

The Secrets of Taste in Japanese Cuisine: Flavor

by Tohru Fushiki



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uisines around the world work with various types of distinctive soups or stocks as a cooking base, and almost all center around the savory taste called umami. In most cases, such stocks involve a densely flavored soup that has been prepared by cooking the ingredients for a long time. By contrast, Japanese dashi stock tends to avoid rich or complex flavors; rather, its essential umami serves to draw out the taste of individual ingredients. Eliciting these discrete tastes is a vital element in Japanese cuisine, as they emphasize both an appreciation for nature and a sense of the seasons.

Umami awareness

Japan's kombu kelp, rich in glutamic acid, has long been harvested from the seas off the northern island of Hokkaido. Pure, concentrated umami liquid can be obtained simply by soaking dried kombu in hot or cold water, and the Japanese are historically well-acquainted with its taste. Against this backdrop, Professor Kikunae Ikeda (1864-1936) studied this taste and the composition of kombu, ultimately discovering umami in 1907. Umami is now recognized globally as one of the five basic tastes, together with sweet, sour, salty and bitter. The umami of kombu can be significantly bolstered through "umami synergy" when combined with the nucleic acids of katsuobushi dried bonito flakes (inosinic acid) or dried shiitake mushrooms (guanylic acid), as identified by later successors to Dr. Ikeda.

The culture of dashi in Japanese cooking is said to have been established after the fifteenth century as part of the development of the honzen dining style in warriorclass families. At the time, the eating of meat was banned in Japan, and therefore the umami of dashi and salty seasonings were what imparted dining satisfaction. By the eighteenth century, coastal shipping routes had become established along the Japan Sea, and high quality kombu harvested in Hokkaido became more readily available throughout Japan. During that same time frame, the method of producing katsuobushi dried bonito was perfected in a process similar to that used today.

Intrinsic vs. acquired

Dashi consists of the umami and *fumi*, or taste-aroma (see Vol. 36 No. 1), of the ingredients from which it is made; e.g., kombu. The tongue has receptors that detect the taste of umami and, as with the taste of sweetness, the taste of umami (for example, dashi), is

instinctively favored even by newborns, confirming that umami's appeal is universal. By contrast, fumi is distinguished by a combination of both taste and smell; considering that preferences of smell are acquired after birth, this inclination is more closely associated with ethnic and regional food cultures. There is an inseparable relationship between the umami and fumi of dashi.

Traditional seasonings

The foundational flavor in Japanese cuisine is the umami of dashi, but there are other seasonings that are used to enhance umami. These include popular *koikuchi-shoyu* dark soy sauce and usukuchi-shoyu light color soy sauce, along with mirin, vinegar, sugar and sake. Koikuchi soy sauce is an all-around seasoning with deep umami and gentle touch of sweetness. Usukuchi soy sauce is made with around 10 percent more salt. It is fermented and matured slowly to produce a lighter taste and color, and is intended to elicit the flavor of ingredients while minimizing the amount of salt added during cooking.

Mirin is made by fermenting rice with rice koji matured over long periods; it is sweet and contains roughly 11 percent to 14 percent alcohol. It imparts an elegant and gentle touch of sweetness while adding luster, and is also very effective in masking fishy or gamy smells. Vinegar is produced through double fermentation: first by the alcohol fermentation of grain or fruit, and then through acetic acid fermentation. Vinegar in Japan is traditionally made from rice; its varied amino acids add tang and depth to dishes, and it acts as a preservative to keep food from spoiling.

Base-flavor combinations

In Japanese cooking, such traditional seasonings are premixed with dashi and used as a base-flavor to ingredients. Premixed dashi is called awaseji, and the combination of seasonings and amount ratios vary depending on the dish. One type of awaseji, called *suiji*, is typically made using dashi, soy sauce and salt. It is used in soups,



Simmering kombu in hot water to make dashi



Koikuchi soy sauce

Usukuchi soy sauce



Okura and wakame seaweed seasoned with sambaizu vinegar, soy sauce and mirin

including clear soups, and has a lighter taste. Dashi flavored with mirin, sake, soy sauce and salt produces the versatile happodashi, which is used in a wide range of dishes,

but primarily for *nimono* simmered dishes. Happodashi has a higher salt density and may be handled somewhat differently from season to season: some restaurants use primarily salt during summer for a clear, bracing quality, while in winter they tend towards a greater proportion of soy sauce for a denser, richer taste.

