

# Competitiveness of Japanese and Chinese Vegetables: Price vs. Safety?

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In the 1990s, China sharply increased its share in the Japanese market for fresh vegetables. Faced with an influx of Chinese agricultural products, provisional safeguard measure on three items (i.e. Welsh onion, Shiitake mushrooms and Tatami-omote) was imposed by the Japanese Government in the period from April 23 to November 8, 2001. In the meantime, the Japanese government, vegetable farmers, and the groups related to production gathered together to make programs for a more competitive domestic vegetable production.

In this paper, the circumstances of the competition between Japanese and Chinese agricultural products were briefly introduced. A report to Japan's correspondence to the situation of fresh vegetable production after the implementation of provisional safeguard measure was made, through the survey of two Welsh onion producing bases. Furthermore, policy implications on the structural reform program for vegetable production were drawn as the follows: Firstly, structural reform program of vegetable production will reach its limitations without touching the issue of institutional reforms of Japanese agricultural industry. Secondly, it is necessary to make an appropriate marketing strategy and establish a brand for vegetable farmers to ensure their profits from production.

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**Key words:** brand, competitiveness, Japanese and Chinese vegetables, price vs. safety

In the 1990s, China sharply increased its share in the Japanese market for fresh vegetables. China's rising fresh vegetable exports to Japan were promoted by several factors. With its low production costs and geographic proximity to Japan, China's agricultural industry attracted foreign investment especially Japanese trading companies, which provided the seeds, spores, and techniques of producing and packing to Chinese vegetable farmers, and imported Chinese vegetables to Japanese retailers.

Faced with an influx of Chinese agricultural products, provisional safeguard measure on three items (i.e. Welsh onion, Shiitake mushrooms and Tatami-Omote) was imposed by the Japanese Government in the period from April 23 to November 8, 2001. For avoiding the trade friction between Japan and China caused by the implementation, the two countries finally made an agreement to promote an orderly trade about the above three items on December 21, 2001. In the meantime, the Japanese government, vegetable farmers, and the groups related to production (such as agricultural cooperatives, distributors etc.) gathered together to make programs for a more competitive domestic vegetable production.

In this paper, we will firstly make a brief introduction about the circumstances of the competition between Japanese and Chinese agricultural products. Secondly, we will give a report to Japan's correspondence to the situation of fresh vegetable production after the implementation of provisional

safeguard measure, through the survey of two Welsh onion producing bases. Finally, we will draw some brief policy implications on the structural reform program for vegetable production.

## Competition of agricultural products between Japan and China

In recent years, it seems that there exists a kind of competition of agricultural products between Japan and China, so called 'price vs. safety' through the following happenings, such as the provisional safeguard measure on three items (i.e. Welsh onion, Shitake mushroom, and Tatami-Omote), and the problem of the pesticide residues of China's frozen vegetables. However, competition generally exists not only between countries, but also between regions, enterprises and products. It is quite clear that, no matter how important the issue of guaranteeing food safety is, a steady food safety might be hardly guaranteed without putting a premium on it, or establishing a brand by taking safety as one factor of quality. For producers, it is necessary to have their own marketing strategy for food safety in addition to introduce a system for guaranteeing it. Also, attention should be paid to the differences between the establishment of a system and a brand for food safety. Because it is not sufficient for securing food safety and reliability only by improving quality and reducing cost. Therefore, it is important for farmers to have a

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clear view about consumer's needs, due to the diversification and relativity of consumer's demands on food safety which are usually affected by price.

Meanwhile, markets are generally composed by various kinds of segments divided by different selling places, seasons, quality and uses of products (Kotler and Keller, 2004). For instance, Japan's consumption on vegetables by purposes in 2000, indicated that the percentage of household consumption in total amount only occupied 44.1%, and each percentage of consumption for business use and for processed use was 41.3% and 14.6% respectively (MAFF). Therefore, vegetable farmers should make sure of what market segment that they are targeting.

Following factors should be taken into account while selecting market segment: the scale of market segment, the strong and weak points (i.e. SWOT analysis), the life cycle of their products, the barriers to entry, their competitor's strategy, and the factors of business environment, etc.

Generally, there are four elements in a marketing strategy; those are product, price, place, and promotion, so called 4P. Amongst the element of product is the most important regarding to vegetables, although these four elements need to be well balanced. Furthermore, following elements such as quality, a design, a brand, a package, and warranty services should be included into a product strategy.

