

Kikkoman's quarterly intercultural forum for the exchange of ideas on food



THE JAPANESE TABLE

Sake in Japanese Food Culture

The Development of "Clear" Sake

by Noritake Kanzaki

Sake, Japan's traditional brewed alcoholic beverage, is made simply from rice, water and rice koji fermentation starter. In this second installment of our series on sake and its role in Japanese culture, we consider its origins and historical development.

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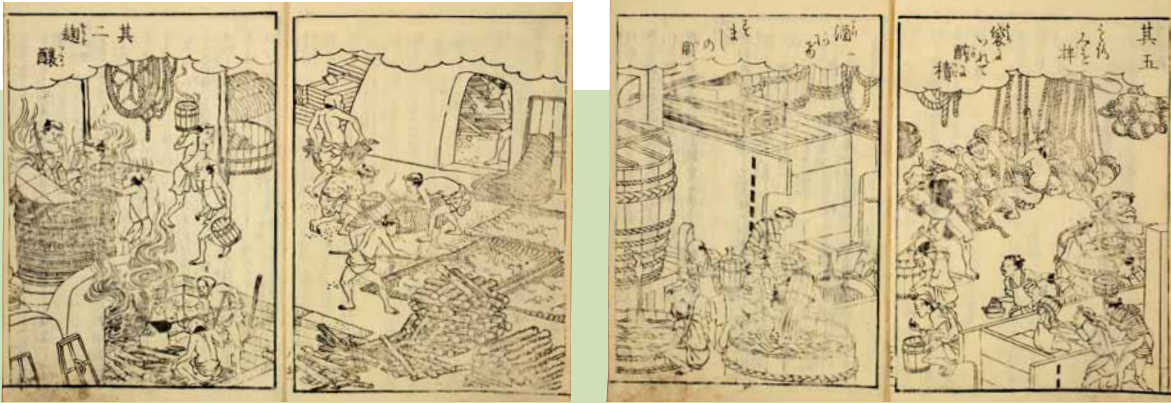
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Sake in Japanese Food Culture

The Development of “Clear” Sake



From left: Illustrations depicting the sake-making process, from steaming the rice to the making of rice *koji*; the image at right shows sake-pressing. From the book *Nihon-sankai-meisan-zue* (1830). Courtesy of Waseda University Library

Elements of Sake

Brewed alcohol made from rice has been produced since ancient times in Japan, but the drink that we know today as sake is not the same as it was centuries ago. These days, when people refer to “sake,” they mean the clear beverage known as *seishu*, considered to be the epitome of Japanese sake.

Seishu is brewed by adding *koji* mold (*aspergillus oryzae*) to steamed rice, resulting in a fermentation process that converts the rice starch to sugar. *Moto* yeast, also known as *shubo*, or “mother of sake,” is added to induce alcoholic fermentation of the sugar. This simultaneous, complex process is carefully controlled, and results in the brewing of a sweet, dry *genshu* or raw sake with a high alcoholic content, unique in the world. It is believed that *koji* mold came to be used in making sake in around the fourth century; *moto* yeast was added to the brew sometime in the sixteenth century, and from this point we can trace the origins of sake as we know it today.

Early Types of Sake

Prior to the eighth century, perhaps the most widely made rice wine was so-called overnight sake, or *hitoyo-zake*, made by allowing cooked rice or rice gruel to ferment

naturally. One type of *hitoyo-zake* was reputedly known as *kuchikami-sake*, or “saliva sake.” A poem in the eighth-century Japanese poetry anthology *Manyoshu* suggests that, to make this sake, a maiden was responsible for chewing the cooked rice, which then became mixed with saliva; indeed, the enzyme amylase in saliva converts the starch in grain to sugar. Such a chewed-up mixture ferments, and results in mild alcoholization. This form of sake likely did exist in Japan, although it is unsubstantiated: a few ancient references to this process are found in Edo-period (1603-1867) records. Early modern mention of *kuchikami-sake* can be traced to Okinawa, and “saliva sake” is recorded as having been made as late as the early twentieth century in some Pacific islands.

