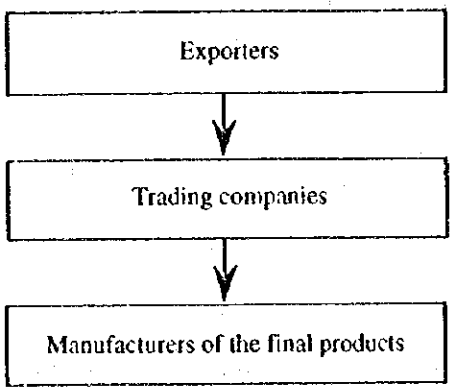
Source: Ministry of Agriculture, Forestry and Fisheries, Materials of tomato for industrial use)

3.2.3 Distribution of the Imported Products

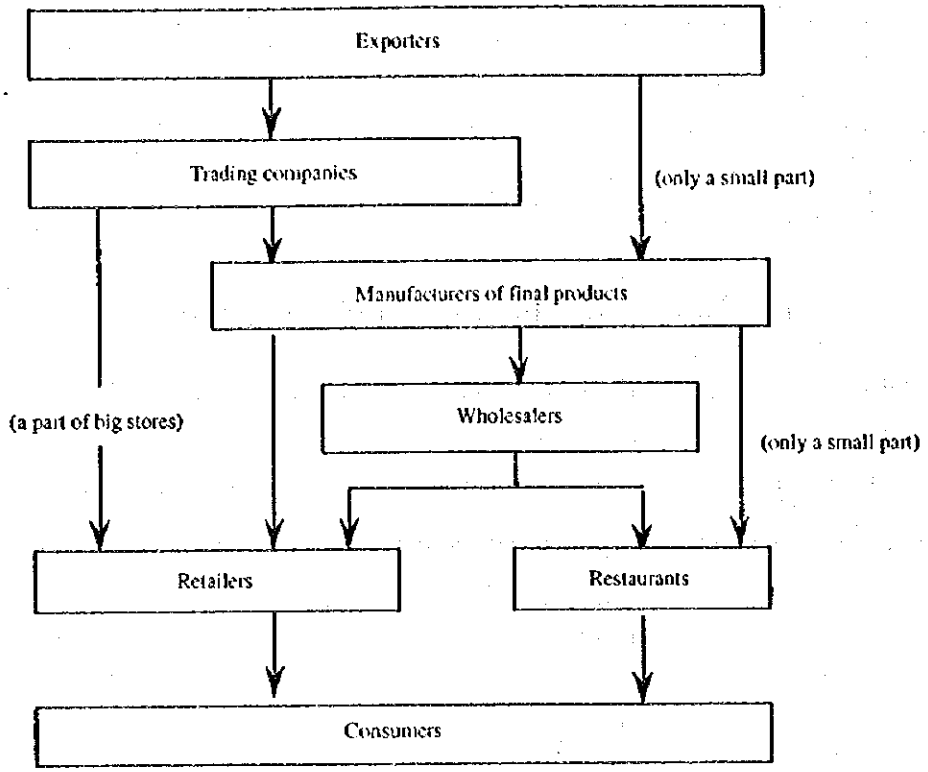
Distribution channels of tomato-based products in Japan are as follows.

Figure V-3-2-1 Distribution Channels of Tomato-based Products in Japan

A: The case of imported intermediate products (puree, paste and peeled tomatoes)



B: The case of the final products (peeled tomatowes, ketchup, sauce and juice)



(1) Manufacturers

Main players in importing tomato products, both intermediate and final products, are the manufacturers. Development and selection of new suppliers are managed by them. So for the exporters, manufacturers are the main targets for exporting tomato products. The market of final products are oligopolistic. There are about 60 tomato product manufacturers in Japan. However the market share of the top manufacturer, Kagome, is estimated to be above 50%, and that of the biggest 3 manufacturers is estimated to be about 90%.

Table V-3-2-7 Market Share of Major Manufacturers of Tomato-based Products

	Ketchup		Juice		Total	
	Volume(t)	Share(%)	Volume(t)	Share(%)	Volume(t)	Share(%)
Kagome	59,000	56	34,686	50	93,686	53
Kikkoman	22,900	22	20,300	29	43,200	25
Nagano tomato	10,000	9	9,500	14	19,500	11
Sub total	91,900	87	64,486	92	156,386	89
Total with others	106,200	100	69,800	100	176,000	100

Source: Nikkan keizai tousin, Monthly report of Statistics October 1995

The characteristics of the three major manufacturers are as follows;

1) Kagome

Kagome is the oldest and largest tomato processor in Japan. It started this business from growing tomatoes, because at that time there were no farmers who grew tomatoes for industrial use. It expanded its business to processing, while starting the contract growing. Even now it poses high value on agriculture, and has a motto of 'Food manufacturer based on agriculture'. As its sales and procurement of the tomato-based products have become world wide, it has established many subsidiaries and business tie-ups abroad such as Taiwan, Turkey, Chile, Italy and USA.

