

Prerequisites for market expansion of organic farm products in Japan: Case study of agricultural cooperatives and producers' groups

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■ Abstract

In recent years, while the area under organic cultivation and the market for organic farm products have been posting double-digit growth worldwide, the growth in Japan has been slow and the organic market in the nation remains a niche, still small compared with those of Western countries.

This is attributable to various factors, including the difficulty of maintaining stable production of organic products in Japan due to weather conditions. Production costs are high as organic agriculture requires a great deal of labor to weed and distribution expenses are also high since production areas are scattered and are dependent on small cargo delivery, both resulting in high retail prices.

This means not many organic products are available at large retail stores accessible by many consumers.

Amid increasing public interest in healthy eating, however, there are moves also in Japan among some major retailers to increase the efficiency of distribution channels and boost sales of organic products in hopes of future market growth.

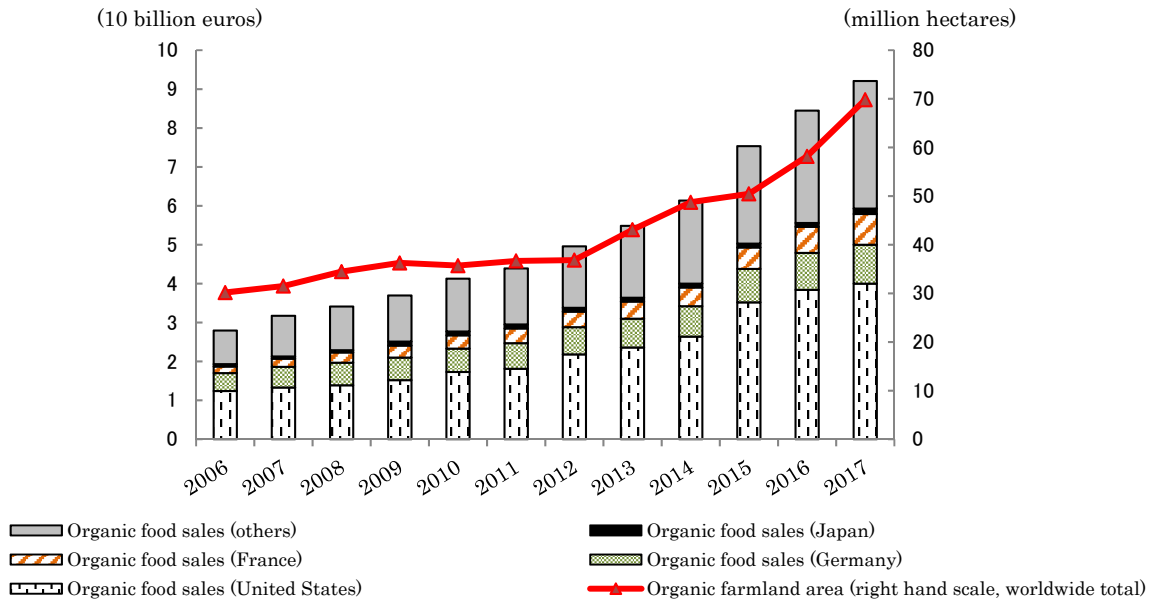
Through looking at cases of agricultural cooperatives and producers' groups which are boosting production and sales of organic food in the country, this paper offers measures that need to be taken from producers' standpoint to expand the market, such as organizing growers and building a consistent production management system, as well as securing sustainable prices and making efforts to enhance the added value of their products.

■ Introduction

The global market of organic farm produce and processed foods totaled 92.1 billion euro in 2017 - equivalent to roughly 12 trillion yen (calculated based on an exchange rate of 125 yen to the euro: the same applies hereafter) - up as much as 86 percent from 2012, due to growth mainly in the United States and Europe. Figure 1 shows that the area under organic cultivation worldwide totaled 70 million hectares in 2017, up 89 percent from 2012.

Meanwhile, Japan's organic food market was 185 billion yen in 2017, extremely small compared with 40 billion euro (5 trillion yen) in the U.S., 10 billion euro (1.3 trillion yen) in Germany and 7.9 billion euro (1 trillion yen) in France. As shown in Figure 2, the area under organic cultivation in Japan totaled 23,000 hectares in fiscal 2017, up 15 percent from fiscal 2012, but it only occupies 0.5 percent of the total area of farmlands.

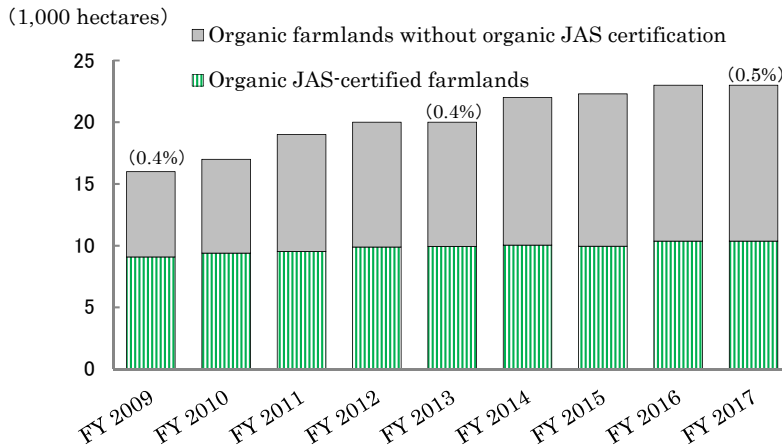
Figure 1 Global organic food market



Source: Willer & Lernoud (eds.) (2019)

(NOTE) Since there are no official statistics on total organic food sales in Japan between 2009 and 2016, the estimated figure for 2009 (130 billion yen according to *Research Report on Japan's Organic Food Market* released in June 2011 by the Organic Market Research Project) is used as sales figures between 2009 and 2016. The figure for 2017 (185 billion yen) is estimated by the Ministry of Agriculture, Forestry and Fisheries using the same calculation method as the figure for 2009.

Figure 2 Organic farmland areas in Japan



Source: The Ministry of Agriculture, Forestry and Fisheries. Situation Regarding Organic Agriculture, March 2019.

(NOTE 1) Figures in percentages indicate the ratio of organic farmlands in the total area of farmlands in Japan for the respective years.

(NOTE 2) The total area of organic JAS-certified farmlands is calculated by the ministry's Food Manufacture Affairs Division. The total area of organic farmlands without organic JAS certification is an estimation by the ministry's Sustainable Agriculture Division. Different estimation methods are used for fiscal 2009, fiscal 2010-2014 and fiscal 2015-2017. Calculation methods also differ by prefecture. Since the area of organic JAS-certified farmlands for fiscal 2017 was not yet available, the fiscal 2016 figure is tentatively used for fiscal 2017 as well.

In its basic policy to promote organic agriculture released in 2014, the Ministry of Agriculture, Forestry and Fisheries set a target of increasing the area under organic cultivation to 1 percent of the total area of farmlands in fiscal 2018.

Under such a situation, in line with recent global moves to meet the Sustainable Development Goals adopted by the United Nations and changes in dietary trends amid increasing health awareness in Western nations, efforts are being made also in Japan to increase distribution of organic foods.

