

# LIQUID GOLD: JAPAN'S PRODUCTION & EXPORT OF SOY SAUCE AND SAKE

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## ABSTRACT

The Japanese agricultural industry and an exceptionally wide variety of Japanese industries are seemingly at a perpetual crossroads. This intersection includes modern manufacturing techniques and a dedicated commitment to the historical and cultural authenticity that each industry and manufacturer represents. The production and exportation of soy sauce and sake are no different. Modern manufacturing techniques have largely superseded tradition in an effort to promote prompt product generation while an increase in profit with the more complex and intricate traditional techniques still are being used in order to create a smaller, almost boutique sub-industry of elite products with prestigious ties to historical authenticity. This paper addresses one of these crossroads with a comparative analysis of soy sauce and sake production in Japan and its status as an export item of value to the Japanese economy (especially the agricultural sector of the Japanese economy).

## INTRODUCTION

Japan's agricultural industry relies heavily on two fermented soybean-based liquids: soy sauce and sake. While both are seeing a steady increase in consumption, both also face logistical challenges in meeting this growing market demand. Acknowledging that this is a very specific topic, companies around the world routinely face similar issues with production, logistics, and exports. This paper will review and address these challenges while answering the following research questions:

How can Japan continue to capitalize on soy sauce and sake as valuable trade items, especially in light of Japan's limited agricultural spaces and declining labor pool available in the agricultural industry?

Will international imports of these goods be enough to encourage a development in production practices, or are these two products at a plateau in their production and distribution?

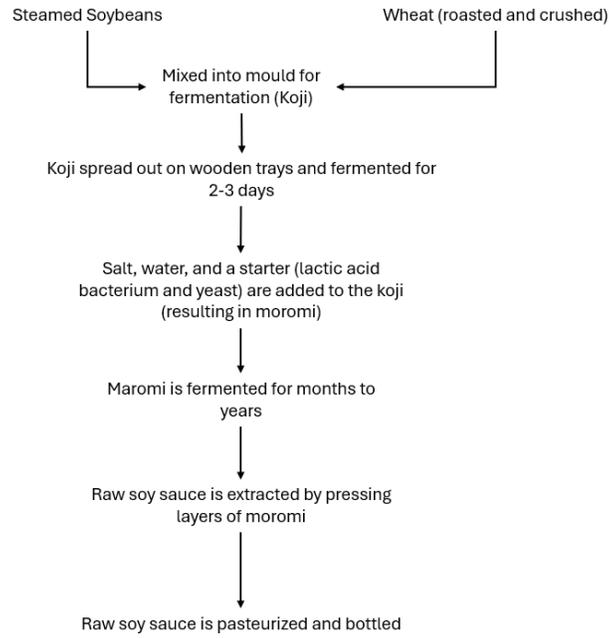
## **CULTURE AND PRODUCTION CAPITALIZATION**

The expansion of the Japanese economy in the 1980s saw a like expansion in the export of Japanese made goods. With the continued export and rise in the importance of pop culture, Japan took position as an important cultural influence on the West. With this new importance comes an emphasis on what constitutes the cultural foundations of a place. Japan emphasizes a melding of traditionalism and an expansion of modern technology (Luo, 2024). This unique combination of cultural emphasis has led to a heightened intercultural competence (Luo, 2024). Organizational success based on this intercultural competence has continued to grow due to a strong heritage as soft power connection to the West and Western markets (Nakano & Zhu, 2020). The differences in cultural and intercultural communication, power distances, tightness of culture, and time orientation lend Japanese culture a uniqueness (Luo, 2024) which is appealing from a Western product/production perspective.

