Bamboo salt is science

Park, Si-woo

Let's examine the facts and misunderstandings about bamboo salt and salt.

Making bamboo salt is like farming. It is a process to change salt into bamboo salt, which is a totally new material, using bamboo, clay, and resin. It is to change the molecular structure of salt by heating at high temperature and turn elements in salt into active minerals. The method to make bamboo salt is a process to synthesize new minerals which have pharmacological characteristics.

ADBOOKS

Bamboo nodes fully filled with solar salt and sealed with clay.

Bamboo salt is science

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Park, Si-woo
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www. adbooks.co.kr
ad@adbooks.co.kr

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ADBOOKS

CONTENTS

5 Questions and answers on bamboo salt

6 How to use bamboo salt

Bamboo salt - the salt of life to solve mineral deficiency

Minerals are components of our body cells that perform very extensive and important roles in biological activities. They are involved in vitalizing various enzymes and vitamins, as well as controlling hormones. Minerals also help the excretion of waste and the detoxification metabolism in our body. It can be said that minerals are directly related to the health and diseases of the human body more than any other nutrients.

Soil pollution caused by agricultural chemicals caused serious mineral deficiencies in food, and that has become one of the major causes of modern lifestyle-related diseases like cancer, cardiovascular disease, diabetes, etc.

This book examines the role of minerals in the human body and notes salt as a material which is rich in minerals. This book also investigates why salt has abundant minerals and what the nature of salt is. In addition, you will also see how the characteristics of the minerals in salt changes overtime during the manufacturing process of bamboo salt, in which salt is put into a bamboo joint and burned and melted at high temperatures, through experiments. This book also investigates the efficacy and the characteristics of bamboo salt with several theses on bamboo salt.

This book was based on scientific experiments and tried to make inferences on various kinds of reactions and phenomena of bamboo salt on the basis of scientific knowledge.

It's the author's sincere hope that this book can help readers understand the basic characteristics of salt and bamboo salt, and can open an opportunity for academic circles to view bamboo salt from a different point of view and inspire further research on bamboo salt.

I also hope that the readers of this book will realize that the idea that 'eating insipid food is healthier,' is a social misconception and that they'll realize that 'eating food seasoned with quality salt is healthy.'

I really look forward to seeing these ideas arouse a public response in our society which will extend to all parts of the world.

Bamboo nodes fully filled with solar salt and sealed with clay.

Part 1

Mineral

Minerals are essential in forming and revitalizing enzymes, which are basic constituents of all vital activities of the human body.

Modern people eat food that is seriously deficient in minerals.

Elements other than carbon, oxygen, nitrogen, and hydrogen are called minerals, and without chemical reactions between the 4 major elements and minerals, organisms couldn't have been born on the earth. Minerals existed far before the existence of carbohydrate, fat, and protein and these three main nutrients are only the products of the synthesis of minerals and major elements.

In America, it is reported that more than 99% of American people are not taking enough minerals. According to 'A global progress report on the world's mineral and vitamin deficiencies,' a research report conducted in 80 underdeveloped countries by the Micronutrient Initiative, a Canada-based non-profit organization, and Unicef, a United Nations Mandated advocate for the protection of children's rights, 2 billion people, equivalent to one third of the world population, are suffering from mental and physical undergrowth due to deficiency of minerals and vitamins. Especially in the case of underdeveloped countries, mineral deficiency causes a drop in the population's IQ score. According to the report, in the worst cases the IQ score dropped by as much as 15%.

As modern agriculture depends on chemical fertilizers, soil is being overly provided with nitrogen, phosphor and potassium, and the amount of other minerals is continuously decreasing. Plants need the help of microorganisms to absorb the nutrients and minerals from soil. Due to the excessive use of chemical fertilizers, massive spraying of pesticides, and acid precipitation caused by air pollution, soil has become a difficult environment for microorganisms to live in and absorb nutrients from. As a result, grains and vegetables are deficient

in minerals.

Dr. Alexis Carrel, the Nobel Prize winner for medicine in 1912, claimed that soil is the origin of all living beings on the earth, and living a healthy life depends on the fertility of soil, in other words, the mineral content in soil. This is true because minerals control the metabolism of every cell of living things, plants, animals as well as human beings.

According to a report by an American research institution, in 1914, one apple could supply 50% of the necessary iron per day for a human body. However, 26 apples were needed to supply the same amount of iron in 1992.

A research report by the Japan Science and Technology Agency said that spinach harvested in 1993 had as much as 19 times less iron than the ones harvested in 1952. It suggests that the minerals in soil have seriously decreased all over the world.

Moreover, fast and processed foods enjoyed by people everyday loose a considerable amount of minerals in the manufacturing process. To make matters worse, our body needs enzymes to detoxify the chemicals in the processed food we eat, and to produce various detoxifying enzymes, even more minerals are needed. Due to mineral deficiency, our body takes minerals from our bones to produce enzymes for detoxification and that aggravates our mineral deficiency problem even more.

Orthomolecular medicine

A scientist named Linus Carl Pauling[1] founded a new medical theory named Orthomolecular medicine over 30 years ago.

Orthomolecular medicine is a theory which claims that the cause of diseases in the human body is the failure in maintaining the proper concentration of the molecules which support the life of the body, and once the unbalanced concentration of molecules is corrected, the disease will be cured.

Nutrients inside cells exist at the molecular level. Macromolecules are broken down into subunits by digestions and in the process, carbohydrates are broken down into glucose, fat into fatty acids, protein into amino acids and they exist as a mass of molecules. Genetic materials like chromosomes and DNA, and everything that composes the organelles of cells exist as molecules.

It can be said that we live and breathe thanks to the activities of the molecules taking place within cells. Cells control the appropriate concentration of molecules themselves, but if our body fails to intake balanced nutrients, the equilibrium state of nutrients collapses, and when this happens the cells become sick or die. Therefore, the proper level of concentration in molecules, neither deficient nor excessive, needs to be maintained at all times.

1 Linus Carl Pauling,1901~1994, United States of America : the only person who has won two Nobel Prizes, the Nobel Peace Prize and the Nobel Prize in Chemistry, in the over 100 years of history of Nobel Prize. In the United States, he was well-known for anti-nuclear war movement and Vitamin C craze, and due to his achievements in the field of the 20th century molecular biology, he is referred to as the father of modern chemistry and selected as one of the 20 most important scientists in history along with Newton, and Einstein.

Supplementing minerals properly corrects the molecular structure of the cells.

The human body is formed with approximately 60 trillion cells, and each of them is a basic unit of life. Each of these cells has independent life-sustaining activities and is organically combined with other cells. For these cells to perform normal life activities, proper concentration of nutrients is needed. Therefore, we should intake balanced nutrients.

If you can intake the three main nutrients, carbohydrates, fat, and protein as well as vitamins and minerals sufficiently, you will be able to keep the appropriate concentration level of molecules in the cells.

However, these days, most foods we eat lack minerals and it has become difficult to maintain the appropriate concentration level of molecules in the cells.

Despite a balanced intake of nutrients, air pollution, drugs or long-term ingestion of food contaminated with chemicals, and excessive stress quickly exhaust minerals and collapse the proper balanced concentration of molecules, and causes diseases in our body.

There are patients who suffer from indigestion and chronic fatigue symptoms as well as others who cannot sleep soundly at night and have body discomforts, but no distinct diseases were found by medical examinations. These are the cases where the vitality of cells is weakened. In these cases, proper supplements of vitamins and minerals can improve or cure the symptoms by correcting the molecular structure of the cells.

In terms of orthomolecular medicine, vitamins and minerals are very basic, yet essential materials, but vitamins cannot be activated without minerals. Thus, it is no exaggeration to say that the most basic materials of orthomolecular medicine are minerals.

Minerals are very important life sustaining substances of the human body, and though the amount of minerals our body needs is little compared to that of protein, fat, and carbohydrates, a shortage of minerals, even a small amount, can cause problems in our body.

What are minerals?

Minerals are components of the human body and nutrients which regulate several physiological functions. They only account for 3.5 to 4% of our body composition but have a tremendous influence on a wide range of biological phenomena.

Oxygen, carbon, nitrogen, and hydrogen, which are contained in the human body and food, are called the four major elements, and all elements other than these four are called minerals.

In the amount of minerals a human body needs a day, 90% of minerals are the major minerals that we need more than 100mg of a day, and sodium, chloride, calcium, magnesium, potassium, phosphorus, and sulfur are those seven major minerals.

The remaining 10%, which need less than 100mg a day, are trace minerals, and they are iron, copper, zinc, manganese, germanium, iodine, silicon, selenium, cobalt, chromium, fluoride, and molybdenum, vanadium, boron, platinum, etc. Though these trace minerals are needed in a small amount, they are essential nutrients for vitalizing enzymes and biological activities.

The roles of minerals

a. Minerals are components of body tissues.

Our bones are composed of calcium, phosphorus, and magnesium. Calcium is the most abundant mineral in the bones, which is where we can find 95% of the calcium in our body. In addition, about 85% of the body's phosphorus, and 60% of the body's magnesium are found in the bones as well. Moreover, calcium and phosphorus are important minerals in the configuration of our teeth. These minerals also affect the density and strength of our bones. Iron is necessary in the composition of the structure of hemoglobin. Zinc, copper and manganese are essential for the formation of connective tissues.

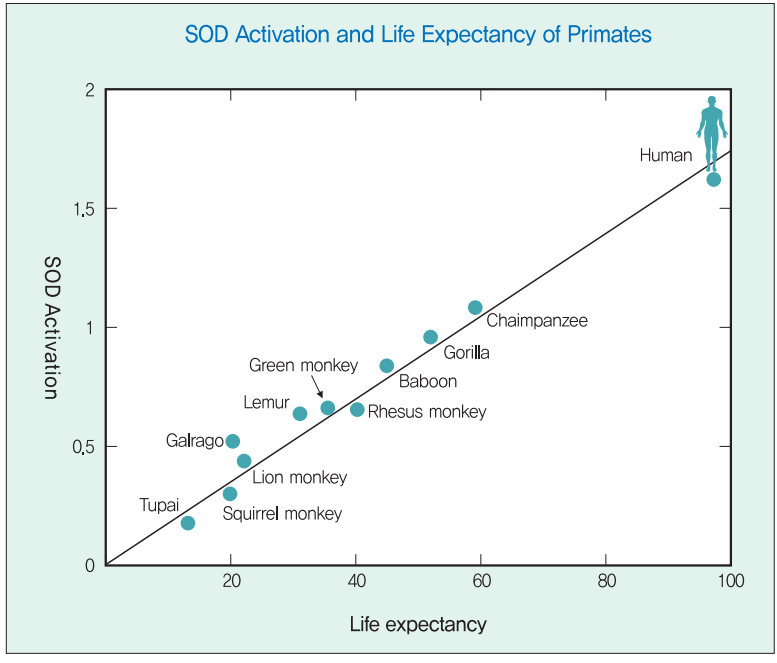
b. Minerals activate the enzymes.

Cells can be compared to a large chemical plant. Human body cells constantly make chemical reactions to obtain the energy needed for their activities, and a catalyst is necessary for chemical reactions and that's the role of enzymes. It's no exaggeration that a human body maintains its life thanks to the activities of enzymes. Enzymes are synthesized within cells, and mostly made of protein being combined with vitamins and minerals.

When hazardous substances reach the cell, free radicals are produced and the unsaturated fatty acids get oxidized, and that makes the transition of genes to carcinogens easier within the cells. In this case, the human body responds by producing SOD (Superoxide Dismutase enzyme).

The U.S. National Institute on Aging examined activities of SOD on 10 species of mammals with different life expectancies, and the result was that the larger the SOD activities are, the longer the animal lived, and it was found that human SOD activities are especially large compared to those of other animals.

SOD enzymes consisting of minerals such as zinc, copper, manganese remove the free radicals and prevent the degeneration of the cell membrane. Living organisms have been protecting themselves by accepting oxygen and producing SOD enzymes which remove free radicals simultaneously in the process of their biological metabolism.



Minerals reduce free radicals produced in the human body and activate the enzymes to detoxify toxins coming from air

and food. Thus, when the human body lacks minerals, the body's ability to detoxify toxic substances gets weakened and that increases the possibility of inducing various cancers, hypertension, diabetes, etc.

Minerals are used indispensably in producing and activating enzymes, which are the basic materials for all biological reactions within the human body.

c. Minerals maintain the equilibrium of acids and bases in the body fluid.

Our body fluid should maintain the alkalescency around pH 7.4. The human body is made to achieve equilibrium between acids and bases automatically, but most of today's food tends to be acid-forming food.

Minerals present in salt and food, such as calcium, sodium, magnesium, potassium, iron, copper, manganese, cobalt, and zinc, etc. are alkali-forming food that help maintain the equilibrium of acids and bases in the human body.

Our body can be equipped with a strong immune system and be able to overcome a disease when it has a good and active basic metabolism with the normal equilibrium between acid and base.

d. Minerals activate vitamins.

The needs for vitamins in the human body are well known. However, without minerals, vitamins cannot go into effect because vitamins and minerals have to cooperate to produce or activate enzymes.

e. Minerals are the materials to produce hormones

Unlike vitamins and minerals, hormones can be synthesized in the body, without being taken from food. However, hormones are produced, like enzymes, using protein or fat in the cells with vitamins and minerals together.

Thus, the increase of hormone-related diseases in modern society is relevant to the intake of food lacking minerals.

Materials from the nature with the balanced minerals are necessary

Dr. Linus Carl Pauling has pointed out that 'the human body needs 72 kinds of minerals.' However, a balanced intake of minerals is not an easy task because minerals do the antagonism which inhibits the function of other minerals and the complementary actions which support other minerals' functions at the same time to maintain the health of the human body.

For example, taking too much of one mineral can inhibit the absorption or activities of another. Thus, lack of one mineral cannot be solved by simply supplementing it, because excessive intake of one mineral can interfere with the absorption of other minerals.

For example, a large amount of temporary calcium intake to solve lack of calcium can upset the balance with magnesium. However, when calcium and magnesium are ingested at a ratio of about 2 : 1, magnesium promotes the absorption of calcium and that makes the metabolism of the body work effectively.

Increasing calcium intake because you are concerned about

osteoporosis can interfere with absorption of magnesium and the deficiency of magnesium may worsen the osteoporosis.

The increase of sodium and the decrease of potassium in cells can cause nerve cells to swell and result in stimulation of nerves or elevation of blood pressure. It is potassium and calcium that release the excessive intracellular sodium out of cells and return them to their normal state.

Excessive intake of zinc obstructs absorption of selenium and causes selenium deficiency, and that can cause cancer. Thus, zinc and selenium are sort of in a competition.

In other words, taking a certain mineral too much can cause deficiency of another mineral. Therefore, maintaining the mutual balance of minerals is more important than anything else, and minerals need to be taken in a balanced and collective way considering the proper ratio.

Controlling the appropriate ratio of minerals we intake is a very difficult task for human beings so it would be more desirable to find a natural material with a balanced ratio of minerals. If so, what is the natural material which has the various minerals the human body needs as well as a similar composition ratio of the human body's minerals?

Document of American Senate, No.264, 1936

These are Verbatim Unabridged extracts from the 74th Congress 2nd Session:

"Our physical well-being is more directly dependent upon the minerals we take into our systems than upon calories of vitamins or upon the precise proportions of starch, protein of carbohydrates we consume."

"Do you know that most of us today are suffering from certain dangerous diet deficiencies which cannot be remedied until depleted soils from which our food comes are brought into proper mineral balance?"

"The alarming fact is that foods (fruits, vegetables and grains) now being raised on millions of acres of land that no longer contain enough of certain minerals are starving us - no matter how much of them we eat. No man of today can eat enough fruits and vegetables to supply his system with the minerals he requires for perfect health because his stomach isn't big enough to hold them."

"The truth is that our foods vary enormously in value, and some of them aren't worth eating as food. Our physical well-being is more directly dependent upon the minerals we take into our systems than upon calories or vitamins or upon the precise proportions of starch, protein or carbohydrates we consume."

"This talk about minerals is novel and quite startling. In fact, a realization of the importance of minerals in food is so new that the text books on nutritional dietetics contain very little about it. Nevertheless, it is something that concerns all of us, and the further we delve into it the more startling it becomes."

"You'd think, wouldn't you, that a carrot is a carrot - that one is about as good as another as far as nourishment is concerned? But it isn't; one carrot may look and taste like

another and yet be lacking in the particular mineral element which our system requires and which carrots are supposed to contain."

"Laboratory test prove that the fruits, the vegetables, the grains, the eggs, and even the milk and the meats of today are not what they were a few generations ago."

"No man today can eat enough fruits and vegetables to supply his stomach with the mineral salts he requires for perfect health, because his stomach isn't big enough to hold them! And we are turning into big stomachs."

"No longer does a balanced and fully nourishing diet consist merely of so many calories or certain vitamins or fixed proportion of starches, proteins and carbohydrates. We know that our diets must contain in addition something like a score of mineral salts."

"It is bad news to learn from our leading authorities that 99% of the American people are deficient in these minerals, and that a marked deficiency in any one of the more important minerals actually results in disease. Any upset of the balance, any considerable lack or one or another element, however microscopic the body requirement may be, and we sicken, suffer, shorten our lives."