This paper will look at the factors behind expansion of organic food markets in Western nations, challenges of organic food production in Japan and moves by large-scale retail stores to distribute organic farm produce. Based on examples of agricultural cooperatives and organic farmers' groups working to boost production and sales of organic farm products, the paper will discuss measures that should be taken by producers to expand the organic food market in Japan.

In this paper, organic farm produce refers to farm products certified under the organic JAS system – the Japan Agricultural Standards for organic plants and organic processed foods of plant origin – and farm products that are not certified under the JAS system but are cultivated without the use of chemical fertilizers or chemosynthetic agrochemicals.

1. Factors behind expansion of organic food market in Western nations

1.1 The European Union – Agri-environmental policies and high awareness of environmental protection

The European Union, since the 1992 reform of its Common Agricultural Policy, has provided subsidies to support organic farming as part of agri-environmental policies.

Moreover, in 1991, Council Regulation on organic production of agricultural products and indications referring thereto on agricultural products and foodstuffs was established as the first legislation to create uniform standards within the EU. It provided a legal backing to the overall organic food sector including production, processing and distribution, becoming a basis for the expansion of the organic food market.

In 2007, the 1991 regulation was abolished to be replaced with a new regulation to set clearer rules regarding production, labeling and distribution of organic products with the aim of ensuring transparency and trust in organic food. The regulation was overhauled again in 2017 to further encourage development of organic production across the EU.

It is believed that one of the main factors behind expansion of the organic food market in the EU was high consumer awareness of food safety, environmental protection and animal welfare that grew after a series of cases which threatened food safety occurred in the 1990s, including the outbreak of the mad cow disease.

For instance, Ökobarometer 2018, a survey conducted by the German Federal Ministry of Food and Agriculture on consumption of organic food, shows that 86 percent of respondents said they buy organic food to contribute to environmental protection. It also said 91 percent of those who purchase organic food do so at supermarkets, indicating that it is made easily available for consumers.

1.2 The United States – Millennials emerging as a driving force

In the United States, the National Organic Program was established in 2001 to set uniform national standards for production, sales and distribution of organic food products.

The legislation of organic certification enabled smooth trade of organic products beyond state borders and even national borders, prompting large-scale retailers to enter the

market.

The retailers provided organic products at lower prices than before, resulting in expansion of the market. According to the Organic Trade Association survey, among the total value of organic food sales in 2016, 55 percent was made through mass market retailers, followed by 36 percent through natural/specialty retailers and 9 percent through farmers markets and other channels like online sales.

As for distribution of organic food, Whole Foods Market Inc., a natural foods supermarket chain established in 1980, has led the organic food market by capturing LOHAS (lifestyle of health and sustainability) consumers who are relatively rich and have keen interest in health and environment – the segment that increased sharply since the late 1990s.

The OTA survey also shows that millennials – a generation born between the 1980s and the early 2000s – lead other age groups in organic purchasing, becoming the driving force as buyers in the organic food market.

The millennials, who have grown up along with the spread of the internet, have a wide variety of knowledge on health issues and are more health-conscious compared with other generations. Millennial parents in particular place great value on organic food and they are believed to serve as a bridge to pass on their food habits to next generations.

2. Challenges of expanding Japan's organic farm products

2.1 Results of a survey on awareness and attitudes toward organic farm products

According to a survey on awareness and attitudes toward farm products produced with environmental considerations, including organic farm products, released by the Ministry of Agriculture, Forestry and Fisheries in February 2016 (Figure 3 and 4), 18.0 percent of consumers said they currently purchase such products, while 64.6 percent said they want to buy such produce.

Moreover, 21.2 percent of distribution processing companies said they currently handle such products, while 42.2 percent said they want to handle such products.

The results indicate that potential demand for organic farm products is high.

Among consumers who said they want to buy such products, 53.4 percent, the largest percentage, said they would purchase the products if the labeling can be trusted, followed by 46.1 percent who said they would buy them if they are sold in their neighborhood or at easily accessible locations and 41.9 percent who said they would buy them if they are sold at lower prices.

Among distribution processing firms, 35.9 percent said they don't want to handle such products. As for reasons, 51.6 percent, the largest percentage, said they don't want to handle them because it is difficult to secure stable supply, followed by 44.7 percent who said the prices are too high, 31.4 percent who said they don't see the difference between such products and normally-grown products, 31.4 percent who said they don't see the difference between such products and other certified and traceable agricultural products and 28.9 percent who said their quality is unstable and they seem hard to handle. In order to expand the organic food market, it is necessary to meet the conditions given by consumers for buying organic products and cope with problems given by distributors as reasons for not handling such products.

Figure 3.1 Buying behavior of organic food products (survey on 893 consumers)

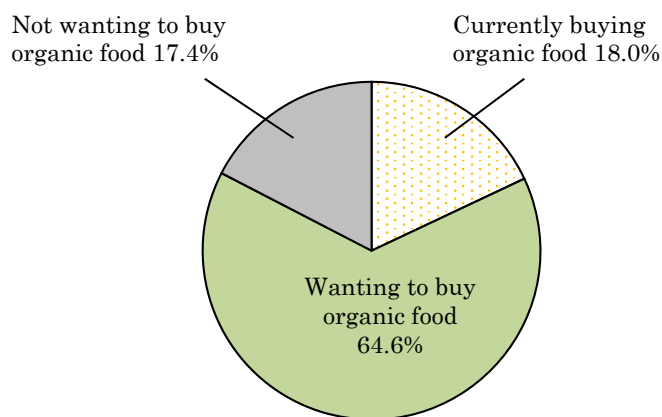
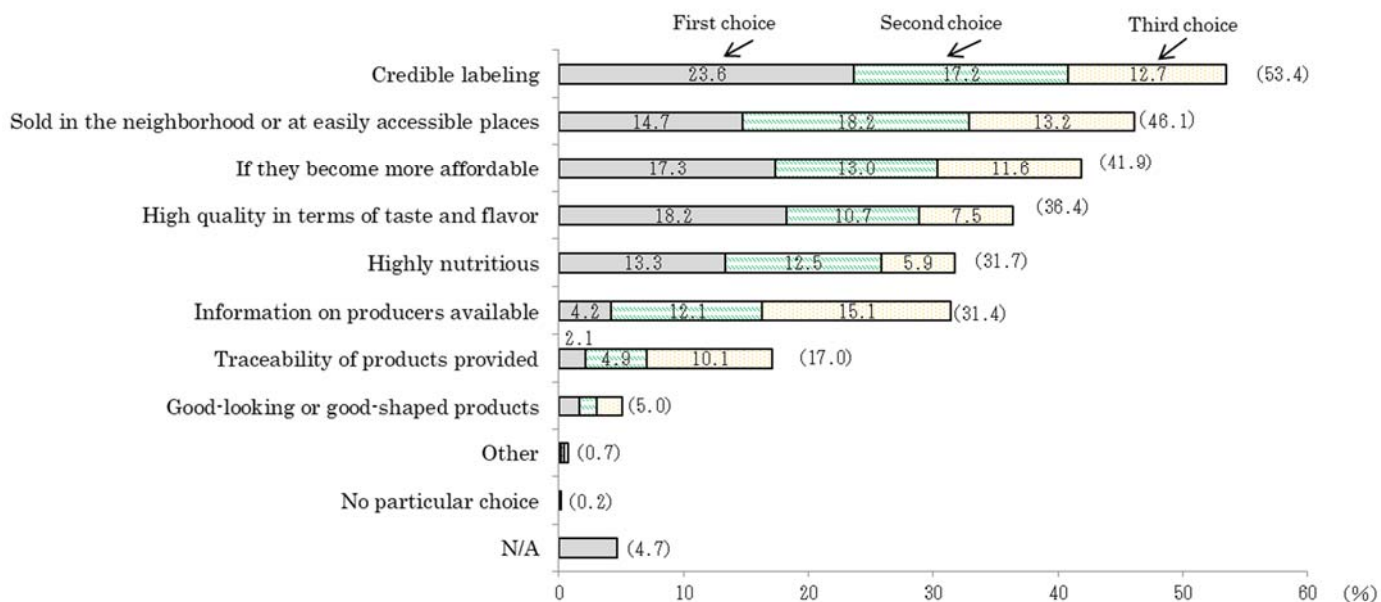


