Chapter 3 References

1 Notes on Foods

The important points to note for all food groups are as follows:

The term "analytical values" refers to the component value analyzed in the 5th Composition Tables and the 5th Enlarged Composition Tables, and also refers to the component values of iodine, selenium, chromium, molybdenum and biotin analyzed for the Composition Tables 2010.

The values of the newly analyzed components for this revision (2015) (analytical values obtained during 2010-2015) are expressed as "analytical values (2015)."

1) Grain (Cereal) Foods

The important points regarding all grains foods are listed as follows.

- [1] In principle, all samples are taken from standard commercial products. In the case of items that are difficult to obtain, they are prepared in accordance with the standard blending ratio.
- [2] Cooked food items are listed as "boiled", with the same samples of the uncooked food items (raw or dry) are used for cooking and analyses. The cooking methods of each food are outlined in Table 16.In the followings, important points to note regarding component values are described for each food item.

Amaranth

-01001 whole grain, raw

The annual plant "amaranth" belongs to the genus *Amaranthus* of the family Amaranthaceae, and is a pseudocereal. The species include *Amaranthus hypochondriacus* native to Mexico, and *A. cruentus* native to both Guatemala and Mexico. *A. caudatus*, a similar plant of the same species is also native to Mexico, which has been grown for ornamental purposes since the Edo period for its low-hanging spikes. The grain shape is flat and lenticular, with a diameter of 1 to 1.5 mm. Many of them are glutinous type. Samples are taken from *A. hypochondriacus* commonly-grown species in Japan. The component values are determined based on analytical values.

Foxtail millet

-01002 milled grain, raw

-01003 glutinous cake

To determine the component values of "milled grain, raw", time reanalysis and an additional analysis are conducted. The amount of water is determined based on analytical values (2015), analytical values and the component values derived from the 4th Composition Tables. The amounts of protein, lipid, iodine, selenium, chromium, molybdenum, thiamin, riboflavin, niacin and biotin are determined based on analytical values (2015), while other component values are based on analytical values and the component values in the 4th Composition Tables.

The component values of "glutinous cake" are determined by the calculation based on the component values of "milled grain, raw" of "foxtail millet "and "glutinous rice, well-milled, raw" of "paddy rice".

Common oats

-01004 oatmeal, raw

The component values of "oatmeal, raw" are determined based on analytical values and the component values in the 4th Composition Tables.

Barley

-01005 under-milled pressed grain, raw

- -01006 pressed grain, raw
- -01007 split grain, raw

-dried noodles

- -01008 raw
- -01009 boiled
- -01010 roasted flour

"Under-milled pressed grain, raw", "pressed grain, raw" and "split grain, raw" are made by polished grains of six-rowed hulled barley or naked barley. Two-rowed barley may also be used sometimes. Barley products include pressed barley, which is made by heating and pressing polished grains with steam, and split barley made by splitting polished grains in two pieces along the black line. (Furthermore, there are two types of split barley: one is the barley called split grain which isn't subjected to the pressing process after splitting, and another is the white barley, the heat-pressed split barley.)

Products of the under-milled pressed grain, the pressed grain and the split grain currently in the market are thiamin-enriched or unenriched (including "under-milled pressed grain" with a higher milling yield). The Nutrition Improvement Law once categorized the enriched foods as a part of the special nutritive foods group, but the category was abolished in 1996 and a self-certification system has been adopted since then. As a result, the products with no enrichment are listed in the current composition tables. The component values of each food item are determined based on analytical values and the component values in the 4th Composition Tables. ("split grain, raw" corresponds to the former "split barley".)

"Dried noodles" are noodles made from barley flour and wheat flour. The Fair Competition Codes concerning labeling on fresh noodles¹) defines it as noodles with a minimum of 30 % barley flour content. The component values are determined based on the relevant document²) about products containing barley flour and wheat flour at rates of 50 % for each of them.

"Roasted flour" is also commonly referred to as either Kosen or Hattai flour. It is made by roasting and milling whole grains of barley. The component values are determined based on analytical values and the component values in the 4th Composition Tables (those of the Kansai style), taking samples from commercial products (made from naked barley).

Proso millet

-01011 milled grain, raw

For the component values of "milled grain, raw", reanalysis and an additional analysis are conducted. The amount of water is determined based on analytical values (2015), and the analytical values and the component

values in the 4th Composition Tables, while the component values of protein, lipid, iodine, selenium, chromium, molybdenum, thiamin, riboflavin, niacin and biotin are determined based on analytical values (2015). Other component values are determined based on analytical values and the component values in the 4th Composition Tables.

Common wheat

Whole grain

-Domestic

-01012 medium-strength, raw

-Imported

-01013 soft, raw

-01014 hard, raw

Wheat can be classified into three types: soft, medium-strength and hard. Flour derived from soft grain wheat is (containing comparatively low amounts of gluten) is commonly to make all sorts of confectionary, while, flour derived from hard grain wheat is commonly used to make bread (containing comparatively high amounts of gluten). Flour derived from medium grain-strength grain wheat is commonly used to make noodles.

Domestic wheat is classified into what is known as common wheat and strong wheat in accordance to the agricultural products standards based on the Agricultural Products Inspection Act (Act 144, 1951). However, here listed is only the information concerning common wheat. The component values of "medium-strength, raw" of "domestic", "soft, raw" and "hard, raw" and of "imported "are determined based on analytical values and the component values in the 4th Composition Tables.

Wheat flour

-soft flour

-medium-strength flour

- -01018 first grade
- -01019 second grade

-hard flour

- -01020 first grade
- -01021 second grade
- -01023 whole grain

-premixed flour

- -01146 for "Okonomiyaki" (Japanese-style savory pancake made up of various ingredients and condiments)
- -01024 for pancake
- -01147 for fried food
- -01025 for Tempura

Wheat flours can be classified into three types: soft flour with weak gluten-forming properties, hard flour which contains a higher amount of protein with strong gluten-forming properties, and medium-strength flour

⁻⁰¹⁰¹⁵ first grade

⁻⁰¹⁰¹⁶ second grade

with gluten-forming properties that fall in between those of soft and hard flour. Soft flour, hard flour, and medium-strength flour are suitable for making confectioneries, breads, and noodles, respectively.

The component values of "first grade" and "second grade" of "soft flour", "medium-strength flour" and "hard flour" are determined based on analytical values (2015), analytical values and the component values in the 4th Composition Tables. Note that samples of "first grade" and "second grade" are taken from the identical flour-milling line.

The component values of "whole grain" of "hard flour" are determined by the calculation based on the component values of "hard, raw" of "imported" of "common wheat".

There are many food items that are made from "ready-made flour" or "premixed flour". These include food items such as "Okonomiyaki (savory pancake)", and "Tempura (deep fried delicacies")

"Premixed flour for pancake" is a product made from first grade soft flour, sugar, glucose, baking powder, corn flour, skimmed milk powder, whole egg powder, shortening, salt, etc. "Premixed flour for Tempura" is a product made from first grade soft flour, corn starch, baking powder, and other minor ingredients. The component values of iodine, selenium, chromium, molybdenum and biotin of "Premixed flour for Okonomiyaki" are determined based on analytical values. Other component values are determined by the calculation based on analytical values of commercial products and the blending ratio of ingredients. The component values for "Premixed flour for Tempura" are determined based on analytical values (2015), conducting new analysis on commercial products.

Newly listed "Premixed flour for Okonomiyaki" is a product made from soft flour, sugar, baking powder, egg powder, milk powder and various seasonings. Yam, kombu, bonito, shrimp, squid, etc. may also be added. The component values are determined based on analytical values (2015).

Newly listed "Premixed flour for Tempura" is a product made from soft flour, starch, baking powder, fat and oil, sugars, milk powder, salt, seasonings, spices, etc. Modified starch may also be added. There are two types of products: those used for flouring foods and those used for making batter by mixing with water. The former does not contain baking power. The component values are determined based on analytical values (2015).

Since carbon dioxide, etc. are generated when cooking these food items, the amounts are calculated based on the amount of baking power⁴ contained within raw materials and shown in the Remarks of the table. Thus, each food counts 100 g when the amounts of carbon dioxide, etc. are summed up with general components.

Breads

-01026	white
-01028	white long roll
-01030	hardtack
-01031	French bread
-01032	rye and wheat bread
-01033	raisin bread
-01034	soft rolls
-01035	croissants
-01036	English muffins
-01037	naan

-01148 bagel

As for [breads], the component values are determined based on analytical values and the component values in the 4th Component Tables, selecting commercial products in accordance with the standard blending ratio of ingredients (see Appendix Blending ratio of bread ingredients).

The component values of "English muffins" are determined based on analytical values of commercial products, while those of "naan" are determined based on analytical values of commercial products baked and frozen. As to breads, energy and each of other component values vary in association with changes in the blending ratio of ingredients. The type and blending ratio of fats and oils to be used does have a large influence on the values.

Newly listed "bagel" is made by mixing and kneading hard wheat flour together with water and salt, which is then combined with fermented yeast, formed into a ring shape and baked after boiling. Oils and fats, milk and sugar are not added, so it contains less calories, less fat and more protein than regular breads. The component values are determined based on analytical values (2015).

Note that items of "bun with filling" ("fried bun", "baked bun with red bean paste filling, regular", "baked bun with red bean paste filling, thin dough type", "fried bun with curry filling", "baked bun with custard cream filling, regular", "baked bun with custard cream filling, thin dough type", "baked bun with strawberry jam filling", ""Korone" (horn-shaped bread), with chocolate cream filling", "baked bun with chocolate cream filling, thin dough type" and "sweetened bread with a honeydew melon filling"), "Danish pastry", "doughnuts, yeast-leavened" and "doughnuts, cake-type" are listed in Confectionaries.

		White	White long roll	French bread	Rye and wheat bread	Raisin bread	Soft rolls	Croissants
Base flour	Wheat flour	Hard flour, first grade 100	Hard flour, first grade 100	Medium-strength flour, first grade 100	Hard flour, first grade 50	Hard flour, first grade 100	Hard flour, first grade 100	Hard flour, first grade 100
	Rye flour				50			
Yeast		2	2	1	1.8	3	2.5	3
Salt		2	2	2	1.8	1.8	1.8	2
sugar (so white)	oft sugar,	4	4			10	6	8
Shorteni	ng	4	4		4	6		
Margarii	ne						12	50
Butter							3	6
Skimme powder	d milk	2	3			2	2	
Milk								10
Egg (wh	ole)						5	
Raisin						40		

Appendix Blending ratio of bread ingredients

Malt syrup		0.5			
Powdered wheat			2		
protein			2		

(Note) The blending ratios above express the ratio of each ingredient to base powder.

Japanese noodles

- -"Udon" (thick wheat noodles)
 - -01038 uncooked
 - -01039 boiled
- "Udon" (thick wheat noodles), dried noodles
 - -01041 uncooked
 - -01042 boiled
- -"Somen and Hiyamugi" (thin wheat noodles), dried noodles
 - -01043 uncooked
 - -01044 boiled
- -"Somen and Hiyamugi" (thin wheat noodles), dried noodles, hand-stretched
 - -01045 raw
 - -01046 boiled

Japanese noodles is basically made by kneading wheat flour with salt water and cutting them into fine strips. The component values of each food item are determined based on analytical value and the component values in the 4th Composition Tables. The component values of iodine, selenium, chromium, molybdenum and biotin of "Somen and Hiyamugi, dried noodles, hand-stretched, raw" are determined based on analytical values (2015).

The manufacturing method of "Somen and Hiyamugi, dried noodles, hand-stretched" is different from that of regular "Somen and Hiyamugi." It is made by coating strings of noodles with vegetable oil, stretching them by little and little while twisting to make cylindrical-shaped noodles, then drying them. It undergoes maturation steps through a series of manufacturing process. The shapes of "Somen" and "Hiyamugi" are different, but their base type flour are almost the same. Here are the component values of the two are collectively shown.

Yellow alkaline noodles

- -yellow alkaline noodles
 - -01047 uncooked
 - -01048 boiled
- -01049 yellow alkaline noodles, steamed noodles
- -yellow alkaline noodles, dried noodles
 - -01050 uncooked
 - -01051 boiled
- -Okinawa noodles
 - -01052 uncooked
 - -01053 boiled

-Okinawa noodles, dried noodles

-01054 uncooked

-01055 boiled

Yellow alkaline noodles are noodles made and preserved in brine water. The component values of each food item are determined based on analytical values and the component values in the 4th Composition Tables.

The phosphorus values of "raw" and "boiled" of "yellow alkaline noodles" are reanalyzed and the component values are determined based on analytical values (2015), analytical values, the component values in the 4th Composition Tables and retention factors.

"Yellow alkaline noodles, steamed noodles" are those used for making Yakisoba.

"Okinawan noodles" in Japanese called "Okinawa-men", are mainly eaten in the Okinawa region. The noodles belongs to the same group as the "yellow alkaline noodles" which are manufactured and preserved in in vegetal ash or brine water.

Instant noodles

-instant Chinese noodles

- -01056 dried by frying, seasoned
- -01057 dried by frying, not seasoned
- -01058 dried without frying

-instant Chinese noodles, packed in cups

- -01059 dried by frying and packaged in paper cups
- -01060 "Yakisoba", instant Chinese oil-fried noodles, dried by frying and in cups
- -01061 dried without frying and packaged in paper cups
- -instant "Udon" noodles, Japanese thick wheat noodles, packaged in paper cups
 - -01062 dried by frying

Instant noodles are classified into several categories. These are "instant Chinese noodles", "instant Chinese noodles, packaged into paper cups" and ""Udon" noodles, Japanese thick wheat noodles, packaged into paper cups". Additionally, "instant Chinese noodles" are broken down into three types: "dried by frying, seasoned", "dried by frying, not seasoned" and "dried without frying". Also, "instant Chinese noodles, packaged into paper cups" are split into three types: "dried by frying and packaged into paper cups", "Yakisoba", dried by frying and packaged into paper cups". The listed item of ""Udon" noodles, Japanese thick wheat noodles, packaged into paper cups" is "dried by frying". The component values of the whole product including attached seasoning, etc. are shown. The component values of each food are determined based on the relevant document⁵) about commercial products.

Macaroni and spaghetti

- -macaroni and spaghetti, dry pasta
 - -01063 uncooked
 - -01064 boiled
- -01149 fresh pasta, uncooked

Macaroni and spaghetti are different in terms of their shape, but both of them are made from the same type base flour: 100% durum wheat semolina. Their component values are collectively shown. The values of their

general components, sodium and manganese of "uncooked" and "boiled" are determined based on analytical values (2015), while other the component values are based on analytical values and the component values in the 4th Composition Tables.

The higher sodium content in the boiled food mainly stems from the salt added in the boiling process. The value varies depending on the amount of added salt. (In the current Composition Tables, salt is added to water at a rate of 1.5 %.)

Newly listed "fresh pasta, uncooked" is made by kneading flour such as durum wheat semolina with water, and pushing it out of molds with a strong force. It undergoes no drying process and is directly boiled and served. The component values are determined based on analytical values (2015) of commercial products.

"Fu" (wheat gluten cake)

-01065 "Namafu" (steamed dough made from gluten and glutinous rice flour)

-"Yakifu"

-01066 "Kamayakifu" (dried by oven baking)

-01067 "Itafu" (dried gluten sheet by baking)

-01068 "Kurumafu" (dried gluten cake by baking ring-shaped)

The component values of "Namafu", "Kamayakifu", "Itafu" and "Kurumahu" which belong to ["Fu"] are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from commercial products.

"Namafu" is made by firstly kneading the dough which is mainly consists for wheat flour, salt and water. The dough is then put in a bag and is kneaded again in water to wash away starch from gluten, which is subsequently steamed.

The name "Kamayakifu" is derived from the former "Kanze-fu" listed in the Composition Tables 2010. It includes products called Komachifu, etc. in the market.

"Itafu" is made by spreading dough into a thin layer and roasting it over the heat directly. "Kurumafu" is, as is the case with Chikuwa, made by rolling the dough of Fu around metal bars, roasting it over the heat directly, then repeating the process to create a layered affect.

In contrast with "Kurumafu" and "Itafu" that are cooked directly over a heat source, Komachifu, Kirifu, Otsuyufu, etc., grouped in "Kamayakifu" are roasted in flat pots such as cast-metal pots or iron plate pots. On the other hand, Hanafu and Matsutakefu, which are also grouped in "Kamayakifu", are roasted in mold pots.

Others

-01070 wheat germ

-wheat gluten

- -01071 powdered type
- -01072 pellet type
- -01073 paste type
- -01074 Outer steamed wheat "Jiaozi" dough
- -01075 Outer steamed wheat "Shumai" dough
- -01076 pizza crust
- -01069 "Chikuwabu" (tube-shaped steamed wheat dough)

-bread crumbs

-01077 fresh

-01078 semi-dry

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-01079 dry
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-01150 cold noodles, uncooked

The component values of "wheat germ" are determined based on analytical values and the component values in the 4th Composition Tables.

"Wheat gluten" is a product made by isolating gluten from wheat flour. As it improves properties of emulsifying, moisture-retaining, binding and mastication, etc., it is used for making processed meat products, fish paste products, confectionaries and breads. "Pellet type" and "paste type" are listed as well as "powdered type". The component values of "powdered type" are determined based on analytical values and the component values in the 4th Composition Tables, while those of "pellet type" and "paste type" are based on the relevant document⁶.

Samples of "outer steamed wheat "Jiaozi" dough" are taken from products made from first-grade hard flour, while samples of "outer steamed wheat "Shumai" dough" are taken from products blending equivalent amounts of first-grade hard flour and first-grade medium-strength flour. The component values of each food are determined by the calculation based on the analytical values of commercial products and the component values of the base wheat flour.

"Pizza crust" is made by spreading bread dough into a thin circular shape that is suitable to make a pizza. The name "pizza crust "listed in the Composition Table 2010 has been renamed in Japanese. The component values are determined based on analytical values of frozen products in the market.

"Steamed tubular type" listed in the Composition Table 2010 is renamed to "Chikuwafu". Its classification is also changed from [Fu] to [Others]. Products of the item are made by mixing and kneading hard flour, water and a pinch of salt to prepare the dough, which is then divided and spread multiple times, and allowed to stand for a while. After being left to stand, the dough is repeatedly rolled and stretched around pipes, put in molds, boiled at a high temperature for about 25 minutes, unmolded and made to absorb water to get soft. The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from commercial products.

Breadcrumbs can be listed as either "fresh", "semi-dry" or "dry". The component values of "fresh" are determined based on analytical values, while those of "semi-dry" and "dry" are determined by the calculation based on the component values of "fresh".

Newly listed "cold noodles" are elastic noodles whose dough is made by kneading wheat flour, starch, salt and water. Then, strong pressure is applied to push it out of fine pores. The component values are determined based on analytical values (2015) of commercial products. In the Kansai region, Hiyashi-Chuka is sometimes referred to as "cold noodles".

Rice

Paddy rice

-01080 brown rice, raw

-01081 half-milled, raw

- -01082 under-milled, raw
- -01083 non-glutinous, well-milled, raw
- -01151 glutinous rice, well-milled, raw
- -01152 long grain, well-milled, raw
- -01084 short grain, well-milled, rice with embryo, raw
- -01153 short grain, germinated brown rice, raw

The "rice" is divided into non-glutinous rice and glutinous rice. If not indicated, the component values listed are those of non-glutinous rice used for making cooked rice, Senbei, etc.

As for [paddy rice], "brown rice, raw" of the cultivar with a large production amount, grown in a typical production area is used to prepare samples of "half-milled, raw", "under-milled, raw" and "well-milled, raw". Their milling yields are 94.7 to 96.1 %, 92.1 to 93.9 %, 90.4 to 91.0 %, respectively.

The value of water of [paddy rice] was 15.5 % in the Composition Table 2010; however, in accordance with recent actual market situations, it is altered to 14.9 % and accordingly, each component value is recalculated.

"Short grain, well-milled, rice with embryo, raw" is the rice with a residual embryo ratio of at least 80 %, and commercial products are used. The component values of "brown rice, raw", "well-milled, raw" and "short grain, well-milled, rice with embryo, raw" are determined based on analytical values and the relevant document⁷).

The component values of "half-milled, raw" and "under-milled, raw" are determined based on those of "brown rice, raw" and retention factors from the brown rice listed in the 4th Composition Tables.

Note that as for "well-milled, raw", the values of non-glutinous, glutinous and long grain rice are collectively listed in the Compositions Table 2010; however, they are subdivided and listed based on analytical values (2015 and the 5th Composition Tables).

Newly listed "glutinous rice" is used for making Okowa, Sekihan, rice cakes, Arare, etc. Its starch contains no amylose, so the gelatinization temperature is low. As for component values, general components, minerals, thiamin, riboflavin and niacin are determined based on analytical values (2015), while tocopherols, vitamin B6, folate, pantothenic acid, biotin and dietary fibers are determined by the estimation based on analytical values of "non-glutinous rice" of [paddy rice],.

Newly listed "long grain rice" is widely grown in the southern China, India, and Southeast Asia. It has a high amylose content, so its gelatinization temperature is high; it becomes hard and less sticky rice when cooked. The component values are determined based on analytical values (2015).

Newly listed "short grain, germinated brown rice" is made by soaking the rice in water or warm water, allowing it to germinate slightly and then sterilizing it with heat. The component values are determined based on analytical values (2015).

Paddy rice, "meshi" (cooked rice)

- -01085 short grain, brown
- -01086 short grain, half-milled
- -01087 short grain, under-milled
- -01088 short grain, non-glutinous rice, well-milled
- -01154 short grain, glutinous rice, well-milled

- -01089 short grain, well-milled, rice with embryo
- -01155 short grain, germinated brown rice

The component values of "brown" and "well-milled" of paddy rice, "meshi" are determined based on analytical values.

The component values of "half-milled", "under-milled" and "well-milled, rice with embryo" are determined based on the analytical values and the component values in the 4th Composition Tables and retention factors.

As for "well-milled", the component values of non-glutinous and glutinous rice are collectively listed in the Composition Tables 2010; however, they are subdivided based on analytical values (2015) and analytical values. Rice is cooked with IH(Induction Heating) rice cookers. The method of rice-washing and the amount of added water are shown in "Table 16 Outlines of Cooking Methods". The food yields after cooking are shown in "Table 16 Outlines of Cooking are different from those in the Composition Tables, it means the amounts of components of "meshi" are also different.

Newly listed "glutinous rice" would get too soft if cooked with a usual cooking method, so it is used mainly for making Okowa or Sekihan where it is steamed. In recent years, it has been possible and popular to cook these foods with a home rice cooker. The component values of its general components, minerals, thiamin, riboflavin and niacin are determined based on analytical values (2015), while those of tocopherol, vitamin B6, folate, pantothenic acid, biotin and dietary fibers are determined by the estimation based on analytical values of "non-glutinous, raw" of [paddy rice].

Newly listed "short grain, germinated brown rice" is made by soaking brown rice in water or warm water, germinating it slightly and then sterilizing it with heat. It gets softer than brown rice in the germination process and its composition becomes different from that of normal brown rice; for example, there are changes in amino-acid composition including an increase in γ -amino butyric acid. Therefore, the component values are determined based on analytical values (2015) of commercial products.

Note that the value of "water" of paddy rice, "meshi" was 65 % in the 4th Composition Tables. The value was measured using the rice sealed and cooled down immediately after cooking; however, the structure of rice cookers has been changed to allow for steam to be let off and to decrease the amount of water contained in the rice itself to about 60 %^{8) 9}. In addition, there have been an increased number of cultivars with superior eating quality and the quality of rice has been improved, decreasing the amount of water absorbed during the cooking process. Because of these facts, in the 5th Composition Tables the value is altered to 60 % based on analytical values.

Rice, short grain, paddy rice, "zengayu" (gruel)

- -01090 brown
- -01091 half-milled
- -01092 under-milled
- -01093 well-milled

Rice, short grain, paddy rice, "gobugayu" (diluted gruel)

- -01094 brown
- -01095 half-milled
- -01096 under-milled

-01097 well-milled

Rice, short grain, paddy rice, "omoyu" (thin gruel)

- -01098 brown
- -01099 half-milled
- -01100 under-milled
- -01101 well-milled

The component values of "brown rice", "half-milled" and "under-milled" of paddy rice, "zengayu", paddy rice, "gobugayu" and paddy rice, "omoyu" are determined by the calculation based on the component values of "brown rice", "half-milled" and "under-milled" of paddy rice, raw and paddy rice, "meshi", and the component values in the 4th Composition Tables and literature values¹⁰⁾¹¹.

The component values of "well-milled" of paddy rice, "zengayu", paddy rice, "gobugayu" and paddy rice, "omoyu" are determined based on analytical values for iodine, selenium, chromium, molybdenum and biotin, while other component values are determined by the calculation based on analytical values, the component values in the 4th Composition Tables and literature values¹⁰⁾¹¹.

The amounts in the various forms of paddy rice such as the raw materials contained in paddy rice, "zengayu", paddy rice, "gobugayu" and paddy rice, "omoyu" correspond to 20 g, 10 g and 6 g, respectively.

Rice, short grain, upland rice

- -01102 brown, raw
- -01103 half-milled, raw
- -01104 under-milled, raw
- -01105 well-milled, raw

Rice, short grain, upland rice, "meshi" (cooked rice)

- -01106 brown
- -01107 half-milled
- -01108 under-milled
- -01109 well-milled

During the formulation of the 4th Composition Tables, the component values of "brown rice", "half-milled", "under-milled" and "well-milled" of rice, short grain, upland rice and rice, short grain, upland rice, "meshi" were reviewed, and the component values except for protein and carbohydrate are determined as the same as those of paddy rice. The current Composition Tables follow the policy; only the protein value is determined as the same as the same as that in the 4th Composition Tables, and the components values except for carbohydrate are determined as the same as the same as those of paddy rice. Additionally, the water value of upland rice is altered to 14.9 %, the same value as that of paddy rice, and accordingly, each component value is recalculated.

Non-glutinous rice products

- -01110 quick-cooking rice, regular, raw
- -01156 quick-cooking rice, fortified product for school lunch, raw
- -01111 "Onigiri" (rice ball)
- -01112 "Yaki-onigiri" (baked rice ball)
- -01113 "Kiritanpo" (baked tube-shaped cooked rice)

- -01114 "Joshinko" (ordinary rice flour)
- -01157 roasted brown rice flour
- -01158 fine flour
- -01159 rice bread
- -01160 fresh noodles, rice noodles, raw
- -01115 dried noodles,
- -01116 rice-koji

The component values of "quick-cooking, regular and raw rice" are determined based on analytical values (2015) of commercial products newly analyzed. "Quick-cooking rice, fortified product for school lunch, raw" is a product with extra thiamin added to it. Although the component value of thiamin was shown in the Remarks in the Composition Tables 2010, it is newly included in the table. The component values other than thiamin are determined as the same as those of "quick-cooking rice, regular, raw"

Each of the component values of "Onigiri" are determined by the calculation based on literature values of commercial products^{12)~14} and the component values of "non-glutinous rice, well-milled" of paddy rice, "meshi" and "Table salt, formally known as sodium chloride \geq 99%".

The component values of iodine, selenium, chromium, molybdenum and biotin of "Yaki-onigiri" are determined based on analytical values, while each of other component values are determined by calculation based on literature values of commercial products^{12)~14)} and the component values of "non-glutinous rice, well-milled" of [paddy rice, "meshi"] and "soy sauce, "Koikuchi-shoyu" (common soy sauce)".

"Kiritanpo" is a food product of the Akita region of Japan that is made by kneading cooked rice, then shaping and baking it, similar to that of Chikuwa. The component values are determined based on those of "well-milled" of paddy rice, "meshi" and those in the 4th Composition Tables.

The component values of "Joshinko", "dried noodles" and "rice-koji" are determined based on analytical values and the component values in the 4th Composition Tables.

Newly listed "roasted brown rice flour" is made by roasting and flouring brown rice. The component values are determined based on analytical values (2015) of commercial products.

Newly listed "fine flour" is made by flouring well-milled rice. The component values are determined based on analytical values (2015) of commercial products.

Newly listed "rice bread" is the bread made by fermenting well-milled rice with yeast. The component values are determined based on analytical values (2015) of commercial products which contain neither wheat flour nor wheat gluten.

Newly listed "fresh noodles, rice noodles, raw" are made by mixing and kneading well-milled rice, salt and water to form a dough, then are cut into strings and pushed out of a nozzle of the mold. Recently, there has been an increase and demand for these type of noodles in Japan. The component values are determined based on analytical values (2015) of commercial products.

Glutinous rice products

- -01117 rice cake
- -01118 "Sekihan" (steamed rice with adzuki beans or cowpeas)
- -01119 "Akumaki" (lye-soaked and cooked rice in bamboo leaf wrapping)

- -01120 "Shiratamako" (flour milled in water)
- -01121 "Domyojiko" (steamed flour)

The component values of iodine, selenium, chromium, molybdenum and biotin of "rice cake" are determined based on analytical values, while other component values are determined by the calculation based on the component values of "glutinous rice, well-milled" of paddy rice, "meshi".

The component values of iodine, selenium, chromium, molybdenum and biotin of "Sekihan" are determined based on analytical values, while other component values are determined by the calculation based on the component values of glutinous rice and cowpeas after cooking, setting their blending ratios to 100 and 10, respectively.

"Akumaki" is a kind of Chimaki traditionally eaten in the Kagoshima region of Japan. The component values are determined based on analytical values and the component values in the 4th Composition Tables.

The component values of "Shiratamako" are determined based on analytical values and the component values in the 4th Composition Tables.

"Domyojiko" is used as a base flour of confectionaries. The component values are determined based on analytical values.

[Others]

-01161 Rice, bran

Newly listed "rice, bran" is a by-product obtained through the process of milling, in which the brown rice of a major domestic cultivar is then polished with a frictional rice polishing machine after undergoing humidity conditioning treatment. The component values are determined based on analytical values (2015).

Buckwheat

-Buckwheat flour

- -01122 Buckwheat flour, straight
- -01123 Buckwheat flour, inner layer
- -01124 Buckwheat flour, middle layer
- -01125 Buckwheat flour, outer layer
- -01126 Buckwheat, parboiled grain
- -Buckwheat, fresh noodles
 - -01127 Buckwheat, fresh noodles, uncooked
 - -01128 Buckwheat, fresh noodles, boiled
- -Buckwheat, dried noodles
 - -01129 Buckwheat, dried noodles, uncooked
 - -01130 Buckwheat, dried noodles, boiled

Buckwheat flour is made by grinding and screening Marunuki, the whole grain without chaff, repeatedly during the flour milling process. It is sieved and classified into "buckwheat flour, inner layer" (grade one flour, mainly the inner layer portion), "buckwheat flour, middle layer" (grade two flour, mainly the middle layer portion) and "buckwheat flour, outer layer" (grade three flour, mainly the outer layer portion) through the process. Since they are mixed and used depending on use purpose, they are listed separately besides "buckwheat flour, straight" that undergoes no sieving. Samples of buckwheat flour of "inner layer", "middle layer", "outer

layer" and "straight" are prepared by flouring the whole grains from the same origin. The milling yield of "straight" is about 90 % of Marunuki. The component values of these items of "buckwheat flour" are determined based on analytical values and the component values in the 4th Composition Tables.

"Buckwheat, parboiled grain" is also called Sobagome or Mugisoba. It is made by boiling whole grains and removing their chaff. The component values are determined based on analytical values and the component values in the 4th Composition Tables.

The component values of "buckwheat, fresh noodles" (Sobakiri) and "buckwheat, dried noodles" are determined based on analytical values and the component values in the 4th Composition Tables.

Corn

-01131 whole grain, yellow kernel, raw

- -01162 whole grain, white kernel, raw
- -01132 corn meal, yellow kernel, raw
- -01163 corn flour, white kernel, raw
- -01133 corn grits, yellow kernel, raw
- -01164 corn grits, white kernel, raw
- -01134 corn flour, yellow kernel, raw
- -01165 corn flour, white kernel, raw
- -cultivar: Cuzco
 - -01135 oil-roasted and salted
 - -01136 popcorn, oil-popped and salted
 - -01137 cornflakes

As for "corn", ripe seeds and immature seeds are used respectively. Since there are substantial differences in the vitamin A contents between the "white kernel" and "yellow kernel", in the Composition Tables 2010 the component values of α -and β -carotene of "yellow kernel" were listed in the table and those of "white kernel" were shown in the Remarks. However, in the current tables, both of them are listed separately. The component values of "white kernel" except for vitamin A are determined as the same as "yellow kernel".

"Whole grain, raw" refers to the ripe seeds of corn. The component values are determined based on analytical values and the component values in the 4th Composition Tables. The immature seeds of yellow kernel are listed in "Vegetables".

"Corn meal" is made by removing the germ from the whole grain before grinding. "Corn grits" is made by cracking the whole grains, removing the pericarp and the germ, grinding and sieving them. "Corn flour" is obtained through these processes, which is made from the soft starch found in the endosperm. The component values of these items are determined based on analytical values and the component values in the 4th Composition Tables.

"Oil-roasted and salted" of "cultivar: Cuzco" is made from the cultivar with large grains, imported from Peru. The component values are determined based on analytical values.

"Popcorn, oil-popped and salted" is made by adding oil and salt to the popping corns (pop corns) and heating until they burst. The component values are determined based on analytical values and the component values in the 4th Composition Tables. "Cornflakes" are made from cracked, seasoned corn grits, which are pressurized and heated; before thoroughly dried, they are rolled out into flakes and then roasted. The component values are determined based on analytical values and the component values in the 4th Composition Tables.

Job's tears

-01138 milled grain, raw

The component values of "milled grain, raw" are determined based on analytical values and the component values in the 4th Composition Tables.

Japanese barnyard millet

-01139 milled grain, raw

As for the component values of "milled grain, raw", reanalysis and additional analysis are conducted and the component value of water is determined based on analytical values (2015), analytical values and the component values in the 4th Composition Tables, the sodium value is determined based on analytical values (2015) and the component values in the 4th Composition Tables. Protein, lipid, thiamin, riboflavin and niacin are determined based on analytical values (2015), and other component values based on analytical values and the component values in the 4th Composition Tables.

Sorghum

-01140 whole grain, raw

-01141 milled grain, raw

The component values of "whole grain, raw" and "milled grain, raw" are determined based on analytical values and the component values in the 4th Composition Tables.

Rye

-01142 whole flour

-01143 flour

The component values of "whole flour" and "flour" are determined based on analytical values and component values in the 4th Composition Tables.

Miscellaneous products

-01166 mixture of five grains

Newly listed "mixture of five grains" contains five kinds of grains: rice, barley, foxtail millet, proso millet and Japanese barnyard millet. The component values are determined based on analytical values (2015) of commercial products.

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2) Potatoes and Starches

The common features for all types of potatoes and starches are as follows:

- [1] The term "potatoes" refers to the underground organ derived from the plant stem or root that stores nutrients. Specifically, it refers to a tuber, corm and tuberous root. They generally contain a high proportion of digestible polysaccharide (starch), while some of them contain a high proportion of non-digestible polysaccharide (inulin or glucomannan). Although "potatoes" can be classified as vegetables, in the current Tables it is grouped collectively with "potatoes products and starches products" according to the classification of previous Composition Tables. Note that among corms, "arrowhead" and bulbs (such as "lily, bulb"), which are the underground organs that store nutrients derived from plant leaves, are grouped under "Vegetables" as before.
- [2] The cooked foods included are "Tempura", "soaked in water", "steamed", "baked" and "boiled". The identical samples which have been used as samples of uncooked food (raw or dry), are cooked and analyzed. The cooking methods of each food are outlined in Table 16.
- [3] Regarding "analytical values" and "analytical values (2015)" in the text, see "Notes on Foods" described in the initial part of Chapter 3. (See Page 1)

In the followings, important points to note regarding component values are described for each food item.

<Potatoes>

Jerusalem-artichoke

-02001 tuber, raw

-02041 tuber, boiled

"Jerusalem-artichoke" is the tuber of *Helianthus tuberosus* of the family Asteraceae. It contains inulin, a type of fructan. The component values of "tuber, raw" are determined based on analytical values (2015), analytical values and the component values in the 4th Composition Tables.

The component values of "tuber, boiled", newly included, are determined based on calculated values using the component values of "raw", the food yield after cooking, and retention factors calculated using analytical values (2015) before and after cooking.

Konjac

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-02002 fine powder
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-block

- -02003 made from fine powder
- -02004 made from corm
- -02042 red
- -freeze-dried
 - -02043 raw
 - -02044 rehydrated and boiled
- -02005 noodles

"Fine powder" is made from the corm of konjac (Amorphophallus konjac) of the family Araceae, which is cut

and dried, roughly ground and then milled. It is used as a raw material of edible konjac products, and is not directly consumed. It contains glucomannan. The component values are determined based on analytical values and the component values in the 4th Composition Tables.

Any item that is "made from fine powder", manufactured from "fine powder", and "made from corm" is itemized as "konjac, block". It is made by firstly adding cold or warm water to the "fine powder" or grated corm, which is made of peeled raw or boiled corm; subsequently, it is stirred until turning into sticky paste, mixed with a coagulant such as calcium hydroxide, boiled to solidify and soaked in water. The component values are determined based on analytical values and the component values in the 4th Composition Tables. Note that there are products of "made from fine powder" and "made from corm" using algae powder as an auxiliary ingredient; such a product contains higher amount of iodine.

Newly included "red" is made from "fine powder", with iron (III) oxide added as a colorant. The component values of water and iron are determined based on analytical values (2015) of commercial products. Other component values are determined based on imputed values derived from the component values of "made from fine powder".

Newly itemized "freeze-dried" is made by freezing "made from corm" outdoors and drying it while repeatedly melting and freezing. "Rehydrated and boiled" is made by cooking "raw". The component values of water of "raw" and "rehydrated and boiled" are determined based on analytical values (2015). The component values except for water are determined based on imputed values derived from the component values of "made from corm". Note that different from "made from corm", the component value of iodine is expressed as "-", because there presumably are no products with added algae powder. Also, the component values of chromium, molybdenum and biotin are expressed with the symbol"-", considering the effect of the auxiliary ingredient of "made from corm" (algae powder) on them.

"Noodles", Itokonjac in Japanese, are made by adding a coagulant, squeezing it out in boiling water, solidifying in the form of strings and then soaking in water. The component values are determined based on analytical values and the component values in the 4th Composition Tables.

Sweet potatoes

Sweet potato

-tuberous root, without skin

- -02006 raw
- -02007 steamed
- -02008 baked

-tuberous root, with skin

- -02045 raw
- -02046 steamed
- -02047 tempura

-02009 Mushikiriboshi (sliced and dried after steaming)

Sweet potato, purple flesh type

-tuberous root, without skin

-02048 raw

-02049 steamed

"Sweet potato" is the tuberous root of *Ipomoea batatas* of the family Convolvulaceae. It is called Satsumaimo, Kansho, Karaimo, Ryukyuimo or other names in Japanese. The skin color and flesh color vary by cultivar. In the Composition Tables 2010, only the food items without skin were recorded; however, food items "with skin" have been included in the current Tables,, due to the fact that sweet potato may be cooked and eaten without peeling.

The component values of "raw" of "tuberous root, without skin" are determined based on analytical values of cultivars with deep yellow or pale yellow flesh. Some of the cultivars with orange flesh contain 3,000 to 30,000 μ g of β -carotene per 100 g of edible portion. The component values of "steamed" are determined based on the calculated values using the component values of "raw", the food yield after cooking, and retention factors obtained by analytical values (2015) before and after cooking. The component values of "baked" are determined based on analytical values (2015) and the component values in the 4th Composition Tables, taking samples from commercial products.

The component values of "raw" of "tuberous root, with skin" are determined based on analytical values (2015) of cultivars with deep yellow or pale yellow flesh. The component values of "steamed" and "tempura" are determined based on analytical values (2015) of cooked samples of "raw".

"Mushikiriboshi" is made by peeling the skin of sweet potatoes, then steaming, slicing and drying them. It is also called Kansooimo or Hoshiimo in Japanese. In recent years, modestly dried products without having a bloom on the surface tend to be preferred. The component values are determined based on analytical values and the component values in the 4th Composition Tables.

Newly included "sweet potato, purple flesh type" is the cultivars with purple flesh. The component values of "raw" of "sweet potato, purple flesh type, tuberous root, without skin" are determined based on analytical values (2015). Those of "steamed" are determined based on analytical values (2015) of cooked samples of "raw".

Taros

Taro is the corm of *Colocasia esculenta* of the family Araceae. There are many cultivars and their corms greatly diverse in terms of color, degree of glossiness, and overall appearance including their shape. Cultivars are roughly classified into those grown for their budded/multiplied small corms, those grown for their enlarged seed corms, and those grown for their enlarged and small corms. Generally, Satoimo in Japanese refers to small corms (including those of cultivars grown for their enlarged corms). Those grown for their enlarged corms are often called using their cultivars' name.

-"Satoimo"

- -02010 corm, raw
- -02011 corm, boiled
- -02012 corm, frozen

"Satoimo" is a generic term referring to the taro cultivars grown for their small corms, such as Ishikawawase and Dodare. The component values of each of "raw" and "boiled" are determined based on analytical values of samples including imported corms from China. "Frozen" is those made by peeling, blanching and freezing. The component values are determined based on analytical values of imported products from China.

-'Celebes'

-02050 corm, raw

-02051 corm, boiled

Newly itemized "Celebes" is a cultivar grown for both its enlarged corms and small corms, characterized by their red shoot. It is also called Akameimo or Daikichi in Japanese. The component values of "raw" are determined based on analytical values (2015). Those of "boiled" are determined based on analytical values (2015) of the samples prepared by cooking "raw".

-"Takenokoimo"

-02052 corm, raw

-02053 corm, boiled

Newly included "Takenokoimo" is a cultivar grown for its enlarged corms, which are end-rounded and column-shaped. The component values of "raw" are determined based on analytical values (2015). Those of "boiled" are determined based on analytical values (2015) of the samples prepared by cooking "raw".

-"Mizuimo"

-02013 corm, raw

-02014 corm, boiled

"Mizuimo" is cultivated in the area located between from the southern parts of Kyushu Island and the Islands of Okinawa. It is also called Taimo in Japanese. The component values are determined based on analytical values and the component values in the 4th Composition Tables.

-"Yatsugashira"

-02015 corm, raw

-02016 corm, boiled

"Yatsugashira" is a cultivar grown for its enlarged and multiplied corms, both of which do not separate and coalesce in one. Manganese of "raw" is reanalyzed and the component values are determined based on analytical values (2015) and analytical values. The component value of manganese of "boiled" is determined based on the calculated values using the component values of "raw", the food yield after cooking, and retention factors obtained by analytical values (2015) before and after cooking. Each of the component values except for manganese is determined based on analytical values and the component values in the 4th Composition Tables.

Potatoes

- -02017 tuber, raw
- -02018 tuber, steamed
- -02019 tuber, boiled

-02020 French fries

-02021 dehydrated mashed potato

"Potatoes" is the tuber of *Solanum tuberosum* of the family Solanaceae, called Jagaimo or Bareisho in Japanese. The component values of each of "raw" and "steamed" are determined based on analytical values and the component values in the 4th Composition Tables. Those of "boiled" are determined based on analytical values of samples prepared by cooking "raw". The component values of "French fries" are determined by the calculation based on the relevant document¹⁾ and the component values of "boiled" and "vegetable oil, blend". "Dehydrated mashed potato" is made by peeling the skin of potatoes and slicing them, which are braised after preheating and water-cooling, strained and then dried in the form of flake or granular. In some cases, skimmed milk powder, a conditioning agent, an antioxidant, and other ingredients are added before the drying process. The component values are determined based on analytical values of samples including imported products, and the component values in the 4th Composition Tables.

Yacon

-02054 tuber, raw

-02055 tuber, boiled

Newly included "yacon" is the tuber of *Smallanthus sonchifolius* of the family Asteraceae. The component values of "raw" are determined based on analytical values (2015). Those of "boiled" are determined based on analytical values (2015) of samples prepared by cooking "raw".

Yams

Yam is a generic term for the tuberous root (succulent root) of Chinese yam, Japanese yam and white yam of the family Dioscoreaceae.

-Chinese yam

-"Ichouimo"

-02022 tuberous root, raw

-"Nagaimo"

-02023 tuberous root, raw

-02024 tuberous root, boiled

-"Yamatoimo"

-02025 tuberous root, raw

"Chinese yam" is the tuberous root (succulent root) of *Dioscorea polystachya* of the family Dioscoreaceae, whose varieties are distinguished by the shape of tuberous root. In the Composition Tables 2010, it was recorded as "Yamanoimo", but has been renamed so that the name becomes the same as the plant name.

The flat-shaped "Ichouimo" is also called Teimo in Japanese. The component values are determined based on analytical values and the component values in the 4th Composition Tables.

"Nagaimo" is the Chinese yam with the shape of club or column. The component values are determined based on analytical values and the component values in the 4th Composition Tables.

"Yamatoimo" is the Chinese yam that forms a globular shaped root and is also called Iseimo or Tanbaimo in Japanese. The component values are determined based on analytical values.

-Japanese yam

-02026 tuberous root, raw

"Japanese yam" is the tuberous root (succulent root) of *Dioscorea japonica* of the family Dioscoreaceae. Samples are taken from wild habitats, although there are also some cultivated roots available. The component values are determined based on analytical values and the component values in the 4th Composition Tables.

-White yam

-02027 tuberous root, raw

"White yam" is the tuberous root (succulent root) of *Dioscorea alata* of the family Dioscoreaceae. The component values are determined based on analytical values and the component values in the 4th Composition

Tables.

<Starches and starch products>

Starches

Starches are refined from reserved starch contained in seeds, stems, tubers or tuberous roots of the material plants.

- -02028 cassava starch
- -02029 kudzu starch
- -02030 rice starch
- -02031 wheat starch
- -02032 sago starch
- -02033 sweet potato starch
- -02034 potato starch
- -02035 corn starch

"Cassava starch" is also called tapioca flour, manioc flour, yuca flour, tapioca or manioc, and is isolated from the tuberous root of *Manihot esculenta* of the family Euphorbiaceae. It is not produced in Japan. The component values are determined based on those in the 4th Composition Tables.

"Kudzu starch", also called kudzu flour, is separated from the tuberous root of *Pueraria lobata* of the family Fabaceae. The component values are determined based on analytical values and the component values in the 4th Composition Tables.

"Rice starch" is separated from grains of *Oryza sativa* of the family Gramineae. It is made with the alkali steeping method in order to remove its protein. The component values are determined based on those in 4th Composition Tables.

"Wheat starch", called Shofu in Japanese, is isolated from grains of *Triticum aestivum* of the family Gramineae. It is made from wheat-flour dough using the isolating method of starch and gluten (the Martin method), which utilizes the unique characteristics of wheat gluten. There is also another method (the batter method) in which looser dough (batter) is made and thoroughly washed out, and then starch is isolated from the gluten. The component values are determined based on those in the 4th Composition Tables. Note that if "wheat starch" is called Namafu in Japanese, "Namafu (steamed dough made from gluten and glutinous rice flour)" (01065) is distinguished by calling it "Namabu".

"Sago starch", also called sago flour, is isolated from the trunk of *Metroxylon sagu* of the family Palmae. It is not produced in Japan. The component values are determined based on analytical values of imported products and the component values in the 4th Composition Tables.

"Sweet potato starch", called Satsumaimo Dempun or Kansho Dempun in Japanese, is isolated from the tuberous root of *Ipomoea batatas* of the family Convolvulaceae. It is classified into raw starch, ordinary starch and bleached starch by the regulations on agricultural products standards²⁾ based on the Agricultural Products Inspection Act. In the current Tables, samples are taken from the "bleached starch". The component values are determined based on those in the 4th Composition Tables.

"Potato starch", called Jagaimo Dempun or Bareisho Dempun in Japanese, is isolated from the tuber of *Solanum tuberosum* of the family Solanaceae. It is classified as either raw starch, lump starch, refined starch,

low grade starch or low grade starch (refined powder) by the regulations on agricultural products standards²). In the current Tables, samples are taken from the refined starch. The component values of iodine, selenium, chromium, molybdenum and biotin are determined based on analytical values (2015). Other component values are determined based on those in the 4th Composition Tables.

Note that most of the products in the market that are labelled as Katakuriko (means Katakuri <*Erythronium japonicum*> starch) are actually the potato starch and not the Katakuri starch made from the bulb of *Erythronium japonicum* of the family Liliaceae.

"Corn starch", also called maize starch, is isolated from grains of *Zea mays* of the family Gramineae. It is made with the wet-milling method, in which grains are soaked in warm sulfurous acid solution. There are products with a normal amylose content, products without amylose (waxy corn starch) and products with a high amylose content (high-amylose corn starch). The component values are determined based on those in the 4th Composition Tables.

Starch products

-"Kuzukiri" kudzu starch noodles

- -02036 dried, uncooked
- -02037 dried, boiled

"Kuzukiri", also called Suisen in Japanese, are noodles made from kudzu (*Pueraria lobate*) starch. The component values are respectively determined based on analytical values.

-02056 "Gomadofu" (tofu-like gel made from sesame paste and kudzu starch)

Newly itemized "Gomadofu" is a product made from "kudzu starch" (sometimes called Kudzuko in Japanese) and ground sesame seeds with or without the removal of testa, which is then heated and kneaded with added water and chilled to solidify like tofu. The component value of water is determined based on analytical values (2015) of commercial products. The component values except water are determined by the calculation based on the blending ratio and the component values of ingredients.

-Tapioca pearls

-02038 dried, uncooked

-02057 dried, boiled

"Tapioca pearls" are made by processing cassava starch (tapioca) to shape them into balls. The component values of "dried, uncooked" are determined based on analytical values (2015) of imported products from Thailand and Malaysia and analytical values.

The component values of "dried, boiled", newly included, are determined based on the calculated values using the component values of "dried, uncooked", the food yield after cooking, and retention factors obtained by analytical values (2015) before and after cooking.

-Starch noodles

- -02058 fresh noodles, uncooked
- -02059 dried noodles, uncooked
- -02060 dried noodles, boiled

Newly included "starch noodles" is the noodles manufactured from potato starch, with some corn starch blended. The products of "fresh noodles, uncooked" and "dried noodles, uncooked" are in the market. "Dried

noodles, boiled" is made by cooking "dried noodles, uncooked". The component values of each of "fresh noodles, uncooked" and "dried noodles, uncooked" are determined based on analytical values (2015). The component values of "dried noodles, boiled" are determined based on analytical values (2015) of samples prepared by cooking "dried noodles, uncooked".

-"Harusame" thin starch noodles

-made from mung bean starch

- -02039 dried, uncooked
- -02061 boiled

-made from potato and sweet potato starches

- -02040 dried, uncooked
- -02062 boiled

"Harusame" was originally produced in China from the seed flour or starch of mung bean (*Vigna radiata*) of the family Fabaceae. It was called Tomen in Japanese. Because there are products made from different kinds of starches in the market, it is subdivided into "made from mung bean starch" and "made from potato and sweet potato starches".

The products of "made from mung bean starch" is made from seed flour of mung bean (*Vigna radiata*) of the family Fabaceae, or from the isolated starch. In the current Composition Tables, the item made from starch is itemized. The component values of "dried, uncooked" are determined based on analytical values (2015) of samples including imported products from China, analytical values, the relevant document³⁾ and component values in the 4th Composition Tables. The component values of "boiled", newly included, are determined based on the calculated values using the component values of "dried, uncooked", the food yield after cooking, and retention factors obtained by analytical values (2015) before and after cooking.

Some products of "made from potato and sweet potato starches" contain added alum and a thickner (CMC). The component values of "dried, uncooked" are determined based on analytical values (2015), analytical values, the relevant document³⁾ and the component values in the 4th Composition Tables. The component values of "boiled", newly included, are determined based on the calculated values using the component values of "uncooked", the food yield after cooking, and retention factors obtained by analytical values (2015) before and after cooking.

References

 Tomoko Watanabe, Akiko Takahashi, Yoshie Yamauchi: The weight and component values of commercial frozen French fries before and after cooking (undisclosed).

2) Regulations on agricultural products standards: Notification 244 of Ministry of Agriculture, Forestry and Fisheries of Japan, 2001.

3) Kumiko Shindoh, Akemi Yasui: Minerals in Harusame (undisclosed).

3) Sugars and sweeteners

Common features in relation to sugars and sweeteners are as follows:

- [1] In the arrangement of the foods belonging to this food group, they are classified into (sugars) mainly made from sugar cane and sugar beet, (starch sugars) made from starches, and (others) made from honey or maple syrup and other products. Additionally, items belonging to (sugars) and (starch sugars) are respectively arranged in ascending order of degree of processing.
- [2] The major nutrient in the food items is carbohydrates (sucrose, glucose, fructose, and other saccharides), and the contents of other nutrients are low.

[3] Regarding "analytical value" and "analytical value (2015)" in the text, refer to "Notes on Foods" described in the initial part of Chapter 3. (See Page 1)

In the followings, important points to note regarding component values are described for each food item.

Sugars

Raw materials of (sugars) are mainly sugar cane (*Saccharum officinarum*, Satoukibi, Kansha or Kansho in Japanese) and sugar beet (*Beta vulgaris*, Tensai, Satoudaikon or Biito in Japanese).

-03001 brown sugar lump

"Brown sugar lump" is the non-centrifugal sugar made from sugar cane. It is also called black sugar. The component values are determined based on analytical values and the component values in the 4th Composition Tables.

Note that there is also the non-centrifugal sugar made from sugar beet, but it is not called "brown sugar lump". As to the non-centrifugal sugar made from sugar beet, there are some products containing in total 5 g of raffinose and kestose¹), which are the dietary fibers defined by Codex Alimentarius Commission, derived from their raw materials.

-03002 "Wasanbonto" (traditional non-centrifugal soft white cane sugar)

"Wasanbonto" is the sugar with an intermediate character between non-centrifugal sugar and centrifugal sugar and its crystal size is fine. It is commonly used for high-grade Japanese confectionaries. It is manufactured in the regions of Kagawa and Tokushima prefecture located in Shikoku Island. The sugar is produced with a traditional method, and is called as either Sanukiwasanbonto (produced in Kagawa prefecture) or Awawasanbonto (produced in Tokushima prefecture) in Japanese. The component values are determined based on analytical values and the component values in the 4th Composition Tables.

-Soft sugars

- -03003 white
- -03004 yellow

"Soft sugars" are refined sugars with a relatively high water content characterized by their small-sized crystals (0.07 to 0.26 mm). They are called Kurumatou in Japanese. In the process of refining sugars, the products with higher purity are obtained first, and they are manufactured in the order of "white" and "yellow". Note that there are some "yellow" products contain caramel coloring in addition to the raw material sugar. The component values are determined based on the component values in the 4th Composition Tables and the relevant

document²⁾.

-hard sugars

-03005 granulated

-03006 coarse crystal, white

-03007 coarse crystal, yellow

"Hard sugars" are refined sugars with a lower water content and larger-sized crystals in comparison to "soft sugars". They are called Zarametou in Japanese. "Granulated" and "coarse crystal, white" are highly refined sugar mostly consisting of pure crystals of sucrose. Note that there are some products of "coarse crystal, yellow" containing caramel coloring other than raw material sugar. The component values are determined based on the component values in the 4th Composition Tables and the relevant document²).

-reprocessed sugars

- -03008 sugar cubes
- -03009 "Korizatou" (crystal candy sugar)
- -03010 candy sugar for coffee
- -03011 powdered sugar

The item "sugar cubes" are the sugar product made by adding saturated solution of granulated sugar to "hard sugars, granulated", and solidifying it into the cubic and other forms. The component values are determined based on those in the 4th Composition Tables and the relevant document²).

"Korizatou" is the sugar product made from granular sugar solution from which large-sized crystals are grown. The component values are determined based on those in the 4th Composition Tables and the relevant document²).

"Candy sugar for coffee" is small-sized colored candy sugar obtained by growing crystals from granular sugar solution colored with caramel. The component values are determined based on those in the 4th Composition Tables and the relevant document²).

"Powdered sugar" is the sugar product made by grinding granular sugar into fine particles. It is likely to solidify by humidity change, temperature change, or storage. In order to prevent solidifying, corn starch is added to the sugar as an additive at a rate about 2 % in some products. In the current Composition Tables, samples are taken from those without the additive. The granulated powdered sugar is a product made by shaping powdered sugar into granules. It is included in "powdered sugar", because there are no differences between the component values of the two, although their use purposes are slightly different. The component values are determined based on those in the 4th Composition Tables and the relevant document²).

-liquid sugars

-03012 sucrose

-03013 inverted

"Liquid sugars" are divided into "sucrose" which means refined sucrose solution, and "inverted" whose sucrose is partly hydrolyzed. The component values are determined based on those in the 4th Composition Tables and the relevant document²).

-03014 candy sugar molasses

"Candy sugar molasses" is the molasses which remains after the manufacturing process of "Korizatou". It is

used as a raw material of processed foods. The component values are determined based on those in the 4th Composition Tables and the relevant document²).

(Starch sweeteners)

(Starch sweeteners) are sweeteners manufactured by hydrolyzing (saccharifying) starches. They are classified into either "dried glucose syrup", "glucose syrup" or "glucose" based on the degree of saccharification. As an indicator of degree of saccharification, DE (dextrose equivalent) is used. It expresses the reducing sugar content within a sample as glucose content, in percent of solid content. The maximum value of DE is 100, meaning all solid is glucose; when DE is lower, it means there are a greater amount of oligosaccharides or polysaccharides.

-03015 dried glucose syrup

"Dried glucose syrup" is made from those with DE about 20 to 40, which is powdered with a vacuum dryer or a spray dryer. The component values are determined based on analytical values and the component values in the 4th Composition Tables.

-glucose syrup

-03024 enzyme-converted

-03025 acid-converted

"Glucose syrup" is the viscous sweeteners with DE 40 to 60. Because the component value of available carbohydrate varies depending on the method of saccharification, it is subdivided into "enzyme-converted" and "acid-converted". The component value of water is that of a standard product for home use. Other component values are determined based on analytical values of each of the samples before the subdivision, and the component values in the 4th Composition Tables.

-glucose

-03017 total sugar type, powdered

-03018 monohydrate

-03019 anhydrous

"Glucose" is made from sugar solution mainly containing glucose, obtained by hydrolyzing starches with enzyme or acid; it is decolored, desalinated and concentrated, and then powdered or crystallized. The Japanese Agricultural Standards³⁾ cover the item.

"Total sugar type, powdered" is made from sugar solution, which is concentrated and powdered with or without solidifying. The component values are determined based on analytical values and the component values in the 4th Composition Tables.

"Monohydrate" is made from concentrated sugar solution, which is crystallized so that one crystallization water is contained in one glucose molecule, and removed syrup. Although the calculated water content of monohydrate is 9.1 %, it may solidify during storage with such a water content. Therefore, the water content of commercial products is adjusted to slightly lower than that of crystallization water. The component values are determined based on analytical values and component values in the 4th Composition Tables.

"Anhydrous" is made by concentrating sugar solution, crystallizing it without containing crystallization water and removing syrup. The component values are determined based on analytical values and the component values in the 4th Composition Tables.

-03020 fructose

"Fructose" is made from sugar solution isomerized after the hydrolysis of starch, or sugar, honey or sugar solution derived from the hydrolysis of raw material containing inulin; from such solutions fructose is isolated, refined, concentrated and crystallized, and syrup is removed. The fructose content is 98 % or higher. The component values are determined based on analytical values and the component values in the 4th Composition Tables.

-isomerized liquid sugars

-03026 glucose fructose syrup

-03027 fructose glucose syrup

-03028 high fructose syrup

"Isomerized liquid sugars" are liquid sugars obtained by isomerizing glucose derived from the hydrolysis of starch with glucose isomerase (an isomerizing enzyme). It consists mainly of fructose and glucose. Isomerization is a chemical reaction in which a compound is changed into another compound that has the same molecular formula and different nature (this is called an isomer). Glucose and fructose are isomers. In the Japanese Agricultural Standards⁴), it is classified into "glucose fructose syrup" (fructose content is less than 50 %), "fructose glucose syrup" (fructose content is equal to or more than 50 % and less than 90 %) and "high fructose syrup" (fructose content is equal to or more than 90 %). As the component values of available carbohydrate of them are different, they are newly subdivided. The component value of water is a standard value. Other component values are determined based on analytical values of fructose glucose syrup and the component values in the 4th Composition Tables.

-03029 Brown sugar syrup

Newly included "brown sugar syrup" is made by simmering squeezed juice from sugar cane, or by melting the brown sugar lump in water and boiling it down. The component value of water is determined based on analytical values of commercial products. The component values except for water are calculated values based on the component values of brown sugar lump. Note that there are also products containing sugars other than brown sugar lump, isomerized liquid sugars, glucose syrup and other ingredients as a raw material. -03022 Honey

"Honey" is floral nectar of plants gathered and stored by bees in their honeycombs. Component values may vary depending on the type of nectar source plant. Major components are glucose and fructose, and the ratios of them are almost 1 : 1.

The Fair Competition Codes⁵⁾ deal with any issue concerning labeling on honey stipulated based on the Act against Unjustifiable Premiums and Misleading Representations (Act No. 134 of 1962). The component value of water is estimated based on the standard composition defined by the Fair Competition Codes in which the water content of honey is under 20 %. The water content of many of commercial products is less than 20 g.

Reanalysis on ascorbic acid is conducted and the component value is determined based on analytical values (2015). The component values of iodine, selenium, chromium, molybdenum, thiamin, riboflavin, folate, pantothenic acid and biotin are determined based on analytical values of commercial products. Other component values are determined based on the component values in the 4th Composition Tables, literature values and the relevant documents^{6) 7) 8)}.

-03023 Maple syrup

"Maple syrup" is made by heating and concentrating the sap of sugar maple (*Acer saccharum*) trees. Most of the products are imported from Canada. The component values are determined based on analytical values of commercial products made in Canada, and the component values in the 4th Composition Tables.

References

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- 2) Research Laboratory, Japan Sugar Refiners' Association: documents on analysis result (undisclosed).
- Japanese Agricultural Standards for glucose: Notification No. 1412 of Ministry of Agriculture, Forestry and Fisheries of Japan, 1990.
- Japanese Agricultural Standards for isomerized liquid sugar and isomerized liquid sugar blended with sugar: Notification No.208 of Ministry of Agriculture, Forestry and Fisheries of Japan, 1980.
- 5) Fair Competition Codes concerning labeling on honey: Notification No. 56 of Japan Fair Trade Commission, 1969.
- 6) Hirokadzu Taira, Harue Taira, Masako Takada: B vitamin content of honey (undisclosed)
- Saki Hase, Osamu Suzuki, Mariko Odate, Ayako Miura, Shigeo Suzuki: Studies on the Quality and Its Analytical Methods (Part III). Qualities of domestic, imported and commercial honey. Report of National Food Research Institute. No.28, p. 72-77 (1973).
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4) Pulses

Common features for all the pulses are as follows.

- [1] The items grouped here are edible mature seeds of plants belonging to the subfamily Faboideae of the family Fabaceae, and products made from such seeds. Because the lipid content of "peanuts" is high, it is grouped into "Nuts and Seeds". Also, "Sayaingen" (young kidney beans pods), "snow peas", "hyacinth beans", "alfalfa sprouts", and other fresh pod/bean/sprout are classified into "Vegetables" because the parts consumed are their immature pods or sprouts.
- [2] Cultivated and distributed pulse cultivars and brands that are used as raw materials, have been changed both in domestic and imported products. Nutrient values are determined considering the variations in components by cultivar, production area, production year, and other factors.
- [3] The cooked foods include "blanched with boiling water", "baked", "boiled", and "rehydrated with hot water". The identical samples which have been used as samples of uncooked food of "dry" or "raw" are cooked and analyzed. The cooking methods of each food are outlined in Table 16.
- [4] Regarding processed foods, component values of general foods or food materials are determined considering the component alteration during processing, due to significant changes in processing methods.
- [5] The food items of "raw" and others contain raffinose family oligosaccharides (raffinose, stachyose, verbascose, and other members) which are the dietary fibers defined by the Codex Alimentarius Commission. These oligosaccharides are not included in "available carbohydrate".
- [6] Regarding the terms, "analytical values" and "analytical values (2015)", in the text, see "Notes on Foods" described in the initial part of Chapter 3. (See Page 1)

In the followings, important points to note regarding component values are described for each food item.

Adzuki beans, mature seeds

- -04001 whole, raw
- -04002 whole, boiled
- -04003 whole, boiled, canned in syrup
- -"An" (bean paste)
 - -04004 "Koshian"(strained bean paste)
 - -04005 "Sarashian" (powder of strained bean paste)
 - -04006 "Tsubushian" (mushed sweet bean paste)

The "adzuki bean" belongs to the genus *Vigna*, and is native to East Asia. It is called Adzuki in Japanese. Although the color of seed coat varies depending on cultivars, those with a red seed coat are mainly in the market. Because there are substantial fluctuations in annual domestic production, products from China, Canada, the U.S.A, and other countries are consumed as well as domestic products¹). Samples of "whole, raw" are taken from domestic products and imported products from China. The component values are determined based on analytical values, the component values in the 4th Composition Tables and literature values^{2) 3}). The component values of "whole, boiled" are determined based on analytical values, the component values in the 4th Composition Tables.

The component values of "whole, boiled, canned in syrup" are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from the whole content of commercial products containing sugar as a raw material.

The listed items of "An" are "Koshian", strained bean paste, made from domestic or imported adzuki beans, "Sarashian", dried bean paste, made from domestic and imported adzuki beans, and "Tsubushian", kneaded bean paste, made from domestic adzuki beans and sugar. "Tsubushian" is also called Oguraan in Japanese. The component values are determined based on analytical values and the component values in the 4th Composition Tables. Note that Koshian (strained bean paste) and Sarashian (dried bean paste) mean those without added sugar, while Nerian (kneaded bean paste) refers to those made by kneading such An products with added sugar and other ingredients.

Kidney beans, mature seeds

- -04007 whole, raw
- -04008 whole, boiled
- -04009 "Uzuramame" (beans cooked with sugar and salt)
- -04010 "Koshian" (strained sweet bean paste)
- -04011 "Mamekinton" (sweetened whole beans with bean paste)

The "kidney bean" belongs to the genus *Phaseolus*, and is native to Central and South America. It is called Ingenmame, Gogatsusasage or Saito in Japanese. The seed appearance concerning its color, shape and glossiness significantly varies depending on cultivar. Domestic cultivars are often named for their plant type, color, glossiness, shape and size of the seed. The representative types (and their major cultivars) are Tebo-type (Ootebo, Gintebo, Himetebo, etc.), Kintoki-type (Kintoki, Taishoukintoki, Showakintoki, etc.), Shirokintoki-type (Taishoushirokintoki, Tokachikintoki, Fukusirokintoki, etc.), Nagauzura-type, Chunagauzura-type, and Koukyuusaito-type (climbing beans; Oofuku, Toramame, etc). Because the domestic production is low, a large percentage of raw material used for boiled beans, confectionaries, An, and other products is imported from Canada, China, the U.S.A, and other countries¹.

Samples of "whole, raw" are taken from representative cultivars of Kintoki-type, Tebo-type and Koukyuusaito-type. The component value of manganese is reanalyzed and determined based on analytical values (2015). Other component values are determined based on analytical values and the component values in the 4th Composition Tables.

Samples of "whole, boiled" are taken from cultivars belonging to the types mentioned above, excluding Tebo-type. The component value of manganese is reanalyzed and determined based on the calculated values using the component values of "raw", the food yield after cooking, and retention factors before and after cooking. Other component values are determined based on analytical values and the component values in the 4th Composition Tables.

"Uzuramame" is a boiled bean product made from Kintoki-type beans or imported medium-sized, red kidney beans. The component values are determined based on analytical values of whole content of commercial products excluding liquid, and the component values in the 4th Composition Tables.

As for "Koshian", the item is the strained bean paste made from domestic Tebo-type beans and imported medium-sized, white kidney beans, and other beans with white seed coat. The component values are determined

based on analytical values and the component values in the 4th Composition Tables.

The component values of "Mamekinton" are determined based on analytical values of products made from white kidney beans, Ooshirohanamame (a cultivar of scarlet runner bean), white bean paste, sweet potato paste, agar and a thickener (carrageenan and other compounds).

Peas, mature seeds

- -04012 green seed coats and cotyledons, whole, raw
- -04074 dun seed coats, whole, raw
- -04013 green seed coats and cotyledons, whole, boiled
- -04075 dun seed coats, whole, boiled
- -04014 oil-roasted and salted
- -04015 "Shiomame" (peas roasted and coated with calcium carbonate and salt)
- -04016 "Uguisumame" (green peas cooked with sugar and salt)

The "pea" belongs to the genus *Pisum* and is native to the eastern Mediterranean region and West Asia. It is called Endou in Japanese. Because the domestic production is low, the most part of the raw material used for processed foods is imported from overseas such as from Canada, England and the U.S.A. The color of the seed coat is different by cultivar; mature seeds have green or dun seed coats.

Because there are differences in β -caroten and β -cryptoxanthin contents between "green seed coats and cotyledons" and "dun seed coats", they are subdivided and both are included in the Current Tables, despite that in the Composition Tables 2010, the component values of β -caroten and β -cryptoxanthin of "green seed coats and cotyledons" were included in the table and those of "dun seed coats" in the Remarks. Samples of "green seed coats and cotyledons, whole, raw" are taken from those grown in Japan and Canada. Samples of "dun seed coats" are taken from those grown in Japan. The component values of β -caroten and β -cryptoxanthin of "green seed coats" are taken from those grown in Japan. The component values of β -caroten and β -cryptoxanthin of "green seed coats and cotyledons, whole, raw" are determined based on analytical values of domestic products. Other component values are determined based on analytical values of "green seed coats" and "dun seed coats" and the component values in the 4th Composition Tables.

The component values of "boiled" are determined based on analytical values and the component values in the 4th Composition Tables. As is the case with "raw", they are subdivided into "green seed coats and cotyledons, whole, boiled" and "dun seed coats, whole, boiled". The component values of β -caroten and β -cryptoxanthin of each item are determined based on analytical values of "green seed coats and cotyledons" and "dun seed coats", using the identical samples with "raw". Other component values are determined based on analytical values of them and the component values in the 4th Composition Tables.

Samples of "oil-roasted and salted" are taken from commercial products made of deep-fried and seasoned green peas. The component values are determined based on analytical values.

"Shiomame" is a product made from imported green peas. The water content is low and the outside part of the seeds is coated with salt, calcium carbonate, and other ingredients. The component values are determined based on analytical values and the component values in the 4th Composition Tables ("Shioendo, parched and salted").

"Uguisumame" is a boiled bean product made from green peas. Sample are taken from commercial products. The component values are determined based on analytical values and the component values in the 4th Composition Tables.

Cowpeas, mature seeds

-04017 whole, raw

-04018 whole, dried, boiled

The "cowpea" belongs to the genus *Vigna*, and is native to Africa. It is usually called Sasage in Japanese. The color of seed coat differs by cultivar. It is used for the same application as adzuki bean, but has a feature of less cracks in seed coat when soaked in water. Samples of "raw" are taken from products of Japan and the U.S.A. The component values are determined based on analytical values, the component values in the 4th Composition Tables and literature values³⁾⁴⁾. The component values of "dried, boiled" are determined based on analytical values and the component values in the 4th Composition Tables.

Broad beans, mature seeds

- -04019 whole, raw
- -04020 oil-roasted and salted
- -04021 "Otafukumame" (beans with seed coat cooked with sugar and salt or soy sauce)
- -04022 "Fukimame" (beans without seed coat cooked with sugar and salt)
- -04076 "Shoyumame" (roasted beans soaked in liquid seasoning made from sugar and soy sauce)

The "broad bean" belongs to the genus *Vicia*, and is native to the eastern Mediterranean region and West Asia. It is called Soramame in Japanese. It is mostly imported from China. Samples of "whole, raw" are taken from China, Portugal and Japan. The component values are determined based on analytical values, the component values in the 4th Composition Tables and literature values³.

"Oil-roasted and salted" are made by deep-frying broad beans and adding salt to them. Samples are taken from commercial products made from beans grown in China. The component values are determined based on analytical values and the component values in the 4th Composition Tables

"Otafukumame" and "Fukimame" are boiled bean products. The former is made from beans with seed coat, and the latter from those without seed coat. Samples are taken from commercial products. The component values are determined based on analytical values and the component values in the 4th Composition Tables.

Newly recorded "Shoyumame" is a product made by roasting beans and soaking them in seasoning. The component values are determined based on analytical values (2015) of commercial products.

Soybeans, mature seeds

Whole beans and its products

- -whole
 - -04023 domestic, yellow seed coats, raw
 - -04077 domestic, black seed coats, raw
 - -04024 domestic, yellow seed coats, boiled
 - -04025 imported from the U.S.A., yellow seed coats, raw
 - -04026 imported from China, yellow seed coats, raw
 - -04027 imported from Brazil, yellow seed coats, dried, raw
- -roasted
 - -04078 yellow seed coats
 - -04079 black seed coats

-04080 green seed coats

-boiled, canned in water

-04028 yellow seed coats, boiled, canned in water, drained

-steamed

-04081 yellow seed coats, steamed, retort packed

-"Kinako" (roasted and ground beans)

- -04029 made from whole beans with yellow seed coats
- -04082 made from whole beans with green seed coats and cotyledons
- -04030 made from beans without yellow seed coats

-04083 embryonic axis

-04031 "Budoumame" (beans cooked with sugar and salt)

The "soybean" belongs to the genus *Glycine* and is native to East Asia. It is called Daizu in Japanese. Because the domestic production is low, a large part of the consumption is imported from the U.S.A, Brazil, Canada, and other countries⁵). Soybeans from the U.S.A. and Brazil are mainly used for producing edible oil, while products of the U.S.A, Canada and China as well as Japan are consumed as a food. The color of the seed coat differs by cultivar: pale yellow, yellow, black, green, brown, and red. Some cultivars have more than one color, as typified by "Kurakakemame". The cultivars mostly occupying the market are called yellow soybean (Kidaizu in Japanese), whose seed coat is pale yellow or yellow. The cultivars with black seed coat are called black soybeans (Kurodaizu in Japanese), and those with green seed coat green soybeans (Aodaizu in Japanese). Some varieties have pale yellow or green cotyledons. While many of the cultivars have pale yellow cotyledons, there are some black and green soybeans with green cotyledons.

