

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



## THE JAPANESE TABLE

# Washoku and Health Toward Better Health Worldwide

by Yukio Yamori

*Our four-part series has been taking a look at the nutritional aspects of washoku traditional Japanese cuisine, and how its foods relate to health. This final installment reviews findings which demonstrate that washoku has a beneficial influence on longevity.*

4

CLOSE-UP JAPAN:  
*Wabocho* Japanese Kitchen Knives

5

JAPANESE STYLE:  
Presentation of Japanese Cuisine  
TASTY TRAVEL:  
*Yamagata Imoni*

6

MORE ABOUT JAPANESE COOKING:  
Chicken, Apple & Shiitake Salad with  
*Tororo-kombu*  
*Jibun* Simmered Duck with *Nama-fu* Wheat  
Gluten & Vegetables

8

KIKKOMAN TODAY:  
Kikkoman Fosters Corporate Unity by  
Supporting Athletes

# Washoku and Health Toward Better Health Worldwide



From left: Soybeans; *hijiki-no-nimono* simmered *hijiki* sea vegetable; *buri-daikon* simmered yellowtail and daikon, seasoned with soy sauce.

## Global CARDIAC Study

From 1985 until 2005, our Cardiovascular Diseases and Alimentary Comparison (CARDIAC) study surveyed over 60 different regions around the world. Our research involved the analysis of 24-hour urine samples taken from 200 men and women in each region. The global sampling measured the levels of excreted taurine, an amino acid abundant in fish and shellfish which supports cardiovascular function, and of isoflavones, antioxidants found in soybeans, which have a similar structure to that of female sex hormones. In a comparison of urine samples containing these substances, Japanese test subjects accounted for 90 percent of those demonstrating the greatest amounts of both taurine and isoflavones; there were no Japanese among those groups with smaller amounts of these compounds (fig. 1). The CARDIAC study established that death rates from heart diseases were lower in those groups with greater levels of taurine and isoflavones; this reflected the prevalence of fish and soybeans in their diets.

As mentioned in the second installment of this series (*Food Forum* Vol. 30, No. 2), those groups suffering from cardiovascular conditions which cause heart-

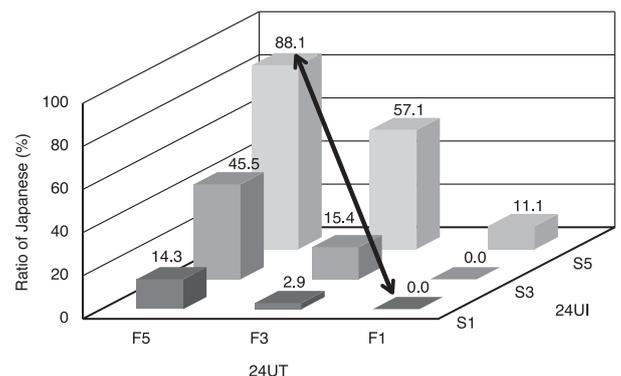
related deaths have a lower average lifespan. Japan, however, has the lowest figures for deaths from heart-related conditions among the more economically advanced nations, and our survey results demonstrated that fish and soybeans help prevent such heart-related deaths (figs. 2 and 3). This remarkable longevity is due to fish and soybeans in the diet; yet the number of Japanese suffering from the so-called lifestyle ailments—obesity, high blood pressure, high cholesterol—has increased, and the average *healthy* life expectancy in Japan is now shorter than the average lifespan by about 10 years.

## Washoku Benefits

Hyogo Prefecture, which accounts for about 4.5 percent of Japan's population, has since 2001 conducted a campaign to encourage people to eat a balanced diet including rice, soybeans and fish, and to reduce their intake of salt. In 2012, we conducted our 24-hour urine tests to follow up this campaign, and observed that

the eating habits of women had improved more than those of men. Women's salt intake had decreased, their soy intake had increased, and thus their blood pressure and triglyceride levels had decreased. When we conducted 24-hour urine tests comparing samples of both men and women who often ate fish and soy with those who seldom ate them, we found that the former group had increased their levels of "good" HDL cholesterol, which protects against arteriosclerosis, by 10 percent. The fact that women inherently have 10 percent more good HDL cholesterol than men is thought to be related to the