Figure 3.2 Conditions for purchasing organic food products
(Multiple-choice survey on 577 consumers allowing them to choose a maximum of 3 factors)



Source: The Ministry of Agriculture, Forestry and Fisheries. *Fiscal 2015 Survey on Attitudes Towards Eco-friendly Agricultural Products including Organic Farm Produce.*

Figure 4.1 Handling organic food products (survey on 443 distribution processing firms)

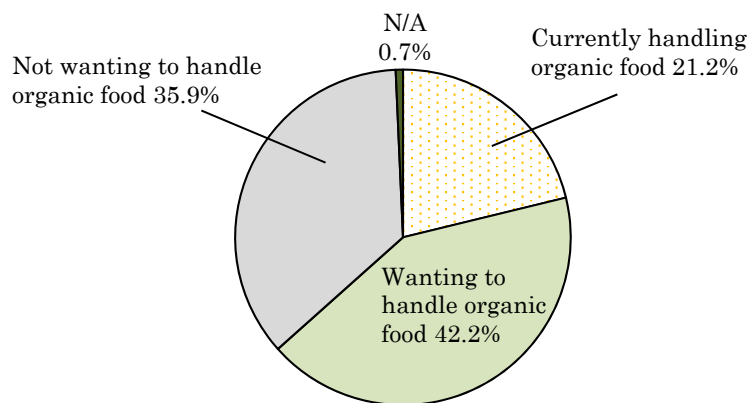
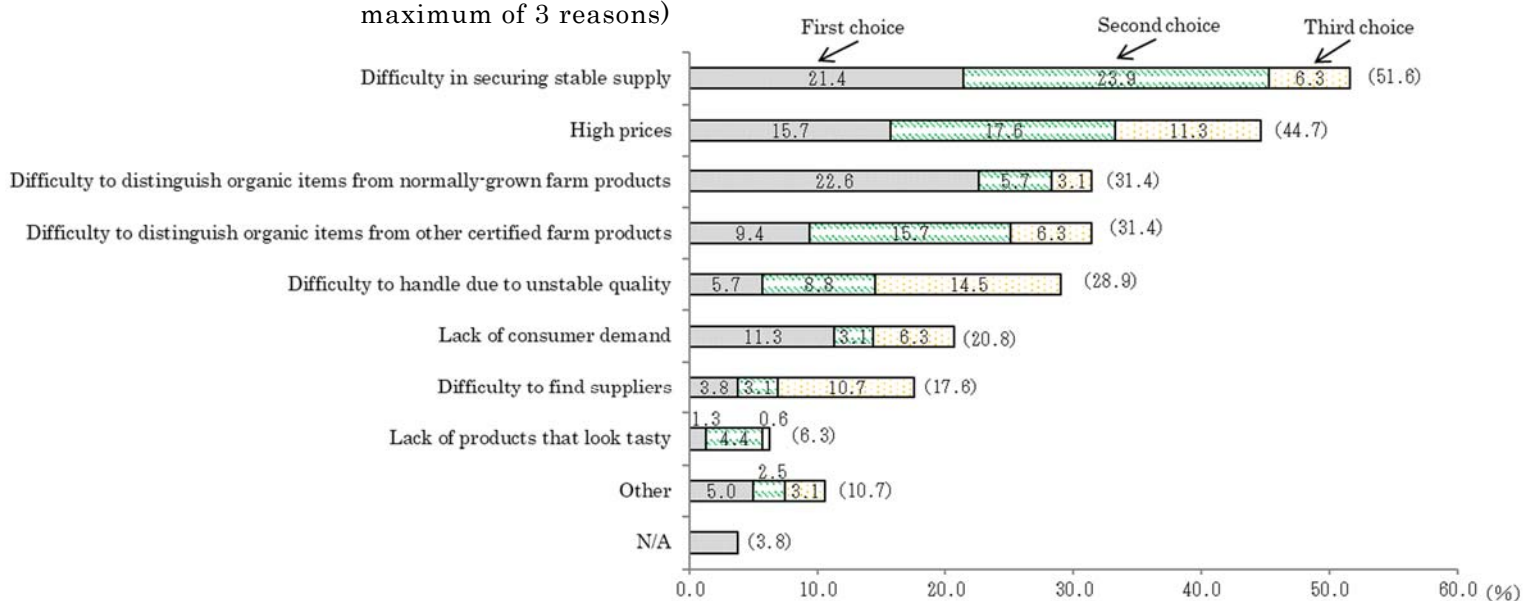


Figure 4.2 Reasons for not wanting to handle organic food products (Multiple-choice survey on 159 distribution processing firms allowing them to choose a maximum of 3 reasons)



Source: Refer to Figure 3

2.2 Exploring potential demand: issues and challenges

a. Simplifying complicated systems regarding organic farm products

The reason why consumers are asking for labels that can be trusted and distributors are saying they can't see the difference between organic products and other traceable products lies in the fact that the current systems for organic farm products are difficult to understand.

Under the Japanese Agricultural Standard for Organic Plants, farm produce can be labeled as "organic" only if they are certified by a third-party organization as meeting the criteria of production methods for organic produce enacted in 2000.

In the Act on Promotion of Organic Agriculture established in 2006, "organic agriculture"

is defined as agriculture that uses methods that basically do not, in principle, use chemically synthesized fertilizers, pesticides or genetic modification technology and which aims to minimize the burden of agricultural production on the environment.

But even the agricultural items that are produced using the methods stated in the law cannot bear the “organic” logo unless they obtain organic JAS certification. For that reason, such products are sold with such labeling as “specially cultivated – no use of pesticides during cultivation, no use of nitrogenous fertilizers during cultivation” and “cultivated by natural farming.” As a result, consumers end up seeing chemical-free agricultural products with several different ways of labeling, making it difficult for them to understand.

Furthermore, according to the agricultural ministry’s fiscal 2017 survey on organic food markets, 91.0 percent of consumers responded that they know the term “organic,” but 58.1 percent said they are not aware of labeling regulations, indicating that consumers have little understanding of the organic JAS system.

The issue was taken up in the interim report released in April 2019 on the discussions to promote organic agriculture conducted by a fruits and organic farming committee of the agriculture ministry’s Council of Food, Agriculture, Rural Area Policies.