Although in the Composition Tables 2010, "domestic, raw" referred to soybeans including yellow and black soybeans, it is subdivided in these Tables.

The component values of "domestic, yellow seed coats, raw" are determined based on analytical values (2015), analytical values and the component values in the 4th Composition Tables.

The component values of "domestic, black seed coats, raw" are determined based on analytical values (2015) and the component values in the 4th Composition Tables.

The component values of "domestic, yellow seed coats, boiled" are determined based on the calculated values using the component values of "raw", the food yield after cooking and retention factors derived from analytical values (2015) before and after cooking, and the component values in the 4th Composition Tables. The component values of "whole, domestic, yellow seed coats, raw" are determined based on analytical values (2015), analytical values and the component values in the 4th Composition Tables.

Samples of each of "imported from the U.S.A., raw", "imported from China, raw" and "imported from the Brazil, raw" are taken from imported yellow soybeans of representative brands grown in major production areas. The component values are determined based on analytical values, the component values in the 4th Composition Tables (excluding "soybeans, mature seeds, whole, imported from the Brazil, yellow seed coats, dried, raw") and literature values⁶⁾⁷⁾.

Newly included "roasted" is made by soaking beans in water, draining and then roasting them. The recorded items are "yellow seed coats", "black seed coats" and "green seed coats". The component values of each item

are determined based on analytical values (2015) of commercial products. Note that β -carotene content of "green seed coats, roasted" is lower than that of "Kinako, made from whole beans with green seed coats and cotyledons"; this is caused by the fact that many of the samples of "green seed coats, roasted" are taken from products from cultivars with yellow cotyledons.

The component values of "boiled, canned in water" are determined based on analytical values of commercial products after draining. Note that potassium is reanalyzed and the component value is determined based on analytical values (2015).

Newly included "yellow seed coats, steamed, retort packed" is a product made by soaking soybeans in water and heat-treating them with steam. The component values are determined based on analytical values (2015) of commercial products.

As for "Kinako", samples of both "whole" and "without a seed coat" are taken from commercial products made from yellow and green soybeans grown in Japan or China. The component values of "made from beans without yellow seed coats" as well as "made from whole beans with yellow seed coats", "made from whole beans with green seed coats", are determined based on analytical values (2015) of each item.

Newly included "embryonic axis" is made by separating the embryonic axes (the portion that becomes the germ, epicotyl, hypocotyl and radicle in germination) from seeds and roasting them. The food name "Daizuhaiga (means soybean's germ)" is used conventionally, but because the germ (Haiga in Japanese) of a grain corresponds to soybean's cotyledons and an embryonic axis, it is inappropriate to refer to the separated embryonic axis as "germ". The component values are determined based on analytical values (2015) of commercial products.

"Budoumame" is a boiled-bean product. Samples are taken from commercial products made from domestic yellow and black soybeans. The component values are determined based on analytical values and the component values in the 4th Composition Tables.

[Tofu and Aburaage]

- -04032 "Momendofu" (regular tofu)
- -04033 "Kinugoshidofu" (silken tofu)
- -04034 soft tofu
- -04035 "Jutendofu" (packaged tofu)
- -04036 "Okinawadofu" (firm tofu made in Okinawa prefecture)
- -04037 "Yushidofu" (unmoulded tofu)
- -04038 "Yakidofu" (grilled tofu)
- -04039 "Namaage" (fried slices of drained tofu)
- -"Aburaage" (fried thin slices of pressed tofu)
 - -04040 uncooked
 - -04084 blanched with boiling water, uncooked
 - -04085 blanched with boiling water, baked
 - -04086 blanched with boiling water, boiled
- -04041 "Ganmodoki" (fried mixture of crushed tofu, vegetables and ground yam)
- -"Koridofu" (freeze dried tofu)
-04042 uncooked

-04087 rehydrated with hot water and boiled

-04043 "Tofuyo" (fermented tofu)

-"Tofuchikuwa" (tubular tofu made with surimi)

-04044 steamed type

-04045 baked type

-04088 "Rokujodofu" (salted and sun-dried tofu)

"Momendofu" is made by soaking soybeans in water and mashing them to prepare Namago (means mashed soybean), which is then heated to extract soluble components including protein with hot water, and insoluble seed coats, cell walls and other components are removed by filtration. A coagulant is added to the obtained soymilk, and coagulate is subsequently crushed into pieces. After removing away the upper portion called "Yu" in Japanese, it is put into a molding box and then pressed, molded, cut and soaked it in water.

"Kinugoshidofu" is made by mixing soymilk with a coagulant in a molding box, solidifying the whole mixture, cutting and soaking it in water.

"Soft tofu" is made by adding a coagulant to soymilk, slightly crushing the solidified soymilk and putting it in a molding box, which is then pressed softly compared to Momentofu, molded, cut and soaked in water.

"Jutendofu" is made by chilling soymilk, adding a coagulant and the mix is filled in a plastic container ; it is then sealed, heated, solidified, and chilled. The characteristic component compositions of tofu products stem from differences in manufacturing process. Especially, the type of coagulant used has a significant influence on the overall composition of the product. If a coagulant made mainly from calcium sulfate (Sumashiko (means clarifying powder)) is used, its calcium content increases. If a coagulant made mainly from magnesium chloride (bittern, Nigari in Japanese) is used, or both calcium sulfate and magnesium chloride are used in combination, the magnesium content of the product increases⁸. As to "Kinugoshitofu", "soft tofu" and "Jutentofu", for which glucono-δ-lactone is concurrently used as a coagulant⁸, the contents of both calcium and magnesium are low.

The component values of sodium, calcium and magnesium of "Momendofu", "Kinugoshidofu" and "Jutendofu"are determined based on analytical values and literature values⁸). Other component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from commercial products.

The component values of "soft tofu" are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from commercial products.

"Okinawadofu" is one of Katadofu (firm tofu) and is also called Shimadofu in Japanese. It is made by filtrating Namago containing less water, heating soymilk, solidifying, molding and pressing it hard. The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from commercial products.

"Yushidofu" is the tofu uniquely made in the Okinawa region. It is a lump of floating soft pieces obtained after the process of adding bittern to soymilk. The mixture of the soymilk curd and "Yu" is commercially

available. Previously, seawater was used as a coagulant, but currently bittern is used and salt is added at a rate of 0.5 to 0.6 % of a product. The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from commercial products.

"Yakitofu" is made by slightly draining Momendofu and singeing it. The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from commercial products.

"Namaage" is generally made by thickly sliced Momendofu, lightly draining and deep-frying the pieces. Inside is not puffed and the structure inside is the same as Momendofu. The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from commercial products.

"Aburaage" is made from sliced tofu, which is made by heating soymilk at a moderate temperature compared with ordinary tofu and slicing. After this, the tofu is drained under pressure, and deep-fried at about 120 °C, allowing the tofu to expand three times larger than its original size. It is then deep-fried at about 180 °C, resulting in the surface hardening. The component values of "uncooked" are determined based on analytical values of commercial products and the component values in the 4th Composition Tables. Newly recorded "blanched with boiling water" is made by boiling "uncooked" and removing the excess oil. The component values of "blanched with boiling water, uncooked", "blanched with boiling water, baked" and "blanched with boiling water, boiled" are determined based on analytical values (2015) of each of the cooked items.

"Ganmodoki" is made by crushing Momendofu, draining water and mixing it with vegetables, seaweeds, and other ingredients, which is then shaped with some ground yam powder or starch added to it as a binding agent, and then deep-fried. The shape and auxiliary materials substantially differ depending on the production area. Therefore, its component values vary widely. The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from commercial products.

"Koridofu" is also called Kooyadofu in Japanese. Previously, it was made by freezing tofu and drying in cold weather during winter. Currently, many of the commercial products are made firstly by adding a coagulant such as calcium chloride to thin soymilk, which is made from 10 to 15 times the amounts of water to soybeans. The obtained firm tofu is subsequently frozen, stored for 2 to 3 weeks under a low temperature; the tofu gets spongy by freeze denaturation. It is then defrosted, dehydrated and dried. Previously, products underwent further processing treatment in which ammonia gas was absorbed into dried products, to enhance the softness and flexibility in cooking, Currently, the brine processing is common, in which the interim products that underwent maturation ("Moya" in Japanese) and dehydration processes are soaked in sodium hydrogen carbonate (brine) and then dried. Therefore, the items included are processed with sodium hydrogen carbonate. The component values of "uncooked" are determined based on analytical values, analytical values (2015) and the component values in the 4th Composition Tables, taking samples from commercial products. Those of "rehydrated with hot water and boiled", newly included, are based on the calculated values using the component values of "uncooked", the food yield after cooking, and retention factors obtained by analytical values (2015) before and after cooking. Note that the products using potassium carbonate in order to enhance the flexibility and softness are available in the market, and such products contain lower sodium (6 to 16 mg) and higher potassium (780 to $1,100 \text{ mg})^{9}$.

"Tofuyo" is a processed tofu product uniquely made in the Okinawa region. It is made by cutting a type of tofu that is harder than normal into cube, drying and washing it with Awamori (a strong Okinawan liquor distilled from rice or millet). Then, the tofu is soaked, fermented and pickled in malted rice mashed with Awamori, and seasoned with sugar and salt, for about 2 to 6 months. The component values are determined based on analytical values of commercial products and literature values¹⁰.

"Tofuchikuwa" is made by mixing Momendofu with minced fish, kneading, seasoning and shaping it. "Steamed type" is made by heating it with steam, and "baked type" is made by roasting it. The component values of each item are determined based on analytical values and the component values in the 4th Composition Tables.

Newly itemized "Rokujodofu" is a product made by coating tofu with salt and drying it in the sun. The component values are determined based on analytical values (2015) of commercial products.

[Natto (fermented soybeans)]

-04046 "Itohikinatto" (fermented whole soybean)

- -04047 "Hikiwarinatto" (fermented dehulled and split soybean)
- -04048 "Gotonatto" (natto fermented with rice-koji and salt)
- -04049 "Teranatto" (koji-molded, salted, steamed soybeans)

"Itohikinatto" is made by fermenting braised soybeans with *Bacillus subtilis*. The name comes from its sticky threads. Commercial products are often accompanied with small portions of packaged seasoning (sauce) and mustard. The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from commercial products (excluding the sauce and mustard), and literature values^{11)~16}.

"Hikiwarinatto" is a kind of "Itohikinatto". It is manufactured from split and dehulled soybeans, while "Itohikinatto" uses whole grains of soybean. Commercial products are often accompanied with small portions of packaged sauce and mustard. The component values are determined based on analytical values of commercial products (excluding sauce and mustard) and literature values¹⁵.

"Gotonatto" is made by adding rice malt and salt to Itohikinatto, which is then fermented and matured. It has been manufactured in the Yonezawa region, Yamagata Prefecture for a long time. The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from commercial products.

"Teranatto" is also called Shiokaranatto or Hamanatto in Japanese. It has been produced in Buddhist temples (Tera in Japanese) in and around Kyoto and Hamamatsu; there are brands such as Daitokujinatto and Hamanatto. It is made by preparing malt from soybeans, maturing it in salt water and drying it. The water and salt contents of products vary widely by brand. The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from commercial products.

Note that because the items of [Natto] contain vitamin K in the form of menaquinone-7, it is converted to menaquinone-4 to determine the component values.

[Others]

- "Okara" (insoluble residue from soy milk processing)

-04051 fresh

-04089 dried

"Okara" is a by-product obtained through the production of tofu, in the process of squeezing soymilk from "Go (mashed soybeans)". This by-product is hard to squeeze and is of a high water capacity, and contained up of approximately 80% to 83% water. Recently, the development of separators using screw press and rotary drum are widely adopted, and it becomes possible to squeeze water to about 76%. "Fresh" is a product obtained by using these separators, and it was called "Modern product" in the Composition Tables 2010. The component values are determined based on analytical values of commercial products.

The newly included "dried" is made by drying "fresh". The component values of water of "dried" is determined based on analytical values of commercial products (2015). The component values except for water are determined based on imputed values derived from those of "fresh".

- -Soymilk
 - -04052 soy milk, regular
 - -04053 soy milk, reconstituted
 - -04054 soy milk based beverage, coffee flavored

"Soy milk, regular" is defined by the Japanese Agricultural Standards¹⁷⁾ as milky beverages (soymilk liquid) with solid soybean content of equal to or more than 8 %, which are obtained by solubilizing protein and other components from soybeans with hot water or other liquids and removing fibrous materials. "Soy milk, reconstituted" is defined as milky beverages (reconstituted soymilk liquid) made of soymilk liquid or soymilk liquid made from defatted soybean with the solid soybean content of equal to or more than 6 %, which are made by adding seasonings including vegetable oils and fats, sugars and salt. "Soy milk based beverage" is defined as reconstituted soymilk liquid including pulverized soybean proteins with the solid soybean content of equal to or more than 4 %, and milky beverages with the solid soybean content of equal to or more than 4 %, and milky beverages with the solid soybean content of equal to or more than 4 %, and milky beverages with the solid soybean content of equal to or more than 4 %, and milky beverages with the solid soybean content of equal to or more than 4 %, and milky beverages with the solid soybean content of equal to or more than 4 %, and milky beverages with the solid soybean content of equal to or more than 4 %, and milky beverages with the solid soybean content of equal to or more than 4 %.

The component values of "soy milk, regular" are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from commercial products, and literature values⁴).

The component values of "soy milk, reconstituted" are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from commercial products.

The component values of "soy milk based beverage, coffee flavored" are determined based on the relevant document¹⁸.

-soy protein

- -04055 textured
- -04056 concentrated
- -isolated
 - -04057 regular
 - -04090 mineral- controlled product
- -04058 structured

"Soy protein" is made mainly from soybeans or defatted soybeans, and is used widely as an improving agent

or a bulking agent for processed meat products, fish paste products, prepared dishes, frozen foods, and other products.

"Textured" is made mainly from the protein obtained from soybeans. It can be either granulated or formed in flakes, and has the texture similar to meat. "Concentrated" is the powder made by lightly concentrating soy protein. "Isolated" is the powder made by extracting and isolating protein from soybeans, concentrating it to increase the purity and drying. "Structured" is made mainly from soy protein formed in fibers, and has the texture similar to meat. Plant proteins are defined by the Japanese Agricultural Standards¹⁹. The component values of each item are determined based on the relevant document²⁰.

In the Composition Tables 2010, the component values of sodium, potassium, calcium and salt equivalents of "regular" of "isolated" were indicated in the Remarks; however, they are newly itemized in the current Composition Tables. The component values of "mineral-controlled product" except for sodium, potassium, calcium and salt equivalents are determined as the same as those of "regular".

-"Yuba" (film formed on surface of warmed soy milk)

- -04059 fresh
- -04060 dried, uncooked
- -04091 dried, rehydrated with hot water

"Yuba, fresh" is made by continuously heating soymilk at a temperature higher than 80 °C to make thin films on the surface and scooping them. "Yuba, dried" are made by drying these films. The component values of "fresh" are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from commercial products. Those of "dried, uncooked" are determined based on analytical values (2015), analytical values and the component values in the 4th Composition Tables.

Newly included "Yuba, dried, rehydrated with hot water" is made by soaking "dried, uncooked" in hot water and rehydrating it. The water content of "dried, hydrated with hot water" is determined based on analytical values (2015). The component values except for water are determined based on the calculated values using the component values of "raw", the food yield after cooking, and retention factors obtained by analytical values (2015) before and after cooking.

-04061 "Kinzanjimiso" (fermented roasted soybeans, barley or wheat, vegetable and salt with koji mold)

"Kinzanjimiso" is made by mixing roasted soybean with soaked barley or wheat and steaming it to make malt, to which salted and pressed pieces of eggplants, oriental pickling melons and other vegetables (gingers, immature seeds of *Perilla frutescense* var, *crispa* <Shiso in Japanese>, and others) are added and matured; it is then processed with seasonings such as glucose syrup and sugar. The blending ratio of ingredients and the manufacturing method vary by region. The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from commercial products, and literature values²¹. Because it contains vitamin K in the form of menaquinone-7, the value is converted to menaquinone-4 and determine the component value.

-04062 "Hishiomiso" (fermented soybeans, barley or wheat, and vegetable with koji mold)

"Hishiomiso" can be classified into Kanrohishio and Nodahishio. Kanrohishio is made by preparing malt with naked barley and soybeans, adding salt water to the malt and maturing; it is then processed with seasonings such as glucose syrup and sugar, and added pieces of oriental pickling melons, eggplants, and other vegetables. Nodahishio is made by preparing malt with wheat and soybeans, adding raw soy sauce to the malt and fermenting it. The appearance is similar to Moromi soy sauce. The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from commercial products, and literature values²¹. Because it contains vitamin K in the form of menaquinone-7, the value is converted to menaquinone-4 to determine the component value.

-04063 Tempeh (fermented soybeans with *Rhizopus oligospore*)

"Tempeh" is an Indonesian traditional fermented food. In the traditional method, it is made by soaking soybeans in water, hulling, boiling, shaping and fermenting them in banana leaves. The particularly important fermenter is *Rhizopus oligosporus*. In modern factories the spore suspension of pure cultured fungi is mixed with boiled beans. Samples are taken from commercial products made from domestic soybeans, manufactured with a modern method. The component values are determined based on analytical values and literature values¹⁶).

Rice beans, mature seeds

-04064 whole, raw

-04092 whole, boiled

The "rice bean" belongs to the genus *Vigna* and is called Tsuruadzuki, Kanime or Takeadzuki in Japanese. It is native to India and Indochina. It is cultivated in Asia and Pacific area, and imported from Thailand, Myanmar, China, and other countries. Those with red seed coat are used as a main raw material of red-type sweet bean paste. The component values of "whole, raw" are determined based on analytical values (2015) and analytical values, taking samples from imported products fromThailand.

The component values of "whole, boiled", newly included, are determined based on the calculated values using the component values of "whole, raw", the food yield after cooking, and retention factors obtained by analytical values (2015) before and after cooking.

Chickpeas, mature seeds

- -04065 whole, raw
- -04066 whole, boiled
- -04067 whole, oil-roasted and salted

The "chickpea" belongs to the genus *Cicer*, and is native to West Asia. It is also called garbanzo and is called Hiyokomame in Japanese. There are cultivars with large seeds and those with small seeds. It is imported from Mexico, Canada, the U.S.A, and other countries¹). Samples are taken from imported products from Turkey, Mexico and the U.S.A. The component values of "raw" and "boiled" are determined based on analytical values, the component values in the 4th Composition Tables, and literature values^{3) 4}).

"Oil-roasted and salted" is made by soaking "raw" in water, deep-frying and seasoning it with salt. The component values are determined based on analytical values of commercial products.

Scarlet runner beans, mature seeds

- -04068 whole, raw
- -04069 whole, boiled

The "scarlet runner bean" belongs to the genus *Phaseolus* and is native to Central and South America. It is called Benibanaingen or Hanamame in Japanese, and its cultivars have white, purple with black spots or black

seed coat. In Japan, it is grown in cool areas such as Hokkaido, and is also imported from China, South Africa, Argentina and England. It is used as a raw material of boiled beans, Amanatto and white-type sweet bean paste.

Samples of "raw" are taken from Shirohanamame (white-flowered runner bean) and Murasakihanamame (purple-flowered runner bean) grown in Hokkaido. The component values are determined based on analytical values and literature values³).

Lima beans, mature seeds

- -04070 whole, raw
- -04093 whole, boiled

The "Lima bean" belongs to the genus *Phaseolus*, and is native to Central and South America. It is called Raimame, Raimamame or Aoimame in Japanese. Cultivars with white seed coats are used for making white sweet bean paste. The component values of "whole, raw" are determined based on analytical values (2015), analytical values and the component values in the 4th Composition Tables, taking samples from imported products from Myanmar and the U.S.A,.

The component values of "whole, boiled", newly itemized, are determined based on the calculated values using the component values of "raw", the food yield after cooking, and retention factors obtained by analytical values (2015) before and after cooking.

Mung beans, mature seeds

- -04071 whole, raw
- -04072 whole, boiled

The "mung bean" belongs to the genus *Vigna*, and is native to India. It is called Ryokutou, Yaenari, Bundo or Ryokuzu in Japanese. As its Japanese name indicates, the color of the seed coat is green. It is also used for making bean sprouts, as is the case with the closely related species, black gram (*Vigna mungo*). Samples are taken from products grown in China. The component values of vitamin K of "raw" is reanalyzed and determined based on analytical values (2015). Other component values are determined based on analytical values in the 4th Composition Tables and literature values^{3) 4)}.

The component value of vitamin K of "boiled" is determined based on the calculated values using the component values of "raw", the food yield after cooking, and retention factors obtained by analytical values (2015) before and after cooking. The component values other than vitamin K are determined based on analytical values and the component values in the 4th Composition Tables.

Lentils, mature seeds

-04073 whole, raw

-04094 whole, boiled

The "lentil" belongs to the genus *Lens*, and is native to the eastern part of the Mediterranean region. It is called Renzumame or Hiramame in Japanese. The seed size varies. Major production countries are Canada and India, and it is also cultivated in many other countries. It is imported from the U.S.A, India, Canada as well as other countries. The component values of "whole, raw" are determined based on analytical values (2015) and analytical values, taking samples from commercial products imported from the U.S.A, Italy, France, India, Canada and Turkey.

The component values of "whole, boiled", newly included, are determined based on the calculated values

using the component values of "whole, raw", the food yield after cooking, and retention factors obtained by analytical values (2015) before and after cooking.

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5) Nuts and Seeds

Common features for all the nuts and seeds are as follows:

- [1] Excluding "peanuts", the items belonging to this food group are seeds which are not categorized in cereals and pulses, and products made from such seeds. Botanically, they are not necessarily closely related species. They are sold mainly as nuts or seeds. Although the item "peanuts" is one of the legumes, it is classified into this food group because of its high lipid content.
- [2] Samples of processed foods are taken from commercial products in the market.
- [3] The processed items listed below are either "boiled" or "roasted". The identical samples which have been used as samples of uncooked food (raw or dried), are cooked and analyzed. The cooking methods of each food are outlined in Table 16.
- [4] Regarding "analytical values" and "analytical values (2015)" in the text, see "Notes on Foods" described in the initial part of Chapter 3.(See Page1)In the followings, important points to note regarding component values are described for each food item.

Almonds

- -05001 raw
- -05002 oil-roasted and salted
- -05040 roasted, without salt

The "almond" is a deciduous fruit tree native to Asia Minor, which is located geographically between the Black Sea and the Mediterranean Sea. It is divided into two types: sweet almond and bitter almond. The seed inside the pit of sweet almond is used as a food. The component values of "raw" are determined based on analytical values (2015), analytical values and the component values in the 4th Composition Tables, taking samples from sweet almonds grown in the U.S.A. Those of "oil-roasted and salted" are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from sweet almonds grown in the U.S.A.

Samples of newly-listed "roasted, without salt" are taken from the sweet almond grown in the U.S.A, cooked in the oven (heated 30 minutes at 130 °C and 5 minutes at 150 °C). The component values are determined based on retention factors derived from analytical values (2015) before and after cooking, and the component values of "raw".

Hemp seeds

-05003 dried

The "hemp seeds" are the seed of *Cannabis sativa* of the family Moraceae. In accordance to the Cannabis Control Law, hemp cannot be legally grown in Japan unless special permission has been granted to the concerned person or party. Therefore, seed germination prevention processing is undergone in order to be sold commercially in Japan. They are blended in Shichimitougarashi (a kind of hot condiment mixture: mixed spice consist of red chili). The component values are determined based on analytical values and the component values in the 4th Composition Tables of imported products.

Flax seeds

-05041 roasted

The newly listed "flax seeds" are the seed of *Linum usitatissimum*, in the family Linaceae. Both Domestic and imported products, which are roasted, are available in the market. The component values are determined based on analytical values (2015) of commercial products made of seeds produced in New Zealand and Japan.

"Egoma", Perilla seeds

-05004 dried

The "Egoma" Perilla seed is a seed of *Perilla frutescens* var. *frutescens* in the family Lamiaceae. It has a distinctive flavor and has been used for the same purpose as sesame seeds from long time ago in Japan. The component values are determined based on analytical values and the component values in the 4th Composition Tables.

Cashew nuts

-05005 oil-roasted and salted

The "cashew" is an evergreen plant of the family Anacardiaceae, and the seed is used as a food. The component values are determined based on analytical values and the component values in the 4th Composition Tables ("roasted and salted"), taking samples from imported raw materials.

Pumpkin seeds

-05006 roasted and salted

The "pumpkin seeds" are the seed of *Cucurbita* species of the family Cucurbitaceae. "Roasted and salted" is made by roasting seeds and adding salt. The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from the products made from raw materials grown in China.

Japanese torreya seeds

-05007 roasted

The "Japanese torreya seed" is a seed of taxaceous tall tree that are growing naturally in mountainous areas, and the major production area of it is the Tohoku Region. The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from roasted products.

Ginkgo nuts

-05008 raw

-05009 shelled and skinned, boiled

The "Ginkgo nut" is a seed of ginkgo tree. The component value of calcium is reanalyzed and determined based on analytical values (2015), the component value in the 4th Composition Tables and retention factors. Other component values are determined based on analytical values and the component values in the 4th Composition Tables; however, they are determined by recalculation, because the water value has been changed in association with the reanalysis of calcium.

Chestnuts

-Japanese chestnuts

- -05010 raw
- -05011 boiled
- -05012 Kanroni (boiled and sweetened), drained

-Chinese chestnuts

-05013 Sweet Roasted Chestnuts (roasted Chinese chestnut)

Chestnuts widely range around the world and roughly classified into European chestnuts, American chestnuts, Chinese chestnuts and Japanese chestnuts.

The cultivars of "Japanese chestnut" has been improved from wild chestnut 'Shibaguri', which are native to the mountainous regions of Japan. The cultivars are divided into three types by size: large-nut type (Tanbaguri, etc.), medium-nut type (Ginyose, etc.) and small-nut type (Shibaguri, etc). The component values of "raw" are determined based on analytical values of Japanese chestnut (cultivar: Kunimi, Tsukuba, Ishizuchi, etc.). The component values of "boiled" are determined based on analytical values and the component values in the 4th Composition Tables. "Kanroni, drained" is made by peeling chestnuts, washing them with water, removing the harshness and boiling or braising them; they are then preserved in syrup. Gardenia is added to some products as a coloring.

"Sweet Roasted chestnuts" are made from imported Chinese roasted chestnuts, as the name suggests. The pellicle part of Chinese chestnuts is easy peel off when roasted, hence they are preferred over Japanese chestnuts where the pellicle part of the chestnut is difficult to peel off even after roasting. The component values are determined based on analytical values and the component values in the 4th Composition Tables.

Walnuts

-05014 roasted

"Walnuts" are nuts derived from trees known as Genus Juglans, one of several trees that comes from the family Juglandaceae. Small walnuts which are native to Japan are known as 'Onigurumi' and 'Himegurumi' (J. mandshurica), with the majority of walnuts that are commercially sold here are known as Persian walnuts (J.regia). Samples are taken from Persian walnuts that have been grown in the U.S.A, and the component values are determined based on analytical values and the component values in the 4th Composition Tables.

Poppy seeds

-05015 dried

The "poppy seeds" are the seed of *Papaver somniferum* of the family Papaveraceae. It is very small, and used for cooking and making confectionaries, because roasted seeds are flavory with a rich scent. Being oil-rich and poppy seed oil is also used as a food. In accordance to Opium Law, poppy cannot be legally grown in Japan unless special permission has been granted to the individual or party. Therefore, seed germination prevention processing are undergone to ensure that poppy seeds can be commercially sold. The color of the seed coat varies greatly, and those with white and blue seed coat are commercially available. The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from imported products.

Coconut

-05016 powder

"Powder" is made by drying the albumen of mature fruit picked from coconut palm trees grown in tropical and subtropical areas. It is used as a raw material of Western confectionaries. The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from imported products. "Palm tree oil", a product extracted from coconuts, is listed in "Fats and Oils", while

"coconut water", "coconut milk" and "Nata de coco in syrup" are listed in "Fruits" separately.

Sesame seeds

- -05017 whole, dried
- -05018 whole, dried and roasted
- -05019 dried and hulled
- -05042 paste

The "sesame seeds" are the seeds of *Sesamum indicum* of the family Pedaliaceae. They are roughly divided into black sesame, brown sesame and white sesame, and used differently depending on use application. A large part of the imported products is from Southeast Asia, Africa, and other regions. They are just roasted, or roasted and ground when used for cooking. Samples of "dried" are taken from Araigoma (means washed and dried sesame seeds) (black and white sesame) in the market. The component values are determined based on analytical values and the component values in the 4th Composition Tables. "Dried and roasted" is made by roasting "dried". The component values are determined based on analytical values and the component values are determined based on analytical values and the component values are determined based on analytical values and the component values of and hulled" is made by soaking white sesame seeds, separating the seed coat and then washing and drying them. The component values are determined based on analytical values of imported products and commercial products made from imported raw materials.

Newly listed "paste" is made by roasting and grinding dehulled white sesame seeds or seeds with seed coats. The component value of water is determined based on analytical values (2015) of commercial products. Other component values are determined based on imputed values derived from the component values of "dried and roasted".

Chinquapina sweet acorns

-05020 raw

"Chinquapina sweet acorns" are often used after roasting, flouring and mixing in rice cake; however, they can be eaten raw. The component values are determined based on analytical values and the component values in the 4th Composition Tables.

Watermelon seeds

-05021 roasted and salted

The "watermelon seeds" are the seed of *Citrullus lanatus* of the family Cucurbitaceae. "Roasted and salted" watermelon seeds are made by roasting mature seeds and adding salt. The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from the products made from raw materials grown in China.

Japanese horse chestnuts

-05022 steamed

"Japanese horse chestnuts" are harvested mainly in the mountainous areas in the Chubu region and northward regions of Japan. They are often soaked in ash and put in water, crushed and then mixed into rice cake mixtures. The component values are determined based on analytical values of the frozen products after they have been thawed and soaked.

Lotus seeds

-05023 immature, raw

- -05024 mature, dried, shelled and skinned, raw
- -05043 mature, dried, shelled and skinned, dried

The "lotus seeds" are the seed of *Nelumbo nucifera* of the family Nelumbonaceae. It can be eaten in two ways; immature green seeds are eaten raw as they are, and mature hard seeds are boiled before eaten. They are often used for Chinese dishes, confectionaries, and other foods. The component values of "immature raw" are determined based on analytical values and the component values in the 4th Composition Tables. The component values of "mature dried raw" are determined based on analytical values (2015) and analytical values, taking samples from imported products from China. Note that the green germ is regarded as the refuse portion. Newly listed "boiled" is made by cooking "mature dried raw". The component values are determined based on the calculated values using the component values of "mature dired raw", the food yield after cooking, and retention factors obtained by analytical values (2015) before and after cooking. Note that the green germ is regarded as the refuse portion.

Japanese water chestnuts

-05025 raw

The "Japanese water chestnuts" are the seed of *Trapa japonica* of the family Trapaceae, the nut with two spines. It is used for making confectionaries or cooking. When used for Fukumeni (means boiled with seasonings), Kinton (mashed sweet chestnuts) and Takikomigohan (boiled rice with savory ingredients), it is hulled and soaked in water to remove the harshness. The component values are determined based on analytical values and the component values in the 4th Composition Tables. It is different from *Trapa bispinosa* (Toubishi in Japanese), whose seeds are also commercially available.

Pistachio nuts

-05026 roasted and salted

The "pistachio nut" is a nut that comes from a small tree of Anacardiaceae Family native to Turkey, Syria and Israel. The major production areas are Iran, Greece, Italy, etc. It is used as a snack food after roasting and salting. The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from the products made from raw materials grown in Iran and the U.S.A.

Sunflower seeds

-05027 oil-roasted and salted

The "sunflower seeds" are the seed of *Helianthus annuus* of the family Asteraceae. The seeds are those of the Russian sunflower, which blooms large flowers, and are imported from China and Russia. "Oil-roasted and salted" is made by oil-roasting and salting seeds after the removal of seed coats. The component values are determined based on analytical values of products made from imported raw materials.

Brazil nuts

-05028 oil-roasted and salted

The "Brazil nut" is a large-sized nut of tree in the family Lecythidaceae native to the torrid zone in South America. The major production area is Brazil. There are 20 to 30 of seeds in a large hull. The component values are determined based on analytical values and the component values in the 4th Composition Tables ("roasted").

Hazel nuts

-05029 skinned, oil-roasted and salted

The "hazel nut" is a light brown seed of hazels. The major exporting countries in the West are Spain, Italy, the U.S.A, etc. The component values are determined based on analytical valuesand the component values in the 4th Composition Tables ("roasted"), taking samples from the products made from raw materials grown in Turkey.

Pecan nuts

-05030 oil-roasted and salted

The "pecan" nut is a nut that comes grows on tall trees of the family Juglandaceae. While there is a small production in Yamanashi and Nagano Prefecture, the majority of the nuts commercially sold are important from overseas.. The component values are determined based on analytical valuesand the component values in the 4th Composition Tables ("roasted"), taking samples from the products made from raw materials grown in the U.S.A.

Macadamia nuts

-05031 roasted and salted

The "macadamia nut" is a nut grown on Macademia trees, which are native to Australia. The component values are determined based on analytical values, and the component values in the 4th Composition Table, taking samples from the products made from raw materials grown in the U.S.A s.

Pine nuts

-05032 raw

-05033 roasted

The "pine nut" is a nut that are grown on trees known as "Korean pine "trees. These nuts are imported from China and Korea. The component values of "raw" are determined based on analytical values, taking samples from the products imported from China. Those of "roasted" are determined based on analytical valuesand the component values in the 4th Composition Tables, taking samples from the products made from raw materials grown in China,.

Peanuts

- -05034 mature seeds, Virginia type, raw
- -05044 mature seeds, Spanish type, raw
- -05035 mature seeds, Virginia type, roasted
- -05045 mature seeds, Spanish type, roasted
- -05036 mature seeds, oil-roasted and salted
- -05037 peanut butter

The "peanut" is the seed of *Arachis hypogaea* of the family Fabaceae. It is called Rakkasei, Piinattu, and native to South America. It is generally classified into Virginia type with large seeds and Spanish type with small seeds. There are also cultivars derived from the crossing of the two types. When compared with other edible leguminous seeds, the lipid content of peanut is high. Therefore, it is generally classified into "Nuts and Seeds".

Since there are differences in the values of refuse, saturated fatty acid, monounsaturated fatty acid and polyunsaturated fatty acid between Virginia type and Spanish type, in the Composition Tables 2010, those of "mature seeds, Spanish type, raw" and "mature seeds, Spanish type, roasted" were listed in the Remarks; however, in the Current Tables they are subdivided and both are listed in the table. The component values of

"mature seeds, Virginia type, raw" are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from Virginia type. The component values of "mature seeds, Virginia type, roasted" are determined based on analytical values and the component values in the 4th Composition Tables, taking samples fromVirginia type produced in Japan. The values of refuse, saturated fatty acid, monounsaturated fatty acid and polyunsaturated fatty acid of "mature seeds, Spanish type, raw" and "mature seeds, Spanish type, roasted" are determined based on analytical values of "mature seeds, Spanish type, raw". Because the component values of "mature seeds, Spanish type, raw". Because the component to those of "mature seeds, Virginia type, raw" except for refuse and fatty acids are deemed to be equivalent to those of "mature seeds, Virginia type, raw" are used. Because the component values of "mature seeds, Spanish type, roasted" except for refuse and fatty acids are deemed to be equivalent to those of fatty acids are deemed to be equivalent to those of fatty acids are deemed to be equivalent to those of fatty acids are deemed to be equivalent to those of fatty acids are deemed to be equivalent to those of "mature seeds, Spanish type, roasted" except for refuse and fatty acids are deemed to be equivalent to those of fatty acids are deemed to be equivalent to those of fatty acids are deemed to be equivalent to those of "mature seeds, Virginia type, roasted" except for refuse and fatty acids are deemed to be equivalent to those of "mature seeds, Virginia type, roasted" are included.

Note that the immature seed of "peanut" is grouped under the category "Vegetables".

"Mature seeds, oil-roasted and salted" are made by removing the seed coat from Virginia type peanuts, deep-frying them with vegetable oil and seasoning with salt. The component values are determined based on analytical values and the component values in the 4th Composition Tables.

"Peanut butter" is made by grinding roasted seeds, then kneading them with added sugar, salt and shortening. The component values are determined based on analytical values and the component values in the 4th Composition Tables.

6) Vegetables

Key importation on the features of vegetables is listed as follows..

- [1] While many of the vegetables have been supplied throughout the year, their component values are supposed to vary depending on variety, cropping type, harvested season, production area and individual difference; that is taken into consideration when selecting samples. Additionally, as analytical values of water and vitamins change depending on the number of days after harvest, in principal samples are taken from vegetables immediately after unpacking at the central wholesale market. Thus, considering the time passed from collecting samples to performing analyses, component values are equivalent to those of fresh vegetables sold at retailers. As for "spinach", it is widely recognized that analytical values of ascorbic acid vary significantly between summer and winter^{1)~4)}. Therefore, it is subdivided into "summer harvest" and "winter harvest" and listed.
- [2] When imported products of a vegetable occupy the most part of consumption, imported products are also used as samples of the vegetable.
- [3] In principle, samples of "pickles", "frozen", "canned", etc. are prepared by homogenizing and mixing multiple commercial products. Therefore, processing conditions such as added salt amount are unknown. Samples of "canned in brine", etc. are taken after draining water.
- [4] The cooked foods listed are "boiled", "sautéed", "deep-fried", "glazed" and "tempura", which are cooked with heat, and "bleached in water", "salted pickles" and "Nukamiso-zuke" which are cooked unheated. In principle, the identical samples, which have been used as samples of the uncooked item "raw", are cooked and analyzed. The cooking methods of each food are outlined in Table 16.
- [5] The cooked food items of "boiled" are made by heating vegetables in boiling water. When "boiled", each vegetable undergoes appropriate cooking procedures after boiling, which are traditionally applied in Japan. For example, immature bean vegetables and fruit vegetables are drained after boiling, and stem and leaf vegetables are cooled down with water and squeezed manually after boiling and draining. The "boiled" foods in the Current Tables are foods which underwent such cooking procedures. Details of boiling procedures of each vegetable and each cooking process are described in "Outlines of Cooking Methods" (Table 16).
- [6] All of the listed items with the term "salted pickles" and "Nukamiso-zuke" are washed with water. Leaf and stem vegetables are manually squeezed after washing. The detailed cooking procedure may not be clarified from the name shown in Food and Description; if not clarified, it is described in Outlines of Cooking Methods (Table 16) and in the remarks.
- [7] As for "turnip", "Japanese radishes", "carrot" and "Kintoki", samples removed skin are also analyzed and listed.
- [8] When determining refuse, it is noted that the value is based on the actual measurement value in the light of consuming and distributing system and actual dietary habits of the food.
- [9] There are vegetables containing high amount of nitrate nitrogen; in order to measure protein values accurately, the nitrate ion concentration should be measured and the calculated nitrate nitrogen

amount should be deducted from the protein value. When such analysis is carried out for a vegetable, nitrate ion amount is shown in the Remarks.

- [10] Regarding "analytical values" and "analytical values (2015)" in the text, see "Notes on Foods" described in the initial part of Chapter 3. (See Page 1)
- [11] The calculating method of energy used for oil-roasted and sautéed foods is different from that of the Component Tables 2010.

In the followings, important points to note regarding component values are described for each food item.

Globe artichoke

- -06001 flower bud, raw
- -06002 flower bud, boiled

The "globe artichoke" is also referred to as Chosen-azami. The fleshy flower bud appears in early summer, which is used after it has been boiled. The component values of "raw" are determined based on analytical values of the edible portion excluding receptacle base and a part of the involucre, using samples taken just before flowering, and the component values in the 4th Composition Tables. The component values of "boiled" are determined based on analytical values and retention factors.

Chive, "Asatsuki"

-06003 leaves, raw

-06004 leaves, boiled

"Asatsuki" has early and late varieties and shipped throughout the year. The component values of "raw" are determined based on analytical values. Those of "boiled" are determined based on analytical values and retention factors.

Angelica, "Ashitaba"

-06005 stems and leaves, raw

-06006 stems and leaves, boiled

"Ashitaba" is also called Hachijoso or Ashitagusa. It is a perennial plant which grows naturally in Central and South Pacific area. It is also cultivated in Hachijo-jima and Oshima. Young stems and leaves are used. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables. Those of "boiled" are determined based on analytical values and retention factors.

Asparagus

- -06007 green, shoots, raw
- -06008 green, shoots, boiled
- -06327 green, shoots, sautéed
- -06009 white, canned in brine

Samples of "asparagus" (green asparagus) are taken from products of Japan, the U.S.A. and New Zealand. Samples of "raw" are obtained throughout the year but seasonal variations of analytical values are small with no certain trends recognized. Therefore, the component values are listed

collectively. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables. Those of "boiled" are determined based on analytical values and retention factors.

The component values of "sautéed", newly listed, are determined based on retention factors derived from analytical values (2015) before and after cooking, the amount of attached vegetable oil, the component values of vegetable oil (rapeseed oil) used for cooking and the component values of "raw".

The component values of "canned in brine" (white asparagus) are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from commercial products with the brine removed.

Aloe

-06328 leaves, raw

Newly listed "aloe" belongs to the family Liliaceae (Xanthorrhoeaceae). It has approximately 400 species growing naturally in deserts and highlands of South Africa, etc. In Japan, it is cultivated and the fleshy leaves are used as a food and a folk medicine. Along with the representative species called krantz aloe, Aloe vera is used widely for processed foods. The component values are determined based on analytical values using samples, taking samples from both species.

Kidney beans

-"Sayaingen"

-06010 immature pods, raw

-06011 immature pods, boiled

"Sayaingen", the immature pod of "kidney bean", is also called Saito or Sandomame and used for making salad, Aemono (vegetables in various dressings), etc. Note that in the Kansai region, the hyacinth beans is sometimes called "kidney bean". The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables. Those of "boiled" are determined based on analytical values and retention factors. Additionally, the immature seed used for making boiled beans, Kinton, etc. is listed in "Pulses".

Japanese spikenard, "Udo"

-Japanese spikenard, "Udo" blanching cultivation,

-06012 stem, raw

-06013 stem, bleached in water

- "Udo", outdoor cultivation

-06014 stem, raw

As for (Japanese spikenard), cultivated products were called "Udo" and those grow naturally in mountains and fields were called "Yama-udo", previously. However, currently those blanch-cultured in a dark place are called "Udo" ("Udo", blanching cultivation), and those with greened upper half part, grown in a semi-underground place are called "Yama-udo" ("Udo", outdoor cultivation), because of the appearance, shape and flavor similar to the autochthons. Samples of ""Udo", outdoor cultivation" are taken from such products. The component values of "raw" of ""Udo", blanching cultivation" are determined based on analytical values and the component values in the 4th Composition Tables. Those

of "bleached in water" of ""Udo", blanching cultivation" are determined based on analytical values the component values in the 4th Composition Tables and retention factors, taking samples from samples peeled, cut in rectangles and bleached in water.

The component values of "raw" of ""Udo", outdoor cultivation" are determined based on analytical values.

Soybeans, immature

- -06015 raw
- -06016 boiled
- -06017 frozen

"Soybeans, immature" are immature seeds of soy. The component values of "raw" are determined based on analytical values, taking samples from products of Japan and Taiwan. Those of "boiled" are determined based on analytical values and retention factors. Those of "frozen" are determined based on analytical values, taking samples from products grown in Taiwan, China and Thailand, since the large part of frozen soybeans are imported products. Note that the mature seed is listed in "Pulses".

Endive

-06018 leaves, raw

The "endive" is also called Kikuchisha, Nigachisha or Shikore, whose leaves are curly and laciniate. Inner leaves are wrapped by tied outer leaves and blanched before harvesting. The component values are determined based on analytical values.

Peas

-peas

-06019	stem a	nd l	leaves,	raw

- -06329 spouts, raw
- -06330 sprouts, boiled
- -06331 sprouts, sautéed

-snow peas

- -06020 immature pods, raw
- -06021 immature pods, boiled

–snap peas

-06022 immature pods, raw

-green peas

- -06023 raw
- -06024 boiled
- -06025 frozen
- -06026 canned in brine

"Peas" (Tomyo) is a kind of the Chinese vegetable. Its young stems and leaves as well as sprouts are commercially available. In the Composition Tables 2010, both items were collectively listed as "stems and leaves"; however, they are subdivided based on analytical values (2015) and analytical values. The component values of "sprouts, boiled" and "sprouts, sautéed", newly listed, are determined based on

retention factors derived from analytical values (2015) before and after cooking, the amount of attached vegetable oil, the component values of vegetable oil (rapeseed oil) used for cooking and the component values of "raw".

Cultivars of "snow pea" are mainly stringless type and cultivated throughout the year. Samples are taken from products of Japan, China and Taiwan. The component values of "raw" are determined based on analytical values. Those of "boiled" are determined based on analytical values and retention factors.

The "snap pea" is also called "snack pea". It is a variety of snap pea, whose pods would not harden before the seed reaches a certain level of size; the pod is eaten in whole. The component values are determined based on analytical values.

The component values of "raw" of "green peas" (Mi-endo) which refers to the immature seeds, are determined based on analytical values and the component values in the 4th Composition Tables. The component values of "boiled" are determined based on analytical values and retention factors. Those of "frozen" are determined based on analytical values, taking samples from products of New Zealand and the U.S.A. Those of "canned in brine" are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from commercial products with the brine removed.

Note that mature seed of peas is listed in "Pulses".

Non-heading Chinese cabbage, "Osaka-shirona"

- -06027 leaves, raw
- -06028 leaves, boiled
- -06029 leaves, salted pickles

"Non-heading Chinese cabbage, "Osaka-shirona"" is one of Tsukena (the leaf vegetable suitable for pickling), developed by crossbreeding of the Chinese cabbage with the Chinese mustard, "Taisai". It is cultivated around Osaka. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables. Those of "boiled" and "salted pickes" are respectively determined based on analytical values and retention factors.

Japanese saltwort

-06030 stems and leaves, raw

-06031 stems and leaves, boiled

"Japanese saltwort", also called Miruna, is an annual plant grown naturally in coastal sand areas. It is also cultivated in inland areas. The fleshy stems are used. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables. Those of "boiled" are determined based on analytical values and retention factors.

Okra

-06032 pods, raw

-06033 pods, boiled

The "okra" is in Japan an annual plant, which is cultivated throughout the year. Samples are taken from products imported from the Philippines and Thailand, as well as domestic products. Additionally, samples are obtained throughout the year but seasonal variations of analytical values are small with no certain trends recognized. Therefore, the component values are collectively shown. The component values of "raw" are determined based on analytical values. Those of "boiled" are determined based on analytical values and retention factors.

Turnip

- -06034 leaves, raw
- -06035 leaves, boiled
- -06036 root, with skin, raw
- -06037 root, with skin, boiled
- -06038 root, without skin, raw
- -06039 root, without skin, boiled
- -pickles

-salted pickles

- -06040 leaves
- -06041 root with skin
- -06042 root without skin
- -"Nukamiso-zuke" (pickled in salty rice bran paste)
 - -06043 leaves
 - -06044 root with skin
 - -06045 root without skin

"Turnip" is also called Kabura. There are European varieties (Kanamachi-kokabu, Wase-kokabu, Tokinashi-kokabu, etc.) and oriental varieties (Shogoin-kabu, Tennoji-kabu, etc.), and hybrid varieties developed by the two types of turnip; most of them are the first filial generation which are cultivated all year. The component values of "leaves, raw" are determined based on analytical values and the component values in the 4th Composition Tables. The component values of "leaves, boiled" are determined based on analytical values and retention factors. Additionally, the component values of sodium of "raw" and "boiled" are reanalyzed, and the component value of "raw" is determined based on analytical values (2015), analytical values and the component value in the 4th Composition Tables. That of "boiled" is determined based on analytical values (2015), analytical values, the component value in the 4th Composition Tables and retention factors. The component values of "root, with skin, raw" and "root, without skin, raw" are respectively determined based on analytical values. Those of "root, with skin, boiled" and "root, without skin, boiled" are respectively determined based on analytical values and retention factors.

The component values of "leaves", "root, with skin", "root, without skin" of "salted pickles" and "leaves", "root, with skin" and "root, without skin" of "Nukamiso-zuke" are respectively determined based on analytical values and retention factors.

Pumpkin and squash

- -Japanese squash
 - -06046 fruit, raw

-06047	fruit, boiled			
—winter squash				
-06048	fruit, raw			
-06049	fruit, boiled			
-06332	fruit, baked			
-06050	fruit, frozen			
—spaghetti squash				

-06051 fruit, raw

The (pumpkin and squash) eaten in Japan are Japanese squash (Chirimen, Kurokawa, Kikuza, Shiro-kikuza, etc.) native to Central America, and the winter squash (Kurikabocha, Hoko-aokawa, Hubbard, Shin-kurimann, etc.) native to South America. The former is cultivated basically in the Kanto region and westward, and the latter basically in the Kanto region and northward.

The component values of "raw" of "Japanese squash" are determined based on analytical values and the component values in the 4th Composition Tables. Those of "boiled" are determined based on analytical values and retention factors.

Samples of "winter squash" are taken from products of New Zealand, Tonga and Mexico, as well as Japan. Samples are obtained all year and seasonal variations are recognized; however, there are no certain trends among them, and domestic products and imported products are mixed. Therefore, the component values are collectively shown. The component values of "raw" are determined based on analytical values. Those of "boiled" are determined based on analytical values and retention factors. Those of "baked", newly listed, are determined based on retention factors derived from analytical values (2015) before and after cooking, and the component values of "raw". The component values of "frozen" are determined based on analytical values of the samples, taking samples from products of New Zealand and China.

"Spaghetti squash" is also called Itokabocha, Kinshiuri, Namasuuri, etc. Fibers of the flesh are adhered with each other and look like somen (thin wheat noodles) when drawn out. It is eaten with Nihaizu (vinegar and soy sauce mixed in roughly equal proportions), etc. The component values are determined based on analytical values.

Leaf mustard, "Karashina"

-06052 leaves, raw

-06053 leaves, salted pickles

"Karashina" listed in the Current Tables refers to what is called Hagarashi or Nagarashi, although there are closely related varieties such as Takana, Azamina. Note that mustard powder (Japanese mustard), a spice, is made by defatting and grinding seeds of "Karashina". The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables. Those of "salted pickles" are determined based on analytical values and retention factors.

Cauliflower

-06054 inflorescence, raw

-06055 inflorescence, boiled

"Cauliflower" is a type of cabbage. Although it was once called Hanayasai, currently the name "cauliflower" has been popular. The edible portion is the white or cream-colored inflorescence (flower bud). The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables. Those of "boiled" are determined based on analytical values and retention factors.

Gourd, "Kanpyo" (dried gourd strips)

- -06056 raw
- -06057 boiled

"Kanpyo" is made by cutting fruits of the bottle gourd into long thin strips and drying them. The component values are determined based on analytical values and the component values in the 4th Composition Tables. Those of "boiled" are determined based on analytical values and retention factors.

Chrysanthemum

- -06058 petals, raw
- -06059 petals, boiled
- -06060 "Kikunori" (sheet of dried chrysanthemum petals)

The "chrysanthemum" has many varieties with yellow, large or thick flower, etc. A large part of them are grown in cool areas such as the Tohoku region. It is called Shokuyo-giku (edible chrysanthemum) or Ryori-giku (chrysanthemum used for cooking). The component values are determined based on analytical values and the component values in the 4th Composition Tables. Those of "boiled" are determined based on analytical values and retention factors. "Kikunori" is edible dried chrysanthemum petals, made by steaming, gathering and shaping petals into thin sheets of a certain size and drying them. The component values are determined based on analytical values in the 4th Composition Tables.

Cabbages

- -Cabbage, common
 - -06061 head, raw
 - -06062 head, boiled
 - -06333 head, sautéed
- -Green ball

-06063 head raw

- -Red cabbage
 - -06064 head raw

The name "cabbage" has is common and well-known, however another name for it is Kanran. There are a diverse varieties including heading, non-heading and semi-heading type, and those with pale green or green leaves, purple leaves (red cabbage), curly leaves (Chirimen-kanran), and smooth leaves. Domestic varieties are mainly those with head and smooth green leaves. All of them are F1 hybrids, which are shipped throughout the year.

Samples of "raw" of "cabbage" are obtained all year, but the seasonal variations are small with no

certain trends recognized. Therefore, the component values are collectively shown. The component values of "raw" are determined based on analytical values. Those of "boiled" are determined based on analytical values and retention factors. Additionally, manganese of "raw" and "boiled" are reanalyzed and the component value of manganese of "raw" is determined based on analytical values (2015) and analytical values. That of "boiled" is determined based on the calculated values using the component values of "raw", the food yield after cooking, and retention factors obtained by analytical values (2015) before and after cooking. The component values of "sautéed", newly listed, are determined based on retention factors calculated from analytical values (2015) before and after cooking, the amount of vegetable oil attached, the component values of vegetable oil (rapeseed oil) used for cooking and the component values of "raw".

"Green ball" is a small-head "cabbage" with bright green leaves, which grows very early (Gokuwase). The leaves are soft and suitable for eating raw. The name of cultivar has been used as its common name. The component values are determined based on analytical values.

"Red cabbage" is also called red cabbage or purple cabbage, for its reddish violet leaves. The component values are determined based on analytical values.

Cucumber

-06065 fruit, raw

-pickles

-06066 salted pickles

-06067 pickled in soy sauce

-06068 "Nukamiso-zuke" (pickled in salty rice bran paste)

-pickles

-06069 sweet type (pickled with seasoned vinegar)

-06070 sour type (processed by lactic acid fermentation)

The varities conceaning cucumbers can be divided into either Kahoku type and Kanan type. The former has generally thin skin and crumbly crisp flesh, with white warts (warts on the skin are white). The latter has harder skin and juicy soft flesh, with black warts (warts on the skin are black). In addition, hybrid varieties of the two are also cultivated; most of such varieties are F1 hybrids. Also, cultivars exclusively used for pickles are grown. On the surface of the "cucumber", white powdery substance called bloom appears; for the reason it gives bad impression for consumers, cucumbers without bloom are developed by grafting and widely used. Samples of "raw" are obtained all year, but seasonal variations of component values are small with no certain trends recognized. Therefore, the component values are collectively shown. The component values are determined based on analytical values.

Note that during the formulation of the 4th Composition Tables, those grown outdoors and those grown indoors are both analyzed, but variations of components between the two do not always show certain trends; in conclusion, they are not regarded as distinct enough to list them separately.

The component values of "salted pickles" are determined based on analytical values and retention factors. Those of "pickled in soy sauce" are determined based on analytical values of commercial

products. Those of ""Nukamiso-zuke"" are determined based on analytical values and retention factors.

The listed items of "pickles" are "sweet type" made by pickling cucumbers in vinegar with various spices, sweeteners, etc, and "sour type" with a strong acid taste, made by pickling cucumbers with salt and fermenting them with lactic acid. The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples respectively from commercial products.

Japanese victory onion

-06071 leaves, raw

The "Japanese victory onion" is also called Ainu-negi, Hitobiro or Yamabiru. It is one of the vegetables grown in the mountains that gives a scent of garlic. Although it grows naturally in mountains of cold areas such as Hokkaido, currently it is cultivated in Hokkaido, etc. The component values are determined based on analytical values of cultivated products.

Leaf celery

-06075 stems and leaves, raw

-06076 stems and leaves, boiled

The "leaf celery" is one of the Chinese vegetables and a variety of celery, which has fragrant thin soft petioles. Samples are taken from those grown by hydroponic culture, which has become popular nowadays. The component values of "raw" are determined based on analytical values. Those of "boiled" are determined based on analytical values and retention factors.

Watercress

-06077 stems and leaves, raw

The "watercress" is also called Mizukarashi or Oranda-mizugarashi (Holland mustard). It grows naturally in mountains or is cultivated, with the samples being taken from cultivated products. The component values are determined based on analytical values and the component values in the 4th Composition Tables.

Arrowhead

-06078 tuber, raw

-06079 tuber, boiled

There are two types of "arrowhead": "blue arrowhead" and "white arrowhead". The former is widely grown in Japan, and samples are taken from those grown in the Kanto region, in which a large part of them is cultivated. The latter is cultivated in mainland China. In the Kansai region, small-type "Suita arrowhead", a wild species of the genus *Sagittaria*, is used for expensive dishes. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables. Those of "boiled" are determined based on analytical values and retention factors.

Kale

-06080 leaves, raw

The "kale" is closely related to wild cabbages and has many groups. The leaves do not form the head,

and used for eating or animal feeding. In Japan, it has not been common as a fresh vegetable, but is used for making a beverage (Aojiru). The component values are determined based on analytical values.

Kohlrabi

-06081 enlarged stems, raw

-06082 enlarged stems, boiled

The "kohlrabi", also called Kyukei-kanran, is a variety of cabbage whose stem base enlarges like a turnip. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables. Those of "boiled" are determined based on analytical values and retention factors.

Ostrich-feather fern

-06083 fiddlehead, raw

The "ostrich-feather fern" is the crosier of ostrich-feather fern, which is a kind of edible fern. It is also called Kogome or Kusasotetsu, and is a representative mountain vegetable of the Tohoku region. It is also cultivated. The component values are determined based on analytical values of cultivated products.

Edible burdock

-06084 root, raw

-06085 root, boiled

The "edible burdock" ranges in Japan, as well as Europe, Siberia to the northeastern China; however, it is eaten only in Japan. The varieties are short root type (Oura, Horikawa, etc.) or long root type (Takinogawa, etc.) and the base of petiole is red (red stem type) or pale green (white stem type). Leaves of the white stem type can be eaten. Samples are taken from a variety of long root type and obtained all year, but seasonal variations of analytical values are small with no certain trends observed. Therefore, the component values are collectively shown. In addition, samples taken from Chinese products are also analyzed. The component values of "raw" are determined based on analytical values, while those of "boiled" based on analytical values and retention factors.

Spinach mustard, "Komatsuna"

-06086 leaves, raw

-06087 leaves, boiled

"Komatsuna" is closely related to Kyona, Taisai, etc., and is also referred to as Fuyuna or Yukina. It is sown in autumn or spring; those used as Tsumamina in the early spring is peculiarly called Uguisuna. It is one of the most popular varieties of Tsukena (the leaf vegetable suitable for pickling) and is a cultivar developed in the Kanto region. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables. Those of "boiled" are determined based on analytical values and retention factors.

Stem mustard

-06088 pickles

"Stem mustard" is a variety of "Karashina". The petiole base enlarges; the enlarged part is used as a

food by pickling with salt. Salted pickles are imported from China and domestically repacked in bottles, etc. The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from commercial products.

Non-heading Chinese cabbage, "Santosai"

- -06089 leaves, raw
- -06090 leaves, boiled
- -06091 leaves, salted pickles

"Santosai" is a variety of Chinese cabbage and many of the cultivars are semi-heading type, while heading type has also been developed. The young leaves of "Santosai", namely Bekana, are in the market; samples are taken from such products. The component values of "raw" are determined based on analytical values. Those of "boiled" are determined based on analytical values and retention factors. Those of "salted pickles" are determined based on analytical values.

Winged beans

-06092 immature pods, raw

The "winged bean" bears pods with bumps all over and square cross-section. They are cultivated only in warm areas around the south-west parts of Japan. The immature pods and seeds can be eaten. The component values are determined based on analytical values.

Sweet peppers, "Shishito"

-06093 fruit, raw

-06094 fruit, sautéed

"Shishito" is relatively small peppers used as a fresh vegetable. It is a variety of chili pepper (sweet type), and shipped all year. The name "sweet peppers" listed in the Composition Tables 2010 has been renamed. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables. The component values of iodine, selenium, chromium, molybdenum and biotin of "sautéed" are determined based on analytical values; other component values are determined by calculation based on literature values⁵⁾ and the component values of "raw".

Perilla, "Shiso",

-06095 leaves, raw

-06096 immature seeds, raw

"Shiso" has varieties including Aojiso with green leaves, Akajiso with reddish purple leaves and Katamenjiso with leaves whose upper side is green and under side is reddish purple. It is used in the form of Mejiso which means juvenile plants shortly after germination, Hojiso which means the spikes beginning to bloom, Hajiso which means the leaves eaten, and Mijiso which means the edible seeds. Among them, Hajiso and Mijiso are listed. Akajiso and Aojiso leaves are used as Hajiso. The leaves of Aojiso is also called Oba, which are cultivated all year. The component values of "leaves, raw" are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from Aojiso, the most frequently eaten variety in general. The component values are determined based on analytical values and the component values in the 4th Composition Tables.

Note that during the formulation of the 4th Composition Tables, both Aojiso and Akajiso were analyzed; there were no significant differences between the component values of the two, except for carotenes. Additionally, the carotene values of Akajiso are newly analyzed because of the difference between Akajiso and Aojiso shown in the 4th Composition; however, there are no distinct differences between Akajiso and Aojiso.

Samples of "immature seeds, raw" are taken from those of Aojiso and the component values are determined based on analytical values and the component values in the 4th Composition Tables.

Yandlong beans

-06097 immature pods, raw

-06098 immature pods, boiled

The "yardlong beans" are a variety of cowpea and its immature pods are used for eating. The pods are very long and many of them are pale green, while some are pale purple or white. Many of the seeds are red. Samples are taken from products with green and pale purple color, and there are no significant differences recognized between their analytical values. Therefore, the component values of both are collectively listed. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables. Those of "boiled" are determined based on analytical values and retention factors.

Garland chrysanthemum

- -06099 leaves, raw
- -06100 leaves, boiled

"Garland chrysanthemum", also called Kikuna, are classified under three groups: the large leaf varieties with large lacinate deep-green leaves, the small leaf type with small and distinctly-laciniate thin leaves, and the medium-sized leaf type intermediate between them, which is most frequently cultivated. It is cultivated throughout the year. As hydroponically cultivated products are available in the market, analysis are conducted on products including those grown by hydroponic culture. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables. Those of "boiled" are determined based on analytical values and retention factors.

Water shield

-06101 young leaves, bottled in water

The "water shield" grows naturally in old lakes and marshes around the country. It is also cultivated in artificial marshes (water shield fields). The young stems and leaves wrapped by mucilage are mainly eaten. In general, marketed products are bottled in water. The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from commercial products with the liquid removed.

(Gingers)

-Ginger, immature rhizome with stem

-06102 immature rhizome with stem, raw

-Ginger, mature rhizome

-06103 mature rhizome, raw

-pickles

-06104 pickles

-06105 pickles, sweetened

The food items of (gingers) include immature rhizome (Fude-shoga), sprouted ginger (Shin-shoga), mature rhizome (Hine-shoga).

"Immature rhizome with stem, raw" is also called Bon-shoga or Hajikami. It has sprouts appearing out of the rhizome, but stems are still thin. The color of the stem base is rose pink. The enlarged tuber is almost the same size as a pinky finger. The component values are determined based on analytical values.

"Mature rhizome" is the rhizome of ginger, what is called Hine-shoga. Analyses are conducted also on products of China. The component values are determined based on analytical values and the component values in the 4th Composition Tables.

"Pickles" refers to "Beni-shoga" (pickled red ginger). The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from commercial products. Those of "pickles, sweetened" are determined based on analytical values of commercial products.

Oriental pickling melon

-06106 fruit, raw

-pickles

-06107 salted pickles

-06108 "Nara-zuke" (pickled with Sake lees)

"Oriental pickling melon", also called Asauri, is a related species of the oriental melon that belongs to "Fruits". It is used as a raw material of processed foods such as Narazuke, as well as used for Asazuke. The component values of each of "raw" and "salted pickles" are determined based on analytical values and the component values in the 4th Composition Tables. "Nara-zuke" is a kind of Kasu-zuke, and its component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from commercial products that underwent water washing and draining.

Taro

-06109 petiole, fresh, raw

-06110 petiole, fresh, boiled

-06111 petiole, dried, raw

-06112 petiole, dried and boiled

The petiole of (Taro) is used as a food, as well as the corm which is listed in "Taro, "Satoimo"" of "Potatoes and Starches". "Petiole, fresh" is green (Yatsugashira, Hasuimo, etc.) or reddish purple (Akame, Toimo, etc.) and is called "Zuiki" (petiole, fresh) in raw state, and "Hoshi-zuiki" (petiole, dried) or Imogara in dry state. In general, those with reddish purple petioles have weak harshness and used for eating; samples of "petiole, fresh" are taken from such products. The component values of

"raw" are determined based on analytical values and the component values in the 4th Composition Tables. Those of "boiled" are determined based on analytical values and retention factors. The component values of "raw" of "petiole, dried" are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from commercial products. Those of "boiled" are determined based on analytical values and retention factors.

Turnip, "Sugukina"

-06113 leaves, raw

-06114 root, raw

-06115 leaves and root, pickles

"Sugukina", also called Kamona, originally refers to a variety of local specialty turnips of Kamo region, Kyoto prefecture. The cultivar currently grown is considered as a hybrid of a native variety with Shogoin turnip. The component values of "leaves, raw" and "root, raw" are determined based on analytical values and the component values in the 4th Composition Tables.

"Leaves and root, pickles" is a sour taste pickles made by pickling leaves and root with salt and naturally fermenting them with lactic acid. The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from commercial products.

Zucchini

-06116 fruit, raw

"Zucchini", also called Tsurunashi-kabocha (the squash without vine), is a variety of *Cucurbita pepo* with a shape similar to cucumber. Immature fruits are used for eating are the ones that are generally consumed, that are either green or yellow in color. The component values are determined based on analytical values.

Water dropwort

-06117 stems and leaves, raw

-06118 stems and leaves, boiled

There are natural products and cultivated products of "water dropwort". In common, the former is also called Tazeri. In general, the color of petiole of the two are purplish brown and blue-green, respectively. Samples are taken from cultivated products. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables. Those of "boiled" are determined based on analytical values and retention factors.

Celery

-06119 petiole, raw

The "celery" is also called "Serori", "Seruri" or Holland hornwart. The name "celery" listed in the Composition Tables 2010 has been renamed. Previously, yellow-colored varieties were cultivated and blanched; however, green-colored varieties has become common. They are also imported with their leaf blades cut off. Samples are taken from products of Japan and the U.S.A. The component values are determined based on analytical values and the component values in the 4th Composition Tables.

Note that analytical values of those with green petioles tend to show a higher content of carotenes

compared to those with white petioles, but the component values are collectively shown.

Japanese royal fern

-Japanese royal fern, fresh

-06120 fiddleheads, fresh, raw

-06121 fiddleheads, fresh, boiled

-Japanese royal fern, dried

-06122 fiddleheads, dried, raw

-06123 fiddleheads, dried, boiled

"Japanese royal fern" is a variety of perennial pteridophytes that grows naturally in fields and mountains. Products on the market are those picked in such places or those cultivated in glades, etc.

The component values of "fresh, raw" of "Japanese royal fern, fresh" are determined based on analytical values and the component values in the 4th Composition Tables. Those of "boiled" are determined based on analytical values and retention factors.

"Japanese royal fern, dried" is made by boiling fiddleheads with hot water, essentially removing the harshness taste of the vegetable, then dried. The component values of "dried" are determined based on analytical values and the component values in the 4th Composition Tables. Those of "boiled" are determined based on analytical values and retention factors.

Broad beans

-06124 immature beans, raw

-06125 immature beans, boiled

The "broad bean" is grown from both mature seeds and immature seeds. "Immature beans" are eaten in whole with the seed coat, or only the cotyledons are eaten after the removal of the seed coat. In the current Composition Tables, the latter is used as samples. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables. Those of "boiled" are determined based on analytical values and retention factors. Note that the mature seed is listed in "Pulses".

Tatsoi

-06126 leaves, raw

-06127 leaves, boiled

"Tatsoi" is one of the Chinese Tsukena (the vegetable suitable for pickling). It was introduced in the early Showa period, but products currently in the market are the improved varieties developed with those reintroduced. The component values of "raw" are determined based on analytical values. Those of "boiled" are determined based on analytical values and retention factors.

Japanese radishes, Daikon

- -Daikon, sprouts
 - -06128 sprouts, raw
- -Daikon, cultivar for leaf use
 - -06129 leaves, raw
- -Daikon

- -06130 leaves, raw
- -06131 leaves, boiled
- -06132 root with skin, raw
- -06133 root with skin, boiled
- -06134 root without skin, raw
- -06135 root without skin, boiled

- "Kiriboshi-daikon" (cut and dried Daikon root)

- -06136 raw
- -06334 rehydrated and boiled
- -06335 rehydrated and sautéed

— root, pickles

-06137 "Nukamiso-zuke" (pickled in salty rice bran paste)

-"Takuan-zuke"

- -06138 made of salted Daikon
- -06139 made of sun-dried Daikon
- -06140 "Moriguchi-zuke" (slender root cultivar pickled with Sake lees)
- -06141 "Bettara-zuke" (pickled with rice koji)
- -06142 "Miso-zuke" (pickled with miso)

-06143 "Fukujin-zuke" (pickled with Daikon, eggplant, immature sword pods and east Indian lotus rhizome)

There are many varieties for "Daikon" that are consumed in all parts of the work, resulting in the vegetable being used for many different purposes, from vegetable use to animal feed, depending on the consumption area. The major domestic varieties belong mainly to the group native to the southern China, but most of them are F1 hybrids. The root shape is diverse: short, long and round. Also, varieties can be divided by use purpose: for vegetable use, for processed foods or for both. Due to the easiness of harvesting, the Aokubi group has become the mainstream.

"Daikon, sprouts", also called Kaiware, are grown by sowing seeds and growing them spindly in a dark place, allowing them to germinate by throwing a light once the cotyledons (Kaiware leaves) have been unfolded. The component values are determined based on analytical values.

"Daikon, cultivar for leaf use" is a variety exclusively used for its edible young leaves, which are hydroponically cultivated. The component values are determined based on analytical values.

Samples of "leaves, raw" and "leaves, boiled" of "Daikon" are taken from the leaves of "Daikon" at the ideal timing for harvesting. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables. Those of "boiled" are determined based on analytical values and retention factors. Samples of "root with skin, raw" are obtained all year, but seasonal variations of component values are small with no certain trends recognized. Therefore, the component values are collectively shown. The component values of "raw" are determined based on analytical values. Those of "boiled" are determined based on analytical values and retention factors. Since "Daikon" is often used after the removal of skin, "root without skin, raw" and "root without skin, boiled" are listed as well. The component values of "raw" are determined based on analytical values. Those of "boiled" are determined based on analytical values and retention factors.

The types of "Kiriboshi-daikon" includes Sengiriboshi (those cut into strips and dried), Kami-kiriboshi (those cut into slightly thicker strips and dried), Hanamaru-kiriboshi (those cut into round slices and dried). The component values of "dried" are determined based on analytical values (2015), analytical values and the component values in the 4th Composition Tables, taking samples from commercial products. Additionally, reanalysis is conducted on iron and the component value is determined based on analytical values (2015). The value of iron decreased as the analysis year proceeds; it is considered to be an influence caused by changes in the material of cooking tools and the drying methods, etc. used for manufacturing Kiriboshi-daikon, with a passage of time. Newly listed "rehydrated and boiled" and "rehydrated and sautéed" are made by soaking commercial products in water and cooking them. The component values of "rehydrated and sautéed" are determined based on retention factors derived from analytical values (2015) before and after cooking, the amount of attached vegetable oil, the component values of vegetable oil (rapeseed oil) used for cooking and the component values of "raw".

The component values of "Nukamiso-zuke" are determined based on analytical values and retention factors. The types of "Takuan-zuke" are "made of salted Daikon", and "made of sun-dried Daikon"; the former is also called Shinzuke-takuan or Hayazuke-takuan, made by salting raw Daikon before pickling. The latter is also called Hon-takuan, which are made by drying Daikon to a certain degree before pickling. The component values of both items are determined based on analytical values of commercial products that underwent water washing and draining.

"Moriguchi-zuke" is Kasuzuke of Moriguchi Daikon, whose root is 1 to 1.5 meter long with a diameter of 2.5 to 3 cm. The component values are determined based on analytical values of commercial products that underwent water washing and draining and the component values in the 4th Composition Tables.

"Bettara-zuke" is a type of Kojizuke. The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from commercial products that underwent water washing and draining.

"Miso-zuke" is made by drying Daikon to a certain degree then pickling them with miso. The component values are determine based on analytical values and the component values in the 4th Composition Tables, taking samples from commercial products that underwent water washing and draining.

"Fukujin-zuke" is a food which can be categorized in what is called Chomi-zuke of mixed vegetables; it is made by pickling Daikon with pieces of eggplants, cucumbers, sword pods and soy sauce. The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from commercial products excluded seasoning.

Chinese mustards, "Taisai"

-Chinese mustard, "Taisai", young leaves

-06144 young leaves, raw

-Chinese mustard, "Taisai", leaves

-06145 leaves, raw

-06146 leaves, salted pickles

"Taisai" is a vegetable closely related to Kyona, Komatsuna, etc., and is also called Shakushina. The item "young leaves" (Tsumamina) refers to Seppaku-taisai, which is harvested when the number of foliage leaves reached 4 or 5. Note that thinned-out Daikon leaves and Komatsuna seedlings are also used as Tsumamina. In the current Composition Tables, early-picked Seppaku-taisai leaves are used as samples, and the component values are determined based on analytical values.

The component values of "raw" of "leaves" are determined based on analytical values and the component values in the 4th Composition Tables. Those of "salted pickles" are determined based on analytical values and retention factors.

Leaf mustard, "Takana"

-06147 leaves, raw

-06148 leaves, salted pickles

"Takana" is included in Karashina group in a broad sense, but it varies greatly with many varieties such as Katsuona, Hiroshima-murasaki-takana, Oba-takana. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables.