Needless to say, to improve the safety of a product is an important issue while considering a strategy for product. Still, to establish a brand is absolutely required in order to make consumers recognize product safety, pay the premium on it, or pay the cost for safety maintenance.

However there are several different levels of brand, such as a nation brand, a region brand, a corporation brand, an enterprise brand, a family brand, a group of products brand, and a product brand (See table 1 and table 2).

It is observed that Japanese consumers would pay a higher price at a level of 30 percent for domestic vegetables in comparison with imported one. In this case, therefore, there exists a nation brand with a thirty percent premium. Unfortunately, there is not a nationwide brand for Welsh onion in Japan, although there are several region brands for agricultural products, amongst 4 or 5 brands are for Welsh onion.

It has been considered that the advantages of Japanese fresh vegetables in competition with imported one have being kept through a nation brand until now. However, it is required to establish some region brands and product brands for fresh vegetables along with the heated competition between home regions and the improvements in competitiveness of foreign fresh vegetables. On the other hand, the problem of pesticide residues of Chinese frozen

**Table 1.** Types of Brand

Types of Brand		Examples
A Nation Brand		Made in Japan
A Region Brand		
A Corporation Brand		SONY
An Enterprise Brand		Panasonic (Matsushita)
A Family Brand	Different lines of products	Runbird (Mizuno)
A Group of Products Brand	A brand for a product line	Mild Seven (Japan Tobacco)
A Product Brand	A brand for one product	Super Dry (Asahi Beer)

**Table 2.** Typologies of Brand in Agricultural Products and Processed Food

Types of Brand	Products	Effect of Brand	
		Negative ←	→ Positive
A Nation Brand	Beef Welsh Onion	China	US Australia Japan Japan
A Region Brand	Rice Welsh Onion		Niigata Unuma Iwai Fukaya
A Corporation Brand	Dairy Products	Snow Brand	Koiwai
An Enterprise Brand	Organic Vegetables		SKIP (UNIQLO)
A Family Brand	Daily-Use Products		Topvalu (ION Group)
A Group of Products Brand			
A Product Brand	Welsh Onion		Soft Skin (Akatuska) Soft White (Hokkaido)

spinaches has made a minas nation brand for agricultural products. Therefore, it is necessary for China to establish some region brands or product brands to improve her competitiveness.

### **Japan's correspondence to the situation of fresh vegetable production**

#### **Structural reform program for vegetable production**

In order to make domestic vegetable production more competitive, the Japanese government has made "Structural Reform Program for Vegetable Production" in August, 2001, and is carrying out the program for four years. However, at the time of the program was planned, the price of domestic Welsh onion was 198 yen (one bundle of three pieces), and was about 2 times of China's (100 yen). On the other hand, the reaction of the Japanese consumers to the price was observed as follows, "We will prefer domestic products even if the price is more expensive than imported one at a level of 20 to 30%". Therefore, the target price of domestic Welsh onion has to be set up with 130 yen. That is to say that, when price competition is considered, it is necessary to reduce 30% of the cost of production and distribution. There are three strategy models have been presented by the Japanese government, so called "low cost", "marketing contract", and "high added value".

A "low cost type" model aims at reducing the cost of production and circulation around 30%. As a concrete measure, highly efficient harvest machines, adjustment machines, or "visiting containers (reusable transportation containers)" will be introduced. However, a "marketing contract type" model corresponding to business-use demand will be performed by continuing the contract dealings through fixed quantity, price, scheduled time, and constant quality. Furthermore, a "high added value type" will be carried out by producing local specialty kind and organic vegetables in the bases where large cost reduction seems difficult or the bases near to cities.

Each base draws up a "place-of-production reform plan" for the above models to reference, and the government is offering support about introduction of innovative manufacturing technique to the bases where the "place-of-production reform plan" has been made. In terms of Welsh onion, 212 bases are expected to make a "place-of-production reform plan". By the end of March in 2003, the current situation of strategy models chosen by each base is as follows. A "low cost type" model has been chosen by 121 bases (57%), a "marketing contract type" model has been chosen by 84 bases (40%) and a "high added value type" model has been chosen by 114 bases (54%). In addition, five prefectures in Kanto area which occupies 45% of national market share cooperate with each other to adjust shipment time by carrying out a "relay shipment".

### **Correspondences and problems of vegetable production bases in Japan**

In this section, we will clarify the correspondences and problems of vegetable production bases in Japan by taking two Welsh onion planting bases as case studies. These are Iwai City of Ibaraki prefecture and Akatsuka District of Niigata City, Niigata prefecture.