Along with the need to promote sustainable and eco-friendly farming practices in the future, the ministry hopes to reorganize the organic agriculture-related systems – currently consisting of various schemes including organic farming, special cultivation and ecofarmers – so that they will be easier to understand for both producers and consumers.

b. Developing and spreading production technologies and building supply chains

As shown in the survey mentioned previously, many consumers said they want to purchase organic food products if they are sold in their neighborhood or at easily accessible locations. But unlike in Western nations, organic items are not seen so commonly in Japan in places like mass retailers where people typically go to shop.

The reason why organic products are not marketed so widely is because of Japan’s weather conditions that makes it difficult to secure stable production both in terms of quality and quantity. Since growers are scattered across the country and supply products mainly in small lots, distributors have difficulty realizing efficient and stable procurement of organic farm products.

Moreover, purchase prices for organic products tend to be higher than non-organic ones due to the fact that they require higher production costs for such processes as weeding and higher distribution costs because they are mostly shipped in small lots.

Therefore, in order to expand mass retailers’ handling of organic farm produce, it is necessary to secure stable supply of products of consistent quality and reduce prices.

As for development of production technology for organic farming, the fundamental systematization of technologies is under progress, with authorities setting on experiment and research after the law to promote organic agriculture took effect in 2006, and the National Agriculture and Food Research Organization creating a cultivation manual for organic farming in 2018.

Some members of the before mentioned fruits and organic farming committee have pointed to the need to develop cultivating and weeding technologies that correspond to different regional conditions. It is also necessary to develop and spread technologies to improve the quality of products including the taste.

Moreover, in order to reduce the prices of products and increase the efficiency of distribution, it is necessary to create a system to cut costs through the whole supply chain including not only producers but also distributors and retailers.

c. Increasing consumers' understanding of organic agriculture

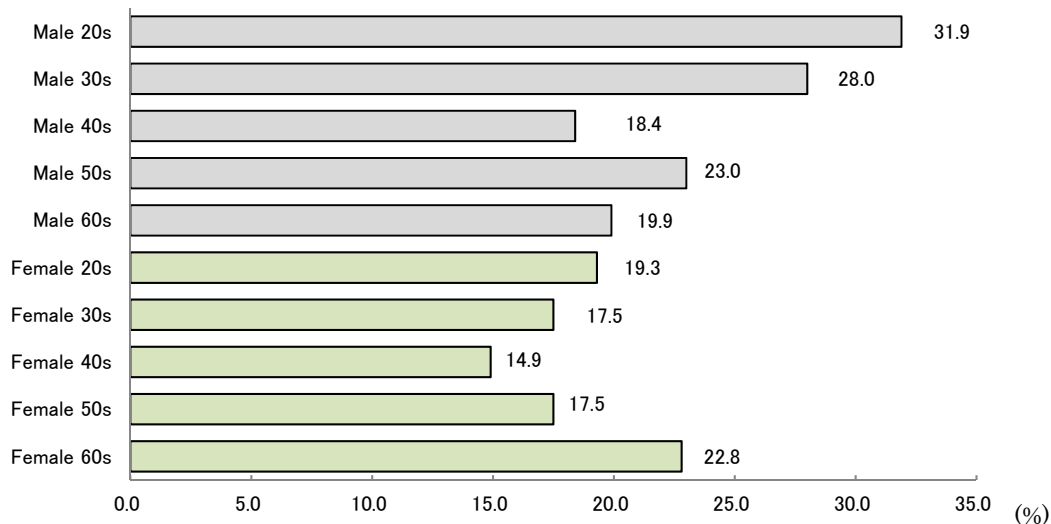
According to the aforesaid survey on awareness toward eco-friendly farm products, when consumers were asked what they associate the term “organic” with, being allowed to give multiple answers, 76.4 percent chose “safe,” followed by 63.4 percent who chose “healthy” and 55.0 percent who chose “friendly to the environment.”

Meanwhile, when asked what kind of things they take into consideration in purchasing farm produce, being allowed to give multiple answers, 92.2 percent chose “freshness,” followed by 76.8 percent who chose “the place of origin (domestic-grown or foreign-grown),” 69.5 percent who chose “low price” and 63.9 percent who chose “taste.” Only 21.4 percent chose “the method of cultivation (organic or non-organic).”

The results show that many consumers think organic products are safe, but when buying farm produce, many believe domestic-grown products are basically safe. This indicates that it would be difficult to expect consumers to differentiate organic products from other products only in terms of safety.

Another survey on purchases of organic foods conducted in 2017 by a general incorporated association Organic Village Japan (Figure 5) showed that surprisingly, men in their 20s had the largest percentage of those who buy organic food products once a week or more, followed by 28 percent for men in their 30s. The results suggest that consumption in Japan is showing a trend similar to the United States where organic food markets have grown with millennials as a driving force.

Figure 5 Frequency of purchasing organic food
(Ratio of those who make purchases once a week or more based on survey on 3,511 people)



Source: Organic Village Japan. *Organic White Paper 2016 & 2017 Outlook*.

(NOTE) Data comes from *Fiscal 2017 Consumer Buying Attitudes Survey* by Organic Village Japan. The survey was conducted in November 2017.

In addition, environmental studies have been introduced in elementary and junior high schools since 2008 under the government’s new curriculum guidelines and the generation of people who received such an education are now becoming adults, meaning consumers with high environmental awareness are expected to increase in the future.

To expand sales of organic food products, it is important for producers and distributors to

seriously think of how to let such consumers realize the true significance of organic farming, which is to enhance ecosystem functions of agriculture and reduce environmental burdens deriving from agriculture.

3. New trends in distribution of organic farm produce

Next, I would like to introduce two cases that are attracting attention regarding distribution of organic farm products – Japan’s top retailer Aeon Co., Ltd. and the nation’s top natural foods delivery firm Oisix ra daichi Inc.

Both companies are working to build a new supply chain to boost Japan’s organic food markets, focusing on improving distribution efficiency, and such policies are reflected in their corporate strategies.

3.1 Aeon’s strategy to boost sales of organic farm produce

a. Aiming to increase the ratio of organic food in 2020 farm produce sales to 5 percent

In its 2020 target on ‘Sustainable Procurement Policy’, Aeon set a target of raising the ratio of organic products certified under the organic JAS system to 5 percent of the total sales of agricultural products, up from 1.5 billion yen, or 1 percent of the total sales, marked in 2017, to 10 billion yen.

The firm describes the move as part of efforts to meet the Sustainable Development Goals. The firm also believes in the potential of the organic food market and thinks organic farm produce is a key to differentiate it from other retailers amid intensifying presence of convenience stores and drug stores in the food retail market.

b. Strategies to achieve the 5 percent target

To achieve the goal, the firm hopes to respond to consumers who claim that organic food products are expensive, sometimes not fresh enough, not easily available and lack variety. The firm said it will aim at offering organic food items that are as fresh as other farm products with prices that will allow daily purchases by families with children, with variation that will let customers make a day’s meal solely with organic foods.

In order to realize such plans, the firm is working on strengthening partnership with organic farmers nationwide to support them in introducing and sharing innovative technologies and expanding their farm size to achieve higher yields, stable supply and lower cultivation costs. The following are the actual measures taken by Aeon.