"Salted pickles" is made by salting and fermented leaves with lactic acid. The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from commercial products that underwent water washing and manual squeezing.

Bamboo shoots

- -06149 shoots, raw
- -06150 shoots, boiled
- -06151 shoots, canned in water
- -06152 "Shinachiku" (boiled, fermented and salted bamboo shoots), desalted

The "bamboo shoots" generally used are those of Moso bamboo. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables. Those of "boiled" are determined based on analytical values and retention factors. Those of "canned in water" are determined based on analytical values, taking samples from commercial products with the liquid removed.

"Shinachiku" is made by steaming shoots of Machiku, fermenting them with lactic acid, drying them under the sun, then salting them. The name "shinachiku" has been renamed as an substitute for Machiku, Hoteichiku (golden bamboo), which may be used as a raw material. The component values are determined based on analytical values, using samples of salted products in the market after the removal of salt. Additionally, the component value of γ -tocopherol of "raw" and "boiled" are reanalyzed; that of "raw" is determined based on analytical values (2015), while that of "boiled" based on the calculated values using the component value of "raw", the food yield after cooking, and a retention factor derived from analytical values (2015) before and after cooking.

Onions

- -onions
 - -06153 bulb, raw
 - -06154 bleached in water
 - -06155 boiled
 - -06336 sautéed

-red onions

-06156 bulb, raw

-immature onions

-06337 bulb and stem, raw

Onions are cultivated around the world and are roughly classified into round, flat, oval, yellow, red and white type. They can also be classified by the taste into sweet and pungent type. Most varieties grown in Japan are round yellow type or flat type with a sweet taste. A considerable amount is imported, mainly due to the demand for the food-service industry.

Domestic samples of "onions" are obtained all year, but seasonal variations of component values are small with no certain trends recognized. In addition, products of the U.S.A. and China are also analyzed; however, their component values are collectively shown with those of domestic products. The component values of "raw" are determined based on analytical values. Those of "bleached in water" and "boiled" are determined based on analytical values and retention factors. Those of "sautéed", newly listed, are determined based on retention factors derived from analytical values (2015) before and after cooking, the amount of attached vegetable oil, the component values of vegetable oil (rapeseed oil) used for cooking and the component values of "raw".

The "red onion" is commonly called a red onion or purple onion. It is used mainly in salads to add color to essentially enhance the appearance of the salad. The component values are determined based on analytical values.

Newly listed "immature onions" are early-picked bulbs with stem harvested at the timing bulbs begin to swell. The round part can be used similarly to fresh onions, while stems can be used for the cooking, just like a long green onion. The component values are determined based on analytical values (2015).

Japanese angelica-tree

-06157 spears, raw

-06158 spears, boiled

"Japanese angelica-tree" means the Japanese angelica tree growing naturally in mountain and fields, whose spears are picked and used. It is also grown in greenhouses, etc. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from those without woody base part. Those of "boiled" are determined based on analytical values and retention factors.

Chicory

-06159 spears, raw

The "chicory" is also called chicory or Kikunigana. The name "chicory" listed in the Composition
Tables 2010 has been renamed. It is grown by blanching culture, in which the rootstock is layered in soil and the spear resembling the core part of Chinese cabbage is harvested. Since it is called endive in French, it sometimes confused with endive. The component values are determined based on analytical values of imported products (partly domestic products).

Green bok choy

- -06160 leaves, raw
- -06161 leaves, boiled
- -06338 leaves, sautéed

"Green bok choy" is a variety of bok choy, a Chinese vegetable featuring green petioles. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables. Those of "boiled" are determined based on analytical values, the component values in the 4th Composition Tables and retention factors. The component values of "sautéed", newly listed, are determined based on retention factors derived from analytical values (2015) before and after cooking, the amount of attached vegetable oil, the component values (rapeseed oil) of vegetable oil used for cooking and the component values of "raw".

Field horsetail

-06162 fertile shoot, raw

-06163 fertile shoot, boiled

"Field horsetail" means the fertile shoot of field horsetail. Along with natural products, there are some commercial products grown in Japan. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables. Those of "boiled" are determined based on analytical values and retention factors.

New Zealand spinach

-06164 stems and leaves, raw

"New Zealand spinach", also called Hamajisha, grows naturally on beaches around the county. It is also cultivated in some regions of Japan. The component values are determined based on analytical values and the component values in the 4th Composition Tables.

Malabar nightshade (Tsurumurasaki)

-06165 stems and leaves, raw

-06166 stems and leaves, boiled

"Malabar nightshade" is an annual herbaceous climbing plant. Young stems and leaves are used. The component values of "raw" are determined based on analytical values. Those of "boiled" are determined based on analytical values and retention factors.

Leopard plant (Tsuwabuki)

-06167 petiole, raw

-06168 petiole, boiled

"Leopard plant" grows naturally near beaches in warm areas. It seems similar to Japanese butterbur, but is a different species. The petiole is used after peeling and removing the harshness. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from peeled petioles. Those of "boiled" are determined based on analytical values, the component values in the 4th Composition Tables and retention factors.

Hot peppers

- -06169 leaves and fruits, raw
- -06170 leaves and fruits, sautéed
- -06171 fruit, raw
- -06172 fruit, dried

The "hot pepper" is also called Nanban. Normally, it is roughly classified into hot and sweet type, and listed here is hot type (Takanotsume, Yatsuhusa, etc.). "Hatogarashi" means the leaves of hot type varieties. The component values of "leaves and fruits, raw", "fruits, raw" and "fruits, dried" are determined based on analytical values and the component values in the 4th Composition Tables. Those of "leaves and fruits, sautéed" are based on literature values⁵), the component values of "leaves and fruits, raw" and "vegetable oil, blend". The items of sweet type "hot peppers" are listed separately in "sweet peppers, "Shishito"" and (Peppers). Additionally, the hot pepper powder, also called Ichimi-togarashi, is listed in "Seasonings and Spices".

Chinese preserving melon (Togan)

-06173 fruit, raw

-06174 fruit, boiled

"Togan" is native to the sub-tropical and tropical parts of Asia, and is considered to be an important vegetable the areas where is it is grown and harvested. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables. Those of "boiled" are determined based on analytical values, the component values in the 4th Composition Tables and retention factors.

Corn

-Sweet corn

-06175 immature kernels, raw

- -06176 immature kernels, boiled
- -06339 immature kernels, microwaved
- -06177 immature kernels on cob, frozen
- -06178 immature kernels, frozen

-canned products

-06179 cream style

-06180 whole kernel style

-young ear

-06181 young ear, raw

Corn can be grown from both mature seeds and immature seeds.

Samples of "raw" and "boiled" "sweet corn" are taken from bi-color corn. The component values of "raw" are determined based on analytical values, while those of "boiled" based on analytical values and retention factors. Those of "microwaved", newly listed, are determined based on retention factors

derived from analytical values (2015) before and after cooking and the component values of "raw". The name "immature kernels on cob, frozen" listed in the Composition Tables 2010 has been renamed to "immature kernels on cob, frozen". Samples of both "immature kernels on cob, frozen" and "immature kernels, frozen" (kernels without cob) are taken from products of the U.S.A, and the component values of each item are determined based on analytical values. The listed items of "canned products" are "cream style" and "whole kernel style", and their component values are determined based on analytical values.

"Young ear, raw", also called baby corn or mini-corn, is the young ear of "sweet corn" harvested with cob. The component values are determined based on analytical values.

Note that the mature seed is listed in "Cereals".

Tomatoes

-Tomatoes

-06182 fruit, raw

-Cherry tomatoes

-06183 cherry tomatoes, fruit, raw

-canned products

- -06184 whole, without salt
- -06185 juice, with salt
- -06340 juice, without salt
- -06186 tomato-based vegetable juice, with salt
- -06341 tomato-based vegetable juice, without salt

The "tomato" is an annual herbaceous plant of the family Solanaceae. Its cultivars are roughly classified into three groups; Italian, English and American. The majority of the cultivars that are grown domestically are imported American cultivars. Superior F1 hybrids and various cropping types have enabled all-year shipping. Owing to the improvement in varieties used for eating raw, most of the distributed "tomatoes" have become cultivars called fully ripe type. Additionally, over 70 % of the products are grown indoors. Samples of "raw" of "tomatoes" are obtained all year, but variations of component values are small with no certain seasonal trends recognized. Therefore, the component values are collectively shown.

Note that during the formulation of 4th Composition Tables, those grown outdoors, those grown indoors and those used as a raw material of processed foods (cultivated outdoors) were analyzed; the variations of these components did not always show a certain trend and were not regarded as distinct enough to list them separately. Additionally, research has been conducted regarding the differences in ascorbic acid content between those grown outdoors and indoors, as well as between those grown by conventional farming, in which chemical fertilizers are used, and by organic farming, but no certain trends are found.

The "cherry tomato" is also known as the petit tomato. It has small fruits weigh from 10 to 50 g, with red, pink or yellow color, and the shape is either round or pyriform. The component values are determined based on analytical values.

The listed items of "canned products" are "whole", "juice" and "tomato-based vegetable juice". The component values of "whole, without salt" are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from products with the liquid removed, and the relevant documents⁶⁾⁷⁾. In the Composition Tables 2010, the item with salt was listed, and the component values of sodium and salt equivalents of those without salt were described in the Remarks; however, in accordance with the actual situation of recent market, only the item without salt is listed as "whole, without salt" in the current Composition Tables.

"Juice, with salt" is made by crushing tomatoes used for processing, extracting juice, removing skin and seeds and then adding salt. The component values are determined based on analytical values, the component values in the 4th Composition Tables and the relevant documents⁶⁾⁸⁾. "Tomato-based vegetable juice, with salt" is mainly made from "canned products, juice" (no less than 50 % of whole content), which is mixed with the extracted juice of crushed celery, carrot and other vegetables (more than 10 % of whole content) as well as salt, spices, etc. The component values are determined based on analytical values, the component values in the 4th Composition Tables and the relevant documents⁶⁾⁷⁾.

In the Composition Tables 2010, as for "juice" and "tomato-based vegetable juice", those with salt were listed and the component value of sodium and salt equivalents of those without salt were described in the Remarks; however, "juice, without salt" and "tomato-based vegetable juice without salt" are newly listed in the table of the current Composition Tables. The component values of these foods except for sodium and salt equivalents are determined as the same as those of "with salt".

Red chicory

-06187 leaves, raw

"Red chicory" is also called Akame-chicory or red chicory. While spears are eaten as chicory, grown leaves are used as "red chicory". There are non-heading, semi-heading and heading type. The component values are determined based on analytical values of imported products.

Summer cypress

-06188 seeds, boiled

"Summer cypress" is the seed of summer cypress, also called Zubushi or Nendo. Commercially available seeds are boiled, drained and wrapped with film. The component values are determined based on analytical values of commercial products.

Semi-heading Chinese cabbage, "Nagasaki-hakusai"

-06189 leaves, raw

-06190 leaves, boiled

"Nagasaki-hakusai" can be also be called Tona. It is thought to have better qualities than other Tsukena (the leaf vegetables suitable for pickling). Chirimen-hakusai, native to the Kanto region, is also called Tojinna. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables. Those of "boiled" are determined based on analytical values, the component values in the 4th Composition Tables and retention factors.

Eggplants

-eggplant, Japanese type

- -06191 fruit, raw
- -06192 fruit, boiled
- -06342 fruit, sautéed
- -06343 fruit, tempura

-eggplant, western type

- -06193 fruit, raw
- -06194 fruit, deep-fried

-pickles

- -06195 salted pickles
- -06196 "Nukamiso-zuke" (pickled with salty rice bran paste)
- -06197 "Koji-zuke" (pickled small oval type with rice koji)
- -06198 "Karashi-zuke" (pickled small oval type with mustard)
- -06199 "Shiba-zuke" (pickled with perilla leaf, cucumber and Myoga, etc.)

The "eggplant" has been differentiated into diverse regional varieties with long, oval and round shaped fruits, and purple, white and green colored fruits. However, most of the cultivars currently cultivated are F1 hybrids with long or oval, black-purple fruits, which are shipped throughout the year. Samples of "raw" are obtained all year, but seasonal variations of components are small with no certain trends recognized. Therefore, the component values are collectively shown. Additionally, during the formulation of the 4th Composition Tables, those grown outdoors and indoors were analyzed; the component variations between the two did not always show a certain trend, and were not regarded as distinct enough to list them separately. The component values of "boiled are determined based on analytical values and retention factors. Those of "sautéed", newly listed, are determined based on retention factors derived from analytical values (2015) before and after cooking, the amount of attached vegetable oil, the component values of vegetable oil (rapeseed oil) used for cooking and the component values of "raw". The component values of "tempura", newly listed, are determined based on analytical values (2015). The amount of batter as well as increased and decreased amount of lipid are shown in Table 17.

"Eggplant, western type", also called an American eggplant, is a large oval "eggplant" fruit with green calyx and bluish purple skin. It is suitable for cooking with common methods of cookery being boiling, baking and deep-frying. This type of eggplant is not suitable for pickling. The component values of "raw" are determined based on analytical values. The name "fried" listed in the Composition Tables 2010 has been renamed to "deep-fried". The component values of "deep-fried" are determined based on analytical values.

The component values of "salted pickles" and "Nukamiso-zuke" of "pickles" are determined based on analytical values and retention factors. "Koji-zuke" is made by pickling eggplants with seasoning (rice koji, soy sauce, sugar, hot pepper, etc.). The component values are determined based on analytical values and the component values in the 4th Composition Tables ("Karashi-zuke" listed in the 4th Composition Tables is "Koji-zuke"), taking samples from commercial products with the pickling seasoning rubbed off with wet cloth. "Karashi-zuke" is made by pickling eggplants in a pickling bed (sake lees, sugar, mustard powder, salt, etc.). The component values are determined based on analytical values of commercial products with the pickling bed rubbed off with wet cloth. "Shiba-zuke" is made mainly from "eggplants", by adding sliced pieces of Myoga, hot pepper, cucumber, etc. and pickling them with salt. The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from commercial products with the liquid removed.

Shepherd's purse

-06200 leaves, raw

Shepherd's purse is also called Penpengusa or Shamisenso. The component values are determined based on analytical values and the component values in the 4th Composition Tables.

Rapes

-Turnip rape

-06201 flower buds and stems, raw

- -06202 flower buds and stems, boiled
- -Rape

-06203 stems and leaves, raw

-06204 stems and leaves, boiled

The "rape" is a type of Tsukena (the leaf vegetable suitable for pickling), and also called Nanohana, Shintsumina, Kaburena. There are two types; "turnip rape" whose flower buds are mainly eaten, and the "rape" whose stems and leaves are mainly eaten. The former is cultivated in the Kanto region and the latter in the Kansai region and central regions of Japan.

The component values of "raw" of "turnip rape" are determined based on analytical values and the component values in the 4th Composition Tables, while those of "boiled" based on analytical values and retention factors.

The component values of "raw" of "rape" are determined based on analytical values, while those of "boiled" based on analytical values and retention factors.

Bitter melon

-06205 fruit, raw

-06206 fruit, sautéed

"Bitter melon" is also called Tsuru-reishi or Goya, and has been traditionally cultivated in the southern Kyushu and the Okinawa region. The part used is young elongated green fruit covered with bunchy protuberances. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables. Those of "sautéed" are determined by calculation based on literature values⁵⁾ and the component values of "raw" and "vegetable oil, blend". **Chinese chives**

-Chinese chive

-06207 leaves, raw

-06208 leaves, boiled

-06344 leaves, sautéed

-scape and flower bud

-06209 scape and flower bud, raw

-blanching culture

-06210 leaves, raw

The "Chinese chive" is cultivated throughout the year owing to the introduction and improvement of large-leaf varieties, although it also grows naturally. The component values of "raw" are determine based on analytical values and the component values in the 4th Composition Table, taking samples from cultivated products s. Those of "sautéed", newly listed, are determined based on retention factors derived from analytical values (2015) before and after cooking, the amount of attached vegetable oil, the component values of vegetable oil (rapeseed oil) used for cooking, and the component values of "raw".

A Chinese vegetable, "scape and flower bud" (Hana-nira) is the "scape and flower bud" of bolted Chinese chives. The component values are determined based on analytical values.

"Blanching culture" (Ki-nira) is also a Chinese vegetable, refers to "leaves" etiolated by blanching culture under the condition of complete shading. The component values are determined based on analytical values.

Carrots

-cultivar for leaf use

-06211 leaves, raw

-regular (European type)

- -06212 root with skin, raw
- -06213 root with skin, boiled
- -06214 root without skin, raw
- -06215 root without skin, boiled
- -06345 root without skin, sautéed
- -06346 root without skin, deep-fried carrot
- -06347 skin, raw
- -06216 root, frozen
- -06348 glazed carrot
- -06217 juice, canned

-"Kintoki" (oriental type)

- -06218 root with skin, raw
- -06219 root with skin, boiled
- -06220 root without skin, raw
- -06221 root without skin, boiled

-baby carrot

-06222 root, raw

As for "carrot", the oriental type (Japanese type) has been traditionally cultivated. However, due to

the introduction of the European type cultivars after the Meiji period, varieties have been improved, and the major cultivars have become those of European type and hybrids of European type and oriental type. Those with short root and medium-length root are the mainstream.

"Cultivar for leaf use" (Ha-ninjin), also called Ninjinna, refers to the leaves of young "carrot", meaning thinned "carrots" or leaves of "baby carrot". In order to produce "cultivar for leaf use", hydroponic culture is used; samples are taken from such products. The component values are determined based on analytical values.

Samples of "regular" are obtained all year, but seasonal variations are small with no certain trends recognized. Additionally, products of New Zealand (Tasmania) and Australia are also analyzed, since imported products are available in the market; the component values of them and domestic products are collectively shown. The component values of "root with skin, raw" are determined based on analytical values while those of "root with skin, boiled" based on analytical values and retention factors. The component values of "root without skin, raw" are determined based on analytical values, while those of "root without skin, boiled" based on analytical values and retention factors. The component values of "root without skin, raw" are determined based on retention factors. The component values of "sautéed" and "deep-fried", newly listed, are determined based on retention factors derived from analytical values (2015) before and after cooking, the amount of vegetable oil, the component values of vegetable oil (rapeseed oil) used for cooking and the component values of "raw".

The component values of "skin, raw", newly listed, are determined based on analytical values (2015). The α - and β -carotene content of samples of "skin, raw" are compared to samples of "root without skin, raw" that are prepared with the same sample lot; however, each sample values varied substantially and the difference between the parts cannot be clarified (See Appendix in the end part of Chapter 2).

As "regular" are washed with a brush and sprayed with water after harvesting, marketed products may not have thin skin on the surface of the roots of the carrot. In the Composition Tables 2010, α - and β carotene values of "root with skin" were higher than those of "root without skin". This may be caused by individual differences as although analyses of the two were taken from the same sample regularly, but from different individuals.

Samples of "root, frozen" of "regular" are taken from commercial products grown in China, the U.S.A. and Belgium, and the component values are determined based on analytical values. The component values of "juice" are determined based on analytical values of commercial products. "Glazed carrot" is a food made by boiling carrots with butter and sugar, and is also called Amani. The component values are determined based on analytical values (2015).

"Kintoki", also called Kyoninjin, is cultivated mainly in the Kansai region. It has the largest production amount among the oriental varieties. The orange color of European type carrot comes from carotene, while the dark red color of "Kintoki" mainly comes from lycopene. The component values of "root, with skin, raw" and "root, without skin, raw" are determined based on analytical values. Those of "root, with skin, boiled" and "root, without skin, boiled" are determined based on analytical values and retention factors. "Baby carrots" are thinner version of "regular" carrots, as they are harvested in the early growing period or those cultivated by dense planting originally intended to produce baby

carrots. It is used for eating raw. The component values are determined based on analytical values. Garlic

-garlic, bulb

-06223 bulb, raw

-06349 bulb, sautéed

-garlic, scape

-06224 scape, raw

-06225 scape, boiled

Since imported products of "garlic, bulb" are widely consumed as well as domestically grown products, samples are taken from products of Japan, China and Taiwan. The component values of "raw" are determined based on analytical values (2015), analytical values and the component values in the 4th Composition Tables. Those of "sautéed", newly listed, are determined based on retention factors derived from analytical values (2015) before and after cooking, the amount of attached vegetable oil, the component values of vegetable oil (rapeseed oil) used for cooking and the component values of "raw".

"Garlic, scape" is also referred to as "garlic shoot". It is the peduncle of bolted garlic with the flower bud cut off. The component values of "raw" are determined based on analytical values. Those of "boiled" are determined based on analytical values and retention factors. The component values of manganese of "raw" and "boiled" are reanalyzed and each value is determined based on analytical values (2015) and a retention factor.

Note that "garlic, power" and "garlic, paste" are listed in "Seasonings and Spices".

Welsh onions

- "Nebuka-negi" (large variety, blanching cultivation)

- -06226 leaves, raw
- -06350 leaves, boiled
- -06351 leaves, sautéed

-"Ha-negi"

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-06227 leaves, raw
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-06352 leaves, sautéed
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- "Konegi" (small variety)
 - -06228 leaves, raw

The "Welsh onion" has been ranged around the country from old times, with various variety groups. They are roughly classified into "Nebuka-negi" (the Kanto type) whose sheath is blanched by ridging, and "Ha-negi" (the Kansai type) which is not blanched.

The component values of "raw" of "Nebuka-negi" are determined based on analytical values (2015) and analytical values, taking samples only from the white portion. Those of "boiled", newly listed, are determined based on retention factors derived from analytical values (2015) before and after cooking, and the component values of "raw". Those of "sautéed", newly listed, are determined based on retention factors derived from analytical values (2015) before and after cooking, and the component values of "raw". Those of "sautéed", newly listed, are determined based on retention factors derived from analytical values (2015) before and after cooking, the amount of

attached vegetable oil, the component values of vegetable oil (rapeseed oil) used for cooking and the component values of "raw".

The component values of "raw" of "Ha-negi" are determined based on analytical values(2015), analytical values and the component values in the 4th Composition Tables, taking samples only from the green portion. Those of "sautéed", newly listed, are determined based on the retention factors derived from analytical values (2015) before and after cooking, the amount of attached vegetable oil, the component values of vegetable oil (rapeseed oil) used for cooking and the component values of "raw".

"Konegi" means early-picked Ha-negi and Ippon-negi. It is used not only as "Ha-negi", but also for the same purpose as "Wakegi" and "Asatsuki", so it is sold in the name of "Banno-negi". The component values are determined based on analytical values.

Turnip green, "Nozawana"

-06229 leaves, raw

-leaves, pickles

-06230 salted pickles

-06231 seasoned

"Nozawana" is a variety of "turnip" which was originally cultivated in the mountainous and snowy areas in Nagano and Niigata Prefecture. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables. Those of "salted pickles" are determined based on analytical and values the component values in the 4th Composition Tables, taking samples from commercial products that underwent water washing and manual squeezing, and retention factors. Those of "seasoned" are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from commercial products that underwent water washing and manual squeezing.

Wild onion, "Nobiru"

-06232 bulb and leaves, raw

"Nobiru" is a wild plant that grows naturally in mountains and fields. The component values are determined based on analytical values and the component values in the 4th Composition Tables.

Chinese cabbage

-06233 head, raw

-06234 head, boiled

-head, pickles

-06235 salted pickles

-06236 Kimchi

The "Chinese cabbage" was introduced after the middle of the Meiji period and has been cultivated around the country since the Taisho period. Previously, seeds were mainly sown in autumn; however, owing to the development of F1 hybrids, it is now cultivated and shipped all year. Most of the cultivars are fully-heading varieties. The yellow core type varieties, whose leaves head fully and inner leaves become yellow, have been the mainstream; samples are taken from such products. Samples of "raw"

are obtained all year, but seasonal variations of component values are small with no certain trends observed. Therefore, the component values are collectively shown. The component values of "boiled" are determined based on analytical values and retention factors.

The component values of "salted pickles" of "head, pickles" are determined based on analytical values, the component values in the 4th Composition Tables, and retention factors. Those of "Kimuchi" are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from commercial products of Korean pickles made of Chinese cabbage, which are softly and manually squeezed.

Bok choy

-06237 leaves, raw

It is a Chinese vegetable, and its varieties with green petiole are called Chingensai, and those with white petiole Bok choy or Paigensai. Although it is often referred to as "Chinese cabbage", it is actually written as "Hakusai" in Chinese characters, which means white vegetable. The component values are determined based on analytical values.

Basil

-06238 leaves, raw

"Basil", also called basilica or sweet basil, is a representative herb used as a spice or a herb. The component values are determined based on analytical values.

Parsley

-06239 leaves, raw

"Parsley" is also called Oranda-zeri, but the name "parsley" has been common. There are varieties with laciniate curly leaves and those with smooth leaves. There is a higher demand for the former. The component values are determined based on analytical values (2015), analytical values and the component values in the 4th Composition Tables, taking samples from the former varieties sample.

Little radish

-06240 root, raw

"Little radish" is a super-early variety of Daikon that can be harvested 20 to 30 days after sowing. It is a Western-type variety, with the large-type radishes commonly used belong to the oriental type. The cultivars are diverse in terms of both color and shape. There are those with round, oval and cylindrical shaped roots and those in the color of white, red and both colors half-and-half. Samples are taken from a variety with round red roots. The component values other than ascorbic acid are determined based on analytical values and the component values in the 4th Composition Tables. Reanalysis is conducted on ascorbic acid and its component value is determined based on analytical values (2015).

Hayatouri (Chayote)

-06241 fruit, white-colored, raw

- -06353 fruit, green-colored, raw
- -06242 fruit, white-colored, salted pickles

"Chayote" is mainly cultivated in the southern Kyushu and used in pickles. There are "white-colored" and "green-colored" type. Since the vitamin A content of "white-colored" is lower than that of "green-colored", in the Composition Tables 2010, the component value of "white-colored" were listed in the table and those of "green-colored" was shown in the Remarks; however, they are newly subdivided and listed. As for the component value of "raw", vitamin A values of each type are determined based on the component values in the 4th Composition Tables. Other component values are determined based on analytical values and the component values in the 4th Composition Tables of "white-colored". The component values of "white-colored, salted pickles" are determined based on analytical values and the component values in the 4th Composition Tables of "white-colored".

Red beet

-06243 root, raw

-06244 root, boiled

The varieties of "red beet" are used as a fresh vegetable (table beet), as a raw material of sugar (sugar beet) or as an animal feed; samples are taken from table beets. The name "table beet" listed in the Composition Tables 2010 has been renamed. The table beet is also called Kaensai, which looks similar to little radish and red turnip, but shows distinctive concentric red patterns when cut into round slices. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables. Those of "boiled" are determined based on analytical values and retention factors.

Sweet peppers

-green -06245 fruit, green, raw -06246 fruit, green, sautéed -red -06247 fruit, red, raw

-06248 fruit, red, sautéed

-yellow

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-06249 fruit, yellow, raw
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-06250 fruit, yellow, sautéed

-"Tomapi"

-06251 fruit, raw

The "sweet pepper" is a variety of hot pepper (sweet type), and is a generic term referring to a group of varieties of vegetable pepper with relatively large fruits, cultivated all year round. Although there are a variety of sweet peppers with different colors and shapes, when the word "sweet pepper" is used, it generally refers to the green variation of the vegetable.

Samples of "raw" of "green" are obtained all year and analyzed, but seasonal variations are small with no certain trends observed. Therefore, the component values are collectively shown. The component values are determined based on analytical values. Additionally, during the formulation of the 4th Composition Tables, those grown outdoors and indoors were analyzed, but the variations of

components between the two did not always show a certain trend; in conclusion, they are not regarded as distinct enough to list them separately. The component values of iodine, selenium, chromium, molybdenum and biotin of "sautéed" are determined based on analytical values, while other component values are determined based on literature values⁵⁾ and the component values of "raw" and "vegetable oil, blend".

"Red" and "yellow" variations of the vegetable bears medium or large sized fruits. The varieties with red mature fruits are "red" (also known as Queen Bell) and those with yellow mature fruits are "yellow" (also known as King Bell or Yellow Bell). Although both of them are also called Big-Piman, Jumbo-Piman or Paprika, they are different from the original paprika used as a raw material of spice. The component values of "raw" of "red" and "yellow" are respectively determined by the calculation based on literature values⁵⁾ and the component values of "raw" and "vegetable oil, blend".

"Tomapi" bears fruits with a shape and color similar to that of tomatoes, however the sweetness of the vegetable is that similar of fruit rather than a tomato. The component values are determined based on analytical values.

Turnip, "Hinona"

-06252 root with top portion, raw

-06253 root with top portion, pickles, sweetened

"Hinona" is a variety of turnip, whose shape is linear and similar to Japanese radish. The color of root is white, but one third of the root, the upper portion, exhibits a reddish purple color. It is cultivated mainly in Shiga Prefecture and used for pickles, etc. with its leaves. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables.

Currently, "pickles, sweetened" has become the mainstream of pickles of "Hinona". The component values are determined based on analytical values.

Non-heading Chinese cabbage, "Hiroshimana"

-06254 leaves, raw

-06255 leaves, salted pickles

"Hiroshimana" is a variety of Taisai which belongs to Tsukena (the leaf vegetable suitable for pickling) group. It is also called Hiragukina. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables. Those of "salted pickles" are determined based on analytical values of commercial products which have been gently hand squeezed, from which the liquid and the stem base are removed.

Fuki (Japanese butterbur)

-Fuki (Japanese butterbur)

- -06256 petiole, raw
- -06257 petiole, boiled

-Fukinoto (Japanese butterbur), inflorescence

- -06258 inflorescence, raw
- -06259 inflorescence, boiled

The "Japanese butterbur" grows naturally in mountains and fields areas of the country. The cultivars (Akita-buki, Aichi-wase-buki, etc.) thought to be selected from the wild varieties are cultivated all year, owing to the introduction of farming facilities, etc. The component values are determined based on analytical values and the component values in the 4th Composition Tables. Those of "boiled" are determined based on analytical values and retention factors.

"Fukinoto" means the inflorescence of Japanese butterbur. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables. Those of "boiled" are determined based on analytical values and retention factors.

Hyacinth beans

-06260 immature pods, raw

The "hyacinth bean" is also called Ingenmame in the Kansai region, but is in fact different from what is called kidney bean (*Phaseolus vulgaris*). It is also called Sengokumame or Ajimame. The component values are determined based on analytical values.

Swiss chard

-06261 leaves, raw

-06262 leaves, boiled

"Swiss chard" is a closely related species of red beet. It is differentiated so as to utilize leaves, and is also called Tozisha. It resists hot and cold temperatures and can be cropped throughout the year; that is why it is named Fudanso. The Western variety of large leaves and white petioles is called Umaina and sold in the Kansai region. Taking samples from such varieties, the component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables. Those of "boiled" are determined based on analytical values, the component values in the 4th Composition Tables and retention factors.

Broccoli

-06263 inflorescence, raw

-06264 inflorescence, boiled

-06354 sprouts, raw

"Broccoli" is a variety of cabbage. Samples taken from products of Japan and the U.S.A. are analyzed. Samples of "raw" are obtained all year, but seasonal variations of component values are small with no certain trends observed. Therefore, the component values are collectively shown. The component values of "raw" are determined based on analytical values. Those of "boiled" are determined based on analytical values and retention factors. Newly listed item "sprouts, raw" (Mebae) is also called sprouts, and the component values are determined based on analytical values (2015).

Sponge gourd

-06265 immature fruit, raw

-06266 immature fruit, boiled

"Sponge gourd", also called Itouri or Nabena, is cultivated in Kagoshima, Okinawa, etc. for eating. Young green fruits are used for Nimono, etc. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables. Those of "boiled" are determined based on analytical values, the component values in the 4th Composition Tables and retention factors.

Spinach

-06267	leaves,	all	season,	raw
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- -06355 leaves, summer harvest, raw
- -06356 leaves, winter harvest, raw
- -06268 leaves, all season, boiled
- -06357 summer harvest, boiled
- -06358 leaves, winter harvest, boiled
- -06359 leaves, all season, sautéed
- -06269 leaves, frozen

The "spinach" has Japanese (oriental) type varieties with spinous seeds and the Western (imported) type varieties with round seeds. The former is harvested in spring and has leaves with large slits, thin flesh and red petiole. The latter is harvested in autumn and has leaves with less slits and thick flesh. Utilizing hybrids of the two varieties as well as F1 hybrids, it is cultivated all year round. Additionally, imported frozen products are used with a focus on the food-service industry. As for "raw", samples are obtained all year round and it is found that analytical values of ascorbic acid tend to be higher in winter and lower in summer. Since this trend has been widely recognized, in the Composition Tables 2010, the average value was listed and the component values of ascorbic acid of "summer harvest" and "winter harvest" were shown in the Remarks; however, they are newly subdivided and listed in the tables. The component values of ascorbic acid of "raw" are determined based on analytical values of each item. Other component values are determined as the same, based on analytical values of the two. Additionally, a research is conducted on differences in the ascorbic acid content between those grown outdoors and indoors, based on references. However, certain trends are not observed. The component values of "boiled" are determined based on analytical values and retention factors. As is the case with "raw", they are subdivided into "summer harvest" and "winter harvest" and listed. The component values of "sautéed", newly listed, are determined based on the component values of "all season, raw", retention factors derived from analytical values (2015) before and after cooking, the amount of attached vegetable oil and the component values of vegetable oil (rapeseed oil) used for cooking. The component values of "frozen" are determined based on analytical values, taking samples from commercial products from China. The high sodium content of "frozen" is supposed to stem from about 2 % salt water used for the blanching treatment performed in the freezing process. Additionally, iron and calcium are reanalyzed and each component value is determined based on analytical values (2015) and analytical values.

Horseradish

-06270 rhizome, raw

"Horseradish", also called Wasabi-daikon or Seiyo-wasabi, is a rhizocarpous herbaceous plant with spicy and flavoring root. It is cultivated widely in Nagano and Hokkaido Prefecture. The component

values are determined based on analytical values and the component values in the 4th Composition Tables.

Manchurian wild rice

-06271 stem, raw

"Manchurian wild rice" is a Chinese vegetable also called Makomodake. The stem base is used, which enlarges like a bamboo shoot when parasitized by *Ustilago esculenta*. The component values are determined based on analytical values.

Turnip green, "Mizukakena"

-06272 leaves, raw

-06273 leaves, salted pickles

"Mizukakena" is a variety of Fuyuna, used in winter season. It is cultivated as an off-season crop in paddy rice fields in regions where warm ground water is available in midwinter. Depending on the harvesting method and use purpose, it is called Karina or Tona. Karina is harvested by cutting stem base on the ground and used as a green leafy vegetable, while Tona is picked at the bottom of the peduncle, which begins to grow, and used. Samples are taken from Tona, since it is commonly more often used as the latter, for making pickles, etc. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables of commercial products that underwent water washing and hand squeezing, and retention factors.

Leaf green, "Mizuna"

- -06072 leaves, raw
- -06073 leaves, boiled
- -06074 leaves, salted pickles

"Mizuna" is a leafy vegetable. It may be called Kyona or Sensuji-kyona in the Kanto region. The name "Kyona" in the Composition Tables 2010 has been renamed. Note that Mibuna is considered as a variety native to the Mibu region (in Kyoto). The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables. Those of "boiled" and "salted pickles" are determined based on analytical values and retention factors.

Japanese hornwort (Mitsuba)

- "Kiri-mitsuba" (branched in a dark place),

-06274 leaves, raw

-06275 leaves, boiled

- "Ne-mitsuba" (branched by covering with soil)

-06276 leaves, raw

-06277 leaves, boiled

-06278 leaves, raw

-06279 leaves, boiled

As for "mitsuba", natural products in mountains and fields have been traditionally used; however, currently blanched-mitsuba and "Ito-mitsuba" (Ao-mitsuba) are cultivated with a focus on the Kanto

region and the Kansai region, respectively.

Blanched-mitsuba is cultivated by covering the root and stem base in ditches or cellars, or by covering the root and stem with soil in early spring. The former is called "Kiri-mitsuba", because the root is cut when shipped, while the latter is called "Ne-mitsuba" for its root remained. "Ito-mitsuba" means "Japanese hornwart" that are shipped with root when they are still thin and small, and it is cultivated all year by hydroponics. Samples are taken from hydroponically-cultivated products.

The component values of "raw" of "Kiri-mitsuba", "Ne-mitsuba" and "Ito-mitsuba" are determined based on analytical values and the component values in the 4th Composition Tables for each item. Those of "boiled" are determined based on analytical values, the component values in the 4th Composition Tables and retention factors.

Leaf green, "Mibuna"

-06360 leaves, raw

Newly listed "Mibuna" is also called Kyona, as is the case with Mizuna, and is a kind of traditional vegetable of Kyoto. It is considered as a variety of Mizuna. It has been familiar as a winter vegetable in the Kansai region from old times, and is mainly cultivated outdoors. The component values are determined based on analytical values (2015).

(Japanese gingers)

-"Myoga"

-06280 spike, raw

- "Myoga", young stems and leaves (Myogatake)

-06281 young stems and leaves, raw

"Myoga" is also called Hana-myoga or Myoganoko. Its flower buds appear in summer (Natsu-myoga) or in autumn (Aki-myoga). The component values are determined based on analytical values and the component values in the 4th Composition Tables.

"Myogatake" is young stems and leaves grown by blanching culture, which are extended from underground stems. The color is added by throwing a light just before harvesting. The component values are determined based on analytical values.

Yam, bulbil (Mukago)

-06282 bulbil, raw

"Mukago" is the bulbil with a diameter of 1 to 2 cm which emerges from the leaf axil of Nagaimo or Chinese yam. The component values are determined based on analytical values.

Brussels sprouts

-06283 head, raw

-06284 head, boiled

The "Brussels sprouts" is a variety of cabbage, and is also called Komochi-kanran, Hime-kanran or Hime-kyabetsu. The component values of "raw" are determined based on analytical values and the component values in the 4th composition Tables. Those of "boiled" are determined based on analytical values, the component values in the 4th Composition Tables and retention factors.

Water pepper sprouts

-06285 sprouts, raw

There are two types of "water pepper sprouts": Benitade and Aotade. Benitade is the cotyledons of Yanagitade, while Aotade is the cotyledons of Aotade or Hosobatade which are varieties of Yanagitade. The component values are determined based on analytical values, taking samples from Benitade.

Bean sprouts

Although seeds of rice, wheat, pulses and various vegetables are used as a raw material of bean sprouts, seeds of pulses are more often used currently.

-alfalfa sprouts

-06286 raw

While "alfalfa" is extremely important as a forage crop, it is also used as a raw material of bean sprouts. As smaller than other bean sprouts, it is also called Ito-moyashi. The component values are determined based on analytical values and the component values in the 4th Composition Tables.

-soybean sprouts

-06287 raw

-06288 boiled

The sprout of "soybean" is widely used as bean sprouts. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables. Those of "boiled" are determined based on analytical values and retention factors.

-black gram sprouts

-06289 raw

-06290 boiled

"Black gram", also called Ketsuru-adzuki, is has similar features to that of the mung bean. Black gram sprouts are eaten as an important regular diet in India and Southeast Asia, but in Japan it is eaten as bean sprouts. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables. Those of "boiled" are determined based on analytical values and retention factors. Note that vitamin K is reanalyzed and the component value of each item are determined based on analytical values (2015) and retention factors.

-mung bean sprouts

-06291 raw

-06292 boiled

The "mung bean", also called Yaenari, is closely related to black gram. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables. Those of "boiled" are determined based on analytical values, the component values in the 4th Composition Tables and retention factors. Additionally, calcium, iron, β -carotene and γ -tocopherol are reanalyzed; the component values of calcium and iron of "raw" are respectively determined based on analytical values (2015) and the component values in the 4th Composition Tables, while calcium and iron of "boiled" based on analytical values (2015), the component values in the 4th Composition Tables and retention factors. Also, the component values of β -carotene and γ -tocopherol of "raw" are respectively determined based on analytical values (2015), while those of β -carotene and γ -tocopherol of "raw" are respectively determined based on analytical values (2015), while those of β -carotene and γ -tocopherol of "raw" are

of "boiled" based on analytical values (2015) and retention factors.

Nalta jute

-06293 stems and leaves, raw

-06294 stems and leaves, boiled

Nalta jute, also known as Taiwantsunaso (Shimatsunaso) in Japanese, is herb in which its leaves and stems are used, and is commonly consumed in the Middle East and countries located in northern Africa. The component values of "raw" are determined based on analytical values, while those of "boiled" based on analytical values and retention factors. Note that the component values of sodium are reanalyzed and determined based on analytical values (2015), analytical values and retention factors.

Thistle root, "Yamagobo"

-06295 pickled with miso

"Yamagobo" is the common name of Gobo-azami which grows naturally in the mountains and fields of the central and southern part of Honshu. It is also called Moriazami or Kikugobo and is a different species from pokeweed, the poisonous wild grass. Most of the products consumed are cultivated. The component values of "pickled with miso" are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from commercial products.

Lily, bulb

-06296 bulb, raw

-06297 bulb, boiled

"Lily, bulb" (Yurine) is the bulb of lily. There are wild species and cultivars. The cultivars grown for edible purposes are mainly Yamayuri, Oniyuri or Ko-oniyuri. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables. Those of "boiled" are determined based on analytical values, the component values in the 4th Composition Tables and retention factors.

Water convolvulus

-06298 stems and leaves, raw

-06299 stems and leaves, boiled

"Water convolvulus" is also called Ensai or Kushinsai. Since its flower looks similar to morning glory, it is also referred to as Asagaona. The edible parts are the stems and leaves. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables. Those of "boiled" are determined based on analytical values, the component values in the 4th Composition Tables and retention factors.

Aster, "Yomena"

-06300 leaves, raw

"Yomena" is a native-grown wild grass, also known as Ohagi, Uhagi, Hagina, etc. Its young leaves are eaten in spring. The component values are determined based on analytical values and the component values in the 4th Composition Tables.

Japanese wornwood

-06301 leaves, raw

-06302 leaves, boiled

The "Japanese wornwood" grows in various regions and is also called Yomogina. Another name is Mochigusa, because its young leaves are picked in spring and used for making mugwort rice cakes. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables. Those of "boiled" are determined based on analytical values, the component values in the 4th Composition Tables and retention factors.

Peanuts

-06303 immature beans, raw

-06304 immature beans, boiled

The "peanut" is also called Nankinmame or peanut. The consumption of boiled peanuts have increased; in which they are harvested just before full maturity, boiled with their shells on and seeds inside are eaten, as is the case with boiled green soybeans. The component values of "raw" are determined based on analytical values. Those of "boiled" are determined based on analytical values of boiled peanuts in the market. Note that the mature seed of "peanuts" is listed in "Pulses".

Japanese scallion, "Rakkyo"

-Japanese scallion, "Rakkyo", mature bulb

-06305 mature bulb, raw

- -06306 mature bulb, pickles, sweetened
- -Japanese scallion, "Rakkyo", immature bulb
 - -06307 immature bulb, raw

"Rakkyo, mature bulb" is also called Onira or Satonira. The bulb is mainly used for eating. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables. "Pickles, sweetened" are made by pickling "Rakkyo" with sugar-added vinegar. The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from commercial products with the liquid removed. Additionally, dietary fibers are reanalyzed and the component value is determined based on analytical values (2015).

"Rakkyo, immature bulb" is early-picked "Rakkyo" for eating raw. It is blanched by ridging, and also called Esha, Esha-rakkyo. The component values are determined based on analytical values. Note that it is different from the potherb that belongs to the same genus *Allium*, namely "eshalote" in French and "shallot" in English. Thus, the name "esharotto" in the Composition Tables 2010 has been renamed.

Leeks

-06308 bulb and leaves, raw

-06309 bulb and leaves, boiled

The "leek" resembles Welsh onion, but its leaves are not hollow and flattened. The blanched portion is used. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables of those without the root and green-colored portion. The component values of "boiled" are determined based on analytical values, the component values in the 4th Composition Tables and retention factors. The carotene values are largely decreased compared to those in the 4th Composition Tables; it is due to the fact that the green-colored portion was also included in samples of the 4th Composition Tables, while such portion is excluded in the current Composition Tables.

Rocket salad

-06319 leaves, raw

"Rocket salad" is also called Eruka and rucola. It has a flavor similar to sesame seed and is used for salad. The name "rocket salad" in the Composition Tables 2010 has been renamed. The component values are determined based on analytical values.

Garden rhubarb

-06310 petiole, raw

-06311 petiole, boiled

"Garden rhubarb", also called the edible rhubarb (Shokuyo-Daio) and is a perennial herb. The long petiole is used as a food, on which a heart-shaped blade appears. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables. Those of "boiled" are determined based on analytical values, the component values in the 4th Composition Tables and retention factors.

Lettuce

-lettuce, head lettuce, crisp type

-06312 soil culture, head, raw

-06361 hydroculture, head, raw

-head lettuce, butter type

-06313 leaves, raw

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-green leaf lettuce
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-06314 leaves, raw

-red leaf lettuce

-06315 leaves, raw

-Sang-chu lettuce,

-06362 leaves, raw

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-cos lettuce
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-06316 leaves, raw

Lettuce comes in many varieties including heading "head lettuce" (crisp head-type head lettuce), semi-heading "head lettuce, butter type" (butter-head type), non-heading "green leaf lettuce" (Chirimen-chisha, Aochirimen-chisha) and oval-shaped, loose-heading "cos lettuce" (Romaine lettuce, Tachi-chisha, Tachi-chirimen-chisha). The "leaf lettuce" with reddish purple leaves is called "red leaf lettuce" (Aka-chirimen-chisha).

Samples of "soil culture, head, raw" of "head lettuce, crisp type" are obtained all year round and there are considerable variations between analytical values of carotenes, folate and ascorbic acid; however, since seasonal trends have not been clearly observed, the component values are collectively shown. Newly listed "hydroculture, head, raw" is cultivated in plant factories in which the environmental conditions such as temperature, light are controlled and nutrient solution is used instead of soil. The component values are determined based on analytical values (2015).

The component values of "head lettuce, butter type" are determined based on analytical values and the component values in the 4th Composition Tables.

The component values of "green leaf lettuce" and "red leaf lettuce" are determined based on analytical values. Newly listed "Sang-chu lettuce" is a variety of Kakidzisha, a leaf lettuce, and is also called "Chima-Sanche". It is cultivated in spring and winter and eaten with Yakiniku (grilled meat) and as salad. The component values are determined based on analytical values (2015).

As for "cos lettuce", samples are taken from products of Japan and the U.S.A, since imported products are also available in the market. The component values are determined based on analytical values (2015).

East Indian lotus root

-06317 rhizome, raw

-06318 rhizome, boiled

The "East Indian lotus root" means a rhizome of East Indian lotus and is harvested in late autumn and winter. The East Indian lotus has native varieties and Chinese varieties (Shina and Bicchu varieties). Samples of "raw" are obtained all year round, but seasonal variations of analytical values are small with no trends observed. Therefore, the component values are collectively shown. The component values are determined based on analytical values. The component values of "boiled" are determined based on analytical values. Note that the seed of East Indian lotus is listed in "Nuts and Seeds". Additionally, vitamin B-12 is newly analyzed and the component value has been altered from "(0)" (estimated 0) to "0".

Green onion, "Wakegi"

-06320 leaves, raw

-06321 leaves, boiled

"Green onion", a variety of Welsh onion, is dormant after forming bulbs in summer. It is cultivated mainly in Kansai and westward. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables. Those of "boiled" are determined based on analytical values, the component values in the 4th Composition Tables and retention factors.

Wasabi

-06322 rhizome, raw

-06323 pickled with Sake lees

"Wasabi" is divided into Sawa-wasabi grown in limpid streams between mountains, and Hatake-wasabi cultivated in farmlands. Generally, "wasabi" means the former. Note that in some regions the horseradish (Seiyo-wasabi, Wasabi-daikon) is called Hatake-wasabi. Sawa-wasabi varieties have green or red petiole base; those with the former color generally have a stronger pungency. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from Sawa-wasabi. "Pickled with Sake lees" is made by cutting the petiole and rhizome finely and salting lightly, which are washed with water and mixed with almost the same amount of Sake lees. The component values are determined based on analytical values of commercial products and the component values in the 4th Composition Tables.

Bracken fern

- -06324 fiddleheads, raw
- -06325 fiddleheads, boiled
- -06326 fiddleheads, dried, raw

"Bracken fern" is a species of pteridophytes. Picked natural products and cultivated products picked from glades, etc. are shipped to markets. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables. Those of "boiled" are determined based on analytical values, the component values in the 4th Composition Tables and retention factors. Additionally, sodium and calcium are reanalyzed and the component values of sodium of "raw" and "boiled" are determined respectively; that of "raw" based on analytical values (2015) and the component value in the 4th Composition Tables, while that of "boiled" based on analytical values (2015) and the component value in the 4th Composition Tables. Also, the component values of calcium of "raw" and "boiled" are determined respectively; that of "raw" based on analytical values (2015) and the component value in the 4th Composition Tables, while that of "boiled" based on analytical values (2015) and the component value in the 4th Composition Tables. Also, the component values of calcium of "raw" and "boiled" are determined respectively; that of "raw" based on analytical values (2015) and the component value in the 4th Composition Tables, and that of "boiled" based on analytical values (2015), the component value in the 4th Composition Tables and retention factor.

"Fiddleheads, dried, raw" is made by boiling fiddleheads with hot water, removing the harshness sufficiently and drying. The component values are determined based on analytical values of samples, taking samples from products of China and the component values in the 4th Composition Tables. References

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- 4) Masaru Tsujimura, Shizu Higasa, Kyoko Arai: Seasonal Changes in the Contents of Vitamins and Minerals in Vegetables and Fruits [2]. Vitamin. 72(11). p. 613-617(1998)
- 5) Tomoko Watanabe, Ayuho Suzuki, Chigusa Yoshida, Yuka Hamano: Sautéed hot pepper, bitter melon and sweet pepper -weight and component values before and after cooking-. (Undisclosed)
- 6) Kagome Co., Ltd.: Documents (undisclosed)
- 7) Kikkoman Food Products Company: Documents (undisclosed)
- 8) Kikkoman Beverage Company: Documents (undisclosed)

7) Fruits

Common matters for all the fruits are as follows.

- [1] In principle, fruits harvested from arborous plants are listed in this food group; however, "strawberries", "melons", "watermelons", just to name are considered as fruits in the light of regular dietary habits, are listed in this food group, even though they are harvested from herbaceous plants.
- [2] Since the cultivars and cropping type of fruits are changing substantially with the times, those with a large production or shipping volume are regarded as a subject of analysis. In addition, especially for fresh fruits, the content of water, vitamins, etc. vary substantially depending on the number of days after harvesting; therefore, samples are in principle taken from fresh products to the extent possible.
- [3] Component values of processed foods including various canned fruits, jams and fruit beverages differ significantly depending on the materials used, processing method and the number of days that have passed once the food is processed. Therefore, samples are taken from the foods which adapt stipulations such as Japanese Agricultural Standards. Additionally, as for "canned products", the whole products, meaning both fruit flesh and fruit juice, are used to prepare samples except for satsuma mandarins, peaches and cherries. Furthermore, since low sugar content jam products have been available in the market, "heavily sweetened" (about 65 % sugar content) and "lightly sweetened" (about 50 % sugar content) are listed, as for "apricots", "strawberries" and "oranges".
- [4] "Straight fruit juice" is made by directly packing juice squeezed from the fruit, while "reconstituted fruit juice" is made by concentrating fruit juice, storing, transferring, and diluting it to bring it back to the state of squeezed juice, before it gets distributed. The component values of both items are different, as there are differences in fruit cultivars used, production areas, processing steps, etc.
- [5] If a processed food contains added L-ascorbic acid (reduced vitamin C), etc. to prevent oxidation, it is indicated accordingly in the Remarks of the table; however, the content is not shown, as the added amount varies widely depending on product.
- [6] Regarding "analytical values" and "analytical values (2015)" in the text, see "Notes on Foods" described in the initial part of Chapter 3. (See Page 1)In the followings, important points to note regarding component values are described for each food item.

Aakebia

-07001 flesh, raw

-07002 peel, raw

The "akebia" is native to Japan, China and the Korean Peninsula. In Japan, it grows naturally in various location within the island of Honshu. Generally speaking, when referring to Akebia in Japan, there are five-leaf akebia (*Akebia quinata*) and three-leaf akebia (Akebia trifoliate) and widely cultivated species is the three-leaf akebia selected from wild species. The fruit shape is oval with a diameter of 5 to 8 cm, with a number of small seeds aggregated in jellylike white translucent pulp, which are wrapped by the thick purplish-brown pod. Samples are separately taken from the flesh and peel, and the component values are determined based on analytical values.

Acerola

-07003 sour type, raw

-07159 sweet type, raw

-07004 10 % fruit juice beverage

Acerola is the fruit of evergreen shrub of the family Malpighiaceae and supposedly originated in the tropical of Central America, near the West Indies. There are "sweet" and "sour" varieties. The fruit similar to "cherry" is 1 to 3 cm in diameter, with red skin and red or scarlet flesh. Although frozen fruits and puree for processing use are mainly imported from Brazil, it is also cultivated in Okinawa and Kagoshima. The component values of "sour type, raw" are determined based on analytical values of imported frozen products. Note that in the Composition Tables 2010, the component value of ascorbic acid of "sweet type" was shown in the Remarks, since "sweet type" contains less amount of ascorbic acid compared to "sour type, raw" is determined based on relevant documents, and other component values are determined as the same as those of "sour type, raw". As a raw material of "10 % fruit juice beverage", sour type and sweet type are used. The component values are determined by the calculation using the blending ratio of six parts of sour type to four parts of sweet type, based on analytical values of frozen fruits are used of a successing the blending ratio of six parts of sour type to four parts of sweet type, based on analytical values of frozen fruit products.

Atemoya

-07005 raw

"Atemoya" is an interspecific hybrid of cherimoya (*Annona cherimola*), and the sugar-apple(*Annona squamosa*). It is cultivated widely in the Philippines, and partly in Japan, too. The elongated fruit seems like a tortoiseshell with scale-patterned fruit skin. The flesh is succulent and yellow and has a strong flavor. The component values are determined based on analytical values.

Avocados

-07006 raw

Although "avocado" is seen is as a tropical or sub-tropical fruit, there has been an increased consumption of avocadoes in Japan. The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from products of the U.S.A. and Mexico, which occupy a large amount of import volume.

Apricots

-07007 raw

- -07008 dried
- -07009 canned in heavy syrup

—jam

-07010 heavily sweetened

-07011 lightly sweetened

The "apricot" (Prunus armeniaca) had been once called Karamomo in Japan, and belongs to the family Rosaceae. It is native to China. It is morphologically a kind of stone fruit; in the fruit there is hard shell-like structure (hereinafter called "kernel") wrapping the seed. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from apricot

produced in Japan. A large part of "dried" is imported products from the U.S.A, etc. Its component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from imported products. The component values of "canned in heavy syrup" are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from fruit flesh of imported products in heavy syrup (soluble solid: no less than 18% and less than 22%), with the seeds excluded. The component values of "heavily sweetened" of "jam" are determined based on analytical values and the component values in the 4th Composition Tables ("jam"). Those of "lightly sweetened" are determined based on analytical values. For both foods, products containing acidulate, pectin, etc. are commercially available.

Strawberries

-07012 raw

—jam

-07013 heavily sweetened

-07014 lightly sweetened

-07160 dried

Generally, the "strawberry" mean *Fragaria* × *ananassa* (the genus *Fragaria* of the family Rosaceae). The component values of "raw" are determined based on analytical values. Note that during the formulation of the 4th Composition Tables, components of those grown in the open field and in greenhouses were analyzed; however, there were no obvious variations observed that always showed a certain trend between the components of the two. The component values of "heavily sweetened" of "jam" are determined based on analytical values and the component values in the 4th Composition Tables ("jam"), Those of "lightly sweetened" are determined based on analytical values. For both foods, products containing acidulate, pectin, etc. are commercially available. The component values of "dried", newly listed, are determined based on analytical values (2015) of commercial products imported from China which have been processed into dried fruits with added sugar, acidulate, etc.

Figs

-07015 raw

-07016 dried

-07017 canned in heavy syrup

The "fig" belongs to the family Moraceae and is native to Asia Minor. It was introduced into Japan in the early Edo period and is cultivated widely across the country. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables, and those of "dried" based on analytical values (2015) and analytical values. "Canned in heavy syrup" is made by using relatively immature fruits, peeling with steam or alkali, steaming or boiling, then submerging the product in syrup, before sealing it. The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from those preserved in heavy syrup (soluble solid: no less than 18 % and less than 22%).

Mume

-07019 raw -"Ume-zuke"

- -07020 salted pickles
- -07021 seasoned
- -"Umeboshi" (pickled and dried mume)
 - -07022 salted pickles
 - -07023 seasoned pickles
 - -07024 "Umebishio" (sweetened puree of pickled mume)
 - -07025 20 % fruit juice beverage

"Mume" means Japanese apricot in Japanese. It belongs to the family Rosaceae and is native to China. It was supposedly introduced before the Nara period and has been cultivated around the country with over 300 cultivars. The fruit is classified into three types based on its size. There are small-fruit type (Koume, Koshu-saisho, Koshu-ojuku, Koshu-shinko, Ryukyo-koume, etc.), medium-sized fruit type (Togoro, Yakushiume, Inazumi, Naniwa, Komukai, Kojiro, Nanko, etc.) and large-fruit type (Bungo, Seiyobai, Shirakaga, Natsuka, etc.). It is morphologically a kind of stone fruit and its fruit has the pit wrapping the seed. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables. Note that during the formulation of the 4th Composition Tables, analysis was conducted on "Mume" fruits just before full maturity (mature green fruit before yellow ripe) which are ordinarily used, using typical cultivars for each fruit size. However, there were no obvious variations that always showed a certain trend between the component values.

"Salted pickles "of "Ume-zuke" is made by salting "Mume" before full maturity. The component values are determined based on analytical values and the component values in the 4th Composition Tables. The component values of "seasoned" of "Ume-zuke" are determined based on analytical values.

"Salted pickles" of "Umeboshi" is made by moderately drying "Ume-zuke". The component values are determined based on analytical values. The component values of "seasoned pickles" of "Umeboshi" are determined based on analytical values. "Umebishio" is made from the fruit flesh of "Umeboshi", which is passed through a strainer; heated before sugar is added to it, then it forms a mixture which is then and kneaded. The component values are determined based on analytical values and the component values in the 4th Composition Tables. Those of "20 % fruit juice beverage" are determined based on analytical values and the component values in the 4th Composition Tables (fruit drink).

Olives

-salted pickles

- -07037 in brine, green
- -07038 in brine, ripe
- -07039 in brine, stuffed olives

The "olive" is an oleaceous evergreen subarbor and is supposedly native to the Mediterranean coast or Asia Minor. It is cultivated around all parts of the world. In Japan, it is cultivated in the coastal areas of Seto Inland Sea, etc. It cannot be eaten raw, and salt-cured products are used. Salt-cured olives are roughly classified into two types: green fruit and ripe fruit. The former uses immature green fruits, and the latter uses ripe purplish-black fruits. Both of them are commercialized after removing the bitterness in alkaline solution and fermented during salt curing.

Salt-cured products of green fruits are called "olives, in brine, green" and those of ripe fruits "olives, in brine, ripe". "In brine, stuffed olives" is made of green or ripe fruits with seeds removed and stuffed with pieces of pimento, onion, almond, etc. Green fruits stuffed with pimento are commonly in the market and samples are taken from such products. The component values are determined based on the analytical values and the component values in the 4th Composition Tables. Note that "pickles, green olives", "pickles, ripe olives" and "pickles, stuffed olives" have been renamed to "olives, in brine, green" "olives, in brine, ripe" and "olives, in brine, stuffed olives", respectively.

Japanese persimmons

- -07049 nonastringent, raw
- -07050 astringency removed, raw
- -07051 dried

The "Japanese persimmon" belongs to the family Ebenaceae. It is said that it has been cultivated from prehistoric times in Japan. It grows also in China. There are several hundred cultivars. Typical cultivars of non-astringent permission are Fuyu, Jiro, Izu, Nishimura-wase, Matsumoto-wase, Mizushima. The component values are determined based on analytical values and the component values in the 4th Composition Tables. "Astringency removed, persimmon" is made by removing astringency from astringent persimmons such as Hiratanenasi, Saijo, Atago, Yotsumizo by spraying etyl alcohol (distilled spirits, etc.) or storing them in carbon dioxide for a certain period. The component values are determined based on analytical values and the component values of "dried" are determined based on analytical values.

Chinese quinces

-07053 raw

Fruits of the "Chinese quince" are often used for fruit liquor. The component values are determined based on analytical values and the component values in the 4th Composition Tables.

Citrus

The food items listed here as citrus fruit are fruits of the genus *Citrus* or genus *Fortunella* of the family Rutaceae. As shown in the figure, structure of citrus fruit is divided into flavedo (orange-colored portion of the peel), albedo (white-colored portion of the peel), pulp segment (the crescent-shaped segment which wraps granular juice sac containing juice and seeds), central axis (white-colored or narrow portion in the center of the fruit) and seeds. In the current Composition Tables, "peel" means the whole part of peel including flavedo and albedo portion. Also, "flesh" means all of so-called "juice sacs" excluding peel, segment walls (thin skin of pulp segment wrapping a number of juice sacs) and seeds.



Citrus, "Iyo"

-07018 juice sacs

The citrus "Iyo" has been cultivated in Yamaguchi Prefecture for centuries, and became famous in the middle of Meiji period with the transplanting of the fruit to Ehime Prefecture. Ehime Prefecture has a large production volume of "Iyo" with the shipping period being from December to April. The component values of "juice sacs" are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from flesh excluding segment walls, etc.

Satsuma mandarins

-segments

-07026 early ripening type, raw

-07027 normal ripening type, raw

-juice sacs

- -07028 early ripening type, raw
- -07029 normal ripening type, raw

-fruit juices

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- -07031 reconstituted fruit juice
- -07032 juice with juice sacs
- -07033 50 % fruit juice beverage

-07034 20 % fruit juice beverage

-canned in light syrup

-07035 solids

-07036 liquid

Generally, when called "mikan" and "unsyuu" Japan, it refers to "Satsuma mandarin". It is an evergreen shrub of the family Rutaceae, cultivated widely in the central and southern part of Japan. "Satsuma mandarin" is considered as native to Nagashima, Kagoshima Prefecture; it is often mistaken as being native to China, because its name is the same as a place name in Zhejiang province, China.

Differences are observed in properties and conditions and component values between early-ripening type (cultivars maturing from October to November: Okitsu-wase, Miyagawa-wase, etc.) and normal-ripening type (cultivars maturing from November to December: Aoshima-unshu, Kuno-unshu, etc.). In addition, there are two ways of eating in the regular dietary habit; the "pulp segments" are eaten in whole, or only the "juice sacs" are eaten with segment walls removed. Therefore, raw fruits are classified into "early ripening type" and "normal

ripening type", and each of them is further subdivided into "segments" and "juice sacs".

The component values of "early ripening type, raw" of "segments" and "juice sacs" are respectively determined based on analytical values and the component values in the 4th Composition Tables. The component values of "normal ripening type, raw" of "segments" and "juice sacs" are respectively determined based on analytical values.

"Fruit juice" are divided into "straight fruit juice" (listed as "natural juice" in the 4th Composition Tables), "reconstituted fruit juice", "juice with juice sacs" (former "fruit beverage with pulp"), "50 % fruit juice beverage" (former "fruit juice"). "Straight fruit juice" is the fruit juice extracted and directly commercialized. The component values are determined based on analytical values and the component values in the 4th Composition Tables. "Reconstituted fruit juice" is made by diluting concentrated fruit juice to the state at the time of extracting. The component values are determined based on analytical values and the component values in the 4th Composition Tables. (5 times concentrated). "Juice with juice sacs" is those containing juice sacs (flesh) thinly sliced (pulp, etc.). The component values are determined based on analytical values and the component values and the component values in the 4th Composition Tables (5 times concentrated). "Juice with juice containing flesh at a rate of 20 %. The component values of "50 % fruit juice beverage" and "20 % fruit juice beverage" are determined based on analytical values and the component values in the 4th Composition Tables of "50 % fruit juice beverage" and "20 % fruit juice beverage" are determined based on analytical values and the component values in the 4th Composition Tables, takin samples from 100 % fruit juice beverage" are determined based on analytical values and the component values in the 4th Composition Tables.

As for "canned in light syrup", there are two ways of eating in the regular dietary habit; only the pieces of flesh are eaten or both flesh pieces and liquid are eaten. In addition, canned Satsuma mandarin is one of the canned fruit products with the largest consumption amount. Considering these facts, solids" and "liquid" are separately listed. The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from those preserved in light syrup (soluble solid: no less than 14 % and less than 18 %).

Orange

-navel

-07040 juice sacs, raw

-Valencia

-07041 imported from the U.S.A., juice sacs, raw

-fruit juices

-07042 straight fruit juice

-07043 reconstituted fruit juice

-07044 50 % fruit juice beverage

-07045 30 % fruit juice beverage

-marmalade

-07046 heavily sweetened

-07047 lightly sweetened

-07161 Fukuhara-orange, juice sacs, raw

The term "orange" means the varieties of *Citrus sinensis*. "Oranges" are roughly classified into common orange varieties (Valencia, Hamlin, Person, Pineapple, Pera, Shamouti, Fukuhara, etc.), navel orange varieties

(Shirayanagi, Washington, Tomson, Suzuki, Tange, Seike, Fukumoto, etc.) and blood orange varieties (Maltese, doblefina, etc.). Among them, the overwhelming majority of distributed oranges in Japan is "Valencia" imported from the U.S.A, etc. Domestic varieties include Shirayanagi-navel, Washington-navel.

The component values of "navel" are determined based on analytical values of products of U.S.A. and Japan, and the component values in the 4th Composition Tables. The name "Valencia orange" in the Composition Tables 2010 has been renamed to "Valencia". The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from those "imported from the U.S.A.".

As for "fruit juices", "Valencia" is used in many cases. "Straight fruit juice," "reconstituted fruit juice", "50 % fruit juice beverage" and "30 % fruit juice beverage" are listed. The component values are determined based on analytical values.

The component values of "heavily sweetened" and "lightly sweetened" of "marmalade" are determined based on analytical values. For both foods, products containing added acidulate, pectin, etc. are commercially available.

"Fukuhara-orange" is a product of Japan, which is the closely related species of "Valencia". Although its component value of ascorbic acid was shown in the Remarks in the composition Tables 2010, it is newly listed in the current Composition Tables. The component value of ascorbic acid of "Fukuhara-orange" is determined based on the component value in the 4th Composition Tables, while other component values are determined as the same as those of "Valencia".

Oroblanco

-07048 juice sacs, raw

"Oroblanco" is a triploid hybrid as a result from crossing "pummelo" and "grapefruit", and is a grapefruit-type citrus fruits. Oroblanco is the name of the cultivar, and "Sweetie" is the brand name. The component values are determined based on analytical values of imported products.

Citrus, "Kabosu"

-07052 juice, fresh

"Kabosu", is a citrus fruit used commonly used as a flavor enhancer and is a regional delicacy of Oita Prefecture. The component values are determined based on analytical values and the component values in the 4th Composition Tables.

Citrus, "Kawachi-bankan"

-07162 juice sacs, raw

Newly listed "Kawachi-bankan" was founded in Kawachi-yoshino village (current Kumamoto city). It is a natural hybrid of "pummelo". The major production areas are Ehime and Kumamoto Prefecture. It is shipped from spring to summer. The component values are determined based on analytical values (2015) of fruits grown in these production areas.

Citrus, "Kiyomi"

-07163 juice sacs, raw

Newly listed "Kiyomi" was developed in Japan by breeding satsuma mandarin and orange. The major production areas are Ehime and Wakayama Prefecture, which ship large amounts of the fruit between the

periods of March to April. In the Composition Tables 2010, analytical values were shown along with "Shiranui"; however, it is newly listed as "Kiyomi" in the Composition Tables 2015. The component values are determined based on analytical values (2015) of fruits grown in the major production areas.

Kumquats

-07056 whole, raw

The "kumquat" has some Chinese-origin varieties that belong to the genus *Fortunella* of the family Rutaceae, which are native to China. In Japan, Ninpo-kinkan and Naga-kinkan are cultivated.

Grapefruit

-07062 white flesh type, juice sacs, raw

-07164 red flesh type, juice sacs, raw

-fruit juices

-07063 straight fruit juice

-07064 reconstituted fruit juice

-07065 50 % fruit juice beverage

-07066 20 % fruit juice beverage

-07067 canned in light syrup

The "grapefruit" is roughly classified into "white-flesh type" (Duncan, Marsh Seedless, etc.) and "red-flesh type" (Thompson Pink, Foster Seedless, Red Blush) by flesh color. Additionally, most of the products consumed in Japan are imported from the U.S.A, South Africa, etc.

Since there are differences between vitamin A contents of "white-flesh type" and "red-flesh type", in the Composition Tables 2010, the component values of vitamin A of white-flesh type were listed in the table, and those of "red-flesh type" were shown in the Remarks; however, they are newly subdivided and listed. The component values except for vitamin A are determined based on analytical values of "white-flesh type" and "red-flesh type" imported, and vitamin A values are determined based on each of the analytical values.

"Fruit juices" are classified into "straight fruit juice" ("natural juice" in the 4th Composition Tables), "reconstituted fruit juice", "50 % fruit juice beverage" (former "fruit juice drink") and "20 % fruit juice beverage" (former "beverage with fruit juice") and listed. The component values are determined based on analytical values of commercial products.

The component values of "canned in light syrup" are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from those preserved in light syrup (soluble solid: no less than 14 % and less than 18 %).

Citrus, "Sanbokan"

-07074 juice sacs, raw

The name "Sanbokan" supposedly comes from the fact that it is placed on Sanbo when presented to the lord of Kishu in the Edo period. The component values are determined based on analytical values and the component values in the 4th Composition Tables.

"Shiikuwasha

-07075 juice, fresh

-07076 10 % fruit juice beverage

"Shiikuwasha" is a type of citrus fruit grown in Okinawa Prefecture. It is hardly eaten raw and is used fruit juice to give an extra added acidic flavor. The component values of "juice, fresh" and "10 % fruit juice beverage" are respectively determined based on analytical values and the component values in the 4th Composition Tables.

Citrus, "Shiranui"

-07165 juice sacs, raw

Newly listed "Shiranui" is a cultivar developed in Japan by crossing "Kiyomi" and "Ponkan mandarin". The major production areas are Kumamoto and Ehime Prefecture. Those cultivated in greenhouses are shipped from December to February, and those cultivated in open field from February to May. Other than "Shiranui", it is also called "Decopon", "Fujipon", "Himepon", etc. Although the analytical values were shown as "tangors" along with "Kiyomi" in the Composition Tables 2010, it is newly listed as "Shiranui" in the Composition Tables 2015. The component values are determined based on analytical values (2015) of fruits grown in greenhouses and those grown outdoors.

Citrus, "Sudachi"

-07078 peel, raw

-07079 juice, fresh

"Sudachi" is a citrus used for adding acid flavor, whose fruits are picked in relatively immature state (green fruits). Additionally, the peel is used for cooking as a flavoring enhancer. The component values of "peel" and "juice" are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from green fruits.

Citrus, "Setoka",

-07166 juice sacs, raw

Newly listed "Setoka" is a cultivar developed in Japan by crossing "Kiyomi", "Encore" and "Murcott". The main production area is Ehime prefecture. Greenhouse products are shipped from January to February, while those grown in open-fields are shipped out from February to March. The component values are determined based on analytical values (2015) of greenhouse products and open-culture products.

Citrus, Seminole

-07085 juice sacs, raw

"Seminole" is a type of tangelo, which is a hybrid of mandarin oranges and Pummelo or grapefruits. The food name has been altered since "Seminole" was used as samples of "tangelos" in the Composition Tables 2010. It is mainly produced in Wakayama, Oita and Mie Prefecture and is shipped from April to May. The component values are determined based on analytical values and the component values in the 4th Composition Tables.

Citrus, sour oranges,

-07083 juice, fresh

Unlike other citrus fruits, fresh fruits of "sour orange" are rarely used for direct eating; they are usually squeezed and juice is used for adding acid flavor to various products. In addition, they are superior as a raw material of marmalade. The component values are determined based on analytical values and the component values in the 4th Composition Tables.

Citrus, "Natsumikan"

-07093 juice sacs, raw

-07094 canned in heavy syrup

"Natsumikan" is called Natsudaidai. It was founded in Nagato City, Yamaguchi Prefecture in the middle of Edo period. The major production areas include Kumamoto and Ehime Prefecture. They are shipped from May to June.

The component values of "juice sacs" are determined based on analytical values and the component values in the 4th Composition Tables.

The component values of "canned in heavy syrup" are determined based on analytical values of those preserved in heavy syrup (soluble solid: no less than 18 % and less than 22 %).

Citrus, "Hassaku",

-07105 juice sacs, raw

"Hassaku" is usually consumed as a fresh fruit. It is mainly produced in Wakayama Prefecture and shipped from May to July. The component values are determined based on analytical values and the component values in the 4th Composition Tables.

Citrus, "Harumi",

-07167 juice sacs, raw

Newly listed "Harumi" is a cultivar developed in Japan by crossing "Kiyomi" and "Ponkan mandarin". It is mainly produced in Ehime and Hiroshima Prefecture, and shipped from January to March. The component values are determined based on analytical values of fruits grown in the major production areas.

Citrus, "Hyuga-natsu"

-07112 segments and albedo, raw

-07113 juice sacs, raw

"Hyuga-natsu" is commonly referred to as "New Summer Orange" or "Konatsu-mikan". It is mainly produced in Miyazaki and Kochi Prefecture and most of them are shipped from April to May. In common, after peeled thin flavedo with a knife, the albedo and the pulp segments (juice sacs and segment walls) were eaten together. Or the juice sacs only are eaten. Therefore, items for both cases are listed. The component values of each item are determined based on analytical values and the component values in the 4th Composition Tables.