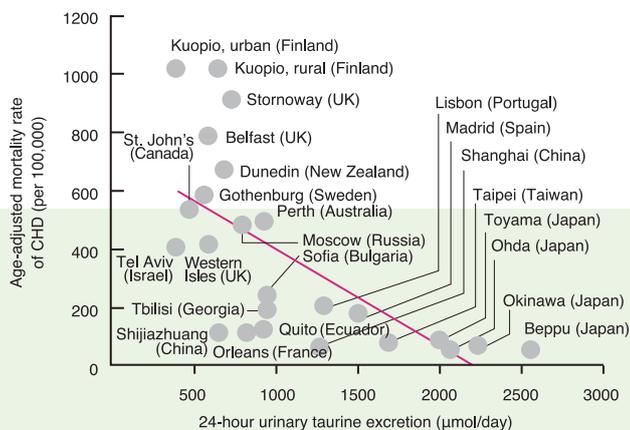
Figure 1. Ratio of Japanese in World Study Populations of Each Group, Graded from Low to High for Each of 24-Hour Urinary Biomarkers for Fish (F) and Soy (S) Intake.



Terms: 24UT=24-hour urinary taurine; 24UI=24-hour urinary isoflavones; F1-5=lowest to highest quintile of 24U taurine/creatinine; S1-5=lowest to highest quintile of 24U isoflavones/creatinine.

Graph courtesy Dr. Yamori (2016). Source: WHO CARDIAC Study, 1985-2005

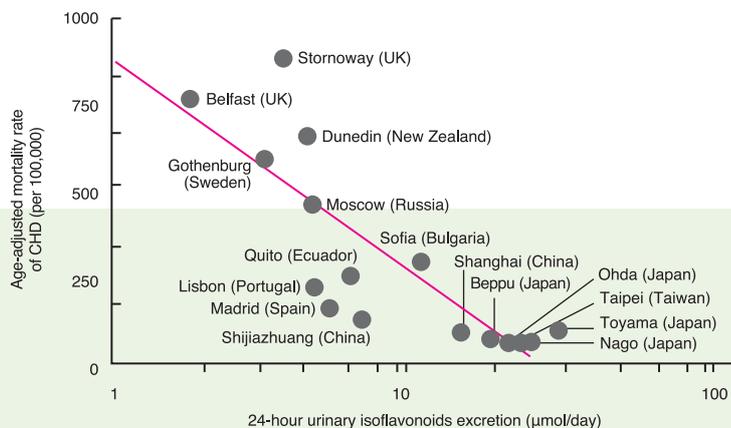
**Figure 2. Relationship Between 24-Hour Urinary Taurine Excretion & Age-Adjusted Mortality Rates of Coronary Heart Diseases (CHD) in Men**



Red line indicates statistically calculated association between CHD mortality & 24-hour urinary taurine excretion.

Graph courtesy Dr. Yamori (2006). Source: WHO CARDIAC Study, 1985-2005

**Figure 3. Relationship Between 24-Hour Urinary Isoflavone Excretion & Age-Adjusted Mortality Rates of Coronary Heart Diseases (CHD) in Men**



Red line indicates statistically calculated association between CHD mortality & 24-hour urinary isoflavone excretion.

Graph courtesy Dr. Yamori (2001). Source: WHO CARDIAC Study, 1985-2001

tendency for women to live longer than men. With frequent intake of soybeans and fish, people may live longer by six or seven years, which offsets the difference in longevity between men and women.

This study also found that those who ate both soybeans and fish had higher levels of folic acid. In the U.S., folic acid has been recognized for its efficacy in protecting against heart diseases, and is even used as an additive in grain products. Recent studies indicate that it may also be effective in staving off dementia. A diet of both soybeans and fish is to be recommended, although our study found that those who consumed both also had high levels of both sodium and potassium. Potassium alleviates the adverse effects of excess sodium; in another study dated 2004, for one month we had 70 businessmen eat a healthy bento lunch box containing potassium-rich vegetables. After one month, their body fat levels and blood pressure had fallen, and among those who ate soy and fish instead of meat, their proportion of good cholesterol to bad cholesterol had increased. Moreover, we discovered that eating a vegetable-rich menu for lunch for at least two weeks' duration had the effect of lowering sodium intake by three grams daily. In any case, we advise

eating soybeans and fish with moderate amounts of salt. Our worldwide survey data suggest that if this practice were to be continued throughout one's life, it would potentially reduce the risk of stroke by half.

### Driving Away Lifestyle Ailments

Japan has a tradition of holding rites to anticipate the coming of spring. The custom is to hang a sardine head at the entrance to the house and throw roasted soybeans, while calling out, "Devils out! Good luck in!" Each person then eats the number of beans corresponding to his or her age plus one, and prays for good luck and long life. Symbolically, the fish and the soybeans represent the essence of a healthy diet: fish contains taurine as well as DHA, an omega-3 fatty acid associated with smoothing blood flow and brain function; two handfuls of soybeans contain soy protein and isoflavones which need to be taken daily to prevent heart diseases. The secret to health and long life is indeed to eat soybean products and fish with moderate amounts of salt, along with plenty of vegetables and seaweed: this is Japan's traditional *washoku*.