(a) Creating an association of producers and purchasing the full amount

In meeting the sales target, the firm needs to increase the number of contract growers by five times from 215 in 2017 and expand the contract acreage by 10 times from 133 hectares in 2017. The firm is working with local governments, organic farmers’ groups of agricultural cooperatives and wholesalers of regional wholesale markets nationwide to create an association of organic farmers and expand supply areas.

The firm offers training and technical guidance to the farmers by making use of knowhow accumulated at 21 farms directly managed by Aeon Agri Create Co., Ltd., all of which have acquired the GLOBALG.A.P certification and three of which are certified under the organic JAS system.

The firm also signs direct contracts with farmers and farmers’ associations on planned orders, planned production and full amount purchases to secure stable supply and reduce production costs. As for the variation of items, the firm plans to increase supply areas of

vegetables used in salads which are selling well.

(b) Improving distribution efficiency

As organic farmers join associations in their respective regions, they can simplify the process of distributing their products through delivering jointly or using wholesale markets and Aeon's distribution channels. By doing so, Aeon can cut distribution costs and secure organic products as fresh as other farm produce.

Furthermore, Aeon's distribution center in Narashino, Chiba Prefecture, obtained an organic JAS certification for re-packing products so that the firm can pack pre-cut organic vegetables, such as Chinese cabbages cut in half, for sale.

(c) Creating an organic food brand and a section for organic farm produce

In April 2017, Aeon reorganized the Topvalu Green Ai (TOPVALU Gurinai) series, its private brand for farm products and processed foods grown organically or with reduced pesticide use, and created Topvalu Green Ai Organic, a brand specifically for organic farm produce.

The firm created a section specially for organic products at vegetable sections in its supermarkets and a separate brand and section for products grown with reduced use of pesticides.

It had an organic vegetables section at 309 stores as of February 2018 and had plans to increase the number of such stores to 600 by February 2019.

In June 2016, Aeon established Bio c'Bon Japon Co., Ltd., a joint venture with an operator of French organic supermarket Bio c'Bon SAS. The firm opened 11 organic supermarkets in Tokyo and Kanagawa Prefecture by April 2019 and plans to increase the number to around 50 in the next few years.

3.2 Oisix ra daichi aims to lead the organic farm produce market

a. Merger of Oisix Inc. and Daichi wo Mamoru Kai

In October 2017, an online organic food supplier Oisix Inc. and Daichi wo Mamoru Kai, a pioneer of members-only organic food delivery service, merged, and in October 2018, a major home delivery service firm Radish Boya Co. joined to establish Oisix ra daichi Inc..

The move was aimed at the three top organic food delivery firms merging to lead the industry and boosting the organic foods market in Japan. The merger resulted in creating a firm with total sales of 60 billion yen (the sales of organic farm produce is unknown), 400,000 customers and 5,100 contract farmers.

With customers mainly in their late 40s to 60s, Daichi wo Mamoru Kai and Radish Boya have been known for their high-quality network of producers and distribution channels. Meanwhile, Oisix's customers are mainly people in their 20s and 30s and the firm excels in online marketing and development of products such as meal kits. The firms say the merger will help them bring together their strong points and complement one another's weaknesses.

b. Maintaining the three firms' brands

With the three firms merging, some contract farmers and customers of Daichi wo Mamoru Kai were concerned that the firm's philosophy of supporting the organic farming movement might be lost. In response, the firms decided to maintain each of their brands and cultivation standards even after the merger and plan to keep each of their characteristics — Daichi wo Mamoru Kai focusing on growers, Radish Boya focusing on future generations and sustainability and Oisix focusing on consumers — in business management.

c. Improving distribution efficiency

To improve the efficiency of distribution – one of the major hurdles in the way of expanding markets for organic farm products – Oisix ra daichi launched a project Vegeneko with Yamato Transport Co., Ltd. in October 2017 to build an open platform that provides one-stop service from ordering to delivery.

As a first step, they began providing a system solution in February 2019 that largely simplifies procedures for receiving orders and creating business forms. In the future, they plan to offer a system that will make it easier for growers and retailers to make shipping adjustments and design a platform where digital data can be shared among growers and distributors to increase the efficiency of transportation.

4. Examples of producers' efforts to boost cultivation and sales of organic farm produce

This chapter will look at two cases – JA Tajima and Maruta Co., Ltd. – to reveal factors behind expansion of cultivation and sales of organic farm produce through interview surveys.

4.1 JA Tajima – eco-friendly rice production to provide habitat for white storks

a. History

In 1992, Hyogo Prefecture and the city of Toyooka started efforts to lure Oriental white storks to the city's paddies, and in 2002, a project team was created in the Hyogo Prefectural Government's branch in the Tajima region to tackle issues that led to the species' extinction in Japan, including the use of pesticides and the lack of creatures for storks to feed on.

At the same time, some farmers in the district where the white storks were to return volunteered to form an association and started a trial of rice cultivation with reduced use of agrochemicals and without the use of chemical fertilizers.

In 2005, a guideline for farming with biodiversity considerations, including a type for reduced use of agrochemicals and one for chemical-free cultivation, was set with a clear definition and requirements, and was named a "white stork-friendly farming method."

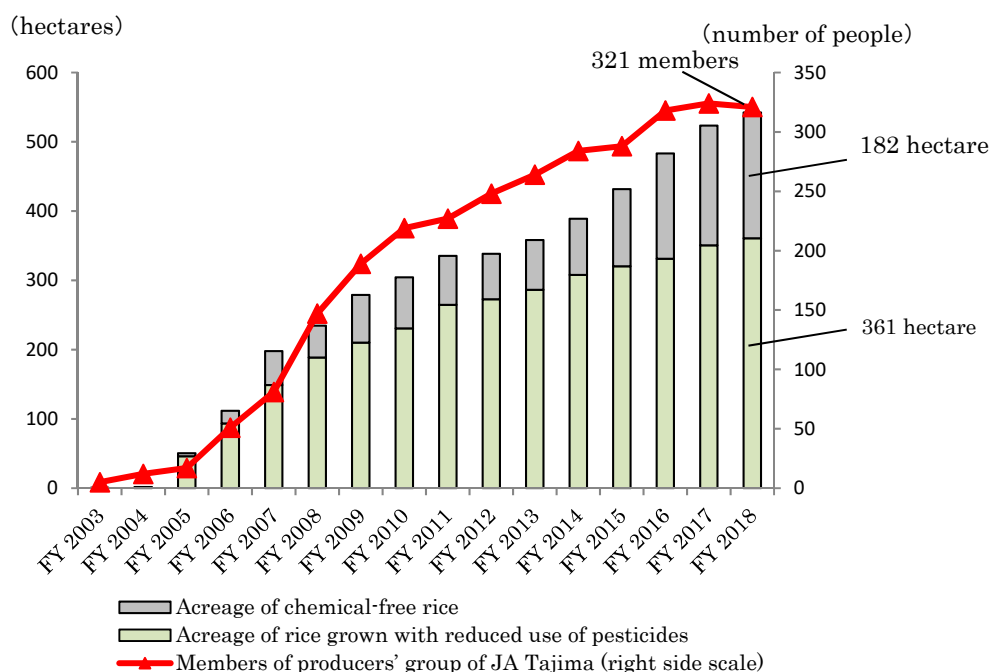
In the process, the farmers' association explained to JA Tajima, a local agricultural cooperative, the need for the whole of the Toyooka city to adopt the farming method to create an environment where humans and storks can live together. And in order to make the attempt sustainable, the farmers stressed that it is necessary to create an eco-friendly rice growing region and expand sales channels. As a result, a rice producers' group adopting the method was launched under the farm coop in 2006.