Pummelo

-07126 juice sacs, raw

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-07127 candied peel
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"Pummelo", also called Zabon, has many varieties. Those with a fruit weigh over 1 kg such as Banpeiyu, Hirado-buntan, Sekitoyu, Matopeiyu, those with a fruit weigh about 1 kg such as Mato-buntan, Honda-buntan, Edo-buntan, and those with a fruit weigh about 0.6 kg such as Tosa-buntan (Hogen-buntan), Banokan, Otachibana, Suisho-buntan. The component values of "juice sacs" are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from Banpeiyu, which is widely available in the market. Note that during the formulation of the 4th Composition Tables, the component values were analyzed in consideration of the fruit size variations; however, differences of the component values were not regarded as distinct enough to show a certain trend. "Candied peel" is the peel of "pummelo" preserved in sugar. The component values are determined based on analytical values and the component values in the 4th

Composition Tables.

Ponkan mandarins

-07129 juice sacs, raw

"Ponkan mandarin" has been cultivated for centuries and is native to India. Although it is primarily cultivated in South-East Asian, countries, it is also cultivated in China, Taiwan as well as Japan. The major production areas are Ehime and Kagoshima Prefecture, and it is shipped from December to March. The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from domestic fruits.

Yuzu

-07142 peel, raw

-07143 juice, fresh

"Yuzu" is supposedly native to the upper region of Yangzi Jiang, China. The fruit is flat-shaped with a scent and becomes yellow when matured. "Juice" is used for adding an acidic flavor to dishes, and "peel" is used for making Yuzu-miso, Tsukudani, powder seasonings or confectionaries. Therefore, they are separately listed. The component values of each item are determined based on analytical values and the component values in the 4th Composition Tables. Note that ascorbic acid of "peel" is reanalyzed and the component value is determined based on analytical values (2015).

Limes

-07145 juice, fresh

The "limes" consumed in Japan are imported products from the U.S.A, Mexico, etc. Its juice is widely used for adding acid flavor. The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from imported products.

Lemons

-07155 whole, raw

-07156 juice, fresh

The "lemon" is native to India. The "whole fruit" is eaten, or "juice" is used for adding acid flavor. The component values of both "whole" and "juice" are determined based on analytical values and the component values in the 4th Composition Tables, taking samples mainly from imported products and partly from domestic products.

Kiwifruit

-07054 green flesh type, raw

-07168 yellow flesh type, raw

"Kiwifruit" is a fruit tree of the family Actinidiaceae. The Japanese name is taxonomically Chugoku-sarunashi and the English name is Chinese gooseberry; however, it has been commonly called Kiwifruit (another name: Kiwi). Fruits of "green flesh type" are imported from New Zealand, etc. or grown in Japan. For both cases, the major cultivar is Hayward. The component values are determined based on analytical values of products of New Zealand and Japan. Fruits of "yellow flesh type", newly listed, are imported from New Zealand, etc. or grown in Japan. It has yellow flesh and is a different species from Hayward, the "green flesh type" fruit. The component values are determined based on analytical species grown in New Zealand and
Japan.

Kiwano

−07055 raw

"Kiwano" belongs to the family Cucurbitaceae and is native to North Africa. The Japanese name is taxonomically Tsuno-nigauri, but it is commonly known as Kiwano. As written also as horned melon or African horned cucumber, it is also called Tsuno-melon or Tsuno-uri. The oval-shaped yellow fruit has a lot of horn-like projections. The edible portion is the green jelly-like portion wrapping seeds. The component values are determined based on analytical values of imported products.

Guava

-07057 red flesh type, raw

-07169 white flesh type, raw

-fruit juice

-07058 20 % fruit juice beverage (nectar)

-07059 10 % fruit juice beverage

"Guava" comes from an evergreen fruit tree of the family Myrtaceae, native to tropical America. The Japanese name is taxonomically Banjiro (another name: Banzakuro). Most of the fruits used in Japan are "white flesh type" and "red flesh type".

Since the vitamin A contents of "white flesh type" are lower than those of "red flesh type", in the Composition Tables 2010, the component values of "red flesh type" were listed in the Tables and those of "white flesh type" were shown in the Remarks; however, they are subdivided and listed. The component values except for vitamin A are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from domestic "white flesh type" and "red flesh type". The values of vitamin A are determined based on analytical values and the type".

The component values of "20 % fruit juice beverage (nectar)" ("juice with pulp" in the 4th Composition Tables) and "10 % juice beverage" (former "beverage with fruit juice") of "fruit juices" are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from commercial products.

Gooseberries

-07060 raw

The "gooseberry", also called "Seiyosuguri" or "O-suguri" in Japan, is native to North Europe. It is cultivated in areas that experience are temperate and cool climate. In Japan, it is cultivated in Hokkaido and the central and northern part of Honshu. The fruit is round with a diameter of 1 to 1.5 cm. The color of fruit skin varies: pale-green, yellow-green, red, etc. The component values are determined based on analytical values.

Oleasters

-07061 raw

The "oleaster" are classified into the genus *Elaeagnus* of the family Elaeagnaceae. The distribution volume is small. The edible fruits are picked from trees planted in gardens or from trees growing naturally in mountains and fields or riverside. The component values are determined based on analytical values.

Coconut

- -07157 coconut water
- -07158 coconut milk
- -07170 Nata de coco in syrup

Because of the fact that the component values listed as 07068 "coconut milk" in the 5th Composition Tables (first version) were those of "coconut water", 07068 has been set as a vacant number in the 5th Enlarged Composition Tables and subsequent Tables; another analysis is newly conducted and based on the results obtained, the component values are determined and listed as those of "coconut milk". In addition, the component values of "coconut water" are listed.

"Coconut water" is the liquid extracted from the flesh of the coconut. The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from imported products.

"Coconut milk" is the liquid albumen of immature coconut fruit. The component values are determined based on analytical values of imported products. Note that "coconut powder" is listed in "Nuts and Seeds".

Newly listed "Nata de coco" is a gelled product made by fermenting coconut water. Commercially available products contain added sugars, acidulate, and preserved in syrup. Samples are taken from products preserved in syrup containing added sugars, acidulate, etc. and the component values are determined based on analytical values (2015), with the syrup discarded.

Cherries

- -07070 raw
- -07071 imported from the U.S.A., raw
- -07072 canned in heavy syrup

"Cherries" are roughly classified into "sweet cherry" (sweet cherry cultivar: Napoleon, Sato-nishiki, Takasago, Hinode, Zao-nishiki, etc.) and "sour cherry" (sour cherry cultivar: Morello, Amarel, etc.). The former is used for eating raw or processing, and the latter for processing. It is morphologically a kind of stone fruit, and its fruit has the pit wrapping the seed. Samples of "raw" are taken from "sweet cherry". As for "raw", "domestic" and "from the U.S.A." are separately listed, since there are imported products from the U.S.A. other than domestic products. The component values of "domestic, raw" and "from the U.S.A., raw" are respectively determined based on analytical values and the component values in the 4th Composition Tables ("cherries"). The component values of "canned in heavy syrup" are determined based on analytical values and the component values from those preserve in heavy syrup (soluble solid: no less than 18 % and less than 22 %).

Pomegranates

-07073 raw

Domestic "pomegranate" varieties have small fruits, and the distribution volume is small. Most of the products available in markets are imported products (large-fruit varieties) from the U.S.A. The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from imported products.

Watermelon

-07077 red flesh type, raw

-07171 yellow flesh type, raw

"Watermelon" is an annual climbing plant native to tropical Africa. The cultivars of "watermelon" are extremely diverse, and there are "red flesh type" and "yellow flesh type". The component values of "red flesh type" are determined based on analytical values of Shimao-max and Beni-kodama. As the vitamin A contents of "yellow flesh type" are lower than those of "red flesh type", the component values of "yellow flesh type" were shown in the Remarks in the Composition Tables 2010; however, it is newly listed in the tables. The component values of "yellow flesh type" other than vitamin A are determined as the same as those of "red flesh type".

Carambola

-07069 raw

The "carambola" is also commonly referred to as starfruit and is a fruit of an evergreen tall tree belonging to the family Oxalidaceae. There are various theories as to its origin as some say the fruit originated from Malaysia, Java and India. The yellow fruit is elongated with a star-shaped cross-section surface, and is fleshy and juicy. There are both sweet and sour varieties. The component values are determined based on analytical values of imported products.

Plums

-Japanese plums

-07080 raw

- -European plums
 - -07081 raw
 - -07082 dried

The (plum) is also called Hatankyo in Japanese and belongs to the family Rosaceae. It is native to China. It has been introduced to Japan from old times; it was mentioned in Japanese old books Manyoshu and Nihon-shoki. The cultivated Plums are roughly classified into two types: have European group (*Prums domestica*) and oriental group (Plums salicina) which includes Japanese plums. It is morphologically a kind of stone fruit and its fruit has the pit wrapping the seed.

The component values of "Japanese plums" are determined based on analytical values and the component values in the 4th Composition Tables.

The "European plum" is also called prune. The fruits of many cultivars are egg-shaped and purple. The major production areas are Nagano, Yamagata and Aomori. The component values of "raw" are determined based on analytical values. Those of "dried" are determined based on analytical values and the component values in the 4th Composition Tables ("dried fruit" of "Japanese plum"), taking samples from imported products.

Cherimoya

-07086 raw

"Cherimoya" is a fruit of a deciduous subarbor of the family Annonaceae. It is native to Andean Cordirellas, Peru. The fruit is 10 to 15 cm in diameter, heart-shaped and weigh about 600 g. The fruit skin has scaly patterns. The flesh is sticky, creamy and white with a strong scent that gives off a slight sour taste. Although imported products are widely distributed, it is also cultivated in domestic greenhouses. The component values are determined based on analytical values.

Pitaya

-07111 raw

"Pitaya" is also called dragon fruit and it is a generic term referring to fruits native to Colombia that belong to the several genus of the family Cactaceae. The oval-shaped fruit is attached with triangular red scales. The variation of skin color can be yellow or red, while the flesh color is either red, white or light brown. The component values are determined based on analytical values of imported red pitaya which has red skin and flesh.

Durian

-07087 raw

"Durian" is a fruit of an evergreen tall tree belonging to the family Bombacaceae, and is native to Malaysia and Borneo, Indonesia. The fruit is creamy and sticky with less juice and has a gives off a strong smell. The component values are determined based on analytical values, taking samples from imported frozen products.

(Pears)

-Japanese pears (Sand pears)

- -07088 raw
- -07089 canned in heavy syrup
- -Chinese pears
 - -07090 raw
- -Pears (European Pears)
 - -07091 raw
 - -07092 canned in heavy syrup

The cultivated Pears are roughly classified into three types : "Japanese pears(Sand Pears)" (*Pyrus pyrifolia*), "Chinese pears"(*P. bretschneideri*) and "Pears(European pears)" (P. communis). Therefore, each type is listed separately. "Japanese pears" is also called sand pear. It is originated from the wild species of *Pyrus pyrifolia* and has long been cultivated in Japan. In general, Cultivars of Japanese pear are classified into smooth skin type (Pale yellow-green appearance) (Nijusseiki, Hakko, Sinseiki, Kikusui, etc.) and russet skin type (Chojuro, Shinsui, Kosui, Hosui, Niitaka, Okusankichi, etc.).

As for the component values of "raw" of "Japanese pears", representative varieties of smooth skin type and russet skin type were analyzed during the formulation of the 4th Composition Tables; although there were small variations in the sugar content, obvious differences that showed a certain constant trend were not observed between the component values of the two. Therefore, the component values are determined based on analytical values without separation of these two skin types.

In Japan, two major cultivars of "Chinese pear" are (yali) and (tsuli). The component values of "raw" of "Chinese pears" are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from the two cultivars.

"Pears" are commonly eaten by harvesting hard fruits before full maturity and ripening them indoors for about two weeks. The component values of "raw" are determined based on analytical values of fruits after ripening.

The component values of "canned in heavy syrup" are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from "Japanese pears" and "pears" preserved in heavy syrup (soluble solid: no less than 18 % and less than 22 %).

Jujube

-07095 dried

"Jujube" is a fruit of a deciduous subarbor belonging to the family Rhamnaceae. It widely grows in the northeastern China, the southern Africa, the southeastern Europe, etc. It was introduced into Japan from China. The fruit is 2 to 4 cm long, oblong-shaped and brown, containing one seed inside. The component values are determined based on analytical values, taking samples from imported products.

Dates

-07096 dried

The "date" is native to the Peruvian Gulf and areas around Arabian region. The fruit is 3 to 7 cm long and oblong-shaped. It consists largely of carbohydrate and contains a plenty of fructose. Dried fruits of date are called date. Samples are taken from imported products from countries such as Iran, India and the U.S.A. The component values are determined based on analytical values, taking samples from imported products.

Pineapple

-07097 raw

-fruit juices

-07098 straight fruit juice

-07099 reconstituted fruit juice

-07100 50 % fruit juice beverage

-07101 10 % fruit juice beverage

-07102 canned in heavy syrup

-07103 candied

"Pineapple" is a perennial plant of the family Bromeliaceae, native to Brazil. It is cultivated in tropical and subtropical zone. It was introduced into Japan in 1845 (Koka 2) by a Dutch person. As well as products cultivated in Okinawa and Kagoshima Prefecture, there are imported products from Taiwan, the Philippines, Hawaii, etc. The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from above-mentioned regions including domestic products.

Listed items of "fruit juices" are "straight fruit juice" ("natural juice" in the 4th Composition Tables), "reconstituted fruit juice", "50 % fruit juice beverage" (former "fruit juice drink") and "10 % fruit juice beverage" (former "beverage with fruit juice"). Their component values are respectively determined based on analytical values and the component values in the 4th Composition Tables.

The component values of "canned in heavy syrup" are determined based on analytical values of those preserved in heavy syrup (soluble solid: no less than 18 % and less than 22%). Those of "candied" are determined based on analytical values and the component values in the 4th Composition Tables.

Blue berried honeysuckle

-07104 raw

"Blue berried honeysuckle" (Lonicera caerulea) is a fruit that is grown from a small shrub of the family Caprifoliaceae, native to the northeastern Asia. In Japan, it grows gregariously in Hokkaido. The Japanese name is taxonomically Kuromino-uguisu-kagura. It is called "Hasukappu" in the Ainu language (indigenous language in Japan) and has been eaten from old times. In recent years, it is cultivated in Hokkaido. The fruit is 1 to 2 cm in length and 0.7 to 1.2 cm in width, oblong-shaped, bluish black and covered with white bloom. It has a characteristic flavor and a sweet-sour taste. The component values are determined based on analytical values of cultivated products.

Passion fruit

-07106 juice, fresh

The Japanese name of "passion fruit" is taxonomically Kudamono-tokeiso. It has more than 400 cultivars in the world. Among them, the cultivars used for eating are limited to just a few types including the yellow type and purple type, where its "juice" is mainly used. The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from yellow type and purple type.

Bananas

-07107 raw

-07108 dried

The "banana" is a large-sized perennial plant of the family Musaceae, native to tropical areas in Asia. It is widely cultivated in tropical areas, etc. Currently, most of the fruits consumed in Japan are imported from the Philippines, Taiwan, etc. In order to prevent the entrance of pest and disease into Japan, the import of fully-ripe "banana" is prohibited by the Plant Protection Act (Act No. 151, 1951). Therefore, immature fruits (green bananas) are imported. Green bananas are placed in a processing room at a temperature from 15 to 20 °C, and treated with ethylene gas at about 1,000 ppm, and shipped in after being ripening and becoming yellow in color. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from imported fruits after ripening.

Dried bananas are made by drying naturally-ripened unpeeled bananas in the sun, up to a certain degree in which the flesh begins to wrinkle. After that, they are subsequently peeled and continuously dried further until the flesh color turns gold and sugar is deposited on the flesh surface. The component values of "dried" are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from imported products.

Papaya

-07109 ripe, raw

-07110 unripe, raw

The "papaya" belongs to the family Caricaceae and is native to tropical areas in America. Most of the "papaya" products consumed in Japan are imported from Hawaii, although some are grown in Okinawa region and shipped. As to the way of eating "papaya", its "ripe fruit" is eaten or its "unripe fruit" is cooked and eaten; therefore, both are listed. The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples including domestic products of each item.

Loquats

-07114 raw

-07115 raw, canned in heavy syrup

The "loquat" belongs to the family Rosaceae and is native to China. It is cultivated in warm areas, although it also grows naturally in Oita, Yamaguchi, and Fukui Prefecture, etc. Mogi and Tanaka are major cultivars

produced in Japan.

The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from the two cultivars.

The component values of "raw, canned in heavy syrup" are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from those preserved in heavy syrup (soluble solid: no less than 18 % and less than 22 %).

Grapes

- -07116 raw
- -07117 raisins
- -fruit juices
 - -07118 straight fruit juice
 - -07119 reconstituted fruit juice
 - -07120 70 % fruit juice beverage
- -07121 10 % fruit juice beverage
- -07122 canned in heavy syrup

-07123 jam

The "grape" is a deciduous vine tree of the family Vitaceae, native to Central Asia. It was introduced from China long time ago, and currently a number of varieties are cultivated. "Grapes" consist of various species, and the differentiation of cultivars is complex with an extremely large number of cultivars. The major cultivars grown in Japan are "Delaware", "Campbell early", "Muscat Bailey A", "Koshu", "Neo Muscat", "Naiagara", "Concord", "Kyoho", "Pione", "Takao", "Muscat of Alexandria", etc. with a diverse forms of cultivation. The fruit color is also diversified: red (red, reddish purple, reddish gray, reddish brown and orange red), black (purplish black, purple and grayish black), green (white, whitish green, whitish yellow and yellow), etc. Furthermore, the fruit size also varies; there are tetraploid grapes with large fruit, diploid grapes with small or medium-sized fruit.

As for the component values of "raw", Delaware, Muscar Bailey A, Neo Muscat, Pione and Kyoho are analyzed in consideration of the points mentioned above; however, obvious variations are not recognized among these cultivars. Therefore, the component values are collectively shown. The component values are determined based on analytical values.

Most of the "raisins" are imported products. The component values are determined based on analytical values and the component values in the 4th Composition Tables.

Listed items of "fruit juices" are "straight fruit juice" ("natural juice" in the 4 Composition Tables), "reconstituted fruit juice", "70 % fruit juice beverage" (former "fruit juice drink") and "10 % fruit juice beverage" (former "beverage with fruit juice"). The component values of each item are determined based on analytical values and the component values in the 4th Composition Tables.

The component values of "canned in heavy syrup" are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from those preserved in heavy syrup (soluble solid: no less than 18 % and less than 22 %).

The component values of "jam" are determined based on analytical values. Products containing added

acidulate, pectin, etc. are commercially available.

Blueberries

- -07124 raw
- -07125 jam
- -07172 dried

"Blueberry" is a generic term referring to fruits of the genus *Vaccinium* of the family Ericaceae. Main cultivars in Japan can be roughly classified into. "Highbush Blueberry" (v. corymbosum) and "Rabbiteye Blueberry" (V.virgatum), most of them were developed in the U.S.A. by improving wild species. Fruit is small, round, bluish black sap fruit, with a diameter of 1 cm and a weight of 1 to 2 g. The flesh is succulent and has a sweet and sour taste to it. The component values of "raw" are determined based on analytical values of "Highbush Blueberry".

The component values of "jam" are determined based on analytical values of commercial products. Products containing added acidulate, pectin, etc. are also in the market.

Samples of newly listed "dried" are taken from domestic and imported products that are processed without adding sugars and fats and oils. The component values are determined based on analytical values (2015) of these samples.

White sapote

-07128 raw

"White sapote" is a fruit of an evergreen tall tree of the family Rutaceae, native to Mexico. It is 7 to 8 cm in a diameter and is shaped like a combination of an apple and a Japanese persimmon. It has a sweet taste and a scent. The component valued are determined based on analytical values of imported products.

Oriental melon

-07130 yellow flesh type, raw

-07173 white flesh type, raw

"Oriental melon" is botanically the same species as melon. It is roughly classified into two types "white flesh type" (Kiku-tenka, Kogane-tenka, etc.) and "yellow flesh type" (Kanro, etc.). The component values of "yellow flesh type" are determined based on analytical values and the component values in the 4th Composition Tables. Since the vitamin A contents of "white flesh type" are lower than "yellow flesh type", the component values of "white flesh type" were listed in the Remarks in the Composition Tables 2010; however, it is newly listed in the tables. The component values of vitamin A of "white flesh type, raw" are determined based on the component values in the 4th Composition Tables, while other component values are determined as the same as those of "yellow flesh type".

Quinces

-07131 raw

The "Quince" is a deciduous tree of the family Rosaceae, native to Central Asia. The yellow fruit is similar to that of a "Pear" in terms of shape, and has a strong scent. It is a local specialty of Nagano Prefecture and is used in processed foods such fruit preserves, jam and medicated fruit liquor. The component values are determined based on analytical values.

Mangoes

-07132 raw

The "mango" is an evergreen tree of the family Anacardiaceae, native to tropical Asia. It is widely cultivated as a representative tropical fruit all over the world. A large part of "mango" consumed in Japan is imported products. The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from fruits imported from Mexico and the Philippines.

Mangosteen

-07133 raw

The "mangosteen" is a fruit of an evergreen tall tree of the family Guttiferae, native to Malaysia. The dark purple fruit has the thick hull and is flattened-round in shape like "Japanese persimmon". The inner portion is separated to 5 to 8 segments, which are dense, succulent and white that contain flat-shaped seeds inside them. The component values are determined based on analytical values of imported frozen fruits, which are widely available in the market.

Melon

-07134 greenhouse culture, raw

-07135 open culture, green flesh type, raw

-07174 open culture, orange flesh type, raw

"Melon" is a climbing annual plant of the family Cucurbitaceae, supposedly native to India to West Asia. It was broadly introduced into the West and is currently cultivated all around the world. It is roughly classified into three types: Cantalope, Netted melon and Winter melon. Those mainly grown in greenhouses are listed as "greenhouse culture" (cultivars: Earl's knight, Earl's melon and Crest Earl's). "Open culture" (Ams, Andes, Quincy, Prince, Kozak, Yubari-melon, etc.) are those native to the Mediterranean coast or those developed by crossing with "oriental melon" which is native to Asia. The component values of "greenhouse culture" are determined based on analytical values of Earl's knight, Earl's melon and Crest Earl's, the green flesh type melons widely available in the market. As for "open culture", there are differences in the vitamin A contents between "green flesh type" and "orange flesh type". In the Composition Tables 2010, the component values of vitamin A of "green flesh type" were listed in the table and those of "orange flesh type" were shown in the Remarks; however, they are subdivided and newly listed. The components other than vitamin A are determined based on analytical values of widely-distributed Ams (green flesh type), Andes (green flesh type) and Quincy (orange flesh type). The vitamin A values are respectively determined based on analytical values.

Peaches

-Peaches

-07136 raw

-07137 30 % fruit juice beverage (nectar)

-canned in heavy syrup

-07138 white flesh type, solids

-07175 yellow flesh type, solids

-07139 liquid

-Nectarines

-07140 raw

The "peach" and the "nectarine" are morphologically species of stone fruit. Their fruit has the pit wrapping the seed inside.

The "peach" is a fruit that belongs to the family Rosaceae, and is native to areas in the upstream of the Huang He, China. It has supposedly introduced from a long time ago; the kernel was unearthed from the ruins of the Yayoi period. Records are found on documents of Shosoin, Engishiki, etc. The cultivars widely cultivated these days are developed in Japan, using the species introduced from Europe and China after the Meiji period, and they have formed a unique group of varieties. "Nectarine" has no hair on the fruit surface, and is a variety derived from peach.

Samples of "raw" of "peaches" are taken from widely-distributed Asama-hakuto, Akatsuki, Okubo, Yuzora, Kawanakajima-hakuto, etc., and the component values are collectively shown. The component values are determined based on analytical values. The component values of "30 % fruit juice beverage (nectar)" are determined based on analytical values.

Samples of "canned in heavy syrup" are taken from those preserved in heavy syrup (soluble solid: no less than 18 % and less than 22 %). Note that there are differences in the vitamin A contents between "white flesh type" and "yellow flesh type". In the Composition Tables 2010, the component values of vitamin A of "white flesh type" were listed in the table and those of "yellow flesh type" were shown in the Remarks; however, they are subdivided and both are listed in the table. The component values of vitamin A are respectively determined based on the analytical values, while the components other than vitamin A are determined based on analytical values in the 4th Composition Tables, taking samples from both items.

Samples of "nectarines" are taken from "Flavor Top", "Fantasia" and "Shuho", widely available in the market, and the component values are collectively shown. The component values are determined based on analytical values and the component values in the 4th Composition Tables.

Bayberries

-07141 raw

The "Bayberry" is a fruit of an evergreen tall tree of the family Myricaceae. It grows naturally in the warm coastal areas of Shikoku, Kyushu and Okinawa, and is also cultivated as a local specialty fruit. The fruit is reddish purple with succulent and dense projections on the surface. It has a strong sweetness and used for eating raw, jam, fruit liquor, etc. The component values are determined based on analytical values of cultivated products.

Lychees

-07144 raw

The "lychee", is a fruit of an evergreen tree in the genus Litchi of the family Sapindaceae that originates from China. The fruit is round, and the hard reddish brown peel has scaly patterns. The flesh is soft, succulent and translucently-white with a sweet taste and a scent. The component values are determined based on analytical values of imported frozen products.

Raspberries

-07146 raw

The "raspberry" is a fruit of plant species in the genus Rubusa that belongs to the family Rosaceae. It naturally separates from the receptacle when ripened. It's often cultivated in high-latitude regions of Europe, the U.S.A,

etc. There are various color fruit (yellow, red, black or purple). The fruit is 2 to 3 g in weigh with a strong sweet flavor. The component values are determined based on analytical values of imported red raspberries.

Longans

-07147 dried

The "longan" is an evergreen tree of the family Sapindaceae, which supposedly originated in the southern regions of China. Domestically-used "longans" are imported products from Taiwan, etc. The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from dried fruits made in Taiwan.

Apples

-07148 without skin, raw

-07176 with skin, raw

-fruit juices

-07149 straight fruit juice

-07150 reconstituted fruit juice

- -07151 50 % fruit juice beverage
- -07152 30 % fruit juice beverage

-07153 canned in heavy syrup

-07154 jam

The "apple" tree belongs to the family Rosaceae, and originated in Central Asia and has been traditionally cultivated. It was introduced in Japan at the end of the Edo period, and it came to be widely cultivated from the Meiji period. Samples of "without skin, raw" are taken from the fruits of Tsugaru, Sun-jona, and Sun-fuji, the major cultivars, and analyzed after the removal of fruit skin, seeds and cores. The component values are determined based on analytical values (2015). Newly listed "with skin, raw" are analyzed by using the same samples as "without skin, raw", excluding only the seeds and cores. The component values are determined based on analytical values (2015).

The listed items of "fruit juices" are "straight fruit juice" ("natural juice" in the 4th Composition Tables), "reconstituted fruit juice", "50 % fruit juice beverage" (former "fruit juice drink") and "30 % fruit juice beverage" (former "beverage with fruit juice"). The component values of "straight fruit juice" are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from turbid type. "Reconstituted fruit juice" is made by diluting concentrated fruit juice to the state at the time of extraction. Its component values are determined based on analytical values and the component values in the 4th Composition Tables (5 times concentrated), taking samples from turbid type and clear type. The component values of "50 % fruit juice beverage" and "30 % fruit juice beverage" are determined based on analytical values and the component values in the 4th Composition Tables, taking mixed samples from turbid type and clear type.

The component values of "canned in heavy syrup" are determined based on analytical values of those preserved in heavy syrup (soluble solid: no less than 18 % and less than 22 %).

The component values of "jam" are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from commercial products. Products containing added antioxidant, acidulate, pectin, etc. are commercially available.

8) Mushrooms

General information explaining the properties and features of all mushrooms are as follows.

[1] Since the mycorrhizal fungus "Matsutake" cannot be artificially cultivated, the listed item is a natural product. Although the mycorrhizal fungus "Honshimeji" and the saprophyte "Hatakeshimeji" can be cultivated artificially, the items listed are natural products, as there are only a few producer. All other mushrooms listed are cultivated products.

The cultivation method is different by the type of mushroom; "Shiitake" is cultivated with wood log or mycelial-block, while all of "winter mushrooms", "abalone mushrooms", "Hatake-shimeji", "beech mushrooms", "golden oyster mushrooms", "Nameko", "Numerisugitake", "phoenix mushrooms", "king oyster mushrooms", "oyster mushrooms", "Maitake" and "black poplar mushrooms" are cultivated using mycelial-block. "Button mushrooms" is cultivated on the compost made from rice straw, etc.

- [2] The cooked food items listed are "boiled", "baked" and "oil- sautéed", which are cooked and analyzed by using the same samples as the foods prior to cooking (raw or dried). The cooking methods of each food are outlined in Table 16.
- [3] As for vitamin D, the component values determined by the past analyzing method were found to be error values, due to the influence of disturbing substance derived from samples. Therefore, the analysis method has been altered and the foods listed so far are reanalyzed (except for "Matsutake"), and the component values are determined based on analytical values (2015). The vitamin D content of "Shiitake" may vary greatly even between samples of the same food item, when samples are taken from products not grown in air-conditioned facilities; it is reported that the value is affected by the amount of ultraviolet light in the cultivation environment¹, and there are similar tendency in other mushrooms².
- [4] Regarding the "analytical value" and "analytical value (2015)" in the text, please refer to "Notes on Foods" written in the initial part of Chapter 3. (See Page 1)

In the followings, important points to note regarding component values are described for each food item.

winter mushrooms

- -08001 raw
- -08002 boiled
- -08037 sautéed
- -08003 bottled in seasoning

The "winter mushroom" (*Flammulina velutipes*) belongs to the genus *Flammulina* and has been used for eating from old times. It is also called Nametake in Japanese due to its sliminess, and products bottled in seasoning are often sold under the name of "Nametake". It grows outdoors on stumps or fallen trees of Japanese hackberry, oak, etc. from the late autumn to spring. The pileus is viscous, yellowish brown to brownish-red, while the stipe is yellowish brown to dark brown. Commercially available products look like bean sprouts for the small pilei and long stipes. They are grown by mycelial-block cultivation using a mixed medium of corncob or sawdust and rice bran, etc. The color of the pileus and stipe are mostly white, while the brown type, which closely relates to wild species, is sometimes sold, too. The component values of "raw" are determined based on

analytical values, and those of "boiled" based on analytical values, the component values in the 4th Composition Tables and retention factors. Additionally, the vitamin D value of "raw", as well as selenium, molybdenum, biotin and vitamin D values of "boiled" are reanalyzed; accordingly the component value of "raw" is determined based on analytical values (2015), while those of "boiled" are respectively determined based on analytical values and retention factors. The component values of "sautéed", newly listed, are determined based on retention factors derived from analytical values (2015) before and after cooking, the amount of attached vegetable oil, the component values of vegetable oil (rapeseed oil) used for cooking and the component values of "raw". The component values of "bottled in seasoning" are determined based on analytical values in the 4th Composition Tables, taking samples from commercial products. Note that selenium, molybdenum, biotin and vitamin D are reanalyzed and the component values are determined based on analytical values (2015). In addition, the energy conversion factor is altered and energy is recalculated.

Wood ears

-hairy Jew's ear

- -08004 dried, raw
- -08005 dried, boiled
- -08038 dried, rehydrated and sautéed
- -Jew's ear
 - -08006 dried, raw
 - -08007 dried, boiled

-white jelly fungus

- -08008 dried, raw
- -08009 dried, boiled

(Tree ears) are roughly classified into "hairy Jew's ear" (*Auricularia polytricha*) and "Jew's ear" (*Auricularia auricular-judae*) which belong to the genus *Auricularia*, and "white jelly fungus" which belongs to the genus *Tremella*. They range from the temperate zone to the tropical zone. In Japan, they grow gregariously on fallen trees of various broad-leaved trees from summer to autumn. Most of the products available in the market are imported products from China and Taiwan; domestically cultivated is "hairy Jew's ear" with only a little production.

The "hairy Cloud ear fungus" appears gray-brown because of its thick flesh and fuzzy back surface and is called Urajiro-kikurage. The component values of "dried, raw" are determined based on analytical values of samples taken from products of China, Taiwan or Japan. Those of "boiled" are determined based on analytical values and retention factors. Note that the vitamin D value of "dried, raw" as well as iodine, selenium, chromium, molybdenum, biotin and vitamin D values of "dried, boiled" are reanalyzed; accordingly, the component value of "dried, raw" is determined based on analytical values (2015), and the component values of "dried, boiled" are respectively determined based on analytical values (2015) and retention factors. The component values of "dried, rehydrated and sautéed", newly listed, are determined based on retention factors derived from analytical values (2015) before and after cooking, the amount of attached vegetable oil, the component values of vegetable oil (rapeseed oil) used for cooking and the

component values of "dried, raw".

The "Jew's ear" has thin flesh, and the color of dried products are black. It is also called Kuro-kikurage. The component values of "dried, raw" are determined based on analytical values of samples taken from Chinese products. Those of "dried, boiled" are determined based on analytical values and retention factors. Note that iodine, selenium, chromium, molybdenum, biotin, vitamin D and ascorbic acid of "dried, raw" and iodine, selenium, chromium, molybdenum, biotin and vitamin D of "dried, boiled" are reanalyzed; accordingly, the component values of "dried, raw" are respectively determined based on analytical values (2015) and those of "dried, boiled" based on analytical values (2015) and retention factors.

The "white jelly fungus"(*Tremella fuciformis*) is used as a medicinal fungus. The component values of "dried, raw" are determined based on analytical values and the component values in the 4th Composition Tables. Those of "dried, boiled" are determined based on analytical values and retention factors. Note that manganese, iodine, selenium, chromium, molybdenum, biotin, vitamin D and ascorbic acid of "dried, raw" as well as manganese, iodine, selenium, chromium, molybdenum, biotin and vitamin D of "dried, boiled" are reanalyzed; accordingly, the component values of "dried, raw" are respectively determined based on analytical values (2015) and those of "dried, boiled" based on analytical values (2015) and retention factors.

abalone mushrooms

-08010 raw

The "abalone mushroom" (*Pleurotus abalonus*) belongs to the genus *Pleurotus*, and is a wood-rotting fungus ranges in the subtropical zone. The flesh is thicker and harder than that of "Oyster mushroom". The pileus is blackish brown to grayish brown, and the stipe is also grayish brown. The flesh is white. Ohiratake (*Pleurotus cystidiosus*) is its closely related species. The component values are determined based on analytical values. Note that iodine, selenium, chromium, molybdenum, biotin, vitamin D and ascorbic acid are reanalyzed and the component values are determined based on analytical values (2015).

"Shiitake"

-"Shiitake", fresh

- -08039 mycelial-block cultivation, fresh, raw
- -08040 mycelial-block cultivation, fresh, boiled
- -08041 mycelial-block cultivation, fresh, sautéed
- -08042 wood-log cultivation, fresh, raw
- -08043 wood-log cultivation, fresh, boiled
- -08044 wood-log cultivation, fresh, sautéed

"Shiitake" (*Lentimura edodes*) belongs to the genus *Lentinula*, and is a wood-rotting fungus growing naturally on stumps and fallen trees of broad-leaved trees including oak and Japanese chestnut oak, twice a year in spring and autumn. Domestic "Shiitake, fresh" in the market are those grown by wood-log cultivation or those grown by mycelial-block cultivation. The former grows shiitake mushrooms on the wood log, to which the spores are planted. The latter grows them by planting the spores to the mixed medium of sawdust and bran, etc. About 90 % of the production volume of "Shiitake, fresh" of 2012 was produced by bed-log cultivation. Most of the "Shiitake, fresh" products imported from China are grown by bed-log cultivation, but there are also some produced by wood-log cultivation. "Shiitake" is only the product required to label the cultivation method

(mycelial-block cultivation or wood-log cultivation) by the Quality Labeling Standards for agricultural products including mushrooms.

Although in the Composition Tables 2010, "bed-log cultivation" and "wood-log cultivation" of "Shiitake, raw" were listed collectively, both are newly analyzed and separately listed. Additionally, "boiled" and "sautéed" of each item are newly listed. The component values of "raw" are determined based on analytical values (2015). Those of "boiled" are determined based on analytical values (2015) and retention factors. The component values of "sautéed", newly listed, are respectively determined based on retention factors derived from analytical values (2015) before and after cooking, the amount of attached vegetable oil, the component values of vegetable oil (rapeseed oil) used for cooking and the component values of "raw".

Note that as for "Shiitake", only the pileus is regarded as edible portion, with the stipe excluded.

While the edible portion of mushrooms except for "Shiitake" is the pileus and the stipe excluding the hard tip on the bottom, the edible portion of "Shiitake" is only the pileus without the whole stipe. The reason comes from the fact that the "Shiitake, fresh" products by wood-log cultivation once had a large production volume, and their stipes are hard. However, recently products by bed-log cultivation are widely used and they have soft stipes often used for cooking.

-"Shiitake", dried

-08013 dried, raw

-08014 dried, boiled

Most of the domestic "Shiitake, dried" products are made by cultivating shiitake outdoors with the wood log and drying mushrooms emerged in spring and autumn-winter. They are roughly classified into "Donko" (dried Shiitake with incurved cap and thick flesh) and "Koshin" (dried Shiitake with open cap and thin flesh) by shape. Donko and Koshin are not names of cultivars.

As for "Shiitake, dried", since there are no substantial variations between analytical values of Donko and Koshin, the component values are collectively shown. The component values of "dried, raw" are determined based on analytical values. Those of "boiled" are determined based on analytical values and retention factors. Additionally, vitamin D values of "dried, raw" and "dried, boiled" are reanalyzed. Accordingly, the component values are determined respectively; that of "dried, raw" based on analytical values (2015), and that of "dried, boiled" based on analytical value (2015) and a retention factor.

Shimeji

-"Hatakeshimeji"

-08015 raw

-08045 boiled

"Hatakeshimeji" (*Lyophyllum decastes*) belongs to the genus *Lyophyllum*, and is a saprophyte that decompose pieces of wood or timber buried in soil. The bunch emerges on the ground surface. It has gray pilei and white gills. The upper part of the stipe turns grayish brown. Products in the market are those grown by mycelial-block cultivation and natural products. The component values of "raw" are determined based on analytical values (2015).

The component values of "boiled", newly listed, are determined based on analytical values (2015) and retention factors.

-beech mushrooms

- -08016 raw
- -08017 boiled
- -08046 sautéed

The "beech mushroom" (*Hypsizigus marmoreus*) belongs to the genus *Hypsizigus* and is a wood-rotting fungus. Products in the market are those grown by mycelial-block cultivation. As its shape and color are similar to "Honshimeji", it had been sold with a brand name "XX Hon-shimeji". Also, it was confused with elm oyster mushroom (Hypsizigus ulmarius) in the past, but currently the name is unified to "beech mushroom". The component values of "raw" are determined based on analytical values, and those of "boiled" based on analytical values and retention factors. Additionally, the vitamin D value of "raw" as well as iodine, selenium, chromium, molybdenum, biotin and vitamin D values of "boiled" are reanalyzed. Accordingly, the component value of "raw" is determined based on analytical values (2015) and the component values of "boiled" are respectively determined based on analytical values (2015) and retention factors.

The component values of "sautéed", newly listed, are determined based on retention factors derived from analytical values (2015) before and after cooking, the amount of attached vegetable oil, the component values of vegetable oil (rapeseed oil) used for cooking and the component values of "raw".

—"Honshimeji"

-08018 raw

-08047 boiled

"Honshimeji" (*Lyophullum shinji*) belongs to the genus *Lyophyllum*. It is a closely related species of "Hatakeshimeji", but is a mycorrhizal fungus. The word "Shimeji" appears in the proverb "Matsutake mushrooms have the best smell, while shimeji mushrooms have the best taste" refers to "Honshimeji". It is also called Daikokushimeji. Artificial cultivation has been enabled and artificially cultivated products are currently coming on the market. In the autumn, the season in which mushrooms emerge, natural products are also put on the market. The component values of "raw" are determined based on analytical values (2015) of artificially cultivated products.

The component values of "boiled", newly listed, are determined based on analytical values (2015) and retention factors.

golden oyster mushrooms

-08019 raw

The "golden oyster mushroom" (*Pleurotus cornucopiae*) belongs to the genus *Pleurotus*, and is a wood-rotting fungus. It is also called "Niretake" or "Tamokinoko". It can found in the northern part of Japan's temperate zone, and its bunch emerges on fallen trees or stumps of broad-leaved trees including Manchurian Ash and elm. It has yellow pilei and elongated stipes. It is cultivated with mycelial-block mainly in Hokkaido. The component values are determined based on analytical values.

Note that iodine, selenium, chromium, molybdenum, biotin and vitamin D of "raw" are reanalyzed and the component values are respectively determined based on analytical values (2015).

"Nameko"

-08020 raw

-08021 boiled

-08022 canned in brine

"Nameko" (*Pholiota nameko*) belongs to the genus *Pholiota*, and is a wood-rotting fungus. It is a viscous mushroom which emerges on fallen trees and stumps of broad-leaved trees such as beech, from autumn to spring. In some regions, "Nameko" is called "Nametake", which is the same name as another name of "winter mushroom" mentioned before. Most of the products in the market are those grown by mycelial-block cultivation, but there are also some products grown by wood-log cultivation. In autumn, wild nameko products may also be put on the market. The component of values of "raw" are determined based on analytical values and those of "boiled" based on analytical values, the component valued in the 4th Composition Tables and retention factors. Additionally, the vitamin D values of "raw" and "boiled" are reanalyzed and the component values are respectively determined; that of "raw" is based on analytical values and that of "boiled" based on analytical values in the 4th Composition Tables. Note that iodine, selenium, chromium, molybdenum, biotin and vitamin D are reanalyzed, and the component values are respectively determined based on analytical values in the 4th Composition Tables. Note that iodine, selenium, chromium, molybdenum, biotin and vitamin D are reanalyzed, and the component values are respectively determined based on analytical values in the 4th Composition Tables. Note that iodine, selenium, chromium, molybdenum, biotin and vitamin D are reanalyzed, and the component values are respectively determined based on analytical values (2015).

"Numerisugitake"

-08023 raw

"Numerisugitake" (*pholiota adiposa*) belongs to the genus *Pholiota* and is a wood-rotting fungus which emerges from stumps of broad-leaved trees. The pileus and stipe are partly brown and strongly slimy, and the fibrous stipe is easy to split. Products on the market are grown by (mycelial-block) cultivation. The component values are determined based on analytical values. Note that iodine, selenium, chromium, molybdenum, biotin, vitamin D and ascorbic acid are reanalyzed and the component values are respectively determined based on analytical values (2015).

Oyster mushrooms

-phoenix mushrooms

-08024 raw

The "phoenix mushroom" (*Pleurotus pulmonarius*) belongs to the genus *Pleurotus* and is a wood-rotting fungus that exists all around the world, from Asia, North America, Europe and Japan as well. It has pale purple to pale brown pilei and pale gray gills. It has thin flesh and the distinctive lateral stipe. The Himalayan oyster mushroom (*Pleurotus sajor-caju* is the different species from "phoenix mushroom". The component values are determined based on analytical values. Additionally, iodine, selenium, chromium, molybdenum, biotin and vitamin D are reanalyzed and the component values are respectively determined based on analytical values (2015).

- -king oyster mushrooms
 - -08025 raw
 - -08048 boiled
 - -08049 baked
 - -08050 sautéed

The "king oyster mushroom" (Pleurotus eringii) belongs to the genus Pleurotus, and is a saprophyte ranges

in Europe to Central Asia. It was introduced into Japan from foreign countries. Products in the market are those grown by mycerial-block cultivation. It has flat, pale brown pilei, white gills and fat stipe. The component values of "raw" are determined based on analytical values (2015) and analytical values. The component values of newly-listed "boiled", "baked" and "sautéed" are respectively determined based on retention factors derived from analytical values (2015) before and after cooking, the amount of attached vegetable oil, the component values of vegetable oil (rapeseed oil) used for cooking, and the component values of "raw".

- -oyster mushrooms
 - -08026 raw
 - -08027 boiled

The "oyster mushroom" (*Pleurotus ostreatus*) belongs to the genus *Pleurotus*, and is a wood-rotting fungus appears in large numbers from stumps and fallen trees of broad-leaved trees. Products in the market are those grown by mycelial-block cultivation. Although they are commonly sold when pilei are immature and still small, those with matured, large pilei are also available in the market. They were sold with the brand name "XX shimeji", etc. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables, while those of "boiled" based on analytical values, the component values in the 4th Composition Tables and retention factors. Additionally, vitamin D and ascorbic acid values of "raw" as well as chromium, molybdenum, biotin and vitamin D values of "boiled" are reanalyzed. Accordingly, the component values are determined respectively; those of "raw" are based on analytical values (2015) and those of "boiled" based on analytical values (2015) and retention factors.

"Hen of the Woods (Maitake)"

- -08028 raw
- -08029 boiled
- -08051 sautéed
- -08030 dried, raw

"Hen of the Woods (Maitake)" (*Grifola frondosa*) belongs to the genus *Grifola* and is a wood-rotting fungus which emerges from stumps of broad-leaved trees such as beech, Japanese oak. Although most of the products in the market are those grown by mycelial-block cultivation, some products grown by wood-log cultivation may also appear on the market in autumn. The component values of "raw" are determined based on analytical values (2015) and analytical values, those of "dried, raw" based on analytical values, the component values in the 4th Composition Tables, and those of "boiled" based on analytical values, the component values in the 4th Composition Tables and retention factors. Additionally, reanalyzes are conducted on calcium and vitamin D of "raw", calcium, selenium, chromium, molybdenum, biotin and vitamin D of "boiled", and iodine, selenium, chromium, molybdenum, biotin and "dried, raw" are based on analytical values (2015), and those of "boiled" are based on analytical values (2015), and those of "boiled" are based on analytical values (2015), and those of "boiled" are based on analytical values (2015) before and after cooking, the amount of attached vegetable oil, the component values of "sautéed", newly listed, are determined based on retention factors derived from analytical values (2015) before and after cooking, and the component values of "raw".

button mushrooms

- -08031 fresh, raw
- -08032 fresh, boiled
- -08052 fresh, sautéed
- -08033 canned in brine, solids

The "button mushroom" (*Agaricus bisporus*) belongs to the genus *Agaricus*, and is called Tsukuritake in Japanese. It is a saprophyte. "Button mushrooms" are cultivated by inoculating the spores to the compost made by mixing rice straw with poultry manure, cottonseed oil cake, urea, lime and other ingredients together. They are classified into white type, cream type and brown type by color and gloss. Products of "raw" are mostly produced in Japan, while many of "canned in brine, solids" use mushrooms cultivated in Southeast Asia. The component values of "fresh, raw" are determined based on analytical values, while those of "boiled" based on analytical values, the component values in the 4th Composition Tables and retention factors. Additionally, vitamin D and ascorbic acid of "fresh, raw" as well as iodine, selenium, molybdenum, biotin and vitamin D of "fresh, boiled" are reanalyzed. Accordingly, the component values are respectively determined; those of "fresh, raw" based on analytical values (2015) and those of "fresh, boiled" based on retention factors. The component values of "fresh, sautéed" are determined based on retention factors derived from analytical values (2015) before and after cooking, the amount of attached vegetable oil, the component values of vegetable oil (rapeseed oil) used for cooking, and the component values of "fresh, raw". Note that iodine, selenium, molybdenum, biotin and vitamin D are reanalyzed and the component values are respectively determined based on analytical values (2015).

"Matsutake"

-08034 raw

"Matsutake" (*Tricholoma matsutake*) belongs to the genus *Tricholoma* and is a mycorrhizal fungus which in Japan emerges mainly on the ground surface among the adult trees of Japanese red pine. The artificial cultivation method has not been established. Products of "Matsutake" and its related species are imported from around the world. Products of the same species as domestic "Matsutake" are imported from the Korean Peninsula, China and Bhutan, and there are also other spices imported: European Matsutake (*Tricholoma caligatum*) from Morocco, and American Matsutake (*Tricholoma magnivelare*) from the U.S.A. and Canada. The scent, flavor, etc. differ slightly by production area. The component values of "raw" are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from products of Japan, China and North Korea (only "Matsutake" are used and its related species are excluded).

black poplar mushrooms

-08036 raw

The "black poplar mushroom" (*Agrocybe cylindrica*) belongs to the genus *Agrocybe* and is a wood-rotting fungus which emerges on fallen trees and stumps of broad-leaved trees such as the willow tree. The pileus is brown with thin edges and the long stipe is also tinged with brown. The stipe part of the mushroom is mainly used for eating. Products in the market are those grown by mycelial-block cultivation. The component values are determined based on analytical values. Additionally, iodine, selenium, chromium, molybdenum, biotin, vitamin D and ascorbic acid are reanalyzed and the component values are respectively determined based on analytical values (2015).

References

- Atsuko Takeuchi, Toshio Okano, Sumiko Teraoka, Yumiko Murakami, Mariko Sayamoto, Setsuko Sawamura, Tadashi Kobayashi: Relationship between Vitamin D_2 Content in Shiitake (Lentinus edodes) and Quantum of Ultraviolet Light in the Environment of Cultivation. Vitamins. p. 58, 501-506 (1984)
- 2) Toshiko Kiribuchi: Study on vitamin D2 contents of various fungi by ultraviolet light irradiation. Journal of home economics of Japan. 41(5), p. 401-406 (1990)

9) Algae

General information regarding all types of algae is as follows.

- [1] In principle, samples are taken from foods in edible conditions (desalted, soaked in water, etc.); however, as for "Wakame", the component values of raw algae (raw) and dried algae (dried) are also listed.
- [2] The preprocessing food items are listed as "soaked in water". In the cases non-preprocessing foods ("raw" or "dried") are also listed, the same samples are used for cooking and analyzing. The cooking methods of each food are outlined in Table 16.
- [3] Since the dietary fiber of algae contains large quantities of polysaccharides such as agar and alginic acid, it is difficult to distinguish soluble dietary fiber and insoluble dietary fiber. Therefore, the total amount is measured and shown.
- [4] Regarding "analytical values" and "analytical values (2015)" in the text, see "Notes on Foods" described in the initial part of Chapter 3. (See Page 1)

In the followings, important points to note regarding component values are described for each food item.

Sea lettuce

-09001 dried

The "sea lettuce" is a generic term referring to *Ulva* spp. of the family Ulvaceae. The holey sea lettuce is mainly used for eating. The component values of "dried" are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from those washed with water and dried in the sun, and commercial products. Note that ascorbic acid is reanalyzed and additional analyses are conducted on iodine, selenium, chromium, molybdenum and biotin; the component values are respectively determined based on analytical values (2015).

green laver

-09002 dried

The "green laver" (Aonori) is a generic term referring to *Enteromorpha* spp. of the family Ulvaceae. The mixture consisting mainly of Suji-aonori and partly Usuba-aonori is used for eating. There are two types of green laver: Suki-aonori and Kake-aonori. The former is made by washing picked raw algae with water, drying them under the sun then shaping them into a certain size. The latter is also made as such, but is hanged during the drying process. In some cases, "Aosa" is called Aonori on the market. Also, in some regions "Hitoegusa" is referred to as Aonori. The component values are determined based on analytical values (2015) and the component values in the 4th Composition Tables, taking samples from commercial products.

purple laver

- -09003 dried
- -09004 dried, toasted
- -09005 dried, seasoned and toasted

The "purple laver" (Amanori) is a generic term referring to *Porphyra* spp. of the family Bangiaceae. Products in the market are commonly dried products of cultured Susabinori, Asakusanori, etc. which belong to the same genus. Note that Asakusanori is the name referring to a specific species of "purple laver".

"Dried" is made by shaping and drying the purple laver. The component values are determined based on analytical values of commercial products.

"Dried, toasted" is made by heating "dried" at a high temperature (160 to 180 °C) for a short time (30 to 60 seconds) to a degree in which it is not burnt. The component values are determined based on analytical values of commercial products.

"Dried, seasoned and toasted" is made by applying seasoning, which consists mainly of soy sauce and sugar, then drying the purple laver with heat. The component values are determined based on analytical values of commercial products. Additionally, the energy conversion factor is altered and energy is recalculated.

"Arame"

-09006 steamed and dried

"Arame" is a seaweed of the genus *Eisenia*, family Laminariaceae. Samples are prepared by drying raw algae, braising or blanching them and then drying further ("steamed and dried"). The component values are determined based on analytical values of commercial products.

"Iwa-nori"

-09007 dried

"Iwa-nori" is a generic term referring to non-cultured natural products of *Porphyra* spp. of the family Bangiaceae, which include Maruba-amanori, Uppuruinori, Chishima-kuronori, Kosujinori, Oni-amanori, Tsukushi-amanori. Since "Iwa-nori" clings to the rocks facing to the open sea, the laver is harder than cultured purple laver. The products are made by shaping raw algae and drying it, but the texture is coarse when compared to "purple laver" and "dried purple laver". The component values are determined based on analytical values and the component values in th of commercial products e 4th Composition Tables.

Green caviar

-09012 raw

The "Green caviar" is cultivated in the Okinawa region. The component values are determined based on analytical values of those washed under running water for one minute.

"Ego-nori"

-09008 dried

-09009 "Okyuto" (algae jelly)

"Ego-nori" is a seaweed of the genus *Campylaephora*, family Ceramiaceae. "Okiuto" (Okyuto) is a product similar to Tokoroten, made by mixing "Ego-nori", the main raw material, with closely-related species such as Igisu and Amikusa, stewing, refining the mixture and levitating the solved seaweed.

The component values of "dried" are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from dried products sold as a raw material of "Okyuto".

The component values of "Okyuto" are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from commercial products.

"Ogo-nori"

-09010 salted products, desalted

"Ogo-nori" is a generic term referring to edible algae of *Gracilaria* spp. of the family Gracilariaceae, including Ogo-nori, O-ogo-nori, Tsurusiramo, Shiramo, as well as their related genus. What is called nama-ogo-nori is

made by salt-curing or blanching, which is preserved as lime-pickles and served after desalting or water washing. There was a case where a person died of food poisoning by picking and cooking natural products of Ogo-nori and Shiramo by himself. It is safe not to eat raw "ogo-nori" which is not treated with lime. The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from commercial products desalted by running water.

"Kawa-nori"

-09011 dried

"Kawa-nori" is a green alga of genus *Prasiola*, family Prasiolaceous. Products are made by shaping and drying the alga. The production volume is low, and currently there is only a few products available in the market. The component values are determined based on analytical values, the component values in the 4th Composition Tables and literature values¹.

Kombu

- -"Enaga-oni-kombu"
 - -09013 dried
- -"Gagome-kombu"
 - -09014 dried
- -"Naga-kombu"
 - -09015 dried
- -"Hosome-kombu"
- -09016 dried
- -"Makombu"
 - -09017 dried
- -"Mitsuishi-kombu"
 - -09018 dried
- -"Rishiri-kombu"
 - -09019 dried
- -09020 "Kizami-kombu" (dried and cut into thin strips)
- -09021 "Kezuri-kombu" (dried and thinly shaved)
- -09022 "Shio-kombu" (seasoned and dried)
- -09023 "Tsukudani" (simmered in soy sauce and sugar)

Kombu is a generic term referring to the genus *Laminaria*, family Laminariaceae, and its related species. Of them, listed as those mainly eaten are "Gagome-kombu", "Naga-kombu", "Hosome-kombu", "Ma-kombu", "Mitsuishi-kombu" (Hidaka-kombu), "Rishiri-kombu" and "Enaga-oni-kombu" (Rausu-kombu).

The component values of "dried" items of (Kombu) are determined; those of "Hosome-kombu" and "Enaga-oni-kombu" based on analytical values, while those of other items based on analytical values and the component values in the 4th Composition Tables. Additionally, iodine of "Makombu" is reanalyzed and the component value is determined based on analytical values (2015) and analytical values.

"Kizami-kombu" is made by cutting kombu into thin strips. The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from commercial products.

"Kezuri-kombu" is made mainly by softening Ma-kombu by wetting it with vinegar, and shaving it into thin slices. There are two types of "Kezuri-kombu": Oboro-kombu which are shaved into wide slices and Tororo-kombu which are shaved into strings. The color tone of them are white, black or the intermediary color; it is depending on the ratio of black skin and white flesh contained. The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from Tororo-kombu and Oboro-kombu in the market.

"Shio-kombu" is made by cutting kombu into squares or rectangles, simmering them with seasoning consisting mainly of soy sauce, tamari soy sauce (variety of rich soy sauce), mirin and sugar before drying them. The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from commercial products.

"Tsukudani" is made by simmering kombu with seasoning mainly consisting of soy sauce. Samples are taken from products containing sesame seeds. The component values are determined based on analytical values of commercial products. Additionally, the energy conversion factor is altered and energy is recalculated.

"Suizenji-nori"

-09024 dried, soaked in water

"Suizenji-nori" is a freshwater, blue-green alga. It is made by shaping and drying, and is soaked in water before eating. Products in the market are those cultured and dried. The listed item is soaked in water. The component values are determined based on analytical values.

"Tengusa"

-09025 dried

- -09026 "Tokoroten" (Gelidium jelly)
- -09027 agar-agar

-09028 agar jelly

-09049 agar-agar powder

"Tengusa" is a generic term referring to raw algae of agar belonging to the family Gelidiaceae, which includes Makusa, Obakusa and Hirakusa. The component values of "dried" are determined based on analytical values of raw algae of agar in the market.

"Tokoroten" is gelidium jelly obtained by stewing raw algae and filtering and solidifying the liquid. It is sometimes made by adding water to "agar-agar", Hoso-kanten (agar-agar strips), stewing it and solidifying the liquid. The component values are determined based on analytical values of commercial products.

"Agar-agar" is made by drying gelidium jelly obtained by stewing raw algae, solidifying filtered liquid, and drying it through a dehydrating process in which it is freezed and then thawed. It is divided into "agar-agar" and agar-agar strips. Although there are also agar-agar powder, solid, and flake samples are taken from "agar-agar" made with the manufacturing process mentioned above. The component values are determined based on analytical values of commercial products and the relevant document²).

"Agar jelly" is ready to eat agar-agar and agar-agar strips jellified. The component values are determined based on analytical values.

In general, newly listed "agar-agar powder" consists mainly of Ogo-nori. The powder is made by extracting

the components of jelly and then drying and crushing them under pressure in factories³). It is said that it has stronger jellying properties than agar-agar⁴). The component values are determined based on analytical values (2015) of commercial products.

"Tosaka-nori"

-"Tosaka-nori", red

-09029 salted products, desalted

-"Tosaka-nori", green

-09030 salted products, desalted

"Tosaka-nori" is divided into ""Tosaka-nori", red" and ""Tosaka-nori", green", meaning salt-cured raw algae and raw algae which are salt-cured after the dipping treatment with limewater.

The component values of "Tosaka-nori", red" and "Tosaka-nori, green" are respectively determined based on analytical values and the component values in the 4th Composition Tables, taking samples from commercial products after water washing and desalting.

"Hijiki"

-"Hijiki", boiled and dried,

- -09050 stainless steel pot process, raw
- -09051 stainless steel pot process, rehydrated and boiled
- -09052 stainless steel pot process, rehydrated and sautéed
- -09053 steel pot process, raw
- -09054 steel pot process, rehydrated and boiled
- -09055 steel pot process, rehydrated and sautéed

"Hoshi-hijiki" is a product made by drying raw algae of "Hijiki" after stewing (braising) it. Stainless or steel pots are used during the heating process and the heating time is 1.5 to 6 hours⁵⁾. Thus, the material of a pot used is supposed to affect products. Therefore, in the current Composition Tables, foods are separately cooked ("boiled" and "sautéed") with both manufacturing methods, and iron of each food is analyzed. Note that the material of cookware used for processing for Iron analysis both foods is carefully selected and cookware made by glass, etc. are used to avoid influences of iron content of foods.

The component values of "raw" are determined based on analytical values (2015) and analytical values, taking samples from commercial products. Additionally, iron and minerals are reanalyzed and the values are determined based on analytical values (2015). The component values of "rehydrated and boiled", newly listed, are determined based on analytical values (2015) and retention factors. Newly-listed "rehydrated and sautéed" is made by rehydrating and boiling "hoshi-hijiki", and sautéing it with vegetable oil, and its component values are determined based on retention factors derived from analytical values (2015) before and after cooking, the amount of attached vegetable oil, the component values of vegetable oil (rapeseed oil) used for cooking and the component values of "raw".

"Hitoegusa"

-09032 dried

-09033 "Tsukudani" (simmered in soy sauce and sugar)

In some regions, "Hitoegusa" is called Aonori.

"Dried" is a product made by shaping and drying raw algae as they are or after water washing. It is mainly used as a raw material of "Tsukudani", but is rarely available in the market. The component values are determined based on analytical values and the component values in the 4th Composition Tables.

"Tsukudani" is made by simmering "dried" with seasoning mainly consisting of soy sauce. The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from commercial products. Additionally, the energy conversion factor is altered and energy is recalculated. Note that many of the commercial products called "Norino-tsukudani" or "Iwanori" are made from "Hitoegusa".

"Fu-nori"

-09034 dried

"Fu-nori" is a generic term referring to algae of *Gloiopeltis* spp. of the family Endocladiaceae. The varieties include Fukuro-fu-nori and ma-fu-nori. It was also called Noge-nori when used for eating. Dried raw algae are rehydrated before eating. "Dried" is listed, as it is the general state of products in the market. The component values are determined based on analytical values of commercial products.

"Matsumo"

-09035 dried

Products of "Matsumo" are made by shaping and drying raw algae. The component values are determined based on analytical values of commercial products and the component values in the 4th Composition Tables.

"Mukade-nori"

-09036 salted products, desalted

"Mukade-nori" is a salt-cured or dried product made of raw algae that underwent dipping treatment with limewater. It is difficult to distinguish it from O-mukade-nori, a closely related species, in outward view. The component values are determined based on analytical values of salted commercial products, desalted.

(Mozuku)

-"Okinawa-mozuku",

-09037 salted products, desalted

-Mozuku

-09038 salted products, desalted

"Okinawa-mozuku" is an alga of the family Chordariaceae, ranges in Kagoshima to the Southwest Islands. It is also cultured and generally salt-cured products are sold. The component values are determined based on analytical values of commercial products desalted.

"Mozuku" is an alga of the family Spermatochnaceae. Commercial products are generally salt-cured. The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from commercial products desalted.

"Wakame"

-09039 raw

-dried products

- -09040 dried
- -09041 dried, soaked in water

-09042 dried, "Ita-wakame" (made into sheets and dried)

-09043 "Haiboshi" (coated with ash and dried), soaked in water

-09044 cut and dried

-blanched and salted products

-09045 desalted

-stipe and center vein

-09046 blanched and salted products, desalted

-fruit-bearing leaves

-09047 raw

Most of the "Wakame" products are cultured. Samples of "raw" are taken from raw algae after the removal of stipes, midribs and fruit-bearing leaves (sporophylls), and the component values are determined based on analytical values and the component values in the 4th Composition Tables.

"Dried" of "dried products" is made by drying raw algae. The component values are determined based on analytical values. "Dried, soaked in water" is made by rehydrating "dried", and the component values are determined based on analytical values.

"Dried, "Ita-wakame"" is made by shaping "Wakame" with sunoko, sudare, etc. into flat sheets and drying them. The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from commercial products. ""Haiboshi", soaked in water" is made by dusting raw algae with vegetable ash and drying them. The component values are determined based on analytical values and the component values in the 4th Composition Tables, taking samples from commercial products rehydrated. "Cut and dried" is made by washing "blanched and salted products" with salt water, machine-drying them and cutting them into adequate size. They are sold in sealed bags. The component values are determined based on analytical values of commercial products.

"Blanched and salted products" are made by blanching raw algae, cooling them with cold water, salt-curing and dehydrating them. The component values are determined based on analytical values of commercial products desalted.

"Stipe and center vein" refers to midribs and stipes that are removed during the processing of "wakame". The listed item is "blanched and salted products", the regular form of commercialized products. The component values are determined based on analytical values of commercial products desalted.

"Fruit-bearing leaves" is a product made by separating fruit-bearing leaves (sporophylls), cutting them into pieces and blanching. Frozen products, etc. are commercially available. The component values are determined based on analytical values of commercial products.

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10) Fish, mollusks and crustaceans

The main items factors common to fish, mollusks and crustaceans are as follows:

- [1] Many fish, mollusks and crustaceans are caught in natural habitats, and thus component values vary depending on where they caught, the season, size, maturity, etc. Even within the similar conditions, the differences are also significant. These variation factors need to be taken into account.
- [2] The amount of carbohydrates included in fish is small compared to vegetable foods and it is inappropriate to calculate the content their differences. Therefore, the component values of carbohydrates were generally determined by the total sugar analysis.

[3] "Baked", "boiled" (water-boiled), "steamed", "sashimi", "breaded and fried", "tempura", "floured and deep-fried" and "boiled" were listed as cooked foods, in which the samples identical to those of uncooked foods (raw or dried) were used for cooking and analysis. Note that one fillet was used as a sample for "raw" and the other fillet was used for a sample for "baked or "boiled" for middle-sized and large-sized fish. The outlines of cooking methods for each food was shown in Table 16.

- [4] The whole fish with viscera was baked, and a sample whose head, bones, viscera, etc. were removed after baking was used for "baked" of small-sized fish. The consistency between the component values of "raw" and "baked" may be lacking due to water reduction by "baked", movement of intraabdominal fat to edible portion, etc.
- [5] Regarding "analytical values" and "analytical values (2015)" in the text, see "Notes on Foods" described in the initial part of Chapter 3. (See Page 1)

In the followings, important points to note regarding the component values are described for each food item.

<FISHES>

Fat greenling

-10001 raw

The component values of "fat greenling" are determined based on analytical values and the component values on 4th Composition Tables.

Matsubara's red rockfish

-10002 raw

"Matsubara's red rockfish" is rockfish and the standard Japanese name is "Akou". The component values are determined based on analytical values and the component values on 4th Composition Tables.

(Horse mackerels)

-Japanese Jack mackerel

- -10003 with integument, raw
- -10389 without integument, sashimi
- -10004 with integument, boiled
- -10005 with integument, baked
- -10390 with integument, breaded and fried
- -10006 "Hirakiboshi" (salted and semi-dried split), raw

- -10007 "Hirakiboshi" (salted and semi-dried split), baked
- -10391 small fish, with bones, raw
- -10392 small fish, with bones, floured and deep-fried

"Japanese Jack mackerel" has a slightly flat body and placoid scales covering the entire lateral line. It is an important fishery resource caught in many places of Japan and is eaten as a fresh fish and various processed products. The component values of "raw" are determined based on analytical values (2015). The component values of "sashimi", newly listed, are determined based on analytical values (2015). The component values of "boiled" and "baked" are determined based on analytical values and the retention factors. The component values of "breaded and fried", newly listed, are determined based on analytical values (2015).

"Hirakiboshi" is dried fish after splitting fish's abdomen, removing viscera, etc., and immersing it in salt water. The component values of "raw" "Hirakiboshi" are determined based on analytical values and the component values on the 4th Composition Tables. The component values of "baked" of "Hirakiboshi" are determined based on analytical values, the component values on the 4th Composition Tables, and the retention factors.

"Small fish, with bones, raw" and "small fish, with bones, floured and deep-fried", newly listed, are measured after removing scales or placoid scales. The component values are each determined based on analytical value (2015).

-Japanese scad

-10393 raw

-10394 baked

"Japanese scad", newly listed, is caught in south central Honshu and is edible like "Japanese Jack mackerel". It is similar to "Japanese Jack mackerel", but has a flat body, long pectoral fins, and placoid scales only covering the straight portion of the lateral line. The component values of "raw" and "baked" are each determined based on analytical value (2015).

-Atlantic horse mackerel

- -10008 raw
- -10009 boiled
- -10010 baked

"Atlantic horse mackerel" is caught in North-European Sea and is imported, which is mixed with "horse mackerel" in use. It mainly becomes processed products (dried products). The component values of "raw" are determined based on analytical values (Atlantic horse mackerel). The component values of "boiled" and "baked" are each determined based on analytical value and the retention factors.

-Brownstriped mackerel scad

-10011 raw

-10012 baked

- -10013 "Hirakiboshi" (salted and semi-dried split)
- -10014 "Kusaya" (brine-soaked and dried scad)

"Brownstriped mackerel scad" is edible as sashimi or baked fish with salt, but is suitable for raw materials for dried fish, especially "Kusaya", due to the lean fish with little fat. The component values of "raw" and "Hirakiboshi" are each determined based on analytical values, and the component values of "baked" are determined based on analytical values and retention factors.

"Kusaya" is dried fish after immersing the splitted fish body in Kusaya liquid (salt water matured with fish extract or oil after repeatedly used for many years). The component values are determined based on analytical values and the component values on the 4th Composition Tables. Note that calcium was reanalyzed and the component values are determined based on analytical values (2015) and the component values on the 4th Composition Tables.

Common Japanese conger

-10015 raw

-10016 steamed

"Common Japanese conger" includes Common Japanese conger, Beach conger, Sea conger, etc. but commonly refers to Common Japanese conger, which was selected as a sample. The component values of "raw" are determined based on analytical values and the component values on the 4th Composition Tables. The component values of "steamed" are determined based on analytical values and the component values on the 4th Composition Tables, taking samples from steamed fish after the dorsal was split, and the retention factors.

Amago salmon

-10017 cultured, raw

"Amago salmon" inhabits a river and is similar to "seema" in shape. They both belong to genus Oncorhynchus and can be distinguished by the red spots of the body surface of "Amago salmon". The anadromous type of "Amago salmon" is called Satsukimasu salmon. It is cultured. The component values are determined based on analytical values.

Tilefish

-10018 raw

-10019 boiled

-10020 baked

"Tilefish" includes Red horsehead, Yellow horsehead, and White horsehead, but commonly referred to as Red horsehead, which was selected as a sample. The component values of "raw" are determined based on analytical values and the component values on the 4th Composition Tables. The component values of "boiled" and "baked" are determined based on analytical values, the component values on the 4th Composition Tables, and the retention factors.

Ayu

- -10021 wild, raw
- -10022 wild, baked
- -10023 wild, viscera, raw
- -10024 wild, viscera, baked
- -10025 cultured, raw
- -10026 cultured, baked
- -10027 cultured, viscera, raw
- -10028 cultured, viscera, baked
- -10029 "Uruka" (salted and fermented viscera)

"Ayu" which lives in a river was designated as "wild" (including release) and "Ayu" cultured with artificial feeds was designated as "cultured". In the fish after baking the whole body, the muscle portion including skin was designated as "baked" and the viscera portion was designated as "viscera, baked". The component values of "raw" are determined based on analytical values and the component values on the 4th Composition Tables. The component values of "baked" are each determined based on analytical values, the component values on the 4th Composition Tables and the retention factors.

"Uruka" is the Shiokara of Ayu's ovary, testis, viscera, etc. The component values are determined based on analytical values and the component values on the 4th Composition Tables, taking samples from commercial products.

Pacific ocean perch

-10030 raw

"Pacific ocean perch" is caught in the Bering Sea in a large quantity, distributed as sliced fish, filler (filleting) or dress (head and viscera are removed), and sold under the commercial name, Akauo. The component values are determined based on analytical value of sliced fish.

Anglerfish

-10031 raw

-10032 liver, raw

Yellow goosefish was selected as a sample of "Anglerfish". The component values are determined based on analytical values and the component values on the 4th Composition Tables. A domestic product and an imported product are selected as samples of liver ("Kimo" in Japanese) because only livers may be imported. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

Japanese sand lance

- -10033 raw
- -10034 "Niboshi" (boiled and dried whole)
- -10035 "Tsukudani" (simmered whole in soy sauce and sugar)
- -10036 "Ameni" (simmered whole in glucose syrup and soy sauce)

Small-sized "Japanese sand lance" (fry, etc.) is also called Konago and is used as raw materials for "Niboshi", "Tsukudani", "Ameni", "Kugini", etc. "Niboshi" is dried fish after boiling small-sized fish in salt water. "Tsukudani" is a boiled small-sized fish with a seasoning liquid mainly made of sugar and soy sauce. "Ameni", in which sugar was replaced with glucose syrup, is characterized by glaze. The whole fish body was used as a sample, and the component values of "raw" are determined based on analytical values and other foods (Japanese sand lance; except "raw") are determined based on analytical values and the component values on the 4th Composition Tables, taking samples from commercial products.

Three-line grunt

-10037 raw

"Three-line grunt" is also called Isagi. The young fish has a stripe which causes confusion with a similar specie, Sharpnose tigerfish, but the stripe disappears as it grows. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

Japanese parrot fish

-10038 raw

"Japanese parrot fish" belongs to the family Oplegnathidae and differs from "red sea bream" and "black sea bream" which are in the family Sparidae. The fry is also called Shimadai due to its striped pattern and male elder fish is also called Kuroguchi due to its black jaw. The component values are determined based on analytical values.

Golden-thread

-10039 raw

-10040 Surimi

"Golden-thread" is also called Itoyori. The component values of "raw" are determined based on analytical values and the component values on the 4th Composition Tables.

The component values of "surimi" are determined based on analytical values of imported products of Bottom threadfin bream frozen surimi.

Japanese butterfish

-10041 raw

"Japanese butterfish" belongs to the family of Silver pomfret, but has different kinds of pelvic fins.