The third installment in this series (Vol. 30, No. 3) described how our CARDIAC study added

soy and fish components to bread eaten by Brazilians of Japanese descent, those living in Scotland, and Australian aboriginals. After introducing these changes into their respective diets, these diverse populations were found to have lowered blood pressure and cholesterol levels. If the beneficial components of *washoku* were to find a place among the rest of the world's various food cultures, they might well prevent the early death of over 60 percent of the world's population—a literal casting out of the devilish scourge of lifestyle ailments. ●

Translated by Lynne E. Riggs

### cover

A classic *washoku* meal of rice, miso soup, grilled mackerel, simmered vegetables, boiled spinach and pickles. The dishes include the healthy elements of soybeans, fish, seaweed and vegetables.

### Author's profile

Yukio Yamori, M.D., Ph.D.; born 1937 in Kyoto. Dr. Yamori is a pathologist specializing in preventative medicine and nutrition. After serving for many years as professor at the Graduate School of Human and Environmental Studies at Kyoto University, he is currently professor at Mukogawa Women's University, as well as Director of the Mukogawa Women's University Institute for World Health Development, President of the Hyogo Prefecture Health Promotion Association, and professor emeritus of Kyoto University. In 1998, he was awarded Japan's Medal with Purple Ribbon. He has authored many books, including *Chojū no Himitsu* ("Secret of long life") and *Daizu wa Sekai o Sukuu* ("Soybeans will save the world").



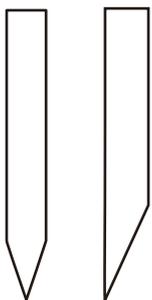
Slicing a daikon using a *wabocho*



Preparing sashimi with a *sashimi-bocho*

## Wabocho Japanese Kitchen Knives

In Japanese cuisine, the menu is designed in harmony with the season and occasion, and food aesthetics are essential. Authentic Japanese food revolves around the detailed knife-work of the chef, and Japan's extensive range of *wabocho*, traditional Japanese kitchen knives, allows them to perform with intricate precision. While much of the world uses double-beveled knife blades, many Japanese knives are single-beveled, which means the blade is sharpened on the outer side and the inner side is flat; furthermore, each *wabocho* knife has a specific blade length and style intended for certain foods and cutting methods. A



Cross sections of double-beveled (left) and single-beveled blades

Japanese cuisine  
revolves around  
precision knife-work

blade has a sharper edge compared to a double bevel. When cutting with a single bevel, you pull the knife toward you, rather than pushing down as you would with a double-beveled blade. This pulling-cutting motion cuts ingredients more precisely and prevents the rupture of food cells. There are particular *wabocho* designed to prepare specific foods, including sashimi, vegetables, and soba and udon noodles. Considering the enormous variety of fish used in Japanese cuisine, a wide range of knives exists for their detailed preparation. For professional chefs, these are broken down into highly specialized blades; for example,

specific knives are used for *fugu* blowfish, for cutting the small bones of *hamo* pike conger, and for filleting *unagi* eel. *Wabocho* are essential tools for professional chefs, and they sharpen and hone the blades daily with a whetstone.

It is believed that today's straight-blade form emerged during the early to mid-nineteenth century, when the basic style of Japanese food culture as we know it today was established. Japanese knives evolved alongside the advancements of the country's food culture. During the post-war period, with the introduction of Western foods, popular household kitchen knives called *santoku-bocho* came into general use. The word *santoku* means "three virtues," suggesting that this double-beveled knife may be used to cut three different foods—fish, meat and vegetables. Nevertheless, professional chefs continue to rely on the exceptional cutting control of their specialized single-beveled knives. ●



## Presentation of Japanese Cuisine

The composition of Japanese cuisine involves a balance of seasonality, color and visual appeal. During cold months, hot food may be served in a covered dish; when the lid is lifted, one enjoys a pleasant aroma and warmth. In summer, foods such as sashimi may be served on a glass platter, to impart a sense of coolness. Sashimi is typically arranged by first placing a pile of finely shredded daikon on the dish, upon which slices of raw fish are arranged with a dab of wasabi.