"We know that vitamins are complex chemical substances which are indispensable to nutrition, and that each of them is of importance for normal function of some special structure in the body. Disorder and disease result from any vitamin deficiency. It is not commonly realized, however, that vitamins control the body's appropriation of minerals, and in the absence of minerals they have no function to perform. Lacking vitamins, the system can make some use of minerals, but lacking minerals, vitamins are useless."

"This discovery is one of the latest and most important contributions of science to the problem of human health."

Bamboo is incinerated into ashes, and salt pillars remain.

Part 2

Salt

Salt can supplement the lack of minerals
in the human body.

Repository of minerals - natural solar salt derived from the Yellow Sea in Korea.

It can be harmful to the human body to intake a lot of a certain mineral and to have a deficiency in another. The balance of minerals is more important than anything else but unfortunately, with modern science, we cannot know the best composition ratio of minerals for the human body and that makes it impossible to synthesize the minerals that the human body needs. However, we think that natural food, which has a mineral composition most similar to that of the human body fluids, is the best for human health.

The major elements dissolved in bodily fluids, such as human blood, lymph, and tissue fluid, are sodium and chlorine the same as seawater. In addition, we can also find potassium, calcium, and magnesium dissolved in bodily fluids, and these elements are abundant in seawater. If you compare the composition of body fluids and sea water, you will find that though the two are different in their concentration, but very similar in their composition of elements.

Why is the composition of body fluids similar to that of sea water?

The first life born on Earth was a small single-celled organism in the sea. Like that single-celled organism drifting through the sea, a human's body cells are also drifting through salt water in the form of our bodily fluids. So far, there are 83 identified elements composing sea water. In addition to the 83 identified elements, sea water also contains hydrogen and oxygen, which makes up the majority of its composition, meaning that there are 85 total indentified elements. It only seems natural for sea water to be comprised of most of the elements on the periodic table of elements.

The sea contains all the elements of the earth, and salt produced from the sea, which is rich in minerals, is emerging as an important material that may solve the mineral deficiency problems that exist today. The salt which is the most abundant out of all the minerals in the world is solar salt which is produced on the tide flats of the Yellow Sea on the West Coast of Korea. The West Coast mud flat of Korea is regarded as one of the world's five largest coast tidal flats along with the European North Sea coast and the southeastern coast in the U.S., and it has been recognized as an valuable and important resource.

Solar salt from the Yellow Sea is rich in various minerals thanks to the minerals from Bohai Bay and the Yellow Sea and the clay and minerals coming from the Korean peninsula. It is known that the solar salt from the Yellow Sea contains 2.5 times more magnesium, 3.6 times more potassium, and 1.5 times more calcium than Guerande salt from France, which is known to have relatively high mineral content.

Salt is not sodium chloride

Sodium chloride is a chloride which is combined with sodium, but salt not only contains sodium chloride, but also dozens of minerals including potassium, calcium, magnesium, iron, copper, manganese, zinc, silicon, and sulfur, etc. Out of all minerals, salt is most similar in composition to that of human body, and almost all minerals we need are dissolved in it.

The human body needs sodium to carry oxygen and nutrients but cannot produce sodium on its own. Without sodium transmitting nerve impulses and moving muscles

including the heart would also be impossible. If we lack chlorine, producing gastric juice becomes difficult, which would make it difficult for us to digest fat in food.

Moreover, in order to activate various enzymes, manganese, zinc, and magnesium are required, and potassium is absolutely necessary to maintain the balance of sodium. If there is no copper, even the production of blood is not possible, and if there is insufficient calcium, we can have problems with nerve transmission.

As we have examined, salt is absolutely necessary for digestion, and other metabolic functions in our body. If the various minerals do not make proper chemical reactions and facilitate the metabolism of the body, it is impossible to sustain life. In other words, salt is the very substance that enables us to continue our life's activities. If we don't eat salt, even for a few days, it can be a serious threat to our life.

The effectiveness of salt

Salt promotes the metabolism of the human body

In a series of metabolic functions, where nutrients are provided to the cells and the wastes in them are filtered and processed, the help of enzymes using elements in salt is absolutely necessary. When the metabolism is not running smoothly, immunity is weakened and the human body can have various diseases. Intake of quality salt can promote activity in the cells and help cure freckles, melasma, and acne. In other words, salt promotes the excretion of waste from the

cells and facilitates the metabolism to supply fresh nutrition, which helps damaged cells recover.

Salt helps digestion

Chlorine, one of the main ingredients in salt, is used to make hydrochloric acid, which is an ingredient of gastric juice. Gastric acid is a strong acidic material at around pH 1 ~ 3 and plays an important role in breaking food up into small pieces and digesting it.

Salt inhibits bacteria and viruses and prevents various diseases.

Salt sterilizes and eliminates bacteria and viruses that come into our body with food. Sprinkling an appropriate amount of salt on vegetables and other foods inhibits bacteria. The salt in the food is also used to make gastric acid, which performs a bactericidal action and promotes the digestion of food.

In 1883, a German bacteriologist, Robert Koch discovered the causative organism, cholera, and claimed that 'cholera is an epidemic caused by a cholera.' However, Max Josef von Pettenkoffer, who objected to this claim, drank a solution full of cholera to prove that cholera is not caused by the pathogenic bacteria. He didn't end up getting cholera because the strong acid of gastric juice killed all the cholera germs.

Salt is a source of minerals.

We can see, hear, touch and respond to stimuli thanks to the presence of nerve cells that respond to stimulus such as feeling, sound, and light. These nerve cells are called neurons, and the reactions of neurons occur by the transmission of a few chemicals.

The current is generated by the flow of electrons. However, when it crosses the cell membrane it occurs by the movement of charged ions, not by electrons. Multiple ion transmissions through membranes enable a variety of life activities such as nerve impulses, movements, muscle contraction, the function and normal operation of the heart, and the absorption of nutrients in our body. Well-known charged ions are sodium ions, chloride ions, potassium ions, and calcium ions, and these ions are the most abundant elements in salt.

Though the amount required varies according to species, dozens of the minerals in salt, such as iron, iodine, zinc, copper, selenium, manganese, chromium, molybdenum, and cobalt, in addition to the main minerals, are essential for biological activity.

Salt leads to electrolyte balance in body fluids

Our bodily fluids account for approximately 60 ~ 70% of our body. It may seem like our cells are just floating in extracellular fluid, which, with a concentration of 0.9%, is saline solution. However, there is also solution in the cells themselves. This solution is called intracellular fluid.

The major cation of extracellular liquid is sodium ions, and the anion is chloride ions. In the intracellular liquid, potassium ions become the major cation, and phosphate ions become the major anion. The electrolytes in the body remain constant in

intracellular and extracellular liquids and makes neuronal signaling and absorbing nutrients possible, which enables various life activities.

Saline solution is an isotonic solution created to have an equal concentration as human body liquid which is 0.9% sodium chloride. If you go to a hospital emergency room, you will be injected with a ringer solution. That's an effort to increase the disease resistance and speed up the recovery. As you can see in this case, maintaining the concentration of electrolytes in the body is important for biological activities, and electrolyte is mostly composed of salt.

Salt performs detoxification.

The South American tribes, native to the Amazon River region, use salt as a medicine to eliminate the poison from spears. Salt is also used to detoxify toxic herbs such as aconites. When bitten by bees or centipedes, salt can be used to soothe pain and swelling.

Salt helps the detoxification of the human body by activating enzymes and this happens when chemicals react to the minerals in salt. Therefore, we can say that salt with no minerals cannot perform detoxification.

Kinds of salt

Salt can be divided into many different kinds, depending on where and how it was produced. Some salt can be hazardous to human health but others can be very helpful to the body.

1) Solar salt

Solar salt is the most commonly used salt and it's made by the enrichment of sea water. It's called solar salt because it's made by evaporating sea water using sunlight in salt ponds. There can be a big difference in the composition and taste of solar salt depending on the environment of the production areas.

The solar salt made in Australia and Mexico contains sodium chloride as high as 99% with almost no minerals. When we compare different kinds of solar salt from all over the world, Korean solar salt has the highest mineral content.

2) Rock salt

Rock salt is the salt produced by mining sedimentary strata or rocks made of salt. Rock salt is made when a lake, which contains a lot of salt, disappears. As the water evaporates, the salt in the lake remains and forms sedimentary strata or rocks. Rock salt is usually used industrially or for food.

The content of sodium chloride in rock salt is over 99% and it has few minerals. Its color is clear, but that can depend on geological features. Though the purity is high, it is not good salt due to its low content of minerals. It accounts for two thirds of the world's demand for salt, and is used primarily for industrial use.

The well-known rock salt production areas are the Dead Sea in Israel, and the Himalayan salt mines, which has the 300m underground salt mines made of salt crystals. Rock salt is also produced in the United States, Canada, Great Britain, Germany, and several other European countries.

3) Refined salt

After the electrolysis of sea water, we let the sea water pass through the ion exchange membrane with fine 10Å size holes, and it is permeable for sodium ions and chlorine ions, but not for divalent ions such as magnesium ions and calcium ions, and heavy metals such lead, cadmium, and mercury. The high purity crystals earned by this process is the refined salt.

Because it went through a mechanical process, it is often called machine salt. Because it's cheap and it can be mass-produced, refined salt is widely used in food companies. Most of the minerals that are good for our health are removed in the manufacturing process of refined salt, so it is not good in terms of its nutritional values compared to other salts.

4) Recrystallized salt

As the name implies, it is the salt made by recrystallization. Often called flower salt, it's made by going through a process of melting and then dehydrating and drying the salt. It is mainly from Australia and Mexico. Because it loses minerals through the process of recrystallization, recrystallized salt also has almost no minerals.

5) Lake salt

Lake salt is produced using the solar or thermal evaporation of water after draining a lake with salty water. It is produced in the U.S, some areas in Spain and in Asia.

6) Well salt

The salt is produced by pumping up saline ground water. Salt is extracted from the ground water by evaporation using solar or thermal power. The U.S., France, and Russia are the main producers.

7) Seaweed salt

The salt is extracted from seaweed, such as sea mustard or fusiforme. If you pour boiling sea water on sea mustard and fusiforme, and dry and burn them, you will obtain ash remains. If you dissolve the ash remains in fresh water, it turns into salt water. You extract salt by boiling this water. This is a good quality salt, which has about 90% of the salt concentration, and it contains a lot of various minerals that are beneficial to the human body, such as calcium and magnesium.

8) Other processed salt

There are different kinds of salts made from solar salt, refined salt and rock salt through a manufacturing process of washing, grinding, roasting, compressing, burning, and melting, etc. Among the various processed salts, the most well-known is bamboo salt.

○ Bamboo salt

Bamboo salt is made using solar salt. First, you put solar salt into sections of bamboo, and seal the entrance with clay dough, and then you burn it with pine tree wood at about

700 ~ 800℃. After that, you shake off the clay plug and ashes, and grind the salt pillar. Then you put that salt into sections of bamboo and repeat the same process eight times. The 9th and last time, you melt the salt into a lava-like liquid by heating it at 1,300℃ using pine resin fire. When the liquid cools off, it hardens like rocks, and you crush it into powder or grains. The final product is bamboo salt. It can be used when you cook food or you can eat bamboo salt grains like eating candies.

Is salt the cause of high blood pressure?

The idea that 'salt is the cause of high blood pressure,' was first started by two scholars, Ambard and Beaujard in 1904. The two scholars investigated the blood pressure of patients after having them take in salt, and they found out that, in the case of hypertensive patients, eating fruit which has almost no salt dropped the subjects' blood pressure, so they reported that salt causes high blood pressure.

However, this experiment was performed without the knowledge that different salts have different effects on the human body so they could not have obtained the accurate results. Pure sodium chloride is known to activate ACE(Angiotensin Converting Enzyme), which is involved in raising blood pressure. However, salt containing abundant minerals has different effects on blood pressure.

In the Solar Salt Biotechnology Research Center located in Mokpo University, Korea, an experiment was conducted using rats sensitive to salt. Korean solar salt and refined salt was given to the rats, and their blood pressure in systolic and diastolic periods was observed. They found that in

both systolic and diastolic periods, the rats given solar salt maintained low blood pressure. That's because magnesium, calcium, and potassium, etc. promote the excretion of surplus sodium, which is what raises blood pressure.

In Japan's Kobe University, researchers observed what changes occur in rats when they ingested mineral salt and refined salt. When measuring the amount of sodium excretion in the urine of rats that ingested salt for a month, the ones given refined salt accumulated 40% of the sodium in their body, while the others given mineral salt excreted most of the sodium via urine. This experiment shows that the kind of salt ingested causes different physiological reactions in animals.

Dr. David McCarron, a professor of Medical School, and his research team at Oregon Health Sciences University in Portland, U.S.A., investigated 10,372 Americans' diet and health. The results were published in Science Magazine. The report said that people with high blood pressure had an intake of calcium that was 19.6% lower than that of people with normal blood pressure. It claimed that hypertension occurs not because of an over intake of salt in food, but because of a lack of calcium intake.

Dr. Shibata Jiro, a hypertension specialist in Japan, claimed in his book that salt has nothing to do with hypertension.

I'd like to ask a few questions to those doctors who claim that salt causes hypertension. I've never read any medical books that say that a long-term administration of a large amount of salt can cure hypotension.

If people with normal blood pressure have hypertension due to a large intake of salt, shouldn't eating a lot of salt increase the blood pressure of hypotension patients? However, no one has said or wrote anything about this. Isn't it obvious that salt and blood pressure have nothing to do with each other?

It is evident that salt is not a food that raises blood pressure.

However, it is not only people without medical knowledge who believe that taking in a large amount of salt in the long-term causes hypertension, but also many doctors and medical scientists. The so-called medical knowledge that salt is the cause of high blood pressure is believed among people like a superstition. However, 80% of hypertension is essential hypertension. Here essential means it is caused by inherent genetic factors or by unknown reasons.

The other 20% of hypertension is caused due to a nephritis, other kidney diseases or hormonal abnormalities.

If there is no blood pressure, the delivery of nutrients and the excretion of waste products from our body would be impossible. Temporary blood pressure increase due to eating salt and food is a sort of energy used to transport nutrients. After the salt finishes playing its role, the blood pressure returns to normal.

Without the action of mineral rich salt, we cannot digest food and we lose the means to transport nutrients into the cells. In addition, if mineral deficiency occurs due to low salinity diet, we cannot produce many enzymes, and the ability to detoxify and the immunity in our body will be weakened. Salt with abundant minerals, rather, facilitates the excretion of surplus sodium in the blood, as well as cleans the blood. As a result, it improves the blood flow in our bodies and helps the treatment of hypertension.

Eating sodium chloride means there are no minerals that perform the supplementary and the antagonistic actions, that controls the sodium in our bodily fluids. This can disrupt the metabolism of our body and, as a result, it may collapse the balance of our health.

The idea that 'salt causes high blood pressure,' inferred by experiments without distinguishing the types of salt, is a modern superstition generated by experimental errors.

Low-sodium food, is it really good for the heart?

Hypertensive patients or anyone who experienced a stroke may have been told not to eat salty food as the first warning by the doctor. Dr. Michael Alderman, the chairman of Epidemiology Division in Albert Einstein School of Medicine in New York and the president of the Association of Hypertension of the United States, presented a paper that breaks this myth.

Published in the British medical magazine, Lancet, Dr. Alderman claimed that based on his research results and contrary to popular belief, less of an intake of salt increases the possibility of early death.

Since 1970, Dr. Alderman examined and analyzed the relationship between salt intake and mortality on 11,346 Americans. The result was that a 1g increase of daily salt intake reduces mortality by 10%. In his report, he noted that eating a low salt diet has more to lose than gain, and he urged the U.S. health authorities to stop the recommendation to limit salt intake.

He claimed that believing that a low salt diet lowers blood pressure temporarily and prevents stroke and heart attack is only focusing on the blood pressure, and that is missing the point. Furthermore, he insisted that reducing salt intake contracts the blood vessels and increases the hormone that escalates the risk of having a heart attack.

We can find this interesting thesis about salt and health in a 1998 issue of Lancet:

> In the U.S. National Health and Nutrition Examination Survey for the relationship between salt intake and mortality, a nutrition examination survey and a medical examination were conducted on 207,729 people between 25 ~ 75 years old. As a result, it was discovered that the salt

intake and the overall mortality had an 'inverse correlation.'

Male participants were divided into four groups with the average intake of salt ranging from the lowest 2.64g to the highest 11.52g. In the same way, female participants were divided into four groups ranging from 1.70g to 7.89g in their salt intake. When they analyzed the relationship between salt intake and the overall mortality of all groups, they found that the group 1 with the lowest salt intake had the highest mortality rate, and the group 4 with the highest salt intake had the lowest mortality rate.

Moreover, this research also showed that in the mortality rate by cardiovascular, the group 1 with the lowest salt intake had the highest mortality rate, and the group 4 with the highest mortality rate had the least mortality rate. According to this research, the less salt people eat, the larger the risk of death becomes in America.

Among all human organs, the heart is the organ with the highest salt content. In order to convey nerve impulses and maintain normal muscle contraction operations and heart functions, salt has a stronger demand in the heart than in other organs.

Malignant tumors can develop in all cells and organs of the body, but the heart doesn't develop cancer, though it can have metastases of malignant tumors from other organs. In other words, primary cardiac tumors, caused by the deterioration of heart cells, don't exist. That's because salt inhibits tumors in the cell tissues.