Aside from awaseji, there exists a variety of mixedseasoning combinations involving vinegar. Foods are often dressed with nihaizu, made by mixing equal amounts of vinegar and soy sauce for a simple strong taste, or with sambaizu, made using vinegar, soy sauce and mirin to produce a more full-bodied taste with mild sweetness. Another vinegar mixture called tosa-zu is made by adding katsuobushi flakes to sambaizu, heating, and then straining the flakes.

There is an infinite array of base-flavors, depending on proportions, ingredients and combinations. This reflects Japan's traditions and techniques of combining multiple seasonings—in some cases during cooking, or as an accompanying sauce. Together, they ultimately give rise to the expansive diversity of flavors that exist in Japanese cuisine.

On the cover Japanese eggplant, featured in Spirit of the Seasons, page 5. Chikuzen-ni chicken and vegetables simmered in dashi, soy sauce, mirin, sake and sugar.

Author's profile

Tohru Fushiki was born in 1953 in Kyoto. He holds a PhD from Kyoto University and specializes in food and nutrition science. From 1994 he served as professor on the Faculty of Agriculture, Kyoto University, where since 2015 he has been professor emeritus. He has served as professor at Ryukoku University since 2015, and vice president of Koshien University since 2021. His many publications include Mikaku to Shiko no Science (Science of sense of taste and food preferences; 2008); and Dashi no Shimpi (Mystery of dashi; 2017).

Fruit Sandwiches

Japan's unique fruit sando—
fruit sandwiches—are colorful
concoctions comprising slices
of shokupan soft white bread
filled with whipped cream and
chunks of fresh seasonal fruit such
as strawberries, muscat grapes,
kiwi, bananas, mikan satsuma,
peaches or melon. Pretty and tasty,
fruit sando are a mix of slightly
sweet and tart flavors, perfect for
breakfast, lunch or snacks.

Fresh fruit sandwiches were first served in Japanese coffee shops and specialty cafés called fruit parlors as early as in the 1920s. They were presented in classic sandwich style and featured thin slices of fruit. In recent years, the sandwiches have come to include larger pieces of cut fruit and, thanks to today's social media, that fruit is very often arranged in artistic combinations to reveal ingenious visual imagery when the sandwich is cut in half.

Nowadays fruit sando are sold just about everywhere, including coffee shops, bakeries, supermarkets and convenience stores. They are made by simply sandwiching cut fruit and whipped cream between slices of soft white bread. And while they are easy to make at home, it is tempting to visit stores that specialize in *fruit sando* featuring attractive presentations and unusual taste combinations. Some bakeries use light, not-too-sweet whipped cream, so as not to overpower the natural sweetness of the fruit. Others fill their sandwiches with custard cream, or cream mixed with mascarpone.

The once-basic *fruit sando* has been adapting to market trends by incorporating innovative ideas and tastes, winning popularity among a broader range of hungry consumers. As an example, in Japan, high-end

Fruit sando mix the sweet with the tart



Classic fruit sando

"luxury" varieties of fruit are presented on special occasions; now, one can enjoy a decadent *fruit sando* filled with such exceptional fruit, some of which may cost more than USD10.00-15.00 each. Equally delectable but more affordable options now include vegan varieties or substituting traditional plain white bread with breads kneaded with chocolate or fruit that complements the fillings—suggesting that in whatever form, the *fruit sando* only continues to please.



Colorful, artistic fruit sando with mikan, muscat grapes, strawberry and kiwi

Parboiling **Bamboo Shoots**

Parboiling is the preparatory boiling of ingredients, and in Japanese cooking it is used to produce a clean flavor by removing any unsavory smells of ingredients and extracting aku, the components that produce undesirable aromas and tastes. Parboiling also makes the texture of ingredients more permeable so flavors are better absorbed during cooking. Foods that are typically parboiled include daikon, sato-imo taro, konnyaku konjac and takenoko bamboo shoot; parboiling times differ by ingredient. Japanese parboiling will be introduced in this and the following issue of Food Forum. Here we explain how to parboil fresh bamboo shoots to remove aku.