When presented to the diner, larger food is at the back, smaller in front, and this subtle gradient creates a sense of dimension. Different types of fish are traditionally cut and laid out in a specific manner: sliced fish such as tuna, for example, cascade in layers. Sashimi is garnished with yellow chrysanthemum, green seaweed and bright green *shiso* leaves. These contrasting colors accentuate the fish and make the food as beautiful to look at as it is delicious to eat. ■



*Kabura-mushi* steamed fish and grated turnip



A refreshing display of sashimi

### TASTY TRAVEL



*Imoni* cooked in an iron pot

## Yamagata *Imoni*

*Imoni*, which literally means “simmered potatoes,” is a stew made of *sato-imo* taro, beef, *konjac* and Japanese long onion seasoned with soy sauce, sugar and sake. Japan’s northern Yamagata Prefecture is known for its autumn *imoni* parties, when friends and families gather along riverbanks to make pots of this hearty dish over a fire pit. *Imoni* is a dish usually made at home, and its recipes are passed down over generations using ingredients that vary from family to family. Thousands of visitors flock each year to Yamagata’s famous *Imoni* Festival, where *imoni* is prepared in an enormous iron pot six meters in diameter.



## CHICKEN, APPLE & SHIITAKE SALAD WITH TORORO-KOMBU

By marinating the chicken in water with soy sauce or salt, it becomes especially moist when grilled. In this recipe, the umami of the *tororo-kombu* lends extra flavor to the salad with the advantage of less sodium content.



● Tororo-kombu

### Serves 2-3

288 kcal Protein 27.6 g Fat 14.7 g  
(per person)

- 1 boneless chicken breast, skin removed, 300 g / 2/3 lb.
- 3 T water
- 1 t Kikkoman Soy Sauce
- Thyme, 1-2 sprigs
- Vegetable oil

### White sesame dressing

- 6 T white sesame paste (*neri-goma*), or tahini
- 120 ml / 1/2 C hot water
- 5 T Japanese grain vinegar
- 1 1/2 T Kikkoman Light Color Soy Sauce
- 1 unpeeled apple, cored
- 4 fresh shiitake mushrooms\*, stems removed, grilled and cut in fine strips
- Lettuce for serving
- *Tororo-kombu* (shaved kombu) to taste

とろろ  
昆布

- 1 Butterfly the thickest part of the chicken breast so the meat will cook uniformly.
- 2 Place the chicken in a plastic bag with the mixture of water and soy sauce, along with the thyme. Marinate for several hours or overnight.
- 3 Add a little vegetable oil to a non-stick frying pan. Cook the chicken over lower-medium heat, until the color of the bottom half turns white; then turn over to cook for another two minutes on low heat.
- 4 Place a lid over the pan and cook until a skewer goes through the chicken smoothly. Turn off the heat, remove the chicken and allow it to cool.
- 5 To prepare the dressing, place the white sesame paste in a bowl, add 4 T hot water and whisk. Add another 4 T hot water and whisk together with the vinegar and light color soy sauce. As the dressing cools and thickens, add just enough extra water to obtain the consistency of heavy cream.
- 6 Cut the apple into 5 mm / 0.2 in. slices and then into 1 cm / 0.4 in. strips.
- 7 Shred the chicken meat along its fibers (*see photo*) and set aside.
- 8 Mix together the chicken, apple and mushrooms with the sesame dressing until all the ingredients are completely coated and moist.
- 9 Lay out lettuce leaves on a serving plate, top with salad mixture and garnish with *tororo-kombu*.



\* If fresh shiitake mushrooms are not tender and moist, boil them briefly rather than grill.

Note: Those with certain thyroid conditions should be aware that kombu contains considerable amounts of iodine.

Recipe by Michiko Yamamoto

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



## JIBUNI SIMMERED DUCK WITH NAMA-FU WHEAT GLUTEN & VEGETABLES

*Jibuni* is a local dish from Kanazawa city in Ishikawa Prefecture, and dates back to the Edo period (1603-1867). In this simple home-cooked dish, grilled tofu may be used instead of *nama-fu*.



◆ Nama-fu

**Serves 4**  
324 kcal Protein 14.9 g Fat 15.1 g  
(per person)

- 200 g / 7 oz. deboned duck breast\*, trimmed of fat only on the sides
- 4 *sato-imo*, taro
- 4 fresh shiitake mushrooms
- 50 g / 1.7 oz. carrot
- 100 g / 3 ½ oz. spinach
- 160 g / 5 oz. *nama-fu*, wheat gluten

### Seasoning

- 500 ml / 2 C dashi stock
- 2 T Kikkoman Soy Sauce
- 1 ½ T Kikkoman Light Color Soy Sauce
- 2-3 T Kikkoman Manjo Mirin
- 2 T sake
- 1/2 T granulated sugar
- Wheat flour
- Wasabi

**1** Cut the duck meat into 8 slices, each 8 mm / 0.3 in. thick.

**2** Peel the taro, parboil and drain. Discard the tough ends of the shiitake mushrooms and carve decorative cuts into the caps (see photo).