Do you still really think that a low salt diet is better for the heart?

It's desirable to supplement mineral deficiency with salt.

In 1963, when the salt management law was established, in Korea, it was regulated to use only refined salt in manufacturing or cooking food, and thereafter, white salt has been widely supplied. Solar salt, which was used in cooking, was replaced by refined salt, and most restaurants and processed-food manufacturers began to use refined salt. This provision has been in place for approximately 50 years, having adverse effects on the national health in Korea. Under this law, most of the restaurants and all processed-food factories had to use refined salt and that was the global trend.

We have been eating salt that is completely lacking in minerals for a long time, and have had to add chemical additives to enhance the flavor of salt. Being unaware of the necessity of minerals, even pregnant women have been eating refined salt for a long time. A lack of minerals weakens the bones and teeth and increases the rate of children with tooth defects. Taking in refined salt disturbs the metabolism and results in adverse effects on children's health.

Dr. Mushiyamooney, a professor at Osaka University, established the Annual Survey of Salt in 1979 and presented their findings. He asserted the hazards of processed salt, saying "the white salt we eat is killing people."

We have been tricked into believing that refined salt and solar salt are the same, so we also thought that the consequence of eating processed salt is the same as that of all salt, which has had seriously negative effects in public health.

According to Inoue, the president of the Japan Society for Food Nutrition, malnutrition and excessive nutrition coexist in our modern society and this is unprecedented in the history of

the world. He added that the excessive nutritional status with a big and fat body and broken bones due to lack of minerals coexists. He warned that a rich society with processed food is generating children with malnutrition.

Salt is not simply sodium chloride. We need to be aware that depending on the type of salt, the effect it has on the human body is very different.

Food lacks minerals, and due to the pollutants that modern society manufactures, the amount of minerals our body loses is increasing.

What would be a great way to solve the mineral deficiency problem of the modern people?

Minerals are absorbed making proper cross-reactions with fat, protein, carbohydrates, vitamins, etc.

Vitamins or mineral tablets that we take in once or twice a day have low absorption rate, so they are limited in recovering or changing our body fundamentally. So the best way to absorb minerals is to eat food seasoned with mineral rich salt over a long period of time.

Mineral rich salt can supplement the minerals we cannot obtain from food, and will be able to relieve the mineral deficiency of the modern people.

Bamboo salt molten in a high temperature resin fire flows like lava.

Part 3

Bamboo salt

The process of producing bamboo salt is the process of turning minerals in salt into bioactive substances

What is bamboo salt?

Bamboo salt is made using solar salt from the Yellow Sea coast of Korea. To make bamboo salt, first, you cut joints of bamboo and put the solar salt in them, and then seal the entrance with clay. Second, you file them in an iron kiln, and bake them with pine tree wood fire. As a result, the bamboo is incinerated into ashes and a white salt pillar remains. You break the salt pillar into shatters, and repeat the second process 8 times and in the 9th time, using resin as a material, you melt the salt into liquid by heating it at 1,300℃. When the liquid cools off, it hardens like a rock. This is bamboo salt and we can intake it in the form of flour or grains. You can use it when you cook food or eat the grains dissolving it with your saliva.

This processing method of salt was published by Kim, Il-hoon(1909 ~ 1992) in the Daehan Pictorial from November 1971 to July 1972 in a series. The method of producing bamboo salt was widely known to the public as his book 'The Universe and the God's Medicine' was published. In 1986, 'The God's Medicine(Shinyak)' was published and the industrialization of bamboo salt began. In 1987, the first bamboo salt company 'Insan Food Company' was established. In 2011, about 60 companies are producing bamboo salt domestically.

Mr. Kim Il-hoon recommended that people take bamboo salt several times or dozens of times by dissolving it with saliva for the purpose of health promotion, and adult and chronic disease treatment. His theory was that organisms with more salt containment are more resistant to diseases, which was the opposite of Western medical interpretations of the physiological effects of sodium chloride. He also presented the salt-intake methods, which were exactly the opposite of the common sense method of eating salt. A lot of people who read Mr. Kim's

books ‘the God’s Medicine’ and ‘Medical Herbs, the God’s Medicine(Shinyakboncho)’ started using bamboo salt for their health and treatment of diseases, and for decades, bamboo salt has been widely beloved by a lot of people who want to stay healthy and cure their diseases.

All the hazardous materials in the salt are removed in bamboo salt

Even when you eat bamboo salt three or four times more than common salt, you don’t thirst for water. Apparently that will increase the concentration of electrolytes in body fluids, but why doesn’t your body need more water?

Because bamboo salt is made by purifying the hazardous materials from the salt, the human body doesn’t need water to create enzymes to detoxify the hazardous materials in salt, and by reducing the unnecessary metabolism, the human body doesn’t need to consume energy. In addition, the minerals in bamboo salt have low conductivity, and they are less affected by the flow of current in the body, and that enables the minerals to rapidly infiltrate cells and control the concentration of electrolytes themselves.

Eating bamboo salt by dissolving it with saliva stimulates the salivary glands and helps secrete saliva, thus relieving thirst. So it would be helpful for mountain climbers to carry bamboo salt in a small container and eat it as if it were candy.

Eating bamboo salt while exercising not only relieves thirst, but it also prevents dehydration by supplementing salt excreted through sweat. This proves that the physiological

responses of salt and bamboo salt on the human body are completely different.

The three reasons why we have to make salt into bamboo salt

Salt is an essential material for physiological activities, and it is a material from the nature, which supplements the deficient minerals for modern people. However, there are a few reasons for us to recreate salt into bamboo salt by baking it in bamboo nodes for the health of modern people.

First, the impurities in salt should be removed.

Salt contains bittern ingredients which include magnesium sulfate($MgSO_4$), magnesium chloride($MgCl_2$), and magnesium bromide($MgBr_2$), etc.

If you boil beans and put them in the bittern, as the protein clots, it becomes tofu. Bittern has the nature to make protein clot, and if we don't remove the bittern in salt completely and eat it, the bittern causes the protein in our blood clot, and that makes our blood muddy and causes hypertension, hardening of the arteries, and diabetes. The bittern ingredients mostly exist in the form of a compound, and the way to make the bittern ingredients into beneficial minerals for our body is heating salt at high temperature and changing its chemical structure.

In addition, the environmental pollution caused by industrialization is contaminating the sea water in the area

near the Yellow Sea.

In the thesis titled "A comparative Study of External Structure and Mineral content of different kinds of Salt," it was reported that heavy metals such as lead, mercury, and nickel, etc. were detected in the bittern from solar salt. Therefore, salt made from sea water has been proven to not be completely free from impurities.

Those substances known as harmful to the human body, cadmium, lead, and mercury, exist in the form of a compound with cadmium chloride $CdCl_2$, solder chloride $PbCl_2$, and mercury chloride $HgCl_2$. In the process of baking salt in the bamboo nodes, chemical combustion reactions occur as shown below.

$CdCl_2(solid) + Q(ten) \rightarrow CdCl_2(liquid) + Q(ten) \rightarrow Cd(gas) \uparrow + Cl$
$PbCl_2(solid) + Q(ten) \rightarrow PbCl_2(liquid) + Q(ten) \rightarrow Pb(gas) \uparrow + Cl$
$HgCl_2(solid) + Q(ten) \rightarrow HgCl_2(liquid) + Q(ten) \rightarrow Hg(gas) \uparrow + Cl$

The melting point of cadmium, mercury and lead is below 300℃, but to remove the heavy metal chloride from salt, it has to be heated above 1,000℃ so that it can be dissolved completely. The heavy metal chloride can be removed from the salt in the form of gas.

The bamboo salt production process, putting salt in bamboo nodes, baking and melting it at above 1,300℃, is a very scientific method to remove the bittern and heavy metals, and to preserve the minerals at the same time.

Second, the salt minerals need to be made absorbable in the human body.

Minerals that exist in the soil are metallic elemental minerals and they cannot be absorbed when ingested directly. Metallic

elemental minerals turn into several types of compounds when absorbed by plants, and these minerals become absorbable in the human body through the digestive process. In other words, we have to obtain minerals from food, such as grains, vegetables, fruit and meat.

To be absorbable to the human body, minerals should be able to be dissolved in the body fluid and to be ionized, so that they can be absorbed in the body's cells.

Ionization is a reaction in which neutral atoms or molecules are charged through transition of electrons, either by obtaining or losing them. When sodium chloride is dissolved in water, the electron-ion coupling breaks and it is divided into a sodium ion, which lost one electron, and a chloride ion, which obtained one electron.

$$NaCl \rightarrow Na^{+} + Cl^{-}$$

In salt, elements susceptible to ionization such as potassium, calcium, sodium, and magnesium, exist. Conversely, there are elements in a difficult state for ionization, such as iron, zinc, copper, platinum, and selenium, etc. as well.

These minerals, which are difficult to be ionized, do not become ionized in water or bodily fluids. So even if they are ingested, they are discarded out of the human body, rather than absorbed. In other words, they are not dissolved as nutrients necessary for the human body.

In the process of baking salt in bamboo nodes, each element forms new compounds, and in the high temperature resin fire, each element turns into a material with a strong ionization tendency to lose elections or a material with a high affinity to pull electrons. In other words, they turn into minerals with high activation capacity for the human body.

Baking salt in bamboo nodes at a high temperature means

adding energy onto minerals in salt, making it easier for the electrons of the elements to unite or depart. That is a process to produce good minerals with excellent activation capacity for the human body like those elements that plants contain by absorbing elements in soil.

In chapter 4, this will be proven by an experiment of oxidation-reduction and hypochlorite removal, in which the minerals of normal salt, refined salt, and solar salt will show totally different reactions.

Third, natural minerals useful for the human body need to be synthesized.

By synthesizing natural minerals necessary for the human body with salt, we can transform salt into a material useful for disease prevention and treatment.

Bamboo has been used as an herbal medicine for diabetes and hypertension for a long time. We can extract natural minerals from bamboo, effective on curing diseases, into salt through baking them together. In addition, minerals from other materials such as clay and resin are also synthesized with salt naturally.

If you analyze the minerals in bamboo salt, you may find minerals which don't exist in solar salt. You can also see that some minerals, especially potassium, phosphorus, iron, and copper, significantly increased. This means that the elements in bamboo, clay and resin (used in the baking process of bamboo salt) were synthesized with the salt.

The production method of bamboo salt is a chemical synthetic method to synthesize natural pharmacological minerals with salt.

The bamboo production process is a scientific process of removing impurities in the salt, making various minerals

absorbable to human body, and synthesizing minerals which have pharmacological actions with salt.

Analysis of the components of salt and bamboo salt

<Table 3-1>

Analysis: Korea Testing and Research Institute of Chemical Fusion Units: ppm, mg / kg

Solar Salt Samples: Incheon Ongjingun Bamboo Salt Samples: Samjung Bamboo Salt

(Manufacture Date: 01/23/2011)

	Solar Salt	Bamboo Salt (1 time)	Bamboo Salt (3 times)	Bamboo Salt (6 times)	Bamboo Salt (9 times)
Potassium(K)	4780	3030	4850	7040	12280
phosphorus(P)	8	20	120	130	600
Calcium(Ca)	1800	2450	2730	2430	130
Magnesium(Mg)	15250	7490	6950	6790	45
Silicon(Si)	28	130	700	1120	14
Iron(Fe)	20	65	480	750	60
Aluminum(Al)	22	110	610	800	5
Copper(Cu)	2	3	5	7	21
Barium(Ba)	1	2	9	17	40
Vanadium(V)	4	4	7	9	11
Manganese(Mn)	11	13	37	49	3
Zinc(Zn)	1	1	5	7	3
Titanium(Ti)	ND	3	22	30	0.2
Arsenic(As)	0.02	0.02	0.06	0.9	1.0
Sulfur(S)	1840	2200	1580	1520	1320
Sulfides	ND	ND	390	340	80

Decrease Increase for a while and decrease Increase

ND: Not Detected

An element analyzer called ICP(Inductively Coupled Plasma Mass Spectrometer) was used for the quantitative analysis, and the sulfur constituent is the results of the analysis by a carbon/sulfur analyzer.

Salt-dissolved water has a high percentage of chlorine, and that causes interference of chlorine, so there were small differences in the results of quantitative analysis even among the same samples. In addition, only 10g ~ 20g of samples were needed from several hundred kg of salt, so it was difficult to ensure homogeneity in the samples.

More analysis and study will be necessary to have more accurate results. And another task to be done is to investigate how the elemental state of salt and bamboo salt are different. In table 3-2 on the next page, you can see the analysis results of 9-times bamboo salt, produced on a different date, by another research institution. Though the samples are the same as above, the analysis results show some differences.

The analysis results showed that 9-times bamboo salt was comparatively higher in its content of minerals, such as potassium, phosphorus, iron and copper than solar salt, and the magnesium content decreased sharply after 9^{th} melting treatment. Magnesium burns easily so it is even used in the explosives for fireworks. Though magnesium is a very important mineral, in the heat treatment process of bamboo salt, a lot of it disappears, so it is believed to be difficult to supplement sufficient magnesium with bamboo salt.

Magnesium is a constituent of the chlorophyll molecule in plants, and vegetables are good sources for magnesium. If you keep a balanced diet eating a variety of foods, you will be able to intake enough magnesium, and avoid magnesium deficiency.

<Table 3-2>

Analysis : Korea Institute of Ceramic Technology — Units: ppm, mg / kg

Solar Salt Sample : Incheon Ongjingun — Bamboo Salt Sample : Samjung Bamboo Salt

(Manufacture Date : 01/31/2011)

Ingredient	Solar Salt	Bamboo Salt (9 times)
Potassium(K)	4087	8870
Phosphorus(P)	<1	449
Calcium(Ca)	2529	457
Magnesium(Mg)	21043	27
Silicon(Si)	168	50
Iron(Fe)	14	100
Aluminum(Al)	8	<1
Copper(Cu)	<1	27
Barium(Ba)	<1	25
Vanadium(V)	5	3
Manganese(Mn)	10	5
Zinc(Zn)	9	15
Titanium(Ti)	<1	<1
Arsenic(As)	<1	1
Germanium(Ge)	<1	<1
Molybdenum(Mo)	6	17
Selenium(Se)	<1	14
Platinum(Pt)	<1	3
Sulfur(S)	14293	4895
Strondium(Sr)	82	36
Gallium(Ga)	<1	<1
Boron(B)	45	12
Lithium(Li)	5	3
Cobalt(Co)	<1	<1
Fluorine(F)	<1	<1
Iodine(I)	Non measurable	Non measurable
Bromine(Br)	Non measurable	Non measurable

Decrease Increase

The potassium content of the 9-times bamboo salt has increased to 12,280 ppm, 8,870ppm, which is more than double that of solar salt, and it is presumed that the potassium ingredient in bamboo is synthesized with salt.

There is a lot of research going on about the anti-hypertensive property of potassium. In contrast to sodium, potassium helps activation of sodium potassium pump, and induces vasodilatation and lowers blood pressure. If the intake of potassium increases, it will reduce the secretion of aldosterone, which stimulates re-absorption of sodium in the distal tubule and collecting duct of the kidney, and that will increase sodium excretion by kidneys.

Phosphorus, which increased more than any other minerals in bamboo salt, exists the most in the human body next to calcium. It is the main ingredient in generating human bones and teeth, and it makes our bones and teeth strong through its interactions with calcium.

Sulfur is one of the minerals that human tissues contain in large amounts. It is a component of cell protein, and present in every cell, and plays a role in tissue respiration. Sulfur is a component of glutathione, which is essential for biological oxidation and reducing action, and it plays a role in protection against heavy metal poisoning and in the detoxification process.

Selenium, which was detected about 14ppm in bamboo salt, is a component of antioxidant enzymes and it exerts antioxidant activity jointly with vitamin A, C, and E. It is said to have the potency of 1,970 times of natural vitamin E and 2,940 times of synthetic vitamins, which are known as antioxidants. It has been reported that selenium also prevents the activation of carcinogens, and inhibits the growth of cancer cells as well as the toxicity of toxic metals.

According to the medical report by the University of British Columbia in Vancouver, Canada, in cases of adult type diabetes, taking chromium and vanadium can significantly reduce the insulin administration. Chrome, with insulin, plays a role in helping absorption and utilization of sugar in cells, and when it is in deficiency, the demand for insulin increases.

Vanadium, which is contained 3 ~ 11ppm in Bamboo salt, is approximately 0.2mg in the adult body, and it became well-known as it was used in the treatment of diabetes. It is required in forming healthy bones, cartilage, and teeth, and is an essential component in cell metabolism. Vanadium is involved in lipid metabolism and inhibits the synthesis of cholesterol, and it is also a required component for growth and reproduction.

In bamboo salt, germanium was detected in a very small amount, below 1ppm. However, germanium is a very good derivative of interferon. It is safe from accumulating in the body and is becoming the subject of interest as an important material for cancer prevention and immunotherapy.

Another important trace mineral in bamboo salt is platinum, which is about 3ppm in bamboo salt. Many kinds of anti-cancer drugs using platinum were developed, and it is used for cosmetics and as a health supplement in food, but the impact on the human body has not been studied in detail.

