

Kimchi –Korean Speciality



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Editor's Note

Since the dawn of human society the Korean nation has created its own resourceful culture, shedding lustre on the history of the world culture.

A diet property holds a conspicuous place in the cultural heritage left by the Korean people.

Kimchi (pickled vegetables) is the notable one out of the Korean national dishes, which is popular among the masses for its peculiar flavour and medicinal virtues and so widely known to the world.

This booklet introduces the position of kimchi in the world foodstuffs, its origin and processing methods of its typical kinds.

Kimchi is various in kinds, and new varieties are born and developed as the days go by.

The booklet briefs on some varieties of widespread kimchi to get the readers to have the understanding of kimchi—a Korean speciality.

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1. Kimchi—Health-Longevity Food

How can one live long in roaring health? Everyone has such wishes in his or her mind.

A scientific diet is a fair working solution to this controversial question. What and how to eat is a fundamental factor for people's health and long life and also a primary problem in one's life.

Today as the desire of man for health and longevity is growing day by day, different articles of food are becoming more popular among the masses for their value as healthy food. Kimchi, a Korean traditional dish, occupies a protuberant place in the world foodstuffs for its special efficiency.

Kimchi is widely known as a typical native dish—a favourite of every member of the Korean nation and highlighted everywhere in the world—in the East and in the West.

A monthly health magazine of a country selected the Korean kimchi as one of the five major articles of healthy food in the world, and at the time of the 26th Olympic Games held in July 1996 it was picked as one of key foodstuffs to be served to athletes and officials of all countries.

It was made clear by scientists that kimchi was high efficacious for prevention and treatment of SARS and bird's influenza.

In addition, it is deterrent of multiplying influenza virus and cancer cells in human body, so it is prevalent on this globe as a world-wide healthy food,

a “tasty lactic fermentation foodstuff”.

Its special nutritive-physiological, pharmaceutical and favorite value has brought such a worldwide prevalence.

Vegetables and wild herbs of different kinds are the main ingredients of kimchi. In case of *sikhye*, fishes are basic materials. Such ingredients mixed with spices and nutritive auxiliary materials such as salt, red pepper, green onion, garlic, ginger and pickled shrimps are fermented by lactic bacteria to make kimchi.

Kimchi is high nutritive. It has various kinds of vitamins such as vitamins C, B₁, B₂, PP, A (carotene) and E. In particular, it is high in vitamin C the human body requires much.

The vitamins B₁, B₂ and B₁₂, which the ingredients of kimchi lack or are short of, form newly or increase in quantity during its maturing.

Kimchi contains Na, K, Ca, Mg and other mineral matters. It as an alkaline foodstuff secures the acid-alkaline equilibrium in human body.

It also has the essential amino acid and other amino acids, adding its value to itself.

It performs some favorable physiological actions on the human body.

Kimchi, a source of lactic acid, inhibits the action of harmful germs in the intestines and promotes the growth of useful normal microorganism. The vitamins and minerals of kimchi promote metabolism and are good for the nervous system.

Kimchi, a preventer of acidification of humors, is efficacious for the cure and prevention of acidosis.

The edible fibres of kimchi help digestion and are effective for preventing constipation and arteriosclerosis.

Kimchi is also helpful to digestion and absorption of food. The different spices in kimchi quicken the secreting of digestive fluid, tempt one's appetite and promote urination together with lactic acid and other organic acids and carbon dioxide.

Besides, it is known that kimchi is efficacious for the treatment and prevention of some diseases. The elements of kimchi prevent hypertension, arteriosclerosis and obesity, improve one's sight, promote the secreting of digestive fluid and perform the actions of anti-allergy, adjusting body-weight and beautifying one's figure.

As aforesaid, being so high nutritive, tasty and multifunctional, kimchi is a flawless nutritive foodstuff and specific remedy for one's health and longevity.

In many cases, nutritive value of food, its pharmaceutical effects and functions of foods are apt to the values of the food ingredients used in it, but kimchi finds a unique worthiness rather in its processed goods than in its ingredients.