Records suggest that *hitoyo-zake* developed into two other types of sake: *ama-no-tamu sake* and *yashiori-no-sake*. *Ama-no-tamu sake* is mentioned in the *Nihon shoki* (“Record of Japanese history”) dating from the year 720: if we interpret *tamu* as referring to “sweet taste” or “delicious,” we may infer that this was probably a sweet sake, similar to *hitoyo-zake*. It is difficult, however, to corroborate this either historically or by the science of

fermentation. *Yashiori-no-sake* is mentioned in both the *Nihon shoki* and the *Kojiki* (“Records of Ancient Matters,”) in 712. The term *yashiori* can be interpreted as meaning “eight times pressed,” which would suggest that it was quite a strong beverage. According to ancient Japanese myth, this was the drink used by the storm god Susanoo-no-mikoto to intoxicate and slay the Eight-Forked Serpent.

Sometime following on the development of *hitoyo-zake*, another sake called *shitogi* was made from rice flour, and there are indications that it may have been used in ritual offerings or during other special events. *Shitogi* was generally made by soaking white rice in water and then grinding it with a stone mill, which produces a slightly damp white flour. This flour, or *shitogi*, was dissolved in cold or hot water and was essentially a “rice juice,” but if left at room temperature for a time, various airborne yeasts triggered a natural fermentation process.

The Emergence of Modern Sake

During the Heian period (794-1185), the royal court in Kyoto established an office in charge of making sake for various rituals and observances. By the fifteenth century, sake-making had become

From left: Adding *koji* mold to steamed rice; undergoing fermentation before the pressing process.



quite prevalent, and several hundred small sake brewers had appeared in the city of Kyoto.

The manufacturing know-how which utilizes *moto* yeast had not yet been discovered, and so the sake during this time was probably *nigori-zake*, an unrefined or cloudy sake. The temple priests of Nara Prefecture eventually took the lead in so-called sake-making technology, and, through the use of *koji* mold and *moto* yeast, gradually developed methods for making sake of a stable quality. By the seventeenth to eighteenth centuries, techniques for brewing clarified sake—*seishu*—had become firmly established in a procedure that was nearly identical

to contemporary sake production processes.

During the Edo period, sake brewers in the town of Nada in Hyogo Prefecture—still famous for its sake production even today—produced large amounts of high quality *seishu* to ship to Edo (now Tokyo). *Seishu* was first transported primarily by ship; later, spurred by the spread of Japan's railway network in the Meiji period (1868–1912), sake breweries sprang up all over the country and began to distribute their products throughout Japan. Sake production was slow to develop in southern Kyushu and Okinawa, however, because the high humidity and

warm climate were unsuitable for the fermenting processes and storage. These areas became better known for the development of *shochu*, a distilled spirit.

The essential method of utilizing *koji* mold and *moto* yeast to brew *seishu* clarified sake was well established by the eighteenth century, yet this fundamental process has been gradually improved upon throughout successive centuries. Contemporary sake carries with it the refinement of the brewers' craft, founded in ancient tradition. ●

Translated by Lynne E. Riggs



Large amounts of newly made sake from various sources, including Nada breweries, were shipped from Osaka to Edo; many sake warehouses lined the Edo harbor. From the print *Shinshu-bansen-nyushin-hanei-zu* (1866). Courtesy of Nishinomiyama City Museum

cover

Seishu clarified sake, served in a traditional *masu* square wooden measure.

Author's profile

Noritake Kanzaki was born in 1944. He is a specialist in Japanese folklore and president of the Institute for the Culture of Travel. He serves on the Council for Cultural Affairs of the Agency for Cultural Affairs, and as guest professor at the Tokyo University of Agriculture. He is chief priest at the Usa Hachiman Shrine in Okayama Prefecture. His many published works include *Sake no Nihon bunka: Shitte okitai o-sake no hanashi* ("Sake in Japanese culture: convenient stories to know about sake"); *Shikitari no Nihon bunka* ("Manners and customs of Japanese culture"); and *Edo no tabi bunka* ("The culture of travel in the Edo period").