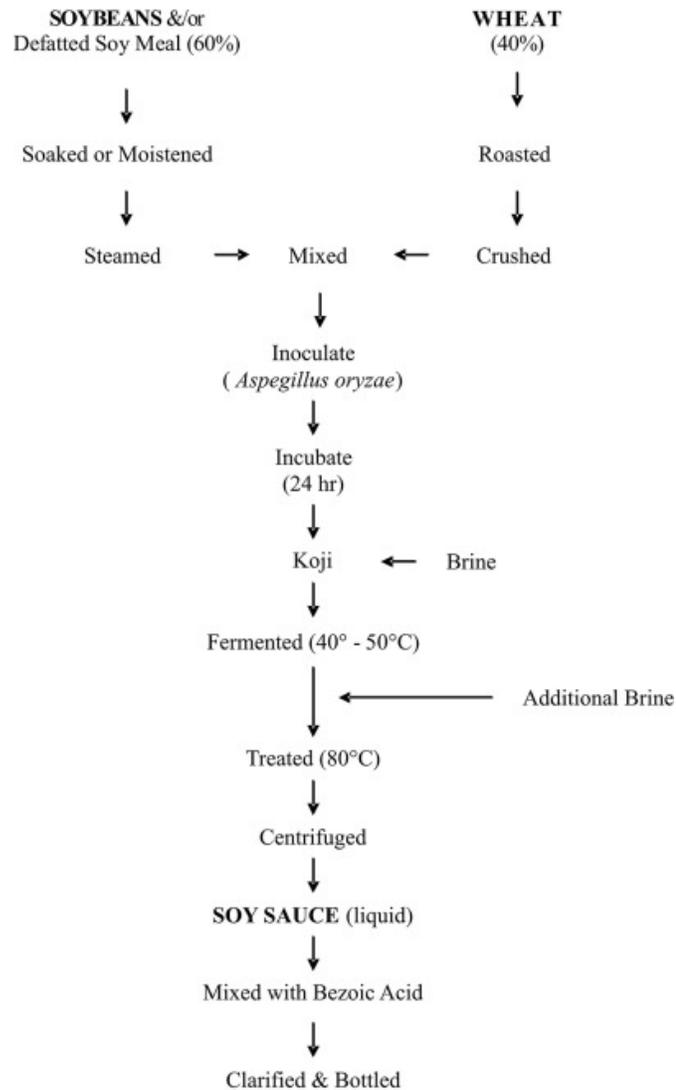
Japanese agricultural practices are directly tied into Japanese economic and energy concerns (Rahman et al., 2022). In demand food products follow seasonal and commercial trends, especially concerning festive food traditions (Daniels, 2020). These conditions set up a scenario in which traditionally manufactured Japanese agricultural products promote a local and global demand.

### **Soy sauce**

Less than 1% of Japanese soy sauce production is done utilizing traditional, multi-year wooden barrel fermentation techniques. These traditional techniques lack additives that mimic the natural aging processes of soybean fermentation, relying instead on large wooden barrels and constant supervision to develop flavors naturally (Figure 1). This, of course, takes up a great deal of time, space, and resources. Barrels must be built by hand to specification, floorspace and employee time is used in order to store barrels during fermentation and to learn and employ specific skillsets (Ito & Matsuyama, 2021), and money must be spent on high quality ingredients and training for employees in lieu of using chemical additives (Figure 2) to compensate for lower quality ingredients and a dearth of attentive and specialized labor.



