

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



## THE JAPANESE TABLE

# Japanese Tea

## Its Healthy and Nutritious Benefits

by Mitsuru Shirai

*Our current Food Forum series on Japanese tea has been looking at the history, traditions and varieties of Japanese tea. In this final installment, we consider the health benefits of green tea and its growing global reputation.*

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# Japanese Tea

## Its Healthy and Nutritious Benefits



From left: Green tea field with special fans that protect the leaves from frost damage; Leaves intended for *matcha* are shaded under canopies of special cloth to shield from the sun.

About eight hundred years ago, the Zen priest Eisai (also known as Yosai; 1141-1215) introduced tea-drinking to Japan, declaring that green tea was a panacea for all ills. Modern evidence-based research around the world now corroborates that ancient claim, with specific attention focused on the catechin found in tea.

The nutritional and healthful advantages of Japanese tea have long been acknowledged in Japan, and as contemporary Western consumer markets become increasingly aware of its beneficial properties, exports have been growing fast, with *matcha* being a particular favorite. In fact, Japan's tea exports have increased fourfold over the last ten years.

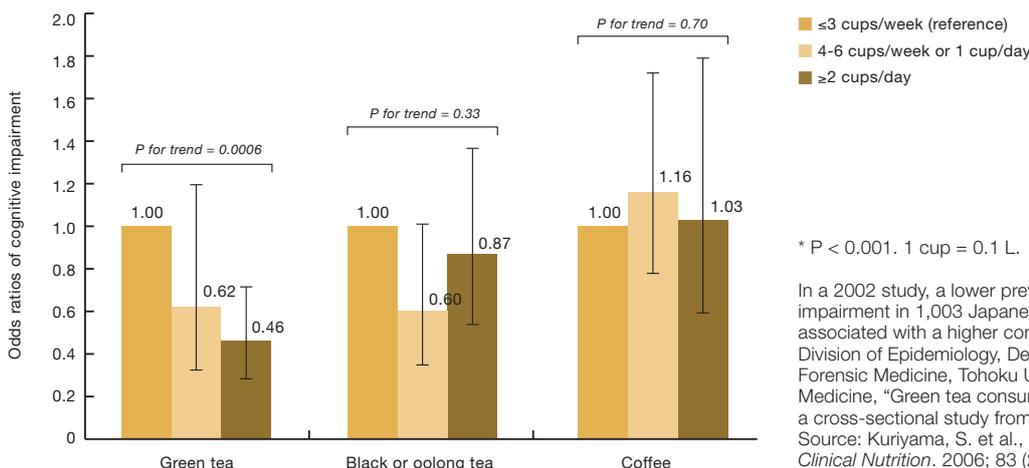
### Beneficial Catechin

Catechin is a type of polyphenol and the main component behind the astringency of green tea. Typically, catechin oxidizes quickly in foods and is lost; however, the production process of Japanese green tea suppresses the action of certain enzymes that oxidize catechin. The resulting tea contains high amounts of catechin, proven beneficial to the body.

For example, the consumption of catechin-rich green tea has been shown to be helpful in counteracting various common ailments, including cognitive impairment, obesity, cancer and influenza. It is reported that the incidence of cognitive impairment among those who drink two or more cups of green tea per day is lower than those who do not, while the

same efficacy was not evident among those who drink black or oolong tea, or coffee (*see bar chart*). The number of those suffering from the complex condition related to fat storage, referred to as metabolic syndrome, is increasing worldwide, and studies have shown that continuous intake of high concentrations of catechin can contribute to reducing body fat. This has led to the development of various green tea drinks and other products containing catechin. In addition, recognition of the efficacy of the amino acid theanine (which gives tea its distinctive umami) as a relaxant in alleviating stress and in strengthening the body's immunity has led to greater emphasis on drinking cold-brewed green tea, which contains high amounts of theanine.

Odds Ratios for Consumption Frequency of Tea and Coffee and Cognitive Impairment



In a 2002 study, a lower prevalence of cognitive impairment in 1,003 Japanese aged 70 or older was associated with a higher consumption of green tea. Division of Epidemiology, Department of Public Health and Forensic Medicine, Tohoku University Graduate School of Medicine, "Green tea consumption and cognitive function: a cross-sectional study from the Tsurugaya Project." Source: Kuriyama, S. et al., *The American Journal of Clinical Nutrition*. 2006; 83 (2): 355-61.