1. Rinse bamboo shoots in water. Remove 2-3 outer layers and cut off the hard root. Cut off the tip diagonally, at about one-third the length of the shoot (*left*). Make a 1-1.5-cm / 0.6-in. deep slit in skin from top to middle of the shoot (right).





2. Place bamboo shoots in a pot with just enough water to cover them, plus rice bran* and 1 dried red chili pepper (*left*). Bring to a boil, reduce heat to mediumlow and place a drop lid over the shoots (right). Cook for 40-60 minutes, depending on size of the shoots. * Use about 6 Trice bran per 2 L / 81/3 C water. If rice bran is unavailable, use rice water or add 2 T uncooked rice per 2 L / 81/3 C water.





3. Remove from heat when root is soft enough to be easily pierced with a skewer (left). Set the pot aside to allow shoots and water to cool together. Peel skin, rinse and pat dry (right). Remove hard edges of the root area with a knife.







Takenoko gohan bamboo shoot rice

Eggplant



Sautéed eggplant with grated daikon sauce

Japanese eggplants, featured on our cover, come in many sizes and shapes—from long and slender to small and round. Grown throughout the country, eggplant, called nasu in Japanese, is in season from June to September.

Eggplant has a high water content of over 90 percent and contains fiber, potassium and folic acid, while its deep purple skin is rich in nasunin, a beneficial antioxidant.

Japan's most common variety is soft-skinned and mild-flavored, about 12-15 cm / 5-6 in. long and oval-shaped with a shiny purple skin (cover). The egg-shaped mizunasu, cultivated in the Senshu area of Osaka Prefecture, is less bitter and can be eaten raw in salads, thanks to its delicate skin and extremely soft, succulent flesh.

Eggplant is one of the most versatile ingredients in the Japanese kitchen. It can be pickled, enjoyed in miso soup or grilled and served as yakinasu grilled eggplant. The flavor of eggplant is particularly enhanced when sautéed or deep-fried. Deepfried dishes include agebitashi deep-fried eggplant in dashi sauce and *nasu* tempura.

Enoki Mock Noodle Soup

Serves 3

24 kcal Protein 2.2 g Fat 0.2 g (per serving)

- 220-250 g / 8 oz. enoki mushrooms
- 840 ml / 3 ½ C water
- 1/2-3/4 t salt
- 2 Japanese cucumbers*, 200-230 g / 1/2 lb.

- Salt
- 1 T Kikkoman Soy Sauce
- Lemon slices or grated ginger for garnish, optional

Prepare enoki mushrooms by cutting off roots; clean with a brief rinse and pat dry. Separate the enoki stems.**

2In a pot, combine 840 ml / 3 ½ C water and 1/2-3/4 t salt and bring to a boil. Add the enoki mushrooms and stir for a few seconds; remove the pot from heat and set aside for 30 minutes to extract the umami of the enoki for soup stock.

In another pot, boil water for the cucumbers. Rinse them with water and rub about 1/2 t salt onto each wet cucumber (see photo). This removes extra moisture content and their distinctive "green" smell. Blanch the salted cucumbers in the boiling water for about 20 seconds, then remove and cool with cold water. Cut cucumbers in rounds 1.0-1.3 cm / 0.4-0.5 in. thick.



A Separate the enoki and soup stock using a colander; set aside. Place the soup stock and 1 T soy sauce in a pot and bring to a boil. Add the cucumbers, reduce to medium heat and bring to another boil. Add the enoki to the pot and when warmed, immediately turn off heat. Taste and adjust with salt.

 $\ensuremath{\boldsymbol{\varsigma}}$ Serve in individual bowls garnished with lemon slice or grated ginger.

* May substitute fresh gherkins or Persian cucumbers

** If the soup will be eaten with spoons, cut enoki stems in half for easier dining; if using chopsticks, use entire lengths.

Recipe by Michiko Yamamoto



This healthy recipe is perfect as a vegetarian dish, and soup with enoki extract may be used as a vegetarian stock. It is easy to bring out the umami of enoki to make a clear savory soup. Here, enoki mushrooms are enjoyed as mock noodles and can be eaten with chopsticks.



Sawani-wan is a soup that includes a variety of julienned vegetables and meat such as pork or chicken.