Small-sized fish is raw materials for dried fish. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

(Sardines)

-Pacific round herring

- -10042 raw
- -10043 "Maruboshi" (salted and dried whole)

-Japanese anchovy

- -10044 raw
- -10045 "Niboshi" (boiled and dried whole)
- -10046 "Tazukuri" (dried young anchovy)

-Japanese pilchard

- -10047 raw
- -10048 boiled
- -10049 baked
- -10395 breaded and fried
- -10050 "Shioiwashi" (salted pilchard)
- -10051 "Namaboshi" (mild salted and semi-dried whole)
- -10052 "Maruboshi" (salted and dried whole)

-"Mezashi" (skewered, salted and semi-dried whole)

- -10053 raw
- -10054 baked

-whitebait

-10396 raw

-"Shirasuboshi" (boiled and dried whitebait)

- -10055 mild dried
- -10056 semi-dried
- -10057 "Tatamiiwashi" (sheet of dried whitebait)

-"Mirinboshi" (split seasoned with Mirin and dried)

- -10058 Japanese anchovy
- -10059 Japanese pilchard

-canned products

- -10060 boiled
- -10061 with seasoning
- -10062 in tomato sauce
- -10063 in oil
- -10064 "Kabayaki" (baked and seasoned fillet)
- -10397 anchovy

Sardine is a generic term for "Pacific round herring", "Japanese anchovy", "Japanese pilchard", etc. (Sardines).

"Maruboshi" is dried fish after immersing sardine in salt water as it is. In this chapter, "Maruboshi" is a drier version of "Namaboshi and is a high-quality dried product. The component values of "raw" and "Maruboshi" of "Pacific round herring" are determined based on analytical values and the component values on 4th Composition Tables.

"Japanese anchovy" is also called Shikoiwashi, Hishiko, or Seguro. "Niboshi" is a drained and dried one after boiling small-sized Japanese anchovy in salt water. "Tazukuri" is Niboshi of small-sized Japanese anchovy. The component values of "raw", "Niboshi", and "Tazukuri" are determined based on analytical values and the component values on the 4th Composition Tables.

"Japanese pilchard" is called Shirasu if it is about 3-4 cm or less, Koba if it is about 9-10 cm or less, Chuba if it is about 13 cm or less, and Oba if it is more than 13 cm in length. "Japanese pilchard" varies in the edible fat content by 2-30% depending on the fishing places, fishing period, size, etc., but the component values of "raw" are determined based on analytical values (2015) of samples with different sizes which were caught in 6 domestic places. The component values of "boiled" and "baked" are determined based on analytical values and the retention factors. "Shioiwashi" is raw materials to be processed for canned products, etc. and immersed Japanese pilchard Oba in salt. "Namaboshi" is immersing Japanese pilchard Chuba or Oba in salt water for a short time. The component values of "Shioiwashi", "Namaboshi", and "Maruboshi" are determined based on analytical values of analytical values or the 4th Composition Tables. The component values of "breaded and fried", newly listed, are determined based on analytical values (2015).

"Mezashi" is dried fish after immersing Japanese anchovy or Japanese pilchard Koba or Chuba in salt water as it is, threading a skewer or straw from one eye (or a mouth) to the lower jaw, and hanging it.

The component values of "raw" of "Mezashi" are determined based on analytical values and the component values on the 4th Composition Tables, and the component values of "baked" are determined based on analytical values, the component values on the 4th Composition Tables and the retention factors. Note that retinol of "raw"

and "baked" is reanalyzed, retinol of "raw" is determined based on analytical values (2015) and the component values on the 4th Composition Tables, and retinol of "baked" is determined based on analytical values (2015) and the retention factors.

The component values of "whitebait, raw", newly listed, are determined based on analytical values (2015).

"Shirasuboshi" is a slightly dried fish after boiling the fry of Japanese anchovy, Japanese pilchard, etc. in salt water, and was separately listed as "mildly dried" which has high water content and is mainly shipped to Kanto and as "semi-dried" which has low water content and is mainly shipped to Kansai, due to quite different taste preferences of hardness depending on consumption places. The component values are each determined based on each analytical values.

"Tatamiiwashi" is dried fish after straining out tiny fry of Japanese anchovy, Japanese pilchard, etc. on square mesh panels. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

"Mirinboshi" is dried fish after splitting the abdomen of sardines, removing the head, the backbone, viscera, etc., and immersing it in a seasoning liquid mainly made of soy sauce, Mirin, etc. The component values of "Mirinboshi" are each determined based on analytical values and the component values on the 4th Composition Tables.

"Boiled", "with seasoning", and "in tomato sauce" of "canned products" are canned products with salt water, a seasoning liquid mainly made of salt water and soy sauce, or tomato puree, respectively, after removing the head and viscera of Japanese pilchard, especially Chuba or Oba. "In oil" is also called oil sardine. It is a canned product with oil after removing the head, viscera, etc. of Japanese pilchard, especially Koba, lightly drying it, and heating it in edible oil for dehydration. "Kabayaki" is a canned product with a seasoning liquid mainly made of soy sauce, sugar, etc. after roasting fish whose abdomen was split and head, viscera, etc. are removed. The component values of "boiled", "with seasoning", "in tomato sauce", "in oil", and "Kabayaki" of "canned products" are each determined based on analytical values and the component values on the 4th Composition Tables. A canned product which is commonly sold and distributed and in which Japanese anchovy produced in Europe and Japan is immersed in oil (olive oil, sunflower oil) was used except excessive oil for "anchovy", newly listed. The component values are determined based on analytical values (2015).

White-spotted char

-10065 cultured, ra

"White-spotted char" has been cultured in recent years. The component values are determined based on analytical values.

Japanese dace

-10066 raw

"Japanese dace" is also called Haya or Akahara. It includes a freshwater type and an anadromous type, and the component values are determined based on analytical values of a freshwater-type sample.

Eels

- -10067 cultured, raw
- -10068 viscera, raw
- -10069 "Shirayaki" (mild-baked and steamed fillet)

-10070 "Kabayaki" (seasoned and baked fillet)

Though the import volume of "eels" once exceeded Japan's production volume and European eel was also distributed currently, the eels distributed in Japan are mostly Japanese eel. The component values of "cultured, raw" are determined based on analytical values. "viscera" is Kimo in Japanese. "Shirayaki" is a skewered and baked without sauce after splitting cultured eel and removing the head, bones, viscera, etc. "Kabayaki" is baked fish after applying a seasoning liquid (sauce) made of soy sauce, sugar, etc. on Shirayaki. Though a steaming process is often performed before baking in "Kabayaki" (commonly in Kanto), in this chapter, a product was analyzed which was manufactured without this process (mainly in Kansai), normally packaged, and sold in stores. The component values of "viscera, raw", "Shirayaki", and "Kabayaki" are each determined based on analytical values on the 4th Composition Tables.

Black scraper

- -10071 raw
- -10072 "Ajitsuke-hirakiboshi" (seasoned and dried fillet)

"Ajitsuke-hirakiboshi" is dried fish after removing the head, skinning and splitting it, and immersing it in a seasoning liquid. The component values of "raw" and "Ajitsuke-hirakiboshi" are determined based on analytical values and the component values on the 4th Composition Tables.

Ray

-10073 raw

"Ray" includes Japanese stingray, Kite ray, Spiny rasp skate, etc. and commonly refers to Japanese stingray. Edible portion is the meat portion and gristle portion except for the skin. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

Lizardfish

-10074 raw

"Lizardfish" is a generic term for lizardfish, but commonly refers to Spotted-tail grinner and refers to Redbrown lizardfish in South Japan. They are each widely used as raw materials for surimi products. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

Pale chub

-10075 raw

It is a freshwater fish which is called Yamabe in Kanto and Haya, Hae, etc. in Kansai. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

Angry rockfish

-10076 raw

"Angry rockfish" is a deep-water large-sized fish which belongs to the family Scorpaenidae and inhabits the north of Choshi in Chiba prefecture. The component values are determined based on analytical values.

Devil stinger

-10077 raw

Devil stinger in the family Synanceiidae was selected as a sample of "Devil stinger". The component values are determined based on analytical values. In some regions, similar fishes such as Japanese stargazer, Japanese
sculpin, and Freshwater goby are also called Okoze (in Japanese for devil stinger), but they are different species.

Pacific halibut

-10078 raw

"Pacific halibut" is the largest righteye flounders. It is widely distributed in the north of Tohoku region, the northern part of Japan Sea, Sea of Okhotsk, Bering Sea, Pacific coast of North American continent, etc. The component values are determined based on analytical values of imported products.

Marbled rockfish

-10079 raw

"Marbled rockfish" is a fish in genus Sebastiscus, family Scorpaenidae, and fishes including related species can be called "Marbled rockfish". "Japanese stingfish" which is a fish in genus Sebastes of the same family may cause confusion, but is a different species. The component values are determined based on analytical values.

Japanese sculpin

- -10080 raw
- -10081 boiled
- -10082 "Tsukudani" (simmered whole in soy sauce and sugar)

"Japanese sculpin" includes marine sculpins, but a freshwater type called Gori in Hokuriku region was selected as a sample. "Tsukudani" is boiled whole small-sized fish with a seasoning liquid mainly made of sugar and soy sauce, and the product name, Gori no Tsukudani, was selected as a sample. The component values of "raw" and "Tsukudani" are determined based on analytical values and the component values on the 4th Composition Tables. The component values of "boiled" are determined based on analytical values, the component values on the 4th Composition Tables and the retention factors.

(Marlins and swordfishes)

-Pacific blue marlin

- -10083 raw
- -Striped marlin
 - -10084 raw
- -Swordfish
 - -10085 raw
 - -10398 baked

"Pacific blue marlin" is a large-sized fish which commonly reaches 2.5 m in length and occasionally reaches 4.5 m in length. The component values are determined based on analytical values.

"Striped marlin" is a large-sized fish which reaches 3 m in length and inhabits a temperate area and a tropical area, and an imported product was selected as a sample. The component values are determined based on analytical values.

"Swordfish" is a large-sized fish which reaches 4 m in length, has larger eyes than other marlins and swordfishes, has no pelvic fins, and is characterized by so long flat snout (a pointed part of mouth). An imported product was selected as a sample. The component values of "raw" are determined based on analytical values (2015) and analytical values.

The component values of "baked", newly listed, are determined based on analytical values (2015), taking

samples from dorsal sliced fish of commercial products.and the retention factors

(Skipjacks and frigate mackerels)

-Skipjack tuna

-10086 caught in spring, raw

-10087 caught in autumn, raw

-Frigate mackerel

-10088 raw

-processed products

- -10089 "Namari" (boiled meat)
- -10090 "Namari-bushi" (boiled and semi-dried fillet)
- -10091 "Katsuo-bushi" (boiled, smoke-dried and fermented skipjack tuna fillet)
- -10092 "Kezuri-bushi" (shaved "Katsuo-bushi")
- -10093 "Kezuri-bushi" (shaved "Katsuo-bushi"), simmered in soy sauce and sugar
- -10094 "Kakuni" (meat cube boiled in soy sauce and sugar)
- -10095 "Shiokara" (salted and fermented viscera)

-canned products

- -10096 flaked meat with seasoning
- -10097 flaked meat in oil

In "Skipjack tuna", a group moving north for food in spring (commonly known as "Hatsu-gatsuo") and a group moving south for spawning in autumn (commonly known as "Modori-gatsuo") are caught in the coast of Japan. The difference by migration for food was seen especially in fat soluble components, and thus "caught in spring" and "caught in autumn" are separately listed. The component values are each determined based on analytical values.

"Frigate mackerel" includes two species, Round frigate mackerel and Frigate mackerel, but integrated the component values are shown. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

"Namari" is a steamed one of Skipjack tuna fish. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

"Namari-bushi" is a boiled one of a fillet, or a dorsal sliced fish or an abdominal sliced fish split from the fillet (cut into four quarters). The component values are determined based on analytical values and the component values on the 4th Composition Tables.

In making "Katsuo-bushi", "Namari-bushi" is steamed to be Ara-bushi and the surface is formed to be Hadaka-bushi. It is dried, molded, and matured to be Kare-bushi and Honkare-bushi (Hon-bushi, Shiage-bushi: Kare-bushi for which the most time and efforts are spent for molding and maturing). It takes 150 days or more in the whole processes to make Honkare-bushi. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

Thin pieces which are made of "Katsuo-bushi" or "Zatsu-bushi (raw materials are frigate mackerel, mackerel, etc.)" by machine and are sealed with nitrogen gas into a gas-barrier bag in small amounts was selected as a sample of "Kezuri-bushi". The component values are determined based on analytical values.

"Kezuri-bushi, simmered in soy sauce and sugar" is boiled thin pieces of shaved "Katsuo-bushi" with a seasoning liquid. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

"Kakuni" is boiled fish with a seasoning liquid mainly made of soy sauce after boiling "Skipjack tuna" fish, steaming it, and cutting it into cubes. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

"Shiokara" is a salted and matured "Skipjack tuna" viscera and is called Shuto. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

"Flaked meat with seasoning" of "canned products" is canned flaked fish with a seasoning oil. "Flaked meat in oil" is a canned product of boiled fish with edible vegetable oil. The component values are each determined based on analytical values and the component values on the 4th Composition Tables ("flaked meat in oil" is former "in oil"), taking samples from products with liquid.

Barracuda

-10098 raw

-10099 baked

"Barracuda" includes Brown barracuda, blackfin barracuda, Japanese barracuda, etc. Brown barracuda was selected as a sample. The component values of "raw" are determined based on analytical values. The component values of "baked" are determined based on analytical values and the retention factors.

(Righteye flounders)

-Brown sole

- -10100 raw
- -10101 boiled
- -10102 baked
- -Marbled sole
 - -10103 raw
 - -10399 baked

-Righteye flounders with ovary

- -10104 raw
- -10105 boiled
- -10106 dried

About 20 species of (Righteye flounders) which are edible which inhabits the coast of Japan. "Brown sole" and "Marbled sole" which are representative are separately listed. "Marbled sole" can be distinguished from "Brown sole" by scales on protrusion between eyes. The component values of "raw" of "Brown sole" are determined based on analytical values, and the component values of "raw" of "Marbled sole" are determined based on analytical values (2015), analytical values and the component values on the 4th Composition Tables. The component values of "boiled" and "baked" of "Brown sole" are determined based on analytical values and the retention factors.

The component values of "baked" of "Marbled sole", newly listed, are determined based on analytical values (2015) and the retention factors.

"Righteye flounders with ovary" is a commercial name for righteye flounders having ovaries and is commonly sold as sliced fish, etc. Red halibut and Slime flounder (another name is Nameta-garei) were selected as samples, but integrated the component values are shown. The component values of "raw" are determined based on analytical values. The component values of "boiled" are determined based on analytical values and the retention factors.

"Dried" is dried fish after removing viscera of righteye flounders except ovary and immersing it in salt water. Dried products of Willowy flounder (another name is Yanagi-garei) and Shothole halibut were selected as samples, but integrated the component values are shown. The component values are determined based on analytical values.

Leatherfish

-10107 raw

The component values of "Leatherfish" are determined based on analytical values.

Greater amberjack

-10108 raw

"Greater amberjack" is a related species to "Yellowtail" and has been actively cultured in recent years. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

Japanese whiting

-10109 raw

-10400 tempura

Family Sillaginidae includes Silver whiting, Bay whiting, Trumpeter whiting, etc., but "Kisu" in Japanese commonly refers to Japanese whiting. The component values of "raw" are determined based on analytical values (2015). The component values of "tempura", newly listed, are determined based on analytical values (2015).

Kichiji rockfish

-10110 raw

"Kichiji rockfish" is also called Kinki in Hokkaido and Kinkin in Tohoku region, and is highly prized as a dried product. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

Blue sprat

-10111 raw

-10112 seasoned and dried

"Blue sprat" is a relative of the Big-eye sardine and is also called Kibiiwashi. "Seasoned and dried" is a dried fish after immersing blue sprat in salt water, slightly removing salt, and immersing it in a seasoning liquid mainly made of soy sauce, and a commercial product was selected as a sample. The component values of "raw" and "seasoned and dried" are determined based on analytical values and the component values on the 4th Composition Tables.

Caviar

-10113 salted product

"Caviar" is salted eggs of Green sturgeon. It is produced mainly in Russia, Iran, etc. and light green or grey large eggs are high quality. The component values are determined based on analytical values of imported products.

Kingclip

-10114 raw

"Kingclip" is called King or Namazu together with a related species, Ling, and they are mostly distributed without distinction. Both of them are caught in the sea of the southern hemisphere. The component values are determined based on analytical values and the component values on the 4th Composition Tables, taking samples from imported products.

Sablefish

-10115 raw

-10401 boiled

"Sablefish" is a related species of Arabesque greenling and Fat greenling and is a different species from "Cod fishes". The component values of "raw" are determined based on analytical values (2015), analytical values and the component values on the 4th Composition Tables.

The component values of "boiled", newly listed, are determined based on analytical values (2015), taking samples from domestic products, and imported products and the retention factors.

Splendid alfonsino

-10116 raw

"Splendid alfonsino" is also called Kinme (dai is omitted in Kinme-dai in Japanese for Splendid alfonsino). The component values are determined based on analytical values and the component values on the 4th Composition Tables.

Croaker

-10117 raw

-10118 baked

"Croaker" is a generic term for Silver jewfish, Redlip croaker, Blackmouth croaker, Large yellow croaker, Blue drum, Japanese croaker, Brown croaker, etc. which belong to family Sciaenidae, and Silver jewfish was selected as a sample. The component values of "raw" are determined based on analytical values and the component values on the 4th Composition Tables. The component values of "baked" are determined based on analytical values, the component values on the 4th Composition Tables. The component values and the retention factors. Note that manganese and vitamin D are reanalyzed, manganese of "raw" is determined based on analytical values (2015) and analytical values, and manganese of "baked" is determined based on analytical values (2015), analytical values and the retention factors. Also, vitamin D of "raw" is determined based on analytical values (2015), and vitamin D of "baked" is determined based on analytical values (2015), and vitamin D of "baked" is determined based on analytical values (2015).

Common carp

- -10119 cultured, raw
- -10120 cultured, boiled
- -10121 cultured, viscera, raw

Most of "Common carp" is cultured, which was selected as a sample. The component values of "raw" are

determined based on analytical values. The component values of "boiled" are determined based on analytical values and the retention factors. Note that folic acid was reanalyzed, folic acid of "raw" was determined based on analytical values (2015) and analytical values, and folic acid of "boiled" was determined based on analytical values (2015), analytical values and the retention factors.

Gallbladder in viscera tastes bitter and is usually removed in cooking, and thus a sample without gallbladder was selected for "viscera, raw". The component values are determined based on analytical values and the component values on the 4th Composition Tables.

(Flatheads)

- -Bar-tailed flathead
- -10122 raw
- -Big-eyed flathead
 - -10123 raw

"Bar-tailed flathead" is a fish in family Platycephalidae, which is distributed in the west of Chiba prefecture and Niigata prefecture. The name for "Flathead" in the Composition Tables 2010 was changed. It has different names such as Karagochi, Zenigochi, Honkochi, etc. depending on regions. The component values are determined based on analytical values. Devil flathead and "Big-eyed flathead" are in the same family, but different species.

"Big-eyed flathead" is a fish in family Platycephalidae, which is distributed in South Japan, Yellow Sea, and East China Sea. The component values are determined based on analytical values. The fish which is commonly called Megochi in Kanto region is mostly fishes in genus Reponucenus, family Callionymidae, such as Richardson's dragonet (another name is Nodokusari), Spear dragonet, Moon dragonet (another name is Nezuppo), which are different species.

Dotted gizzard shad

-10124 raw

-10125 "Amazu-zuke" (marinated in vinegar and sugar)

"Dotted gizzard shad" is called Kohada or Tsunashi if it is small. "Amazu-zuke" is immersed in vinegar with sugar, etc. after salting fillets and removing oozing liquid. A commercial product was selected as a sample. The component values are determined based on analytical values and the component values on the 4th Composition Tables, taking samples from "raw" and "Amazu-zuke".

(Salmons and trouts)

- —Pink salmon
 - -10126 raw
 - -10127 baked
 - -10128 salted
 - -10129 canned in brine
- -Coho salmon
 - -10130 cultured, raw
 - -10131 cultured, baked
- -Cherry salmon

- -10132 raw
- -10133 baked

-Chum salmon

- -10134 raw
- -10135 boiled
- -10136 baked
- -10137 "Aramaki"(salted whole body), raw
- -10138 "Aramaki"(salted whole body), baked
- -10139 "Shiozake"(salted salmon)
- -10140 "Ikura"(salted roe)
- -10141 "Sujiko"(salted ovary)
- -10142 "Mefun"(salted and fermented kidney)
- -10143 canned in brine

-Atlantic salmon

- -10144 cultured, raw
- -10145 cultured, baked

-Rainbow trout

- -10146 cultured in the sea, with integument, raw
- -10402 cultured in the sea, without integument, sashimi
- -10147 cultured in the sea, with integument, baked
- -10148 cultured in freshwater, with integument, raw

-Sockeye salmon

- -10149 raw
- -10150 baked
- -10151 smoked

-Chinook salmon

- -10152 raw
- -10153 baked

(Salmons and trouts) were separately listed as "Pink salmon", "Coho salmon", "Cherry salmon", "Chum salmon", "Atlantic salmon", "Rainbow trout", "Sockeye salmon", and "Chinook salmon". Salmons commonly refer to "Chum salmon", but can also refer to "Sockeye salmon", etc. Note that a fish called Honmasu in North Japan is referred to as Pink salmon and a fish called Honmasu in Tokyo market often is referred to as Cherry salmon.

"Pink salmon" is the smallest fish in marine fishes in genus Oncorhyncus, swims upstream in rivers of Hokkaido, and is imported in a large quantity. Imported products are used as samples of "raw" and "baked". The component values of "raw" are determined based on analytical values. The component values of "baked" are determined based on analytical values, the component values on the 4th Composition Tables ("Honmasu") and the retention factors. "Salted" is salted Pink salmon whose viscera, etc. was removed. The component values are determined based on analytical values. "Canned in brine" is canned Pink salmon with salt after cutting the body

at right angle to the backbone. The component values are determined based on analytical values and the component values on the 4th Composition Tables ("Honmasu").

"Coho salmon" is distributed from the central part of Primorye to California in the North Pacific, but hardly migrates to Japan. Currently, cultured fish which was imported is often distributed. Japan also imports eggs to culture the fish in the sea in Tohoku region, which was selected as a sample. The component values of "raw" are determined based on analytical values. The component values of "baked" are determined based on analytical values.

"Cherry salmon" is an anadromous-type fish, and a freshwater-type fish is called "Yamame" (Seema) or Yamabe. The component values of "raw" are determined based on analytical values. The component values of "baked" are determined based on analytical values and the retention factors.

"Chum salmon" has various names such as Akiaji or Tokishirazu depending on fishing places, fishing periods, genealogy, etc. "Ikura" means fish eggs in Russian, but in Japan it is salted fish roes after separating a large amount of fish eggs from salmons or trouts through a net. "Sujiko" is a salted egg mass with egg membranes which is not separated. "Mefun" is Shiokara of kidney. "Canned in brine" is a canned product in salt water with the integumented body, bones of the salmon after removing the head and viscera.

The component values of "raw", "Shiozake", and "Ikura" are determined based on analytical values. The component values of "boiled" and "baked" are determined based on analytical values and the retention factors. The component values of "Aramaki, raw", "Sujiko", "Mefun", and "canned in brine" are determined based on analytical values and the component values on the 4th Composition Tables. The component values of "Aramaki, baked" are determined based on analytical values and the component values on the 4th Composition Tables. The component values of "Aramaki, baked" are determined based on analytical values, the component values on the 4th Composition Tables and the retention factors. Note that a considerable amount of salt was once used for "Aramaki", especially "Shiozake", due to ambient-temperature distribution, but there is little difference between both of the salt amounts due to low-temperature distribution which became the mainstream, and a trend toward low sodium in light of consumers' orientation to health.

"Atlantic salmon" (Taiseiyousake in Japanese) is also called Atlantic salmon as a loanword. It was distributed in the north part of the Atlantic Ocean and rivers flowing to the Atlantic Ocean, but wild ones have drastically decreased and cultured ones have been actively produced in the Nordic countries or South America in recent years. The component values of "raw" are determined based on analytical values of imported products. The component values of "baked" are determined based on analytical values and the retention factors.

"Rainbow trout" is easy to artificially incubate and is one of salmons and trouts which are widely cultured in Japan. It is commonly called "salmon trout", "trout salmon", "steel head", etc. in distribution. "Rainbow trout" was listed, which is cultured in the sea and for which import has increased recently. The component values of "cultured in the sea, with integument, raw" are determined based on analytical values (2015) and analytical values of imported products and the component values of "cultured in the sea, with integument, baked" are determined based on analytical values of "cultured in the sea, with integument, sach the retention factors. The component values of "cultured in the sea, without integument, sashimi", newly listed, are determined based on analytical values (2015) of imported products from Norway, Chile, etc. The component values of "cultured in freshwater, with integument, raw" are determined based on analytical values and the component values of "cultured in freshwater, with integument, raw" are determined based on analytical values (2015) and samples from domestic products.

"Sockeye salmon" is distributed in the North Pacific Ocean and hardly migrates in the sea near Japan. The meat is the most similar to red in salmons and trouts. Himemasu is a landlocked type of this species. "Raw" and "baked" are listed. The component values of "raw" are determined based on analytical values of imported products. The component values of "baked" are determined based on analytical values and the retention factors. "Smoked" is a cold-smoked one made by smoking and drying fish at 20-30 °C for one or two days after removing viscera, etc. and immersing the fish in salt water for a short time. A commercial product of smoke salmon made by smoking fish at 20 °C for hours is the recent mainstream. The cold-smoked products have hardly been produced in recent years and thus component values are determined based on analytical values and the component values on the 4th Composition Tables, taking samples from warm-smoked products.

"Chinook salmon" is the largest fish in family Salmonidae, and also called king salmon. It is widely distributed in North America, but there are only a few ones which wander and swim upstreams in Japan. The component values of "raw" are determined based on analytical values of imported products. The component values of "baked" are determined based on analytical values and the retention factors.

(Mackerels)

-Chub mackerel

- -10154 raw
- -10155 boiled
- -10156 baked
- -10403 breaded and fried

-Spotted mackerel

- -10404 raw
- -10405 boiled
- -10406 baked
- -10157 "Saba-bushi" (boiled, smoke-dried and fermented mackerel fillet)

-Atlantic mackerel

- -10158 raw
- -10159 boiled
- -10160 baked

-processed products

- -10161 "Shiosaba" (plain salted fillet)
- -10162 "Hirakiboshi" (mild salted and semi-dried split)
- -10163 "Shimesaba" (vinegar marinated fillet)

-canned products

- -10164 boiled
- -10165 boiled with miso
- -10166 boiled with seasoning

"Chub mackerel" is caught in the sea near Japan. The component values of "raw" are determined based on analytical values (2015). The component values of "boiled" and "baked" are each determined based on analytical values (2015) of "raw" and the retention factors. The component values of "breaded and fried" of

"Chub mackerel", newly listed, are determined based on analytical values (2015).

"Spotted mackerel", newly listed, is also called "Marusaba" and its adult fish has a slender body. It was not often eaten in Kanto, but has been recently used as processed products, etc. The component values of "raw", "boiled" and "baked" are determined based on analytical values (2015). "Saba-bushi" is a bushi (in Japanese for tree knot to which the product is similar in shape) processed from mackerels by slightly simpler process than one for Katsuo-bushi, and the component values are determined based on analytical values on the 4th Composition Tables.

"Atlantic mackerel" mainly inhabits the North Atlantic Ocean, the Mediterranean Sea, the Black Sea, etc., and is imported to Japan. It is also called Norway Saba and is mainly distributed as processed products. The component values of "raw" are determined based on analytical values. The component values of "boiled" and "baked" are each determined based on analytical values and the retention factors.

"Shiosaba" of "processed products" is a salted product of fillets. "Hirakiboshi" is a short-time dried one after splitting fish's dorsum, removing viscera, etc., and sprinkling salt or immersing it in salt water. "Shimesaba" is an immersed one in vinegar after sprinkling salt on filleted mackerels and washing the salt away with vinegar.

Commercial products were selected as samples of "Shiosaba", "Hirakiboshi", and "Shimesaba". The component values of "Shimesaba" are determined based on analytical values and the component values of "Shiosaba" and "Hirakiboshi" are each determined based on analytical values and the component values on the 4th Composition Tables.

"Boiled canned products are products canned with salt water after cutting a fish whose head, viscera, etc. were removed into appropriate sizes. "Boiled with miso" is a canned product with a seasoning liquid made of miso, sugar, etc. after cutting a mackerel whose head, tail fin, and viscera were removed into appropriate sizes. The component values of "boiled" and "boiled with miso" are each determined based on analytical values and the component values on the 4th Composition Tables. "Boiled with seasoning" is a canned product with a seasoning liquid after removing a head, viscera, etc. from the fish. The component values are determined based on analytical values.

(Sharks)

-Dogfish

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-10167 raw
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-Blue shark

-10168 raw

-10169 dried shark fin

"Dogfish" is a middle-sized shark and also called Aburazame, and its related species is Japanese Shortnose dogfish, etc. "Blue shark" is a large-sized shark and also called Yoshikiri, and its related species are Sandbar shark, Silvertip shark, etc. The component values of "raw" are each determined based on analytical values and the component values the on 4th Composition Tables.

"Dried shark fin" is dried products of pectoral fins, a tail fin, and dorsal fins of sharks. The component values are determined based on analytical values and the component values on the 4th Composition Tables ("Kinshi"), taking samples from commercial products, and reference values¹.

Halfbeak

-10170 raw

"Halfbeak" is distributed as fresh fish if the size is large, and can be raw materials for "Hirakiboshi", etc. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

Japanese spanish mackerel

-10171 raw

-10172 baked

Six species such as "Japanese spanish mackerel", Wahoo, and Narrowbarred mackerel are distributed in the sea near Japan. The component values of "raw" are determined based on analytical values and the component values on the 4th Composition Tables. The component values of "baked" are determined based on analytical values, the component values on the 4th Composition Tables and the retention factors.

Pacific saury

-10173 with integument, raw

- -10407 without integument, sashimi
- -10174 with integument, baked

-10175 "Hirakiboshi" (mild salted and semi-dried split)

-10176 "Mirinboshi" (seasoned with Mirin and dried fillet)

-canned products

- -10177 boiled with seasoning
- -10178 "Kabayaki" (baked and seasoned fillet)

"Pacific saury" is called Saira in some regions. Pacific saury largely varies in components, especially fat soluble components, with fishing periods, fishing places, and size, and thus component values of "raw" are determined based on analytical values (2015) and analytical values of fish caught in six domestic places. The component values of "sashimi", newly listed, are determined based on analytical values (2015). The component values of "baked" are determined based on analytical values and the retention factors. Note that manganese of "raw" and "baked" was reanalyzed, manganese of "raw" was determined based on analytical values (2015), and manganese of "baked" was determined based on analytical values (2015) and the retention factors. "Hirakiboshi" is a dried fish after splitting the fish's dorsum, removing viscera, etc., and immersing it in salt water. "Mirinboshi" is a dried fish after splitting fish's dorsum, removing the head, the backbone, etc., and immersing it in a seasoning liquid mainly made of salt, sugar, Mirin, etc.

"Boiled with seasoning" of "canned products" is a canned product with a seasoning liquid after removing the head, viscera, etc. from the fish. "Kabayaki" is a canned product with a seasoning liquid mainly made of soy sauce, sugar, etc. after splitting fish's dorsum, removing the head, viscera, etc. cutting it into two fillets and the fillet into appropriate sizes, and roasting it. The component values of "Hirakiboshi", "Mirinboshi", and "canned products" are each determined based on analytical values and the component values on the 4th Composition Tables.

Dolphinfish

-10179 raw

"Dolphinfish" is a white-meat fish in the open sea. It is distributed as fresh fish in the west of Kansai, but is

also used as raw materials for surimi products. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

(Shishamoes)

-Shishamo smelt

- -10180 semi-dried, raw
- -10181 semi-dried, baked

-Atlantic capelin

-10182 semi-dried, raw

-10183 semi-dried, baked

(Shishamoes) includes Atlantic capelin (another name is capelin) which is imported in a large quantity as well as domestic "Shishamo smelt" which swims upstream in rivers in the southeast part of Hokkaido in Japan. "Semi-dried" "Shishamo smelt" and "Atlantic capelin" is dried fish after immersing it in salt and slightly washing it. Shishamoes with ovary were selected as samples. The component values of "raw" are determined based on analytical values and the component values on the 4th Composition Tables ("domestic semi-dried", "imported semi-dried"). The component values of "baked" are determined based on analytical values and the retention factors. Note that vitamin D of "raw" and "baked" of "Shishamo smelt" and "Atlantic capelin" was reanalyzed, both vitamins of "raw" are each determined based on analytical values (2015), and both vitamins of "baked" are each determined based on analytical values (2015).

Sole

-10184 raw

"Sole" includes Black tonguefish, Red tongue sole, Hookmouth sole, etc. The former two species are each selected as a sample, but the difference between analytical values was not seen and thus the integrated component values are shown. The component values are determined based on analytical values.

Striped jack

-10185 cultured, raw

"Striped jack" is a large-sized fish which reaches 1 m in length. It is cultured. The component values are determined based on analytical values. Whitefin trevally which is smaller and has a flatter body than "Striped jack" can be also called Shimaaji (in Japanese for Striped jack), but it is different species.

Japanese icefish

-10186 raw

"Japanese icefish" is a small-sized fish which is related to salmons and trouts. It is often confused with Ice goby in family Gobidae, which is different species. The component values are determined based on analytical values and the component values on the 4th Composition Tables, taking samples from the whole fish.

Silver warehou

-10187 raw

"Silver warehou" is a related fish to "Japanese butterfish", imported frozen dress for which a head and viscera are removed, and distributed as sliced fish. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

Japanese sea bass

-10188 raw

"Japanese sea bass" has different names such as Seigo, Fukko, etc. as it grows. The component values are determined based on analytical values.

(Sea breams)

-Yellow sea bream

-10189 raw

Black sea bream

-10190 raw

-Crimson sea bream

-10191 raw

-Red sea bream

- -10192 wild, raw
- -10193 cultured, with integument, raw
- -10408 cultured, without integument, sashimi
- -10194 cultured, with integument, boiled
- -10195 cultured, with integument, baked

There are a considerable number of fishes called "Tai" (in Japanese for Sea breams), but many fishes do not belong to family Sparidae. "Tai" commonly refers to "Red sea bream". "Yellow sea bream" is also called Renkodai, "Black sea bream" is also called Tinu, and "Crimson sea bream" is also called Hanadai. "Red sea bream" has been actively cultured, and thus "cultured" was listed as well as "wild".

The component values of "Yellow sea bream" and "Crimson sea bream" are determined based on analytical values and the component values on the 4th Composition Tables.

The component values of "wild, raw" of "Black sea bream" and "Red sea bream" are determined based on analytical values. The component values of "cultured, raw" are determined based on analytical values (2015) and analytical values.

The component values of "cultured, boiled" and "cultured, baked" of "Red sea bream" are each determined based on analytical values, the component values on the 4th Composition Tables and the retention factors. The component values of "cultured, sashimi" of "Red sea bream", newly listed, are determined based on analytical values (2015).

Double-lined fusilier

-10196 raw

"Double-lined fusilier" is a southern fish in subfamily Caesioninae and a representative fish in Okinawa prefecture, called Gurukun. The component values are determined based on analytical values.

Yellowstriped butterfish

-10197 raw

"Yellowstriped butterfish" is caught along the Pacific coast in the west of Izu, most of which is shipped as fresh fish. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

Atlantic cutlassfish

-10198 raw

"Atlantic cutlassfish" reaches 1.5 m in length, is shipped as fresh fish if it is large, and is also raw materials to be processed for surimi products, Misozuke (pickled in miso), Kasuduke (pickled in sake lees), etc. The component values are determined based on analytical values.

(Cod fishes)

-Walleye pollock

- -10199 raw
- -10409 breaded and fried
- -10200 surimi
- -10201 "Sukimidara" (skinned, salted and dried fillet)

-"Tarako" (salted roe)

- -10202 raw
- -10203 baked

-10204 "Karashi-mentaiko" (salted roe with red hot pepper powder)

-Pacific cod

- -10205 raw
- -10206 baked
- -10207 milt, raw
- -10208 salted fillet
- -10209 dried split
- -10210 "Denbu" (mashed and seasoned meat)

"Walleye pollock" is a smaller and slenderer fish than "Pacific cod" and about 60 cm in length. "Surimi" (imported frozen products) is a product with freezing resistance improved by adding sugar because fish frozen as it is cannot be materials for kamaboko. "Sukimidara" is a salted and dried fish after mainly filleting Walleye pollock and removing bones, fins, and integument. "Tarako" is a pickled ovary of Walleye pollock with salt and is also called Momijiko. "Karashi-mentaiko" is a matured mentaiko (meaning ovary of Walleye pollock) with red hot pepper powder.

The component values of "raw" of "Walleye pollock" are determined based on analytical values (2015), and the component values of "surimi" and "Karashi-mentaiko" are determined based on analytical values. Sliced fish of domestic products was measured for "breaded and fried", newly listed. The component values are determined based on analytical values (2015). The component values of "Sukimidara" and "raw" of "Tarako" are determined based on analytical values and the component values on the 4th Composition Tables. The component values of "baked" "Tarako" are determined based on analytical values and the component values on the 4th Composition Tables. The component values of "baked" "Tarako" are determined based on analytical values on the 4th Composition Tables and the retention factors. Note that vitamin D of "raw" and "baked" of "Tarako" was reanalyzed, vitamin D of "raw" was determined based on analytical values (2015), and vitamin D of "baked" was determined based on analytical values (2015) and the retention factors.

"Pacific cod" is a large-sized fish which reaches 1 m in length. "Raw", "baked" and "milt" are listed. The word "Shirako (in Japanese for milt)" means a testis of fish. "Milt" of "Pacific cod" is also called Kikuko. The component values of "raw" and "milt" are each determined based on analytical values. The component values of

"baked" are determined based on analytical values and the retention factors. Note that manganese and retinol of "raw" and "baked" are reanalyzed, manganese of "raw" was determined based on analytical values (2015) and analytical values, and manganese of "baked" was determined based on analytical values (2015), analytical values and the retention factors. Also, retinol of "raw" was determined based on analytical values (2015) and analytical values, and retinol of "baked" was determined based on analytical values (2015) and analytical values, and retinol of "baked" was determined based on analytical values (2015) and analytical values, and retinol of "baked" was determined based on analytical values (2015) and factors.

"Salted fillet" is a pickled one with salt after splitting a dorsum or an abdomen of "Pacific cod", leaving a head alone or removing it, and removing viscera, gills, a part of the vertebrae, etc. "Dried split" is a dried fish after splitting Pacific cod's dorsum or abdomen and removing the head, viscera, etc., and is also called Hirakidara. Note that "dried split" includes a dried fish with a head or a dried one after salting the split, but "dried split" in this chapter neither has a head nor is salted. "Denbu" is a product with low moisture by heating Cod fish's meat, adding a seasoning liquid to its flaked one, and further heating it. The component values of "salted fillet", "dried split", and "Denbu" are each determined based on analytical values and the component values on the 4th Composition Tables.

Japanese surf smelt

-10211 raw

Japanese surf smelt is an annual fish which belongs to genus Hypomesus, family Osmeridae, and inhabits the sea. The component values are determined based on analytical values.

Asian pond loach

-10213 raw

-10214 boiled

"Asian pond loach" includes many species such as Sand loach, but commonly refers to Oriental weatherfish, which was selected as a sample. The component values of "raw" are determined based on analytical values. The component values of "boiled" are determined based on analytical values and the retention factors.

Flying fish

-10215 raw

"Flying fish" includes many species such as Purplewing flying fish, Darkedged-wing flying fish, Yellow-wing flying fish, and Coast flying fish. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

Nile tilapia

-10212 raw

"Nile tilapia" is also called Izumidai or Chikadai and a freshwater fish introduced from overseas. The name for "Tilapia" in the Composition Tables 2010 was changed. Its farming has spread and it is distributed also as fresh fish or sliced fish. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

Japanese catfish, Channel catfish

-10216 raw

Channel catfish originally coming from US is cultured as well as Japanese catfish. Both of them are selected as samples, but the integrated component values are shown. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

Japanese argentine

-10217 raw

"Japanese argentine" is similar to Japanese whiting in appearance, but is different species. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

Pacific herring

-10218 raw

-10219 "Migaki-nishin" (dried fillet)

-10220 "Hirakiboshi" (dried split)

-10221 smoked

-roe

-10222 raw

-10223 dried

-10224 salt-cured products, desalted

"Migaki-nishin" is a product for which a head, a tail and a vertebra are removed after removing viscera of Pacific herring, cutting it into two fillets, and drying it. "Hirakiboshi" is a dried one after splitting fish's dorsum, removing viscera, etc., and immersing it in salt. "smoked" is a smoked one of salted Pacific herring or a dried one after immersing it in a smoked liquid. The component values of "raw", "Migaki-nishin", "Hirakiboshi", and "smoked" are determined based on analytical values and the component values on the 4th Composition Tables.

"Roe" is ovary of Pacific herring and imported products are mainly distributed. The component values of "raw" are determined based on analytical values and the component values on the 4th Composition Tables, and the component values of "dried" and "salt-cured products, desalted" are determined based on analytical values.

Yellowfin goby

-10225 raw

- -10226 "Tsukudani" (boiled whole in soy sauce)
- -10227 "Kanroni" (simmered whole in soy sauce and sugar)

Gobies which are edible include many species such as Yellowfin goby, Javelin goby, and Threadfin goby, but "Haze" (in Japanese for Gobies) commonly refers to Yellowfin goby, which was selected as a sample. The component values of "raw" are determined based on analytical values and the component values on the 4th Composition Tables. "Tsukudani" is a boiled one of the whole small-sized fish with a seasoning liquid mainly made of sugar and soy sauce. "Kanroni" is a boiled one with a seasoning liquid after removing viscera, etc. and baking and drying it. The component values are each determined based on analytical values of commercial products.

Sailfin sandfish

-10228 raw

-10229 "Namaboshi" (salted and semi-dried whole)

Processed products of "Sailfin sandfish" with low sodium and high moisture have recently increased, and thus "Namaboshi" was listed. The component values of "raw" are determined based on analytical values and the component values on the 4th Composition Tables, and the component values of "Namaboshi" are determined

based on analytical values.

Spangled emperor

-10230 raw

"Spangled emperor" is a fish which is distributed in the south of Chiba prefecture, belongs to family Lethrinidae, and is popular in Okinawa region. The component values are determined based on analytical values.

Conger pike

-10231 raw

"Conger pike" is a fish related to Conger eels and is used for raw materials for high-quality surimi products as well as shipped as fresh fish. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

Goldstriped amberjack

-10233 raw

"Goldstriped amberjack" is a fish in genus Seriola like "Yellowtail" or "Greater amberjack" and is flater than "Yellowtail". It is mainly eaten raw like sashimi, etc. The component values are determined based on analytical values.

Olive flounder

-10234 wild, raw

-10235 cultured, with integument, raw

-10410 cultured, without integument, sashimi

The component values of "wild, raw" are determined based on analytical values by using fish caught in Japan as a sample. The component values of "cultured, with integument, raw" are determined based on analytical values (2015) and analytical values. The component values of "cultured, without integument, sashimi", newly listed, are determined based on analytical values (2015).

(Puffers)

-Ocellate puffer

-10236 cultured, raw

-Purple puffer

-10237 raw

Fugu (in Japanese for Puffers) is a generic term for puffers, in which "Purple puffer", "Ocellate puffer", Eyespot puffer, Vermiculated puffer, Pear puffer, etc. are edible. "Ocellate puffer" and "Purple puffer" which are representative are listed.

"Ocellate puffer" is a large-sized fish which reaches 70 cm or more in length and is cultured in Japan and overseas. The component values are determined based on analytical values of domestic products.

"Purple puffer" is about 45 cm in length and the surface is smooth without needles. The component values are determined based on analytical values of a sample caught in Japan.

Crucian carp

-10238 raw

-10239 boiled

-10240 "Kanroni" (simmered whole in soy sauce, sugar and glucose syrup)

"Crucian carp" is a generic term for five subspecies, Kin-buna, Gin-buna, Gengoro-buna, Naga-buna, and Nigoro-buna. Mabuna refers to Kin-buna and Gin-buna, and Herabuna refers to Gengoro-buna. "Kanroni" is a boiled one with a seasoning liquid after baking the whole small-sized crucian carp. Commercial products including viscera are selected as a sample. The component values of "raw" and "Kanroni" are each determined based on analytical values and the component values on the 4th Composition Tables. The component values of "boiled" are determined based on analytical values, the component values on the 4th Composition Tables and the retention factors.

Yellowtail

-mature

-10241 raw

-10242 baked

-young

-10243 cultured, with integument, raw

-10411 cultured, without integument, sashimi

"Yellowtail" is the so-called promoting fish, which is called by different names in the order of Wakashi, Inada, Warasa and Buri in Kanto, and Tsubasu, Hamachi, Mejiro and Buri in Kansai, as it grows.

The component values of "raw" of "mature" are determined based on analytical values and the component values on the 4th Composition Tables. The component values of "baked" are determined based on analytical values, the component values on the 4th Composition Tables and the retention factors.

The component values of "raw" of the so called "Hamachi" ("young" in the list), which is a young fish of "Yellowtail", are determined based on analytical values (2015) and analytical values. The component values of "sashimi" of "young", newly listed, are determined based on analytical values (2015).

Red gurnard

-10244 raw

"Red gurnard" is the most popular fish to be eaten in related fishes such as Redwing searobin and is characterized by greenish-blue pectoral fins. It is mainly eaten raw, but is used for raw materials for Hirakiboshi or surimi products. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

Hoki

-10245 raw

"Hoki" is a relative of slender cod fishes and commonly sold as frozen products. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

Atka mackerel

-10246 raw

-10247 salted

- "Hirakiboshi" (mild salted and semi-dried split)

-10248 raw

-10412 baked

"Atka mackerel" is a fish related to Fat greenling. "Salted" is a salted one after removing gills and viscera, and "Hirakiboshi" is a dried one after splitting fish's dorsum, removing viscera, etc., and immersing it in salt water or salting it. Commercial products are each selected as samples. The component values of "raw" and "salted" are determined based on analytical values and the component values on the 4th Composition Tables.

The component values of "Hirakiboshi, raw" are determined based on analytical values (2015) and analytical values. The component values of "Hirakiboshi, baked", newly listed, are determined based on analytical values (2015) and the retention factors.

Striped mullet

- -10249 raw
- -10250 "Karasumi" (salted and dried roe)

"Striped mullet" is the so-called promoting fish, which is called by different names such as Oboko, Ina, and Bora as it grows. "Karasumi" is a dried one after immersing ovary of "Striped mullet" in salt and removing the salt. The component values of "raw" are determined based on analytical values and the component values on the 4th Composition Tables, and the component values of "Karasumi" are determined based on analytical values of domestic commercial products.

Willow shiner

-10251 raw

"Willow shiner" is a freshwater fish which is specific to Lake Biwa and belongs to family Cyprinidae. The component values are determined based on analytical values.

(Tunas)

-Yellowfin tuna

-10252 raw

-Bluefin tuna

- -10253 lean meat, raw
- -10254 fatty meat, raw

-Albacore

-10255 raw

- -Southern bluefin tuna
 - -10256 lean meat, raw
 - -10257 fatty meat, raw

-Young bluefin tuna

- -10258 raw
- -Big-eye tuna
 - -10259 raw

-canned products

- -10260 flaked light meat in brine
- -10261 flaked white meat in brine
- -10262 flaked meat with seasoning
- -10263 flaked light meat in oil

-10264 flaked white meat in oil

"Yellowfin tuna" is also called Kihadamaguro or Kiwada. "Bluefin tuna" is also called Maguro or Honmaguro. "Fatty meat" refers to a part commonly called Toro. "Albacore" is called Bincho or Tonbo (Japanese for dragonfly) due to its long pectoral fins. "Southern bluefin tuna" is also called Indomaguro (Indian Maguro). "Young bluefin tuna" refers to a fry of tunas, is also called Mameji or Meji in the Kanto region, which refer to especially fried Bluefin tuna, and may also be called Yokowa in the Kyushu region. Young bluefin tuna which is called Mameji was selected as a "raw" sample of "Young bluefin tuna". "Big-eye tuna" is characterized by its big eyes and fat body, and is also called Bachi. The component values of "Albacore", "Big-eye tuna", and "Young bluefin tuna" are each determined based on analytical values, and the component values of "Yellowfin tuna", "Bluefin tuna", and "Southern bluefin tuna" are each determined based on their analytical values, and the component values on the 4th Composition Tables.

"In brine" "canned products" are canned products with salt water added after flaking boiled meat which is made as a by-product when canned tuna products, etc. in brine and in oil are manufactured. "with seasoning" is a canned product of the above flaked meat with a seasoning liquid. "in oil" is a canned product of the above flaked meat with a seasoning liquid. "in oil" is a canned product of the above flaked meat with a seasoning liquid. "in oil" is the raw material for "light" and "Albacore" and also the raw materials for "white". The component values of two "light" products are determined based on analytical values and the component values of two "white" products also "with seasoning" which are determined based on analytical values and the component values on 4th Composition Table ("flaked meat in brine", "flaked meat with seasoning", "in oil").

Patagonian toothfish

-10265 raw

"Patagonian toothfish" is a fish in family Nototheniidae which is also called Mero and inhabits the cold sea area such as the southern most parts of South America at a considerable depth. The component values are determined based on analytical values of imported products.

Silver pomfret

-10266 raw

"Silver pomfret" is caught between the Seto Inland Sea to the East China Sea. It is mainly shipped as fresh fish, and is widely used for boiling, baking, etc. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

Barracuda

-10232 raw

The name of "Barracuda" in the Composition Tables 2010 was changed to "Minamikurotachi" (Japanese for Barracuda, which is unchanged in the English version). It is a different species of Barracuda which is an ally of Japanese spanish mackerel, and is a target for sport fishing. The component values are determined based on analytical values and the component values on 4th Composition Table.

Southern blue whiting

-10267 raw

An imported semi-dressed frozen product of was selected as a sample of "Southern blue whiting". The component values are determined based on analytical values and the component values on 4th Composition

Table.

Gnomefish

-10268 raw

-10269 boiled

"Gnomefish" inhabitate the deep sea off the coast at a depth of 200~700 m. Scombrops gilberti is included in genus Scombrops, family Scombropidae, as well as Gnomefish. The component values of "raw" are determined based on analytical values and the component values on the 4th Composition Tables. The component values "boiled" are determined based on analytical values, the component values on 4th Composition Table, and the retention factors.

Girella

-10270 raw

"Girella" belongs to genus Girella, family Girellidae, it is a reef fish, and can also be called Kure. The component values are determined based on analytical values. Smallscale blackfish in the same genus are a more southern fish than "Girella" and inhabits the vicinity of the open sea.

Japanese stingfish

-10271 raw

"Japanese stingfish" includes three species, Black Japanese stingfish, Red Japanese stingfish, and White Japanese stingfish, whose bodies are black, red, and white, respectively. The component values are determined based on analytical values and the component values on 4th Composition Table.

Hake

-10272 raw

"Hake" is also called Heiku as a loanword and includes many species, but some species are distributed as sliced fish in Japan. The component values are determined based on analytical values and the component values on 4th Composition Table, taking samples from imported frozen products.

Lamprey

-10273 raw

-10274 dried

"Lamprey" is a generic term for fishes in family Petromyzontidae of Cyclostomata and includes Arctic lamprey, Far Eastern brook Lamprey, etc., but Japanese lamprey which is the most popular edible fish was selected as a sample. "Dried" is a dried variety of the fish's whole body as it is. "Raw" component values are determined based on analytical values, and the component values "dried" determined based on analytical values and the component values.

Seema

-10275 cultured, raw

"Seema" is also called Yamabe, it is the same species as "Cherry salmon", a fish which does not swim downstream to the sea, but grows in a river (landlocked type) and has been recently cultured. The component values are determined based on analytical values and the component values on 4th Composition Table.

Japanese smelt

-10276 raw

- -10277 "Tsukudani" (simmered whole in soy sauce and sugar)
- -10278 "Ameni" (simmered whole in glucose syrup and soy sauce)

"Japanese smelt" inhabits a freshwater area and a brackish water area. It can be called Chika in Tohoku region, which is the same name as Hypomesus japonicus, a related marine species. "Tsukudani" is a boiled small-sized fish with a seasoning liquid mainly made of sugar, soy sauce, etc. "Ameni" is a boiled small-sized fish with a seasoning liquid mainly made of soy sauce, glucose syrup, etc. "Raw" component values are determined based on analytical values and the component values on 4th Composition Table, and the component values of "Tsukudani" and "Ameni" are determined based on analytical values of commercial products. Note that iron is reanalyzed for "raw" and the component value was determined based on analytical values (2015).

<SHELLFISHES>

Bloody clam

-10279 raw

"Bloody clam" is a clam characterized by hemoglobin as blood pigments. It is caught in various bays and the inland sea in Japan, and imported products have recently increased. The component values are determined based on analytical values and the component values on 4th Composition Table.

Jackknife clam

-10280 raw

"Jackknife clam" is a clam in family Pharellidae which has a shell like a rectangle with about 10 cm in length and about 2.5 cm in width. It vertically digs mud in the Ariake Sea, etc. for it's habitat. Imported products have recently increased. The component values are determined based on analytical values of imported products.

Short-neck clam

-10281 raw

-10282 "Tsukudani" (simmered meat in soy sauce and sugar)

-canned products

-10283 boiled in brine

-10284 boiled with seasoning

"Short-neck clam" is raised by catching young clams and placing them on the seabed appropriate for growth. It is caught in various areas in Japan, and the import of live clams has also increased. "Tsukudani" is the meat boiled without the shell and viscera with a seasoning liquid mainly made of sugar, soy sauce, Mirin, etc. "boiled in brine" "canned products" are canned products of the meat with salt water after the shell and viscera removed. "Boiled with seasoning" is a canned product of the meat without shell and viscera with a seasoning liquid made of soy sauce, sugar, etc. The component values of "raw" of "Short-neck clam" are determined based on analytical values, and the component values of "Tsukudani" and "canned products" are determined based on analytical values and the component values on 4th Composition Table. Note that iron and manganese were reanalyzed for "boiled in brine" "canned products" and the component values.

Abalone

-10285 raw

-10286 steamed and dried

- -10287 "Shiokara" (salted and fermented)
- -10288 canned in brine

"Abalone" is a species with spiral shells and includes Disk abalone, Ezo abalone, Giant abalone, Megai abalone (*Haliotis discus discus, H. discus hannai, H. madaka, H. gigantea*), etc. Disk abalone, Giant abalone, and Megai abalone were selected as samples for "raw" component values, and the integrated component values are shown. The component values are determined based on analytical values and the component values on 4th Composition Table. "Steamed and dried" refers to dried Abalone after boiling salted meat without shell and viscera then steaming it. "Shiokara" is matured Abalone made after pickling the meat portion and viscera such as intestines of Abalone with salt. "Canned in brine" is a canned product of the meat portion with salt water. The component values of "steamed and dried" are determined based on analytical values, and the component values of "Shiokara" and "canned in brine" are each determined based on analytical values and the component values on the 4th Composition Tables. Note that zinc"canned in brine" was reanalyzed and the component value was determined based on analytical values.

Mussel

-10289 raw

Most edible "Mussel" is Diphos sanguin, and is also called Moule mussel. This clam is a different species from the European one. The component values are determined based on analytical values and the component values on 4th Composition Table.

Japanese scallop

-10290 cultured, raw

"Japanese scallop" is a clam characterized by large round adductor muscle. It inhabits shallow waters across Japan, and in the southern part of Hokkaido. It is also cultured. The component values are determined based on analytical values.

Escargot

-10291 canned in brine

"Escargot" is a land snail in family Helicidae which commonly inhabits Central Europe and "canned in brine" was listed. The component values are determined based on analytical values of imported products without liquids.

Oyster

-10292 cultured, raw

- -10293 cultured, boiled
- -10294 canned in oil, smoked

Cultured Giant pacific oyster which is distributed in the market was selected as a sample of "Oyster". "Raw" component values are determined based on analytical values and the component values on 4th Composition Table. "Boiled" component values are determined based on analytical values, the component values on 4th Composition Table, and retention factors. "Canned in oil, smoked" is a canned product made with edible vegetable oil after smoking meat without the shell and viscera. The component values are determined based on analytical values and the component values on 4th Composition Table.

Turban shell

-10295 raw

-10296 baked

"Turban shell" is a kind of spiral shell mollusk, and cultured ones have been distributed in recent years. "Raw" component values are determined based on analytical values and the component values on 4th Composition Table. The meat portion after baking Turban shell with it's shell and removing viscera, etc. was selected as a "baked" sample. The component values are determined based on analytical values, the component values on 4th Composition Table, and the retention factors.

Ark shell

-10318 canned with seasoning

"Ark shell" is a clam similar to "Bloody clam". The name "Mogai" in the Composition Tables 2010 was changed. "Canned with seasoning" is a canned meat product without the shell and viscera with a seasoning liquid made of soy sauce, sugar, etc., and is commonly distributed as a canned product with "Akagai" (in Japanese for Bloody clam) seasoning. The component values are determined based on analytical values and the component values on 4th Composition Table.

Freshwater clam

-10297 raw

-10413 boiled

"Freshwater clam" is a freshwater or brackish water small-sized clam, and includes Ma-shijimi, Yamato-shijimi, Seta-shijimi (*Corbicula leana, C. japonica, C. sandai*) etc. The component values of "raw" are determined based on analytical values (2015), analytical values and the component values on 4th Composition Table, taking samples from Ma-shijimi and Yamato-shijimi. Newly listed "boiled" component values are determined based on analytical values (2015) and the retention factors.

Pen shell

-10298 adductor muscle, raw

The standard Japanese name is Tairagi. It is a large-sized clam, and the adductor muscle is sold. The component values are determined based on analytical values and the component values on 4th Composition Table, taking samples from commercial products.

Pond snail

-10299 raw

"Pond snail" is a generic term for pond snails which are freshwater snails, and includes Maru-tanishi, O-tanishi, Hime-tanishi, Naga-tanishi (*Cipangopaludina chinensis laeta, C. japonica, Sinotaia quadrata histrica, Heterogen longispira*), etc. as edible ones. The component values are determined based on analytical values and the component values on 4th Composition Table, taking samples from Maru-tanishi and Hime-tanishi.

Whelk

-10300 raw

"Tsubu" (in Japanese for "Whelk") is a common commercial name of north pacific snail which belong to family Buccinidae. The main snails are Ezo-bora (*Neptunea polycostata Scarlato*), Arthritic neptune, Middendorff's baccinum, Angulate baccinum, Double sculptured neptune, etc. The snail called "Tsubu" is a sold

as a frozen product after removing shell, viscera, etc. and boiling the meat. The component values are determined based on analytical values and the component values on 4th Composition Table, taking samples from Ezo-bora, Arthritic neptune and Middendorff's baccinum.

Japanese abalone

-10301 raw

"Japanese abalone" is an variety of "Abalone" and a small-sized snail with a shell length about 7 cm at most. The component values are determined based on analytical values and the component values on 4th Composition Table.

Cockle

-10303 foot, raw

"Cockle" is a species clam. It's meat is normally processed without the shell and viscera, and it's foot muscle (foot) is sold. The component values are determined based on analytical values and the component values on 4th Composition Table.

Whelk and Ivory shell

-10304 raw

"Whelk and Ivory shell" refer to the standard Japanese name, Bai, is a generic term for Finely-striate buccinum, Oecchuu-bai (*Buccinum tenuissimum*), Tsu-bai (*B. tsubai*), Kaga-bai (*B. bayani Jousseaume*), etc. and can sometimes include: Tsubu such as, Chijimi-ezobora (*Neptunea constricta*). The component values are determined based on analysis values and the component values on 4th Composition Table, taking samples from using "*B. tenuissimum*", "*N. constricta*", etc.

Hen clam

-10305 raw

"Hen clam" is a species of clam, it is also called Aoyagi, and is sold in stores as meat without the shell and viscera. Foot and adductor muscles (Kobashira) are used as a sushi or sashimi topping. The component values are determined based on analytical values and the component values on 4th Composition Table.

(Hard clams)

-Hard clam

- -10306 raw
- -10307 boiled
- -10308 baked

-10309 "Tsukudani" (simmered meat in soy sauce and sugar)

-Common shield-clam

-10310 raw

"Hard clam" is a coastal clam. "Tsukudani" is boiled meat without the shell and viscera with a seasoning liquid mainly made of sugar and soy sauce. "Raw" component values are determined based on analytical values. "Boiled" and "Baked" component values are each determined based on analytical values and the retention factors. The component values of "Tsukudani" are determined based on analytical values and the component values on 4th Composition Table. Note that lipid, α -tocopherol and cholesterol of "raw" and "boiled", and α -tocopherol and cholesterol of "baked" were reanalyzed, lipid in "raw" was determined based on analytical

values (2015), analytical values and the component values on 4th Composition Table. The lipid content "boiled" was determined based on analytical values (2015) and the retention factors. Also, "raw" α -tocopherol was determined based on analytical values (2015) and analytical values. "Boiled" and "baked" α -tocopherol values are determined based on analytical values (2015), analytical values and the retention factors. In addition, the cholesterol of "raw" Tsukudani was determined based on analytical values, and the cholesterol content of "boiled" and "baked" Tsukudani was determined based on analytical values (2015), analytical values (2015) and analytical values (2015), analytical

"Common shield-clam" is a native species distributed in the south along a line connecting the Boso Peninsula with the Noto Peninsula in Honshu, Kyushu, <u>etc</u>. It has thick shell and thin meat. It is different from Shina-hamaguri (*Meretrix petechialis*) which is imported from China and Korea. The component values are determined based on analytical values.

Giant ezo-scallop

- -10311 raw
- -10312 boiled
- -adductor muscle
 - -10313 raw
 - -10414 baked
 - -10314 "Niboshi" (boiled and dried)
 - -10315 canned in brine

"Giant ezo-scallop" is a large-sized clam. "Raw" component values are determined based on analytical values, taking samples from wild and cultured clams. "Boiled" component values are determined based on analytical values, the component values on the 4th Composition Table and the retention factors.

A commercial frozen product was used for a sample of "raw" "adductor muscle", and a commercial dried product was used for a sample of "Niboshi". "Niboshi" is dried after boiling and smoking the adductor muscle. "Canned in brine" referes to a canned product of the adductor muscle with salt water. A sample without liquids was used. "Raw" component values are determined based on analytical values (2015), analytical values and the component values of "Niboshi" and "canned in brine" are each determined based on analytical values and the component values on 4th Composition Table, and the component values on 4th Composition Table.

The component values of "baked" "adductor muscle", newly listed, are determined based on analytical values (2015) and the retention factors.

Sakhalin surf clam

-10316 raw

"Sakhalin surf clam" is a clam whose standard Japanese name is Ubagai. It is mainly shipped in its shell, and is sold in stores as meat without shell and viscera, boiled meat without shell and viscera, etc. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

Keen's gaper

-10317 siphon, raw

"Keen's gaper" is a clam whose standard Japanese name is Mirukui, and has a large siphon, which is the common edible portion. The component values are determined based on analytical values, and the component

values on 4th Composition Table.

<PRAWNS, SHRIMP, AND CRABS>

(Prawns and shrimps)

-Northern shrimp

-10319 raw

-Japanese spiny lobster

-10320 raw

-Kuruma prawn

- -10321 cultured, raw
- -10322 cultured, boiled
- -10323 cultured, baked

-Sakura shrimp

-10324 boiled

- -10325 dried
- -10326 "Niboshi" (boiled and dried)

-Chinese prawn

-10327 raw

-Shiba shrimp

-10328 raw

-Whiteleg shrimp

-10415 cultured, raw

-10416 cultured, tempura

-Giant tiger prawn

-10329 cultured, raw

-processed shrimp

-10330 boiled and dried shrimp

-10331 "Tsukudani" (simmered whole in soy sauce and sugar)

"Northern shrimp" is Hokkoku-akaebi (*Pandalus borealis*) is the standard Japanese name, was selected as a sample. The component values are determined based on analytical values and the component values on 4th Composition Table. The shrimp which has been recently sold in a large quantity is Honhokkoku-akaebi (*P. borealis Kroyer*) which is produced in Northern Europe.

The component values of "Japanese spiny lobster" are determined based on analytical values, and the component values on 4th Composition Table.

"Kuruma prawn" is mainly cultured, which was the type selected as a sample. "Raw" component values are determined based on analytical values. The component values of "boiled" and "baked" are determined based on analytical values and the retention factors. Note that iron and α -tocopherol content of "raw" and "boiled" varieties were reanalyzed. Iron content in "raw" was determined based on analytical values (2015), analytical values and the component values on 4th Composition Table, The iron content of "boiled" varieties are determined based on analytical values (2015), analytical values, the component values on 4th Composition

Table, and the retention factors. Also, α -tocopherol content of "raw" was determined based on analytical values (2015) and analytical values. α -tocopherol content of "boiled" prawn was determined based on analytical values (2015), analytical values and the retention factors. Iron and α -tocopherol of "baked" prawn were also reanalyzed.

"Sakura shrimp" is used in Kama-age (a cooking method) in which the shrimp is boiled with salt water for a short time, drained, and cooled. "Dried" is Sakura shrimp as it is and "Niboshi" is dried after boiling Sakura shrimp with salt water. Commercial products were selected as samples of "boiled", "dried", and "Niboshi". The component values are determined based on analytical values, and the component values on 4th Composition Table.

"Chinese prawn" is called Kourai-ebi (*Penaeus chinensis*) in Japan. It is the standard Japanese name, domestic products drastically decreased, and most of the products are imported from China, etc., and the component values are determined based on analytical values of the imported products.

"Shiba shrimp" is a small-sized shrimp mainly caught in inner bays or inland seas. The component values are determined based on analytical values, and the component values on 4th Composition Table.

"Whiteleg shrimp", newly listed, is resistant to dense culturing, and thus the culture has recently increased in Southeast Asia instead of Giant tiger prawn. Frozen shrimp without a head are mainly distributed in Japan. The component values of "cultured, raw" and "cultured, tempura" are each determined based on each analytical value (2015) of imported products.

"Giant tiger prawn" is Ushi-ebi (in Japanese), and a cultured "Giant tiger prawn" in foreign countries which was temporarily distributed in a large quantity was selected as a sample. The component values are determined based on analytical values.

The raw material for "boiled and dried shrimp" is Saru-ebi (*Trachysalambria curvirostris*) which inhabits various areas in Japan. The component values are determined based on analytical values.

"Tsukudani" is boiled one with a seasoning liquid mainly made of sugar and say sauce, and the component values are determined based on analytical values and the component values on 4th Composition Table by using commercial products whose raw materials are small-sized Kuruma prawns as samples.

(Crabs)

- -Blue crab
 - -10332 raw
- -Horsehair crab
 - -10333 raw
 - -10334 boiled
- -Snow crab
 - -10335 raw
 - -10336 boiled
 - -10337 canned products, boiled in brine

-Red king crab

- -10338 raw
- -10339 boiled

-10340 canned products, boiled in brine

-processed crab

-10341 "Ganzuke" (salted and fermented fiddler crabs)

When (Crabs) with shell are boiled, the meat portion can be easily separated from the shell compared to "raw". Therefore, the rate of refuse between "raw" and "boiled" is different in "Horsehair crab", "Snow crab", and "Red king crab".

"Blue crab" is also called Watari-gani. "Horsehair crab" is distributed raw (fresh and living), or boiled in the market. "Snow crab" is also called Taraba-gani, and it's related species is Benizuwai-gani (*Chionoecetes japonicas*). It is widely distributed as a raw crab, or frozen crab after boiling. The component values of "raw" "Blue crab", "Horsehair crab", and "Snow crab" are determined based on analytical values, and the component values on 4th Composition Table. "Red king crab" is a large-sized crab, and its related to the species Hanasaki-gani (*Paralithodes brevipes*). The component values of "raw" "Red king crab" are determined based on analytical values.

The component values of "boiled" of "Horsehair crab" and "Snow crab" are each determined based on analytical values, the component values on 4th Composition Table and the retention factors. The component values of "boiled" "Red king crab" are determined based on analytical values, and the retention factors.

"Canned products, boiled in brine" of "Snow crab" and "Red king crab" are canned products of meat with salt, or salt water after boiling the crab in sea water and taking out the meat. The component values are determined based on analytical values, and the component values on 4th Composition Table.

"Ganzuke" is salted and matured Shiokara containing the whole Shiomaneki (*Uca arcuata*), which is made in the Ariake region in Kyushu. The component values are determined based on analytical values, and the component values on 4th Composition Table.

<CEPHALOPODS>

(Squids and cuttlefishes)

-Neon flying squid

-10342 raw

- -Swordtip squid
 - -10343 raw
- -Golden cuttlefish

-10344 raw

- -Japanese common squid
 - -10345 raw
 - -10346 boiled
 - -10347 baked
 - -10417 mantle, with integument, raw
 - -10418 mantle, without integument, sashimi
 - -10419 mantle, without integument, tempura
 - -10420 arms, tentacles and fins, raw

-Firefly squid

-10348 raw

-10349 boiled

- -10350 seasoned and smoked
- -10351 "Tsukudani" (simmered whole in soy sauce and sugar)

-Spear squid

-10352 raw

-processed squid

- -10353 "Surume" (dried squid)
- -10354 "Saki-ika" (dried, seasoned and shredded squid)
- -10355 seasoned and smoked
- -10356 "Kiriika-ameni" (dried shredded squid, simmered in glucose syrup and soy sauce)
- -10357 "Ika-arare" (dried squid flakes, simmered in glucose syrup and soy sauce)
- -10358 "Shiokara" (salted and fermented meat and liver)
- -10359 canned with seasoning

There are many species of squid and cuttlefish. Squid and cuttlefish are separated into "Neon flying squid", "Swordtip squid", "Golden cuttlefish", and "Spear squid",. "Raw" component values of these species are each determined based on analytical values.

The component values of "raw" "Japanese common squid" are determined based on calculation values from analytical values (2015) of "mantle, with integument, raw" and "arms, tentacles and fins, raw". The component values of "boiled" and "baked" are determined based on analytical values, and the retention factors. The component values of "mantle, with integument, raw", newly listed, are determined based on analytical values (2015). In "mantle, without integument, sashimi", newly listed, viscera, backbone, mouth, etc. were removed by using a ceramic kitchen knife. The component values are determined based on analytical values (2015). The component values of "mantle, without integument, tempura", newly listed, was determined based on analytical values (2015). "arms, tentacles, and fins, raw", newly listed, was taken from portions without "mantle, with integument" after removing viscera, etc. The component values are determined based on analytical values (2015).

"Seasoned and smoked" "Firefly squid" is smoked after boiling the squid with viscera in salt water. "Tsukudani" is boiled Firefly squid with viscera and a seasoning liquid mainly made of sugar, soy sauce, etc. The component values of "raw" and "seasoned and smoked", and "Tsukudani" are each determined based on analytical values and the component values on 4th Composition Table. Commercial products were selected as samples for "seasoned and smoked" and "Tsukudani". The component values of "boiled" are determined based on analytical values, the component values on 4th Composition Table and the retention factors. Note that 11-*cis* retinol which is an isomer of retinol is included in "Firefly squid", but it is not included in retinol amount of this table.

"Surume" is a dried squid made after removing the viscera, especially "Japanese common squid", "Swordtip squid", "Spear squid", etc. The component values are determined based on analytical values and the component values on 4th Composition Table. "Saki-ika" is a shredded and dried squid made after immersing the mantle of Surume with a seasoning liquid, smoking, and extending it. "Seasoned and smoked" is a smoked squid made

after boiling the meat portion without viscera, etc. and immersing it with a seasoning liquid. "Kiriika-ameni" and "Ika-arare" are boiled squid with a seasoning liquid including glucose syrup, etc. after cutting Surume into slices, and thin pieces. "Shiokara" can be made by various methods, but the so called Akadukuri was selected as a sample, it's distribution amount is the most , and which is a matured squid after adding the liver and salt to slices of the squid with integument and without viscera, etc. "Canned with seasoning" is a canned product with a seasoning liquid mainly made of soy sauce and sugar after stuffing the head and arms in a mantle without viscera, integument, eyeballs, etc. The component values of "Saki-ika", "seasoned and smoked", "Kiriika-ameni", "Ika-arare", "Shiokara", and "canned with seasoning" are each determined based on analytical values and the component values on 4th Composition Table, taking samples from commercial products.

(Octopuses)

-Ocellated octopus

-10360 raw

-Common octopus

- -10361 raw
- -10362 boiled

"Ocellated octopus" is a small-sized octopus, and is edible with viscera. In "Common octopus", imported products from overseas are distributed in a large quantity as well as domestic products, and North Pacific giant octopus which is a related species is also used. The whole body with viscera, etc. was selected as a sample for "raw" "Ocellated octopus", and a body without viscera, etc. was selected as samples of "raw" and "boiled" of "Common octopus". "Raw" component values of "Ocellated octopus" are determined based on analytical values, and the component values on 4th Composition Table.

The component values of "boiled" "Common octopus" are determined based on analytical values of commercial products.

<OTHERS>

Opossum shrimp

-10363 "Tsukudani" (simmered whole in soy sauce and sugar)

-10364 "Shiokara" (salted and fermented)

"Opossum shrimp" is remarkably similar to "Antarctic krill", which is a different species. "Tsukudani" is boiled raw Opossum shrimp with a seasoning liquid mainly made of sugar, soy sauce, etc. "Shiokara" is matured after pickling Opossum shrimp with salt. The component values of "Tsukudani" and "Shiokara" are determined based on analytical values of commercial products.

Sea urchin

- -10365 raw gonads
- -10366 "Tsubu-uni" (salted whole gonads)
- -10367 "Neri-uni" (salted whole gonad paste)

Gonads of "Sea urchin" are edible. "Sea urchin" which is edible includes Japanese green sea urchin, Purple sea urchin, Northern sea urchin, Red sea urchin, Japanese green sea urchin, and Purple sea urchin were selected as samples of "raw gonads". The component values are determined based on analytical values, and the component values on 4th Composition Table. "Tsubu-uni" is a matured urchin prepared by adding salt or

alcohol, etc. to the gonads of "Sea urchin" and bottling it. "Neri-uni" is a bottled urchin made by adding salt, alcohol, and seasonings to the gonads and kneading the mixture. The component values of "Tsubu-uni" and "Neri-uni" are determined based on analytical values and the component values on 4th Composition Table, taking samples from commercial products.