Mr. Kim, Il-hoon, the creator of bamboo salt, said in his book “What is in salt? There is platinum in salt. Due to the platinum in salt, compounds of calcium and other minerals are synthesized. We gather up and create bones. So all the tasks required for making bones are done by the platinum in salt. The traffic of platinum energy is called neurons and the bones where platinum energy comes down are as white as finger nails. That’s because there is infinitesimal amount of platinum energy, and without that, the compounds of calcium

are destroyed soon."

Considering the fact that platinum plays a role as a catalyst for chemical reactions, we can say that Mr. Kim, Il-hoon's explanation of platinum synthesizing various minerals is very reasonable.

As we put bamboo salt in the food we eat, the platinum in the bamboo salt promotes the synthesis of various minerals in foods. In other words, bamboo salt increases the absorption rate of minerals contained in food, and performs the role of catalyst to promote the operation and synthesis of minerals successfully.

In bamboo salt, most of the trace minerals essential to the human body were detected, such as iron, silicon, copper, vanadium, manganese, zinc, molybdenum, selenium, silver, platinum, strontium, boron, and lithium.

It is believed that many more kinds of other trace elements are in bamboo salt, but considering the cost and time for component analysis, it is required for medical research centers and component analysis institutions to be more interested in studying bamboo salt, and attempt to obtain data about the standard of bamboo salt components through repeated analysis. In addition, they should research about how the impact of bamboo salt minerals on physiological function is different from that of other minerals.

Bamboo salt with the potential of natural medicine

Despite the best efforts of modern medicine, various refractory diseases continue to increase, and 100 years of cancer research is also facing limitations. Kondo, a Japanese doctor, provoked a big sensation in Japan by claiming that 90% of cancer patients do not need the chemotherapy conducted these days.

In 1997, the 'New England Journal of Medicine' published a feature article suggesting that we stop the fight against cancer, and that became a hot topic at that time. It claimed that they had to be completely honest about the fact that despite the large amount of research they had been doing for decades, they failed to improve the cancer cure rates. It asserted that the energy and resources should be invested on researching preventive medicine with a focus on food.

For about 20 years, bamboo salt has been used by a variety of patients and people. Despite the reality of people not having much interest in salt, several universities presented dozens of research reports related to bamboo salt.

A thesis titled 'The Effect of garlic and bamboo salt on the activity of antioxidant enzymes in rats' reported that,

"when a mixture of garlic and bamboo salt is ingested, its effect on gastrointestinal disorders has both therapeutic and defensive effects, and it showed to have a greater power to suppress the onset of gastrointestinal illness itself.

Given the rapid generation of mucosal cells and the short life span of mucosal cells, supplying garlic and bamboo salt before the gastric mucosal defense mechanism is damaged, seems to be a good

response act. With garlic and bamboo salt, the defense mechanism can be maintained.

Bamboo aqueous solution is pH 10, so it is alkaline and has various metallic elements useful in biological activity. Therefore, considering the facts that activation of various auxiliary enzymes is expected, that garlic itself has an antiseptic effects, and that both garlic and bamboo salt have almost no toxicity or side effects, it has high possibility to be developed a new medicine."

That is an example that bamboo salt mixed with food can have an excellent therapeutic effect. Bamboo salt tooth paste, which uses the natural properties of bamboo salt to prevent gum inflammation, has been used by a lot of people for a long time.

Bamboo salt, mixed with other functional foods, can be used to develop medicines to help cure diseases, for example, eye drops for eye diseases, cleaning and sanitizing solution for rhinitis · sinusitis · atopic dermatitis. In particular, several studies have proven that one of the characteristics of bamboo salt is that it's very good for inhibiting bacteria growth, killing bacteria, and reducing inflammation.

Summary of bamboo salt related theses

○ Verification of Harvard Medical School

The place where the safety of bamboo salt was verified for the first time was the Undergraduate Studies of Cancer Drugs, Dana Farber Cancer Research Center, at Harvard University in 1995. In the 'Final report on whether the In-san bamboo salt is toxic and its antitumor effect,' the researchers said 'Bamboo salt is not pure salt made of sodium chloride. It is mineral salt very rich with essential minerals. Intake of 10 ~ 30g of bamboo salt every day doesn't cause your intake of essential minerals go beyond the daily recommended minerals scale. It has antitumor efficacy. Compared to other chemical materials, its level of anti-cancer efficacy is low, and it doesn't seem to be able to contribute to cancer treatment. Unlike ordinary salt, bamboo salt, even when overdosed, doesn't damage the mucous membranes in the stomach and intestines due to its high tolerance. Bamboo salt's pH level is alkaline, and this nature of the bamboo salt seems to help make it harmless.'

○ Proven efficacy of bamboo salt in China

In 1993, professor WangKi from Chinese Medicine Research Institute, China, presented in his thesis 'Clinical and experimental studies on In-san bamboo salt from South Korea' that he had 87 patients, suffering from gastritis, gastric ulcer, duodenal ulcer, and colitis, take 2g of bamboo salt three times a day, with hot water, ginger, or jujube water. The result was

that bamboo salt had a total effective rate of 91.95%.

In this thesis, 21 patients with an ulcer were completely cured, and for another 29 patients, the symptoms of ulcers almost disappeared and their appetite improved significantly. For another 30 patients, the symptoms of their ulcers were improved to some extent, and 7 patients had no effects. According to the gastroscopy, the pathology treatment effect showed an effectiveness rate of 83.9%. 20 people found that their gastritis, and ulcers disappeared, and gastritis, and ulcers mostly disappeared for 26 other people. Gastritis, and ulcers were reduced for 27 patients and 14 patients had no effect.

Go, Heumyoung, an associate Professor at Yeonan Medical Institute, reported that he had 15 patients with gastritis, atrophic gastritis, gastric ulcer, etc. take bamboo salt 3 ~ 4 times daily, 1.5 ~ 2g of each time, for about 25 ~ 35 days, and the clinical effects showed the effective rate of 93.3%, and in gastroscopy pathology treatment examination, it showed an efficacy rate of 86.7%.

○ Thesis by Professor Kim, Younghee

In the thesis 'The Effect of Garlic and Bamboo Salt on the Activity of Antioxidant Enzymes in Rats with gastrointestinal disorders,' she gave liquid made by mixing garlic and bamboo salt to the animal subjects, which were caused to have gastrointestinal disorders for 7 days.

After causing injuries in the stomach, one group was given the mixture of garlic and bamboo salt, while the other group didn't have any treatment. The two groups were compared, and in the group given the mixture of garlic and bamboo salt, a reduction of dropsy, erosion, erythema, bloodstain, blood

vessels dilated, and ulcers was observed.

According to the experiment result of activation of antioxidant enzymes, SOD enzymes which remove free radicals were restored to 94.52% of normal levels, and glutathione (GSH) enzymes, which conduct detoxification, were recovered 94.3%. It was reported that the effect of garlic and bamboo salt on gastrointestinal disorders is both preventive and curing, and it has a greater power to suppress the onset of gastrointestinal illness itself

○ Research by professor Kim, Hyungmin, the Oriental Medicine School, at Kyunghee University

A. Bamboo salt suppresses local allergic skin reactions.

In his experiment, the experimental animals were injected with irritating substances that cause antigens to induce mast cells to release chemical mediators such as histamine[2], and as a result, the permeability of the vessel wall increased and allergic skin reactions followed. Then bamboo salt was given to the animals to verify the effectiveness, and the result showed inhibition rate in a concentration dependent manner. The groups that were administered 0.1g/kg and 1g/kg showed 24.3% and 52.2% inhibition rate respectively.

B. Bamboo salt inhibits the release of histamine.

In an in vitro experiment, which analyzed the histamine

2 Histamine : an organic substance that is released from body tissues when the body has stress, inflammation, or allergy.

release inhibition from mast cells, bamboo salt showed a concentration-dependent effect, and bamboo salt 1mg/ml showed significant inhibitory effects. On the other hand, the control group which was administered with sodium chloride (NaCl) didn't show any treatment effect. These results indicate that bamboo salt inhibits various allergic reactions as pharmacologic mechanisms, which protect obesity cell membrane made unstable by stimulators, IgE, and immuno globulin E[3]. In conclusion, the results obtained in this experiment suggest that bamboo salt inhibits allergic reactions inside and outside of organisms.

○ A thesis by professor Ryu, Hyoik in Kyemyung University

Ryu, Hyoik, a professor of Biochemistry in Kyemyung University, had 14 people eat bamboo salt 15g a day for 8 weeks, resulting in no significant effects on blood pressure. Rather, in some cases, hypertension or low blood pressure were restored to the optimal blood pressure. In addition, those who took bamboo salt in the long-term showed reduced number of H. pylori in the stomach. Also, bamboo salt appeared to inhibit oral organisms. So it has been proven that bamboo salt is effective in the prevention of gastrointestinal and gum (periodontal) diseases.

Professor Ryu explained that "the molecular size of bamboo salt is only 300 to 600Å (1Å = 0.00000008cm) which is only 1/10 of that of salt, so it can easily move between the cell

3 A stimulating substance IgE is immunoglobulin involved in allergy. In other words, when allergic substances enter our body, IgE increases and causes hives or other reactions. If you have allergic reactions, IgE is increased in the whole or part of your body.

membranes and that is one of its characteristics."

Salt with large molecular structure stays in blood vessels and aspirates water, but bamboo salt with small molecular structure is well absorbed or excreted in our body, so it doesn't affect blood pressure. In addition, the fact that bamboo salt has less sodium than salt, and that it has a lot of potassium or calcium that can drop blood pressure could be another reason for that as well.

○ Kim, Myung – Gwan, a professor in Beijing Fiber University

Kim Myung - Gwan, a professor of Chemistry in Beijing Fiber University studied the conductivity of salt and bamboo salt and the structure of bamboo salt in his thesis "Report of Research on physical and chemical properties of Insan bamboo salt of Korea."

A. Bamboo salt easily passes through cell membranes.

After dissolving bamboo salt at concentration of 1 ~ 30% in water, the conductivity was measure at 25℃, and the results showed that the conductivity of bamboo salt is lower than that of general salt or refined salt. Medicines with low conductivity pass through the membrane easily, but medicines with high conductivity cannot pass through easily. In other words, when observed based on the kinematics, bamboo salt shows better pharmacological effects than salt because it passes through the membrane easily and arrives quickly in the part that needs to be cured.

B. Structural studies of salt and bamboo salt

In a structural study of bamboo salt and salt, using X-ray diffraction and electron microscopy, the result showed that bamboo salt and salt have different structures. Usually, sodium chloride, when seen with structural theories, has cubic structure. However, bamboo salt, when measured by the X-ray measurement, has a structure a little different from a cube, and with a slightly inclined angle.

The size of salt crystals is approximately 3,000 ~ 7,000Å.

A Bamboo salt crystal is about 10 times smaller than that of salt. And in the bamboo crystals, changes occurred in the crystal lattice structure. The changes of the crystal lattice explain that the steady energy given by the structure of bamboo salt is at the state of high energy.

According to the magnetic susceptibility rate and the energy equation, the energy in bamboo salt increases more and more depending on the number of the repetition of the bamboo production process. In other words, bamboo salt is at a higher energy state than salt. A higher energy state means strong activity in our bodies. The structure of substance determines the characteristics of the substance. Bamboo salt is a completely different substance from the salt sold on the market.

C. The effects of bamboo salt

Bamboo salt is a high alkaline and salt is neutral. When we see the pH distribution of the human body, gastric juice is acidic.

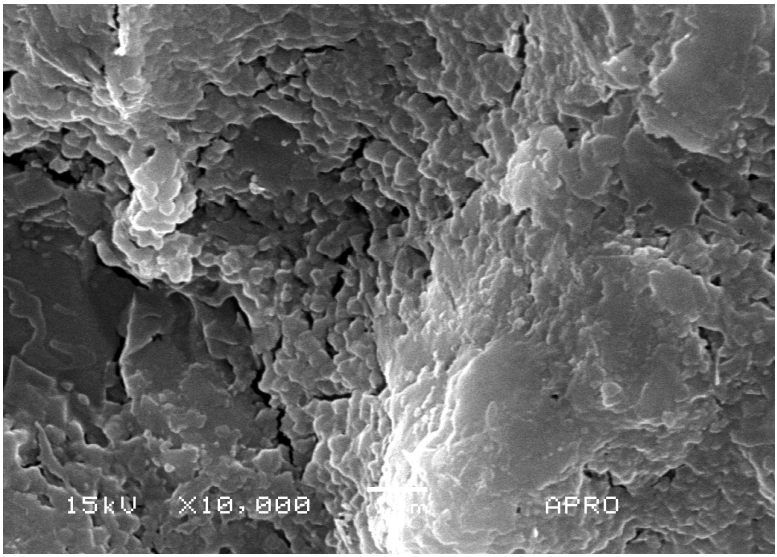
Most of gastrointestinal disease patients have too much stomach acid and they often vomit it. Because bamboo salt is alkaline, the bamboo salt and acidic gastric juice make a neutralization reaction, which reduces excessive gastric juice

in the body. Through this reaction, new acid-alkali equilibrium is formed and diseases are cured.

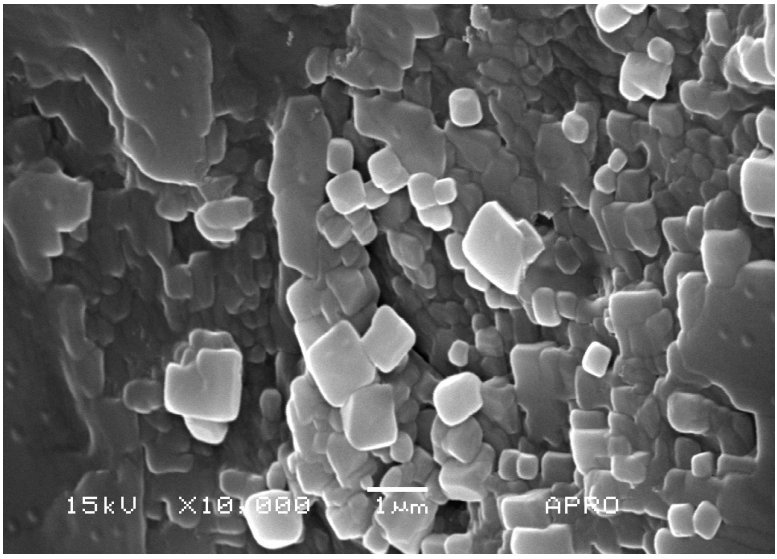
○ An animal experiment thesis in Hanyang University

After infecting mice with Salmonella, the antibacterial ability of refined salt, baked-salt, imported-salt, solar salt, and bamboo salt was examined, and the antimicrobial activity of bamboo salt was proved to be the highest. The antimicrobial activity of bamboo salt appears to be due to a lot of metal ions and low ORP (redox potential). Salmonella and gram negative bacteria prefer a slightly acidic or neutral environment.

While the pH of refined salt, solar salt, and imported salt is acidic, bamboo salt is alkaline. The alkaline property of bamboo salt could be another factor that increases the antibacterial properties of bamboo salt. In conclusion, bamboo salt can be used as a natural antibiotic. Its antibacterial activity means that it can be used as a functional food ingredient.



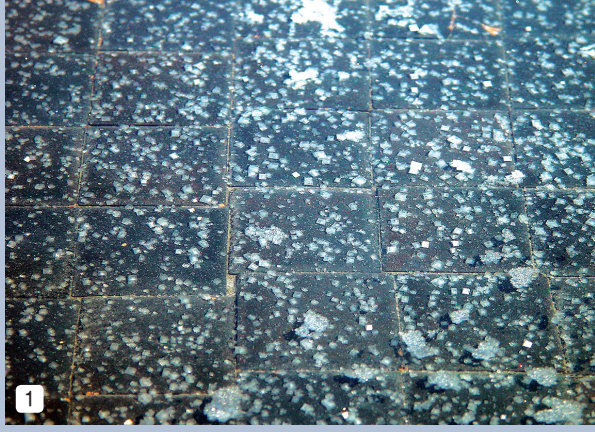
Solar salt enlarged 10,000 times



Bamboo salt enlarged 10,000 times

Studies on bamboo salt's structure with an electron microscope showed that bamboo salt and salt have very different structures.

Bamboo salt manufacturing process


1

The raw materials of bamboo salt

1 Salt being crystallized on the bottom of a salt pond

2 When salt is crystallized, it is gathered with a push bar. Salt is being collected in the Yellow Sea coast salt pond, which has the most abundant minerals in the world.

3 Salt put in sacks


3

2

4

5

The raw materials of bamboo salt

4 Prepare bambusoides older than three years.

5 Cut the bamboo to the appropriate size. Cut one side closed, and the other side open. The material which looks like paper in the bamboo node is Jukhwang, which contains a lot of sulfur.