Sawani-wan Clear Soup with Pork and Julienned Vegetables

Serves 4

62 kcal Protein 4.4 g Fat 2.9 g (per serving)

- 60 g / 2 oz. pork butt
- 60 g / 2 oz. boiled bamboo shoot*
- \bullet 60 \bar{g} / 2 oz. carrot
- 30 g / 1 oz. burdock root
- 4 shiitake mushrooms
- 6 snow peas
- 960 ml / 4 C dashi stock
- 1 t Kikkoman Light Color Soy Sauce
- 1 t salt
- Coarse ground black pepper

Boil water for parboiling pork. Cut the pork butt into very thin slices, then into narrow strips 2-3 mm / 0.1 in. wide and 4 cm / 1.5 in. long. Place these in the boiling water just briefly, only until color changes. Remove and pat dry.

Julienne the boiled bamboo shoot and carrot in 4 cm / 1.5 in. lengths.

Scrub to remove dirt from burdock root. Julienne and soak in water for **○**5 minutes, then pat dry.

4 Remove stems from the shiitake mushrooms and thinly slice the caps. Parboil briefly and then drain. Trim and string the snow peas; blanch for 1 minute, place in cold water briefly and drain. Čut diagonally to the same size as the other vegetables.

Place the dashi stock, soy sauce and salt in a pot. Add all the ingredients except 5 Place the dashi stock, soy sauce and said in a pool, as an arranged for the snow peas. Cook over medium heat until all the ingredients are cooked through. Add the snow peas and then immediately remove from heat.

Serve the soup in individual bowls and sprinkle with black pepper.

See Fundamentals 101 on page 5 for parboiling bamboo shoots if using fresh shoots.

Recipe by Kikkoman Corporation

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

Kikkoman Builds Soy Sauce Brand in India



Collaborative recipes with Chef Vicky Ratnani: Butter Soy Poached King Oyster Mushrooms (I.) and Kikkoman Jumbo Prawns.

In February 2021, Kikkoman
Corporation officially entered the Indian market with the establishment of its subsidiary in Mumbai, Kikkoman India Pvt. Ltd. (KID). This signals the start of Kikkoman's challenge to present soy sauce as an everyday seasoning in India, which has a population of approximately 1.4 billion and vast potential in its consumer market. In its efforts to raise awareness and build an appreciation for Kikkoman Soy Sauce, during the past year KID has been running diverse strategic and collaborative promotional campaigns throughout the country.

Instagram live event

Chef Vicky Ratnani is a well-known celebrity chef with a TV cooking show who serves as one of the Kikkoman Soy Sauce brand ambassadors in India. Chef Ratnani live-streamed a special event on his Instagram to demonstrate the uses of soy sauce in cooking.

"Chefs Connect"

KID hosted "Chefs Connect" events in Delhi, Mumbai and Bangalore, inviting food and beverage (F&B) professionals including chefs, food distributors and manufacturers, government officials and media. These events promoted networking among chefs and F&B professionals, while demonstrating the versatility of Kikkoman Soy Sauce beyond Japanese cuisine by exploring its use in global cuisines.

Soy sauce samples

A total of 15,000 bottles of Kikkoman Soy Sauce were distributed to





Kikkoman Mushroom Khichadi (top) and Kikkoman Duck Mince Gilafi Kebab, created in collaboration with Mr. Prashant Issar.

restaurants and culinary schools in major cities throughout India. This program opened up opportunities for them to experience Kikkoman Soy Sauce directly.

Original recipes

In collaboration with prominent chefs in India, including Chef Ratnani, Chef Seefah Ketchaiyo and Chef Karan Bane (owners of Seefah restaurant, Mumbai), as well as Mr. Prashant Issar (who runs Ishaara restaurant, Mumbai), KID has created recipes that incorporate Kikkoman Soy Sauce in a range of culinary genres, including Indian cuisine. These recipes are posted on KID Instagram and include a wide variety of dishes and skill levels, from restaurantworthy foods to easy-to-prepare meals intended for home cooking.

These and other KID promotional events are ongoing. The company continues to develop products suited to local tastes in their aim to popularize and thus expand the market for Kikkoman Soy Sauce in India.



Kikkoman India Instagram







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