In 2007, rice farmers in the whole of the Tajima region covered by JA Tajima – the cities of Toyooka, Yabu and Asago and the towns of Kami and Shinonsen – began adopting the farming method, and in 2009, the producers' group was reorganized into an organization with five branches in the region.

b. Expansion in rice acreage and the number of growers

Rice farming using the white stork-friendly method has been increasing in acreage after the trial cultivation which started in 2003 (Figure 6). The total acreage for such rice harvested in the Tajima region in 2018 reached 542 hectares – 361 hectares with reduced use of agrochemicals and 181 hectares chemical-free – and the population of storks living in the wild rose to 141.

Figure 6 Acreage of rice grown under the white stork-friendly farming method



Source: The Hyogo Prefectural Government's Tajima branch

(NOTE 1) The total acreage covers areas in the whole of the Tajima region comprising the cities of Toyooka, Yabu and Asago and the towns of Kami and Shinonsen.

(NOTE 2) The total acreage includes rice grown by farmers who don't belong to the white stork-friendly rice producers' group of JA Tajima. The acreage cultivated by members of the producers' group totaled 468 hectares (332 hectares for rice grown with reduced use of pesticides and 136 hectares for chemical-free rice), occupying 86 percent of the total.

Out of the total acreage in Tajima, 468 hectares were cultivated by members of the producers' group of JA Tajima, with 332 hectares grown with reduced use of agrochemicals and 136 hectares chemical-free, occupying 86 percent of the total.

Most of the rice cultivated there are Koshihikari brand, with other rice including varieties for sake or rice flour.

Members of the producers' group have increased year by year, reaching 321 in 2018, out of which 115 are growing rice chemical-free. The average acreage per producer is slightly over a hectare, but those high on the list in terms of acreage are agricultural corporations and village-based farming organizations.

Farmers using the method have to raise seedlings for 10 days longer than usual so that they won't be taken over by weeds, so they plant rice half a month later than others. Taking advantage of this characteristic, many large-scale farmers adopt a cropping system with difference in planting time for usual rice, rice grown with reduced use of pesticides and chemical-free rice to divide the workload. Since soybeans can also be grown using the method, some farmers rotate soybeans and rapeseed with rice.

c. Factors behind expansion in production and sales

(a) Organized production management

JA Tajima signs a cultivation and shipping contract every year with each of the white stork-friendly rice producers based on an annual sales plan, and the contracts include detailed descriptions such as the name and area measurement of each rice field block.

To secure traceability, a flag is set up on fields where rice is grown using the white stork-friendly method, and JA officials go around the rice paddies to check whether they meet the requirements to be qualified as being managed under the method, such as being watered even during winter to provide habitat to a variety of species dependent on wetlands and being filled with water early in spring to prevent weeds from growing.

The farmers are obligated to submit cultivation records when shipping their products, and pesticide residue testing is conducted for both chemical-free rice and rice grown with reduced use of agrochemicals.

Because the group's goal is to increase production of chemical-free rice, they have a guideline to proceed from growing rice with reduced use of agrochemicals to cultivating chemical-free rice and then to being certified under the organic JAS system. As a result, the latest figures show that their rice grown with reduced use of agrochemicals use 85 percent less pesticides than normally grown rice in the region, lower than their own rule of 75 percent less.

(b) Technological improvement and guidance in coordination with local authorities

As for technology regarding rice production, JA Tajima and the Toyooka Municipal Government both have a cultivation manual of their own. In addition, the local government, the farm coop and experienced farmers meet every year to discuss how to improve technologies in rice production.

Furthermore, in an effort to nurture farmers who will take leadership, the Hyogo Prefectural Government's Tajima branch created a training course in 2008 to foster advisors of the white stork-friendly farming method. In 2012, an association was set up by local authorities, JA Tajima and farmers qualified as advisors, with an agricultural extension service office in Toyooka serving as a secretariat, to conduct research on the farming method at test fields, hold seminars and give guidance to young farmers.

(c) Full-amount purchases at prices that ensure economic sustainability

Rice grown by the producers' group is collected entirely by JA Tajima and is sold under the brand name Konotori Hagukumu Okome (white stork-friendly rice), a trademark registered and managed by the city of Toyooka. The yield for the brand is lower than that for normally-grown rice, but in order to make growers secure enough profits to continue production, the farm coop purchases rice grown with reduced use of agrochemicals at a price 20 percent higher than normally-grown rice and chemical-free rice at a price 50 percent higher, based on negotiations with both the producers and buyers such as food companies.

Other than the white stork-friendly rice, JA Tajima sells 19 different types of Koshihikari brand rice, classified according to producing areas and ways of cultivation. To deal with a variety of rice products, the farm coop built a joint grain drying and storage facility Konotori Country Elevator in 2015.

The facility has 88 storage driers, each of which can store 50 tons of rice, so it can respond to a variety of sales channels, and 120 smaller-lot storage driers that can store 1 ton each to allow farmers to dry their rice individually. The facility, which uses eco-friendly near-ambient temperature and dehumidifier drying, can accept 4,350 tons of raw unhulled rice a year.

(d) The whole district working together to expand sales channels

The total sales of white stork-friendly rice in fiscal 2018 was 490 million yen, out of which 320 million yen was rice grown with reduced use of agrochemicals and 170 million yen was chemical-free rice. It was sold mainly in the Kansai region, with 70 percent purchased by mass retailers, 20 percent by co-op stores, 5 percent through online and 5 percent by others including farmers' stores and to be used for school lunches.

Since the rice is sold at prices higher than those for normally-grown rice, it is important to let consumers recognize the significance of growing rice while protecting biodiversity and nurturing white storks in order to boost sales.

In order to promote rice which is friendly to both humans and nature, farmers, farm coop officials and local authorities of the district are working jointly to expand sales channels.

As an example, to promote the rice at Ito Yokado stores, an association was launched in 2009 by the city of Toyooka, JA Tajima, a producers' group of the farm coop, ZEN-NOH Pearl Rice Corp., wholesaler Toho Bussan Kaisha, Ltd. and Ito-Yokado Co., Ltd. They meet regularly to discuss sales strategies.

Sales personnel of JA Tajima can explain to consumers the efforts of rice farmers to create habitat for white storks, and co-op stores can do so through their catalogues, but it would be difficult for mass retailers to convey the story to their customers.

They have organized various activities including providing rice planting or harvesting experiences, chances to look for creatures in rice paddies and food education classes. They said they think the most effective way to appeal to consumers is to hold environment education classes for elementary and junior high school students. In that way, students will tell their parents about the story of protecting the environment and coexisting with white storks.

They also stress the importance of raising consumer awareness of the district and the rice brand through multilayered promotion efforts by the farm coop and local authorities.

d. Further strengthening the brand – obtaining GLOBALG.A.P. and organic JAS certification

As part of efforts to further strengthen the white stork-friendly rice brand and boost its sales in the Kanto region, JA Tajima set a goal of obtaining GLOBALG.A.P. certification in its medium-term plan for 2020.