6

The raw materials of bamboo salt

6 Collect clay to seal the entrance of the nodes from deep mountains.

7 Put clay in the machine and make dough.

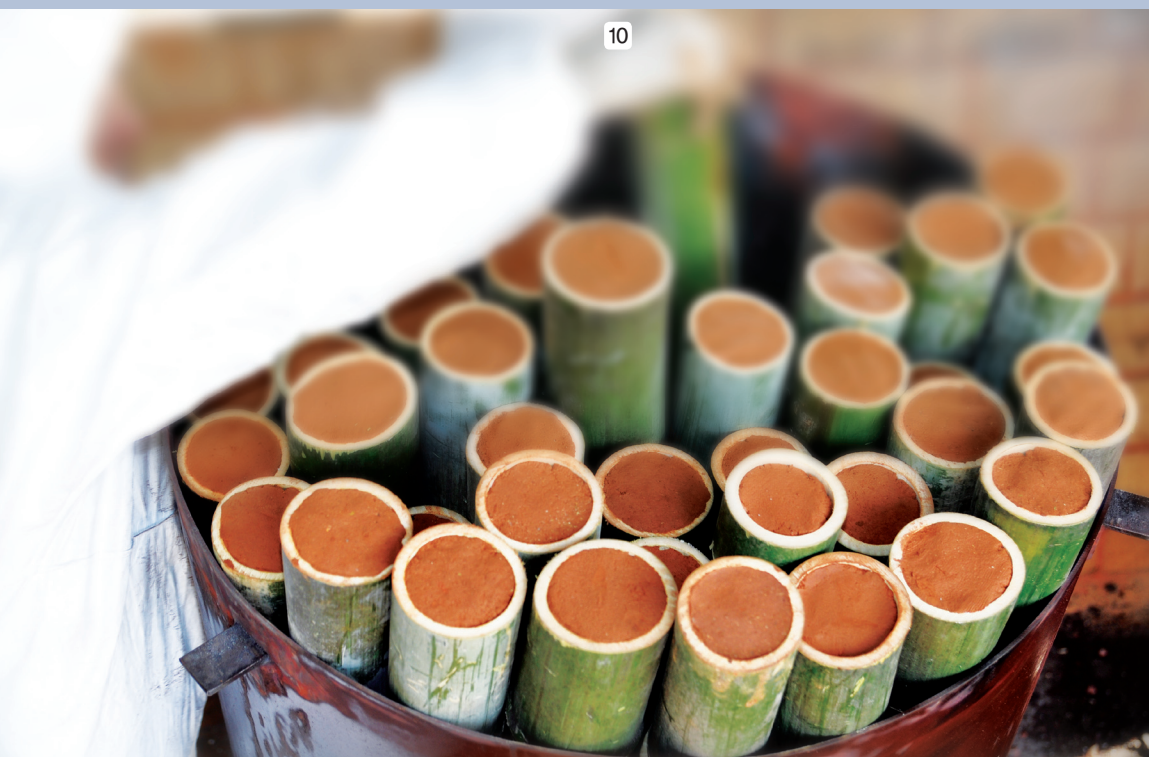
7

Bamboo salt manufacturing process

8 Put solar salt in the nodes fully.

9 Seal the entrance of the nodes with clay

10 File the nodes filled with salt in the iron kiln neatly



Bamboo salt manufacturing process

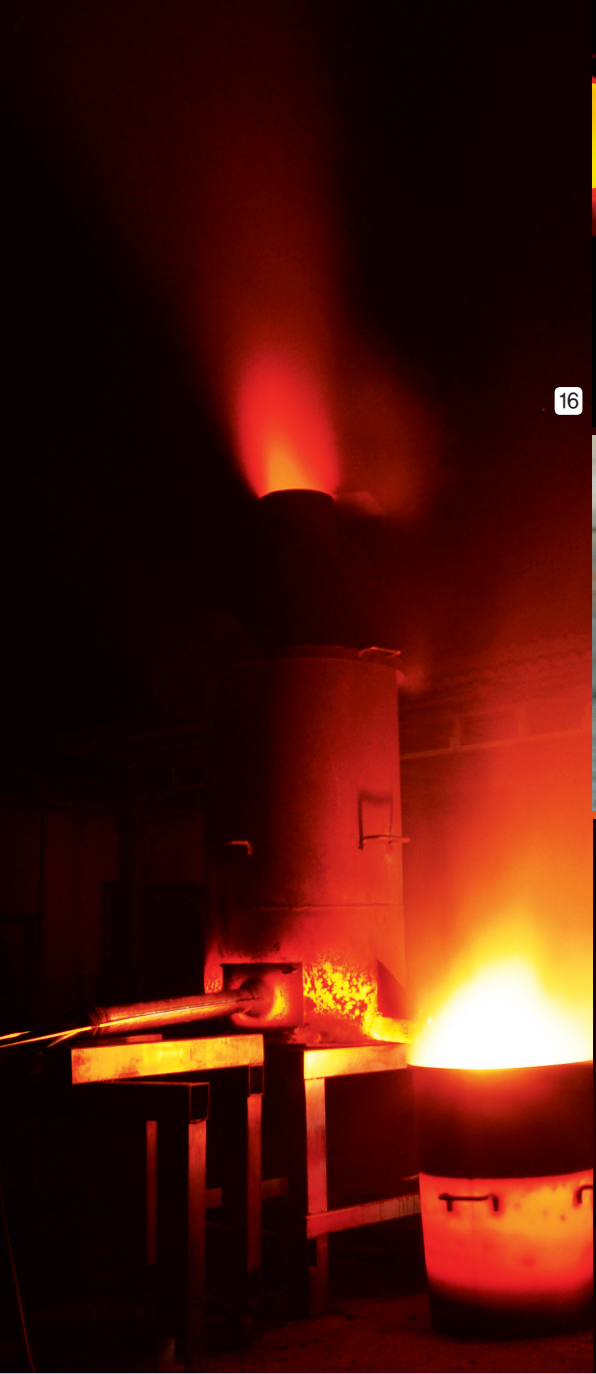
11 Make a fire with pine firewood.

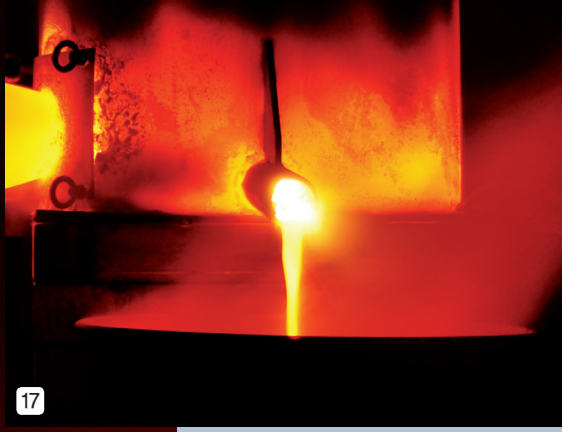
12 Bamboo nodes being baked.

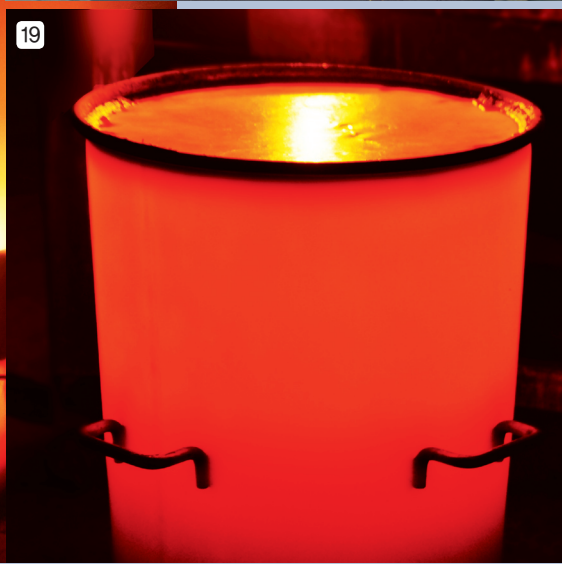
13 Bamboo is incinerated into ashes, and salt pillars remain. These salt pillars are ground into powder. Then it's put in bamboo nodes and baked 8 more times.

14 Bamboo salt lumps harden in the process of being roasted repeatedly.

15 A lump of resin to be used in the 9th and final melting process. It is used in powder or liquid form.







Bamboo salt manufacturing process

16 During the 9th time, the bamboo nodes are put in a specially designed iron kiln and melted at above 1300℃ with resin fire.

17 Bamboo salt being melted and flowing like lava.

18 When bamboo salt is completely melted, charcoal and soil sink down.

19 Molten bamboo salt is cooling down. When it's completely cooled, it becomes as hard as a stone.


20


21

Bamboo manufacturing process

20 When it is fully hardened, take out the bamboo salt by putting it up–side down

21 It is solidified with a cave–like space inside

22 23 Completed bamboo salt crystals. Various shapes are formed like crystals.

24 Grind the bamboo salt crystals into grains or powder.


22


23


24

Part 4

Free radicals and bamboo salt experiment

Bamboo salt is a food which has the strongest reducing power on the planet.

What are free radicals[4]?

Synthetic chemicals, which don't exist in the human body, generated by air pollution, pesticide contamination of agricultural products, food with chemicals additives, drinking water disinfected with chlorine gas, and stress, ultraviolet light, radiation, etc. cause unstable oxygen in the process of metabolism. Oxygen that becomes chemically and structurally unstable, different from the oxygen we breathe, is called free radicals. 1 ~ 2% of the oxygen we breathe in turns into free radicals.

Free radicals are used as a weapon beneficially by white blood cells to kill bacteria in the body, but when excessively produced, it indiscriminately attacks cells and leaves a harmful influence on the body. When this occurs, the cell membrane, DNA, and all cell structures are damaged, and depending on the extent of the damage, the cells can lose their functions or become altered.

It oxidizes several amino acids in the body, and brings degradation of protein functions as well. And it damages nucleotide, and causes the transformation and isolation of nucleic acid, cutting up the union, and oxidation decomposing of sugar. That can cause mutation or cancer, and bring physiological dysfunction and cause various diseases and rapid aging.

It is known that about 90% of the diseases of modern people

4 If an oxygen gets one electron, it becomes superoxide(O_2^-), $O_2 + e^-$(electron) → O_2, and if two electrons are supplied, it becomes free radicals, which turn unstable even with a small stimulus. Hydrogen peroxide, H_2O_2 is a typical free radical. In addition, hydroxyl radical (OH^-), which attacks DNA, protein, and lipids, is a strong free radical that might causes various cancers, adult diseases, and rapid aging.
Single-let oxygen $^1O_2$ has single oxygen atom on the one side of the fourth orbit entering the fourth orbit on the other side, and it doesn't have a single electron. Due to orbits without electrons, it serves as strong oxidizing free radicals. It is also a very dangerous free radical which, when attacked by radiation or ultraviolet rays, can be produced massively and cause skin cancer.

are associated with free radicals, and specifically diseases such as cancer, arteriosclerosis, diabetes, stroke, myocardial infarction, hepatitis, nephritis, atopic dermatitis, and Parkinson's disease. Presently on the earth, approximately five to six million kinds of synthetic chemicals are created. Debris that doesn't exist in our bodies is rapidly coming into our bodies.

In addition, minerals which are the ingredients of antioxidant enzymes are decreasing in various agricultural products and foods. In other words, these days, we are in a structure where active oxygen is excessively generated, and producing antioxidant enzymes is difficult due to lack of minerals. Indeed, it is no exaggeration to say that it is difficult for modern people to maintain good health.

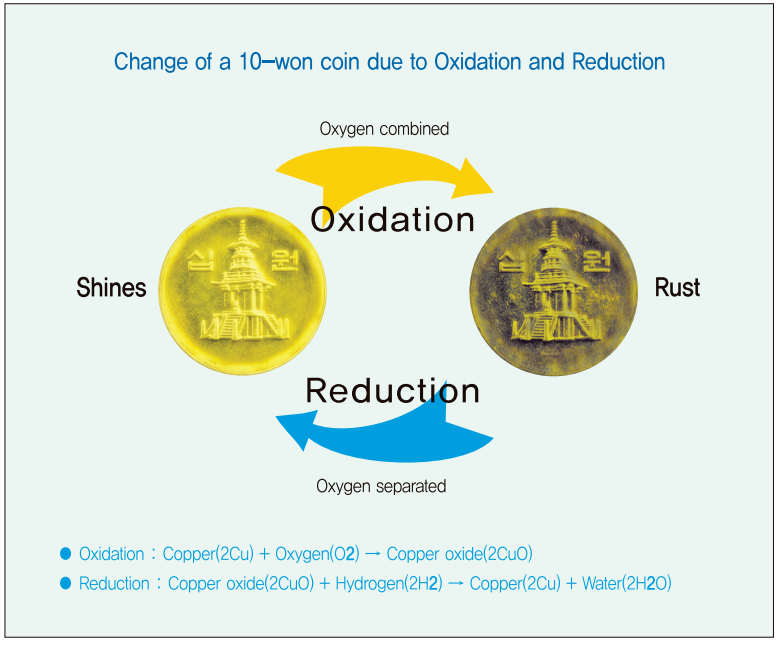
Oxidation and reduction[5]

Coins are made of copper, and when it reacts with oxygen and gets rusty, it is called oxidation. If you put the rusty coin in hydrogen gas to remove the rust, the rusty copper reacts with hydrogen, and the oxygen is removed and the coin will return to the shiny state. This is called reduction.

5 〈Redox reactions of iron〉
- The process of iron to react with oxygen and rust is as follows.

Iron oxide (II) 2Fe (iron) + O_2 (oxygen) → 2FeO (ferric oxide).
Iron oxide (III) 4Fe + $3O_2$ → $2Fe_2O_3$ (iron oxide).
- The reduction process of rusty iron is shown below.

$Fe_2O_3 + 3H_2 \rightarrow 2Fe + 3H_2O$
$2FeO + Si \rightarrow 2Fe + SiO_2$
$2FeO + Mn \rightarrow 2Fe + MnO_2$



When wastes and toxins are accumulated and cause free radicals and disease, it is called oxidation, and removing the accumulated wastes and toxins and making the body healthy is called reduction.

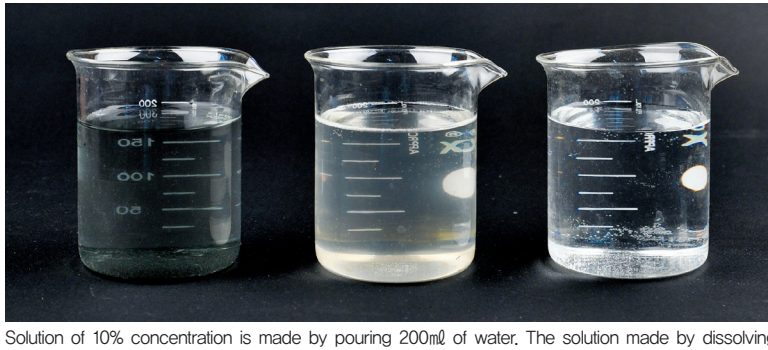
All the pesticide-contaminated agricultural products, processed food with additives such as colors or preservatives, as well as drugs and chemicals, are collectively called oxidizer. Those which remove the waste and toxins are called reducing agents. But unfortunately, our reality is that the reducing agents are extremely few compared to the oxidizers.

The oxidation-reduction experiment of bamboo salt, solar salt, and refined salt.

Three samples were made by dissolving 20g bamboo salt, solar salt, and refined salt in 200㎖ of water with about a 10% concentration. A rusty nail was put in each sample and the results were examined,

Bamboo salt, solar salt, and refined salt, 20g each, is prepared.

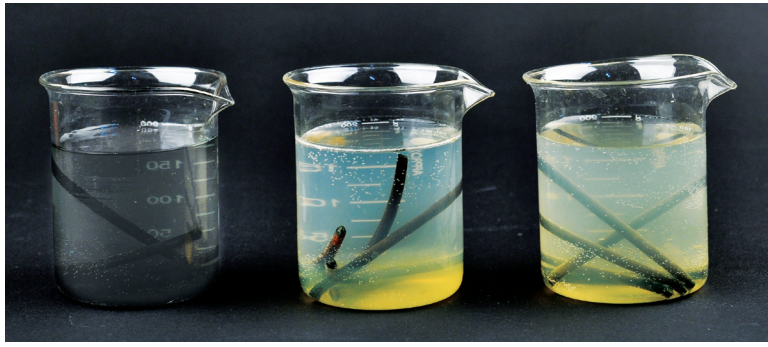
Bamboo salt　　Solar salt　　Refined salt



Solution of 10% concentration is made by pouring 200㎖ of water. The solution made by dissolving bamboo salt shows a light blue color, and the one with solar salt dissolved shows a slightly cloudier color.

Immerse the rusty nails and observe.

[After 10 minutes elapsed] The nail in the bamboo salt solution shows a black stain when wiped out, which indicates that reduction is happening. However, the solar salt and refined salt solution didn't show any changes.



[After 9 hours elapsed] The bamboo salt solution turned black due to the rust coming off of the nail. On the other hand, the nails in the solar salt and refined salt solutions began to rust in yellow.

[After 1 day] In the bamboo salt solution, the nail's rust came off and the water turned clear again, so the number and scales on the other side of the beaker could be seen. In the solar salt solution, some rust from the nail came off and the water turned yellow. In the refined salt solution, the nail continued to rust and no change was observed.

[After 2 days] The bamboo salt solution did show big changes, and the solar salt and refined salt solution showed continuing oxidation.

[After 3 days] The bamboo salt solution didn't show any big changes, and it was found that the oxidation characteristics of solar salt and refined salt were very different. In the solar salt solution, part of the nail rust came off and the water was oxidized in yellow. However, in the refined salt solution, the rust of the nail got thicker.