2. Origin of Kimchi

The word of kimchi is a combination of the letter *kim* meaning to pickle and the letter *chi* meaning vegetables; kimchi prepared at the arrival of winter was called *kimjang* in Korean, whose origin is in that every household used to build a dugout for a kimchi pot and store it in soil. In other words, *kimjang* means to store the pickled vegetables long.

The firsthand record of kimchi dates back to the period of Koryo (918-1392). The *History of Koryo* (printed in 1451) wrote that parsley kimchi, bamboo shoot kimchi, radish kimchi and leek kimchi were set on circular altar at the time of a sacrificial rite to the gods of heaven and earth, which had been performed since 983.

Ri Kyu Bo (1168-1241), a poet of Koryo, wrote, seeing radish, cucumber, eggplant and green onion growing on the kitchen garden, as follows:

Radish,

Pickled radish is a good dish in summer,

Kimchi prepared for the winter

Can be eaten through all the winter days

These records give a glimpse of the public usage of kimchi in the diet of Koreans. The origin of kimchi, therefore, was from earlier than that. This is illustrated by the fact that radish and other vegetables, main ingredients of kimchi, and parsley, wild garlic, anise and stonecrop, which are mountain

herbs and edible grass usable for the materials of kimchi, had long been used in the food life. The Ancient Korea-founding tale said about garlic and the *Chronicles of the Three Kingdoms* wrote that when Ko Ju Mong, Founder King of Koguryo, the first feudal state in Korea, arrived at the Piryu River, he sensed, seeing vegetable leaves flowing down, that people lived in the upper side. All these records are proof to the cultivating of vegetables in the olden times, before the period of Three Kingdoms.

The wide use of salt in the diet from earlier days is also evidence to the long history of kimchi.

Salt not only gives saltiness to kimchi, but also ferments lactic acid to mellow it. However good the ingredients of kimchi may be, without salt those cannot be kept from spoilage and degeneration and kimchi cannot be made although it is added with the artificially-cultured lactic bacteria. This tells that salt is indispensable for preparing kimchi.

Some heavy saltiness arrests the growth of putrefactive bacteria so that vegetables can be stored long. This storing method of using salt is the processing method of kimchi.

The long history of kimchi is also shown by the fact that garlic and other major spices have been cultivated since the ancient time.

Garlic improves the flavour and enriches kimchi and restrains various germs and so helps it to be mellowed moderately.

The long tradition of kimchi is also proved by another fact that Koreans

had since long applied food-processing techniques in the diet, based on the fermenting principle.

In the primitive age liquor was yeasted and used, and in the period of the Three Kingdoms soy and bean paste, pickled shrimps, vinegar and other zymosis foods were widely used in the diet. These show that the food-processing method based on zymotechnics had been invented before then.

The long custom of using pots or jars for kimchi is a ground that kimchi dated back long before.

There are pots and jars unearthed as the relics of the neolithic era. A pot is seen in the mural of tomb belonging to the Koguryo period and the *Pictorial Book of Koryo Ceramic*, an old record, introduces large pots, too.

The pots were made from various materials and their sizes differed from one another. As for their forms, in the period of Ancient Korea there emerged a pot, bulged and narrow at the mouth, which was an agreeable container for zymosis goods. The living custom of Koreans who preserved a pot alone, though poverty-stricken, helps you conjecture that a kimchi pot was one of native chattels.

The big container implies the plenty of products as well as their long storage.

The *Pictorial Book of Koryo Ceramic* wrote that a water pot was big, but it is appropriate to consider that such a big pot would have been more

necessary for making soy and soybean paste or kimchi and storing them than for preserving water as long as clear water flowed everywhere in Korea.

The early existence of materials, techniques and means for processing kimchi offers a ground that there would have been a foodstuff corresponding to them. In the period of the Three Kingdoms kimchi was made in public, whose origin was in the ancient time. Needless to say, the then kimchi would have been similar to the present-day *tongchimi* (radishes pickled in salt water) as long as red pepper was not yet cultivated until then.

The *Chronicles of the Ri Dynasty* wrote that a dugout for kimchi was built in 1409, which allows us to have a knowledge of place of kimchi in the diet of Koreans in those days.