CLOSE-UP JAPAN

Traditions and trends
in Japanese food culture



Zakkoku rice with ten types of cereal grains



Bento with zakkoku rice

Zakkoku Rice

In the last decade, *zakkoku* rice has become increasingly popular in Japan, particularly among health-conscious urbanites. *Zakkoku* refers to all varieties of millet, including Japanese millet such as *awa* and *hie*. *Zakkoku* rice is a mixture of white rice cooked with any of these, and is often supplemented with cereal grains such as beans, amaranthus, quinoa

Zakkoku rice is increasingly popular in Japan

There are over fifteen types of cereal grains, and these are sold in a variety of different combinations: consumers may choose from mixes that contain five, eight or even ten grains and, depending on personal preference, can select grains based on their distinct textures.

Texture and combinations aren't the only options available. In marketing to Japan's female consumers, some *zakkoku* mixes are touted as being effective in keeping skin clear and healthy, while other blends claim to be good for dieting. Thanks to greater health awareness, *zakkoku* rice is eaten not only at home, but in a growing number of restaurants, where diners may choose from a selection of white rice or *zakkoku* rice. It is not even unusual to find convenience stores and supermarket delis that sell prepared *zakkoku* rice in bento boxes, or as *onigiri* rice balls—a sure sign that the *zakkoku* rice trend shows no sign of slowing. ◆

and sesame. The term “*zakkoku* rice” has gradually come to refer not only to a specific mix of rice and millet, but to this more general blend of rice with cereal grains.

The Japanese diet has embraced cereal grains for centuries, but only recently have Japanese consumers become more aware of the advantages of eating white rice with these highly nutritious grains, which provide significant amounts of vitamins, fiber and minerals. Cereal grains usually require some preparation before cooking, but thanks to today's convenient pre-mixed packs, they can be cooked together with rice in a rice cooker.



These are the ten raw cereal grains seen in the top left photo, prior to cooking.

Making *Katsuobushi*

Katsuobushi, dried bonito, is an essential ingredient in Japanese cuisine. Extracting moisture from the fresh fish produces in it a highly condensed umami, which is the basis for the dashi stock used in making Japanese dishes such as miso soup and soba dipping sauce. *Katsuobushi* shavings are typically sprinkled

over tofu or boiled vegetables. Freshly shaven flakes are best, but pre-packaged flakes, which retain freshness, are readily available. Japan's traditional method of making *honkarebushi*, the highest-quality *katsuobushi*, is labor-intensive, and takes about six months to complete. The basic steps are as follows:



Katsuobushi shaver, shavings and fillets

- 1 The head, internal organs and excess flesh are removed from the raw bonito; the fish is then cut lengthwise into four fillets.
- 2 The fillets are boiled in metal baskets for about 90 minutes in hot (80-90°C) water; they are then cooled, deboned, and much of their skin and fat are removed. At this stage, the water content is about 68%.
- 3 The fillets are placed in wooden-lidded baskets and wood-smoked for about one hour, then allowed to cool. This process is repeated 10-15 times; the fish is then dried in the sun for a half-day, and set aside for a few days. By now, the water content is reduced to about 28%.
- 4 After cleaning the fillets, they are laid out to dry again in the sun for a day or so, then placed in a culture room where they are coated with a special mold and stored for about two weeks; they are then dried again in the sun, and the mold is removed. This molding/drying process is repeated over several months. The end result is *honkarebushi* fillets of dried bonito, with a water content of less than 18%—the ultimate form of *katsuobushi* as a fermented food. ●

TASTY TRAVEL



Kyoto



Suguki



Barrels containing *suguki* pressed with *tembin* weight-balances

Kyoto *Suguki*

Suguki, a kind of turnip, has for centuries been grown mainly in the Kamigamo district of Kyoto. Fermented only with salt, this turnip is made into one of Kyoto's most famous pickles, best known for its characteristic sour taste, created by lactic acid fermentation. *Suguki* are harvested in early winter; after being peeled and rinsed, they are placed in a large wooden barrel and sprinkled with salt. The lid of the barrel is secured using a *tembin* (weight-balance), a traditional, lever-like pole hung with heavy stones at one end, whose weight helps press the barrel lid down securely. After several days, the *tembin* is removed and the barrel is placed for one week in a warm room called a *muro*; here, its contents undergo fermentation and then cool down naturally. Many enjoy *suguki* with rice and a drop of soy sauce. ●