The certification will prove the safety and environmental sustainability of the rice, qualifies the product as a food item that can be served at the Tokyo 2020 Olympics and Paralympics and can lead to expansion of its sales overseas.

With cooperation from two experienced farmers and two young farmers, JA Tajima obtained a group GLOBALG.A.P. certification for the chemical-free white stork-friendly rice in January 2018 and also an organic JAS certification.

In August 2018, JA Tajima started exporting organic JAS-certified rice to Australia. The farm coop has been cooperating with Hyogo Prefecture and the city of Toyooka to explore sales channels also in Hong Kong, Singapore, the United States and Dubai. Although still small in terms of volume, the exports have increased from 1.5 tons in fiscal 2016 to 8.2 tons in fiscal 2017 and 17.1 tons in fiscal 2018.

4.2 Maruta – a group of producers focusing on organic agriculture

a. A network organization of professional farmers

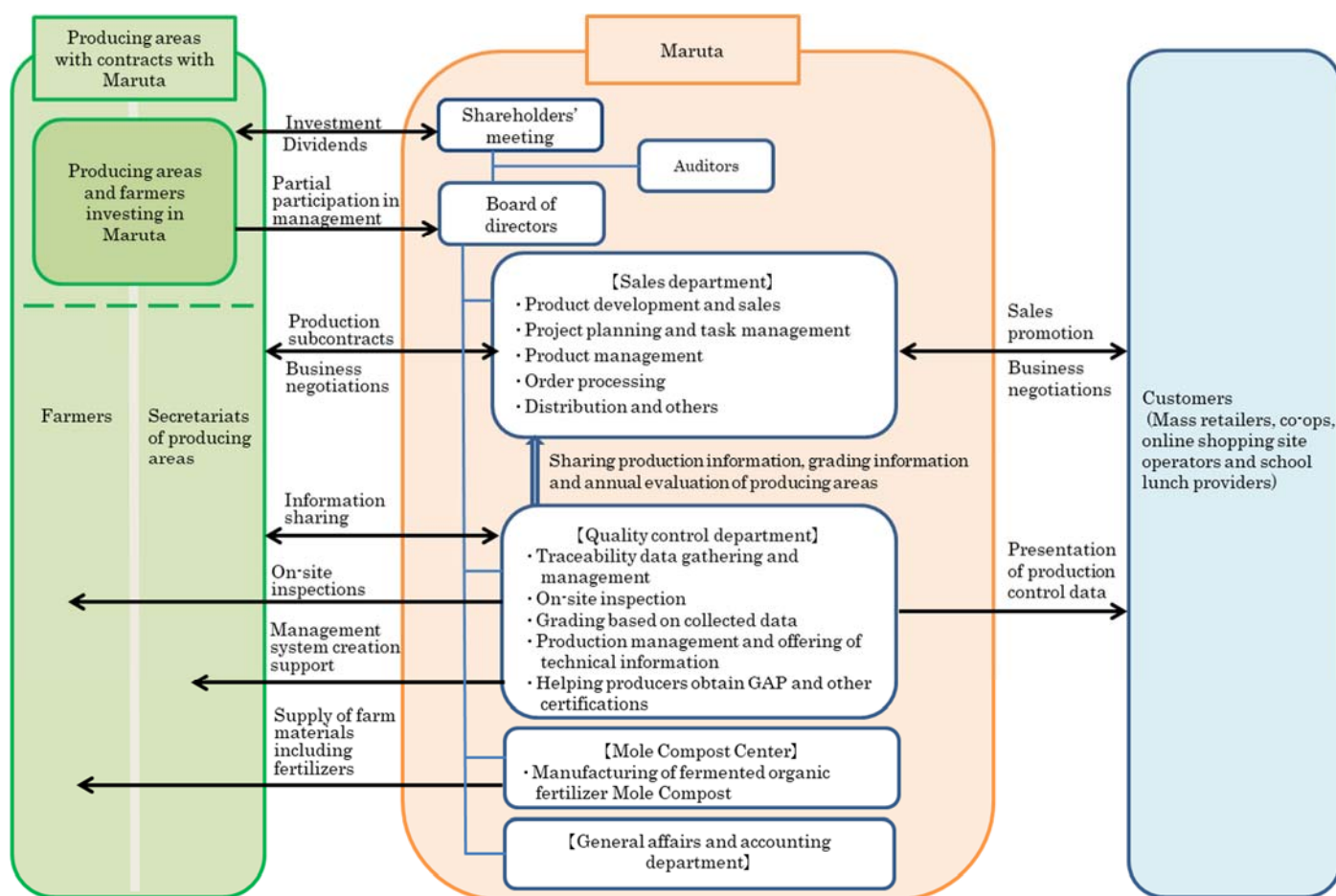
Maruta is a fruit and vegetables wholesaler established in 1975 by a group of citrus farmers in the southern Kyushu region as an association of producers focusing on organic farming. The company is located in Tokyo's Chiyoda Ward with 44 employees, a capital of

177 million yen and annual sales of 7.25 billion yen in fiscal 2017.

Any farmer or a producers' group nationwide, who agrees to Maruta's philosophy of aiming at sustainable organic agriculture with special attention to creating good soil and good-tasting products, can join the firm. The firm's shareholders comprise producers and producing regions of agricultural items, and representatives of producing regions' agricultural associations serve as the firm's executives (see Figure 7).

Currently, the firm has contracts with some 220 producers' groups including 1,600 farmers, providing a network of professional farmers in their mid-50s in average, running relatively large-scale farms or agricultural corporations, as well as agricultural cooperatives in some regions.

Figure 7 Maruta organization chart



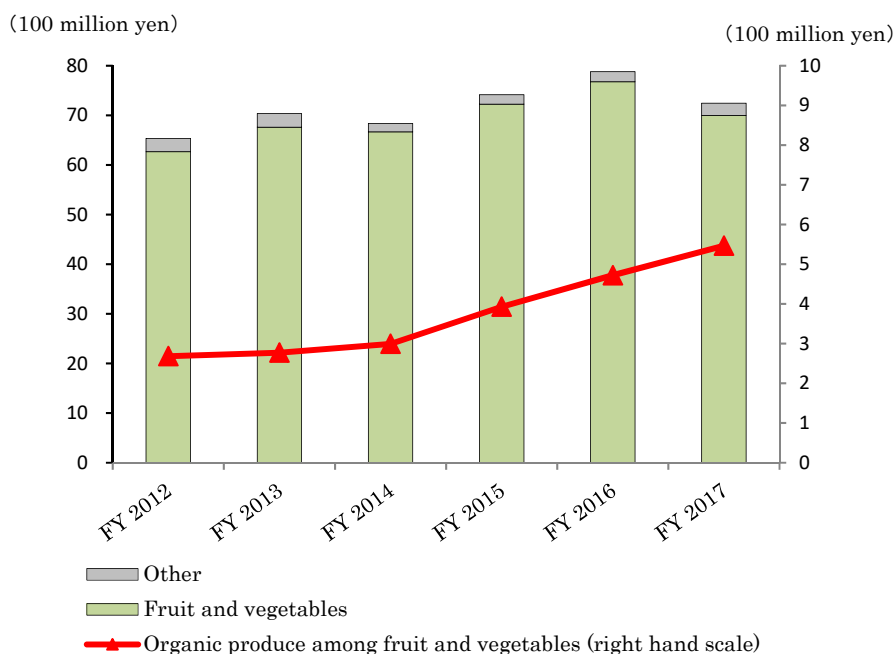
Source: Maruta

b. Maruta's strengths

The firm's sales, mainly of fruit and vegetables, have increased from 4 billion yen in fiscal 2008 to 5 billion yen in fiscal 2011, 7 billion yen in fiscal 2013 and 7.25 billion yen in fiscal 2017. Within the total sales, the sales of organic farm products have shown double-digit growth since marking 300 million yen in fiscal 2014, reaching 550 million yen in fiscal 2017 (see Figure 8).