A variety of matcha ice creams

### Enjoying Tea's Advantages

The much-discussed issue in today's aging society is "healthy longevity"—living a healthy life into advanced age—and studies have been conducted in those regions of Japan where people of advanced age drink ample amounts of green tea and enjoy long healthy lives. The spread of awareness of the benefits of green tea has thus led to an increased interest in Japanese tea. In order to obtain the efficacious components of green tea and also to better enjoy its flavors, attention should be paid to the water used when brewing it. It is important to use soft water containing low amounts of minerals when brewing Japanese tea (most suitable would be a water hardness of around 30-80); making tea with hard water having a water hardness of over 120, releases fewer beneficial components and results in tea without much depth of flavor. Tap water is often treated with chlorine, and should be boiled for three to five minutes to remove such components when used to brew tea.



Matcha is made by grinding dried tea leaves in a stone mill.

### Matcha Boom

Matcha has become popular worldwide. About 60 percent of Japan's tea exports comprise matcha (p. 2, right photo) and other powdered teas (p. 2, left photo). Matcha is made from tea leaves harvested from plants that have been shaded from the direct rays of the sun, which therefore reduces astringency. The leaves are dried and then ground into powder using a mill. The majority of matcha is used as an ingredient in prepared foods, including sweets and breads. Such applications of matcha are thought to have begun about sixty years ago with the appearance of matcha ice cream. When in recent years a matcha latte beverage was added to the menu of a major coffee shop chain, matcha took off worldwide and is now served in many countries. Matcha, moreover, makes it possible to consume the components of tea in their entirety and so is considered very healthy—thus worldwide production of matcha continues to increase.

### New Tea Products

Recently, many new commodities made with Japanese tea are growing in popularity. One is high quality bottled tea to be enjoyed like wine or champagne. It is made by slow-brewing select Japanese tea that is then bottled and marketed as a new and fashionable product intended to be served in fine glasses. Recently the Japanese tea

market has been expanding, with products featuring teas from individual tea-growing regions, and special blends such as carbonated teas. Other products include perfumes made by extracting the aroma of tea during the steaming process, and many are taking note of the pleasingly natural and fresh fragrances available. Other products developed by utilizing the properties of Japanese tea include soap, toothpaste and face cream. Many more products featuring the qualities and components of tea are likely to come on the market in the future. ◆

#### cover

Matcha latte served in a coffee shop

#### Author's profile

Mitsuru Shirai was born in 1957. After graduating from Osaka Prefecture University, he served in the Shizuoka prefectural government and has long been involved in the promotion of tea in his roles as general manager of planning in the World Green Tea Association; manager of Shizuoka Prefecture Tea and Agricultural Production Division; director of Shizuoka Prefecture Department of Economy and Industry; and vice-director of Fujinokuni Cha no Miyako Museum (Tea Museum, Shizuoka). He is a qualified Japanese tea instructor, a Chinese tea artist and Chinese tea sommelier. His authored works include *Yabukita no subete* ("All about Yabukita cultivar of tea"; 2007); *No no fukei* ("Agricultural essays"; 2010-2017); and *Ryokucha tsushin* ("World green tea bulletin"; 2007).



## CLOSE-UP JAPAN

Traditions and trends  
in Japanese food culture



Two popular *wafu* pasta dishes: *Tarako* salted cod roe spaghetti (left) and *natto* fermented soybeans spaghetti

# Japanese-Style *Wafu* Pasta

Japan is well known for its delicious interpretations of Western dishes, and its fusion recipes that highlight Japanese ingredients with pasta are no exception. While authentic Italian-style pasta is a favorite here, a very special, well-loved variety is *wafu* pasta, literally, “Japanese-style” pasta. This term covers a wide array of pasta dishes, including spaghetti, which are prepared using combinations of classic ingredients rooted in *washoku* Japanese traditional cuisine. Some of these include, to name only a few, *tarako* salted cod roe, *natto* fermented soybeans, *uni* sea urchin, *umeboshi* pickled Japanese apricots and *nori* seaweed. The pasta itself is typically seasoned with dashi broth and soy sauce, an occasional dash of *kobucha*, or with butter or/and olive oil.