#### **"Place-of-production reform plan": Case of Iwai City**

Iwai City is a large production base for summer Welsh onion which is located 50km away from northeast of Tokyo. The main shipment period of Welsh onion in Iwai City is from May to September. Its share in Tokyo's Summer Welsh Onion Market reaches to 70 - 80%. The scale of planted area of Welsh onion in Iwai City is 466ha, and its quantity of production is 11,500t. Due to the strong leadership of the Iwai Agricultural Cooperative Association, most of local Welsh onion producers have joined the horticulture section of Iwai Agricultural Cooperative Association so that the planted area has reached to 300ha and the quantity of production has reached to 6,389t (Mizouchi *et al.*, 2003).

The "place-of-production reform plan" was also made in Iwai City by the agricultural cooperative association. The target of the plan aims at reducing 10% of working hours and 10% of the cost of total shipment by 2005. Furthermore, three strategy models were created for realizing the target. Firstly, 50% of the total shipment will be adjusted according to a "low cost type" model aims at reducing 30% of working hours and operating costs. Specifically, it will be carried out through the mechanization by introducing planter, disinfection machine, harvester, preparation machine; and through container shipment and non washing shipment; and also by the simplification of standards. Secondly, 20% of the total shipment will be adjusted according to a "marketing contract" model. Thirdly, the rest 10% of the total shipment will be adjusted according to a "high added value" model by introducing low chemicals. However, such kind of products faces the profit problem due to the low selling price.

Various kinds of machine have been introduced by Iwai Agricultural Cooperative Association. Harvest machine has been introduced in this base since 2000. Seventy percent of the total scale of Welsh onion in this base has been operated by 120 harvest machines right now. One harvest machine costs 3 million yen but half of the cost is subsidized by the government. The machine is rented to producer's groups for five years, and each group is made by more than three farmers. Although the efficiency of operation has been increased by mechanization, the problem of low capacity usage ratio of the machine exists due to the seasonal planting of Welsh onion in Iwai City. On the other hand, it is considered that mechanization is still going to be improved under the situation of aging and lack of the inheritor in Iwai City, in spite of the bad efficiency of harvest machine in the small scale area with poorly improved infrastructure.

Although the number of Welsh onion producers is decreasing in Iwai, the cultivated area and the shipment are

increasing through an earlier planting and expansion of the planted acreage of each farm household.

### Case of Akatsuka District

"Place-of-production reform plan" made by Akatsuka includes following two strategy models: "low cost type" and "marketing contract type". However, in terms of "low cost type", the target for cost reduction in Akatsuka was set up at a level of twenty five percent within four years, i.e. to reduce the cost of Welsh onion from the current 130 yen per kilogram to an objective 100 yen per kilogram. For achieving the objective, a decrease in the cost of production and shipment, and a reduction in working hours through mechanization are considered as essential measures. Nevertheless, the performance of cost reduction in Akatsuka for the year of 2002 was only 11.6 yen/kg. Therefore, there still a lot of problems are not have been solved, such as, how to realize the target concretely, or how to expand the planted acreage of each farmhouse through mechanization (Kiminami and Kiminami, 2002).

Akatsuka District as the planting area for a brand named 'soft skin Welsh onion' has been recognized within the prefecture. At present, there is only one contract with a local supermarket made by the Agricultural Cooperative of Akatsuka. In the place-of-production reform plan, new contract places will be found, and the scale of shipment will be expanded to 130t (about 20% of present shipment). Nevertheless, the producing farmers who can respond to this are quite limited.

And for the producing base as a whole, it is necessary to continue the contract dealings through fixed quantity, price, scheduled time, and constant quality.

### Survey of the two bases

The survey was carried out by interviewing 28 Welsh onion planting farmers in Iwai City (carried out during July 22-24, 2002) and 15 farmers in Akatsuka District (carried out during December 1-6, 2002). The average Welsh onion planted acreage of interviewed farmers in Iwai City is 81.9a and that in Akatsuka District is 61.3a.

Table 3 shows the evaluations on imported Chinese Welsh onion in comparison with Japanese one from the

**Table 3.** Evaluations on Imported Chinese Welsh Onion in Comparison with Japanese One

(%)

Iwai (Ibaraki)	Better	Same	Worse	N.A.
Taste	0.0	14.3	25.0	60.7
Freshness	3.6	25.0	28.6	42.9
Safety	0.0	0.0	78.6	21.4
Akatsuka (Niigata)	Better	Same	Worse	N.A.
Taste	6.7	6.7	46.7	40.0
Freshness	6.7	6.7	60.0	26.7
Safety	6.7	0.0	53.3	40.0

results of our interviews. Although the evaluations on Chinese Welsh onion were lower than domestic products in all points, the evaluation on freshness of Chinese Welsh onion was comparatively high and that on the safety of it was extremely low on the other side. Nevertheless, many of farmers answered that they "have not eaten" or "have not seen" Chinese Welsh onion ever before. Therefore, it is quite doubtful that their evaluation has properly reflected the quality of Chinese Welsh onion.