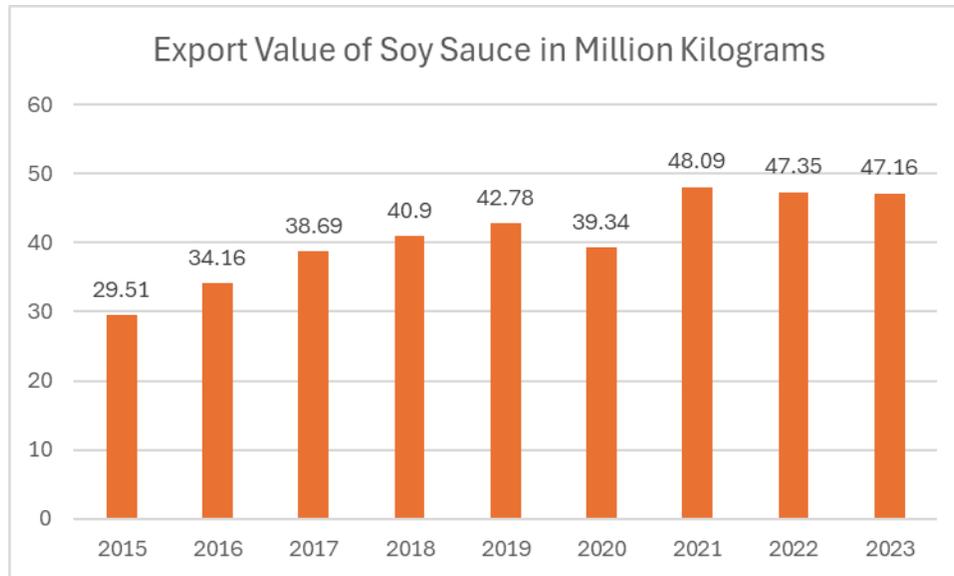
**FIGURE 1**



**FIGURE 2**

Taking the above into account, one can easily see the impetus to make soy sauce quickly and efficiently and to a passable quality. Soy sauce accounts for approximately 9 billion yen (almost 10 billion yen as of 2022, Figure 3) in export value for the Japanese economy, nearly 1% total of all export value annually. There is extreme economic pressure to ensure export demands are met, and further space saving methods are utilized in the production of agricultural products; this is especially true given the limited amount of land space and available human capital in Japan.

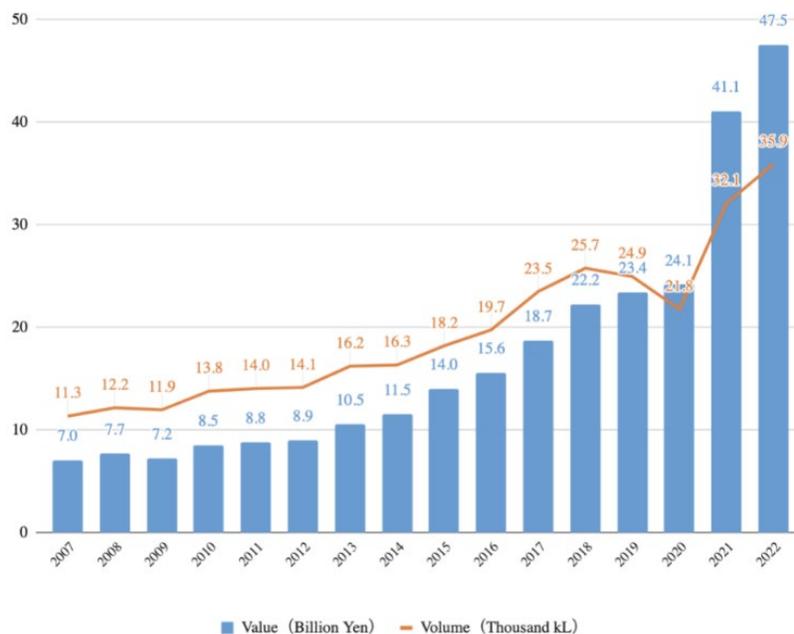
According to Hosoe and Akune (2020), “[Japan’s food] exports are far smaller than imports and are dominated by food products. This small achievement of Japan’s agri-food exportation might be an indication of strong potential for future growth.” Japan, in other words, consumes even more soy sauce than it exports, proving this an issue of domestic agriculture as much as it is one of international exports.