2) Kikkoman

Kikkoman is the largest soy sauce manufacturer in Japan. It diversified its business to the tomato-based products by setting up the Japan Delmonte with the support of the US Delmonte in 1961. Concerning tomato-based products, Kikkoman is in charge of sales, while Japan Delmonte is in charge of production. Japan Delmonte also has the contract growing in Japan and business tie-ups with foreign companies as Kagome does.

3) Nagano tomato

Nagano tomato was established based on the cooperative of agriculture in the Nagano prefecture in 1957. It started business tie-up with Kirin, which is the largest brewery in Japan, and started production of tomato juice under Kirin brand in 1976. It values the contract growing in Japan, but the securement of intermediates from abroad is increasing. It started overseas production of tomato ketchup for commercial use in the USA last year.

(2) Trading companies

Most of the import trades are dealt by trading companies. The roles of trading companies are offering information about exporting countries, carrying out import procedures and meeting customer complaints. Their margins are small, so they have a tendency of avoiding a trade of small amount.

(3) Big retailers

Some big retailers began to import peeled tomatoes directly from overseas. In this case, most of them need support by Japanese manufacturers concerning quality control. In case that they import directly from foreign sources, they import only from the countries

which have long term business relations with Japan and are popular among Japanese consumers, such as the USA and EU countries.

3.2.4 Origin of Import

3.2.4.1 Import by country

Table V-3-2-8 Main Origins of Imort

Origin of Import	Tomato Paste					Peeled Tomato				
	Volume (t)		Growth	Share (%)	Price (¥/kg)	Volume (t)		Growth	Share (%)	Price (¥/kg)
	1989	1994	'94/'89	1994	1994	1989	1994	'94/'89	1994	1994
Turkey	21,443	31,855	1.49	38	102	8	3,240	405.00	9	88
Chile	8,842	13,389	1.51	16	101	363	1,871	5.15	5	73
China	5,492	13,147	2.39	16	74	547	807	1.48	2	76
US	2,674	11,212	4.19	13	97	1,337	3,106	2.32	8	99
Italy	473	687	1.45	1	114	12,584	22,584	1.79	61	78
Taiwan	23,348	2,491	0.11	3	125	5,376	1,626	0.30	4	89
Argentina	71	36	0.51	0	159	-	-	-	-	-
Total with others	76,123	84,806	1.11	100	98	22,205	36,836	1.66	100	99

Source: Ministry of Agriculture, Forestry and Fisheries, Materials of tomato for industrial use

(1) Paste

The volume of the import from Taiwan has decreased significantly because of the increasing cost. According to Japanese importers, they are willing to buy tomato paste from an existing source so long as the price of the source is in the range of 10% above the average, on the assumption that the quality is satisfactory. However, the price of Taiwanese tomato paste is about 25% higher than the average import price. Therefore, Turkey took over the position of Taiwan. Chile, China and USA achieved high growth rates, overtaking Taiwan .

The price of Argentine tomato paste is higher than the average by 60%. This is the main reason why Argentina disappeared from the Japanese market in 1995.

(2) Peeled tomatoes

The share of Italy is particularly high. Because Japanese cooks and consumers have a notion that Italian peeled tomatoes are most suitable for Italian dishes. Other countries, such as Turkey, USA and Chile, have succeeded in exporting peeled tomatoes based on the close business relations with Japanese companies which have been established by the trade in paste.

3.2.4.2 Japanese companies' prediction about future import

Japanese importers predict that the supply of paste and peeled tomatoes from the present exporting countries will become tight in the near future for the reasons mentioned below.

USA :

Domestic demand will exceed domestic supply in the near future.

Turkey :

Due to unstable economy and persistence of unstable climate, paste cost will increase.

EU :

Due to the increasing cost and reduction of subsidies, export will be difficult in the near future.

China :

Due to the rapid economic development, domestic consumption of tomato-based products will increase rapidly and prices will rise.

Chile :

Due to the evaluation of the exchange rate and the cost increase, export price will increase. Trade within the South American block will increase, so the exports to other countries will decrease.

In Japan, the growers of tomatoes for industrial use are becoming older and it seems that it is difficult to find their successors. Therefore it will also become necessary for the Japanese manufacturers to supplement the reduction in the domestic supply of raw material for tomato juice with the supply from abroad in the near future. In fact, some Japanese manufacturers have begun to search for new suppliers of tomatoes for industrial use in the South East Asia, the Middle East, etc. Such activities will be expanded to the Southern Hemisphere, because they feel the necessity of hedging for the risks caused by the poor harvest.