Antarctic krill

- -10368 raw
- -10369 boiled

"Antarctic krill" includes Nankyoku-okiami (*Euphausia superb*) produced in the South Pole and Tsunonashi-okiami (*Euphausia pacifica*) caught in the Sanriku Coast of Tohoku. Euphausia superba was selected as a sample. "Raw" is a frozen "Antarctic krill" caught in the Southern Ocean. "Boiled" is "Antarctic krill" caught in the Southern Ocean after boiling it in sea water. The component values are determined based on analytical values and the component values on 4th Composition Table.

Jellyfish

-10370 Salted, desalted

Edible "jellyfish" includes Bizen-kurage (*Rhopilema esculenta*), Echizen-kurage (*Nemopilema nomurai*), etc. The component values are determined based on analytical values and the component values on 4th Composition Table of desalted ones from commercial salted products,.

Mantis shrimp

-10371 boiled

The component values of "Mantis shrimp" are determined based on analytical values and the component values on 4th Composition Table.

Sea cucumber

-10372 raw

-10373 "Konowata" (salted and fermented with viscera)

"Sea cucumber" which is eaten raw is mainly Japanese edible sea-cucumber, which was selected as a sample. "Raw" component values are determined based on analytical values, and the component values on 4th Composition Table. "Konowata" is matured Shiokara prepared after washing the intestines of "sea cucumber" in water, and pickling them with salt A commercial product was selected as a sample. The component values are determined based on analytical values and the component values on 4th Composition Table.

Sea squirt

-10374 raw

-10375 "Shiokara" (salted and fermented meat and viscera)

"Sea squirt", Maboya (*Halocynthia roretzi*) and Akaboya (*H. aurantium*) are mainly edible except for the outer skin. The component values are determined based on analytical values and the component values on 4th Composition Table. "Shiokara" is a matured sea squit prepared after pickling without the outer skin, (muscle), and viscera with salt. The component values are determined based on analytical values of commercial products and the component values on 4th Composition Table.

<SURIMI PRODUCTS>

-10376 "Kanifumi-kamaboko" (imitation crab meat made from surimi)

- -10377 "Kobumaki-kamaboko" (surimi rolled in kombu, steamed)
- -10378 "Sumaki-kamaboko" (steamed kamaboko covered with straw)
- -10379 "Mushi-kamaboko" (steamed kamaboko)
- -10380 "Yakinuki-kamaboko" (baked kamaboko)
- -10381 "Yaki-chikuwa" (baked tubular kamaboko)
- -10382 "Datemaki" (sweet rolled omelet made of egg and surimi)
- -10383 "Tsumire" (boiled red meat fish paste)
- -10384 "Naruto" (boiled stick kamaboko with cross section of red swirl)
- -10385 "Hanpen" (boiled fishcake made of surimi, yam paste and starch)
- -10386 "Satsuma-age" (fried surimi)
- -10387 fish ham
- -10388 fish sausage

<SURIMI PRODUCTS> vary in methods, raw materials, compositions, and additives. Depending on where they are manufactured. Kamaboko's raw materials are surimi prepared by adding salt, and other additives to the fish and kneading it. "Kanifumi-kamaboko" is a colored one made after mixing prepared surimi with concentrated extracts or composite flavors of crabs, forming it into a plate, and boiling it while making fine cuts and rounding it. "Kobumaki-kamaboko" is a boiled surimi made after extending prepared surimi on kombu, and rolling it into a spiral.

"Sumaki-kamaboko" is a boiled surimi made after spreading prepared surimi on makisu ("sushi mat," bamboo mat used in food preparation) and rolling it. "Mushi-kamaboko" is a boiled surimi made after forming prepared surimi, and includes Yakimushi-kamaboko, the surface is baked after solidification. "Yakinuki-kamaboko" is a smoked surimi made after forming prepared surimi. "Yaki-chikuwa" is a smoked surimi made after coiling prepared surimi around a cylindrical skewer and forming it. "Datemaki" is a rolled surimi made after adding salt, other additives, and whole chicken eggs to fish, and baking it evenly. "Tsumire" is a boiled surimi made after adding salt, eggs, and flour to fish, then kneading and forming it.

"Naruto" is a spiral-patterned surimi made after adding salt, eggs, and flour to fish, kneading it and forming it by coiling it with a bamboo cover. "Hanpen" is a boiled surimi that has a porous structure after adding foaming agents such as Japanese yam and natural gums to the kneaded fish. "Satsuma-age" is a kneaded surimi made after adding salt and other additives to fish. It can include other kinds of food such as vegetables, shrimp, and squid, but varieties without such additions are referred to here. "Fish ham" is a product made by adding Tsunagi (a kneaded product mainly made of fish and having additives) to a salted product of fish (including whales, etc.) or the mixture between the salted product and animal meat or vegetable proteins having meat-like structure, filling a film-shaped tube, and heating it. "fish sausage" is a product made by kneading fish with seasoning, spice, starch, edible oils and fats, etc., filling a film-shaped tube, and heating it. "fish sausage" is a product made by kneading fish is 50% or more.

The component values of "Kanifumi-kamaboko" are determined based on analytical values of mixed samples.

The component values of "Surimi products" except "Kanifumi-kamaboko" are determined based on analytical values and the component values on 4th Composition Table, taking samples from mixed products of many products which are distributed in Japan.

References

- 1) Watanabe Tomoko, Yasoshima Mika, Morisaki Kumi: Component values of shark fin (unpublished)
- 2) Abe Tokiharu: Keys to the Japanese fishes fully illustrated in colors, Hokuryukan (1986)
- 3) Fisheries agency: "Guideline on names of fish, mollusks and crustaceans" (2007)
- 4) Fukuda Yu, Yamazawa Masakatsu, Okazaki Emiko: Zenkoku Suisan Kakohin Soran (Comprehensive reference guide on processed marine products in Japan), Korin (2005)

11) Meats

The main items which are common to meats are as follows:

- [1] Meats were separated into middle items, <ANIMAL MEATS>, <POULTRY>, and <OTHERS>. Beef was separated into [Japanese beef cattle], [Dairy fattened steer], [Crossbred (Holstein×Japanese black) steer], [Imported beef] and [Veal], and the component values are each listed for parts. Also, pork was separated into [Large type breed] and [Medium type breed], and the component values are each listed for the parts.
- [2] "lean and fat", "without subcutaneous fat", and "lean" in beef and pork were listed in principle, and "fat" was listed depending on parts. "lean and fat" includes subcutaneous fat and inter-muscular fat of 5 mm in thickness. "Without subcutaneous fat" is a meat in which subcutaneous fat is completely removed and inter-muscular fat is included. "lean" is a meat in which subcutaneous fat and inter-muscular fat are removed (see figure). Note that fat tissues called Sashi between muscle fibers ("intramuscular fat tissue") were treated as a part of "lean".

Subcutaneous fat of commercial beef and pork is a sliced and formed meat from a part of an original fatty layer, and the thickness of the subcutaneous fat is 5 mm based on the current commercial products. Cut meats "inside ham", "outside ham", etc. have thin subcutaneous fat, many of which are 5 mm or less, and thus the original thickness is used as it is if the thickness is 5 mm or less.

- [3] The component values of animal meats and poultry, which account for most meats, vary depending on the components of feed for animals, ages, breeds, and parts of muscle. Therefore, meats of each part were selected as samples from domestic animals and poultry fattened under standard conditions. The component values of animal meats and poultry hardly vary depending on season, and thus seasonal factors are not taken into consideration when obtaining samples.
- [4] Note that components such as some fat soluble vitamins which are not considered to be included in standard production conditions are not measured, but feed makes large influences and they may be detected under some production conditions.
- [5] Commercial meats were selected as samples for wild animals or special flesh and fowl. In these meats, the component values of meat with skin were listed for foods which are commonly edible with skins or subcutaneous fats.
- [6] Foods of land animals which do not have so many kinds or items that they are independently treated were listed as <OTHERS>.
- [7] "baked", "boiled", "Kara age", and "Tonkatsu" were listed as cooked foods, in which the samples identical to those of uncooked foods (raw) were used for cooking and analysis. The summary of cooking methods for each food is shown in Table 16.
- [8] The amount of carbohydrates included in meats is small compared to vegetable foods and it is inappropriate to calculate the value by difference. Therefore, the component values of carbohydrates were generally determined based on analytical values of total sugar.
- [9] L-ascorbic acid is added to many of prepared foods belonging to this food group for prevention of oxidation, and a considerable amount of vitamin C may be shown in the component values. This is shown in remarks.

[10] Regarding "analytical values" and "analytical values (2015)" in the text, see "Notes on Foods" described in the initial part of Chapter 3. (See Page 1)

In the followings, important points to note regarding the component values are described for each food item.



<ANIMAL MEATS>

Wild boar

-11001 meat, lean and fat, raw

The component values of "Wild boar" vary depending on ages, season, etc. "lean and fat" of an adult was selected as a sample and the component values are determined based on analytical values.

Pig, crossbred (domesticated)

-11002 meat, lean and fat, raw

"Pig, crossbred (domesticated)" is a crossbreed of wild boar and pig. The pig is a domesticated wild boar. It is commonly produced by raising a child born to a female pig and a male wild boar. The component values of "lean and fat, raw" are determined based on analytical values.

Rabbit

-11003 meat, lean, raw

Imported products were selected as a sample for "Rabbit", and the component values are determined based on analytical values. It is a domestic rabbit reared for meat.

Cattle

Most commercial beef was separated into "Japanese beef cattle", "Dairy fattened steer", "Crossbred steer" and "Imported beef", and the amount of veal used is small. Brand beef having region names, etc. is sold in the market, but it is caused by the difference of rearing methods, etc. and does not mean special breeds for each brand. "Dairy fattened steer" is mainly sold with a label of "domestic beef". "Crossbred steer" is produced from a hybrid born to female dairy cattle and male Japanese cattle, and it is also mainly sold with a label of "domestic beef".

Beef is evaluated from the amount of marbling of fat included in lean portion (called Shimofuri), and thus the fat content or its relevant components largely vary depending on quality grade judged in beef carcass grading standards. The quality grade whose distribution amount is the most in each category was selected for "Japanese beef cattle", "Dairy fattened steer", and "Crossbred steer", and short grain grade which were reared with feed
was selected for "imported beef".

Part names of beef were listed complying with quality standards on retail meat (see figure). Commercial beef has a simple label such as "loin" or labels for use such as chopped meat, steak, curry, and stew. In this case, loin, chopped meat, steak, curry, and stew are represented by "rib loin", "chuck", "rib loin" or "inside round", and "chuck", respectively.

"Fillet" is muscle with low-fat content, and is sold in one block or slices. Some fat adheres to the surface of the muscle, but the fat on the surface of the muscle was removed as a sample so as to reflect a shape of commercial products.

Names of cut meat in beef



(Note) a dotted line indicates inside parts.

[Japanese beef cattle]

-chuck

- -11004 lean and fat, raw
- -11005 without subcutaneous fat, raw
- -11006 lean, raw
- -11007 fat, raw

-chuck roll

- -11008 lean and fat, raw
- -11009 without subcutaneous fat, raw
- -11010 lean, raw

—rib loin

- -11011 lean and fat, raw
- -11248 lean and fat, roasted
- -11249 lean and fat, boiled
- -11012 without subcutaneous fat, raw
- -11013 lean, raw
- -11014 fat, raw

—sirloin

- -11015 lean and fat, raw
- -11016 without subcutaneous fat, raw
- -11017 lean, raw
- -flank or short plate
 - -11018 lean and fat, raw

-inside round

- -11019 lean and fat, raw
- -11020 without subcutaneous fat, raw
- -11250 without subcutaneous fat, roasted
- -11251 without subcutaneous fat, boiled
- -11021 lean, raw
- -11022 fat, raw

-silver side

- -11023 lean and fat, raw
- -11024 without subcutaneous fat, raw
- -11025 lean, raw

-rump

- -11026 lean and fat, raw
- -11027 without subcutaneous fat, raw
- -11028 lean, raw

-fillet

-11029 lean, raw

Japanese cattle include 4 species, Japanese Black, Japanese Brown Cattle, Japanese Shorthorn, and Japanese Polled, and 90 % or more of reared Japanese cattle are Japanese Black.

The beef quality largely varies even in the same breed, and thus it is graded by quality in the market and the price also largely varies. The production of [Japanese beef cattle] with the quality of "A3" and "A4" in beef carcass grading standards is largest. Therefore, Japanese Black graded as "A3" and "A4" was selected as a sample.

The component values of "lean, raw" and "fat, raw" for each part are determined based on analytical values, except "rib loin" for which the component values are determined based on analytical values (2015). The component values of "lean and fat, raw" and "without subcutaneous fat, raw" are determined by calculation based on analytical values of "lean, raw" and "fat, raw".

The component values of "roasted" and "boiled" for each part are each determined based on the component values of raw and the retention factors.

[Dairy fattened steer]

-chuck

- -11030 lean and fat, raw
- -11031 without subcutaneous fat, raw
- -11032 lean, raw

-11033 fat, raw

-chuck roll

- -11034 lean and fat, raw
- -11035 without subcutaneous fat, raw
- -11036 lean, raw

—rib loin

- -11037 lean and fat, raw
- -11038 lean and fat, roasted
- -11039 lean and fat, boiled
- -11040 without subcutaneous fat, raw
- -11041 lean, raw
- -11042 fat, raw

-sirloin

- -11043 lean and fat, raw
- -11044 without subcutaneous fat, raw
- -11045 lean, raw

-flank or short plate

- -11046 lean and fat, raw
- -11252 lean and fat, roasted

-inside round

- -11047 lean and fat, raw
- -11048 without subcutaneous fat, raw
- -11049 without subcutaneous fat, roasted
- -11050 without subcutaneous fat, boiled
- -11051 lean, raw
- -11052 fat, raw

-silver side

- -11053 lean and fat, raw
- -11054 without subcutaneous fat, raw
- -11055 lean, raw

-rump

- -11056 lean and fat, raw
- -11057 without subcutaneous fat, raw
- -11058 lean, raw
- -fillet
 - -11059 lean, raw
 - -11253 lean, roasted

The dairy fattened steer is a Holstein which has been fattened for up to about 20 months of age from a male calf, and the beef is mainly sold with a label of domestic beef. General dairy fattened bullocks were listed as

[Dairy fattened steer]. Half of [Dairy fattened steer] is graded as "B2" in beef carcass grading standards, which was selected as a sample.

The component values of "lean, raw" and "fat, raw" for each part are determined based on analytical values. The component values of "lean and fat, raw" and "without subcutaneous fat, raw" are determined by calculation based on analytical values of "lean, raw" and "fat, raw".

The component values of "lean and fat, raw" of "flank or short plate" are determined based on analytical values (2015) and analytical values, and the component values of "lean and fat, roasted", newly listed, are determined based on analytical values (2015) and the retention factors. The component values of "lean, raw" and "lean, roasted" of "fillet" are determined based on analytical values (2015).

Note that iodine, selenium, chromium, molybdenum, and biotin of "inside round, without subcutaneous fat, raw", "inside round, without subcutaneous fat, roasted", and "inside round, without subcutaneous fat, boiled" were additionally analyzed, and the component values are each determined based on analytical values (2015).

[Crossbred steer]

-rib loin

- -11254 lean and fat, raw
- -11255 lean and fat, roasted
- -11256 lean and fat, boiled
- -11257 without subcutaneous fat, raw
- -11258 lean, raw
- -11259 fat, raw

-flank or short plate

-11260 lean and fat, raw

-inside round

- -11261 lean and fat, raw
- -11262 without subcutaneous fat, raw
- -11263 without subcutaneous fat, roasted
- -11264 without subcutaneous fat, boiled
- -11265 lean, raw
- -11266 fat, raw
- -fillet

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-11267 lean, raw
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The crossbred steer is a fattened one of cattle born to female Holstein and male Japanese Black, and is mainly sold with a label of domestic beef like diary beef. Crossbred steer from bullocks was listed as [Crossbred steer]. Half or more of [Crossbred steer] is graded as "B2" and "B3" in beef carcass grading standards, which was selected as a sample.

The component values of "lean, raw" and "fat, raw" for each part of "crossbred steer", newly listed, are determined based on analytical values (2015).

The component values of "lean and fat, raw" and "without subcutaneous fat, raw" are determined by calculation based on analytical values (2015) of "lean, raw" and "fat, raw".

The component values of "lean and fat, roasted", "lean and fat, boiled", "without subcutaneous fat, roasted", and "without subcutaneous fat, boiled" are determined based on analytical values (2015) and the retention factors.

[Imported beef]

-chuck

- -11060 lean and fat, raw
- -11061 without subcutaneous fat, raw
- -11062 lean, raw
- -11063 fat, raw

-chuck roll

- -11064 lean and fat, raw
- -11065 without subcutaneous fat, raw
- -11066 lean, raw

-rib loin

- -11067 lean and fat, raw
- -11268 lean and fat, roasted
- -11269 lean and fat, boiled
- -11068 without subcutaneous fat, raw
- -11069 lean, raw
- -11070 fat, raw

-sirloin

- -11071 lean and fat, raw
- -11072 without subcutaneous fat, raw
- -11073 lean, raw

-flank or short plate

-11074 lean and fat, raw

-inside round

- -11075 lean and fat, raw
- -11076 without subcutaneous fat, raw
- -11270 without subcutaneous fat, roasted
- -11271 without subcutaneous fat, boiled
- -11077 lean, raw
- -11078 fat, raw

-silver side

- -11079 lean and fat, raw
- -11080 without subcutaneous fat, raw
- -11081 lean, raw

-rump

-11082 lean and fat, raw

-11083 without subcutaneous fat, raw

-11084 lean, raw

-fillet

-11085 lean, raw

While grass is used as the main feed in the mainstream method for rearing cattle in foreign countries, grains are used as the main feed for rearing cattle for Japan.

[Imported beef] is imported as refrigerated or frozen beef mainly from Australia and US. The main breeds are cattle dedicated to beef such as Angus and Hereford, but breeds of [Imported beef] are not identified. Grading standards for [Imported beef] are different between countries and these standards do not correspond to Japanese standard. Therefore, cattle of standard quality (short grain grade) which were reared with grains as the main feed in Australia and New Zealand were selected as a sample.

The component values of "lean, raw" and "fat, raw" of "chuck" are determined based on analytical values. The component values of "lean and fat, raw" and "without subcutaneous fat, raw" are determined by calculation based on analytical values of "lean, raw" and "fat, raw".

The component values of "lean, raw" of "chuck roll" are determined based on analytical values. The component values of "lean and fat, raw" and "without subcutaneous fat, raw" are determined by calculation based on analytical values of "lean, raw".

The component values of "lean, raw" and "fat, raw" of "rib loin" are determined based on analytical values. The component values of "lean and fat, raw" and "without subcutaneous fat, raw" are determined by calculation based on the component values of "lean, raw" and "fat, raw". The component values of "lean and fat, roasted" and "lean and fat, boiled", newly listed, are determined based on analytical values (2015) and the retention factors.

The component values of "lean, raw" of "sirloin" are determined based on analytical values. The component values of "lean and fat, raw" and "without subcutaneous fat, raw" are determined by calculation based on analytical values of "lean, raw".

The component values of "lean and fat, raw" of "flank or short plate" are determined by calculation based on analytical values.

The component values of "lean, raw" and "fat, raw" of "inside round" are determined based on analytical values. The component values of "lean and fat, raw" and "without subcutaneous fat, raw" are determined by calculation based on analytical values (2015) and analytical values of "lean, raw" and "fat, raw". The component values of "without subcutaneous fat, roasted" and "without subcutaneous fat, boiled", newly listed, are determined based on analytical values (2015) and the retention factors.

The component values of "lean, raw" of "silver side" are determined based on analytical values. The component values of "lean and fat, raw" and "without subcutaneous fat, raw" are determined by calculation based on analytical values of "lean, raw".

The component values of "lean, raw" of "rump" are determined based on analytical values. The component values of "lean and fat, raw" and "without subcutaneous fat, raw" are determined by calculation based on analytical values of "lean, raw".

The component values of "lean, raw" of "fillet" are determined based on analytical values.

[Veal]

-rib loin

-11086 without subcutaneous fat, raw

-flank or short plate

-11087 without subcutaneous fat, raw

-inside round

-11088 without subcutaneous fat, raw

Calf meat called "white" was selected as a sample for [Veal]. Little subcutaneous fat adheres to [Veal], and thus it is categorized into "without subcutaneous fat".

The component values of "without subcutaneous fat, raw" of "rib loin", "flank or short plate", and "inside round" are each determined based on analytical values.

[Ground meat]

-11089 raw

-11272 stir-fried

A product with about 15% of fat content which is sold as "good quality ground meat" was selected as a sample for [Ground meat]. The component values of "raw" are determined based on analytical values (2015) and the component values on the 4th Composition Tables. The component values of "stir-fried" are determined based on analytical values (2015) and the retention factors by using a stir-fried one without oil in a Teflon (fluoro-resin) frying pan.as a sample. Note that fat content varies in meat parts of raw materials.

[Offal and by-products]

-tongue					
-11090	raw				
-11273	roasted				
-heart					
-11091	raw				
-liver					
-11092	raw				
-kidney					
-11093	raw				
-rumen					
-11094	boiled				
-reticulum					
-11095	boiled				
-omasum					
-11096	raw				
—abomasun	n				
-11097	boiled				
-small inter	stine				
-11098	raw				

large intestine
11099 raw
rectum
11100 raw
sinew
11101 boiled
uterus
11102 boiled
tail
11103 raw
outside skirt
11274 raw

Products which were pretreated and sold in a shape of materials for cooking were selected as a sample for [Offal and by-products]. In [Offal and by-products], much fat adheres around stomachs and intestines, and its fat content largely varies depending on processing and forming methods. Products whose fat was removed as much as possible were selected as an analysis sample in order to clarify fat-soluble components eaten as foods. Also in most of the offal and by-products which are sold as foods, the fat is removed. However, what is called "Marucho" which is a cylindrical intestine in small intestines is provided without removing much fat, and thus its component values are considered to be different from the component values of "11098 Beef, offal and by-products, small intestine" in this composition table. Note that cattle breeds are not commonly identified in distribution of [Offal and by-products].

The component values of "raw" of "heart", "liver", "kidney", and "tail" are each determined based on analytical values and the component values on the 4th Composition Tables. The component values of other foods are each determined based on analytical values.

The component values of "raw" of "tongue" and "roasted" of "tongue", newly listed, are determined based on analytical values (2015). Note that component values of "liver" are easily affected by given feed and some component values vary depending on rearing conditions. Note that retinol content of "liver" is largely decreased from the value on the 4th Composition Tables. This reflects the decrease of retinol amount included in feed for cattle.

These [Offal and by-products] are often shown in stores under other names written on remarks, and these names are different between regions, etc. "tongue", "heart", "liver", and "kidney" are also called "Tan", "Hatsu", "Reba", and "Mame", respectively. A stomach is separated into four parts, and the largest one is "rumen", in which the part of muscle layers is called "Mino".

"Reticulum" has small folds distributed in the honeycomb pattern (Hachinosu in Japanese) and is also called "Hachinosu".

"Omasum" has inner mucous membranes arranged in thin folds and is also called "Senmai" (Thousand sheets) after this shape. The "abomasum" is soft and reddish, and is also called "Akasenmai".

"Small intestine" is about 30 meter in length and also called "Himo". "large intestine" has thicker meat than the small intestine and is also called "Shimacho".

"Rectum" is a part located in the end of intestines and is also called "Teppou".

"Sinew" is a part made of connective tissues connecting muscle with bones and is also called "Suji".

"Uterus" is a female reproductive organ and is also called "Kobukuro", in which muscle layers are edible.

"Tail" is also called "Teru" (a loanword of tail in Japan).

"Outside skirt", newly listed, is originally not viscera but skeletal muscle, but is classified into offal and by-products in business practices and is also called "Harami" or "Sagari". The component values are determined based on analytical values (2015).

All the names of these [Offal and by-products] were listed in remarks.

[Beef products]

- -11104 roast beef
- -11105 corned beef, canned
- -11106 canned with seasoning
- -11107 beef jerky
- -11108 smoked tongue

Commercial [Beef products] are seasoned with salt, seasoning, etc. and thus component values vary depending on products. The component values of "beef jerky" and "smoked tongue" are determined based on analytical values, and the component values of others (Beef products; "roast beef", "corned beef, canned" and "canned with seasoning") are determined based on analytical values and the component values on the 4th Composition Tables.

Horse

-11109 meat, lean, raw

"Horse" is mainly imported products from Argentina, etc. The component values are determined based on analytical values and the component values on the 4th Composition Tables by using "lean" for which fat tissue was removed as a sample.

Whale

- -11110 lean, raw
- -11111 ventral groove meat, raw
- -11112 blubber, raw
- -11113 "Sarashi-kujira"(salted, sliced and boiled tail fluke)

Minke whale is mainly edible at present, which was selected as a sample for "Whale". "lean" is mainly sold as frozen meat. "ventral groove meat" is a stripe-shaped slit part in the abdominal side and is used for raw materials for whale bacon. "blubber" is a black skin in the dorsal side and the inside fat of the skin. While it was used for producing whale oil in the past, it is eaten as sashimi, etc. at present. "Sarashi-kujira" is a boiled one to remove fat after salting meat in the root of the whale tail and slicing it. The component values are determined based on analytical values.

Deer

-11114 red deer, lean, raw

-11275 Japanese sika deer, lean, raw

"Deer" is mainly imported products from New Zealand and Australia, which was reared in a ranch. On the

other hand, wild deer has been recently caught for the purpose of the extermination of harmful ones and the arrangement of population in measures on wildlife damage in Japan, and supplied as edible meat.

The wild one of Japanese sika deer which was processed to be meat without rearing soon after caught in Japan was selected as a sample for "Japanese sika deer", newly listed. Note that the deer which was processed to be meat after caught and reared for a short time, which has recently increased, may be different in the components, etc. from the one which was processed to be meat soon after caught. The component values of "Japanese sika deer, lean, raw" are determined based on analytical values (2015).

The name for "deer" in the Composition Tables 2010 was changed to "red deer". Red deer is a related species to Japanese sika deer and accounts for most of the imported deer meat. The component values are determined based on analytical values.

Swine

The component values of "lean, raw" and "fat, raw" are determined based on analytical values. The component values of "lean and fat, raw" and "without subcutaneous fat, raw" are determined by calculation based on analytical values of "lean, raw" and "fat, raw". The component values of "roasted" and "boiled" are determined based on analytical values and the retention factors.

[Large type breed]

-picnic shoulder

- -11115 lean and fat, raw
- -11116 without subcutaneous fat, raw
- -11117 lean, raw
- -11118 fat, raw

-Boston butt

- -11119 lean and fat, raw
- -11120 without subcutaneous fat, raw
- -11121 lean, raw
- -11122 fat, raw

-loin

- -11123 lean and fat, raw
- -11124 lean and fat, roasted
- -11125 lean and fat, boiled
- -11276 lean and fat, "Tonkatsu"(breaded and fried pork)
- -11126 without subcutaneous fat, raw
- -11127 lean, raw
- -11128 fat, raw
- -belly
 - -11129 lean and fat, raw
 - -11277 lean and fat, roasted
- -inside ham
 - -11130 lean and fat, raw

- -11131 without subcutaneous fat, raw
- -11132 without subcutaneous fat, roasted
- -11133 without subcutaneous fat, boiled
- -11134 lean, raw
- -11135 fat meat, raw

-outside ham

- -11136 lean and fat, raw
- -11137 without subcutaneous fat, raw
- -11138 lean, raw
- -11139 fat, raw
- -fillet
 - -11140 lean, raw
 - -11278 lean, roasted
 - -11279 lean, "Tonkatsu"(breaded and fried pork)

A large type crossbred accounts for most of the commercial "pork", and five to six month-old swine with about 100 kg of weight is edible. Older swine or little swine is hardly eaten and feed is similar between them, and thus component values do not largely vary. Some commercial brand swine which is given special feed may be different in the component values. Standard pork of a large type crossbred which is graded as "good" in pork carcass trading standards was selected as a sample. Part names of pork were listed complying with quality standards on retail meat (see figure).

Names of cut meat in pork



(Note) a dotted line indicates inside parts.

The component values of "lean, raw" and "fat, raw" of "picnic shoulder" are determined based on analytical values. The component values of "lean and fat, raw" and "without subcutaneous fat, raw" are determined by calculation based on analytical values of "lean, raw" and "fat, raw".

The component values of "lean, raw" and "fat, raw" of "Boston butt" are determined based on analytical values. The component values of "lean and fat, raw" and "without subcutaneous fat, raw" are determined by calculation based on analytical values of "lean, raw" and "fat, raw".

The component values of "lean, raw" and "fat, raw" of "loin" are determined based on analytical values. The component values of "lean and fat, raw" and "without subcutaneous fat, raw" are determined by calculation based on analytical values of "lean, raw" and "fat, raw". The component values of "lean and fat, roasted" and "lean and fat, boiled" are determined based on analytical values and the retention factors. The component values of "lean and fat, Tonkatsu" of "loin", newly listed, are determined based on analytical values (2015).

The component values of "lean and fat, raw" of "belly" are determined based on analytical values (2015) and analytical values. The component values of "lean and fat, roasted" of "belly", newly listed, are determined based on analytical values (2015) and the retention factors.

The component values of "lean, raw" and "fat, raw" of "inside ham" are determined based on analytical values. The component values of "lean and fat, raw" and "without subcutaneous fat, raw" are determined by calculation based on analytical values of "lean, raw" and "fat, raw". The component values of "without subcutaneous fat, roasted" and "without subcutaneous fat, boiled" are determined based on analytical values and the retention factors.

"Fillet" is muscle with small fat content and is sold in one block or slices. Some fat adheres to the surface of the muscle, but the component values of "lean, raw", and "lean, roasted" and "lean, Tonkatsu", newly listed, are determined based on analytical values (2015) of the muscle whose fat on the surface was removed so as to reflect the shape of commercial products.

Note that iodine, selenium, chromium, molybdenum, and biotin of "inside ham, without subcutaneous fat, raw", "inside ham, without subcutaneous fat, roasted", and "inside ham, without subcutaneous fat, boiled" were additionally analyzed, and the component values are each determined based on analytical values (2015).

[Medium type breed]

-picnic shoulder

- -11141 lean and fat, raw
- -11142 without subcutaneous fat, raw
- -11143 lean, raw
- -11144 fat, raw

-Boston butt

- -11145 lean and fat, raw
- -11146 without subcutaneous fat, raw
- -11147 lean, raw
- -11148 fat, raw

-loin

- -11149 lean and fat, raw
- -11150 without subcutaneous fat, raw
- -11151 lean, raw
- -11152 fat, raw

-belly

-11153 lean and fat, raw

-inside ham

- -11154 lean and fat, raw
- -11155 without subcutaneous fat, raw
- -11156 lean, raw
- -11157 fat, raw

-outside ham

- -11158 lean and fat, raw
- -11159 without subcutaneous fat, raw
- -11160 lean, raw
- -11161 fat, raw

-fillet

-11162 lean, raw

A medium type is a slightly smaller breed than a large type and the present production is small. Berkshire which is one of medium types is sold as black swine, which was selected as a sample.

The component values of "lean, raw" and "fat, raw" of "picnic shoulder" are determined based on analytical values. The component values of "lean and fat, raw" and "without subcutaneous fat, raw" are determined by calculation based on analytical values of "lean, raw" and "fat, raw".

The component values of "lean, raw" and "fat, raw" of "Boston butt" are determined based on analytical values. The component values of "lean and fat, raw" and "without subcutaneous fat, raw" are determined by calculation based on analytical values of "lean, raw" and "fat, raw".

The component values of "lean, raw" and "fat, raw" of "loin" are determined based on analytical values. The component values of "lean and fat, raw" and "without subcutaneous fat, raw" are determined by calculation based on analytical values of "lean, raw" and "fat, raw".

The component values of "lean and fat, raw" of "belly" are determined based on analytical values.

The component values of "lean, raw" and "fat, raw" of "inside ham" are determined based on analytical values. The component values of "lean and fat, raw" and "without subcutaneous fat, raw" are determined by calculation based on analytical values of "lean, raw" and "fat, raw".

The component values of "lean, raw" and "fat, raw" of "outside ham" are determined based on analytical values. The component values of "lean and fat, raw" and "without subcutaneous fat, raw" are determined by calculation based on analytical values of "lean, raw" and "fat, raw".

The component values of "lean, raw" of "fillet" are determined based on analytical values.

[Ground meat]

- -11163 raw
- -11280 stir-fried

A product with about 15 % of fat content which is sold as good quality ground meat was selected as a sample for [Ground meat]. The component values of "raw" are determined based on analytical values (2015) and analytical values. The component values of "stir-fried", newly listed, are determined based on analytical values

(2015) and the retention factors by using a stir-fried one without oil in a Teflon (fluoro-resin) frying pan as a sample. Note that fat content varies in meat parts of raw materials.

[Offal and by-products]

-tongue					
-11164	raw				
-heart					
-11165	raw				
-liver					
-11166	raw				
-kidney					
-11167	raw				
-stomach					
-11168	boiled				
-small intestine					
-11169	boiled				
-large intestine					
-11170	boiled				
-uterus					
-11171	raw				
-feet					
-11172	boiled				
-cartilage					
-11172	boiled				

Products which were pretreated and sold in a shape of materials for cooking were selected as a sample for [Offal and by-products]. The component values of "stomach", "small intestine", "large intestine", "uterus", and "cartilage" are each determined based on analytical values. The component values of other foods (Offal and by-products; "tongue", "heart", "liver", kidney" and "feet") are each determined based on analytical values and the component values on the 4th Composition Tables. The foods are often shown in stores under other names written on remarks, and these names are different between regions, etc.

"Tongue", "heart", "liver", "kidney", "stomach", and "small intestine" are also called "Tan", "Hatsu", "Reba", "Mame", "Gatsu", and "Himo", respectively. "uterus" is a female reproductive organ and is also called "Kobukuro", in which muscle layers are edible. "feet" is a lower part of forelimbs or hindlimbs of swine, is mainly made of skin, sinews, connective tissue, and bones, and includes little meat. "cartilage" is also called "Fuegarami" and is a windpipe, a part of esophagi, and its associated cartilage portion.

All the names of these [Offal and by-products] were listed in remarks.

[Hams]

- -11174 bone-in ham
- -11175 boneless ham
- -11176 loin ham

-11177 shoulder ham

- -uncooked ham
 - -11181 fresh
 - -11182 ripened

[Pressed hams]

- -11178 pressed ham
- -11180 chopped ham

[Bacon]

bacon

- -11184 loin bacon
- -11185 shoulder bacon

[Sausages]

-11186	Vienna sausage
-11187	semi-dry sausage
-11188	dry sausage
-11189	Frankfurter sausage
-11190	Bologna sausage
-11191	Lyoner sausage
-11192	liver sausage
-11193	mixed sausage with fish meat
-11194	fresh sausage
[Others]	
-11195	roast pork

-11196	liver paste
11170	inver puble

- -11197 smoked liver
- -11198 gelatin

Products complying with Japanese Agricultural Standards (JAS) were selected as a sample for foods in JAS.

In [Hams], raw materials of "bone-in ham" and "boneless ham", "loin ham", and "shoulder ham" are inside ham, loin, and picnic shoulder of pork, respectively. The names for "bone-in", "boneless", "loin", and "shoulder" in the Composition Tables 2010 were changed. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

"Fresh" of "uncooked ham" is a smoked one after salting inside ham or loin and drying it at low temperature, and "ripened" is a long-time matured one after salting, drying, and smoking meat block. The component values of "fresh" and "ripened" are determined based on analytical values.

In [Pressed hams], "pressed ham" is a processed product made by hardening 10 g or more of small pieces of animal meat or poultries, in which the percentage of binders other than meat is 5 % or less. Meat other than pork is also used at the variable blending ratio, and binders, seasoning and spices are used as secondary materials depending on the meat blending of raw materials, and thus components largely vary between products. "chopped ham" is not defined in JAS, but meat other than pork or secondary materials are used like pressed ham.

They are recategorized from [Hams] in the Composition Tables 2010 to an independent category as [Pressed hams], and the names for "pressed" and "chopped" were changed. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

In [Bacon], raw materials of "bacon", "loin bacon", and "shoulder bacon" are belly, loin, and picnic shoulder of pork, respectively. The names for "loin" and "shoulder" in the Composition Tables 2010 were changed. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

In [Sausages], various meat which is raw materials, binding materials, seasoning, spices, etc. are used and thus components largely vary between products. "Vienna sausage" is a product in sheep casing or with a thickness of less than 20 mm, "semi-dry sausage" is a product with moisture of 55 % or less, "dry sausage" is a product with moisture of 35 % or less, "Gry sausage" is a product with moisture of 35 % or less, "Frankfurter sausage" is a product in swine casing or with a thickness of 20 mm or more and less than 36 mm, and "Bologna sausage" is a product in cattle casing or with a thickness of 36 mm or more. "Lyoner sausage" is a product in which vegetables, grains, meat products, food sources, etc. are added to meat of raw materials. "liver sausage" is a product in which only livers of domestic animals, poultries, or domestic rabbits are used as viscera for raw materials. "mixed sausage with fish meat" is a product having fish of 15% or more and less than 50% instead of animal meat for raw materials. "fresh sausage" is a generic term for unheated ones in sausages.

The names for "Vienna", "semi-dry", "dry", "Frankfurter", "Bologna", "Lyoner", "liver", and "mixed with fish meat" in the Composition Tables 2010 were changed.

The component values of "fresh sausage" are determined based on analytical values, and the component values of other foods (Sausages; except for "fresh sausage") are determined based on analytical values and the component values on the 4th Composition Tables.

Commercial products which were heated after seasoning pork with seasoning such as sugar or soy sauce were selected as a sample for "roast pork" of [Others]. "liver paste" is a processed product using livers in which pork, lard, seasoning, and spices are used as secondary materials. "smoked liver" is a smoked product of livers in which seasoning or spices are used as secondary materials. Various secondary materials are used for both, and thus components largely vary between products. "gelatin" is a heat-denatured and solubilized collagen for which main raw materials are skin and bones of cattle and swine, and powdered commercial products for which raw materials are swine skin were selected as a sample.

The component values of "smoked liver" are determined based on analytical values, and the component values of other foods (Others; "roast pork", "liver paste" and "gelatin") are determined based on analytical values and the component values on the 4th Composition Tables.

Sheep

[Mutton]

loin
11199 lean and fat, raw
11281 lean and fat, roasted
leg

-11200 lean and fat, raw

[Lamb]

-shoulder

-11201 lean and fat, raw

-loin

-11202 lean and fat, raw

-11282 lean and fat, roasted

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-\log
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-11203 lean and fat, raw

-11283 lean and fat, roasted

-11179 pressed, mixed with fish meat

Sheep meat in one year or more of life is called [Mutton] and sheep meat in less than one year of life is called [Lamb]. Most of them are imported products from New Zealand and Australia, which were selected as a sample.

The component values of "lean and fat, raw" of "loin" of [Mutton] are determined based on analytical values (2015) and analytical values. The component values of "lean and fat, roasted" of "loin", newly listed, are determined based on analytical values (2015) and the retention factors. The component values of "lean and fat, raw" of "leg" are determined based on analytical values and the component values on the 4th Composition Tables.

The component values of "lean and fat, raw" of "shoulder" of [Lamb] are determined based on analytical values and the component values on the 4th Composition Tables. The component values of "lean and fat, raw" of "loin" are determined based on analytical values (2015) and analytical values. The component values of "lean and fat, roasted" of "loin", newly listed, are determined based on analytical values (2015) and the retention factors. The component values of "lean and fat, raw" of "leg" are determined based on analytical values (2015) and analytical values. The component values of "lean and fat, raw" of "leg" are determined based on analytical values (2015) and analytical values. The component values of "lean and fat, raw" of "leg" are determined based on analytical values (2015) and analytical values. The component values of "lean and fat, roasted" of "leg", newly listed, are determined based on analytical values (2015) and analytical values. The component values of "lean and fat, roasted" of "leg", newly listed, are determined based on analytical values (2015) and the retention factors.

"pressed, mixed with fish meat" had been listed in [Hams] of swine in the Composition Tables 2010, but a product for which [Mutton] is main raw materials was selected as a sample, and thus it was recategorized to a processed product of "Sheep". The component values are determined based on analytical values and the component values on the 4th Composition Tables.

Goat

-11204 meat, lean, raw

"Goat" which is produced in Japan for edible meat is mainly produced in Okinawa prefecture and Kagoshima prefecture. The component values are determined based on analytical values and the component values on the 4th Composition Tables, taking samples from leg and loin.

<POULTRIES>

Japanese quail

-11207 meat with skin, raw

The component values are determined based on analytical values and the component values on the 4th

Composition Tables, taking samples from "with skin" of domestic "Japanese quail".

Goose

-11239 foie gras, boiled

"foie gras" in the Composition Tables 2010 was listed to "foie gras" of "Goose". "foie gras" is an expanded liver of geese fattened under a special method. The component values are determined based on analytical values of imported products.

Duck

-Duck, wild

-11208 meat without skin, raw

-Duck, crossbred (domesticated)

-11205 meat with skin, raw

-Duck, domesticated

-11206 meat with skin, raw

- -11247 meat without skin, raw
- -11284 skin, raw

"Duck, crossbred", "Duck, domesticated", and "Duck" in the Composition Tables 2010 were arranged and listed as "Duck".

"Duck, wild" is a wild one. The name for "Duck" in the Composition Tables 2010 was changed. The component values are determined based on analytical values of imported products.

"Duck, crossbred" is a crossbred between "Duck, wild" which is a wild one and "Duck, domesticated" which is a domesticated one. The component values are determined based on analytical values of "with skin". Note that meat distributed as "Duck, crossbred" includes some meat of breeds falling into "Duck, domesticated", but it is not included in "Duck, crossbred" of this table.

"Duck, domesticated" is a domesticated one of "Duck, wild". A product imported as Peking duck, which is Peking type or its improved type, was selected as a sample. "meat without skin, raw" and "skin, raw" are newly listed. Meat and skin near "breast" and "thigh" in the same individual were selected as samples for "meat without skin, raw" and "skin, raw", respectively. The component values of "meat without skin, raw" and "skin, raw" are "skin, raw" are each determined based on analytical values (2015). The component values of "meat with skin, raw" are determined by calculation based on the component values of "meat without skin, raw" and "skin, raw".

Common pheasant

-11209 meat without skin, raw

The component values of "Common pheasant" are determined based on analytical values of breast, thigh, and tender of imported products from Canada.

Turkey

-11210 meat without skin, raw

The component values of "Turkey" are determined based on analytical values of breast meat of imported products from France.

Sparrow

-11211 meat with bones and skin, raw

"Sparrow" is imported and used for roast meat with seasoning. The component values are determined based on analytical values and the component values on the 4th Composition Tables, taking samples from imported products.

Chicken

Most of the chicken in the market is young chicken meat (broiler) and a fattened one of a crossbred dedicated for meat. Naturally grown chicken and special-brand chicken are produced under specific conditions such as breeds, feed, and rearing periods, whose the component values may be different from broiler's. However, they largely vary depending on rearing conditions such as feed and thus they were not listed.

The subcutaneous fat is not included in "without skin" of "breast" and "thigh". The component values of "with skin" of "breast" and "thigh" are each determined by calculation based on analytical values of "without skin" and "skin, raw" and the weight ratio.

[Culled]	
-wing	
-11212	meat with skin, raw
-breast	
-11213	meat with skin, raw
-11214	meat without skin, raw
—thigh	
-11215	meat with skin, raw
-11216	meat without skin, raw
-tender	

-11217 raw

A layer (culled chicken) with low egg production rate was selected as a sample for [Culled]. The component values of parts are each determined based on analytical values and the component values on the 4th Composition Tables.

[Broiler]

-wing	
-11218	meat with skin, raw
—wing tip	
-11285	meat with skin, raw
-wing sticl	k
-11286	meat with skin, raw
-breast	
-11219	meat with skin, raw
-11287	meat with skin, roasted
-11220	meat without skin, raw
-11288	meat without skin, roasted
—thigh	
-11221	meat with skin, raw

- -11222 meat with skin, roasted
- -11223 meat with skin, boiled
- -11289 meat with skin, "Karaage" (floured and deep-fried chicken)
- -11224 meat without skin, raw
- -11225 meat without skin, roasted
- -11226 meat without skin, boiled
- -11290 meat without skin, "Karaage" (floured and deep-fried chicken)

-tender

- -11227 raw
- -11228 roasted
- -11229 boiled

The names of parts of chicken are provided in the chicken retail standard. The component values of "meat with skin, raw" of "wing" of [Broiler] are determined by calculation based on the component values of "Wing tip" and "wing stick".

"wing tip", newly listed, is a wing whose upper arm part was removed and a part made of "Wing slap" and "the end of wing tip". The component values are determined based on analytical values (2015).

"Wing stick", newly listed, is an upper arm part in a wing. The component values are determined based on analytical values (2015).

The component values of "meat without skin, raw" of "breast" are determined based on analytical values of domestic broilers, and the component values of "meat with skin, raw" are determined by calculation based on the component values of "meat without skin, raw" and "skin". The component values of "meat with skin, roasted" and "meat without skin, roasted", newly listed, are determined based on analytical values (2015) and the retention factors.

The component values of "meat with skin, raw" and "meat without skin, raw" of "thigh" are determined based on analytical values (2015) of domestic broilers. The component values of "meat with skin, roasted", "Meat with skin, boiled", "meat without skin, roasted", and "meat without skin, boiled" are determined based on the component values before cooking, analytical values and the retention factors. The component values of "Meat with skin, Karaage" and "meat without skin, Karaage", newly listed, are determined based on analytical values (2015).

The component values of "raw" of "tender" are determined based on analytical values of domestic broilers. The component values of "roasted" and "boiled" are determined based on analytical values and the retention factors.

[Ground meat]

- -11230 raw
- -11291 stir-fried

The component values of "raw" are determined based on analytical values (2015) and analytical values of commercial products. The component values of "stir-fried" are determined based on analytical values (2015) and the retention factors by using a stir-fried one without oil in a Teflon (fluoro-resin) frying pan as a sample. Note that components largely vary depending on meat parts, etc. which are raw materials.

[Offal and by-products]

-heart
-11231 raw
-liver
-11232 raw
-gizzard
-11233 raw
-skin
-11234 breast, raw
-11235 thigh, raw
-cartilage bone
-11236 raw

Products which were pretreated and sold in a shape of materials for cooking were selected as a sample for [Offal and by-products]. The component values of "skin" and "cartilage bone" are determined based on analytical values, and the component values of other foods are each determined based on analytical values and the component values on the 4th Composition Tables. "gizzard" is sold with a label of Sunagimo. "Cartilage bone" is a cartilage part of breastbones which is also called Yagen.

[Others]

-11237 roast meat with seasoning

-11292 nuggets

-11293 "Tsukune" (Japanese chicken meatball)

These are cooked foods of chicken and the component values vary depending on raw materials or production methods.

The component values of "roast meat with seasoning" are determined based on analytical values and the component values on the 4th Composition Tables, taking samples from a product with liquid.

"nuggets" and "Tsukune" are newly listed. The components of "nuggets" and "Tsukune" vary depending on secondary materials or seasoning, etc.

"nuggets" is a fried one after salting and kneading ground meat of chicken, and battering it, and commercial products which were heated to be eaten as they are were selected as a sample. The component values are determined based on analytical values (2015).

"Tsukune" is a heated one after adding seasoning or secondary materials to ground meat of chicken and preparing it into the shape of a ball, and commercial products which were heated and seasoned with a seasoning liquid, etc. to be eaten as they are were selected as a sample. The component values are determined based on analytical values (2015).

Pigeon

-11238 meat without skin, raw

Imported products from France were selected as a sample. The component values are determined based on analytical values. Note that the skin may be also eaten.

Guinea fowl

-11240 meat without skin, raw

Imported products from France were selected as a sample and the component values are determined based on analytical values.

<OTHERS>

Rice hopper

-11241 Tsukudani (simmered whole without wings and legs in soy sauce and sugar)

"Tsukudani" is a boiled one after adding sugar and soy sauce. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

Frog

-11242 meat, raw

Legs of a bullfrog were selected as a sample. The component values are determined based on analytical values of imported products from Taiwan.

Chinese softshell turtle

-11243 meat, raw

The component values of "Chinese softshell turtle" are determined based on analytical values of cut meat (meat portion after removing a shell, a head, legs, viscera, skin, and bones) for materials for a dish cooked in a pot.

Wasp

-11244 broods, canned with seasoning

Broods are larvae of Wasp (jibachi), and "broods, canned with seasoning" is sold as a specialty in Shinshu region, which was selected as a sample. Some canned products are made from larvae of honeybees. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

12) Eggs

The main items which are common to eggs are as follows:

- [1] The components included in feed are reflected to the component values such as vitamin, and thus component values of normal eggs which are not given special feed for improving nutrients were listed in the current Composition Tables though eggs supplemented with special nutrient composition are also sold.
- [2] The amount of carbohydrates included in eggs is small compared to vegetable foods and it is inappropriate to calculate the value by difference. Therefore, the component values of carbohydrates were generally determined based on analytical values of total sugar.
- [3] Eggs include vitamin D and 25-hydroxy vitamin D (25-OH-D) as vitamin D active metabolites. This was considered for "raw" and "boiled" of "whole", and "raw" and "boiled" of "yolk".
- [4] "Boiled", "steamed", and "baked" were listed as cooked foods, in which the identical samples to those of uncooked foods (raw) were used for cooking and analysis. The summary of cooking methods for each food is shown in Table 16.
- [5] Regarding "analytical values" and "analytical values (2015)" in the text, see "Notes on Foods" described in the initial part of Chapter 3. (See Page 1)

In the followings, important points to note regarding the component values are described for each food item.

Domesticated duck

-12020 century egg (Pidan)

"Pidan" in the Composition Tables 2010 was recategorized to "Domesticated duck, Pidan". Most of the "Pidan" is an imported product from China and Taiwan. It is an egg with contents solidified by alkali by coating an eggshell of a raw egg with the mixture of salt, a tea infusion, calcium oxide, charcoal, natural soda, etc. or immersing a raw egg with the mixture, and storing it for months. It is originally made of an egg of domesticated duck, but can be made of a chicken egg under some methods. The component values are determined based on analytical values and the component values on the 4th Composition Tables by using a product of domesticated duck as a sample. The refuse is the percentage of slurry and an eggshell.

Chicken, silky fowl

-12001 whole, raw

Silky fowl is one breed of chickens. "Chicken, silky fowl" is considered to have medical effects, but it is not scientifically demonstrated. The component values are determined based on analytical values of eggs to which normal feed for chickens is given by using the whole egg of "raw" as a sample.

Japanese quail

- -12002 whole, raw
- -12003 canned in brine

The component values of "whole" are determined based on analytical values and the component values on the 4th Composition Tables, taking samples from domestic products. "canned in brine" is a canned product with salt water, and the component values are determined based on analytical values and the component values on the 4th Composition Tables, taking samples from commercial products.

Chicken

-whole

- -12004 raw
- -12005 boiled
- -12006 poached egg
- -12007 boiled and canned in brine
- -12008 sugared
- -12009 dried
- -yolk
 - -12010 raw
 - -12011 boiled
 - -12012 sugared
 - -12013 dried
- -white
 - -12014 raw
 - -12015 boiled
 - -12016 dried
- -12017 Tamago-dofu (cold savory egg custard)
- -Tamago-yaki (Rolled omelet)
 - -12018 Atsuyaki-tamago (sweet rolled omelet with Katsuo-bushi and kombu dashi)
 - -12019 Dashimaki-tamago (rolled omelet with Katsuo-bushi and kombu dashi)

The name for "Chickens" in the Composition Tables 2010 was changed to "Chicken". The most L-size standard products are produced in commercial chicken eggs, which were selected as a sample. The component values of "raw" of "whole" are determined by calculation based on the weight ratio and analytical values of "Raw" of "yolk" and "white". The component values of "boiled" are determined by calculation based on the weight ratio and analytical values of the weight ratio and analytical values of "raw" of "yolk" and "white". Note that the weight ratio of "yolk" and "white" is different between "raw" (yolk 30.6 : white 69.4) and "boiled" (yolk 29.9 : white 70.1). It is because, while a part of the white adheres to an eggshell in "raw", it does not in "boiled".

The component values of "poached egg" are determined based on analytical values and the component values on the 4th Composition Tables.

A commercial canned product with salt water was selected as a sample for "boiled and canned in brine". The component values are determined based on analytical values and the component values on the 4th Composition Tables.

The component values of "raw" and "boiled" of "yolk" and "white" are determined based on analytical values.

"Whole, sugared", "whole, dried", "yolk, sugared", "yolk, dried", and "white, dried" are used for raw materials for processed foods. Products to which sucrose is added at 20% was selected as samples for "whole, sugared" and "yolk, sugared". The component values are each determined based on analytical values and the component values on the 4th Composition Tables.

A steamed one after adding the same amount of stocks of Katsuo-bushi and kombu as the whole egg to the egg, and seasoning it with salt, light color soy sauce and regular Mirin, was selected as a sample for "Tamago-dofu". The component values are determined by calculation based on reference values¹) and analytical values of materials.

Blending ratio of raw materials: whole, boiled 50, stocks of Katsuo-bushi and kombu 50, salt 0.7,

light color soy sauce 0.5, regular Mirin 4

Water loss during cooking: 0.71 %

"Tamago-yaki" includes various types such as Atsuyaki-tamago, Dashimaki-tamago, Usuyaki-tamago, etc. It is a baked one after seasoning a beaten egg with sugar, Mirin, soy sauce, stocks, etc., and surimi can be mixed. In this composition table, sweet "Atsuyaki-tamago" and "Dashimaki-tamago" without sugar were listed.

A baked one after adding stocks of Katsuo-bushi and kombu, sugar (caster sugar), salt, and light color soy sauce to eggs, was selected as a sample for "Atsuyaki-tamago". The component values are determined by calculation based on reference values²) and analytical values of materials.

Blending ratio of raw materials: whole, boiled 65, stock of Katsuo-bushi and kombu 27.3,

sugar (caster sugar) 4.8, light color soy sauce 1, salt 0.5, blend oil 0.5

Water loss during cooking: 19.7 %

A baked one after adding stocks of Katsuo-bushi and kombu, salt, and light color soy sauce to eggs, was selected as a sample for "Dashimaki-tamago". The component values are determined by calculation based on reference values²⁾ and analytical values of materials.

Blending ratio of raw materials: whole, boiled 73.4, stocks of Katsuo-bushi and kombu 24.5,

light color soy sauce 1.5, salt 0.5, blend oil 0.2

Water loss during cooking: 19.7 %

References

1) Watanabe Tomoko, Sugizaki Sachiko, Fuse Nozomu, Yamaguchi Mihoko: Weight and the component values of Tamago-dofu before and after cooking (unpublished)

2) Watanabe Tomoko, Suzuki Ayuho: Research on actual nutrition intake of "Tamago-yaki" for nutrition investigation – "Atsuyaki-tamago" and "Dashimaki-tamago", Kieikai research foundation-supported research report (2002)

13) Milk and milk products

The main items which are common to milk and milk products are as follows:

- [1] Standard commercial products were generally used for samples. The component values of milk and milk products are considered to vary depending on the component values of raw milk, etc. which is raw material. The component values of raw milk vary depending on breeds, individuals, seasons, feed, etc. of dairy cattle.
- [2] The amount (mL) equivalent to 100 g and the amount (g) equivalent to 100 mL are shown in each remark for the sake of convenience in use for "raw milk", "containing recombined milk", "milk beverages", "lactic acid bacteria beverages", and "human milk".
- [3] Milk and milk products include vitamin D and 25-OH-D, 24,25(OH)₂D, and 1,25(OH)₂D as vitamin D active metabolites. This is taken into account for "whole milk" and "human milk". Also, the component value of iron for both foods is shown with one right digit in addition to digits shown for other foods in remarks for the sake of convenience in use.
- [4] Regarding "analytical values" and "analytical values (2015)" in the text, see "Notes on Foods" described in the initial part of Chapter 3. (See Page 1)

In the followings, important points to note regarding the component values are described for each food item.

<MILK AND MILK PRODUCTS>

(Liquid milk)

-raw milk

- -13001 Jersey
- -13002 Holstein
- -13003 whole milk
- -13006 skimmed milk
- -containing recombined milk
 - -13004 high fat
 - -13005 low fat

-milk beverage

- -13007 coffee flavored
- -13008 fruit flavored

"Raw milk" is unprocessed milk after milking dairy cattle. "raw milk" becomes raw materials for milk for drinking or milk products such as butter by pasteurization. Most of the dairy cattle reared in Japan is Holstein. Jersey is also reared in some regions, whose milk has thickness with high fat content and protein content. Milk solid (100 - water) is highest in December and January and lowest in July and August in light of months. The component values are determined based on analytical values considering the variation of individuals and seasons.

"whole milk" is milk which is commonly sold. It corresponds to "milk" whose standards are provided in Ministerial Ordinance concerning the Ingredient Standards for Milk and Dairy Products (Ordinance of the Ministry of Health and Welfare No. 52 of 1951; hereinafter referred to as "Ministerial Ordinance of Milk") and in which non-fat milk solids are 8.0 % or more and milk fat is 3.0 % or more. The addition of raw materials except for "raw milk" is not permitted, but the adjustment of the component values by blending milk as raw materials is permitted. The products with milk fat of 3.6 % or more is often distributed in the market. The component values are determined based on analytical values of a sample with milk fat of 3.8 %.

"containing recombined milk" is a beverage which includes non-fat milk solids of 8.0 % or more and is processed from raw milk or milk products such as skimmed milk powder or butter as raw materials. There are "High fat" in which milk fat is increased and "low-fat" in which milk fat is decreased by skimming. A product with milk fat of 4.0 % or more and a product with milk fat of 1.0 % on display were listed for "high fat" and "Low fat", respectively. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

"Skimmed milk" is a product for which most of the milk fat was removed from raw milk or milk. It is mainly used for raw materials for foods. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

"Milk beverages" are beverages whose main raw materials are foods produced from raw milk, milk, or both as raw materials. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

(Milk powder)

- -13009 whole milk powder
- -13010 skimmed milk powder
- -13011 infant formula

"whole milk powder" is a powdered one after removing most of the water from raw milk or milk, and "Skimmed milk powder" is a powdered one after removing the milk fat of raw milk or milk and removing most of the water. The component values are determined based on analytical values and the component values on the 4th Composition Tables. "infant formula" is a powdered one after processing foods produced from raw milk, milk, or both as raw materials, or using them as main raw materials, and adding necessary nutrients for infants. It is also called powdered milk for nursing of infants. The name for "formula" in the Composition Tables 2010 was changed. The component values of "infant formula" are different between types and makers of products, and the component contents are described on a package. The component values are determined based on analytical values.

(Evaporated and condensed milk)

- -13012 Evaporated whole milk
- -13013 Condensed whole milk, sweetened

A concentrated one of raw milk or milk is Rennyu, and there are "evaporated whole milk" which is concentrated as it is and "condensed whole milk" which is concentrated after adding sucrose. In Ministerial Ordinance of Milk, "evaporated whole milk" has milk solids of 25.0 % or more and milk fat of 7.5 % or more, and "condensed whole milk" has milk solids of 28.0 % or more, milk fat of 8.0 % or more, and sugar (including lactose) of 58.0 % or less. The component values of "evaporated whole milk" are determined based on analytical values and the component values on the 4th Composition Tables, and the component values of "condensed whole milk" are determined based on analytical values (2015), analytical values and the component

values on the 4th Composition Tables.

(Creams)

(Creams) are originally products made from only milk fat, but include products in which a part of milk fat is replaced with vegetable fat and products in which all of the fat is replaced with vegetable fat as alternatives of "Cream". These foods should be listed in fats and oils, but these were listed in (Creams) for the sake of convenience in use.

-Cream

-13014 milk fat

-13015 milk and vegetable fats

-13016 vegetable fat

"Milk fat" is a product for which components other than milk fat were removed from raw milk or milk and others were not added. In Ministerial Ordinance of Milk, milk fat is 18.0 % or more. It is separated into high-fat type and low-fat type depending on fat amounts, and a product of high-fat type was selected as a sample. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

"Milk and vegetable fats" is a product for which a part of milk fat was replaced with vegetable fat, and the replacement ratio is different between products. Also, it is separated into high-fat type and low-fat type depending on fat content. The listed food is a product of high-fat type, and the component values of "milk fat" 1 : "Vegetable fat" 1 are determined by calculation based on ones of "milk fat" and "vegetable fat".

"vegetable fat" is a product in which vegetable fat is main raw material and skimmed milk powder, emulsifiers, stabilizers, flavors, pigments, etc. are added. It is separated into high-fat type and low-fat type depending on fat content, and a product of high-fat type was selected as a sample. The component values are determined based on analytical values.

Note that the fatty acid composition of "milk and vegetable fats" and "vegetable fat" is different between products because it derives from vegetable oil which is raw material.

-Whipping cream

-13017 milk fat

-13018 milk and vegetable fats

-13019 vegetable fat

"Whipping cream" is a sufficiently-whipped one after adding granulated sugar to cream. The product having granulated sugar at 15 % was listed in the Composition Tables 2010, but the product having the sugar at 10 % was listed in this composition table so as to reflect the actual distribution.

"Milk fat", "milk and vegetable fats", and "vegetable fat" were separately listed. The component values are each determined by calculation based on the component values of cream and granulated sugar which are raw materials. Note that the fatty acid composition of "milk and vegetable fats" and "vegetable fat" is different between products because it derives from vegetable oil which is raw material.

-Coffee whitener

-13020 liquid, milk fat

-13021 liquid, milk and vegetable fats

-13022 liquid, vegetable fat

-13023 powder, milk fat

-13024 powder, vegetable fat

"Coffee whitener" is the so-called low-fat cream with fat content of about 20 %. It is also called milk for coffee or cream for coffee. It was separately listed as liquid and powder.

The component values of "liquid, milk fat" are determined based on analytical values.

As the component values of "liquid, milk and vegetable fats", values of "liquid, milk fat" 1 : "liquid, vegetable fat" 1 are determined by calculation based on the component values of "liquid, milk fat" and "liquid, vegetable fat".

The component values of "liquid, vegetable fat" and "powder, milk fat" are each determined based on analytical values.

The component values of "powder, vegetable fat" are determined based on analytical values.

Note that the fatty acid composition of "liquid, milk and vegetable fats", "liquid, vegetable fat", and "powder, vegetable fat" is different between products because it derives from vegetable oil which is raw material.

(Fermented milk and lactic acid bacteria beverages)

-Yogurt

- -13025 whole milk, unsweetened
- -13053 low-fat, unsweetened
- -13054 fat free, unsweetened
- -13026 skimmed, sweetened
- -13027 liquid, sweetened

"Yogurt" is a fermented product by lactic acid bacteria in which milk or milk products are raw materials. "Whole milk, unsweetened" is plain yogurt and many products include about 3 % of milk fat. The component values are determined based on analytical values. "low-fat, unsweetened", newly listed, is plain yogurt and many products include about 1 % of milk fat. The component values are determined based on analytical values (2015). "fat free, unsweetened", newly listed, is plain yogurt and many products include less than 0.5 % of milk fat. The component values are determined based on analytical values (2015). "skimmed, sweetened" is a product in which skimmed milk is raw material and saccharides such as sugar or fructose are added. Gelatin and agar jelly are commonly added. The component values are determined based on analytical values and the component values on the 4th Composition Tables. "liquid" is a product obtained by mechanically making solidified "Yogurt" an uniform liquid. The component values are determined based on analytical values.

-Lactic acid bacteria beverages

- -13028 not pasteurized after fermentation, milk solids-nonfat $\geq 3.0\%$
- -13029 pasteurized after fermentation, milk solids-nonfat $\geq 3.0\%$
- -13030 milk solids-nonfat < 3.0%

"Lactic acid bacteria beverages" are beverages in which main raw material is a fermented one of milk, etc. and non-fat milk solids are 3.0 % or more. "not pasteurized after fermentation, milk solids-nonfat \geq 3.0%" is a product without pasteurization after fermentation in which lactic acid bacteria live, and "pasteurized after fermentation, milk solids-nonfat \geq 3.0%" is a pasteurized one after fermentation which is drunk after dilution. "Milk solids-nonfat < 3.0%" is a product in which non-fat milk solids are less than 3.0% and which does fall under "Lactic acid bacteria beverages" in Ministerial Ordinance of Milk. Saccharides such as sugar are added to each product. The component values of these products are each determined based on analytical values and the component values on the 4th Composition Tables.

(Cheeses)

—natural	
-13031	Edam
-13032	Emmental
-13033	cottage
-13034	Camembert
-13035	cream

- -13036 Gouda
- 10000 000000
- -13037 Cheddar
- -13038 Parmesan
- -13039 blue
- -13055 Mascarpone
- -13056 mozzarella
- -13057 goat milk
- -13058 Ricotta
- -13040 processed
- -13041 spreadable

(Cheeses) are roughly separated into "natural" and "processed" in Ministerial Ordinance of Milk. "natural" is a solid one made by fermenting milk, butter milk, "Cream" with lactic acid bacteria or solidifying them with enzymes. There are traditional methods all over the world, which each have their own characteristic name.

In the standard production methods, raw milk is pasteurized, lactic acid bacteria or rennet, etc. are added to form curds, whey is removed from it, and it is loaded into a warm mold and cooled (unripened cheeses: "cottage", "cream", "Mascarpone", and "mozzarella") or it is fermented in a ripening room with a fixed temperature and a fixed humidity for 2 ~ 5 months (ripened cheeses: "Edam", "Emmental", "Camembert", "Gouda", "Cheddar", "Parmesan", and "blue").

The component values of "Mascarpone" and "mozzarella", newly listed, are each determined based on analytical values (2015).

Newly listed "Ricotta" is commonly a product with fresh cream after adding milk to whey which is discharged in cheese production, forming curds by warming it and adding acids, and removing the whey. The category name under regulations in Japan is not cheese but "foods using milk or milk products as main raw materials". The component values are determined based on analytical values (2015).

Newly listed "Goat cheese" is made from goat milk and is also called "Chevre" (loanword). The component values are determined based on analytical values (2015).

The component values of "Edam", "Emmental", "Camembert", "Gouda", "Cheddar", "Parmesan", and "blue" other than the above are determined based on analytical values and the the component values on the 4th

Composition Tables.

"Processed" is an emulsified one after crushing, heating and dissolving "natural". One or more types of semi-hard or hard natural cheeses are used as raw materials and it is representative cheese in Japan. It is lacking in characteristics of cheese compared with natural cheeses, but is excellent in preservation property and easy to handle. It is sold in various shapes such as carton type, 6P type, stick type, candy type, and slice type. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

"spreadable" is a semi-solid cheese-like food, one type of "processed", and a product for which "butter" and emulsifiers were added to "natural". The component values are determined based on analytical values and the component values on the 4th Composition Tables.

(Ice creams)

-ice cream

- -13042 high fat
- -13043 regular
- -13044 ice milk
- -lacto-ice
 - -13045 regular
 - -13046 low-fat
- -13047 soft-serve

The names of (Ice creams) are specified in Ministerial Ordinance of Milk. "ice cream" has milk solids of 15.0 % or more with milk fat of 8.0 % or more, "ice milk" has milk solids of 10.0 % or more with milk fat of 3.0 % or more, and "lacto-ice" has milk solids of 3.0 % or more. Currently, many products with higher milk fat than the standard of Ministerial Ordinance of Milk have been distributed.

Here, "high fat" of "ice cream" is a product with milk fat of 12 % or more. The component values are determined based on analytical values and the the component values on the 4th Composition Tables. "regular" is a product with milk fat of 8 %. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

Also, "ice milk" and "lacto-ice" include products with vegetable fat, which show high fat value. Main fat of "lacto-ice" is vegetable fat. Here, "regular" of "lacto-ice" is a product with vegetable fat of 5 % or more. The component values are determined based on analytical values and the component values on the 4th Composition Tables. "low-fat" is a product with vegetable fat of $1 \sim 2$ %. The component values are determined based on analytical values on the 4th Composition Tables.

"Soft-serve" is directly sold after putting liquid mix (in case of powder, it is made liquid by dissolving it in a proper amount of water) in a freezer and stuffing a cone cup without hardening the mix. The standard is not specified in Ministerial Ordinance of Milk. The component values are determined based on analytical values and the component values on the 4th Composition Tables by using a commercial product as a sample, which has milk fat as main fat and from which a cone cup was removed.

(Others)

-13048 casein

-13049 sherbet

-13050 cheese whey powder

"Casein" is the main component of proteins making up milk and includes acid casein precipitated by acid and casein sodium obtained by neutralizing it. It is used for raw materials for foods. The component values are determined based on analytical values and the component values on the 4th Composition Tables by using acid casein as a sample.

"Sherbet" has milk solids of 3.0 % or less and thus it is not ice creams but sherbet. Saccharides, fruit juice, acidulants, and polysaccharide thickeners as stabilizer are added. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

"Cheese whey powder" is a powdered one after drying whey in cheese production. It is widely used for processed foods of animal meat, pharmaceutical production, bread making, etc. The component values are determined based on analytical values.

<OTHERS>

-13051 human milk

-13052 goat milk

The component values of "human milk" are determined based on analytical values and the component values on the 4th Composition Tables, considering differences between individuals and the variation by meals like the item of milk. The component value of iodine is strongly affected by meal conditions of mothers (especially intake of seaweed), and thus the determination of standard value was postponed (reference value (as per 100 g of edible portion (before water correction), samples = 5, unit μ g) : 20.3, 71.0, 77.5, 84.1, 233.5).

The consumption amount of "goat milk" is small, but has been consumed in households in some regions. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

14) Fats and oils

Regarding "analytical values" and "analytical values (2015)" in the text, see "Notes on Foods" described in the initial part of Chapter 3. (See Page 1)

In the followings, important points to note regarding the component values are described for each food item.

(Vegetable oils)

- -14023 linseed oil
- -14024 perilla oil
- -14001 olive oil
- -14002 sesame oil
- -14003 rice bran oil
- -safflower oil
- -14004 high oleic
- -14025 high linoleic
- -14005 soybean oil
- -14006 vegetable oil, blend
- -14007 corn oil
- -14008 rapeseed oil
- -14009 palm oil
- -14010 palm kernel oil
- -sunflower oil
 - -14011 high linoleic
 - -14026 mid-oleic
- -14027 high oleic
- -14028 grape seed oil
- -14012 cottonseed oil
- -14013 coconut oil
- -14014 peanut oil

The component values of (Vegetable oils) other than "linseed oil", "perilla oil", "grape seed oil", and "vegetable oil, blend" are each determined based on analytical values, the component values on the 4th Composition Tables and reference materials¹).

Vegetable oils are roughly separated into refined oil which is mainly used for cooking such as tempura and salad oil (it is subject to wintering so as not to deposit solid fat even at a low temperature and further refined during the production processes) which is mainly used for salad due to differences in production methods.

"linseed oil" and "perilla oil", newly listed, are oils including much α -linolenic acid, which are each extracted from flaxseed and perilla seed. The component values are each determined based on analytical values (2015) by using commercial edible oils as samples. "olive oil" is called virgin oil and is extracted from flesh of olive, and imported product was listed.

"sesame oil" includes an oil refined like general vegetable oil and an oil having characteristic aroma which was filtered without refinement after roasting sesame seeds and extracting oil by a squeezing method. The refined oil was listed.

"rice bran oil" is also called "rice oil" and is extracted from rice bran. The refined oil was listed.

"safflower oil" is also called "Benibana oil" (in Japanese for Safflower) and is extracted from seeds of Safflower. Originally, the fatty acid composition had linoleic acid as the main component, but products with high oleic acid content can be produced due to breed improvement of safflower which is raw material, which have been currently distributed in a large quantity. In the Composition Tables 2010, the component values of "high oleic-acid refined oil" were listed in the tables and each component value of fatty acids of "high linoleic-acid refined oil" was shown in the remark, but "high oleic" and "high linoleic" were separately listed in this table. The ratio of oleic acid in "high oleic" is specified in Japanese Agricultural Standard²).

"soybean oil" is extracted from seeds of soybeans. The refined oil (for cooking) and the salad oil were selected as samples, but the difference between analytical values was hardly seen and thus the integrated component values are shown.

"vegetable oil, blend" includes a refined oil and a salad oil. It is an oil blended and prepared from two or more types of oils. The listed food is a product for which "soybean oil" and "rapeseed oil" were blended at the ratio of 1:1, and the component values are determined by calculation based on the component values of oils which are raw materials.

"corn oil" is also called "corn oil" (loanword) and is extracted from corn starch and germs which are by-products in the production of corn grits. The refined oil was listed.

"rapeseed oil" is extracted from rapeseeds and originally included erucic acid at about 45 % in the fatty acid composition, which is considered to make effects on heart diseases. As the result of breed improvement, seeds which hardly have erucic acid are used. The refined oil and the salad oil of low-erucic acid oil were selected as samples, but the difference between analytical values was not seen and thus the integrated component values are shown.

"palm oil" is extracted from flesh of oil palm, and the refined oil was listed.

"palm kernel oil" is extracted from seeds of oil palm, and the refined oil was listed.

"sunflower oil" is extracted from seeds of sunflower for oil extraction, and the refined oil was listed. The fatty acid composition is influenced by the temperature during ripening period and many products generally have linoleic acid at a high ratio, but high oleic types have been recently distributed due to breed improvement and mid oleic types are also newly distributed. In the Composition Tables 2010, the component values of "high linoleic-acid refined oil" were listed in the tables and the component values of fatty acids of "high oleic-acid refined oil" and "mid oleic-acid refined oil" were shown in the remark, but they were separately listed in this table as "high linoleic", "high oleic", and "mid oleic". Note that the ratio of oleic acid of "high oleic" is specified in Japanese Agricultural Standard²⁾ as well as safflower oil. Also, "mid oleic" is not specified in the Japanese Agricultural Standard and thus a general commercial product was selected as a sample for "mid oleic".