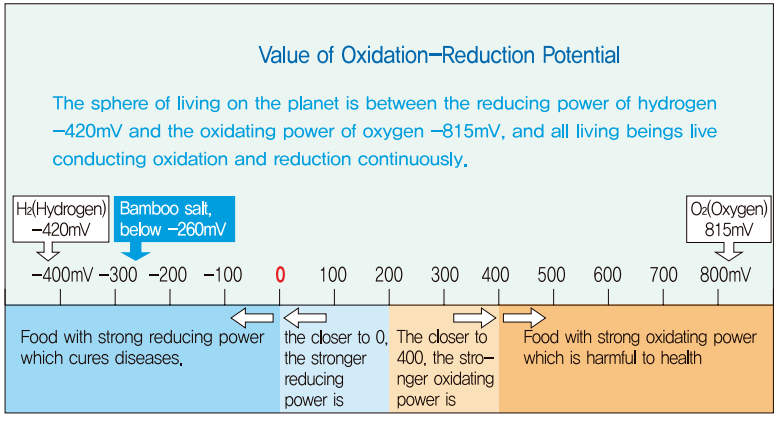
Thus, the bamboo salt had the reduction reaction, and the solar salt and refined salt had the oxidation reaction. Why?

Various ionized minerals, such as hydrogen ions(H^+), silicon(Si) and manganese(Mn) are produced when bamboo salt is dissolved in water, and they caused the rust to come off and reduce.

Though solar salt has a lot of minerals, it doesn't show the reduction reaction because the minerals in solar salt are not in a state to give electrons, which means the reduction reaction cannot take place.

Oxidation Reduction Potential(ORP)

ORP is a criterion to distinguish oxidizing and reducing power, and it is measured by a redox potential test instrument. Various food and substances are turned into liquid and the oxidizing and reducing power of each is measured. The potential is signified in units of ㎷.



As shown in the figure, materials with actual values below 0㎷ have the power to prevent oxidation, and the larger the numbers are, the stronger the oxidizing power is.

With the actual value of 0㎷ as a boundary, materials with negative values have the reducing power to remove waste and toxins from our body, and the higher the number is, the stronger the power to improve illness and aging.

However, ORP value is only a measurement based on oxidation and reducing power, and the nutrients and calories of food are not considered. Therefore, there is a lot of food we have to eat to take in the necessary amount of nutrition even though they have oxidizing power. We can prevent our body from being oxidized by eating foods with reducing power.

The oxidizing and reducing power of major food and water

According to professor Nakayama's data, fresh vegetables such as radish, spinach, carrots, cucumbers, corn, and sweet potatoes, have a strong reducing power.

Organic vegetables have higher reducing power than non-organic vegetables. The meat part of cows, pigs, chickens and fish has a higher oxidation power compared to internal organs. The internal organs of cows, pigs, and chickens show negative values, which indicates that internal organs have a high reducing power. Pig's esophagus, small intestine, and stomach have high reducing power, and the internal organs of fish also have low ORP values, though not below 0㎷.

When eating sardines, we eat grated radish with it. The internal organs of sardines taste a little bitter, but it is a good idea to eat them together. The reason why it makes sense to eat sardines this way is because while the meat of sardines has a high oxidation power, radish as well as the organs have a high reducing power, so eating them together can reduce the oxidation, which causes waste to accumulate in our body.

Soft drinks have a very high oxidizing power, which is more than 300㎷. Sugar, salt, chemical additives, vinegar, etc. showed more than 400㎷ ORP levels, which is significantly high. On the contrary, seasonings made from natural materials have high reducing power.

Most drugs have a high oxidation power. Most of the drugs measured showed above 400㎷, and herbal medicines showed half of the ORP levels of synthetic chemical medicines. If you take medicine, you have to minimize the amount of medication to protect your body from oxidation, and you should eat food with a high reducing power.

Oxidating and Reducing Power of Major Food and Beverages												
Hydro–gen –420㎷	Strong reducing power to cure diseases			The closer to 0, the stronger the reducing power is		The closer to 400mV, the stronger the oxidating power is		Strong oxidating power harmful to health			Oxigen +813㎷	
–400	–300	–200	–100	0	100	200	300	400	500	600	700	800
–430 Bamboo salt		–250 Alkaline ionized water	–101 Fresh corn –120 Cuc–umber –172 Fresh sweet potato –142 Beef liver (raw) –106 Pig' s liver (raw)	+65 Radish sprouts +38 Lettuce +65 Radish leaves +83 Chicken Gizzard +74 Soy sauce +36 Natto +78 Redu–ced water (electrol–ysis)	+113 Ca–bbage +126 Pig thigh +179 Vege–table Soup	+218 Toma–toes +279 Straw–berries +231 Chicken meat (raw) +200 Green tea +294 Sports Drinks +228 Freshly drawn milk +221 Source +207 Raw eggs	+301 Summer Oranges +364 Grapes +327 Beef (raw) +334 Beer +336 Orange juice	+407 Lemon +491 Peach +431 Banana +466 Tea +484 Cola +462 Natural salt +437 Cold medi–cine +461 Anti–diarrhea +416 Whiskey	+546 Apple +555 Pear + 501 Refined sugar +550 Apple juice	+636 Heart medi–cine +636 Head–ache pill	+779 Tap water (Tokyo Shi–buya)	

[Food Calling Longevity, Food Calling Death by Eiki Nakayama]

Alkaline ionized water is around -250㎷, but the reducing power of normal alkaline ionized water degrades rapidly over time. Water with bamboo salt dissolved shows -400㎷ and the reducing power doesn't easily decrease even after several days.

A food with a stronger reducing power than bamboo salt has yet to be found.

Food and medicine that oxidize our body are dominant.

When we take medicine, we are often taking several different kinds of drugs at the same time. Toxicity experiments are conducted on each drug, but toxicity tests on the combined drugs haven't been conducted.

For example, no one knows what kind of interactions will happen when medicines for a cold, high blood pressure, and stomach disorder are taken together. The reactions are between synthetic chemicals, not between natural substances. This is a possible reason why side effects are caused in our bodies.

It is a good idea not to take substances other than those we naturally have in our bodies.

Lifestyle diseases such as cancer, cardiovascular disease, diabetes, and hypertension, are spreading from middle and late-middle age to young people. Recently, we have seen a surge of elementary and middle school students suffering from adult diseases such as cancer, obesity, diabetes, and high blood pressure.

Why are young people suffering from adult diseases? Children enjoy fast-food such as hamburgers, chicken, snacks, sweets, and ice cream without realizing that these foods oxidize in our body and cause diseases.

Pregnant women do not know what kinds of food are good for their health and eat food contaminated with chemicals. That's why a lot of children are born with atopic symptoms. Our body is made by elements that exist in nature and has been continuously evolving for tens and thousands of years. Artificially synthesized chemicals disturb the nervous system and cause diseases through a certain path.

If so, what is healthy food?

It's quite difficult to offer an answer to this question, but it can be said that eating food without artificial chemicals is very important.

It is necessary to know the oxidation and reducing power of the foods we eat and drink every day, such as water, food, drink, drugs, etc.

Then you can distinguish what foods oxidize your body and accumulate wastes and toxin in your body and what removes them. Even when you eat food with the oxidation power to take required nutrients, if you eat food with reducing power, you can prevent wastes or toxin from accumulating in your body.

In addition, people with diseases or oxidation in progress can gradually recover their health by eating food with strong reducing power, which will improve the metabolism and remove wastes from their body.

It is not possible to remove all the waste and toxins that have been accumulating in your body for so long all at once, but you can gradually regain your health by eating food with reducing power over time.

ORP and pH of bamboo salt

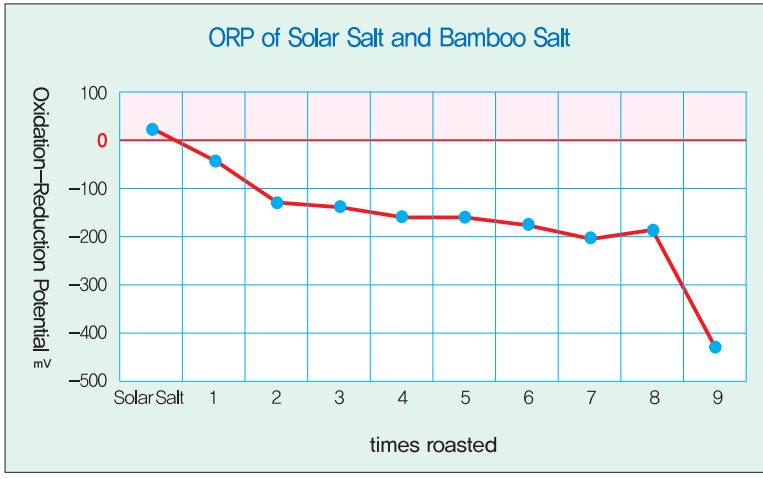
ORP and the pH of bamboo salt have been measured according to how many times it was baked.

An experiment measuring ORP and pH while stirring

Method of experiment : 10g of salt or bamboo salt was put in 100㎖ of purified water, and the solution was made with about a 10% salt concentration. The solution was stirred regularly to maintain an even distribution of ions, and the measurement sensor was kept from touching the bottom of the container. The samples for the experiment were solar salt and bamboo salt baked 1 ~ 9 times.

ORP & pH of Solar Salt and Bamboo Salt

times roasted	Solar Salt	1 time	2 times	3 times	4 times	5 times	6 times	7 times	8 times	9 times
ORP (㎷)	+23	−46	−128	−140	−160	−162	−179	−208	−190	−430
pH	8.89	10.08	9.89	10.10	10.11	10.00	10.09	10.23	10.37	11.50



If you examine the chart, you can find that as the number of repeated baking increases, the reducing power of bamboo salt steadily increases. When solar salt is baked once, it showed the reducing power of -46㎷, and as the number of repetition increases, the reducing power and pH increased accordingly. This shows that the characteristics of salt and bamboo salt are distinctly different. What's unusual is when the 9th molten process was done, the reducing power and alkaline sharply increased. This proves that the characteristics of the material have been completely transformed by the heat treatment.

To develop bamboo salt that has a stable reducing power like this, highly experienced melting skills are required.

Experiment about hypochlorite removal capacity of bamboo salt, solar salt, and refined salt

The typical purification method for water we drink is chlorine disinfection. It is way to put chlorine gas or chlorine compounds in water directly. It's well-known for its low cost compared to other sterilization methods and it has an excellent disinfection effect. However, if you put chlorine gas or chlorine dioxide (ClO_2) in water, hypochlorite is generated.

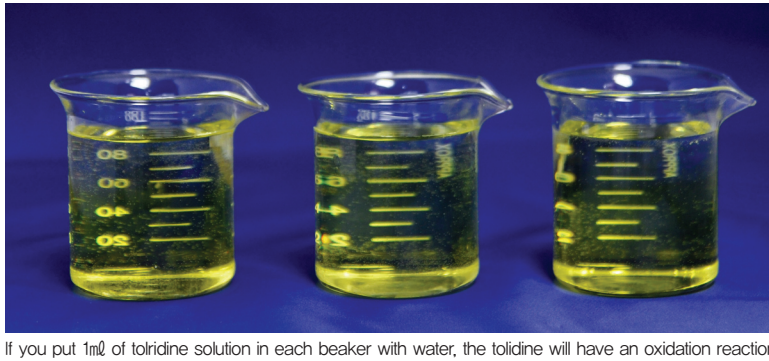
$$Cl_2 + H_2O \rightarrow HClO(\text{hypochlorite}) + HCl$$

In this process, chlorine reacts with the organic materials in the water, and a carcinogen called trihalomethanes can be generated. Once trihalomethanes enters the body, it doesn't decompose easily and accumulates in fat cells, causing DNA transformation or degradation of immunity.

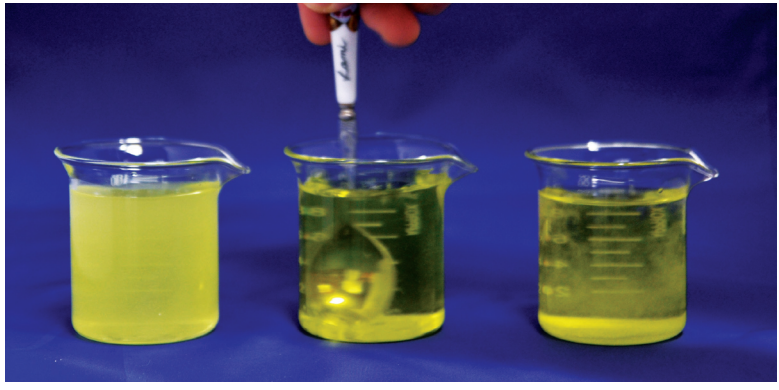
In addition, hypochlorite generates strong free radicals, and decomposes the body's fat cells and vitamin E. So it can exacerbate atopic dermatitis, and causes acne, psoriasis, and eczema, etc. It is often the cause of hair cracking or the loss of elasticity and radiance in the hair because it destroys the natural components of hair.

It was investigated if bamboo salt, solar salt, and refined salt have the ability to decompose hypochlorite, which is harmful for the human body.

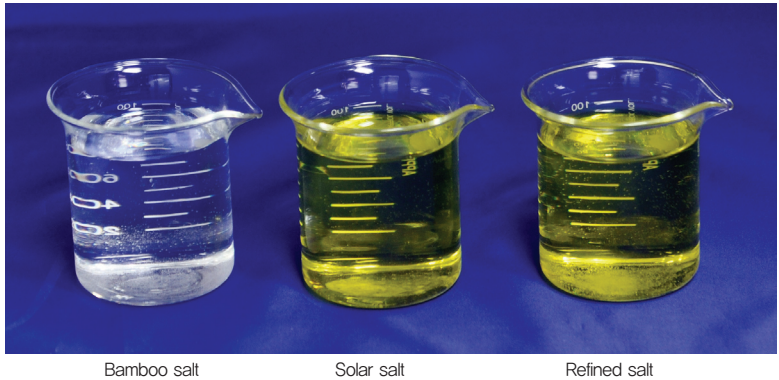
Three beakers of tap water were prepared.



If you put 1㎖ of tolridine solution in each beaker with water, the tolidine will have an oxidation reaction with hypochlorite and the water turns yellow.



From the left, 1g of bamboo salt, solar salt, and refined salt was put in each beaker and they were dissolved completely by stirring.



Bamboo salt Solar salt Refined salt

After about 2 minutes, in the tap water with bamboo salt, the hypochlorite is completely removed and the color turned clear, but the other two solutions with solar salt and refined salt didn't show any changes at all.

Bamboo salt passed electrons to the hypochlorite compound (HClO) and caused reduction reactions to change it into chloride ions and water, both harmless to the human body. This indicates that the various bamboo salt minerals show different chemical reactions from those of solar salt and refined salt.

The metal minerals in bamboo salt give one or two electrons and become ionized. In this way, electrons of various minerals become involved in reduction reaction, but refined salt has almost no other elements other than sodium chloride, so it cannot have any particular reactions.

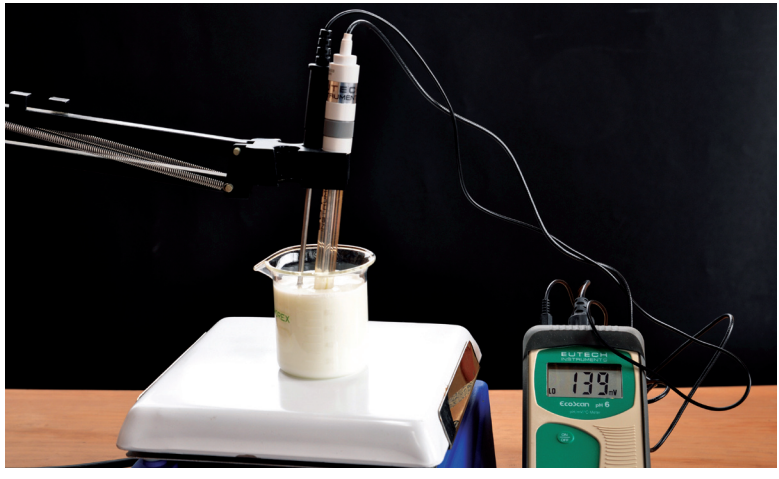
It was an unexpected result that solar salt, which is rich with minerals, didn't have the reaction to purify hypochlorite. As you have seen in the experiment of rusty nails, solar salt has almost no reduction ability.

In conclusion, the rusty nails experiment and chlorine removal ability experiment proved that bamboo salt, solar salt, and refined salt are 'salt' with similar or the same salty taste, but they are different materials that have different chemical reactions. In other words, bamboo salt is a bioactive substance which makes body tissues and activates enzymes, and its function is very high compared to that of refined and solar salt.

70% of the human body consists of water, and drinking good water is closely related with our health. However, there is no tap water which is not disinfected with chlorine gas, and we cook our meals with this water. Using bamboo salt when you cook rice removes hypochlorite, and it supplements minerals deficient in rice. 2g of bamboo salt is suitable for three servings of rice.

The amount of bamboo salt in the picture is 2g

ORP change after adding 9-times-baked bamboo salt in beverages



After purchasing a few beverages in a domestic market, 1g of 9-times-baked bamboo salt was put in each beverage and dissolved, and the reducing power was examined.