*Wafu* pasta features  
traditional Japanese  
ingredients

This pasta fusion concept likely made its first appearance in the foreign settlement in Yokohama in the late nineteenth century; it was only after pasta-making machines were imported from Italy in the mid-1950s, however, that such dishes truly grew in popularity. One reason may be because udon and soba noodles were ingrained in the national cuisine, making it all the easier for pasta to find general acceptance. To accommodate Japanese tastes, from the mid-1950s into the

mid-1980’s pasta was made using bread flour, rather than semolina flour. Semolina, made from durum wheat, is used in making genuine Italian pasta, but at that time it was in short supply; moreover, the Japanese inclined towards a softer noodle texture. It was in the mid-1980s that 100 percent semolina pasta became available here, following a boom in Italian cuisine that prompted a greater appreciation for al dente pasta. In the meantime, specialty restaurants began to serve *wafu* pasta, and these now can be found everywhere. Nowadays, consumers also enjoy a tantalizing variety of both Italian-style and *wafu*-style pastas, including pre-packaged sauces and microwave-ready frozen products sold in supermarkets and convenience stores. ●



## JAPANESE STYLE

*Perspectives on  
Japanese cuisine*

# Kobucha

Traditional Japanese *kobucha* or kombu (kelp) tea is made using granules of fine-ground dried kombu seasoned with salt, or with small, lightly salted pieces of kombu. Kombu contains iodine. Though referred to as “tea,” *kobucha* is unlike green tea or other teas prepared by infusing tea leaves, and is completely different from

“kombucha,” a popular drink in the West produced by fermenting sugared tea with a culture of lactic acid bacteria. *Kobucha's* origins are not well-documented, but it has been consumed since medieval times, prepared by pouring hot water over dried, chopped-up kombu; afterwards, the leftover kombu was eaten. “Kombu” rhymes with

“*yorokobu*,” implying happiness or celebration; thus *Obukucha* is served on New Year's Day, made by pouring hot water over a piece of knotted kombu and an *umeboshi* pickled Japanese apricot. *Kobucha* granules, said to date from about 1920, make it convenient to enjoy at home. The granules are also used in cooking, to impart umami. ●



From left: *Kobucha* tea made from granules; *Obukucha* served on New Year's Day.

## TASTY TRAVEL



Fukui



*Saba no heshiko*

## Fukui *Saba no Heshiko*

Fukui Prefecture's coastal region of Wakasa is famous for its *saba* mackerel, and for the traditional dish called *saba no heshiko*—mackerel fermented in bran and brine. Fresh mackerel caught in springtime are cleaned and pickled in salt for about a week. The fish are then stuffed with salt and *nuka* rice bran, layered in a barrel with more salt, bran and juice from the pickled mackerel, then covered with a weighted drop lid. In late autumn, the fermented *heshiko* are taken from the barrel and, after removing a little of the bran, they are filleted, sliced and grilled. *Heshiko* is enjoyed with a bowl of rice. ●



## APPLE, MUSCAT AND FIG SALAD WITH *MATCHA* DRESSING

In this dressing, the *matcha* can be considered as a kind of herb. Its fresh green flavor complements the honey. The dressing flavor first imparts sweetness, followed by the slightly bitter sensation from the *matcha*, creating a balanced taste experience.



◆ *Matcha* powder

抹茶

**Serves 4**  
162 kcal Protein 1.2 g Fat 5.3 g  
(per serving)

### *Matcha* dressing

- 1 t *matcha* powder
- 3-4 t hot water
- 5 t honey; e.g., acacia or mixed-flower honey
- 6 T mayonnaise\*
- 1 t Kikkoman Light Color Soy Sauce

- 1 apple
- 200 ml / 6-7 oz. water
- 1 T lemon juice

- 12-16 muscat or other green grapes
- 2 fresh figs\*\*
- Lettuce leaves
- 10 g / 0.3 oz. roasted walnuts, coarsely chopped

**1** To prepare the *matcha* dressing, in a small bowl first add the hot water to the *matcha* powder and mix until smooth with a *cha-sen* bamboo whisk or a mini whisk.

**2** Add the honey and whisk until smooth. Follow with the mayonnaise and the light color soy sauce; mix well. If the dressing is too thick, add a little warm water to adjust.

**3** Peel apple and cut into thin wedges. Soak the apple briefly in a bowl with 200 ml water and 1 T lemon juice to prevent discoloration. Drain and pat dry with a paper towel.

**4** Slice the grapes in half lengthwise. Slice the figs into thin wedges and tear the lettuce leaves into bite sizes.

**5** Lay out the lettuce leaves on a serving platter. Arrange the cut fruit on the lettuce. Sprinkle chopped walnuts, then drizzle the *matcha* dressing over the salad. Serve any extra dressing on the side.

\* Use Japanese mayonnaise if available.

\*\* Dried raisins and cranberries are a good substitute if fresh figs are unavailable. Adjust the ratio of fruit and lettuce to taste.