With the wide usage of red pepper and other various kinds of vegetables in the food life, kimchi-processing method was developed and new ones were invented.

As red pepper began to be grown during the late 16th century-early 17th century, various kinds of kimchi came into being and pickled shrimps were used for kimchi. The red pepper adds a peculiar flavour and fresh red color to kimchi, removes the fishy smell from pickles and restrains the acidifying of oiliness. That's why, today, it is generally used for almost all kinds of kimchi and the pickled fishes are added to some kinds of kimchi as an auxiliary nutritive ingredient.

The use of pickled fishes considerably enriched the nutriment of kimchi

and allowed it to hold a special place in zymosis foodstuffs.

With the extensive cultivation of celery cabbage, it was used as a main ingredient for various kinds of kimchi together with radish.

The period of Ri Dynasty witnessed varied kimchi. The *Forestry Economy, Library for Women, Reference for Women* and *Cuisines*, the contemporary documents, introduced scores of kinds of kimchi.

Particularly, kimchi for the winter (from November to March next year) was made at one go, so it was called half-year provisions. Kimchi-making for the winter was an annual event of a special interest.

With the passage of years, kimchi became varied and improved in quality, assuming specific features by seasons and localities.

Being high-nutritious, in plenty of ingredients and easy in making, kimchi has become a popular dish, indispensable for every meal, and traditional dish, precious for each member of the Korean nation.

3. Kinds of Kimchi

Kimchi has various kinds and each has its own characteristics. Even the same kind of it is of peculiarity by localities and according to how to make it.

Kimchi is divided by the main ingredients into three kinds. They are vegetable kimchi—celery cabbage kimchi, radish kimchi, cucumber kimchi, eggplant kimchi, leaf-mustard kimchi, leek kimchi, lettuce kimchi, cabbage kimchi and pumpkin kimchi, edible herb kimchi—anise kimchi, parsley kimchi, stonecrop kimchi, aralia shoots kimchi, wild garlic kimchi, *Todok* kimchi, dandelion kimchi and pickpurse kimchi and *sikhye* (fermented fish)—*myongthae*(walleye pollack) *sikhye*, sailfin sandfish *sikhye* and flatfish *sikhye*. There is also a kimchi made of other various materials such as *sokbak* kimchi (pickled sliced radishes or celery cabbages seasoned with red pepper) and oyster-*kkaktugi*(sliced radish-oyster kimchi).

Kimchi is also divided by the time of making it into spring kimchi (spring whole celery cabbage kimchi, spring radish kimchi, wild garlic kimchi and anise kimchi), summer kimchi (cabbage kimchi, young radish kimchi, cucumber kimchi and young celery cabbage kimchi), autumn kimchi (radish tops kimchi, green onion kimchi and eggplant-stuffed kimchi) and winter kimchi (whole celery cabbage kimchi, *tongchimi*, *possam* kimchi and kimchi without red pepper). And kimchi pickled in autumn to eat for long is called *kimjang* kimchi and one pickled at required time is called seasonal kimchi.

According to spices, kimchi can be also classified into ordinary kimchi seasoned with salt, soy kimchi seasoned with soy and kimchi without red pepper.

By the amount of water poured in making kimchi, it is also divided into ordinary kimchi and watery kimchi like *nabak* kimchi (watery kimchi made of sliced radish) and by cutting method and the form of kimchi, it is divided into *kkaktugi*, pomegranate-shaped kimchi, scale-shaped kimchi (radish pickles stuffed with heavy seasonings), *chae* kimchi (shredded vegetable pickles), *possam* kimchi (pickles wrapped in a leaf of celery cabbage) and *sobagi* kimchi (stuffed pickles). There is also *suk* kimchi made by boiling its ingredients.

In addition, according to the amount of salt used, it can be classified. A kimchi seasoned somewhat salty to eat for long is called *jjanji*.

Even the same kind of it is different in making method by localities. For example, in the west coast of Korea pickled fish such as salted shellfish, shrimps and anchovies are often used for kimchi and in the east coast, *myongthae*, sailfin sandfish and flatfish are used. In the north region, in contrast, kimchi is not salty enough and admixed with less spices; in the south, it is made saltier, more pungent and less watery.