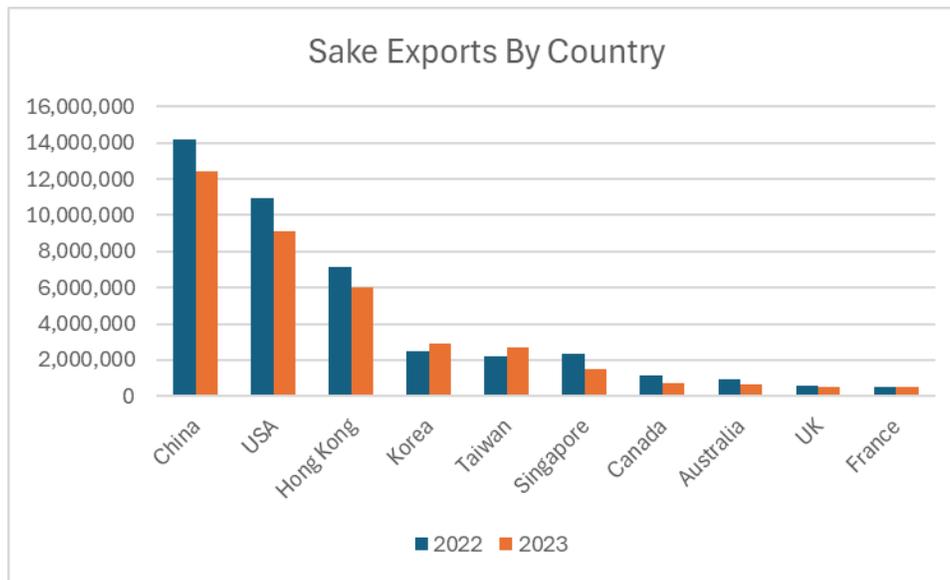
**FIGURE 3**

## Sake

Another of Japan’s fermented products lends itself to an in-depth analysis as well. Sake production and export is also a multi-billion yen industry in Japan, one that commands almost 50 billion yen as of 2022. This amount is growing year over year (Figure 4) with the United States being far and away the biggest importer of Japanese sake (Figure 5).



**FIGURE 4**



**FIGURE 5**

While Japanese consumption of sake has been in decline since the 1970s, international import has been growing (as stated above), and this growth has been compounded in recent years through the use of cross-border e-commerce (Ida et al., 2022). Importers and individuals (pursuant to local laws) can order stocks or individual bottles of Japanese sake and have them delivered directly to their stores or front doors. While the same is true for the importation of soy sauce, especially the more expensive and traditionally made brands, sake is more of a specialized item, not available in all grocery stores internationally. The ability to order it online compensates for this comparative lack in general availability as well as the decline in domestic use, an issue not faced by the nearly universal condiment usage of soy sauce within Japan itself.

## **DISCUSSION/CONCLUSION**

Capitalizing on these high performing exports faces some international competitive issues. Soy sauce isn't produced very often outside of Asia, but international production of sake is on the rise (Okuda, 2019). In response, the Japanese agricultural sector has expanded the breeding and cultivation of sake rice varieties, extending its variety and quantity to wide areas of Japan (Okuda, 2019).

According to Okuda (2019), the properties of rice (starch structure, protein inclusion, water absorption, and susceptibility to grain polishing properties) determines its unique suitability to sake production and to the production of specific types of sake with unique properties, more specifically. This is a unique advantage of the Japanese agricultural industry; the Japanese agricultural sector has the unique experience in cultivating these rice cultivars as well as the agricultural space with unique land and soil features that make the growing of these rice types

possible. As the saying goes, “bubbly wine not grown in Champagne is just sparkling,” and so it is with the unique types of Japanese sake rice.

While the consumption of sake, and alcohol in general, is divisive when it comes to health benefits (especially when consumed in excess), the documented health benefits of soy sauce are well known. Soy sauce possesses antimicrobial activity against bacteria such as staphylococcus and salmonella, contains antihypertensive components, exhibits anticarcinogenic effects (this is especially prevalent in the flavor components of Japanese style, traditionally fermented soy sauce), and exhibits mild antihistamine properties as well (Kataoka, 2005).

The above-described health benefits are leading to its ubiquity in kitchens world-wide (Sassi et al., 2021). The widespread usage of social media, especially video content of varying types, has led to an increase in the spread of cooking techniques and a general increase in knowledge surrounding ingredients. In other words, a “foody culture” has developed and continues to evolve, especially in developed nations with high technology usage and among younger generations further enmeshed in this technology usage and with a greater interest in cultural uniqueness. Home cooks want to be healthier and more diverse in their cooking.

It is the contention of the authors that Japan can continue to capitalize on sake and soy sauce exports by utilizing the above information. The cultural background of the product, and uniqueness in Japanese manufacturing due to its unique rice crops and land and soil features, allows for Sake to be treated as a uniquely Japanese product. Soy sauce can be marketed as a healthy and culturally unique product, one that is necessary in many types of authentic Asian cooking. It is a necessary but health-conscious choice for the modern, diverse kitchen.

Additionally, both soy sauce and sake have niche varieties that appeal to those seeking out the very finest in each product variety. Top-shelf sake and traditionally fermented soy sauces can command large prices, and the luxury aspect of these types of soy sauce and sake can be utilized as a marketing tool, especially in wealthier countries.

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