		Milk	Orange juice	Carrot juice	Bottled water	Gatorade
ORP (㎷)	before addition	+139㎷	+80㎷	+40㎷	+49㎷	+233㎷
	after addition	−131㎷	−29㎷	−85㎷	−263㎷	(after adding 1g) → +24㎷ (after adding 2g) → −15㎷ (after adding 3g) → −35㎷

Milk had a relatively strong oxidizing power, but after adding 1g of bamboo salt, its reducing power greatly increased to -131mV. In the case of Gatorade, its oxidizing power was strong and even after adding 1g of bamboo salt, its reduction level didn't drop below 0㎷. After adding 2g of bamboo salt, it showed the reducing power of -15㎷, and even after adding 3g, it only showed -35㎷, which is relatively low reducing power.

For the sports drink, it took a few minutes to show the increase of reducing power, and the reduction time took longer compared to other beverages.

When bamboo salt was added to bottled water, the mineral ions in bamboo salt were activated without any interference from other ingredients. So the reducing power increased in a very short time, and in a few seconds, it showed reducing power below -200㎷.

In this experiment, the reducing power of bamboo salt works differently depending on the kinds of drinks.

Likewise, by adding bamboo salt in various foods, oxidant food can be turned into food with a reduction ability.

※ The video clips of the experiments of removing hypochlorite and the redox experiments of beverages are available on the manager column at http://www.koreasalt.com

Bamboo salt is a bioactive substance

Bioactive substances are materials which regulate vital functions, and they correct abnormal conditions such as deficiency or excessive secretion of substances regulating biological functions. Bioactive substances are substances which delay aging or prevent lifestyle-related diseases through antioxidant actions, detoxification, immune function enhancements, hormonal regulation mechanisms, antibacterial and antiviral actions.

Bamboo salt is an excellent antioxidant substance, and various minerals in bamboo salt help our body's detoxification by activating enzymes, and are used as raw materials to make hormones. In addition, the Bamboo salt's antibacterial action enhances immune functions and prevents various diseases.

In other words, bamboo salt, a synthesis of natural minerals and salt, is an excellent biologically active substance, which has no adverse effects on the human body.

Characteristics of bamboo salt as a biological active substance

First, the harmful substances in the salt were removed.

When bamboo salt is produced, burning bamboo, pine trees, and pine resin creates high temperature. The high temperature evaporates heavy metals or harmful toxic compounds contained in salt.

Second, bamboo salt is an alkaline food.

As bamboo salt is baked repeatedly, it shows strong alkalis. Modern people consume a disproportionate amount of acidic foods, but by putting in bamboo salt in food, you can neutralize acidic foods. Bamboo salt has an especially large amount of alkali-forming minerals, so it plays a great role in keeping acid and base in equilibrium.

Third, it generates a large amount of active minerals and synthesizes pharmacological minerals.

Bamboo salt is made to be able to perform reduction reactions by activating the minerals in solar salt. Bamboo salt is a synthesized material made from the pharmacological minerals from bamboo, clay and resin.

Fourth, the source of minerals

Our bodies can continue to maintain life functions thanks to the actions of enzymes. Minerals are actively involved in activating these enzymes. Bamboo salt has a chemical composition which is very similar to that of our body, yet with various minerals.

Fifth, excellent antioxidant food

Due to environment and food contamination, large amount of harmful free radicals are produced in the body. Our body creates antioxidants to cope with that, and bamboo salt plays a role in eliminating free radicals by activating various antioxidant enzymes, and it has a strong antioxidant action because of its reducing power.

Sixth, it has an excellent ability to control the concentration of electrolyte.

When measured, the conductivity of bamboo salt is lower than that of salt, and its grid size is 1/10 compared to that of salt. Therefore, it is absorbed in the cell membrane and the concentration of electrolyte is easily controlled. In addition, compared to general salt, even if you eat two to three times more bamboo salt than general salt, you don't feel thirsty

Seventh, bamboo salt maintains immune functions.

If our bodily fluid was made of fresh water, not brine, we

wouldn't have the capacity to cope with various viruses and bacteria, and nutrients couldn't be absorbed due to the lack of difference between concentrations of electrolytes. It also makes neurotransmitter action impossible, so the body loses its life function completely. The bactericidal and preservative actions of salt maintain our body's immune function. Several theses have proven that bamboo salt has a lot of antibacterial ability.

Eighth, bamboo salt harmonizes with all food.

The National Cancer Institute in the United States announces anti-cancer foods each year and garlic has been the No. 1 anti-cancer food for many years. For the anti-cancer activity of garlic to function properly in the body, it needs the support of bamboo salt. The nutrients necessary for the body are absorbed when sodium is absorbed into cells along with nutrients such as amino acids, sugars and water.

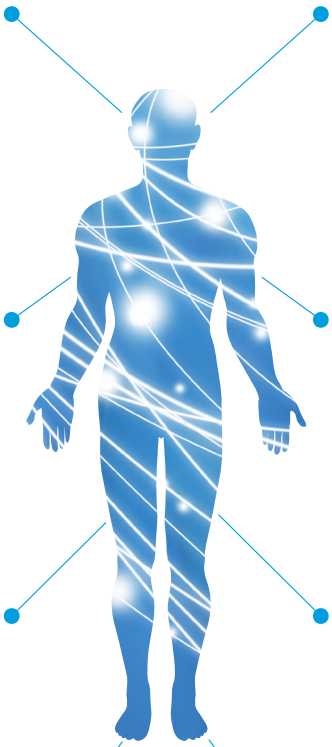
When garlic is combined with bamboo salt, the garlic nutrients can transfer to each cell much faster. Bamboo salt which moved into cells performs two jobs simultaneously within cells, first, activating enzymes and discharging debris out of the cells, and second, supplying minerals so that the pharmacological nature of garlic can be activated within the cells. By joining minerals and garlic, cells will be in better condition to generate new nutrients and exercise stronger antitumor actions.

In other words, adding bamboo salt to food which has pharmacological or anticancer effects makes the pharmacological effects stronger as well as facilitates the absorption of nutrients.

Characteristics of Bamboo Salt as a Biological Active Substance

Source of minerals
Bamboo salt has various minerals necessary for the human body.

Promotion of pharmacological effect of food
Bamboo salt increases the pharmacological effect of food by helping nutrients move to cells.



Plays a role as an antioxidant
Bamboo salt activates antioxidant enzymes to eliminate free radicals.

Containing active minerals
Minerals in bamboo salt are composed of active minerals which are easily absorbed in the body.

Neutralization of food
Bamboo salt is alkaline and it neutralizes acidic food.

Removal of Hazardous Substances
Through the process of roasting bamboo salt, heavy metals and hazardous substances in salt are removed.

Maintaining immune function
The bactericidal and preservative action of Bamboo salt maintains the immune function.

Electrolyte concentration control
Bamboo salt has small particles and low conductivity so it can easily move between cell membranes and quickly adjust electrolyte concentration of the body.

Salt of life - Bamboo salt

The human body can easily maintain the acid and alkali balance of the body fluid when alkali-forming and acid-forming foods are supplied properly.

If we ingest a disproportionate amount of acidic foods, our body has to take minerals from our bones to control the concentration of electrolytes in body fluids, which entails a lot of work for our body. If this continues to happen, our bones become weakened, the fatigue of the cell increases, and the metabolism of our body doesn't function well.

Modern foods are lacking minerals and most of them are acidic foods. If we use bamboo salt, which is alkaline, in cooking, the acidic foods are neutralized, and our body can maintain the balance of acid and base in our body fluid by using the large amount of alkali-forming minerals in bamboo salt.

In particular, the reducing power of bamboo salt removes the free radicals generated by polluted air and food, and increases detoxification capacity by activating enzymes, as well as enhances our body's immunity so that we can fight various bacteria and viruses.

Bamboo salt has a natural balance of minerals, supplies our body with deficient minerals, and maintains the immune system of cells so that they can have the power to prevent diseases.

Is there any material which can solve all of these various problems at once?

That is the salt of life that humans have been looking for.

It is urgently necessary to conduct more scientific research on salt.

When we buy a cloth, we consider many things, seeing the color and design, feeling the fabric, and even trying it on, and then we finally make our decision.

However, we don't really pay attention to salt, which we eat every day and is directly related to our health. We are very interested in recipes to make food taste good, but we are ignorant about salt which decides the taste of food. Despite the fact that the role of salt in maintaining our health is not small, why don't people seem to care about the kind of salt they use?

That's because the deep-rooted notion that 'salt is bad' has taken a place in the consciousness of people, and systematic and scientific research has been neglected. Modern science did not attempt to distinguish different types of salt, and has not made efforts to investigate the effects of salt on the body and its pharmacological efficacy.

The harmful salt theory such as 'salt increases blood pressure' or 'salt is harmful because it has too much sodium' has been spreading around the world for over 100 years.

Does salt play a role in raising blood pressure?

We observed earlier that different types of salt have very different effects on the human body. In other words, mineral-rich salt can help maintain adequate blood pressure.

Is salt harmful due to the large amount of sodium in it?

Sodium is a very important and essential mineral in the body. Sodium controls the bodily fluid and puts the acid and base equilibrium. Sodium also plays an important role in diverse biological activities such as nerve impulse transmission, muscle relaxant and normal functions of the cardiac operation, and absorption of nutrients, pH

maintenance of saliva, pancreas, serous and blood pressure control.

As we can see, sodium is an essential mineral which can be found in the whole body. Scientists say sodium causes problems when it is excessive, but if potassium, Calcium, Phosphorus, etc. are equally present in salt, it can operate the metabolism of excreting sodium and lowering blood pressure with the help of those minerals. In other words, if all the minerals are equally present in blood, these metabolisms are maintained naturally.

In contrast, if sodium lacking in minerals is excessively supplied in the blood, the metabolism cannot work properly and our health is damaged. What's important is the balance of minerals, not the side effects of sodium. In other words, scientists have been observing the side effects of sodium chloride without looking at it in addition to minerals.

From now on, modern science should start pharmacological studies on the kinds of salt, elemental analysis and analysis of the elemental state, the composition ratio of the mineral salt, etc.

If we don't change the common misconception about salt which says that 'sodium is harmful to the human body' and 'salt causes high blood pressure,' the health of the people won't improve.

A completed bamboo salt crystals

Part 5

Questions and answers on bamboo salt

What is the amount of minerals that can be obtained from bamboo salt?

It is true that we obtain most of our minerals through food. Bamboo salt can supplement the minerals lacking in our food. It would be ignorant to think that we can gain all the minerals that our body needs from salt, however, it would be equally ignorant to deny the value of salt because it doesn't contain all the minerals we need.

In addition, it is preferable to obtain trace elements, which are difficult to gain through eating food. The human body requires a very small amount of trace elements, but they are still important nutrients that have a great impact on our body.

Vanadium, which is present in bamboo salt in trace amounts, is necessary for the prevention and treatment of diabetes. Another trace mineral, selenium, suppresses the toxicity of harmful metals and prevents the growth of cancer cells.

The intake ratios of trace elements are bound to be different between those who eat bamboo salt and those who eat refined salt every day, even if only in small amounts.

The recommended daily requirements for minerals is about; sodium 2,400mg, calcium 700mg, phosphorus 700mg, Iron 12mg, and potassium 900mg.

Various elements are required to adjust the concentration of electrolytes in the human body, but the most essential elements are sodium and potassium. The amount of potassium contained in bamboo salt is 8,000 ~ 15,000mg/kg, which means it contains over 8,000 times more potassium than refined salt.

Of course, it is not possible to meet the daily recommended 900mg of potassium purely with the potassium in bamboo salt.

If you ingest 20g of bamboo salt per day, you can obtain up to 300mg of potassium. That amount is one third of the recommended daily requirement. Compared to refined salt, you can intake over 300 times more potassium a day. That means you can intake 9,000 times more potassium a month, and 108,000 times more potassium a year.

Obtaining one third of the recommended amount of minerals, it is by no means a small amount. If you intake 20g of bamboo salt daily, besides sodium, chlorine, and potassium, you are also supplementing 100mg of various other minerals such as sulfur, phosphorus, calcium, etc.

Bamboo salt has a mineral formulation with more than 30 kinds of active minerals

Let's see another example.

The amount of iron the body needs per day is only 1mg. If you have bleeding or menses, the required amount per day is about 2mg. Because it is difficult for the human body to absorb iron, iron deficiency is one of the most common nutritional deficiencies. Therefore, ingesting several times more iron than the actual daily requirement 12 ~ 15mg of iron is recommended.

If you ingest 20g of bamboo salt a day, you can obtain 1mg of iron a day. If the iron in bamboo salt exists as easily absorbable compounds or ions, different from general iron, we might be able to obtain the recommended daily requirement of iron from bamboo salt only.

As mentioned briefly earlier, bamboo salt plays the role of a catalyst to help synthesize minerals in food in addition to providing minerals.

So there needs to be extensive research on how bamboo salt reacts with certain enzymes and produces beneficial materials when you eat the bamboo salt by dissolving it with your saliva,

and how the absorption rate of the minerals differs between using bamboo salt and refined salt in food.

What is the black material produced when bamboo salt is dissolved?

After putting salt in the bamboo nodes, the bamboo nodes are placed in the kiln tightly and the fire is started. When the bamboo nodes are incinerated, the white salt pillars remain. In this process, some of the bamboo charcoal is naturally mixed into the salt.

Also, when the temperature is very high in the process of baking the bamboo nodes, the salt and the charcoal often becomes one loaf impossible to separate, and while repeating this process 8 times, the amount of charcoal gradually increases and the salt pillar begins to become gray.

In the 9th and final baking process, the salt is melted by resin fire over 1,300℃, and in this process, most of the charcoal sinks down and some gets stuck in the bamboo salt.

These ingredients sink when bamboo salt is dissolved in water but you may eat them without any concerns because bamboo charcoal is not harmful to the human body.

Bamboo charcoal may be present as carbon compounds with some other elements. These are organic compounds and they can be utilized as nutrients for the human body. In addition, a small amount of charcoal helps emit body wastes, so eating it is beneficial for health.

The reason why a silver spoon turns black when immersed in bamboo salt-dissolved water

As an egg is cooked, iron sulfide (FeS) appears as a yellow green color between the yolk and the white. This iron sulfide (FeS) reacts with the silver spoon and turns its surface black, and for this reason, a silver spoon reacts and turns black when we boil eggs.

In the process of baking bamboo salt, the natural sulfur in bamboo infiltrates into the salt, and when a silver spoon is immersed in bamboo salt-dissolved water, silver sulfide(Ag_2S) appears and the silver spoon turns black. Food containing a lot of sulfur may show these reactions.

The reason why bamboo has a subtle egg taste is that the natural sulfur in bamboo and pine is soaked. When the human body absorbs sulfur, it stimulates the production of glutathione GSH[6], and promotes the excretion of heavy metals such as lead, and mercury, as well as waste.

Different bamboo salts have different degrees of egg flavor, and the speed of the reaction to a silver spoon and the darkness of the black color can be different. That alone cannot decide the quality of bamboo salt but if the bamboo salt doesn't react with a silver spoon, we can tell that its sulfur reaction is weak, which suggests the melting process was not properly conducted.

If you don't melt bamboo salt after burning the bamboo

6 Glutathion is a small sulfur containing protein consisting of three amino acids, systein, glutamic acid, and glycine. It has a strong antioxidant and detoxification power.
A low concentration of intracellular glutathione means death. People who died of AIDS have a very low concentration of glutathione. Glutathione protects cell tissues damaged by free radicals, radiation, chemotherapy, alcohol, and other toxic substances, and prevents and treats liver disease by detoxifying heavy metals and drugs. When glutathione is deficient, chronic inflammatory diseases such as asthma, rheumatoid arthritis, and autoimmune diseases occur.
It also performs anticancer, anti-inflammatory, and liver detoxification activity, enhances immunity, and suppresses heart disease. The level of glutathione is reduced with age, and as a result, aging is facilitated.

nodes filled with salt, the silver spoon won't fade.

In other words, only bamboo salt melted at a high temperature by resin fire reacts with a silver spoon.

This means the sulfur in salt has a change of state by the heat, and it is the result of the synthesis of natural sulfur in bamboo and pine.

If you don't melt the bamboo salt after burning the bamboo nodes filled with salt, the silver spoon won't fade.

In other words, only bamboo salt melted in high temperature by resin fire reacts with a silver spoon.

This means the sulfur in salt has a change of state by the heat, and it is the result of synthesis of the natural sulfur in bamboo and pine.

Why is the color of bamboo salt pale purple?

Each bamboo salt manufacturer has a slightly different way of baking and melting bamboo salt. Therefore, the color of bamboo salt can be a little different, but you cannot judge the quality of bamboo salt based on its color. In the melting process of bamboo salt at high temperature with resin fire, the charcoal of bamboo in salt turns purple beginning around the charcoal. This is the result of reaction between the high temperature of resin fire and the charcoal. If bamboo charcoal doesn't exist naturally in salt, it doesn't turn purple even though it is melted at high temperature resin fire. There hasn't been any scientific research on what reaction causes the purple color yet.

When put in a flame, each element shows its distinctive color. For example, copper shows green, sodium yellow, and

potassium violet, and the most abundant element in bamboo is potassium. The potassium in bamboo charcoal has a violet flame reaction due to the high temperature it's heated at. Perhaps the purple color then appears in the bamboo salt. The flame reaction is the emission of wavelengths or colors caused by electrons moving in orbit when heated at a high temperature. The analysis results of bamboo salt were that the potassium content was far higher than all minerals except sodium chloride, which also supports our theory about the purple color of bamboo salt.