The following are the factors behind the expansion in sales.

Figure 8 Maruta's sales



Source: Maruta

(a) Producers exchanging information on technological innovations

The producers' network is utilized to organize conferences and seminars on national and regional levels so that farmers can share information on production technology and agricultural management to improve their business.

The firm also offers to its members Mole Compost, a fermented organic fertilizer that it developed and manufactured as a key material for creating good soil and good-tasting farm produce.

(b) Harvesting season relayed from region to region to provide farm produce throughout the year

Using its nationwide network of producers, the firm has established a system of securing stable supply of farm produce – including potatoes, carrots, onions and tomatoes – throughout the year by obtaining them from regions with different harvesting seasons, ranging from Hokkaido to Okinawa.

The network provides not only a seamless supply chain in terms of shipping schedule but also an advantage of being able to offer a variety of organic items grown by professional farmers based on unified product control standards in response to the needs of customers.

The firm's major customers include mass retailers which sell the farm produce as private-label products under their own production and quality control standards and co-op stores which sell them as products which can be traced to the origins. In fiscal 2017, sales to retailers occupied 62 percent of the total, followed by 16 percent to co-op stores and 10 percent through online shopping.

(c) Uniform management of cultivation information

The firm's quality control department has created an integrated IT system to manage information on crops and production history for all the farmers entrusted with supplying products, so that it can keep track of the conditions of each crop. The system enables the firm to guarantee the safety of the products and make production and sales plans.

The department also conducts on-site inspections every year to check the management situations at producing regions and give advice, as well as offering support for obtaining GAP certification.

(d) Making farmers economically sustainable

The firm signs a basic transaction contract with farmers and buys farm produce under prices requested by the producers so that they can secure income. The firm conducts price negotiations with its customers based on the prices paid to producers.

The firm's gross margin, which can be regarded as sales commissions, is roughly 5 to 6 percent, which is lower than that of other buyers, working as an incentive for farmers to increase shipments to the firm.

c. Challenges facing the firm in boosting sales

Currently the supply of domestically-grown organic farm produce is said to be insufficient to meet the demand of retailers. In such a situation, the firm believes there is a need to create more producing regions by utilizing its network and matching suppliers and sellers. As for producers, in order to secure stable supply capabilities, the firm thinks it is important for them to improve the yield and quality of their products and make efforts to cut costs. It encourages farmers to choose appropriate varieties that can work best on their farms and adopt new technologies, based on latest research results in areas such as soil microbes, in cooperation with local authorities and research facilities.

Regarding product development, the firm says it is necessary for organic farmers to work together with processing companies to develop processed food products to meet consumers' increasing needs for pre-cut vegetables, frozen food and precooked food along with changes in their eating habits, including shorter cooking times and eating alone.

One successful example is efforts by farmers in Miyazaki Prefecture to produce organic carrots for sale as frozen food. Choosing a variety which is good for both processing and eating raw, they grow more than 80 percent of the carrots into the largest 2L size during autumn and winter when the vegetable is in season. As a result, they managed to harvest as much as 6 tons per are even with organic farming, compared with the usual amount of 2 to 3 tons.

They could reduce the unit price by increasing the yield, and they can provide year-round supply by freezing, processing and storing the products. The rest of the carrots – less than 20 percent of the total yield – are grown into sizes between L and S and are shipped raw.

In April 2019, the firm launched a project team to develop processed food products from such vegetables and create a value chain involving production, processing and distribution of the products.

4.3 Challenges facing farmers

The cases of JA Tajima and Maruta indicate two factors that producers need to work on to expand the market of organic farm produce.

a. Creating an association of producers and a uniform production management system

First of all, both JA Tajima and Maruta have created an association of producers and a

uniform production management system to secure stable supply in terms of quality and quantity.

JA Tajima launched a producers' group for one item, the white stork-friendly rice that started from scratch. It cooperated with local authorities to make the whole district a producing region of the rice by developing cultivation technology and offering technical guidance to growers.

The farm coop managed to obtain stable supply of the rice in terms of quality and quantity by uniformly managing producers' data, including cultivation standards, production plans and cultivation history.

Meanwhile, Maruta created a network of professional farmers nationwide for a variety of vegetables so that the members can share information to improve their production techniques. The firm also uniformly keeps track of information on each of the crops and secures stable year-round supply by utilizing the network and obtaining products from different parts of the nation with different harvesting seasons.

b. Securing sustainable prices and developing value-added products

Secondly, both JA Tajima and Maruta are purchasing products from farmers at prices that allow them to be economically sustainable. This is possible because of the previously mentioned uniform management system that enables them to keep track of all the data related to producers and match them with customers' demands.

Moreover, they have been making efforts to improve the value of their products to boost sales. JA Tajima worked to strengthen the brand value by obtaining GLOBALG.A.P and organic JAS certifications, while Maruta is developing new producing regions and organic processed food products to respond to consumer needs.

■ Afterword

The 3rd Organic Lifestyle EXPO, held by Organic Forum Japan in September 2018, attracted 24,542 visitors. The number of visitors is steadily rising from 19,790 in the first expo in 2016 and 22,992 in the second expo in 2017, reflecting increasing awareness toward leading an organic lifestyle, not only eating organic foods but also using organic products in cosmetics and fashion.

Aeon's strategy in distribution of organic farm produce and creation of Oisix ra daichi can be regarded as their means to secure suppliers, seeing business chances in the organic food market. But such moves by the top mass retailer and the top organic food delivery service firm will definitely lead to improving efficiency in distribution of organic products, which has been a challenge, and to increasing places and opportunities for consumers to buy organic farm produce easily.

While expansion of the organic food market is highly expected in terms of consumption and distribution, it is necessary for producers to work on creating their own network. As the agriculture industry is facing serious shortage of workers, producers have to seek people who will keep the business going and attract beginning farmers in order to maintain their associations.

According to the results of a fiscal 2016 survey on beginning farmers conducted by the National Chamber of Agriculture's consultation center for beginning farmers, 26.7 percent of new farmers are engaging in organic farming and there are many people wishing to start agricultural business as organic farmers.

Looking at cases of JA Tajima and Maruta, it is clear that in order to make new farmers maintain their business, producers' groups and agricultural cooperatives, along with local authorities, should support them by offering technical and management guidance, as well

as providing a scheme that allows them to be economically sustainable.

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