Some typical methods of making kimchi are as follows:

1) Whole Celery Cabbage Kimchi



△ Ingredients for one kilogram

celery cabbage	1 040 grams	fine salt	3 grams
radish	100 grams	green onion	20 grams
<i>myongthae</i>	25 grams	garlic	5 grams
salted shrimps	10 grams	ginger	3 grams
coarse salt	20 grams	powdered red pepper	20 grams
		seasoning	2 grams

△ Method

- ① Trim celery cabbage and cut lengthwise in half and pickle them in 10% salt water for about 24 hours.
- ② Rinse the radishes in water and shred one third of them. Cut the rest into big pieces. Cut off the flesh of *myongthae* and chop it up or mince it.
- ③ Temper powdered red pepper in water 1.2 times it and set aside. Shred green onion into slices and chop up garlic and ginger.
- ④ Admix the shredded radish with powdered red pepper, green onion, garlic, ginger, *myongthae*, salt and seasoning to make the stuffings of kimchi.
- ⑤ Wash the pickled celery cabbage in water, put the stuffing into every layer evenly and wrap it up.
- ⑥ Put a layer of radish in a pot, salt a bit, and put half-celery cabbages one by one, section upside, pressing it for a while.
And then put the radishes and celery cabbages in a pot by turns until filling it up. Cover it with the outer leaves of celery cabbage and put a stone weight.
- ⑦ Three days later, pour one percent salt water and seal up to mellow.
Cut the ripe kimchi into pieces three or four centimetres long at every meal time, put them in a bowl and pour kimchi juice a bit and serve.

2) *Tongchimi*

(radishes pickled in salt water)



△ Ingredients for 100 kilograms

radish	30 kilograms	garlic	100 grams
salt	1.2 kilograms	ginger	100 grams
green onion	70 grams	dried whole red pepper	50 grams
apple	200 grams	pear	300 grams

△ Method

- ① Choose flawless radishes of moderate size and wash them.
- ② Remove stalks and take out the seeds of whole red pepper. Skin green onion and cut its roots.
- ③ Clean up the cloves of garlic, cut each apple and pear into four pieces, core out them and clean ginger.
- ④ Spread salt on the bottom of sterilized pot and set a layer of radishes. Put whole red pepper, green onion, garlic, ginger, apple and pear on it and add salt before setting another layer of radishes. Repeat this way until half a pot is filled up. Then put the washed green onion roots, cover it with the leaves of radish or outer leaves of celery cabbage and add salt to it.
- ⑤ Two or three days later, pour about 0.7% salt water, which was boiled and cooled, until outer leaves of celery cabbage soak in it. Put the stone weight on it, cover it before sealing the pot tightly and bury it in soil to mellow.

3) *Possam* Kimchi

(pickles wrapped in a leaf of celery cabbage)



△ Ingredients for five kilograms

celery cabbage	2 000 grams	pickled shrimps	100 grams
radish	250 grams	pear	300 grams
beef broth	1 litre	chestnut	100 grams
parsley	330 grams	pine-nut (kernel)	10 grams
dressed beef	100 grams	coarse salt	100 grams

squid	40 grams	powdered red pepper	100 grams
fine salt	100 grams	garlic	50 grams
green onion	200 grams	ginger	50 grams
whole red pepper	80 grams		

△ Method

- ① Trim celery cabbages and pickle them for 24 hours before rinsing them. Shred one-third of ready radishes and cut the rest into thick pieces. Chop pears into slices about three centimetres long and wide and peel the chestnuts before slicing them.
- ② Slice squid, cut parsley into peices about 4 centimetres long, and then salt it to pickle. Cut the boiled beef into slices about 4 centimetres long and 2.5 centimetres wide. Strain beef broth.
- ③ Slice whole red pepper as thin as thread and chop up green onion, garlic and ginger together. Crush the dregs of pickled shrimps.
- ④ Admix the shredded radish with the two thirds of powdered red pepper, add squid, parsley, green onion, garlic, ginger, pickled shrimps, salt and powdered red pepper and then mingle them to make stuffings.
- ⑤ Pick off the outer leaves of celery cabbage, put the stuffings evenly in celery cabbage and cut it into blocks four or five centimetres long.