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

Recipe by Michiko Yamamoto



## TOKIWA-KAN MATCHA YAM JELLY

*Tokiwa-kan* is a Japanese traditional confectionery. *Tokiwa* refers to the dark green of evergreens like pine or cedar, and thus connotes permanence. *Kan* refers to classic *yokan*, a jellied dessert of *azuki* red bean paste, agar-agar and sugar. This recipe replaces *azuki* with glutinous yam.



◆ Yamato-imo

**Serves 12**  
100 kcal Protein 0.6 g Fat 0.1 g  
(per serving)

- 1 *kanten* agar-agar stick, 8 g / 0.3 oz.; or 4 g / scant 1 t *kanten* powder\*
- 250 g / 9 oz. *yamato-imo* glutinous yam or *naga-imo* Chinese yam
- 480 ml / 2 C hot water
- 220 g / 1 C granulated sugar
- 2 t *matcha* powder
- 1 T water
- 1 t Kikkoman Light Color Soy Sauce

- 1 Break *kanten* stick in half and soak in a bowl with plenty of water for 30 minutes. Drain the *kanten*, squeeze out excess water and tear it into small pieces.
- 2 Peel and cut the yam into 1 cm- / 0.4 in.-thick slices. Steam for 15 minutes or boil the slices until soft. While still hot, place in a food processor and puree. Place in a bowl and set aside.
- 3 Heat the *kanten* pieces in 480 ml / 2 C water in a saucepan over medium heat, stirring continuously until the *kanten* has completely dissolved. Then add the granulated sugar and stir until it dissolves. Remove from heat and strain the *kanten*-sugar liquid; pour back into the same pan, heat over medium heat and reduce the liquid by about one-third, stirring continuously.
- 4 In a small bowl, use a *cha-sen* bamboo whisk or a mini whisk to dissolve the *matcha* powder in 1 T hot water.
- 5 Add the dissolved *matcha* to the yam puree and mix well first using a whisk and then a spatula. To this mixture, add the *kanten*-sugar liquid little by little, stirring thoroughly. Add soy sauce and mix.
- 6 Pour the blended mixture into a mold\*\* and cover. Chill in a refrigerator for 30 minutes to 1 hour\*\*\*, until set.
- 7 When set, run a knife around the edges of the mold to loosen and remove the yam jelly. Cut servings into desired sizes, estimating about two slices per person.

\* If using *kanten* powder: In step 3, heat water and powder together in a saucepan until completely dissolved.

\*\* This recipe uses a typical Japanese-style square mold about 12 cm x 14 cm x 4 cm (5 in. x 5.5 in. x 1.5 in.); however aspic molds can be used as well.

\*\*\* *Kanten* sets at room temperature, but here it is chilled not only to set more quickly, but to enhance the taste.

Recipe by Kikkoman Corporation



## Completion of Kikkoman R&D Center



Kikkoman R&D Center, the new research and development base for the Kikkoman Group, was completed on August 29, 2019 in Noda City, Chiba Prefecture, Japan. The research and development departments for the Kikkoman Group are based at the Brewing Laboratory of the Noda Shoyu Brewer's Association, which was established in 1904, shortly before Kikkoman itself was founded in 1917. Until now, we have been working in cooperation with domestic and overseas research institutions, from the basic research that forms the basis of future product development to product development research, and we have constructed this new research and development base with the aim of strengthening Group R&D capabilities even further.

The Kikkoman R&D Center consists of a main building with laboratories on the first floor, and work spaces to promote interactions between researchers in an open environment on the second floor, in addition to a pilot plant building (for trial production). The site area is approximately 17,000m<sup>2</sup>, the building area about 7,000m<sup>2</sup>, and the total floor area around 10,000m<sup>2</sup>. The main building is a seismic isolation structure for enhanced safety. In addition, the building employs lighting controls that achieve both energy savings and intelligent productivity. The site has many green spaces, and environmental considerations have been taken into account, such as natural lighting, natural ventilation and rainwater use from its large roofs and skylights, as

well as the use of energy-saving equipment. The pilot plant for accumulating differentiating technologies was built to step into new areas in an environment with intensified basic and fundamental research, and with a focus on strengthening the product development capabilities of existing businesses.

In addition to domestic research and development departments, Kikkoman has established three R&D bases overseas. We are working on research and development from a global perspective with a global 4-pole system in Japan, Asia, Europe and the United States. The Kikkoman Group will work toward these ambitious goals under the theme of "Striving with passion to create new values." 