CHICKEN WITH MIRIN-GLAZED LEMON SAUCE

Mirin and sugar both have a sweet taste, but mirin has a distinct mild, rich flavor. Mirin is an important seasoning in Japanese cuisine. This recipe introduces a new encounter between mirin and lemon.



● Mirin

味
醃

Serves 2

675 kcal Protein 42.3 g Fat 41.5 g
(per person)

423 kcal Protein 40.9 g Fat 15.1 g
(per person, chicken skin removed)

Mirin-glazed lemon slices

- 4 T Kikkoman Manjo Mirin
- 4 slices of untreated lemon

- 1 garlic clove, cut in half and crushed
- 1 T vegetable oil
- Salt
- 2 boneless chicken thighs, about 250 g / 9 oz. each, with skin

Sauce-base

- 4 T sake
- 1 T +1 t Kikkoman Soy Sauce
- 1 T +1 t Kikkoman Manjo Mirin
- 2 slices of untreated lemon
- 1 sprig fresh thyme

- 2 sprigs fresh thyme for garnish

1 To make mirin-glazed lemon slices, place mirin in a small saucepan and boil down until syrupy. Add the 4 lemon slices and heat until the syrup thickens again. Set aside.

2 In a frying pan, heat garlic gently in vegetable oil over low-medium heat.

3 Lightly salt the skin-side of the chicken; place skin-side facing up in the pan and cook for 1 to 2 minutes.

4 Turn the chicken over and lay a sheet of aluminum foil over it. Place a pot on top of the foil, to press the chicken down (*photo*). Continue to cook until skin turns golden brown.



5 Remove the pot and foil, again turn the chicken and cook over low heat until nearly cooked through.

6 Remove excess oil and garlic from the pan. Add the sauce-base ingredients to the chicken in the pan and bring to a boil briefly. Turn chicken over and finish cooking (when completely cooked, a skewer will pass easily through the meat). Remove chicken from pan. Simmer to reduce the sauce-base; discard lemon slices and thyme.

7 Pour the sauce-base on a serving plate, lay out chicken on top. Coat the chicken with mirin syrup using the back of a spoon. Add more mirin syrup to taste. Garnish with glazed lemon slices and fresh thyme.

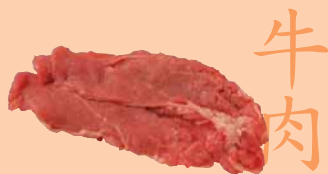
Recipe by Michiko Yamamoto

1 C (U.S. cup) = approx. 240 ml; 1 T = 15 ml; 1 t = 5 ml



NIKU-JAGA SIMMERED BEEF AND POTATOES

Niku-jaga is a popular home dish. The meat and vegetables are simmered in dashi stock with soy sauce, mirin, sake and sugar; this rich umami is absorbed by the vegetables and meat.



Beef

Serves 4

313 kcal Protein 10.6 g Fat 11.9 g (per person)

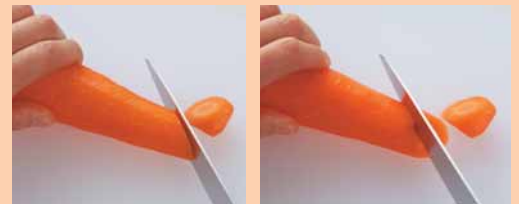
- 150 g / 5 oz. thin slices of beef suitable for sukiyaki *
- 4 potatoes, 450 g / 1 lb.
- 1 onion, 250 g / 9 oz.
- 1/2 carrot, 100 g / 3.5 oz.
- 6 snow peas
- 1 T vegetable oil
- 480 ml / 2 C dashi stock
- 1 1/2 T granulated sugar
- 3 T Kikkoman Soy Sauce
- 2 T sake
- 2 T Kikkoman Manjo Mirin

