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Report Name: Gradually Evolving Market for Plant-Based Meat Substitutes

in Japan

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Report Highlights:

This report provides an overview of recent trends in Japan's expanding market for plant-based meat alternatives. These products are typically derived from ingredients such as soybeans, wheat, peas and broad beans. In recent years, an increasing number of Japanese food manufacturing and startup companies have launched new plant-based products to provide an alternative to animal-based protein sources.

Market size, Trends, and Regulations

1. Market Size

Japan's population of vegan and vegetarian consumers is relatively small, compared to many other developed countries (see <u>Japan Tourism Agency - Ministry of Land, Infrastructure, Transport and Tourism</u> (in Japanese only)). Nevertheless, in response to growing health and environmental awareness, the demand for plant-based protein sources to replace, at least in part, animal-based meat and dairy products is on the rise. Industry sources estimate Japan's 2021 market for plant-based protein ingredients, including traditionally consumed tofu and soy milk, was valued at approximately \$323 million¹ (or 45.23 billion Japanese yen), a 14.2 percent increase compared to 2019. Industry estimates for plant-based meat alternative market in Japan in 2025 reach \$29 million (4.0 billion yen) from approximately \$18 million (2.5 billion yen) in 2022. The number of plant-based meat and dairy alternatives offered at both the food service (e.g., restaurant) and retail (e.g., supermarket) sectors is rapidly expanding. According to <u>Nikkei POS data</u> (available in Japanese only), the number of plant-based meat-like products (including products with some animal-based ingredients) sold in supermarkets increased from 71 products in 2019, to 93 products in 2020, and to 157 products by November 2021.

According to industry sources, isolated soy protein, a dry, tissue-like soy protein widely used in processed foods such as hamburgers and *shumai* (Chinese dumpling), production is typically used to estimate plant-based alternative meat consumption in Japan. In 2022, Japan's isolated soy protein production reached 36,703 metric tons (MT) through a compound annual growth rate of 3.8 percent from 2010 (Figure 1).

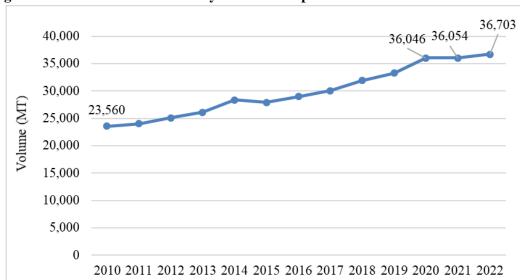


Figure 1. Production of Isolated Soy Protein in Japan

Note: The data includes 1) imported food-grade soybean meal, 2) domestically produced food-grade soybean meal, and 3) imported or domestically produced food-grade soybeans as ingredients.

Source: Plant Based Food Association

During the same period, imports of plant-derived proteins, which include isolated soy proteins, grew 66 percent, from 21,169 MT in 2010 (\$90 million) to 35,059 MT (\$149 million) in 2022 (Figure 2). For more information on Japan's soybean imports and production, please see the <u>Japan Oilseeds Annual (JA2023-0031)</u>.

¹ The exchange rate used throughout the report is \$1=140 Japanese yen (JPY).

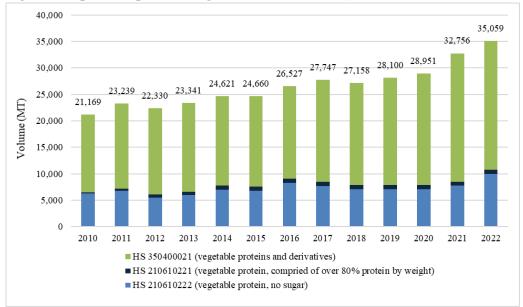


Figure 2. Japan's Imports of Vegetable Proteins by Type

Source: Trade Data Monitor

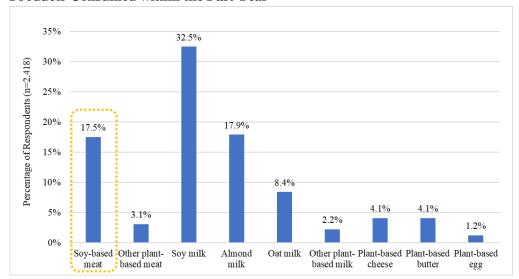
2. Trends

Given Japan's long history of consuming soy-based products such as tofu, natto (fermented soy beans) and miso (JA2021-0040), the majority of plant-based meat products marketed in Japan are soy-based, in comparison to <u>U.S.</u> and <u>EU</u> markets, where a greater range of plant-based protein products (e.g., pea protein) is used. Vegewel, a Japanese website focused on the dissemination of information related to plant-based products and restaurants, conducts regular online surveys of Japanese consumers about plant-based foods. In their <u>most recent online</u> <u>survey</u> (available in Japanese only) in January 2023 (Figure 3), 17.5 percent of respondents stated that they had eaten a soy-based meat substitute, while only 3.1 percent had eaten a non-soy plant-based meat substitute.

Despite calls from some organizations such as the Japan Tourism Agency under the Ministry of Land, Infrastructure, Transport and Tourism, to increase vegan and vegetarian options by Japan's food and beverage industry to better cater to inbound tourists with diverse food habits, many restaurants and fast-food chains only offer vegan and vegetarian items on a seasonal or limited basis. Industry insiders note that by value Japan's market for plant-based meat substitutes is less than 0.5% of the traditional meat product market.