"grape seed oil", newly listed, is extracted from grape seeds and the component values are determined based on analytical values (2015) of commercial products. "cottonseed oil" is extracted from seeds after cotton was collected, and the refined oil was listed.

"coconut oil" is also called "coconut oil" (loanword) and is extracted from copra (dried endosperm) obtained from coconut fruit by a squeezing method, and the refined oil was listed.

"peanut oil" is extracted from peanut seeds, and the refined oil was listed.

(Animal fats)

-14015 beef tallow

-14016 lard

"beef tallow" is a rendered one or a wet-rendered one of beef fat and is commonly used for raw materials in food industry. The component values are determined based on analytical value of the rendered one.

"lard" is a rendered one or a heated one by vapor of pork fat, and refined lard which is commonly distributed in the market is refined from the latter. In Japanese Agricultural Standard³⁾, the refined lard is classified into pure lard and prepared lard in which other oils and fats are partly blended, and a quality standard is provided for them. The quality standard specifies that the water should be 0.2 % or less. The component values are determined based on analytical values of the pure lard.

(Butters)

- -14017 salted butter
- -14018 unsalted butter
- -14019 cultured butter

(Butters) are roughly separated into "cultured butter" for which cream used as raw material was fermented by lactic acid bacteria and unfermented butter. Also, a product to which salt is added is called "salted butter" and a product to which salt is not added is called "unsalted butter". The name for "no salt butter" (Muen butter) in the Composition Tables 2010 was changed to "unsalted butter". In Japan, unfermented "salted butter" is commonly used in households. In addition to "salted butter", unfermented "unsalted butter" for industries (for recombined milk, ice cream, raw materials for confectioneries, etc.) and salted "cultured butter" which is representative in Europe and US were also listed. Manganese, α -carotene, β -carotene, and β -cryptoxanthin of "salted butter" are determined based on analytical values (2015) obtained by the additional analysis, and other component values are determined based on analytical values.

(Margarines)

- -soft type
 - -14020 home use
 - -14029 commercial use
- -14021 fat spread

(Margarines) are separated into margarines and fat spread in Japanese Agricultural Standard⁴), and the margarines are defined as a plastic one or a liquid one made by adding water, etc. to edible oils and fats to emulsify it, and rapidly cooling and kneading it or doing without rapid cooling and kneading processes. Fat spread also includes products in which flavor raw materials (the weight ratio of the raw material must be below the content rate of oils and fats and other conditions must be met) such as fruit, processed products of fruit, chocolate, and nut paste are added. The content rates of oils and fats are specified as 80 % or more for margarines and less than 80 % for fat spread in a quality standard.

"soft type" corresponding to "margarine" in the Japanese Agricultural Standard and "fat spread" to which flavor raw materials are not added were listed. "soft type" was subdivided and listed as "home use" and "commercial use" in this Composition Table. The component values are determined based on reference materials⁵⁾ and analytical values (2015). In these values, carbohydrates of "fat spread" is originally calculated by difference, but the sum of analytical values of water, proteins, fats, and ash in 100 g of edible portion exceeds 100 g (100.6 g) and thus it is set at "0 g" complying with the guideline of FAO/INFOODS⁶⁾. Also, the correction was not made to adjust the sum of proximate to 100 g.

Note that there is also a product to which vitamin A (retinol, etc.) is added in "soft type", but the component values of a product without additives were listed in this composition table.

(Others)

-shortening

- -14022 home use
- -14030 commercial use for confectionery
- -14031 commercial use for frying

"shortening" is a solid one or a liquid one (excluding refined lard) which is produced from edible oils and fats as raw materials and to which processing properties such as plasticity and emulsifiability are added, in Japanese Agricultural Standard⁷). It was subdivided and listed as "home use", "commercial use for confectionery", and "commercial use for frying" in this composition table. There are two cases for raw material fats and oils for "shortening": the mixture of animal fat and vegetable oil and only vegetable oil. Fish oil, lard, and beef fat are used as the animal fat in the mixture of animal fat and vegetable oil. "shortening" including the animal fat has high cholesterol content compared with one made from only vegetable oil. A quality standard specifies that the water should be 0.5 % or less. The component values are determined based on analytical values (2015) and analytical values.

	, 6		0.0	1	U	1			
item number	food name	Analysis in 2003 and 2004 FY (reference)				Analysis in 2014 FY			
		lipid	trans fatty acids			trans fatty acids			
			18:1 t	18:2 t	18:3 t	lıpıd	18:1 t	18:2 t	18:3 t
14020	margarine, soft type home use	83.1	6.27	0.53	0.06	83.1	0.71	0.23	0.22
14029	margarine, soft type commercial use	-	-	-	-	84.3	0.39	0.26	0.05
14021	fat spread	69.1	4.83	0.21	0.08	69.1	0.13	0.27	0.28

Annex Trans fatty acids of margarines and shortening (gram as per 100 g of edible portion)
14022	shortening home use	99.9	7.61	_	-	99.9	0.06	0.27	0.13
14030	shortening commercial use for confectionery	-	-	-	-	99.9	0.17	0.30	0.05
14031	shortening commercial use for frying	-	-	-	-	99.9	0.18	0.30	0.06

Trans fatty acids of margarines and shortening

In the Compositions Tables 2010, the amounts of trans fatty acids were listed in remarks of margarines and shortening. Also, the amounts of trans fatty acids were listed in processed products such as confectionaries by calculation based on analytical values of margarines and shortening. However, trans fatty acids of these foods were reduced about the same time as the announcement of the Composition Tables 2010, and thus trans fatty acids were reanalyzed. The analysis result for margarines and shortening is as the above annex and shows the substantial reduction compared with the previous one. The trans fatty acids in processed products such as confectioneries, were not calculated, because the amounts of trans fatty acids for raw materials (margarines, shortening, etc.) were reduced and trans fatty acids of processed products may largely vary depending on raw materials, and thus the trans fatty acids were not calculated.

References

- 1) JAPAN INSPECTION INSTITUTE OF FATS & OILS: Data on the analysis results (unpublished)
- 2) Japan Agricultural Standard for Edible Vegetable Oils and Fats: MAFF Public Notice No.714 of 2015
- 3) Japan Agricultural Standard for Refined Lard: MAFF Public Notice No.714 of 2015
- 4) Japan Agricultural Standard for Margarines: MAFF Public Notice No.3112 of 2013
- 5) JAPAN ASSOCIATION FOR INSPECTION AND INVESTIGATION OF FOODS INCLUDING FATS AND OILS: Data on the analysis results (unpublished)
- 6) FAO/INFOODS: FAO/INFOODS Guidelines for Checking Food Composition Data prior to the Publication of a User Table/Database-Version 1.0. (2012)
- 7) Japan Agricultural Standard on Shortening: MAFF Public Notice No.714 of 2015

15) Confectionaries

The main items which are common to confectionaries are as follows:

- [1] All of the foods belonging to this food group are secondary processed products and the same name may refer to different foods depending on regions. Also, the component values of products are different even between the same types and the same names depending on types of used raw materials, blending ratio, production methods, etc. See other names, blending ratio of raw materials (described in a remark), and explanation (this chapter) as well as food names for listed foods.
- [2] Most of the listed values were calculated based on blending ratio of raw materials and the component values of raw materials. Note that values for some foods were listed based on analytical values, etc. of commercial products. The component values were recalculated for foods in which the component values of raw materials were changed from the Composition Tables 2010.
- [3] Blending ratio of raw materials used for calculation for listed values complies with the 4th Composition Tables in principle. The listed values are determined by investigating current blending ratio of raw materials, measuring samples and weight alteration rates, etc.¹⁾ for main foods, newly listed foods, and foods whose current situation is considered to be highly different from the situation in the Composition Tables 2010.
- [4] Listed values based on calculation were calculated by fixing blending ratio of raw materials and considering the component alternation rates, etc. during production processes.
- [5] Blending ratios of raw materials are as follows for Azuki bean pastes, creams, whipping creams, brown sugar syrup, and Kinako (roasted and ground beans) with sugar which are basic materials used for confectionaries. The raw materials and blending ratios of these foods were used also for calculation of the component values of listed foods. Note that Tsubushi-an (mushed sweet bean paste), pastry cream, whipping cream, and brown sugar syrup are listed in Pulses, Confectionaries, Milk and milk products, and Sugars and sweeteners, respectively.
 - * Azuki bean pastes
 - (1) Namineri-an: raw bean paste of Azuki beans 100, sugar (caster sugar) 70, glucose syrup 7
 - (2) Nakawari-an: raw bean paste of Azuki beans 100, sugar (caster sugar) 85, glucose syrup 7
 - (3) Tsubushi-an: Tsubushi-an of Azuki beans 100, sugar (caster sugar) 75
 - (4) Monaka-an: raw bean paste of Azuki beans 100, sugar (caster sugar) 100, glucose syrup 7
 - * Creams

Custard cream: raw milk 62.8, granulated sugar 16.5, chicken egg (yolk) 14.4, soft flour (first grade) 6.3 Chocolate cream: starch 8.4, margarine 7.4, condensed whole milk with sugar 4.9, milk chocolate 4.3, whole milk powder 2.2

- Whipping creams
 - (1) Milk fat whipping cream (also called animal whipping cream)

: cream milk fat 90, sugar (caster sugar) 10

(2) Milk and vegetable fats whipping cream (also called mixed whipping cream)

: cream milk and vegetable fats 90, sugar (caster sugar) 10

(3) Vegetable fat whipping cream (also called vegetable whipping cream)

: cream vegetable fat 90, sugar (caster sugar) 10

- * Brown sugar syrup: brown sugar lump 50, water 50
- * Kinako with sugar

(1) Yellow Kinako: Kinako (made from whole beans with yellow seed coats) 1 : sugar (caster sugar) 1
(2) Olive-green Kinako: Kinako (made from whole beans with green seed coats and cotyledons) 1 : sugar (caster sugar) 1

- [6] Bean paste (An in Japanese) mainly used for Japanese traditional confectionaries is a kneaded and boiled one after boiling pulses and adding sugar. Meanwhile, the contents wrapped by rice cake or wheat flour dough are also called An. Bean paste made by boiling pulses includes Tsubu-an (whole bean paste), Tsubushi-an (mushed sweet bean paste), and Koshi-an (strained bean paste) according to the shape, and Kuro-an (black paste made from Azuki beans), Shiro-an (white paste made from white kidney beans), Uguisu-an (olive-green paste made from peas with green seed coats and cotyledons), etc. according to the color. The basic bean paste for Japanese traditional confectionaries is Azuki bean paste shown in [5]. Products with Azuki bean pastes were generally listed for bean paste in this composition table, but their types are different between foods. The type of used bean paste was added to a remark and the details of bean paste were described in explanation of each food.
- [7] Okoshi-dane in raw material name is a type of Iri-dane (roasted source) made by drying steamed glutinous rice and roasting it. Also, Mijinko is fine powered of Iri-dane made by drying steamed glutinous rice and roasting it. It includes two types, Hiki-mijinko (ground) and Yaki-mijinko (baked), and the former is mainly used for Jogashi (confectioneries in high-quality) and the latter is mainly used for Zatsugashi (miscellaneous confectioneries).
- [8] In the Composition Tables 2010, the content of sucrose as per 100 g of edible portion, which derives from sugar in raw materials of confectionaries, was shown in explanation of each food of "Notes on Foods" for the sake of convenience for nutrition guidance. This value was a calculation value² based on blending ratio. In the Composition Tables 2015, the Carbohydrates Composition Tables are published. See the values in the tables. Note that the amount of sucrose for foods unlisted in the Carbohydrates Composition Tables can be estimated by calculation in the same method as that of the Composition Tables 2010.
- [9] Blending ratios of raw materials in confectionaries are different between regions, manufacturers, etc. If the blending ratio of raw materials for products whose the component values are required is different from that of this item, the values can be estimated by nutrition calculation based on blending ratio of raw materials in the product and the component values of its raw materials (See "3 Prepared Dishes" of Chapter 3).
- [10] Regarding "analytical values" and "analytical values (2015)" in the text, see "Notes on Foods" described in the initial part of Chapter 3. (See Page 1)In the followings, important points to note regarding the component values are described for each food item.

<TRADITIONAL FRESH AND SEMI-DRY CONFECTIONERIES>

<TRADITIONAL FRESH AND SEMI-DRY CONFECTIONERIES> is defined as products with water content of 20 % or more in Japanese traditional confectioneries. Note that fresh confectioneries are defined as either (1) products with water content of 40 % or more soon after completion or (2) products for which bean

paste, cream, jam, agar jelly, or their similar ones are used and which have water content of 30 % or more soon after completion, in "Definitions on Fresh Confectioneries requiring Marking"³⁾ based on Food Sanitation Act (Act No. 233 of 1947).

-Amanatto (candied beans)

- -15001 Adzuki beans
- -15002 kidney beans
- -15003 peas

"Amanatto" is a product made by boiling beans as raw material, immersing it with low-concentration sugar liquid and high-concentration sugar liquid one by one, removing sugar syrup, and sprinkling sugar. Wet type without sugar (Nure Amanatto) is also distributed. Iodine, selenium, chromium, molybdenum, and biotin are determined based on analytical values and others are determined based on reference materials⁴) for "Adzuki beans". The component values of "kidney beans" and "peas" are each determined based on reference materials⁴). -15005 "Imagawayaki" (Japanese waffle stuffed with red bean paste)

"Imagawayaki" is a product made by filling a heated mold with dough for which chicken eggs and sugar were mixed, kneaded with a raising agent and flour dissolved in water, and mixed with water, adding bean paste, putting other dough which started to be baked in another mold after the former dough so as to sandwich bean paste, and baking them. It has various names such as Obanyaki, Kobanyaki, Kaitenyaki, Nijuyaki, Taiko-manju, Tomoeyaki, and Kintsuba, depending on regions. Taiyaki is also a similar product. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Note that there are also products with Azuki Tsubushi-an, Custard cream, etc. instead of Azuki Koshi-an.

Recipe: coating dough 2, strained red bean paste 1

Blending ratio of raw materials: coating dough [soft flour (first grade) 100, sugar (caster sugar) 50, chicken egg (whole) 25, raising agent 1.5], bean paste [Namineri-an 100, salt 0.2]

-15006 "Uiro" (steamed sweet rice dough)

"Uiro" is a product made by steaming in a frame dough for which Joshinko (ordinary rice flour) or starch was mixed with sugar, stirred with water to be paste, and heated to be semi-liquid, and cutting it into pieces. It is also used for dough for traditional fresh confectioneries. There are also products in which flour is used as a part of raw materials or salt is added. Types, blending ratios, etc. of raw materials are different between product types, but so called Shiro-uiro (white uiro) in which Joshinko, starch, and sugar are used as main raw materials was listed in this composition table. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials: Joshinko 100, potato starch 30, sugar (caster sugar) 163 -15007 "Uguisu-mochi" (sweet rice cake, filled with red bean paste, coated by roasted green soy flour)

"Uguisu-mochi" is a product made by wrapping bean paste with dough for which glutinous rice or Shiratamako (flour milled in water) was steamed, pounded, and kneaded with sugar, and forming it in the shape of Japanese bush warbler, and sprinkling green Kinako. There are also product in which the dough is kneaded with green Kinako or Azuki Tsubushi-an is used. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Recipe: coating dough 10, strained red bean paste 8, green Kinako 0.05

Blending ratio of raw materials: coating dough [glutinous rice flour 100, sugar (caster sugar) 100, glucose syrup 10], bean paste [Namineri-an 100, salt 0.2]

-15008 "Kashiwa-mochi" (Leaf-wrapped rice cake with red bean paste filling)

"Kashiwa-mochi" is a product made by wrapping bean paste with dough for which kneaded Joshinko was steamed and pounded, steaming, cooling, and wrapping it with a leaf of daimyo oak. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Recipe: coating dough 3, strained red bean paste 2

Blending ratio of raw materials: coating dough [Joshinko 100, potato starch 4, salt 0.2], bean paste

[Namineri-an 100, salt 0.2]

-15009 "Kasutera" (rectangle sponge cake)

"Kasutera" is a product made by adding flour to foaming dough made from sugar and chicken eggs and baking it in the sponge shape in a wooden frame. The component values are determined based on analytical values of commercial products.

-15010 "Kanoko" (red bean jelly wrapped with red bean paste, red bean compote and agar)

"Kanoko" is a product made by wrapping Gyuhi, Yokan, etc. as a core with red bean paste, coating the outside with Adzuki beans immersed with sugar syrup, and giving a luster on the surface with agar jelly. In this composition table, a product with Neri-yokan as a core was listed and the component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials: Adzuki beans in sugar syrup 50, Namineri-an 30, Neri-yokan 20,

agar-agar dash

-15011 "Karukan" (white steamed cake made from rice flour, grated yam and sugar)

"Karukan" is a product made by steaming in a frame dough for which yam was ground and whisked with sugar, Karukanko (fresh rice flour ground after immersing non-glutinous rice in water and removing water) was added, and kneaded, cooling and cutting it into pieces. Note that Karukan-manju is a steamed one after bean paste was putted into Karukan dough. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials: Joshinko 100, sugar (caster sugar) 160, yam 80

-15012 "Kibi-dango" (sweet dumpling made from rice and proso millet flour)

"Kibi-dango" is a product made by forming Gyuhi and sprinkling sugar. Note that Kibi-dango is originally a dumpling (dango in Japanese) in which millet (kibi in Japanese) was used, but the listed food is a different food. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials: Mochiko (glutinous rice flour) 100, sugar (caster sugar) 200, sucrose

syrup 20

-15013 "Gyuhi" (kneaded glutinous rice flour with sugar, steamed)

"Gyuhi" is a product made by steaming and kneading Mochiko or Shiratamako kneaded with water, and heating and kneading it with sugar. It is used as confectionery by itself, but it is combined with other raw materials in many cases. It is used for Nerikiri, Wakaayu (confectionery for which Gyuhi is wrapped with coating dough whose main raw material is flour), Yubeshi, etc. The component values are determined by

calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials: Shiratamako 100, sugar (caster sugar) 200, sucrose syrup 20

-15014 "Kirizansho" (Sweet rice cake flavored by Japanese pepper "Sansho")

"Kirizansho" is a product by pounding kneaded and steamed Joshinko, pounding it with sugar, seasoning it with Japanese pepper oil, etc., rolling out it to a thin piece, and cutting it. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials: Joshinko 100, sugar (caster sugar) 100, salt 0.5, Japanese pepper oil dash -15015 "Kingyokuto" (Sweet agar jelly)

"Kingyokuto" is a product made by heating agar jelly in water for dissolution, adding sugar, boiling it, adding sucrose syrup, and hardening it in a mold. It is combined with other raw materials in many cases. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials: sugar (caster sugar) 100, sucrose syrup 7, agar-agar 1.5

-15016 "Kintsuba" (red bean paste covered with dough, baked)

"Kintsuba" includes a product made by wrapping Tsubushi-an with dough for which sugar was added to flour and kneaded with water and baking both sides and lateral sides in a pan (Tsutsumi-kintsuba), and a product made by putting flour dissolved in water to bean paste and baking it (Koromogake-kintsuba, Kaku-kintsuba). Bean pastes include Adzuki Tsubushi-an, Koshi-an, Shiroingen-an (made from white kidney beans), Satsumaimo-an (made from sweet potato), etc. The listed food is a product of Adzuki Tsubushi-an. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Recipe: coating dough 1, mushed red bean paste 9

Blending ratio of raw materials: coating dough [soft flour (first grade) 100, sugar (caster sugar) 10], bean paste [Tsubushi-an 100, salt 0.2]

-15017 "Kusa-mochi" (green rice cake, stuffed with red bean paste, flavored by Japanese wormwood "Yomogi")

"Kusa-mochi" is a product made by wrapping bean paste with dough for which kneaded and steamed Joshinko and boiled Japanese wormwood (or its dried products) were pounded, and forming it in shapes of hard clam, Kinchaku (Japanese pouch), Threeleaf Arrowhead, wooden gong, etc. The listed food is a product of Adzuki Koshi-an. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Recipe: coating dough 6, strained red bean paste 4

Blending ratio of raw materials: coating dough [Joshinko 100, sugar (caster sugar) 20, boiled Japanese wormwood 10], bean paste [Namineri-an 100, salt 0.1]

-Kushi-dango (skewered rice dumplings, steamed)

-15018 An (coated by red bean paste)

-15019 mitarashi (seasoned with sweet soy glaze)

"Kushi-dango" is a product made by skewering rounded dumplings for which Joshinko was kneaded, steamed, and pounded, and putting bean pastes (Adzuki Koshi-an, Adzuki Tsubushi-an) or sauce. "Kushi-dango,

mitarashi" is also called Shoyu-dango (soy-sauce dumplings). The name for "Kushi-dango, soy sauce" in the Composition Tables 2010 was changed to "Kushi-dango, mitarashi". The component values are each determined by calculation based on blending ratio and the component values of raw materials.

"An"

Recipe: dumplings 8, strained red bean paste 3

Blending ratio of raw materials: dumplings [Joshinko 100], bean paste [Namineri-an 100, salt 0.2] "mitarashi"

Recipe: dumplings 9, sauce 2

Blending ratio of raw materials: dumplings [Joshinko 100], sauce [sugar (caster sugar) 95, Koikuchi-shoyu (common soy sauce) 54, potato starch 14]

-15121 "Kudzu-mochi" (sweetened gelatin made from Kuszu starch, with roasted soybean flour and brown sugar syrup)

-15122 "Kudzu-mochi" (sweetened gelatin made from Wheat starch, with roasted soybean flour and brown sugar syrup)

"Kudzu-mochi, Kuszu starch", newly listed, is distributed mainly in Kansai and "Kudzu-mochi, Wheat starch" is distributed mainly in Kanto. It is Japanese traditional confectionery which is often eaten with Kinako with sugar or brown sugar syrup. Also, there is a product in which sugar is added as raw materials of "Kudzu-mochi", but the component values of only "Kudzu-mochi" without sugar were listed. The component values are determined by calculation based on blending ratio and the component values of raw materials.

"Kudzu-mochi, Kuszu starch"

Blending ratio of raw materials¹): Kuszu starch 55, water 225

"Kudzu-mochi, Wheat starch"

Blending ratio of raw materials¹): Wheat starch 55, water 225

-15020 Moon cake (Yue bing)

"Moon cake" is a product made by wrapping filling including walnuts or sesame with dough for which flour was mixed and kneaded with sugar, lye water, etc., patterning the surface, and baking it. It is known as Chinese confectionery and is characterized by lye water powder in coating dough. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Recipe: coating dough 5, filling 4

Blending ratio of raw materials: coating dough [soft flour (first grade) 100, sugar (caster sugar) 54,

shortening 17.5, sucrose syrup 5, lye water powder 1], filling [raw bean paste 100, sugar (caster sugar) 85, walnut 15, sucrose syrup 10, sesame 7.5], lye water powder [potassium carbonate 6.0, sodium carbonate 3.9, phosphates 1]

-15123 "Gohei-mochi" (rice cake, grilled with soy sauce, miso, sugar and sesame paste)

"Gohei-mochi", newly listed, is local cuisine in Aichi prefecture, Gifu prefecture, Shizuoka prefecture, Nagano prefecture, etc. It is a product made by pounding hot cooked rice, arranging it in a thin and long shape, putting sauce (sugar and miso, to which walnuts, sesame, etc. are sometimes added), and holding it over flame to be hardened. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Recipe¹: dough made from non-glutinous rice 50, sauce (kneaded miso) 10.6

-"Sakura-mochi"

-15021 "Kanto style" (pink small pancake roll with red bean paste filling, wrapped by a salted cherry leaf. Dough is made from wheat and rice flour.)

-15022 "Kansai style" (pink rice cake stuffed with red bean paste, wrapped with a salted cherry leaf. Dough is made from glutinous rice flour.)

"Sakura-mochi" is a product made by wrapping bean paste with pink thin baked dough of flour (Kanto style), or pink glutinous rice or the mixture of sugar and steamed Domyojidane (Domyojiko) which is made by steaming and drying glutinous rice (Kansai style), and wrapping it with a salted cherry leaf. "Kansai style" is also called Domyoji. There is also a product wrapping Shiro-an. Both of the listed foods are products of Adzuki Koshi-an. The component values are determined by calculation based on blending ratio and the component values of raw materials.

"Kanto style"

Recipe: coating dough 4, strained red bean paste 5

Blending ratio of raw materials: coating dough [soft flour (first grade) 100, Shiratamako 11, sugar (caster sugar) 56], bean paste [Namineri-an 100, salt 0.2]

"Kansai style"

Recipe: coating dough 3, strained red bean paste 2

Blending ratio of raw materials: coating dough [Domyojidane 100, sugar (caster sugar) 50], bean paste [Namineri-an 100, salt 0.2]

-15124 "Sasa-dango" (sweet rice cake stuffed with red bean paste, wrapped in sasa-bamboo leaves)

"Sasa-dango", newly listed, is a product made by wrapping bean paste with dough for which non-glutinous rice and glutinous rice were milled, kneaded with water, and blended with dried Japanese wormwood and kneaded Shiratamako, wrapping it with sasa-bamboo leaves, and steaming it. Bean pastes include Adzuki Koshi-an, Adzuki Tsubushi-an, Kinpira gobo (Burdock Kinpira), Hijiki no nimono (Hijiki seaweed salad), etc. The listed food is a product of Adzuki Koshi-an. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Recipe¹): coating dough 34, strained red bean paste 20

Blending ratio of raw materials: coating dough¹ [glutinous rice flour 300, non-glutinous rice flour 200,

sugar (caster sugar) 50, soft flour (first grade) 50, boiled water 350,

Shiratamako 50, water 40, Japanese wormwood (boiled) 89, potato starch

1], bean paste [Adzuki beans 200, sugar (caster sugar) 280, salt 1]

-15023 "Daifuku-mochi" (sweet rice cake stuffed with red bean paste)

"Daifuku-mochi" is a product made by wrapping bean paste with dough for which glutinous rice (flour) was steamed and pounded. The mixture of rice cake dough and other raw materials is called Mamedaifuku, Kusadaifuku, Gomadaifuku, etc. Meanwhile, there are also products in which fresh strawberries or Kanroni of chestnuts are added on the basis of Adzuki Koshi-an and Adzuki Tsubushi-an and which are called Ichigodaifuku, Kuridaifuku, etc. In this composition table, a product was listed, in which only Adzuki Koshi-an was wrapped with coating dough made from only rice cake. The component values are determined by calculation based on blending ratio and the component values of raw materials. The component values of Mamedaifuku, Ichigodaifuku, Kuridaifuku, etc. can be calculated by using the component values of raw materials if blending ratios of raw materials are clarified.

Recipe: coating dough 10, strained red bean paste 7

Blending ratio of raw materials: coating dough [rice cake 100], bean paste [Namineri-an 100, salt 0.2] -15024 "Taruto (traditional confectionery)" (Swiss roll with red bean paste filling)

"Taruto" is a product made by wrapping bean paste having Yuzu aroma with Kasutera dough (An roll Kasutera). It is local confectionery in Ehime prefecture and is different from tart which is a western style cake. Thus, the name for "Taruto" in the Composition Tables 2010 was changed to a food name with (traditional confectionery). The component values are determined by calculation based on blending ratio and the component values of raw materials. Note that Siberia is similar in raw materials, for which the listed values can be used.

Recipe: coating dough 2, strained red bean paste 1

Blending ratio of raw materials: coating dough [sugar (caster sugar) 200, chicken egg (whole) 200, soft flour (first grade) 100, sucrose syrup 50], bean paste [Nakawari-an 100], Yuzu juice 7.8

-15025 "Chimaki" (bamboo-leaf-wrapped sweet rice dough, steamed)

"Chimaki" is a product made by forming rice cake made from non-glutinous rice, glutinous rice, rice flour, etc. into a long cone or a triangular pyramid, wrapping it with leaves of bamboo or water oat, binding it with soft rush, and steaming or boiling it. It is often eaten with Kinako with sugar. Products in which Kudzu, Yokan, or Fu-manju is used are also called Chimaki.

The listed food is a product made by forming dough for which Joshinko, etc. is mixed with sugar and water, steamed, and kneaded, into a cone, wrapping it with a bamboo leaf, binding it with soft rush, and steaming it. The component values are determined by calculation based on the component values of raw materials.

Blending ratio of raw materials: sugar (caster sugar) 100, Joshinko 88, glutinous rice flour 12 -15026 "Chatsu" (red bean paste covered with green tea flavored dough, baked)

"Chatsu" is a product made by wrapping bean paste with dough for which flour, sugar, egg white, and powdered tea were mixed and kneaded and baking both sides in a pan. There is also a product for which powdered tea was not mixed in dough, the upper surface was made wet to allow Sencha tea to adhere before baking the dough wrapping bean paste, and the surface and the back were baked in this order while it was pressed on a pan. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Recipe: coating dough 1, strained red bean paste 9

Blending ratio of raw materials: coating dough [soft flour (first grade) 100, sugar (caster sugar) 100,

chicken egg (white) 38, potato starch 10, powdered tea dash], bean paste [Nakawari-an 100, sucrose syrup, black sesame 9]

-15027 "Dorayaki" (Japanese pancake sandwich with red bean paste filling)

"Dorayaki" is a product made by baking dough for which chicken eggs and sugar were mixed and foamed and flour is added, into a round shape in a pan, putting Tsubushi-an between two pieces of the baked dough, and putting the surroudings of the baked dough together. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Recipe: coating dough 5, mushed red bean paste 4

Blending ratio of raw materials: coating dough [soft flour (first grade) 100, sugar (caster sugar) 100, chicken egg (whole) 100, salt 1.2], bean paste [Tsubushi-an 100]

-15004 "Nama-yatsuhashi, An" (Cinnamon-flavored sweet rice dough, steamed, with red bean paste filling)

"Nama-yatsuhashi, An" is a product made by wrapping bean paste with yatsuhashi dough for which rice flour was steamed, sugar was added, and kneaded. The name for "Aniri-nama-yatsuhashi" in the Composition Tables 2010 was changed. The listed food is a product wrapping Tsubushi-an and Koshi-an at the same ratio. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Recipe: coating dough 4, red bean paste 6

Blending ratio of raw materials: coating dough [rice flour 100, sugar (caster sugar) 100], bean paste [Tsubushi-an 50, Namineri-an 50]

-15028 "Nerikiri" ("Gyuhi" kneaded with colored bean paste, molded)

"Nerikiri" is a product made by pressing Nerikiri-an for which Gyuhi or Mijinko as a binder was added to Neri-an (generally Shiro-an) and kneaded, on a wooden mold to have a pattern. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials: Namaneri-an 100, Neri-gyuuhi 10

-Manju

-15029 "Kasutera-manju" (sponge cake stuffed with red bean paste)

-15030 "Kudzu-manju" (sweetened gelatin made from kudzu starch, stuffed with red bean paste)

-15031 "Kuri-manju" (baked sweet dough stuffed with red bean paste and candied chestnuts)

-15032 "To-manju" (baked sweet dough stuffed with red bean paste)

-15033 "Mushi-manju" (steamed sweet dough stuffed with red bean paste)

-Chinese style steamed bun

-15034 stuffed with red bean paste

-15035 stuffed with meat and vegetable

"Manju" includes various types, but "Kasutera-manju", "Kudzu-manju", "Kuri-manju", "To-manju", "Mushi-manju", and "Chinese style steamed bun" were listed in this composition table.

"Kasutera-manju" is a product made by wrapping Neri-an with Kasutera dough and baking it. The listed food is a product of Adzuki Koshi-an. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Recipe: coating dough 5, strained red bean paste 7

Blending ratio of raw materials: coating dough [soft flour (first grade) 100, sugar (caster sugar) 50, chicken egg (whole) 50, raising agent 2], bean paste [Namineri-an 100]

"Kudzu-manju" is a product made by wrapping Neri-an with dough (Kudzudane) for which water was added to Kudzu starch and sugar and was heated to be translucent, steaming the dough to be translucent, and wrapping it with a cherry leaf. It is also called Kudzu-zakura. The listed food is a product of Adzuki Koshi-an. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Recipe: coating dough 2, strained red bean paste 3

Blending ratio of raw materials: coating dough [sugar (caster sugar) 200, potato starch 100], bean paste [Namineri-an 100, salt 0.2]

"Kuri-manju" is a product made by wrapping bean paste in which small pieces of chestnuts immersed with sugar syrup were mixed, with dough for which flour, chicken eggs, sugar, etc. were used, baking it, and giving a luster on the surface. Some commercial products use Shiro-an or are baked to give a color or a luster like chestnut skin to the surface without using chestnuts. The listed food is a product using bean paste in which chestnuts immersed with sugar syrup were added to Adzuki Koshi-an. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Recipe: coating dough 1, strained red bean paste with chestnuts 2

Blending ratio of raw materials: coating dough [soft flour (first grade) 100, sugar (caster sugar) 60, chicken

egg (whole) 45, raising agent 1], bean paste [Nakawari-an 95,

Kuri-kanroni 5]

"To-manju" is a product made by baking dough using flour, chicken eggs, sugar, etc. in a round mold, a cylindrical mold, etc. on a heated pan, rounding An, pounding it to be flat, putting bean paste on the dough, further adding dough, reversing it, and baking it so as not to bake the lateral sides brought in contact with the mold. "To-manju" in this composition table is different from confectionery having the same name in Shikoku region [in which the mixture of black sugar and ground sesame are used as filling]. The listed food is a product of Adzuki Koshi-an. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Recipe: coating dough 4, strained red bean paste 5

Blending ratio of raw materials: coating dough [chicken egg (whole) 110, soft flour (first grade) 100, sugar (caster sugar) 100, honey 10, Mirin 5], bean paste [Nakawari-an 100]

"Mushi-manju" is a product made by wrapping Neri-an with dough for which sugar was dissolved into water and flour with a raising agent was added and kneaded, and steaming it [Yaku(Kusuri)-manju] or wrapping Neri-an with dough for which flour was added to Saka(Japanese rice wine)-dane, kneaded and fermented, and steaming it (Sake-manju). It includes Kasuga-manju, Rikyu-manju, Soba-manju, etc. There is also a product in which rice flour is used for dough (Karukan-manju, etc.). The listed food is a Kusuri-manju of Adzuki Koshi-an which is the most basic product. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Recipe: coating dough 1, strained red bean paste 2

Blending ratio of raw materials: baked dough [soft flour (first grade) 100, sugar (caster sugar) 60, raising agent 1], bean paste [Namineri-an 100, salt 0.2]

"Chinese style steamed bun" is a product made by wrapping bean paste or filling with flour dough using yeast, and steaming it. It is baozi in Chinese cuisine. "stuffed with red bean paste" which was listed is a product in which bean paste of Adzuki Koshi-an with lard, etc. was used. Note that "stuffed with meat and vegetable" is called Buta-man (in Japanese for pork steamed bun) in Kansai region. The component values are determined by

calculation based on blending ratio and the component values of raw materials.

"stuffed with red bean paste"

Recipe: coating dough 10, strained red bean paste 7

Blending ratio of raw materials: coating dough [soft flour (first grade) 200, hard flour (first grade) 100,

sugar (caster sugar) 25, yeast 0.7, salt 0.2], bean paste [Namineri-an 250,

lard 25, sesame 25]

"Stuffed with meat and vegetable"

Recipe: coating dough 10, filling 4.5

Blending ratio of raw materials: coating dough [soft flour (first grade) 200, hard flour (first grade) 100,

sugar (caster sugar) 25, yeast 0.7, salt 0.2], filling [onion 150, pork ground meat 100, bamboo shoot 100, green onion 70, cabbage 40, Shiitake 15, ginger 6, sugar (caster sugar) 5, soy sauce 4, salt 4, sesame oil 3]

-15036 "Monaka" (glutinous rice wafers with red bean paste filling)

"Monaka" is a product made by filling Monaka-an with Monaka dough for which pounded rice cake was thinly baked in a fitting mold. Note that bean pastes include Adzuki Tsubu-an, Shiroingen-an, Kuriiri-an (bean paste including chestnuts), Gyuhiiri-an (bean paste including Gyuhi), etc. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Recipe: coating dough 1, strained red bean paste 9

Blending ratio of raw materials: coating dough [glutinous rice flour 100], bean paste [Monaka-an 100] -15037 "Yubeshi" (steamed sweet dough made from rice flour, walnuts, soy sauce and citrus "Yuzu" juice)

"Yubeshi" includes Maru-yubeshi made by holling out a yuzu fruit and filling it with flesh, glutinous rice flour, non-glutinous rice flour, white miso, soy sauce, sugar, etc., steaming it, and a product made by mixing and steaming yuzu skins and fruit juice, glutinous rice flour, non-glutinous rice flour, white miso, sugar, etc. and cutting it into pieces. There are also products with walnuts or sesame or products without yuzu. In this composition table, a product with walnuts was listed. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials: sugar (coarse crystal, red) 140, sugar (coarse crystal, white) 120, Joshinko 100, walnuts 24, soy sauce 20, Mijinko 10, yuzu skin 5

-"Yokan"

-15038 "Neri-yokan" (hardened red bean agar bar)

-15039 "Mizu-yokan" (soft red bean jelly)

-15040 "Mushi-yokan" (steamed red bean paste bar)

"Neri-yokan" is a product made by heating swelled agar jelly with water to be dissolved, heating it with sugar and Adzuki Koshi-an, boiling and kneading it, and hardening it in a mold or a tube. There are various products such as Adzuki Tsubushi-an, Shiroingen-an, and Kuriiri-an. The listed food is a product of Adzuki Koshi-an. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials: sugar (caster sugar) 100, Koshi-an 65, sucrose syrup 6, agar-agar 1.5

"Mizu-yokan" is a product made by heating swelled agar jelly with water to be dissolved, kneading it with sugar, sucrose syrup, and Neri-an, and cooling and hardening it in a mold. A canned product was listed. Note that canned products tend to have less water than products which are not be canned. There are various products according to types of bean pastes. The listed food is a product of Adzuki Koshi-an which is the most basic product. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials: Namineri-an 400, sugar (caster sugar) 100, sucrose syrup 6, agar-agar 4,

salt 1.2

"Mushi-yokan" is a product made by filling a mold with dough for which flour and water were added to Neri-an and kneaded, steaming, cooling, and cutting it into pieces. There are various products such as Kurimushi-yokan according to used raw materials, but a product using Adzuki Namineri-an which is the most basic product was listed in this composition table. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials: Namineri-an 100, sugar (caster sugar) 15, soft flour (first grade) 9.3, salt

0.3

<TRADITIONAL DRY CONFECTIONERIES>

<TRADITIONAL DRY CONFECTIONERIES> is defined as products with water content of less than 20 % in Japanese traditional confectioneries.

-15041 "Amedama" (sugar candy)

"Amedama" is a product made by boiling sugar and sucrose syrup as main raw materials. There are many types according to used secondary raw materials. There are also products in which sweeteners other than sugar are used. In this composition table, a product with sugar and sucrose syrup which has the most basic blending ratio was listed.

Note that salt may be added to strengthen sweet due to contrast effects of taste and the note was described in a remark. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials: sugar (caster sugar) 100, sucrose syrup 20

-15042 "Imo-karinto" (deep fried sweet potato chips, coated with sugar syrup)

"Imo-karinto" is a product made by cutting sweet potato into strips, frying them in oil, and coating them with sugar syrup.

The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials: sweet potato 126, sugar (caster sugar) 38, absorbed fry oil (vegetable oil)

22

-15043 "Okoshi" (puffed sweet rice cake)

"Okoshi" is a product made by putting heated sugar or sucrose syrup on Okoshi-dane, mixing them, thinly spreading in a wet wooden frame, cutting into pieces and cooling it. Various types have been produced across Japan, but there are Kome-okoshi (rice) in Kanto, Kuri-okoshi (chestnuts) in Kansai, etc. as representative products. However, the main raw material is Okoshi-dane and the difference is only grain size in many cases.

The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials: Okoshi-dane125, sugar (caster sugar) 100, sucrose syrup 25, vegetable oil 0.9, salt 0.6

-15044 "Onoroke-mame" (roasted peanuts coated with rice dough, baked)

"Onoroke-mame" is a product made by coating roasted peanuts with Japanese apricot powder with salt and roasting them. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Recipe: coating 100, roasted peanuts 35

Blending ratio of raw materials: coating [rice flour 100, sugar (caster sugar) 5, salt 1.3]

-"Karinto" (crunchy deep fried wheat flour dough coated with sugar)

-15045 "black" (brown sugar)

-15046 "white" (white sugar)

"Karinto" is a product made by forming in rods dough for which water, yeast, etc. were added to flour which is the main raw material and kneaded, frying in oil, coating with sugar syrup, and drying them or adding flavor raw materials after drying. Note that there is also product in which dried powder of vegetables was added to flour. The component values are determined by calculation based on blending ratio and the component values of raw materials.

"Karinto, black"

Blending ratio of raw materials: hard flour (second grade) 100, brown sugar 40, sugar (caster sugar) 30, absorbed fry oil (vegetable oil) 19, ammonium carbonate 1.6, yeast 1.2

"Karinto, white"

Blending ratio of raw materials: hard flour (second grade) 100, sugar (caster sugar) 30, absorbed fry oil (vegetable oil) 13, ammonium carbonate 1.6, yeast 1.2

-15047 "Gokabo" (roasted glutinous rice stick covered with roasted soy powder and sugar)

"Gokabo" is a product made by mixing Okoshi-dane with syrup made from sugar and sucrose syrup, rounding it into the cylindrical shape, wrapping it with dough for which syrup made from Kinako, sugar, and sucrose syrup was mixed, rolling and spreading it into a thin rod on a table with Kinako, and cutting it into pieces. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials: Okoshi-dane 100, sugar (caster sugar) 100, sucrose syrup 100, Kinako 100 -- "Wheat flour cracker"

-15048 "Isobe-senbei" (soft wheat flour cracker made using soda water from Isobe hot spring)

-15049 "Kawara senbei" (hard wheat flour cracker shaped like a Japanese traditional roof tile)

-15050 "Maki-senbei" (light wheat cracker roll with sugar confectionary filling)

-"Nanbu-senbei," (round wheat flour cracker)

-15051 "Sesame" (with sesame seeds)

-15052 "Peanut" (with peanuts)

Senbei (Japanese-style cracker) commonly refers to a product in which wheat flour was used in Kansai, but

often also includes a product in which rice was used (rice cracker) in Kanto. In this composition table, the product in which wheat flour was used is defined as "Wheat flour cracker" and the product in which rice was used is defined as "Rice cracker".

"Isobe-senbei" is a product made by adding foamed egg white to dough for which sugar and salt were dissolved in Isobe hot spring (salt spring including sodium hydrogen carbonate), ammonium carbonate, salad oil and flour were added and kneaded, and hot spring water was further added, and baking it in a mold. There are Tansan-senbei (carbonated), Onsen-senbei (hot spring), and Yu-senbei (hot water) as similar products. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials: soft flour (first grade) 100, sugar (caster sugar) 100, salt (hot spring) 2.5

"Kawara-senbei" is a product made by filling a mold with dough for which sugar and chicken eggs were mixed, sodium hydrogen carbonate dissolved in water, water, and flour were added and kneaded, and water was further added, and baking it over a fire. It is one type of the most popular Senbei. The component values are determined based on analytical values of commercial products.

"Maki-senbei" is a product made by baking dough for which flour, sugar, and chicken eggs were used and wrapping Aruheito (made by boiling sugar and dash sucrose syrup as main raw materials) as a core. It is also called "Aruheimaki". The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials: soft flour (first grade) 100, sugar (caster sugar) 100, Aruheito 50, chicken eggs (whole) 20, raising agent 1

"Nanbu-senbei" is a product made by baking dough, for which flour and salt were used, with various raw materials such as sesame, peanuts, and walnuts in a mold. It originates from Morioka city and Nanbu region, which led to the product name. The component values are determined by calculation based on blending ratio and the component values of raw materials.

"Sesame"

Blending ratio of raw materials: soft flour (first grade) 100, sesame 20, salt 1.2

"Peanut"

Blending ratio of raw materials: soft flour (first grade) 100, peanuts 20, sugar (caster sugar) 5, salt 1-15053 "Shiogama" (molded confectionary made from sugar, glutinous rice flour and perilla leaf powder)

"Shiogama" is a product made by adding liquid in which sucrose syrup was dissolved [Shitori-mitsu] to sugar, adding Mijinko and Yukari (dried red perilla), and pressing and hardening it in a wooden mold. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials: sugar (caster sugar) 100, Mijinko 60, sucrose syrup 3, salt 2.6, Yukari 1.3 – "Hina-arare"

-15055 "Kanto style" (roasted and sugared rice dough with candied adzuki beans and roasted soybeans for the Doll's festival)

-15056 "Kansai style" (roasted rice dough for the Doll's festival)

"Hina-arare" is a product made by mixing Shiromaru-dane for which glutinous rice was steamed, dried, and roasted, Fusen-dane for which glutinous rice was steamed, pounded, colored, spread, cut into small pieces, dried,

and roasted, and Mame-dane for which soy beans immersed in water were roasted and coated with syrup. In "Hina-arare", arare part which is main body is made from starch in Kanto or made from rice in Kansai. Also, blending ratios of roasted soy beans and candied Adzuki beans are different. Thus, "Hina-arare" was separately listed as "Kanto style" and "Kansai style" in this composition table. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Note that component values of "Kansai style" were calculated from a product with candied Adzuki beans and roasted soy beans in the Composition Tables 2010 because the product was considered to commonly include them, but the component values were recalculated from a product made from only salty rice cracker so as to reflect currently distributed products.

"Kanto style"

Blending ratio of raw materials: sweet puffed rice 88, candied adzuki beans 6, roasted soybeans 6 "Kansai style"

Blending ratio of raw materials: salty rice cracker 100

-Rice cracker

-15057 "Age-senbei" (fried and salted rice cracker)

-15058 "Amakara-senbei" (rice cracker coated with soy sauce and grain sugar)

-15059 "Arare" (glutinous rice cracker)

-15060 "Shoyu-senbei" (soy sauce flavored rice cracker)

"Rice cracker" is a general term for Arare made from glutinous rice and Senbei made from non-glutinous rice.

"Age-senbei" is a product made by spreading rice cake-like dough, for which non-glutinous rice immersed in water was ground and kneaded while being steamed, into a plate, shaping in a mold, drying, frying in oil, and salting it. Iodine, selenium, chromium, molybdenum, and biotin are determined based on analytical values, and others are determined based on blending ratio and the component values of raw materials.

Blending ratio of raw materials: Joshinko (water 6 %) 100, absorbed fry oil (vegetable oil) 20, salt 1.5

"Amakara-senbei" is a product made by spreading rice cake-like dough, for which non-glutinous rice immersed in water was ground and kneaded while being steamed, into a plate, shaping in a mold, drying, baking, and coating it with a seasoning liquid including sugar or with hard sugars (Zarame sugar). It is also called "Zarame-senbei". The component values are determined by calculation based on blending ratio and the the component values of raw materials.

Blending ratio of raw materials: Joshinko 100 (water 6 %), sugar (caster sugar) 10, soy sauce 9

"Arare" is a product made by hardening rice cake made from glutinous rice, cutting into pieces, drying, baking, and coating it with seasoning. Iodine, selenium, chromium, molybdenum, and biotin are determined based on analytical values, and others are determined based on blending ratio and the component values of raw materials.

Blending ratio of raw materials: rice cake (water 6 %) 100, soy sauce 12

"Shoyu-senbei" is a product made by spreading rice cake-like dough, for which non-glutinous rice immersed in water was ground and kneaded while being steamed, into a plate, shaping in a mold, drying, baking, coating with a seasoning liquid mainly made from soy sauce, and further baking it. The name for "Sio-senbei" in the Composition Tables 2010 was changed. Iodine, selenium, chromium, molybdenum, and biotin are determined based on analytical values, and others are determined based on analytical values of commercial products.

-"Boro"

- -15061 "Boro, small" (small balls of baked starch dough)
- -15062 "Soba-boro" (baked sweet dough made from buckwheat and wheat flour)

"Boro, small" is a product made by forming dough for which sugar and chicken eggs were mixed and starch was added, arranging it on a steel plate, and baking it. It is also called Tamago-boro (egg), Chichi-boro (milk), Eisei-boro (hygiene), Eiyo-boro (nutrition), etc. The name for "Eisei-boro" in the Composition Tables 2010 was changed. Calcium and vitamins are added to many of the products for infants and thus the note was described in a remark. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials: potato starch 100, sugar (caster sugar) 100, chicken egg (whole) 40 "Soba-boro" is a product made by thinly spreading dough for which sugar and chicken eggs were mixed, sucrose syrup, sugar, and sodium hydrogen carbonate dissolved in water were added and mixed, and flour and buckwheat flour were added and kneaded, shaping it in a mold, and baking it. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials: soft flour (first grade) 70, sugar (caster sugar) 70, chicken egg (whole) 40,

buckwheat flour (straight) 20, sucrose syrup 7, honey 5, sodium

hydrogen carbonate 0.6

-15063 "Matsukaze" (Baked sweet dough, topped with poppy seeds)

"Matsukaze" is a product made by leveling off dough for which flour, sugar, sucrose syrup, etc. were kneaded, sprinkling poppy seeds, baking, and cutting it at a high temperature. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials: soft flour (first grade) 100, sugar (caster sugar) 100, sucrose syrup 12, ammonium carbonate 0.4, sodium hydrogen carbonate 0.2

-15064 "Mishima-mame" (sugar-coated roasted soybeans)

"Mishima-mame" is a product made by roasting soy beans and coating them with sugar. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials: sugar (caster sugar) 200, roasted soy beans 100

-15065 "Yatsuhashi" (cinnamon-flavored sweet rice dough, baked)

"Yatsuhashi" is a product made by steaming dough made from Joshinko, adding and kneading sugar, honey, cinnamon powder, etc. thinly spreading it, sprinkling soy bean powder, cinnamon powder, etc. cutting it into the strip shape, baking both faces in a pan, and bending it in the gutter shape by putting it at a high temperature in a mold. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials: rice flour 100, sugar (caster sugar) 100

-"Rakugan"

-15066 "Rakugan, regular" (molded dry confectionary made from fine roasted glutinous rice flour and sugar)

-15067 "Mugi-rakugan" (molded dry confectionary made from roasted barley flour and sugar)

-15068 "Morokoshi-rakugan" (molded dry confectionary made from powdered adzuki bean paste and sugar)

"Rakugan" is a product made by adding liquid in which sucrose syrup was dissolved [Shitori-mitsu] or water to sugar, mixing with Kokufun(grain flour)-dane, forming in a wooden mold, picking out and drying it. "Rakugan" for which Mijinko was used, "Mugi-rakugan" for which roasted barley flour was used, and "Morokoshi-rakugan" for which Adzuki bean flour or Adzuki Sarashi-an was used, were listed. The component values are determined by calculation based on blending ratio and the component values of raw materials.

"Rakugan, regular"

Blending ratio of raw materials: sugar (caster sugar) 100, Mijinko 54, potato starch 13, sucrose syrup 3 "Mugi-rakugan"

Blending ratio of raw materials: sugar (caster sugar) 100, roasted barley flour 60, Mijinko 10, sucrose syrup 3

"Morokoshi-rakugan"

Blending ratio of raw materials: sugar (caster sugar) 100, Adzuki Sarashi-an 40, glutinous rice flour 10,

sucrose syrup 3, salt 0.5

<BUNS WITH FILLING>

-15125 fried bun

-15069 baked bun with red bean paste filling, regular

- -15126 baked bun with red bean paste filling, thin dough type
- -15127 fried bun with curry filling
- -15128 fried bun with curry filling, fried bun only
- -15129 fried bun with curry filling, curry filling only
- -15070 baked bun with custard cream filling, regular
- -15130 baked bun with custard cream filling, thin dough type
- -15071 baked bun with strawberry jam filling
- -15072 "Korone" (horn-shaped bread), with chocolate cream filling
- -15131 baked bun with chocolate cream filling, thin dough type
- -15132 "Melon-pan" (sweet bun covered in a thin layer of crisp cookie dough)

Buns with filling are a bun using bun dough including much sugar, which is considered to be a food unique to Japan. Buns are classified into "white breads", "sweet buns" and "other breads and buns" in Quality Labeling Standard⁵).

Buns with filling, newly listed, are "fried bun" for school meal and thin dough-type sweet buns whose distribution amount has been recently increased ("baked bun with red bean paste filling", "baked bun with custard cream filling", and "baked bun with chocolate cream filling"). "fried bun" is a fried bun for school meal. It may be provided with coating of Kinako with sugar, cocoa with sugar, or finely ground tea with sugar, but the component values of only a fried bun were listed. The component values are determined based on analytical values (2015) by using buns for school meal in five places across Japan as samples.

The component values of "fried bun with curry filling", newly listed, are determined by calculation based on

a recipe and the component values of fried bun and filling.

The component values of "fried bun with curry filling, fried bun only", "fried bun with curry filling, curry filling only", and "Melon-pan", newly listed, are each determined based on analytical values (2015) of commercial products.

The component values of "baked bun with red bean paste filling, regular", "baked bun with custard cream filling, regular", "Korone", and "baked bun with strawberry jam filling" are each determined by calculation based on blending ratio and the component values of raw materials.

The component values of "baked bun with red bean paste filling, thin dough type", "baked bun with custard cream filling, thin dough type", and "baked bun with chocolate cream filling, thin dough type" are each determined by calculation based on blending ratio and the component values of raw materials.

Recipes¹) of buns for which the component values were calculated are each as follows:

"Baked bun with red bean paste filling, regular": soft roll 10, Namineri-an 7

"Baked bun with red bean paste filling, thin dough type": soft roll 22, Tsubushi-an (with sugar) 7

"Baked bun with custard cream filling, regular": soft roll 5, custard cream 3

"Baked bun with custard cream filling, thin dough type": soft roll 31, custard cream 69

"Baked bun with strawberry jam filling": soft roll 5, strawberry jam (heavily sweetened) 3

"Korone": soft roll 5, chocolate cream 4

"Baked bun with chocolate cream filling, thin dough type": soft roll 31, chocolate cream 69

"Soft rolls" which was used for calculation, "custard cream" for baked bun with custard cream filling, and "Chocolate cream" for "Korone" and "baked bun with chocolate cream filling" are listed in Cereals, others of Confectionaries, and [5] in the beginning of this item, respectively. Note that products with Adzuki Tsubushi-an are mainly distributed in Kanto and products with Adzuki Koshi-an are mainly distributed in Kansai for baked bun with red bean paste filling. The component values of a baked bun with Adzuki Tsubu-an filling can be calculated from the ratio of listed "baked bun with red bean paste filling" and the component values of Tsubushi-an instead of Namineri-an.

Also, "white", "white long roll", hardtack", "French bread", "rye and wheat bread", "raisin bread", "soft rolls", and "croissants" were listed in Cereals.

<CAKE AND PASTRIES>

-15073 custard cream puff

"Custard cream puff" is a product made by filling chou dough (chou puff) with custard cream or whipping cream. The component values are determined by calculation based on blending ratio and the component values of raw materials for a product with custard cream.

Recipe: choux pastry 1, custard cream 5

Blending ratio of raw materials: choux pastry [chicken egg (whole) 162, soft flour (first grade) 100, water 100, salted butter 80, sugar (caster sugar) 3.5, salt 0.7]

-15074 sponge cake

"Sponge cake" is a product made by using flour, chicken eggs, and sugar as main raw materials and baking them while using foaming property of eggs. The component values are determined based on analytical values of a product prepared to the following blending ratio.

Blending ratio of raw materials: soft flour (first grade) 100, chicken egg (whole) 150, sugar (caster sugar) 100, unsalted butter 10, water 10

-15075 layered cream cake, without fruit

"Layered cream cake" is a product commonly made by putting cream between slices of sponge cake, coating the surface with cream, and putting strawberries, etc. on the whipping cream in sponge cake or on the surface. Fruit names are often added to product names. Types and volumes of whipping cream (milk fat, milk and vegetable fats, and vegetable fat), fruit types, etc. are different between products. The listed food is a product only with sponge and whipping cream. The component values are determined by calculation based on the component values of "sponge cake" and "whipping cream, milk and vegetable fats".

Recipe: sponge cake 3, whipping cream (milk and vegetable fats) 1

-15133 tart

"Tart", newly listed, is cake in which whipping cream, custard cream, fruit, or nuts are placed on pie dough or biscuit dough. It is characterized by an uncovered surface unlike pie. The listed food is strawberry tart. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Recipe¹): tart 22.5, sponge cake 19.6, others (custard cream, etc.) 54.9

Blending ratio of raw materials¹: strawberry 31.9, wine jelly 2.4, whipping cream 6.3, custard cream 14.2, sponge cake 19.6, tart dough 25.5 (hard biscuit 17, unsalted butter 8.5)

-cheesecake

-15134 cheesecake, baked

-15135 cheesecake, unbaked

"Cheesecake, baked", newly listed, is a product made by using cream cheese, eggs, sugar, flour, and lemon juice, and baking them in an oven. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials¹): cream cheese 200, chicken egg 100, sugar (caster sugar) 60, soft flour (first grade) 25, lemon juice 14

"Cheesecake, unbaked", newly listed, is a product made by using cream cheese, fresh cream, plain Yogurt, biscuits, sugar, butter, lemon juice, powdered gelatin, etc., cooling and hardening them. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials¹: cream cheese 200, fresh cream 130, plain Yogurt (whole milk,

unsweetened) 100, biscuit (hard) 85, sugar (caster sugar) 55, salted butter 47.5, water 47.5, lemon juice 19.5, chicken egg (white) 12.5, powdered gelatin 6.5, curacao 2.5

-15076 Danish pastry

"Danish pastry" is a product made by placing oils and fats on dough including much sugar, folding and forming it, and baking it. Some products also wrap Adzuki bean paste, custard cream, etc. The listed food is a product which does not wrap bean paste. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials: hard flour (first grade) 80, margarine 40, soft flour (first grade) 20,

chicken egg (whole) 20, sugar (caster sugar) 15, shortening 15, fresh yeast 7, salt 1.4

-doughnuts

-15077 doughnuts, yeast-leavened

-15078 doughnuts, cake-type

"Doughnuts" is separated into "yeast-leavened" for which flour, butter (or shortening), chicken egg (whole), and sugar were used for dough and it was fermented by using yeast, and "cake-type" for which a raising agent was used. Also, there is French-type for which sugar was not used for dough and sugar was used as finishing after it was fried in oil. In addition, there are also products for which chocolate cream, etc. was inserted or chocolate, etc. was used as coating to complete doughnuts. The listed food is a product in which sugar was added to dough and nothing was inserted or spread. The component values are each determined by calculation based on blending ratio and the component values of raw materials.

"Yeast-leavened"

Blending ratio of raw materials: hard flour (first grade) 75, absorbed fry oil (vegetable oil) 29, soft flour (first grade) 25, sugar (caster sugar) 14, shortening 10, chicken eggs (whole) 10, skimmed milk powder 6, yeast 3, salt 1.5

"Cake-type"

Blending ratio of raw materials: soft flour (first grade) 100, chicken egg (whole) 50, sugar (caster sugar) 50, milk 20, shortening 10, absorbed fry oil (vegetable oil) 7.3, raising agent 1, salt 0.5

-pie

-15079 pie pastry

-15080 apple pie

-15081 meat pie

"Pie pastry" is a product made by folding dough for which flour and salt were mixed, butter (or shortening) was added and slightly mixed, and water was added and slightly kneaded, and baking it. The component values are determined based on analytical values of a sample prepared to the following blending ratio.

Blending ratio of raw materials: water 55, hard flour (first grade) 50, soft flour (first grade) 50, shortening 50, salt 2

"Apple pie" is a product made by placing sweetened cooked apple on American pie (kneaded pie) crust, or further placing crust with cuts on it, and baking it. The component values are determined by calculation based on blending ratio and the component values of raw materials. Note that component amounts of cherry pie, chocolate pie, cream pie, etc. can be calculated by measuring recipes of the products and using the component values of their raw materials. In this case, the component values of "pie pastry" can be used.

Recipe: pie crust 1, sweetened cooked apple 1

Blending ratio of raw materials: sweetened cooked apple [apple 100, sugar (caster sugar) 80]

"Meat pie" is a product made by wrapping filling of ground meat and onions seasoned with tomato sauce and salt with American pie crust and baking it. The component values are determined by calculation based on blending ratio and the component values of raw materials. Recipe: pie crust 8, filling 2

Blending ratio of raw materials: filling (ground meat 20, onion 10, carrot 10, tomato sauce 5, salt 0.5) -15082 butter cake

"Butter cake" is a product which includes flour, chicken eggs, and sugar at the same ratio as raw materials and is also called pound cake. Madeleine is also included in butter cake. Meanwhile, financier is similar in appearance, but almond powder is used at the half of flour and thus component values are different. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials: soft flour (first grade) 25, chicken egg (whole) 25, sugar (caster sugar) 25, salted butter 25

-15083 thick pancake

"Thick pancake" is a product made by baking slightly soft dough made from premixed flour for thick pancake in the round shape. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials: premixed flour for thick pancake 200, milk 145, chicken egg (whole) 50 -waffles

-15084 with custard cream filling

-15085 with strawberry jam filling

"Waffles" is a product made by baking dough made from flour, sugar, butter (or shortening), milk, and chicken eggs in a mold and inserting custard cream or jam. The listed food is a product for which custard cream and jam are used. The component values are each determined by calculation based on blending ratio and the component values of raw materials.

"With custard cream filling"

Recipe: coating dough 1, custard cream 1

Blending ratio of raw materials: coating dough [soft flour (first grade) 100, milk 100, chicken egg (whole)

50, sugar (caster sugar) 15, shortening 5, raising agent 1]

"With strawberry jam filling"

Recipe: coating dough 1, strawberry jam (heavily sweetened) 1

Blending ratio of raw materials: coating dough [soft flour (first grade) 100, milk 100, chicken egg (whole)

50, sugar (caster sugar) 15, shortening 5, raising agent 1]

<PUDDING AND CHILLED DESSERT>

-15086 caramel custard

"Caramel custard" is a product made by filling a mold with liquid for which sugar was added to chicken eggs and hot milk was mixed, and steaming it. The name for "custard pudding" in the Composition Tables 2010 was changed. The component values are determined based on analytical values of a sample prepared to the following blending ratio.

Blending ratio of raw materials: milk 250, chicken egg (whole) 125, sugar (caster sugar) 45

Cooled and hardened puddings which are distributed in a large quantity are different from the listed food because they include sugar, high-fructose corn syrup, milk products, vegetable fats and oils, sucrose syrup,

dextrin, starch, yolk powder, salt, gelling agents (polysaccharide thickener), flavors, emulsifiers, pH adjusters, etc.

-15136 Milk pudding

"Milk pudding", newly listed, is also called miruku-kanten (in Japanese for milk pudding), milk-yokan, etc. It is a product made by adding sugar to milk and hardening it with agar jelly. Almond jelly (Annin-dofu) is a product made by adding to milk pudding a liquid for which Annin (seed (nin) of apricot (an)) was ground in a mortar and water was added to extract components. Also, there are products in which almond essence having a flavor similar to apricot seeds or Amaretto (liqueur with almond flavor) was added to milk pudding. There are products with various hardness depending on the amount of agar jelly in milk pudding and almond jelly. The component values are determined by calculation based on blending ratio and the component values of raw materials for milk pudding.

Blending ratio of raw materials¹): water 200, milk 100, sugar (caster sugar) 30, agar-agar powder 1.8 –jelly

-15087 orange jelly

- -15088 coffee jelly
- -15089 milk jelly
- -15090 wine flavored jelly

"Jelly" is a product made by adding gelatinizers such as agar jelly, gelatin, pectin, and carrageenan to fruit juice, etc., dissolving and hardening it, and a product in which gelatin was used as a gelatinizer was listed. Carrageenan is often used for commercial products. They were separately listed as four types: "orange jelly", "Coffee jelly", "milk jelly", and "wine flavored jelly". There are products with various hardness depending on a ratio of gelatin. The listed food has hardness to allow the product to slightly shake. The component values are each determined by calculation based on blending ratio and the component values of raw materials.

"orange jelly"

Blending ratio of raw materials¹): valencia orange juice (reconstituted fruit juice) 300, sugar (caster sugar) 30, powdered gelatin 5

"coffee jelly"

Blending ratio of raw materials¹): water 300, sugar (caster sugar) 30, powdered gelatin 5, instant coffee 4 "milk jelly"

Blending ratio of raw materials¹): milk 400, sugar (caster sugar) 40, powdered gelatin 5

"wine flavored jelly"

Blending ratio of raw materials¹: water 115, sugar (granulated sugar) 20, red wine 15, powdered gelatin 3. -15091 Bavarian cream

"Bavarian cream" is a product made by adding sugar to milk, heating it, adding it to the mixture of egg yolk, sugar, and gelatin, cooling it, mixing foamed fresh cream, and cooling and hardening it in a mold. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials: milk 150, fresh cream 60, sugar (granulated sugar) 60, chicken egg (yolk) 40, water 30, powdered gelatin 6.

<BISCUITS>

-15092 wafers

-15141 wafers with cream

"Wafers" is a product made by filling a mold with dough for which sugar, chicken eggs, milk powder, raising agents, etc. were mixed with water and flour was added and kneaded, and baking it in the thin plate shape. The component values are determined based on analytical values of commercial products. There are also products for infants in which calcium and vitamins were added and thus the note was described in a remark.

The component values of "wafers with cream", newly listed, are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials (with cream): wafers 100, 150, sugar (caster sugar) 15, shortening 15 -crackers

-15093 oil-sprayed

-15094 soda

"crackers" is a product made by thinly rolling out and stacking flour dough fermented by using yeast, shaping it in a mold and baking it.

"Oil-sprayed" is a product made by thinly rolling out and stacking dough for which flour, shortening, salt, yeast, and raising agents were mixed and fermented, shaping it in a mold, baking it, and spraying it with dissolved vegetable oil. The component values are determined based on analytical values of commercial products.

"soda" is a product made by thinly rolling out and stacking dough for which flour, shortening, salt, yeast, and raising agents were mixed and fermented, shaping it in a mold, and baking it. The component values are determined based on analytical values of commercial products.

-15095 Sablé shortbread

"Sablé shortbread" is a product made by shaping in a mold dough for which flour, fats and oils, chicken eggs, sugar, raising agents were mixed, kneaded well, and rolled out, and baking it (may be a baked product after sprinkling granulated sugar). The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials: soft flour (first grade) 110, sugar (caster sugar) 70, shortening 30, chicken egg (whole) 30, raising agent 1.6

-15054 Chinese cookies containing lard

"Chinese cookies containing lard" is a product in which lard was used as oil and fats. It was classified in <TRADITIONAL DRY CONFECTIONERIES> in the Composition Tables 2010, but the category was changed to <BISCUITS>. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials: soft flour (first grade) 100, sugar (caster sugar) 70, lard 65, chicken egg (whole) 30, raising agent 1, salt 0.3

-Biscuits

-15097 hard biscuits

-15098 soft biscuits

"Biscuits" is a product made by baking dough for which flour, sugar, oils and fats, salt, milk powder, raising agents, etc. were mixed.

"Hard biscuits" is a product made by folding dough for which raw materials were mixed and kneaded, rolling out it in the sheet shape, shaping it in a mold, and baking it. Holes are made by needle so as to allow gas generated from water or the raising agents included in dough to easily diffuse. The component values are determined based on analytical values of commercial products. There are also products for infants in which calcium and vitamins were added and thus the note was described in a remark.

"Soft biscuits" is a product made by molding dough for which sugar, oils and fats, etc. were mixed, chicken eggs, salt dissolved in water, and raising agents were added and emulsified, and flour was added and mixed, and baking it. Soft biscuits also include products which comply with a provision of cookies (handmade-style products with 40 % or more of the total amount of sugar and fats in a weight percentage) in ordinance for enforcement based on Fair Competition Code on Labeling of Biscuits⁶. The component values are determined based on analytical values of commercial products.

-15099 hard pretzel

"Hard pretzel" is a product made by squeezing dough to mold it into the shapes of tied string or a rod, immersing it with alkali liquid, sprinkling salt, and baking it. The component values are determined based on analytical values of commercial products.

-15096 puff pastry biscuits

"Puff pastry biscuits" is a product made by alternately folding a layer mainly made from flour and a layer of oils and fats, molding it, sprinkling sugar, etc., and slightly baking it. The name for "puff pie" in the Composition Tables 2010 was changed. Palmier is a similar product. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials: soft flour (first grade) 100, shortening 50, sugar (caster sugar) 5, salt 0.2 -15100 biscuits with jam topping

"Biscuits with jam topping" is a product made by squeezing macaroon dough on biscuit dough, baking it, and topping it with jelly jam, marmalade, etc. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Note that macaroon is a product made by adding sugar to roasted and ground nuts such as peanuts and almonds and baking it.

Recipe: biscuit 4, macaroon 2, cream 1

Blending ratio of raw materials: biscuit [soft flour (first grade) 60, sugar (caster sugar) 20, shortening 18.5, whole milk powder 1.2, salt 0.7, raising agent 0.3], macaroon [sugar (powdered sugar) 90, chicken egg (white) 45, almond 45], cream [shortening 100, sugar (caster sugar) 100]

<SNACKS>

-15101 wheat flour snack, extruded

"Wheat flour snack, extruded" is a product made by molding, drying, and roasting or frying in oil dough for which water was added to flour and kneaded while being heated. The component values are determined by calculation based on blending ratio and the component values of raw materials. Blending ratio of raw materials: soft flour (first grade) 100, shortening 20, salt 2

-15102 corn snack, extruded

"Corn snack, extruded" is a product made by extruding dough mainly made from corn grits by extruder, swelling, drying, and seasoning it. The component values are determined based on analytical values of commercial products.

-potato chips

-15103 potato chips, regular

-15104 potato chips, fabricated

Potato chips include a product made from slices of potato or a product fabricated from dry mush potato, etc. "Potato chips, regular"(15103) is a product made by washing in water, peeling, slicing, frying in oil, and seasoning potatoes. The component values are determined based on analytical values.

"potato chips, fabricated" is a product made by rolling out, molding, frying in oil, and seasoning dough for which dry mush potato, shortening, stabilizers, etc. were mixed and heated. The component values are determined based on analytical values.

<CANDY>

<CANDY> is a generic term for confectioneries made from sugar and sucrose syrup as main raw materials and classified into soft candy which was boiled at a low temperature and hard candy which was boiled at a high temperature by classification of temperatures at which sucrose liquid was boiled.

-15109 color-changing candy

"Color-changing candy" is a product made by repeatedly coating sugar as a core with boiled and colored sugar liquid and drying them. The component values are determined by calculation based on blending ratio and the component values of raw materials. The name for "china marble" in the Composition Tables 2010 was changed.

Blending ratio of raw materials: sugar (caster sugar) 100

-15105 caramel soft candy

"Caramel soft candy" is a product made by heating and stirring sugar and sucrose syrup, mixing condensed milk, flour, shortening, etc., boiling it at a comparatively low temperature (120~125 °C), adding flavors, cooling, rolling out, and cutting it, and belongs to soft candy. The component values are determined based on analytical values of commercial products.

-15107 jelly candy

"Jelly candy" is a product made by using sugar and sucrose syrup as main raw materials, and hardening them with gelatinizers such as gelatin, pectin, and agar jelly. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials: sucrose syrup 300, sugar (caster sugar) 100, agar-agar 5

-15108 jelly beans

"Jelly beans" is a product made by making jelly from sucrose syrup, sugar, starch, etc. as main raw materials, alternately coating the jelly with powdered sugar and sugar liquid (main raw materials: sugar, gum arabic, etc.) and drying them. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Recipe: coated sugar 5, jelly 6

Blending ratio of raw materials: coated sugar [sugar (caster sugar) 100, gum arabic dust], jelly [sucrose syrup 200, sugar (caster sugar) 100, potato starch 90, agar-agar 9]

-15110 sugar candy

"Sugar candy" is a product made by heating sugar in water for dissolution, adding sucrose syrup, boiling it at a high temperature (about 145 °C), cooling it, adding acidulants, pigments, and flavors, and molding it, and belongs to hard candy. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials: sugar (caster sugar) 55, sucrose syrup 45

-15111 butterscotch hard candy

"Butterscotch hard candy" is a product made by blending sugar, sucrose syrup, and butter as main raw materials, mixing and boiling them in water, cooling and cutting it, and belongs to hard candy. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials: sugar (caster sugar) 100, sucrose syrup 20, butter 10, salt 0.5

-15112 brittles

"Brittles" is a product made by heating sugar and sucrose syrup in a little water for dissolution, boiling them with oils and fats and condensed milk, adding peanuts, adding a little sodium hydrogen carbonate to make bubbles, cooling, rolling out, and molding it, and belongs to hard candy. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials: roasted peanuts 150, sugar (caster sugar) 100, sucrose syrup 50,

shortening 5, salt 0.4, sodium hydrogen carbonate 0.2

-15113 marshmallows

"Marshmallows" is a product made by heating sugar and sucrose syrup for dissolution, adding foamed gelatin, stirring it to include air, molding, cooling and drying it in a starch mold, and belongs to soft candy. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials: sugar (caster sugar) 55, sucrose syrup 50, water 20, powdered gelatin 3 -15106 compressed tablet candy

"Compressed tablet candy" is a product made by using sugar as main raw materials in general, mixing a little binders, etc., and compression-molding it by tablet machine. The name for "Zhoka" in the Composition Tables 2010 was changed, and component values are determined based on analytical values (2015).

<CHOCOLATE>

Chocolate is a product made by grinding, atomizing, refining, tempering, molding, and maturing cocoa mass, cocoa butter, sugar, milk powder, etc. Fair Competition Code on Labeling of Chocolate⁷) is provided. Chocolate is roughly separated into sweet chocolate in which sugar was added to cacao mass and milk chocolate in which milk products were further added.