- ⑥ Spread one or two outer leaves on a kimchi bowl and put one block of celery cabbage on it. Lay pear, chestnut, pine-nut kernel, beef and the shredded red pepper on it and add a spoonful of watery pickled shrimps to it. Wrap the pieces of celery cabbage with its leaf and bind it with the stalk of parsley or a leaf of green onion to make *possam* (a celery cabbage bundle).
- ⑦ Lay *possams* of one layer round on the bottom of pot and put some radishes on them. Repeat this way till the pot is nearly filled with them. Cover it with the outer leaves of celery cabbage and put a stone weight on it.
- ⑧ Two days later, pour the properly-salted beef broth and seal the pot tightly before mellowing.

4) *Kkaktugi*

(hot pickles of chopped radishes)



△ Ingredients for one kilogram

radish	1 040 grams	garlic	10 grams
pickled shrimps	100 grams	ginger	3 grams
green onion	10 grams	powdered red pepper	20 grams
salt	20 grams	squid	50 grams
		seasoning	0.5 gram

△ Method

- ① Rinse and cut radishes into pieces two centimetres long, wide and high. Cut green onion into pieces two centimetres long and chop up garlic and ginger. Slice the cleaned squid into pieces five centimetres long and two centimetres wide.
- ② Admix the pieces of radish with the powdered red pepper. Add squid, green onion, garlic and ginger to them and mingle all of them before seasoning with salt.
- ③ Put the mixture in a pot, pressing it with hand and seal the pot to mellow.

5) *Nabak* Kimchi

(watery kimchi made of sliced radish)



△ Ingredients for 1.5 kilograms

radish	250 grams	green onion	20 grams
parsley (stalk)	25 grams	garlic	5 grams
pear	30 grams	ginger	2 grams
whole red pepper	4 grams	salt	16 grams

△ Method

- ① Skin the washed radishes and cut it into pieces about 2 centimetres wide, 3 centimetres long and 0.2 centimetre thick. Pare pear and cut it in the same size as radishes.
- ② Shred green onion, chop up garlic and ginger and slice whole red pepper as thin as thread. Cut the stalk of parsley into pieces three centimetres long and pickle them.
- ③ Add the shredded red pepper to radish and mingle them with hands to get radish red. Put the pear, parsley, green onion, garlic and ginger on them and season with salt before putting them in a pot. About one hour later, pour salt water and seal the pot so as to ripen.

6) Cucumber Kimchi



△ Ingredients for one kilogram

cucumber	1 300 grams	sliced red pepper	13 grams
radish	330 grams	garlic	34 grams
parsley	40 grams	ginger	13 grams
powdered red pepper	13 grams	fine salt	16 grams
whole red pepper	13 grams	green onion	35 grams

△ Method

- ① Wash the young cucumbers, rubbing with the coarse salt and cut them into pieces eight centimetres long. Cut it crosswise, leaving its both ends intact, and salt it to pickle.
- ② Shred radishes to be about four centimetres long. Wash parsley and cut it in the same size as the radishes. Shred green onion, chop up garlic and ginger and slice whole red pepper.
- ③ Admix the shredded radishes with parsley, green onion, garlic, powdered red pepper, ginger and sliced red pepper and season with salt to prepare stuffings.
- ④ Put the stuffings in the roughly-pickled cucumber and put them in a pot in order. Next day, pour salt water and seal the pot to mature. When kimchi is mellowed, cut the middle of a piece of cucumber into two, put them in a bowl, sections upcast, pour kimchi juice and serve it.