Historically, Japanese manufacturers positioned plant-based ingredients as a cheaper alternative to meat, in particular minced meat, and used ingredients, such as soy protein, in processed meat products to improve texture and lower costs. "Hybrid" meat-like product, which combine animal-based and plant-based ingredients, are still readily available. However, now these products are typically marketed as a healthier alternative (e.g., more fiber, fewer calories) to an all animal-based meat products. According to the Japan Food Journal (available in Japanese only), in Japan, "compared to the United States and Europe, where the vegetarian and vegan population ratio is high and environmental education is fundamentally different, reasons for purchase such as "complete replacement (of animal meat)" and "environmental consideration" (among consumers) are very small". According to the Japan National Tourism Organization, as of 2018 (latest data available), approximately 4 percent of the Japanese population are either vegan or vegetarian (Source: Japan National Tourism Organization).

Figure 3. Results of the January 2023 Web-based Survey of Japanese Consumers on Plant-based **Products Consumed within the Past Year**



Note: The total number of respondents was 2,418.

Source: Vegewel

Over the last 50 years, the daily average protein intake in Japan decreased while fat consumption, particularly of animal fat, has increased, as Japanese consumers shifted towards a Western-style diet, eating less traditional plantbased foods rich in protein such as tofu and natto (Figure 4, 2019 is the latest available data as no surveys were carried out in 2020 and 2021 due to the COVID-19 pandemic). As health awareness increases, more Japanese consumers try to limit their fat intake and choose to incorporate more fiber and plant-based fats and protein.

40%

2018 2017

2019

90.0 100% Percentage of protein intake from animal-based foods (%) 81.5 80.0 80.0 71.4 90% 70.0 59.9 Average daily intake (grams) 60.0 80% 50.0 70% 40.0 30.0 56% 20.0 53%

2009 2010 2012 2013 2014 2015 2016

---- % of fat from meat, poultry, fish, eggs, dairy

2011

Figure 4. Average Daily Intake of Protein and Fat in Japan (1975-2019)

2003

2005

Source: Ministry of Health, Labour and Welfare

---- % of protein from meat, poultry, fish, eggs, dairy

49%

Protein

1975 1980

10.0

0.0

3. Market Players

Japan's plant-based alternative meat industry includes trading houses, oilseed crushers, meat processors, food manufacturers, health food manufacturers, and start-up companies. Oilseed crushers and trading houses mainly source ingredients, such as food-grade soybeans or defatted soybean meal, from domestic and foreign suppliers (primarily from the United States and Canada). Oilseed crushers then sell their products to protein manufacturers, who then sell the intermediate products to consumer-oriented food manufacturers (Figure 5).

With the exception of some protein manufacturer start-ups like DAIZ Inc. that produce consumer-ready plant-based meat alternatives in-house, the majority of food manufacturers in Japan source plant-based protein ingredients from manufacturers of intermediate products. It is noteworthy that nearly all major Japanese meat processors have to date released plant-based meat alternatives, which frequently are placed alongside animal-based meat products on retail shelves. In addition to domestically produced plant-based meat alternatives, some of these products are imported (e.g., Beyond Meat, which launched in Japan in November 2022).

Producers
(e.g. food grade
soybeans)

Manufacturers of
Intermediate goods
(e.g. soy protein)

Overseas Food
manufacturers

Overseas Food
manufacturers

Figure 5. Supply chain of Plant-based Meat Alternatives

4. Government Efforts

In August 2021, KONO Taro, then Japan's Minister of State for Special Missions of the Cabinet Office, announced at a press conference that the government would prepare a "Q&A on the Labeling of Plant-Based Foods, etc." to clarify plant-based food labeling (the resulting document was a Q&A on Labeling of Plant-Based Foods, etc.). Noting the growing interest in new food technologies and environmental footprint in response to health and environmental concerns, Minister Kono stressed the need for clear labeling of plant-based foods to keep up with the market developments (Cabinet Office Press Conference Summary).

On February 24, 2022, the Ministry of Agriculture, Forestry and Fisheries (MAFF) established a new Japanese Agricultural Standard (JAS) for Textured Soy Protein Products. The standard defines the requirements for two food products, "Soy meat" (no animal-based ingredients) and "Processed soy meat products" (use of animal-based ingredients is limited to dairy and eggs) (JA2021-0149 Japan Proposes New JAS Standards for Textured Soy Protein Products). Since then, some manufacturers have changed the ingredients of their products to meet the new JAS standard.

On September 6, 2022, MAFF also established JAS standards for vegetarian and vegan processed foods and food service. and defined the following four categories: "processed food suitable for vegetarians who eat eggs and

dairy products (Lacto-Ovo Vegetarians)", "processed food suitable for vegetarians who eat eggs (Ovo-Vegetarians)", "processed food suitable for vegetarians who eat dairy products (Lacto-Vegetarians)" and "processed food suitable for vegan" (Vegan) (JA2021-0089 Japan: Voluntary Government Standards for Vegetarian and Vegan Food).

5. Implications for U.S. Agriculture

To supply the expected continuous growth of the plant-based alternative meat demand in Japan, Japanese soy protein manufactures will continue to seek stable suppliers of food-grade soybean and soybean meal. Given specifics of the Japanese market and Japan's tradition of consuming plant-based protein products (e.g., tofu, natto, miso), the manufacturers may prefer specific soybean varieties. As sustainability and environmental impact of livestock production have become of interest to some Japanese consumers, Japanese importers may require sustainability certification of plant products.

Meat consumption continues to grow in Japan (2022 Japan Livestock and Products Annual) so FAS Japan anticipates very limited competition of plant-based foods with traditional meat products and a slower growth of the plant-based alternative meat demand, compared to the U.S. and EU markets.

For more information on Japan's import requirements and standards, see <u>JA2022-0079</u>. For information on Japan's certification requirement, please see <u>JA2022-0080</u>.

Attachments:

No Attachments.