Table 4 shows the farmers' evaluations on their own products both in Iwai City and Akatsuka District. The advantages of the Welsh onion produced in Iwai City were evaluated in the order of "freshness", "safety" and "quality" among them "freshness" was especially highly evaluated. On the other hand, "price" was commonly considered to be the disadvantage of their products in the two bases. The problems of "variation in quality" and "Quantity of Production" were also pointed out by themselves.

**Table 4.** Advantage and Disadvantage of Welsh Onions Produced in Iwai City and Akatsuka District in Comparison with Imported Chinese One

(%)

Advantage	Freshness	Safety	Quality
Iwai (Ibaraki)	53.6	42.9	17.9
Akatsuka (Niigata)	30.8	30.8	46.2
Disadvantage	Price	Variation in Quality	Quantity of Production
Iwai (Ibaraki)	50.0	10.7	0.0
Akatsuka (Niigata)	50.0	0.0	25.0

Table 5 shows the farmers' evaluations on the strategy of Welsh onion production in Iwai City. Among the strategy models "low cost" was adopted the most and "high added value" came to the second. There were few affirmative opinions about the possibility of the target which was assumed by the strategy models. Among them the possibility of "high added value" model was considered the highest and the possibility of "low cost" was considered the lowest reversely. It was also pointed out that there is the limit of the reduction in cost by mechanization etc. Evaluation has most replies of "not understanding", and "it is impossible" exceeded a little "it is possible" about the possibility of the competition with the import Welsh onion from China by enforcement of a strategy model. The view about the prospect of domestic Welsh onion production is roughly divided.

### Concluding Remarks

In the above sections, we have clarified the circumstances of the competition between Japanese and Chinese vegetable production, and the correspondence of the Japanese government, vegetable farmers, and the groups related to

**Table 5.** Evaluation on the Strategies of Welsh Onion Production in Iwai City

		(%)		
Strategies Adopted at Present		Adopted	Not Adopted	
	Low Cost	25.0	75.0	
	Marketing Contract	10.7	89.3	
	High Added Value Product	17.9	82.1	
Possibilities of the Strategies		Positive	Negative	N.A.
	Low Cost	14.3	21.4	64.3
	Marketing Contract	10.7	10.7	78.6
	High Added Value Product	21.4	10.7	67.9
Welsh onions produced in Iwai City will be more competitive than Chinese one.		Positive	Negative	N.A.
		28.6	32.1	39.3

production (such as agricultural cooperatives, distributors etc.) by introducing two Welsh onion planting bases (Iwai City and Akatsuka District). Following implications were drawn: Firstly, it is difficult for Japanese vegetable farmers to realize a sharp cost cut under the existing conditions. It is to say, that structural reform program of vegetable production will reach its limitations without touching the issue of institutional reforms of Japanese agricultural industry. Secondly, it is necessary to make an appropriate marketing strategy and establish a brand for vegetable farmers to ensure their profits from production. Meanwhile, consumers are able to enjoy a stable food supply with guaranteed safety through it.

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## 日本と中国の野菜競争力：価格対安全性？

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### 要 約

1990年代以降、中国の対日生鮮野菜の輸出が急激に増加し、日本市場におけるシェアも高まっている。日本政府は中国産農産物の輸入急増に伴い、2001年4月23日から11月8日までの間、ネギ、シイタケ、豊表の三品目について、暫定的セーフガードを発動した。その間、日本政府、野菜生産者及び産地は国内野菜生産の競争力向上のための計画立案に向け協議を行った。

本稿では、日本産農産物と中国産農産物の競争状況を簡潔に説明し、暫定的セーフガード発動後における生鮮野菜生産の対応状況を二つのネギ産地の実態調査をもとに明らかにした。その結果、「野菜の構造改革対策」についての政策提言として、第一に、「野菜の構造改革対策」は日本農業における制度改革を欠いては、それ自体に限界があること。第二に、野菜生産者にとって収益性の高い生産を行うためには、適切な販売（マーケティング）戦略やブランドの確立が必要であることを示した。

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