1 Cut the beef into bite-size pieces.

2 Peel potatoes and cut into bite-size pieces. Soak in water for about 5 minutes and drain.

3 Cut onion in half, then into wedges 1 cm / 1/2 in. Peel the carrot and cut into random bite-sizes (*photos*).

4 String the snow peas. Parboil in salted hot water, then drain. Cut the snow peas into two pieces at an angle.



5 Heat oil in a saucepan over medium heat; add the beef. When the meat changes color, add the potatoes, onions and carrots and stir until all ingredients are evenly coated with oil.

6 Add the dashi stock and bring to a boil; skim off the foam, then cover with a drop-lid or parchment paper and simmer for 5 minutes. Add sugar, cover with the drop-lid and simmer for 5 minutes.

7 Add soy sauce, sake and mirin, cover again with the drop-lid and simmer for about 15 minutes over low-medium heat, until the liquid is reduced to about a third.

8 Turn off the heat and let sit for 2 to 3 minutes to allow the liquid to soak into the ingredients. Garnish with snow peas and serve.

* Tender, fat-marbled beef is best here, rather than lean cuts with a tougher texture.

Recipe by Kikkoman Corporation



10th Anniversary of Kikkoman Group's *Shokuiku* Commitment: Food Culture Exchange in China



Dr. Yoshiro Kubota, director of Kikkoman General Hospital, speaking at Shanghai University

It has been 10 years since the announcement of Kikkoman's *Shokuiku* Commitment and the start of the company's *shokuiku* (food education) activities. There has long been concern in Japan about the diminishing importance of healthy eating, given today's busy lifestyles. A decade ago, Kikkoman launched a project team and began the debate about how to tackle this issue. They concluded that, as a company involved with food and food products, food education is an integral part of its business. In 2005, Kikkoman defined its food education strategy as "sharing food-related information, knowledge and experience for a delicious, healthy diet," and the company announced its official *shokuiku* slogan, "seasoning your life."

Since Expo 2010 Shanghai China, Kikkoman has been holding special lectures twice a year at Shanghai University. The theme of this spring's lecture, held in April, was "Food and Health," and was based on Kikkoman's food education activities. The lecturer was Dr. Yoshiro Kubota, director of Kikkoman General Hospital,

originally established for the local people of Noda City in Chiba Prefecture, where Kikkoman first began brewing soy sauce. For 100 years, the hospital has been supporting both the health of Kikkoman employees and families, and of local residents. The hospital is managed by Kikkoman, which, from its standpoint as a food company, promotes the concept of health maintenance through food- and health-focused operations.

In his presentation at Shanghai University, Dr. Kubota discussed Japan's changing food habits and the increase in obesity and lifestyle-related diseases. He also touched on the importance of nutrient balance, the relationship between *washoku* (Japanese cuisine) and Japanese longevity, and how soy sauce and other fermented foods have a positive effect on health. Of particular interest to the audience was his comparison of various medical data from Japan and China, which indicate the growing prevalence of certain similar diseases in both countries. Dr. Kubota explained that these diseases are related to changes in food habits, including excessive consumption of fats and animal protein, and going without breakfast. Dr. Kubota concluded by reminding the young student audience of the importance of food in our daily lives, and that "Eating is living." Shanghai University students also made presentations related to differences between Japanese and Chinese food cultures, including the topic of food labeling. Through mutual exchange, this event provoked meaningful dialogue and encouraged reflection on food and health.

Kikkoman does not believe that "delicious memories" are created simply by eating delicious things. What most people recall are not the foods they have eaten, but those events where they are happily surrounded by friends and family, enjoying home-made dishes. "Delicious memories" are made when we share food with those we cherish. Through its business, and with the slogan "seasoning your life," Kikkoman continues to help create these delicious memories around the world. ◆



Kikkoman's *shokuiku* activities in Japan (from left): Elementary school students learn about soy sauce at Kikkoman's Noda plant; President and CEO Noriaki Horikiri visits a soy sauce seminar for students.