7) Cabbage Kimchi



△ Ingredients for three kilograms

cabbage	1 000 grams	green onion	100 grams
cucumber	300 grams	garlic	50 grams
salt	50 grams	powdered red pepper	20 grams

△ Method

- ① Rinse the cabbage and cut it into pieces three centimetres long and two centimetres wide. Cut cucumbers into chunks four centimetres long and slice it into pieces 0.3 centimetre thick. Shred green onion and chop up garlic.
- ② Admix cabbage and cucumber, salt this mixture and set it aside for about one hour.
- ③ Add powdered red pepper to the mixture, admix them and then add green onion and garlic. Season with salt and put it in a pot, pressing it with hand.
- ④ After three or four hours, pour salt water and tightly cover the pot to mellow.

8) Anise Kimchi



△ Ingredients for 1.2 kilograms

anise	500 grams	garlic	10 grams
salt	20 grams	powdered red pepper	10 grams
green onion	20 grams		

△ Method

- ① Clean anise and cut it with hands into pieces about four centimetres long.
- ② Add green onion, garlic, salt and powdered red pepper to anise and admix them evenly. Then put them in the pot. About five hours later, pour salt water and tightly seal it to mellow.

9) *Sikhye* (fermented fish)

In keeping with the natural and geographical conditions of the country which is sea-bounded on three sides, Koreans used to make various kinds of fish dishes and eat. One of them is “fish kimchi”, that is, *sikhye*.

Sikhye is made by fermenting fish, main ingredients, mixed with radishes and other sugary materials, red pepper, green onion, garlic, ginger and salt.

During fermentation fish is decomposed into different matters by microorganism and enzyme including the lactic acid bacteria, thus softening and having a sweet, peculiar taste.

Radish as the source of sugariness and various enzymes plays an important role in maturing the *sikhye*. Red pepper improves its colour, removes fishy taste and prevents the oxidation of lipid. Green onion, garlic and salt restrain the growth of miscellaneous bacteria and promote the fermentation of lactic acid. Ginger brings peculiar taste and fragrance to it, takes off the fishy taste and deters the oxidation of lipid.

Starchy materials including boiled millet and malty powder added to the ingredients for *sikhye* as sugary materials improve its taste and fragrance.

The fishes of less fishy smell and fine bones are suitable for the *sikhye*. The flatfish *sikhye*, *myongthae sikhye* and sailfin sandfish *sikhye* are widely known.

Flatfish *Sikhye*



△ Ingredients for 6.5 kilograms

flatfish	4 200 grams	green onion	100 grams
radish	2 000 grams	garlic	100 grams
hulled millet	500 grams	ginger	40 grams
malty powder	60 grams	powdered red pepper	200 grams
salt	330 grams		

△ Method

- ① Scale flatfishes and cut off the head and fin, then take out their guts.
Rinse and cut them into chunks three centimetres long.
- ② Add a half of needed salt to the chunks and set them aside for 15 to 20 hours.
- ③ Cut radish into chunks four to five centimetres long, admix them with powdered red pepper and set aside.
- ④ Add malty powder to the hard-boiled millet and admix them and set aside.
- ⑤ Cut green onion aslant, chop up garlic and ginger and set aside.
- ⑥ Fully admix radish, cooked millet, green onion, garlic, ginger and the remained salt with the flatfish and put them in the pot, pressing them with hand and seal it to ripen.

Myongthae(walleye pollack) *Sikhye*



△ Ingredients for two kilograms

<i>myongthae</i>	1 500 grams	powdered red pepper	80 grams
radish	1 000 grams	green onion	200 grams
hulled millet	100 grams	garlic	50 grams
salt	200 grams	seasoning	10 grams
ginger	30 grams	malty powder	10 grams

△ Method

- ① Take out the guts of *myongthae* and rinse it. Cut it lengthways into chunks 2 or 2.5 centimetres long, and pickle it before draining away water.
- ② Cut radish into pieces 5 centimetres long, 2 centimetres wide and 0.5 centimetre thick, and add salt to them, then draining away water.
- ③ Admix hard-boiled millet with malty powder. Shred green onion and chop up garlic and ginger together.
- ④ Admix properly the prepared radish, powdered red pepper, green onion, garlic, ginger and seasonings with the pieces of *myongthae*.
- ⑤ Put *myongthae* admixed with cooked millet in the pot in order and seal it. Mellow this mixture for four to five days under the room temperature.

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