**3** Cut carrot into strips 1 cm / 0.4 in. wide by 5 cm / 2 in. long by 3 mm / 0.1 in. thick; alternatively, cut into decorative flower shapes using a cookie cutter.

**4** Parboil the spinach and drain, then squeeze out excess water. Cut into pieces 3 cm / 1 in. long. Cut *nama-fu* into pieces 1 cm / 0.4 in. thick.

**5** Place the seasoning ingredients in a saucepan. Bring to a boil, then add the taro, shiitake mushrooms, carrot and *nama-fu*. Cover with a drop lid and simmer for 10-15 minutes over medium heat until all the ingredients are cooked. Remove all ingredients and set aside; leave the sauce in the pan.

**6** Coat the duck meat with wheat flour, and shake off the excess. In the same saucepan, add the meat one slice at a time and simmer over medium heat for 3-4 minutes.

**7** Place the cooked *nama-fu*, vegetables and duck along with the spinach in a serving bowl. Reserve the liquid in the saucepan.

**8** If desired, add a little wheat flour to the saucepan, stirring constantly over medium heat until the broth has thickened.

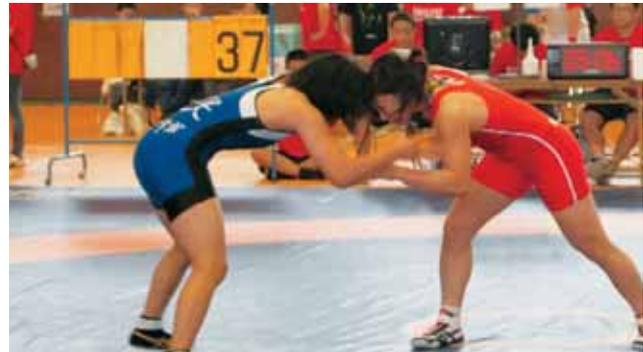
**9** Pour this liquid over duck and vegetables, and serve garnished with a dab of wasabi.

\* Chicken or beef may be substituted.





## Kikkoman Fosters Corporate Unity by Supporting Athletes



Top, from left: canoeist Yuriko Takeshita; wrestler Chiho Hamada (in red)  
Bottom: Kikkoman employees show support for Ms. Takeshita (left), and cheer on Ms. Hamada (right).

Since 2011, Kikkoman Corporation has been hiring Japanese athletes through the Athnavi job-placement support program. Athnavi is operated by the Japanese Olympic Committee (JOC) and was established to help top athletes find employment.

Kikkoman agrees with the aims of Athnavi and participates in this initiative as part of its social contribution activities: the company sustains top athletes through employment and other support, and thus provides them with a stable living environment where they can concentrate on competitions. At the same time, the company is making a meaningful contribution to society while creating a sense of corporate unity.

The strong perseverance and commitment of athletes like retired swimmer Haruka Ueda and active canoeist Yuriko Takeshita—both Athnavi employees at Kikkoman since 2011—are reflected in their company work performance. Their dedication also resonates with the company's own endeavors to establish Kikkoman Soy Sauce as a truly global seasoning. As these athletes have become involved in employee activities—by teaching employee swim and canoe classes, for example—they have helped build a sense of shared experience that revitalizes

the company from within, and have inspired corporate unity as employees come together to support them in competitions. The athletes are also provided with Japanese food while they train and compete overseas. Following their retirement from competitive sports, Kikkoman offers such athletes the opportunity to establish meaningful and successful second careers.

Two new employees expected to further energize the company are wrestler Chiho Hamada, whom Kikkoman welcomed this year, and karate athlete Masami Seiwada, who will join next year. Kikkoman believes these Athnavi participants can apply their competitive experience on the world stage to their new roles as company employees, to the benefit of both athletes and the company.

Kikkoman's management philosophy is to promote the international exchange of food culture and introduce Japanese food culture around the world. To further enhance these goals, in 2016 Kikkoman signed on as an official sponsor of the Japan Karatedo Federation. Karate originated in Japan, but has grown to be extremely popular around the world; this sponsorship is sure to be of mutual advantage to both parties, not only in their development, but also in promoting greater global awareness of Japanese culture. ●