-15137 chocolate with almonds

"Chocolate with almonds", newly listed, is a product made by wrapping an almond with chocolate. The component values are determined by calculation based on blending ratio and the component values of raw

materials.

Recipe: milk chocolate 27, almond (roasted) 15

-15114 chocolate-covered biscuit

"Chocolate-covered biscuit" is a product made by coating a biscuit with chocolate. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Recipe: milk chocolate 3, biscuit 2

Blending ratio of raw materials: biscuit [soft flour (first grade) 69, sugar (powdered sugar) 16, shortening 10, whole milk powder 1.8, salt 0.5, raising agent 0.4]

-15115 white chocolate

"White chocolate" is a product made from cacao butter, powdered sugar, and milk powder instead of cacao mass. The component values are determined based on analytical values of commercial products.

-15116 milk chocolate

"Milk chocolate" is a product made from cacao mass, cacao butter, powdered sugar, and milk powder. The component values are determined based on analytical values of commercial products.

<CANDIED FRUITS>

-15117 Marron glacé (candied chestnuts)

"Marron glacé" is a product made by peeling off the outer skin of chestnuts, boiling them, removing the inner skin, immersing them with low-concentration sugar liquid and high-concentration sugar liquid one by one, putting sugar liquid for luster, heating and drying them. The component values are determined based on the component values on the 4th Composition Tables.

<CHEWING GUM>

-15118 stick

- -15119 sugar-coated
- -15120 bubble gum

<CHEWING GUM> is a product made by adding various types of saccharides, flavors, etc. to gum base (vegetable resin, vinyl acetate, ester gum, etc.), kneading, rolling out, and cutting them. Note that the listed the component values are values as per 100 g of the components eluted by chewing. The component values are determined by calculation based on the component values on the 4th Composition Tables.

<OTHERS>

-15138 Pastry cream

"Pastry cream", newly listed, is basic cream for western style confectioneries. It is a product made by generally using chicken eggs or the so-called flower paste with little oils and fats and adding vanilla flavoring. It keeps for a long time unlike whipping cream due to heating process. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials¹): milk 62.8, granulated sugar 16.5, chicken egg (yolk) 14.4, soft flour (first grade) 6.3

-Sweet red bean soup

- -15139 strained bean paste
- -15140 mushed bean paste

"Sweet red bean soup" (Shiruko in Japanese), newly listed, is also called "Oshiruko". It is generally made by adding rice cake, Shiratama-dango (flour dumpling), chestnuts, etc. to soup which was boiled with sugar and Adzuki beans. In Kansai, a product for which strained bean paste (Koshi-an) was used is called "Shiruko" and a product for which whole bean paste (Tsubu-an) was used is called Zenzai. The listed food is "Shiruko" without rice cake or chestnuts. The component values are determined by calculation based on blending ratio and the component values of raw materials.

"strained bean paste"

Blending ratio of raw materials¹: Koshi-an 30, sugar (caster sugar) 21, sucrose syrup 2.1, water 10 "mushed bean paste"

Blending ratio of raw materials¹): Tsubushi-an (with sugar) 30, water 10

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- 5) Quality Labeling Standard for Breads: MAFF Public Notice No.1644 of 2000
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- Fair Competition Code on Labeling of Chocolate: Japan Fair Trade Commission Public Notice No. 16 of 1971

16) Beverages

The main items which are common to beverages are as follows:

- [1] The amounts of ethyl alcohol contained in <ALCOHOLIC BEVERAGES> were described in remarks in the Composition Tables 2010, but they were listed in the current Composition Tables. Capacity % at 15 °C is shown in remarks.
- [2] The amount (mL) equivalent to 100 g and the amount (g) equivalent to 100 mL are shown in each remark for the sake of convenience in use for <ALCOHOLIC BEVERAGES>.
- [3] The amounts of water of <ALCOHOLIC BEVERAGES> were calculated by subtracting the weight of alcohol from the dried weight for foods.
- [4] The amounts of nitrate ions of tea and green juice, caffeine and tannin of tea and coffee, and theobromine, caffeine and tannin of cocoa were described in remarks. The component value of carbohydrates was calculated by subtracting water, protein, lipid, ash, and these component values.
- [5] Infusion methods of tea comply with the 4th Composition Tables in principle.
- [6] Regarding "analytical values" and "analytical values (2015)" in the text, see "Notes on Foods" described in the initial part of Chapter 3. (See Page 1)

In the followings, important points to note regarding the component values are described for each food item.

<ALCOHOLIC BEVERAGES>

Alcoholic beverages correspond to "alcoholic beverages" in Liquor Tax Act and fall under the definition of "beverages with one percent or higher alcoholic content" in the same Act. There are various classification methods for alcoholic beverages, and the beverages were roughly separated into (Fermented alcoholic beverages), (Distilled alcoholic beverages), and (Compound alcoholic beverages) ^(note 1) according to manufacturing methods. Note that there are various alcoholic beverages all over the world, but beverages which have been consumed in a comparatively large quantity in Japan were listed.

(Fermented alcoholic beverages)

-"Sake"

- -16001 regular
- -16002 "Junmai" (made with only rice, water and koji)
- 16003 "Honjozo" (made with rice, water, koji and distilled alcohol. The rice used must be polished to at least 70%)
- (Note 1) "Fermented alcoholic beverage" is a product made by using fermented Moromi as it is or filtering it. "Distilled alcoholic beverage" is an alcoholic beverage obtained by distilling fermented Moromi or alcoholic beverages and corresponds to "distilled through a continuous still", "distilled through a pot still", "whisky", "brandy", "alcohol for material", and "spirits".

"Compound alcoholic beverage" is a product made by adding saccharides, coloring agents, flavors, infusions of roots of herbs and barks of trees, sweeteners, seasonings, etc. to fermented alcoholic beverages, distilled alcoholic beverages, or alcohol for material, and includes beverages, etc. commonly called liqueur or "medicinal liqueur". "sweet type" (wine) and "synthetic Sake" are also included in this category.

-16004 "Ginjo" (brewed with labor-intensive steps, using highly polished rice)

 — 16005 "Junmai-ginjo" (made with only rice, water and koji, brewed with labor-intensive steps, using highly polished rice)

-beer

-16006 pale

-16007 black

-16008 stout

-16009 "Happoshu" (beer-like beverage with less than 67% malt content)

-wine

-16010 white

-16011 red

-16012 rose

-16013 Shaoxing wine

"Sake brewing quality labeling standard" ^(note 2) is provided for "Junmai", "Honjozo", and "Ginjo" of "Sake" as "Specially designated Sake", based on Act on the Maintenance of the Liquor Tax and on Liquor Business Associations. Other "Sake" than these was listed as "regular". The name for "Josen" in the Composition Tables 2010 was changed to "regular", for which a product sold as Josen grade on manufacturer's responsibility was used as a sample. The component values of "regular", "Junmai", "Honjozo", "Ginjo", and "Junmai-ginjo" are each determined based on analytical values. Note that values based on the national survey¹) were listed for alcohol levels of "Sake".

The component values of "pale", "black", and "stout" of "beer" are each determined based on analytical values.

"Happoshu" is similar to "beer" in manufacturing methods or flavors. "Happoshu" is defined in Liquor Tax Act as an alcoholic beverage with foaming property for which malt or barley was used as a part of raw materials. The component values of "Happoshu" are determined based on analytical values. Note that the use ratio of malt for "beer" is defined as 67 % or higher.

(Note 2) Specially designated Sake is specified as follows in Sake brewing quality labeling standard (National Tax Agency Public Notice No.8 of 1989).

"Ginjo": Sake which was made from rice polished at rice polishing ratio of 60 % or less, rice koji, and water, or these raw materials and distilled alcohol with labor-intensive steps, and has its unique flavor and good color and luster.

"Junmai": Sake which was made from polished rice, rice koji, and water, and has good flavor, color and luster.

"Honjozo": Sake which was made from rice polished at rice polishing ratio of 70 % or less, rice koji, distilled alcohol and water, and has good flavor, color and luster.

Also, polished rice means a polished one of brown rice which was graded in the third class or higher in Agricultural Products Inspection Act (including brown rice equivalent to this grade). The use ratio of koji rice (polished rice for rice koji) (the weight percentage of koji rice to the total weight of polished rice) shall be 15 % or higher, and the use of distilled alcohol shall not exceed 10 % of the weight of polished rice in a weight in terms of 95 percent alcoholic content. Note that Ginjo in which distilled alcohol was not used can be displayed as "Junmai-ginjo".

"wine" is separated into "white", "red" and "rose" (rose pink) according to their color tone. The component values are each determined based on analytical values. Note that values based on the survey²) were adopted for alcohol levels.

"Shaoxing wine" is a Chinese brewed liquor (Huangjiu) made from glutinous rice. A liquor produced in Shaoxing, Zhejiang province in China is famous. Shaoxing wine which was matured for a long time is commonly called Laojiu. It is imported into Japan in a large quantity and is used for cooking or drinking. The component values are determined based on analytical values.

(Distilled alcoholic beverages)

- -"Shochu"
 - -16014 distilled through a continuous still
 - -16015 distilled through a pot still
- -16016 whisky
- -16017 brandy
- -16018 vodka
- -16019 gin
- -16020 rum
- -16021 Maotai

"Shochu" is separated into "distilled through a continuous still" and "distilled through a pot still" in Liquor Tax Act. The names are each changed from "Shochu Ko-rui" and "Shochu Otsu-rui" due to the revision of Liquor Tax Act in 2006. "distilled through a pot still" has various characteristic flavors depending on used raw materials (sweet potato, rice, barley, buckwheat, etc.). In case of commercial products, alcohol levels are often 35 % by volume (alcohol concentration) for "distilled through a continuous still" and 25 % by volume (alcohol concentration) for "distilled through a pot still". The component values of "distilled through a continuous still" and "distilled through a pot still" are each determined based on analytical values.

The component values of "whisky" and "brandy" are determined based on analytical values of major products.

The component values of "vodka" and "gin" are determined based on analytical values of products with representative alcohol levels: 40 % by volume and 47 % by volume (alcohol concentration), respectively.

"rum" is classified into heavy rum with deep color and high aroma, medium rum with medium color and aroma, and light rum with light color and low aroma. The component values are determined based on analytical values by using heavy rum with 47 % by volume (alcohol concentration) which is comparatively widely used for confectioneries, etc. as a sample.

"Maotai" is a representative distilled liquor in China and has been imported also in Japan in a large quantity. It is made from Sorghum as main raw material by solid state fermentation in Guizhou province, and has a high alcohol level and rich and unique aroma. The component values are determined based on analytical values.

(Compound alcoholic beverages)

- -16022 "Umeshu" (plum liquor made from Japanese apricots)
- -16023 "synthetic Sake"
- -16024 "Shiro-zake" (white Sake-like liquor made from steamed rice, rice koji and "Shochu")

-"Mirin" (sweet liquor made from rice, rice koji and Shochu or distilled alcohol)

-16025 regular (Hon-mirin)

-16026 "Honnaoshi" (sweet liquor made of "Shochu" and "Mirin")

- -16027 medicinal liqueur
- -16028 curacao

-16029 fortified wine, sweet type

-16030 peppermint liqueur

- -vermouth
 - -16031 sweet type
 - -16032 dry type

The component values of "Umeshu" are determined based on analytical values.

The component values of "synthetic Sake" are determined based on analytical values.

"Shiro-zake" is a liquor made by adding Shochu to steamed glutinous rice and koji and mashing saccharified and matured Moromi. The component values are determined based on analytical values.

"Mirin" includes "regular" and "Honnaoshi". "regular" is basically made by a method of squeezing and purifying Moromi which is the same as one for "Shiro-zake", and is mainly used as seasoning. "Honnaoshi" is a product made by adding "Shochu" or alcohol to "regular". It is also called "Yanagikake". The component values of "regular" and "Honnaoshi" are each determined based on analytical value.

There are various types of "medicinal liqueur", but the component values are determined based on analytical values.

"curacao" is a liqueur with flavor of bitter orange and includes white curacao with rich flavor and orange curacao with rich taste. The component values are determined based on analytical value by using orange curacao which is considered to be a representative product as a sample.

"fortified wine, sweet type" is sweet fruit wine in Liquor Tax Act and falls under compound alcoholic beverages. An alcohol level based on the recent investigation result²⁾ was adopted. The component values are determined based on analytical values.

"peppermint liqueur" is a liqueur with mint flavor, and its products are often green, but some products are colorless or blue. The component values are determined based on analytical values by using a representative product as a sample.

"vermouth" is a liquor made by immersing 20 kinds or more of roots of herbs and barks of trees in matured white wine, and was named after worm wood (vermouth). It includes "sweet type" which is Italian type with deep color and sweet taste and "dry type" which is French type with light color and dry taste, and the component values are each determined based on analytical values.

<TEA>

(Green tea)

-"Gyokuro" (high grade tea made from shade-grown leaves)

-16033 tea

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-16034 infusion
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-16035 "Maccha" (finely ground tea)

-"Sencha" (common grade tea)

- -16036 tea
- -16037 infusion

-"Kamairi-cha" (pan-fried tea)

-16038 infusion

-"Ban-cha" (coarse grade tea)

-16039 infusion

-"Hoji-cha" (roasted tea)

- -16040 infusion
- -"Genmai-cha" (mixture of tea and roasted brown rice)

-16041 infusion

(Fermented tea)

-Oolong tea

-16042 infusion

-black tea

-16043 tea

-16044 infusion

<TEA> is a beverage made from shoots of tea plants. It is roughly separated into non-fermented tea (green tea), semi-fermented tea (oolong tea, Paochung tea, etc.), fermented tea (black tea), and steamed, accumulated and fermented tea (dark tea, pu-erh tea, etc.).

In green tea, its unique green color is kept by heating tea leaves with steam or frames in the first manufacturing stage so as to deactivate enzymes in tea leaves to prevent oxidation. Note that green tea is separated into Mushi-sei (steamed type) for which steam is used for heating in the first stage and Kamairi-sei (pan-fried type) for which the tea is roasted in an iron pot. Most of the green tea in Japan is Mushi-sei and "Kamairi-cha" is only manufactured in a part of Kyushu region, but most of the green tea in China (continent) is "Kamairi-cha".

Mushi-sei green tea includes "Gyokuro" (tea for which shade-grown high grade tea leaves are used), "Maccha" (tea finely ground from Tencha in a millstone), "Sencha", "Ban-cha" (tea manufactured from hardened shoots or coarse grade tea collected in a manufacturing process for Sencha), "Hoji-cha" (roasted tea of a large-sized tea called "Atama" (head) which is produced in refinement of Ban-cha or Sencha, and it is currently mixed with Sencha or twigs and treated as an independent tea type), etc.

"Genmai-cha" is a product made by steaming 50 % of Sencha with 10 % of roasted glutinous rice, drying them, and mixing 40 % of roasted well-milled non-glutinous rice, but the combination ratio largely varies.

"Oolong tea" is semi-fermented tea, for which tea leaves are exposed to sunlight to be slightly wilted, are sufficiently wilted inside, allows oxidation reaction to proceed to some extent, are heated in an iron pot to stop fermentation, and are kneaded and dried. It has its unique flavor which is different from green tea or black tea.

"black tea" is fermented tea and dark red tea manufactured by wilting and kneading tea leaves well, adding its characteristic flavor, and allowing tannin, etc. to be oxidized by oxidase in the leaves. Note that semi-fermented tea was listed in fermented tea. In <TEA>, the gap in quality is generally large between high-grade products and low-grade products, which leads to considerable difference of the components, but middle-grade products were mainly used for analysis.

The component values of "tea" of "Gyokuro" are determined based on analytical values and the component values on the 4th Composition Tables. The component values of "infusion" are determined based on analytical values of a liquid made by infusing 10 g of tea in 60 mL of hot water at 60 °C for 2.5 minutes.

The component values of "Maccha" are determined based on analytical values (2015), analytical values, and the component values on the 4th Composition Tables of powder.

The component values of "tea" of "Sencha" are determined based on analytical values and the component values on the 4th Composition Tables. The component values of "infusion" of "Sencha" and "Kamairi-cha" are determined based on analytical values of a liquid made by infusing 10 g of tea in 430 mL of hot water at 90 °C for 1 minute, and the component values on the 4th Composition Tables.

The component values of "infusion" of "Ban-cha", "Hoji-cha", "Genmai-cha", and "Oolong tea" are each determined based on analytical values of a liquid made by infusing 15 g of tea in 650 mL of hot water at 90 °C for 0.5 minutes, and the component values on the 4th Composition Tables.

The component values of "tea" of "black tea" are determined based on analytical values and the component values on the 4th Composition Tables by using Ceylon Dimbula as a sample. Ceylon Dimbula, Darjeeling, Assam, Uva, Ruhuna, and Kenya were selected for "infusion" of "black tea", and each of samples is a liquid made by infusing 5 g of tea in 360 mL of boiling water for 4, 4, 4, 2.5, 2.5 and 1.5 minutes, respectively. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

<COFFEE AND COCOA>

-Coffee

10045 IIIIusic	ision
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- -16046 instant coffee, granules
- -16047 ready-to-drink coffee with milk and sugar, canned
- -Cocoa
 - -16048 pure powder
 - -16049 chocolate milk powder

"coffee" is beans for which an outer skin, flesh, etc. were removed from nuts of a coffee tree. Roasted beans are made by roasting raw beans at an appropriate temperature. Regular coffee is made by grinding the roasted beans into appropriate pieces and is infused in boiling water for drinking. Meanwhile, "instant coffee, granules" is obtained by extracting crushed and roasted coffee beans in boiling water and making them into powder or granules by spray or freeze drying methods, etc. Note that "ready-to-drink coffee" is obtained by seasoning "infusion" of "coffee" and canned ready-to-drink coffee is commonly sold. The component values of "infusion" of "coffee" are determined based on analytical values and the component values on the 4th Composition Tables of a liquid made by infusing 10 g of medium ground regular coffee in 150 mL of boiling water by a drip method, and material³). The component values of "instant coffee, granules" are determined based on analytical values, the component values on the 4th Composition Tables, and material³ by using a commercial product as a sample. The name for "coffee beverage" in the Composition Tables 2010 was changed to "ready-to-drink coffee with

milk and sugar, canned". The component values are determined based on analytical values and the component values on the 4th Composition Tables by using a canned coffee beverage as a sample.

"cocoa" (cocoa powder) is roughly separated into breakfast cocoa (with 22 % or more of fat), low-fat cocoa (with 10 % or less of fat), and medium-fat cocoa between them depending on the fat content, and most of the cocoa which is usually drunk is breakfast cocoa and medium-fat cocoa. Also, cocoa includes "pure cocoa" in which milk powder, sugar, etc. are not mixed and "chocolate milk powder" (instant cocoa) in which these are mixed and which is processed so as to tend to be suspended. The component values of "pure cocoa" and "chocolate milk powder" are each determined based on analytical values and the component values on the 4th Composition Tables by using commercial products as samples.

<OTHERS>

- -16056 kale juice, powder
- -16050 "Ama-zake" (sweet beverage made from rice koji)
- -16051 "Kobu-cha" (kombu powder for drink)
- -16057 Sports drink

"kale juice, powder", newly listed, is a liquid made by squeezing green-leaf vegetables and a general commercial product is powder made by drying it. It includes a product mainly made from kale and a product mainly made from barley leaves. The component values are determined based on analytical values (2015) by using a commercial processed product (powder) made from kale as a sample.

"Ama-zake" is a Japanese traditional beverage normally made by mixing rice koji, rice, and water, and keeping it at $50 \sim 60^{\circ}$ C for $12 \sim 24$ hours for saccharification. Note that Ama-zake includes little alcohol. The component values are determined based on analytical values.

The component values of "Kobu-cha" are determined based on analytical values and the component values on the 4th Composition Tables by using a commercial processed product (powder) as a sample.

"Sports drink", newly listed, is a beverage for the purpose of efficiently replenishing water and minerals lost as sweat during exercise. Most of them include sugar as an energy source for recovery from fatigue, and citric acid, various amino acids, and vitamins are added in many products. The component values are determined based on analytical values (2015) of commercial products.

(Carbonated beverage)

- -16052 fruit flavored and colored drink
- -16053 cola
- -16054 clear soda
- -16058 beer-flavored drink, alcohol free

(Carbonated beverage) is a beverage containing carbon dioxide in alcohol-free beverages and includes fruit flavored and colored drink, cola, clear soda, etc. The component values of "fruit flavored and colored drink", "cola", and "clear soda" are determined based on analytical values and the component values on the 4th Composition Tables of commercial products.

"beer-flavored drink, alcohol free", newly listed, is a kind of non-alcoholic beverages and a sparkling carbonated beverage with beer flavor. It is also called Non-arukoru-inryo (non-alcoholic beverage) or Biru-teisuto-inryo (beer-taste beverage). The component values are determined based on analytical values
(2015) of commercial products.

- "Mugi-cha" (roasted barley tea)
 - -16055 infusion

Component values of "infusion" of "Mugi-cha" are determined based on analytical values and the component values on the 4th Composition Tables of infusion made by heating (high heat) 1.5 L of water and 50 g of Mugi-cha, leaving it for 5 minutes after the water is boiled and heating is stopped, and filtering it (or infusion obtained by a method of instructions of commercial products).

References

- Analysis results in national survey of commercial sake in FY1998. Director (Analysis and Brewing Technology), Taxation Department, National Tax Agency (1999)
- Analytical values of alcohol beverages exhibited in the 36th Fruit Liquor and Liqueurs Contests. Report of the Research Institute of Brewing, No. 171 (1999)
- 3) All Japan Coffee Association: Material (unpublished)

17) Seasonings and spices

The main items which are common to seasonings and spices are as follows:

- [1] In <SEASONINGS>, seasonings for which many raw materials are used and complex manufacturing methods are used are often different even between the same foods in kinds of raw materials, blending ratios, manufacturing methods, etc., which leads to a large variation in components. Therefore, the distribution amount, etc. in the market were taken into consideration when samples were obtained.
- [2] <SPICES> is normally used in trace amounts and thus a part of nutrients are not analyzed for some foods.
- [3] The amount (mL) equivalent to 100 g and the amount (g) equivalent to 100 mL are shown in each remark for the sake of convenience in use for "Koikuchi-shoyu", "Usukuchi-shoyu", "Tamari-shoyu", "Saishikomi-shoyu", "Shiro-shoyu", and "salt reduced" of (Soy sauce), "Mirin-like sweet cooking seasoning", and "Nam pla".
- [4] The amounts of alcohol contained in <SEASONINGS> were described in remarks in the Composition Tables 2010, but they are newly listed in the current Composition Tables. The amounts of acetic acid contained in <SEASONINGS> were shown in remarks. The component values of carbohydrate of these foods were calculated by subtracting the component values of water, protein, lipid, ash, acetic acid, and alcohol from edible portion (100 g).
- [5] Newly listed, the values of "sweet thick type for Okonomiyaki", (Seasoning sauce), "seasoning mix for Ochazuke", "Furikake", etc. are determined by investigating current blending ratios of raw materials, measuring samples and weight alteration rates, etc.¹⁾ These foods are different in raw materials and blending ratios depending on products and thus it is necessary to judge from labels of raw materials and nutritional the components.
- [6] Regarding "analytical values" and "analytical values (2015)" in the text, see "Notes on Foods" described in the initial part of Chapter 3. (See Page 1)

In the followings, important points to note regarding the component values are described for each food item.

<SEASONINGS>

(Japanese Worcester sauce)

- -17001 common type
- -17002 semi-thick type
- -17003 thick type
- -17085 sweet thick type for "Okonomiyaki" (Japanese-style savory pancake with various ingredients)

(Japanese Worcester sauce) is defined in Japanese Agricultural Standard²⁾ as [1] prepared sauce after adding sugar, vinegar, salt, and spices to squeezed liquid of vegetables or fruit, soup stock, puree, or their concentrations and [2] prepared sauce after adding starch, seasonings, etc. to [1]. The category is separated into "common type", "semi-thick type", and "thick type" depending on viscosity. The most universal products whose consumption amount is large and which is equivalent to special-grade products in Japanese Agricultural Standard²⁾ were selected as a sample for each food. The component values are determined based on analytical values, the component values on the 4th Composition Tables, and materials³⁾⁻⁶⁾.

"sweet thick type for Okonomiyaki", newly listed, is a sauce mainly used for Okonomiyaki. It is thickened and is generally categorized into semi-thick type or thick type. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials¹): Tomato ketchup 35, semi-thick type sauce 21, Worcester sauce 19, sugar (caster sugar) 11.5, apple vinegar 6, oyster sauce oil 5, Koikuchi-shoyu 2, stock powder of "Katsuo-bushi" 0.5

(Hot seasonings)

- -17004 Doubanjiang
- -17005 hot pepper sauce
- -17006 Chinese chili oil

"Doubanjiang" is a seasoning made by making koji without steaming from peeled broad beans absorbing water, immersing it with salt, fermenting it, and adding sesame oil, chili miso, Goma-miso, Komugi-miso, spices, sugar, etc., and maturing it. It is mainly used for Chinese cuisine. The component values are determined based on analytical values.

"hot pepper sauce" is obtained by mixing chili with strong hot taste and salt with vinegar and fermenting them. Tabasco sauce is a product name. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

"Chinese chili oil" is a chili oil which is a product made by boiling chili in sesame oil to add a spicy taste to the oil. The component values are determined based on analytical values, the component values on the 4th Composition Tables, and reference material⁷). Note that blending ratio of used oil was shown in the remark.

(Soy sauce)

- -17007 "Koikuchi-shoyu" (common soy sauce)
- -17008 "Usukuchi-shoyu" (light color soy sauce)
- -17009 "Tamari-shoyu" (full-bodied soy sauce)
- -17010 "Saishikomi-shoyu" (refermented soy sauce)
- -17011 "Shiro-shoyu" (extra light color soy sauce)
- -17086 salt reduced
- -17087 pre-seasoned with soup stock
- -17088 soy glazed

(Soy sauce) is categorized into "Koikuchi-shoyu", "Usukuchi-shoyu", "Tamari-shoyu", "Saishikomi-shoyu", and "Shiro-shoyu" according to Japanese Agricultural Standard⁸⁾. The most universal products whose consumption amounts are large and which are equivalent to Honjozo (genuine brew) special-grade products were selected as a sample for each food. The component values are determined based on analytical values, the component values on the 4th Composition Tables, and reference material⁹⁾.

"salt reduced", newly listed, is obtained by manufacturing normal soy sauce, removing only salt by a special method, and leaving other components such as good taste or flavors alone. The component values are determined based on analytical values (2015) of commercial products. The sample is a product with 8.0~9.3 g/100 mL (7.1~8.3 g/100 g) of salt (value on label) and 167~467 mg/100 mL (149~417 mg/100 g) of potassium.

Note that soy sauce with an almost middle amount of salt between "salt reduced" and general soy sauce is

Usujio-shoyu (low-salt soy sauce). It is also called Asajio-shoyu. Usujio-shoyu contains salt of 80 % (salt 13 %) or less of normal soy sauce.

"pre-seasoned with soup stock", newly listed, is a seasoning made by adding soup stock to soy sauce for the purpose of using good taste instead of salt in order to reduce salt. The component values are different depending on kinds and blending ratios of soy sauce and soup stock. The listed food is a product made from "Koikuchi-shoyu" and "Katsuo-bushi and kombu dashi". The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials¹): Koikuchi-shoyu 10, soup stock of Katsuo-bushi and kombu dashi 10 "soy glazed", newly listed, is sauce applied so as to give luster when baking fish, etc. by teriyaki cooking technique. It includes a product made by adding sake, sugar, Mirin, etc. to soy sauce. The listed food is obtained by mixing Hon-mirin and Koikuchi-shoyu, and heating them. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials¹): Hon-mirin 126, Koikuchi-shoyu 45

(Edible salt)

-17012 common salt, sodium chloride $\geq 99\%$

- -17013 common salt, sodium chloride $\ge 95\%$
- -refined salt, sodium chloride \geq 99.5%
 - -17014 containing magnesium carbonate
 - -17089 not containing magnesium carbonate

In (Edible salt), "common salt, sodium chloride $\ge 99\%$ ", "common salt, sodium chloride $\ge 95\%$ ", and "refined salt, sodium chloride $\ge 99.5\%$ " which are distributed in the market in a large quantity were listed.

The percentage of sodium chloride is specified in the quality standard of The Japan Salt Industry Association for "common salt, sodium chloride \ge 99%" and "refined salt, sodium chloride " 99.5%". The so-called coarse salt with low purity which is a commercial product is equivalent to "common salt, sodium chloride \ge 95%". The component values of "common salt, sodium chloride \ge 99%" and "common salt, sodium chloride \ge 95%" are determined based on the component values on the 4th Composition Tables and reference material¹⁰.

"refined salt, sodium chloride \geq 99.5%" includes a product which contains magnesium carbonate to prevent solidification for home use and a product which does not contain magnesium carbonate for food industry. The component value of magnesium for "not containing magnesium carbonate" in the Composition Tables 2010 was shown in the remark, but it is newly listed in this table. The component values of "refined salt, sodium chloride \geq 99.5%" are determined based on reference material⁹.

(Vinegar)

- -17090 black rice vinegar
- -17015 grain vinegar
- -17016 rice vinegar
- -fruit vinegar
 - -17091 Balsamic vinegar
 - -17017 wine vinegar
 - -17018 cider vinegar

"black rice vinegar", newly listed, is also called Tsubo-su or Kome-kurozu. The raw materials are different between Japan and China. Rice, rice koji, and water are used as raw materials in Japan. Kaoliang, barley, etc. are also used as raw materials in China and thus it is often called kozu (fragrant vinegar) in Japan. "black rice vinegar" is made by putting raw materials into a ceramic pot arranged outside, performing saccharification, alcohol fermentation, and acetic acid fermentation, and maturing them as they are in a traditional manufacturing method. The processes of filtration, pasteurization, and filling a bottle are the same as those for general vinegar. The component values are determined based on analytical values (2015) of commercial products.

Japanese Agricultural Standard¹¹) specifies that "grain vinegar" is distilled vinegar for which one or more kinds of grains are used as raw materials and the total use amount is 40 g or more per 1 L of distilled vinegar, and "rice vinegar" is "grain vinegar" for which the use of rice is 40 g or more per 1 L of "grain vinegar". The component values of "grain vinegar" and "rice vinegar" are each determined based on analytical values, the component values on the 4th Composition Tables, and reference material¹²).

Japanese Agricultural Standard¹¹⁾ specifies that "fruit vinegar" is distilled vinegar for which one or more kinds of fruits are used as raw materials and the total use amount is 300 g or more as squeezed liquid of fruit per 1 L of distilled vinegar. In these, "Balsamic vinegar", newly listed, is a specialty in Italy which was obtained by maturing "wine vinegar" in a barrel for a long time. *"balsamico"* in Italian means "fragrant". The component values are determined based on analytical values (2015) of commercial products. Note that its popular products have also spread which are obtained by adding coloring agents, flavors, caramels, etc. to unmatured "wine vinegar" and are mass-produced.

"wine vinegar" is distilled vinegar for which a squeezed liquid of grapes or wine is used as raw material, and is also called "Wain vinegar (loanword)" or "Wain-su (su in Japanese is vinegar)". The component values are determined based on analytical values.

"cider vinegar" is distilled vinegar for which a squeezed liquid of apples is used as raw material. The component values are determined based on analytical values, the component values on the 4th Composition Tables, and reference material¹²).

(Soup stock)

- -17019 "Katsuo-bushi dashi" (stock of "Katsuo-bushi")
- -17020 "kombu dashi" (stock of dried kombu)
- -17021 "Katsuo-bushi and kombu dashi" (stock of "Katsuo-bushi" and dried kombu)
- -17022 "Shiitake dashi" (stock of dried Shiitake mushroom)
- -17023 "Niboshi dashi" (stock of small dried sardine)
- -17024 chicken bone stock
- -17025 chicken, pork and vegetable stock
- -17026 beef and vegetable stock
- -17027 stock cubes, meat and vegetable (bouillon cube or commsome cube)
- -17092 stock powder, for "Oden" (Japanse winter hodgepodge: steamed vegetables and fish dumplings in Japanese broth)
- -17093 stock powder, chicken, pork and vegetable
- -17028 stock powder, "Katsuo-bushi" (called Wafu-dashi or flavor materials; Katsuo-bushi, Niboshi of

fishes, kombu, adductor muscle, dried Shiitake, etc.)

-Japanese noodle soup

- -17029 non-concentrated (soy sauce base)
- -17030 triple-concentrated (soy sauce base)

In (Soup stock), "Katsuo-bushi dashi", "kombu dashi", "Katsuo-bushi and kombu dashi", "Shiitake dashi", "Niboshi dashi", "chicken, pork and vegetable stock", "beef and vegetable stock", and "chicken bone stock" are liquid (soup stock extracted from natural resources). Soup stocks obtained from the following materials by the following methods were selected as samples. Soup is made by seasoning them with salt, soy sauce, etc. Note that "dashi" generally refers to "Katsuo-bushi dashi" in Japan.

The component values of "Katsuo-bushi dashi" are determined based on analytical values of soup stock obtained by adding Kezuri-bushi of skipjack tuna to boiling water at 3 % of boiling water, stopping heating one minute after water is boiled again, and filtering it with cloth after Kezuri-bushi sank.

The component values of "kombu dashi" are determined based on analytical values of soup stock obtained by adding kombu to water at 3 % of water, leaving it as it is for about 60 minutes, and filtering it with cloth. Note that iodine is reanalyzed and the component value was determined based on analytical values (2015) and analytical values.

"Katsuo-bushi and kombu dashi" is also called Kongo-dashi (mixed soup stock). The mixing ratio is "Katsuo-bushi dashi" 2: "kombu dashi" 1 here. The component values are determined by calculation based on the analytical values of both foods.

The component values of "Shiitake dashi" are determined based on analytical values of soup stock (about 70 % of added water) obtained by adding water in 15 times volume of "dried Shiitake", leaving it alone until it becomes soft, and filtering it with cloth.

The component values of "Niboshi dashi" are determined based on analytical values of soup stock obtained by adding "Niboshi" of Japanese anchovy to water at 3 % of water, leaving it alone for about 30 minutes, heating it until water is boiled and thereafter for $2 \sim 3$ minutes, and filtering it with cloth.

"chicken bone stock" is also called Torigara-soup (chicken bone soup) and is used for ramen (Chinese noodles), Chinese cuisine, Western cuisine, etc. The listed food is soup stock (about 70 % of added water) obtained by adding chicken bones to water in 2 times volume of them, heating them, and heating them with low heat while skimming scum until the liquid volume is reduced to 3/4, and filtering it with cloth. The component values are determined based on analytical values and the component values on the 4th Composition Tables of this sample.

"chicken, pork and vegetable stock" is one of basic soup stocks for Chinese cuisine. The component values are determined based on analytical values of soup stock (about 50 % of added water) obtained by adding each 200 g of chicken with bones and inside ham of pork in which fat is removed to 2 L of water, heating them to boil water, adding 30 g of welsh onions, 7 g of ginger, and 20 g of sake, heating them with low heat while skimming scum, and filtering them with cloth.

The component values of "beef and vegetable stock" are determined based on analytical values of soup stock (about 50 % of added water) obtained by adding 350 g of inside round of beef to 2 L of water, heating them to boil water, heating them with low heat while skimming scum, adding each 200 g of carrots, onions, and celery,

and 5 g of salt, further heating them with low heat while skimming scum, and filtering them with cloth.

"stock cubes, meat and vegetable", "stock powder, for Oden", "stock powder, chicken, pork and vegetable", and "stock powder, Katsuo-bushi" are soup stocks in shapes of cubes, granules, or powder. Most of the foods are obtained by extracting soup stock from natural materials, drying it, and adding salt, tasty the components, etc. "stock cubes, meat and vegetable" is written as Kanso-konsome (consomme cube) in Japanese Agricultural Standard¹³). It is specified to be "dried soup for which a boiled liquid of edible meat is used and a binder is not added, and which can be roughly clear soup with the flavor of edible meat by adding water and heating them, or adding water or hot water". The name for "solid consomme" in the Composition Tables 2010 was changed. The component values are determined based on analytical values.

"stock powder, for Oden", newly listed, is also called Oden-no-moto (Oden stock). There is also a powder-type product. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials¹): salt 4, Koikuchi-shoyu 3, stock powder of Katsuo-bushi 3, sugar (caster

sugar) 2

"stock powder, chicken, pork and vegetable", newly listed, is granulated soup stock mainly used for Chinese cuisine. It is not specified in Japanese Agricultural Standard. Salt, dextrin, chicken extract, vegetable extract, edible oils and fats, pepper, protein hydrolysates, yeast extract, seasonings (amino acids, etc.), pH adjusters, cellulose, etc. are used as raw materials in a sample, so as to replicate "chicken, pork and vegetable stock" made from foodstuffs. The component values are determined based on analytical values (2015).

"stock powder, Katsuo-dashi" is written as Fumi-chomiryo (flavor seasoning) in Japanese Agricultural Standard¹⁴). It is specified to be "one which is obtained by adding saccharides, salt, etc. (excluding spices) to seasonings (amino acids, etc.) and flavor materials (referring to powder or extract concentration of Katsuo-bushi, Niboshi of fishes, kombu, adductor muscle, dried Shiitake, etc.), drying them, and forming them into powder, granules, etc., and adds the flavor and taste of flavor materials in cooking". The name for "stock powder, flavor seasoning" in the Composition Tables 2010 was changed. The component values are determined based on analytical values. About 150-fold dilution is usually used as Japanese soup stock.

"Japanese noodle soup" is a liquid made by adding saccharides and soup stock extracted from flavor materials (referring to Katsuo-bushi, kombu, dried Shiitake, etc.) to soy sauce, or a liquid made by adding Mirin, salt or other seasonings to this liquid, and is mainly used for dipping soup or boiling soup for noodles such as soba or udon, or dipping soup for tempura without or after diluting it. The component values of "non-concentrated (soy sauce base)" without dilution and "triple-concentrated (soy sauce base)" are determined based on analytical values and the component values on the 4th Composition Tables of commercial products, and reference material⁹.

Dashi packs (in which materials for soup stock such as Katsuo-bushi, Niboshi, and kombu are put in nonwaven cloth) whose distribution amount has recently increased are different between products in kinds of used foods, shapes (extent of crushing), and blending ratios. There are products made from only natural materials and products in which synthetic seasonings were added. As described above, dashi packs are various and thus it is difficult to determine a standard product and it was not listed in this Composition Tables. Note that component values can be roughly calculated from the component values of natural materials and blending ratios

if fine powder products of the materials are also used for foodstuffs in cooking as they are.

(Seasoning sauce)

- -17094 sweet vinegar
- -17095 sauce for "Ebichiri" (shrimp with chili sauce)
- -17031 oyster sauce
- -17096 "Kimizu" (seasoning containing vinegar and egg yolk)
- -17097 "Gomasu" (vinegar mixture containing sesame, soy sauce and sugar)
- -17098 sesame sauce (containing vinegar)
- -17099 "Sanbaizu" (vinegar mixture containing sesame, soy sauce and mirin)
- -17100 "Nihaizu" (vinegar mixture containing soy sauce)
- -sweetened vinegar
 - -17101 for "Chirashi" (scattered sushi) and "Inarizushi" (fried tofu pouch filled with sushi rice)
 - -17102 for "Nigirizushi" (hand-pressed sushi)
 - -17103 for "Makizushi" (rolled sushi) and "Hakozushi"(pressed sushi)
- -17104 Chinese style vinegar
- -17105 demi-glace sauce
- -17106 Tian Mian Jiang (sweet soybean paste)
- -17107 Nam pla (fish sauce)
- -17108 for "Hiyashi-chuka" (ramen noodles in a cold sweet soy sauce broth topped with meat and vegetables)
- -17109 white sauce
- -17110 ponzu vinegar with soy sauce
- -17032 Mapo tofu sauce
- -17111 marinade
- -17033 meat sauce
- -17112 for "Yakitori" (grilled chicken skewers)
- -17113 barbecue sauce, soy sauce based
- -17114 for "Mitarashi" (skewed rice dumplings in a sweet soy glaze)
- -17115 "Yuzu kosho" (spicy paste made from chili, yuzu zest and salt)

(Seasoning sauce) is a complex seasoning in which several seasonings were mixed. It shortens cooking time because a dish with complex taste can be easily made by mixing it with materials.

"sweet vinegar", newly listed, is a sauce made by mixing sugar and salt into vinegar or sometimes adding Mirin to it. It is sweeter than "Sanbaizu". The food made by pickling vegetables or fish, mollusks and crustaceans in sweet vinegar is called "Amazu-zuke" and the food made by pickling them in sweet vinegar with chilies is called "Nanban-zuke". It is also used for pickles with strong sweet taste after spices were added. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials¹): grain vinegar 100, sugar (caster sugar) 36, salt 1.6

"sauce for Ebichiri", newly listed, is a sauce for Ebichiri (shrimp with chili sauce). The component values are

determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials¹: broth of chicken, pork and vegetable stock 200, tomato ketchup 30,

Doubanjiang 15, sake 15, sugar (caster sugar) 9, ginger paste 8, water 5, garlic 4, potato starch 3, oil 3, salt 0.5, pepper 0.3

"oyster sauce" is a sauce originally made by immersing raw oysters in salt, fermenting and maturing them. The name for "oyster oil" in the Composition Tables 2010 was changed. It is a seasoning with unique flavor and rich taste and mainly used for Chinese cuisine. Its commercial product is a product made by adding sugar, salt, starch, acidulants, etc. to a liquid extracted from raw oysters and heating and mixing them. The component values are determined based on analytical values.

"Kimizu", newly listed, is Japanese-style mayonnaise. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials¹): grain vinegar 18, chicken egg (yolk) 18, sugar (caster sugar) 9, salt 2.7 "Gomasu", newly listed, is vinegar made by mixing white sesame which was roasted and ground in a mortar with Nihaizu, Sanbaizu, etc. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials¹): grain vinegar 30, sugar (caster sugar) 15, sesame (roasted or ground sesame) 10, Koikuchi-shoyu 8, Hon-mirin 5

"sesame sauce", newly listed, is used for koromo of Aemono (dressed dishes) of green leaf vegetables or as a sauce for Shabu-Shabu (thinly sliced meat parboiled with chopstick quickly in hot soup, and dipped in sesame sauce). The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials¹): Koikuchi-shoyu 4, kneaded sesame 3, sesame (roasted or ground

sesame) 2, sugar (caster sugar) 3, salt 0.1, cider vinegar 3, grain vinegar 1, Hon-mirin 3, stock powder of Katsuo-bushi 0.4

The component values of "Nihaizu" and "Sanbaizu", newly listed, are determined by calculation based on blending ratio and the component values of raw materials.

"Nihaizu"

Blending ratio of raw materials¹): rice vinegar 10, Koikuchi-shoyu 8

"Sanbaizu"

Blending ratio of raw materials¹): rice vinegar 100, sugar (caster sugar) 18, Usukuchi-shoyu 18, broth of Katsuo-bushi and kombu dashi 15

In "sweetened vinegar", newly listed, three foods were listed: "for Chirashi and Inarizushi", "for Nigirizushi" and "for Makizushi and Hakozushi". The component values are determined by calculation based on blending ratios and the component values of raw materials. "for Chirashi and Inarizushi" is sweetened vinegar with the strongest sweet taste and "for Nigirizushi" is sweetened vinegar with the weakest sweet taste.

"for Chirashi and Inarizushi"

Blending ratio of raw materials¹): rice vinegar 15, sugar (caster sugar) 7, salt 1.5 "for Nigirizushi"

Blending ratio of raw materials¹): rice vinegar 10, sugar (caster sugar) 1, salt 1.2

"for Makizushi and Hakozushi"

Blending ratio of raw materials¹): rice vinegar 12, sugar (caster sugar) 3, salt 1.4

"Chinese style vinegar", newly listed, is sweet vinegar for Chinese cuisine. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials¹): Koikuchi-shoyu 45, rice vinegar 45, sugar 22.5, sesame oil 4, ginger 2 "demi-glace sauce", newly listed, is one of basic sauces for French cuisine. It is a sauce for which flavor was added by boiling brown sauce. The component values are determined based on analytical values (2015) of commercial products.

"Tian Mian Jiang", newly listed, is also called Chuka-amamiso. It is black or reddish brown miso with sweet taste made by mixing flour and salt and adding special koji to brew them. If soybean is used as raw material, sugar is added for a product. The component values are determined based on analytical values (2015).

"Nam pla", newly listed, is Gyosho (fish sauce) in Thailand. It has flavor unique to fish and rich good taste due to many amino acids. It is used for ethnic cuisine. There are Shottsuru, Ishiru, etc. as Japanese Gyosho. The component values are determined based on analytical values (2015).

The component values of "for Hiyashi-chuka", newly listed, are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials¹: chicken, pork and vegetable stock 133, Koikuchi-shoyu 72, rice vinegar 45, sugar (caster sugar) 9, sesame oil 4

"white sauce", newly listed, is used for gratin, pasta sauce, and white sauce-based croquettes. The component values are determined based on analytical values (2015) of commercial products.

"ponzu vinegar with soy sauce", newly listed, is used for Aemono, salad, dishes cooked in a pot, etc. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials¹): Yuzu juice 6, Koikuchi-shoyu 4

"Mapo tofu sauce" is a sauce made by adding starch, meat extract, soy sauce, spices, etc. to a main body made from edible meat (pork and chicken), edible oils and fats (soybean oil and sesame oil), and Doubanjiang. Tofu or vegetables are dressed in the sauce and heated. Commercial products are separated into straight type and dilution type, but the straight type was listed. The component values are determined based on the component values on the 4th Composition Tables and reference materials^{15)~19}.

"marinade", newly listed, is a dipping sauce for Marine (one of cooking methods of western cuisine in which taste is added by immersing meat, fishes, vegetables, etc. in a liquid). Raw foods or heated foods are dipped in the sauce. It is made from marinade (liquid in which meat or fishes are immersed for softening meat and adding flavors in pre-preparation and for preserving them. There are 3 types made from white wine, vinegar, spices, etc.), wine, vinegar, sugar, spices, oils, etc. The listed food is for pickles. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials¹): wine (white) 280, water 280, wine vinegar 240, sugar (caster sugar) 90,

salt 8.5, pepper 0.6

"meat sauce" is a sauce made by adding tomato paste, tomato puree, flour, etc. to a main body made from vegetables (onions, carrots, etc.) and edible meat (beef, chicken, and pork), and preparing them. The difference

of analytical values between canned products and retort pouch is not shown and thus the integrated component values are shown. The component values are determined based on the component values on the 4th Composition Tables of canned products and retort pouch (listed in Prepared foods) and reference materials¹⁵⁾¹⁶⁾²⁰⁾.

Newly listed "for Yakitori" is a sauce with salty-sweet taste made from soy sauce, sake, sugar, Mirin, etc. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials¹): Koikuchi-shoyu 12, Hon-mirin 8, sake 8, sugar (caster sugar) 4

"barbecue sauce, soy sauce based", newly listed, is a sauce used in eating baked meat. It is made from soy sauce, sugar, apples, sesame, etc. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials¹): Koikuchi-shoyu 40, sugar (caster sugar) 20, apple paste 20, sesame oil

1.5, stock powder of Katsuo-bushi 1.5, sesame (roasted or ground sesame) 0.5, salt 0.5

Newly listed "for Mitarashi" is used as "An" (thickened sauce) used for finishing of Japanese cuisine or as "sauce" of skewed rice dumplings. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials¹: kombu dashi 46, sugar (caster sugar) 23, Koikuchi-shoyu 10, sake 10, potato starch 4.5

"Yuzu kosho", newly listed, is paste obtained by roughly cutting chilies, grinding them with Yuzu skin and salt, and maturing them. The component values are determined based on analytical values (2015).

(Tomato products)

-17034	tomato	puree
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- -17035 tomato paste
- -17036 tomato ketchup
- -17037 tomato sauce
- -17038 chili sauce

In (Tomato products), "tomato puree", "tomato paste", "tomato ketchup", "tomato sauce", and "chili sauce" were listed based on the category of Japanese Agricultural Standard²¹).

"tomato puree" is a product made by adding a little salt, spices, etc. if necessary, to the so-called concentrated tomato for which tomatoes for processing were ground, strained or squeezed, and concentrated after removing skins, seeds, etc. It is specified to have less than 24 % of soluble solids without salt in Japanese Agricultural Standard²¹). The name for "puree" in the Composition Tables 2010 was changed.

"tomato paste" complies with the manufacturing method of tomato puree, but its soluble solids without salt are 24 % or more, which is higher than tomato puree, in Japanese Agricultural Standard²¹). The name for "paste" in the Composition Tables 2010 was changed.

In the Composition Tables 2010, products with salt were listed for "tomato puree" and "tomato paste", but recently products without salt have been mainly distributed. Therefore, products without salt were listed instead of products with salt in the Composition Tables 2010. The component values are each determined based on

analytical values, the component values on the 4th Composition Tables, and reference materials³⁾⁴⁾.

"tomato ketchup" is made by adding salt, spices, vinegar, sugar, and onions or garlic, etc. to concentrated tomato. Japanese Agricultural Standard²¹⁾ specifies that the special grade has 30 % or more of soluble solids. The name for "ketchup" in the Composition Tables 2010 was changed. The component values are determined based on analytical values, the component values on the 4th Composition Tables, and reference materials³⁾⁴⁾.

"tomato sauce" is a product made by adding salt and spices to concentrated tomato which is raw material, and is specified to have soluble solids between 8 % or more and less than 25 % in Japanese Agricultural Standard²¹. Note that the amount of sodium was reviewed and determined based on reference materials³⁾⁴. Salt equivalents were reanalyzed and determined.

"chili sauce" is a product made by adding salt, spices, vinegar, sugar, etc. to the concentrate for which tomatoes for processing were roughly crushed and concentrated with most of the seeds after removing skins. Japanese Agricultural Standard²¹⁾ specifies that it has 25 % or more of soluble solids. The component values are determined based on analytical values, the component values on the 4th Composition Tables, and reference material³⁾⁴⁾.

(Dressing)

- -17039 soy sauce based, fat-free
- -17040 French dressing
- -17116 soy sauce based, with oil
- -17117 sesame dressing
- -17041 thousand island dressing
- -mayonnaise
 - -17042 whole egg type
 - -17043 egg yolk type
- -17118 mayonnaise-type, low-calorie type

In Japanese Agricultural Standard²²⁾, (Dressing) is defined as [1] a semi-solid seasoning, an emulsion-type seasoning, or a separate-liquid seasoning which is prepared by adding salt, sugar, spices, etc. to edible vegetable oils and fats (excluding flavor edible oil) and vinegar or citrus fruit juice, is emulsified in oil-in-water type, and is mainly used for salad, or [2] a seasoning in which thin pieces of pickles, etc. were added to the above [1]. It is separated into semi-solid type, emulsion-type, and separate-liquid type according to the shape.

"mayonnaise" as semi-solid type, "sesame dressing" and "thousand island dressing" as emulsion-type, and separate types of "soy sauce based, fat-free", "French dressing", and "soy sauce based, with oil" as separate-liquid type were listed.

The name for "dressing type Japanese-style seasoning" in the Composition Tables 2010 was changed to "soy sauce based, fat-free". The component values are determined based on reference material²³.

"French dressing" is basic dressing and has a wide range of variations obtained by adding spices, etc. It is a product made from salad oil, grain vinegar, sugar (caster sugar), salt, lemon juice, etc. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials: blended oil (salad oil) 42, grain vinegar 30, sugar (caster sugar) 5, salt 3,

lemon juice 1, pepper 0.2, water 18.8

"soy sauce based, with oil", newly listed, is a product made from soy sauce, rice vinegar, Katsuo-bushi and kombu dashi, blended oil, ginger paste, etc. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials¹): Koikuchi-shoyu 18, rice vinegar 15, Katsuo-bushi and kombu dashi 15, blended oil (salad oil) 13, ginger paste 10

"sesame dressing", newly listed, is made from kneaded sesame as main raw material and rice vinegar, soy sauce, sugar (caster sugar), mayonnaise, etc. as raw materials. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials¹: kneaded sesame 36, rice vinegar 30, Koikuchi-shoyu 18, sugar (caster sugar) 12, mayonnaise 12

"thousand island dressing" is a product made from blended oil, grain vinegar, tomato ketchup, pickles, egg yolk, sugar (caster sugar), salt, lemon juice, etc.

Blending ratio of raw materials: blended oil (salad oil) 40, grain vinegar 12, tomato ketchup 12, pickles 5,

egg yolk 4, sugar (caster sugar) 4, salt 3, lemon juice 3, onions 2, pepper 0.5, water 14.5

The component values of "whole egg type" and "egg yolk type" of "mayonnaise" are each determined based on analytical values, the component values on the 4th Composition Tables, and reference materials^{17) 24}) by using a commercial product for which a whole egg is used as raw material and a commercial product for which egg yolk is used as raw material as samples.

"mayonnaise-type, low-calorie type", newly listed, is a product with 50 % or less of calorie of the conventional mayonnaise. The component values are determined based on analytical values (2015) of commercial products.

(Miso)

-rice-koji miso

- -17044 sweet type
- -17045 light yellow type
- -17046 red type
- -17047 barley-koji miso
- -17048 soybean-koji miso
- -17119 salt reduced
- -17120 pre-seasoned with soup stock

-instant miso soup

-17049 powdered type

- -17050 paste type
- -17121 "Karashi-miso" (miso sauce containing mustard, vinegar and sugar)
- -17122 "Goma-miso" (miso sauce containing sesame)
- -17123 "Su-miso" (miso sauce containing vinegar and mustard)
- -17124 "Neri-miso" (miso sauce containing egg and mirin)

Miso shall be labeled as rice-koji miso, barley-koji miso, soybean-koji miso, blended miso according to

Quality Labeling Standard²⁵).

"rice-koji miso" is a seasoning made by adding rice koji and salt to steamed soybeans, fermenting and maturing them. It was subdivided into "sweet type", "light yellow type", and "red type" according to its color shade and salty taste. The component values of "sweet type", "light yellow type", and "red type" are each determined based on analytical values and the component values on the 4th Composition Tables.

"barley-koji miso" is a seasoning made by adding barley koji and salt to steamed soybeans, fermenting and maturing them. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

"soybean-koji miso" is a seasoning made by incubating koji mold on steamed soybeans, adding salt water to them, fermenting and maturing them. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

The component values of "salt reduced", newly listed, are determined based on analytical values (2015) of commercial products. The sample is a commercial product with $9.4 \sim 9.9$ g/100 g of salt amount (displayed in a label).

"pre-seasoned with soup stock", newly listed, is miso with soup stock. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials¹): rice-koji miso (light yellow type) 11, stock powder of Katsuo-bushi 1

"powdered type" and "paste type" which were listed as "instant miso soup" are used for instant miso soup. "powdered type" is a product made by freeze-drying "light yellow type" of "rice-koji miso" and adding synthetic seasonings and natural seasonings. "paste type" is a product made by adding synthetic seasonings, natural seasonings, and alcohol to "light yellow type" of "rice-koji miso", processing them, wrapping them in a plastic bag, and heating it for sterilization. The component values of "powdered type" and "paste type" are each determined based on analytical values of commercial products.

"Karashi-miso", "Goma-miso", "Su-miso", and "Neri-miso", newly listed, are used for Aegoromo (seasoning for Aemono) or Tsukemiso (dipping miso) in Japanese cuisine.

"Karashi-miso" is a food made from sweet-type rice-koji miso, sugar, grain vinegar, and mustard. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials¹): rice-koji miso (sweet type) 20, sugar (caster sugar) 10, grain vinegar 10, mustard (paste) 2

"Goma-miso" is a food made from sweet-type rice-koji miso, sake, sesame, and sugar (caster sugar). The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials¹): rice-koji miso (sweet type) 80, sake 22, sesame (roasted or ground sesame) 18, sugar (caster sugar) 6

"Su-miso" is a food made from sweet-type rice-koji miso, sugar (caster sugar), and grain vinegar. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials¹): rice-koji miso (sweet type) 20, sugar (caster sugar) 10, grain vinegar 10

"Neri-miso" is a food made from sweet-type rice-koji miso, sugar (caster sugar), and sake. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials¹: rice-koji miso (sweet type) 60, sugar (caster sugar) 40, sake 10

(Roux)

-17051 Japanese curry roux, instant

-17052 hash and rice roux, instant

"Japanese curry roux, instant" is a solidified product for which flour, oils and fats, starch, saccharides, salt, synthetic seasonings, etc. in addition to curry powder were used as raw materials. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

"hash and rice roux, instant" is a solidified product for which flour, oils and fats, starch, tomatoes, onions, saccharides, salt, synthetic seasonings, beef extract, etc. were used as raw materials. The component values are determined based on analytical values, the component values on the 4th Composition Tables, and reference materials⁷⁾¹⁹.

(Others)

-17125 Seasoning mix for "Ochazuke" (bowl of rice soaked in dashi broth, with salmon flake)

-17053 "Sakekasu" (sake lees)

-17126 Instant soup mix, "Sumashi-jiru" (Japanese traditional clear-soup)

-17127 "Furikake" (Seasoning mix for rice, containing dried seaweed and egg)

-17054 Mirin-like sweet cooking seasoning

"Seasoning mix for Ochazuke", newly listed, is standard Ochazuke. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials¹): Aramaki salmon (baked) 34, salt 29, Kawara senbei 23, stock powder of Katsuo-bushi 17, sugar (caster sugar) 11, toasted laver 5, Katsuo-bushi 4, Maccha 3, Ma-kombu (dried) 2

Sake lees which are commercial products were selected as a sample for "Sakekasu". The component values are determined based on analytical values and the component values on the 4th Composition Tables.

"Instant soup mix, Sumashi-jiru", newly listed, is a product of dried material for which hot water is poured for use. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials¹: salt 34, Koikuchi-shoyu 33, stock powder of Katsuo-bushi 30, welsh onions (small variety) 30, sugar (caster sugar) 11, baked Fu 11, toasted

laver 11, Katsuo-bushi 5

"Furikake", newly listed, is standard Furikake. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials¹: sugar (caster sugar) 23, sesame (roasted or ground sesame) 19.3, chicken egg (dried yolk) 16.5, stock powder of Katsuo-bushi 12.4, Saba-bushi

10.7, soft flour (first grade) 8.5, dried laver 6.1, salt 4, Maccha 1.5

"Mirin-like sweet cooking seasoning" is a food which imitates "Hon-mirin (with 14.0 volume % of alcohol)" which is an original seasoning. It is made by mixing glutamic acid and flavors with glucose or sucrose syrup

and its alcohol level is less than 1 %. The component values are determined based on material²⁶).

<SPICES> -allspice -17055 ground -17056 onion powder -mustard -17057 powder -17058 paste -17059 yellow mustard -17060 whole grain mustard -17061 curry powder -clove -17062 ground -pepper -17063 black, ground -17064 white, ground -17065 black and white pepper mix, ground - "Sansho" (Japanese pepper) -17066 ground -cinnamon -17067 ground -ginger -17068 dried, ground -17069 paste -sage -17070 dried, ground -thyme -17071 dried, ground -17072 chili powder -red hot pepper -17073 ground -nutmeg -17074 ground -garlic -powder -17075 without salt -17128 with salt -17076 paste

-basil

-17077 dried, ground

-parsley

-17078 dried

—paprika

-17079 dried, ground

—"Wasabi"

-17080 powder, mixed with mustard powder

-17081 paste

"allspice, ground" is also called Hyakumi-kosho or Pimento and is dried powder of unmatured fruit. The flavor is similar to the mixture of cinnamon, clove, and nutmeg. The component values are determined based on analytical values, the component values on the 4th Composition Tables, and reference material⁷).

"onion powder" is dried powder of onions and salt is added in some products. The component values are determined based on analytical values, the component values on the 4th Composition Tables, and reference material⁷).

"mustard" (Karashi in Japanese) is also called mustard (loanword). Japanese mustard is also called oriental mustard, and western mustard is also called yellow mustard. Japanese mustard and western mustard are made from seeds of oriental mustard and seeds of white mustard and black mustard, respectively. Mustard is sold in shapes of "powder", "paste", "yellow mustard", and "whole grain mustard". Western style and Japanese style of "powder" and "paste" are separately sold, but the large differences of analytical values between them are not shown. "yellow mustard" and "whole grain mustard" are products made by mixing distilled vinegar, salt, vegetable oils and fats, etc. into mustard. "yellow mustard" is also called French mustard and "whole grain mustard" is also called Arabiki mustard. The component values are each determined based on analytical values, the component values on the 4th Composition Tables, and reference material⁷).

"curry powder" is a product made by mixing pepper, red hot pepper, etc. as hot taste and many kinds of spices such as coriander, cardamon, or cumin as flavor, and adding a color with turmeric. Kinds and blending ratios of spices used for curry powder are various. The component values are determined based on analytical values, the component values on the 4th Composition Tables, and reference material⁷).

"ground" of "clove" is also called Choji. It is dried powder of buds of clove flowers (Choji in Japanese). The component values are determined based on analytical values, the component values on the 4th Composition Tables, and reference material⁷).

"pepper" (Kosho in Japanese) is also called pepper (loanword). "black" is made from nuts picked before the nuts of pepper are matured and "white" is made from nuts without outer skins after the nuts are completely matured. "black and white pepper mix" is a product made by mixing the both, whose distribution amount is the largest in pepper. The component values of "black" and "white" are determined based on analytical values of commercial products, the component values on the 4th Composition Tables, and reference material⁷). The component values of iodine, selenium, chromium, molybdenum, and biotin for "black and white pepper mix" are determined based on analytical values, and others are determined by calculation based on the component values of "black" and "white".

"ground" of "Sansho" is a Japanese representative spice which is powder of Sansho nuts. The component

values are determined based on analytical values, the component values on the 4th Composition Tables, and reference material⁷).

"cinnamon" is also called Nikkei or Nikki in Japanese names and is dried one after peeling skins from young twigs of cinnamon. Cinnamon is called cassia or cassia is a replacement for cinnamon depending on a country of origin. Commercial products include a stick type and a powder type, but the powder type was listed taking consumption amount into consideration. The component values are determined based on analytical values, the component values on the 4th Composition Tables, and reference material⁷).

"ginger" (Shoga in Japanese) is a dried powder of rootstocks of ginger and is also called ginger (loanword). It is sold in shapes of "dried, ground" and "paste". The component values are determined based on analytical values, the component values on the 4th Composition Tables, and reference material⁷).

"dried, ground" of "sage" is also called Yakuyo-salvia (medicinal salvia) and is dried powder of leaves. The component values are determined based on analytical values, the component values on the 4th Composition Tables, and reference material⁷).

"dried, ground" of "thyme" is dried powder of rootstocks of Tachijakoso (Japanese name of thyme). The component values are determined based on analytical values, the component values on the 4th Composition Tables, and reference material⁷).

"chili powder" is a western-style Shichimi-togarashi (seven spice mixture) for which oregano, dill seeds, etc. were mixed into western-style chilies as a hot taste source. The component values are determined based on analytical values and the component values on the 4th Composition Tables. Note that chili pepper powder is powder of western-style chilies as a hot taste source and is called Yofu-ichimi-togarashi (western-style red hot pepper).

"ground" of "red hot pepper" is also called Ichimi-togarashi. The component values are determined based on analytical values and the component values on the 4th Composition Tables.

"nutmeg" is also called Nikuzuku and brown seeds in nuts (spice base is arils including seat coats). The component values are determined based on analytical values of commercial products and the component values on the 4th Composition Tables.

"garlic" (Ninniku in Japanese) is dried powder of garlic bulbs and is also called garlic (loanword). "garlic powder" and "paste" are sold. The component values are determined based on analytical values, the component values on the 4th Composition Tables, and reference material⁷). Note that salt is added to some products of "garlic powder". Sodium and salt equivalents of products with salt were shown in a remark in the Composition Tables 2010, but "with salt" is newly listed in this table. For other component values than sodium and salt equivalents of "with salt", the same values as those of "without salt" were used.

"basil" is also called Meboki or Basilico and "dried, ground" is dried powder of the whole plant soon before blooming. The component values are determined based on analytical values.

"dried" of "parsley" is dried powder of parsley. The component values are determined based on analytical values.

"paprika" is dried powder of chilies without hot taste. The component values are determined based on analytical values, the component values on the 4th Composition Tables, and reference material⁷).

"powder, mixed with mustard powder" of "Wasabi" is the mixture of horseradish powder and mustard powder.

"paste" is paste made by adding water, etc. to Wasabi powder and horseradish powder. The component values are each determined based on analytical values, the component values on the 4th Composition Tables, and reference material⁷).

<OTHERS>

-Yeast

-17082 baker's yeast, compressed

-17083 baker's yeast, dried

-17129 Tempura batter

-17084 baking powder

"Yeast" (Kobo in Japanese) is also called yeast (loanword) and includes a type for bread, a type for beer, etc. "compressed" and "dried" of "baker's yeast" were listed. The component values are determined based on reference material²⁷.

"Tempura batter", newly listed, is one kind of koromo for tempura or koromo used before bread crumbs for a fry. The component values are determined by calculation based on blending ratio and the component values of raw materials.

Blending ratio of raw materials: premixed flour 39, water 61

"baking powder" is mainly used for a raising agent for western-style sweets. The component values are determined based on reference material²⁸. Note that carbon dioxide, etc. are generated in cooking with heat and the amount is shown in a remark. Therefore, the sum of proximate becomes 100 g by adding this amount.

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18) Prepared foods

The main items which are common to prepared foods are as follows:

- [1] In principle, products for which official standards such as Japanese Agricultural Standard are set and which are frequently used were listed in products which are industrially manufactured and distributed nationwide.
- [2] Foods for medical care and baby foods were not listed due to the peculiarity of use purpose.
- [3] Nutrient itmes comply with the Composition Tables 2010 because the variation of the component values is large even in the same food name compared with other food groups due to the differences of kinds of raw materials, blending ratios, processing methods, etc. and nutrients are labeled in many cases.
- [4] Main nutrients and energy amount of listed foods are values based on the results¹⁾ of collecting and totaling all the analytical values which were available in preparing the 5th Composition Tables, and the component values on the 4th Composition Tables.
- [5] Fry products include 2 kinds: "pre-fried, frozen" which is fried in oil after it was purchased; and "fried, frozen" which becomes similar state to fried products by heating them in a microwave oven, a toaster, etc. even if oil is not used, after it was purchased. In the Composition Tables 2010, "pre-fried, frozen" was listed in the table and "fried, frozen" was listed in a remark, but they are newly subdivided and listed.
- [6] Prepared foods of cereals such as "rice", "Sekihan", "rice cake", "rice porridge", and "cup noodles" are listed in Cereals, prepared foods of potatoes such as "baked potato" and "steamed potato" are listed in Potatoes, cooked beans such as "Budo-mame" and "Fuki-mame" are listed in Pulses, prepared foods of vegetables such as "canned vegetables", "pickles", and "Ohitashi" (Japanese salad) are listed in Vegetables, prepared foods of fruits such as "canned fruits" and "jam" are listed in Fruits, prepared foods of fish, mollusks and crustaceans such as "Shirayaki of fish" and "canned fish, mollusks and crustaceans" are listed in Fish, mollusks and crustaceans, prepared foods of meats such as "baked meat" and "ham" are listed in Meats, "Tamago-yaki (Atsuyaki-tamago, Dashimaki-tamago)" and "Tamago-dofu" are listed in Eggs, and buns with filling are listed in Confectionaries.
- [7] "chicken curry", "beef curry", "pork curry", "jiaozi", "prawn gratin", "cream of pumpkin soup", "cream of corn soup", "crab white sauce-based croquettes" "corn white sauce-based croquettes", "potato-based croquettes", "cuttlefish fry", "prawn fry", "chicken stew (white stew)", "beef stew (brown stew)", "Shumai", "Aibiki hamburger steak", "chicken hamburger steak", "Tofu hamburger steak", "prawn pilaf", "Chuka chimaki" (Chinese rice dumplings in bamboo leaves), "meatball", and "Menchi-katsu" which are foods listed as prepared foods and similar foods were listed in "3 Prepared Dishes" of Chapter 3. The component values of the listed foods in the item were calculated based on the component values of raw materials and water amount of the products by collecting blending ratio of raw materials in each product and measuring the water amount of the product.
- [8] Regarding "analytical values" and "analytical values (2015)" in the text, see "Notes on Foods" described in the initial part of Chapter 3. (See Page 1)

In the followings, important points to note regarding the component values are described for each food item.

Japanese curry

-18001 beef, retort-pouch

The mainstream of "Japanese curry" is retort-pouch, and beef is used for many products as raw material and subsequently chicken is used. There are little products in which pork or Japanese scallop is used. The component values of iodine, selenium, chromium, molybdenum, and biotin are determined based on analytical values, and others are determined based on the component values on the 4th Composition Tables and material values²⁾³⁾.

Jiaozi (Chinese dumpling)

-18002 frozen

"frozen" of "jiaozi" which was listed is a product made by wrapping pork, vegetables (cabbages, Chinese chives, etc.) with "Outer steamed wheat Jiaozi dough", and freezing it. The component values are determined based on the component values on the 4th Composition Tables and material values²⁾⁻⁴⁾.

Gratin

-18003 prawn, frozen

Main materials of "frozen" of "gratin" are fish, mollusks and crustaceans, chicken, pork, etc., but products in which prawn is used are distributed in a large quantity and thus prawn gratin was listed. The component values are determined based on material values^{2) 3)}.

Cream of corn soup

- -18004 powdered
- -18005 retort-pouched

Raw materials of "powdered" are sweet corn, milk powder, starch, oils and fats, seasonings, etc. The product which was listed is used by diluting it by about 10 fold. The component values of iodine, selenium, chromium, molybdenum, and biotin are determined based on analytical values, and others are determined based on the component values on the 4th Composition Tables and material values²). Raw materials of "retort-pouched" are sweet corn, flour, oils and fats, seasonings, etc. Straight-type products which are used without dilution are currently distributed in a large quantity and thus "retort-pouched" of the straight type was listed. The component values are determined based on material values².

Croquettes

- -18006 white sauce-based, pre-fried, frozen
- -18017 white sauce-based, fried, frozen
- -18007 potato-based, pre-fried, frozen
- -18018 potato-based, fried, frozen

"Croquettes" is roughly separated into white sauce-based and potato-based. The base of "white sauce-based" is white sauce and the base of "potato-based" is potatoes. Materials which are blended with each base are different in kinds and volume between products. The component values of "pre-fried, frozen" are each determined based on the component values on the 4th Composition Tables and material values^{2)~5)}. The contents of energy, water, protein, lipid, and carbohydrate for "fried, frozen", newly subdivided and listed are determined based on material values^{3) (4) 5)}, and the same values as those of "pre-fried, frozen" were used for other

component values.

(Breaded seafood)

-cuttlefish fry

-18008 pre-fried, frozen

-18019 fried, frozen

-prawn fry

-18009 pre-fried, frozen

-18020 fried, frozen

-white fish fry

-18010 pre-fried, frozen

-18021 fried, frozen

"pre-fried, frozen" of "cuttlefish fry" is a product made by immersing cuttlefish in batter liquid (for which flour, egg white, etc. were dissolved in water) and putting bread crumbs on. The component values are determined based on material values^{2) 3)}.

"pre-fried, frozen" of "prawn fry" is a product made by immersing prawn in batter liquid and putting bread crumbs on. The component values are determined based on material values^{1) 2)}.

"pre-fried, frozen" of "white fish fry" is a product made by immersing white fishes such as hake, cod, and righteye flounder in batter liquid and putting bread crumbs on. The component values are determined based on material values¹⁾²⁾.

The contents of energy, water, protein, lipid, and carbohydrate for "fried, frozen" of (Breaded seafood), newly subdivided and listed are determined based on material values^{3) 4) 5)}, and the same values as those of "pre-fried, frozen" were used for other component values.

Stew

-18011 beef, retort-pouch

The mainstream of "stew" is retort-pouch, and products in which beef is used as raw material are distributed in a large quantity. The component values are determined based on the component values on the 4th Composition Tables and material values^{2) 3)}.

"Shumai" (pork dumpling)

-18012 frozen

"frozen" of "Shumai" is a product made by wrapping a filling in which onions, starch, vegetable proteins, seasonings, etc. were added to edible meat (pork, prawn, chicken, etc.) with "Outer steamed wheat Shumai dough", and freezing it. The component values are determined based on the component values on the 4th Composition Tables and material values²⁾⁻⁴.

Hamburger steak

-18013 frozen

"frozen" of "hamburger steak" is a product made by adding onions, bread crumbs, eggs, skimmed milk powder, meat extract, seasonings, etc. to edible meat (pork, chicken, beef), and freezing it. The component values are determined based on the component values on the 4th Composition Tables and material values²⁾⁻⁴⁾. **Pilaf**

-18014 frozen

"Pilaf" is made from rice as main raw material, in which various ingredients such as prawn, chicken, and Japanese scallop are used. As a result of considering the component values for each ingredient, points to be divided were not seen and thus the integrated component values are shown. The component values are determined based on material values^{2) 3)}.

Meatball

-18015 frozen

"Meatball" is a product made by adding onions, bread crumbs, starch, egg white, seasonings, etc. to edible meat (pork, chicken, beef). The component values are determined based on the component values on the 4th Composition Tables and material values²⁾⁻⁴⁾.

"Menchi-katsu" (breaded ground meat cutlet)

- -18016 pre-fried, frozen
- -18022 fried, frozen

"Menchi-katsu" is a product made by adding onions, beef fat or lard, bread crumbs, egg white, vegetable proteins, seasonings, etc. to edible meat (pork, chicken, beef), immersing it in batter liquid, and putting bread crumbs on. The component values of "pre-fried, frozen" are determined based on the component values on the 4th Composition Tables ("Minchi-katsu") and material values³). The contents of energy, water, protein, lipid, and carbohydrate for "fried, frozen", newly subdivided and listed are determined based on material values³, and the same values as those of "pre-fried, frozen" were used for other component values.

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