Purple bamboo salt, which has a lot of charcoal, has a relatively higher potassium content than white bamboo salt, but the high content of potassium doesn't mean it is a better bamboo salt.

However, we can say that bamboo salt does have slightly different colors depending on the amount of charcoal in the bamboo salt.

When bamboo salt is melted at a high temperature, it will have relatively dark purple color if it has a lot of charcoal in it, and if it has a little charcoal, it will have pale purple, gray or white color. If it has a lot of charcoal, it will be relatively less salty but have a strong smell of sulfur, which is similar to that of boiled eggs. If it has little, it will have slightly saltier taste and less of a sulfur smell.

A bamboo salt kiln glows like a furnace in a high temperature resin fire in the melting process of bamboo salt.

Part 6

How to use bamboo salt

After baking salt 8 times, and in the 9th time, it is melted with resin fire into a liquid state just like molten lava. As the liquid cools off, it hardens like stone. The result is bamboo salt.

After sorting coagulated bamboo salt, it is crushed and sieved into pea-sized grains, rice-sized grains, coarse powder, and some is ground into tiny particles using a machine. These different forms of salt can be used according to your needs.

The recommended daily Intake of bamboo salt

Each country has different eating habits, and each individual eats different kinds and quality of food, so the 5 ~ 6g salt intake per day set by the World Health Organization (WHO) can never be the definitive answer.

The amount of salt intake is different depending on each individual's eating habits, and the impact on the human body is different according to the kind of salt, so the recommended daily intake of salt doesn't mean much.

There can be people living healthily even though they eat much more salt than WHO recommends, and there are others who might do fatal damage to their health by following the WHO criteria.

Because Westerners eat a lot of meat, they get a lot of their salt intake from meat.

Vegetables have excessively more potassium than sodium. If you eat vegetables without salt, it will increase the concentration of potassium in the blood, causing hyperpotassemia, which may bring muscle paralysis or heart failure.

That's because sodium maintains the proper electrolyte concentration of potassium in the body.

Our ancestors, whose diet was mainly vegetables, created a balance of potassium and sodium in their diet naturally by consuming hot pepper paste and soybean paste, etc.

About 25 years since the production of bamboo salt began in Korea, the consumption of bamboo salt has increased every year. Bamboo salt related products such as bamboo salt toothpaste, bamboo salted fish, bamboo salt soy sauce, bamboo salt bean paste, and bamboo salt kimchi, etc. are increasing in sales every year.

Unlike general health supplement food, which has a relatively short period of popularity, bamboo salt has been used for 25 years, and it has been a subject of academic interest and research.

The World Health Organization (WHO) recommends that people cut down their salt intake and various media has reported that salt is the major cause of diseases. But there are people who regained their health by eating bamboo salt or who experienced the efficacy of it. They use bamboo salt even though it is much more expensive than general salt.

The daily intake of bamboo salt varies depending on people's age, constitution, and the depth of neuropathy. In general, other than the salt we eat through food, people intake 8g ~ 10g of bamboo salt per day by dissolving it with their saliva.

There are people who eat much more than that, eating 20g of bamboo salt, every day.

These people may seem strange by the standards of the WHO or modern science, but they have acquired their own method of maintaining health with bamboo salt through their experience.

In general, well-known restaurants' dishes taste insipid, so without adding bamboo salt, we can hardly detect any taste.

Those who love to use bamboo salt carry bamboo salt in a small container and add it to food when necessary.

Putting bamboo salt in food enhances the taste and deepens the flavor of the food, and it can be a good way to supplement lacking minerals.

Bamboo salt revives the taste of food, and supplements the deficient minerals.

I'm raising three children and I don't cook food insipid. Instead, we eat food a little salty with bamboo salt. Sometimes they catch a cold or a fever, but after eating a spoon of bamboo salt or bamboo salt soy sauce and sleeping warmly, they recover fully by the next day.

I have never had to take my children to a clinic due to a cold. They don't get any pathological symptoms such as rhinitis, sinusitis, and atopic dermatitis, etc.

By eating food that bamboo salt has been added to, the mineral deficiency problem is solved, and the immunity power of bamboo salt protects the body, so various bacteria and viruses cannot easily invade the human body.

Eating 8g ~ 10g of bamboo salt a day is also closely related to maintaining health in modern life. Foods are contaminated by chemical substances and due to eating and drinking fast food and soft drinks, our body needs more enzymes for detoxification, and to produce various enzymes, our body needs more minerals.

If you can prepare healthy meals, eating 3 ~ 4g of bamboo salt a day will do to supplement lacking minerals.

If you have overeaten or had too much meat or fast food, it is necessary to facilitate the digestion and detoxification activity by eating more bamboo salt.

In the summer, when you are sweating a lot and feel exhausted, you need to intake more bamboo salt to supplement the salt you're losing, and when you have a spring

fever, eating bamboo salt reduces the loss of salt and helps you with fatigue.

Eating bamboo salt by dissolving it with saliva

The best way to intake bamboo salt is by eating small amounts of bamboo salt grains frequently dissolving it with saliva.

Saliva has various kinds of enzymes, minerals and hormones, and these substances become more active when combined with bamboo salt.

Patients who received radiation therapies due to an oral cancer, or those suffering from diabetes, Parkinson's disease, or autoimmune disease cannot swallow foods or speak well because their salivary glands dry so they cannot secrete saliva.

If you hold bamboo salt in your mouth like you would a piece of candy, it stimulates salivary glands and helps secrete saliva naturally while improving your uncomfortable symptoms.

The essence, which is formed when we dissolve bamboo salt with our saliva, cleans the mouth and strengthens the teeth, and removes bronchial inflammation when it passes bronchial.

If the metabolism, in which clean nutrients are absorbed and wastes are excreted, doesn't work well, the body liquid becomes close to toxic venom which doesn't outgas toxins. The bodily liquid that becomes similar to toxic venom makes cells sick and eventually make cancer cells.

If you eat bamboo salt frequently in a small amount, the saliva becomes the essence, and the metabolism of the human body is facilitated and the toxins in the bodily fluid are detoxified.

When you dissolve bamboo salt, put it at the center of your tongue. Then when your mouth is watered, swallow the saliva little by little. If you drink water right after dissolving bamboo salt with your saliva, it may dilute the essence mixed with bamboo salt, so you should wait a while before you drink water after dissolving the bamboo salt.

Eating bamboo salt with water

If you eat bamboo salt by dissolving it with your saliva very often, you may develop sores in your mouth. So for those who have to intake more bamboo salt than usual, swallowing bamboo salt with water or dissolving the bamboo salt powder in water and drinking it is just fine.

People drink sports drinks when they exercise and sweat a lot. Sports drinks have sodium, chlorine, and potassium, etc. dissolved in them, which is salt water that has a little added sugar. If you dissolve bamboo salt in water, it is the same as the sports drinks consisting of elements such as sodium, potassium, and chloride ion, etc.

While sports drinks have an oxidation power of +200 ~ 300 ㎷, water with 1g bamboo salt has reducing power larger than -200㎷.

Compared to sports drinks, bamboo salt water reduces excessive free radicals faster, and makes the proper concentration of electrolytes in the human body and helps recover fatigue more effectively.

Applying bamboo salt for seasoning

Due to soil contamination, we are seriously lacking minerals. In order to detoxify the chemicals polluting the various foods we eat, our body needs a larger amount of minerals.

Adding bamboo salt in food supplements deficient minerals and the reducing activity of it eliminates free radicals in the human body.

In addition, we need to eat various other foods made by applying bamboo salt. In any food made with salt, bamboo salt can be used instead, for example, bamboo salt soy sauce, bamboo salt bean paste, bamboo salt pepper paste, bamboo salt fermented fish, and bamboo salt kimchi, etc.

You may wonder how we can put in expensive bamboo salt in making side dishes, but additional cost savings earned by preventing diseases may save more money as well as help your family lead a happier life.

Healing crisis reaction from bamboo salt

The human body reaction which appears by ingesting certain drugs or foods is called the rejection response or healing crisis reaction. In general, western medicine has different chemical compositions from the elements of the human body, and our body cells begin a series of actions to fight against or excrete the medicine.

In the process, pains and vomiting occur and all these rejection responses are labeled the side effects of drugs.

However, a temporary reaction, caused by health supplement

food made of natural substances, is not a rejection reaction, but a kind of phenomenon that appears as our body recovers and this is called the healing crisis reaction.

A typical healing crisis reaction by eating bamboo salt is vomiting. When people, who cannot excrete wastes well, and have sputa, which is similar to bubbles in their stomach, eat bamboo salt, they show vomiting symptoms and some of them actually throw up in the process of eliminating sputa.

After undergoing this healing crisis reaction once, most people don't want to eat bamboo salt again, but people need to be aware that the healing crisis reaction indicates that their health is not in good condition and that they should continue to eat bamboo salt.

After eating 3 ~ 4g of bamboo salt a day for a while, and then increasing the amount little by little, the vomiting symptoms will completely disappear in a few days.

Those who have stomach sickness while brushing their teeth usually have sputums in their stomach, and eating bamboo salt can be helpful for that.

If the stomach is not healthy, people may experience dizziness, mood swings, nervousness and irritability. If a child shows these symptoms, it indicates that his/her stomach is contaminated by junk food such as candy and hamburgers, and it has a lot of sputa in it.

By eating bamboo salt, chemicals in the stomach are excreted, and the stomach walls become healthy and it also brings a stabilization of emotions.

If your kids are easily annoyed and cannot focus well, you may have to check the health of your kids' stomach.

The reactions your body may show will be different depending on your constitution and the disease symptoms, but usually constipation, diarrhea, vomiting, dizziness, pain, colds and fever appear.

Sometimes symptoms such as skin rash are accompanied, and this is also a temporary symptom which occurs in the process of excreting wastes out of the body, so there is nothing to worry about.

People may have a sudden increase of strong-smelling flatulence or temporary diarrhea, but these are also a series of symptoms happening while waste and coprostasis is removed.

You may realize that you've been living with bad toxins accumulating in your body while eating bamboo salt.

Will it be fine for kidney disease patients to take bamboo salt?

The most asked question from kidney disease patients is "Is eating bamboo salt, which is still salt, all right for me?"

Without a doubt, bamboo salt is salt. However, there is no one who can live without salt. The amount of salt needed is different depending on the patients, but people need to eat salt, even a small amount, so that they can maintain the balance of bodily fluids, activities of cells and other life activities.

There is no reason why kidney patients shouldn't eat bamboo salt, which is a good quality salt.

However, patients with renal kidney failure may have temporary swelling of the limbs or face when they start eating bamboo salt.

These patients need bamboo salt more than others and they need to increase the intake of bamboo salt little by little.

The molecular structure of bamboo salt is 10 times smaller than general salt and its conductivity is low, so it can move

between cell membranes much more easily than general salt.

Thus, for those who have an edema or side effects from salt, or kidney disease patients, eating bamboo salt is rather beneficial.

The kidneys play the role of reabsorbing nutrients and salt and returning them to the bodily fluids. If the kidneys don't reabsorb salt again, animals as well as humans wouldn't have been able to live on land.

The function of the kidneys, which is reabsorbing nutrients and salt, happens due to a difference in the concentration of bodily fluids, and it cannot be conducted well without enough salt. Like machines need oil, our body always needs salt.

As people eat insipidly, the function of the kidneys has been reduced, which also brings malfunction of the kidneys. Eating no salt leaves the kidneys unused.

Those patients who have swollen hands and feet, or severe edemas, starting to eat bamboo salt from a small amount and increasing the amount gradually helps to revive the function of the kidneys to absorb and excrete. After that, they won't have edemas even though they increase the intake of bamboo salt.

Is it all right for hypertensive patients to eat bamboo salt?

I've been asked the same question saying "Is it all right for hypertensive patients to eat bamboo salt, which is salt?" countless times, and I continuously answer the question with a question saying "Is there any reason to oppose quality salt with rich

minerals?"

Earlier, we already looked into the fact than salt cannot be the cause of high blood pressure.

The root cause of high blood pressure is eating a lot of fatty foods, and not having enough exercise and not the intake of salt. We have to look into the diet of modern people, and shouldn't let the misconception salt causing high blood pressure disguise as a truth.

With a light and mainly vegetarian diet and proper exercise, we can easily maintain normal blood pressure.

If we connect all the vessels of the body, its length would be long enough to go around the earth two and a half times. There are capillaries, which are very thin blood vessels, as well as thick ones, and this capillary is a size that even a red blood cell can barely pass through.

When two or three red blood cells are clotted due to hyperlipemia, the clotted red blood cells can hardly pass through capillaries, and when this happens, the heart attempts to make the blood pass through by increasing blood pressure.

So basically, if you want to treat the cause of high blood pressure, the only way is to improve the condition of the blood. If red blood cells are not clotted, and have resilient well-formed shape to pass through capillaries, it won't be necessary for the heart to increase blood pressure.

All the life habits such as eating greasy fried chicken and pizza, a glass of budweiser with steak for dinner, or sleeping after hearty eating are the cause of hypertension.

Modern people do not know hunger. Abundant food to eat is everywhere, so we can easily find something to eat when we are hungry. Because of this our stomach, as well as the duodenum, small intestine, and large intestine, have to work without rest to process the food we eat continuously.

At night when our body doesn't need a lot of energy, our body needs to burn and remove excessive nutrients. So our body cannot rest and continue to work, and due to excessive cell activities, we might easily feel tired or exhausted. The extra nutrients cannot be processed, and the surplus nutrients become waste and pile up.

These surplus nutrients are used as a fuel to divide cancer cells, and become stuck to blood vessels and block the flow of the blood, and that causes cardiovascular disease. Eating a lot and then going to bed is a way to make your life shorter while you are sleeping.

There have been several clinical reports saying that bamboo salt diminishes the level of fat and cholesterol. The functions of bamboo salt make the red blood cells regain its resilient circular shape so that they can easily pass through capillaries.

In addition, the potassium and calcium in bamboo salt check the sodium appropriately and excrete the surplus of sodium which prevents and treats high blood pressure.

These effects of bamboo salt can be confirmed by a fat and cholesterol test and observing the shape of red blood cells under a microscope after consuming bamboo salt for a certain period of time.

The way hypertensive patients intake bamboo salt is slowly increasing the amount of bamboo salt the same as kidney patients would. Especially for those hypertensive patients, salt sensitivity, which indicates salt-sensitive reaction, increases.

So eating a small amount and gradually increasing will work. However, you shouldn't attempt to reduce high blood pressure by decreasing salt intake. Reducing salt is not treating high blood pressure, but suppressing it temporarily.

A low-salt diet may degrade your immunity and decreased enzyme activities due to a lack of minerals so it can be the cause of other diseases.

If you have hypertension, you should reduce eating fatty foods and apply bamboo salt for seasoning. You can obtain various minerals to suppress blood pressure through bamboo salt, and it turns foods of strong oxidizing power into ones with reducing power, and facilitates the excretion of waste products.

As the body fluids and blood become clean and the circulation of blood improves, the blood pressure will naturally be restored.

Tooth brushing with bamboo salt

A thesis claiming that bamboo salt is effective for tooth caries and gum diseases has been reported, and as bamboo salt toothpaste is developed, a lot of people are enjoying the benefits.

The bamboo salt toothpaste contains a very small amount of bamboo salt, so in order to have better effects, it is better to brush your teeth with bamboo salt on your tooth brush.

You may put bamboo salt in the bath room in a small container and use it. Bamboo salt is made by baking several times so it doesn't have any moisture in it, so it will harden soon in the bath room. Therefore, putting a small amount of bamboo salt in a small container is the best method of storage.

Having two toothbrushes separately for bamboo salt and toothpaste will be convenient. Upon waking up in the morning, you put some bamboo salt on the brush and brush your teeth, and swallow the saliva, without spitting.

Do you find it unclean? If you think so, shouldn't you spit the rice mixed with your saliva?

Saliva is an important digestive and immune substance. Our ancestors used to brush their teeth and wipe their eyes with

salt and then swallow it.

There is a saying that goes, if you spit too often, you may be short-lived, and it is because saliva is the essence produced by our body because it is necessary. Swallowing saliva mixed with bamboo salt is better for your health.

It is better to hold it in your mouth longer after you brush your teeth. When the salty taste fades and the saliva feels soft, you swallow it. It's better not to wash your mouth after brushing your teeth with bamboo salt.

If you brush your teeth with bamboo salt for a long time, various minerals in bamboo salt and your teeth make redox reactions, and it tends to cause your teeth to become a little yellow light or form some plaque. Brushing your teeth with toothpaste 3 ~ 4 times a week will make this phenomenon disappear.

Treating rhinitis and sinusitis with bamboo salt

The human nose has a very important feature in controlling body temperature and humidity and purification. It is not exaggeration to say that the nose is the first gateway to protect our health. If the basic functions of the nose are paralyzed, that causes brain dysfunction, anxiety, and other various diseases.

Though modern medicine is very excellent, it cannot cure rhinitis and sinusitis completely. If antibiotics and drugs could cure these diseases, there wouldn't be anyone who attempts to cure these diseases with oriental medicines and alternative

therapies.

Why do rhinitis and sinusitis occur and why is it so hard to cure when they seem so simple?

I may not need to explain again that the polluted environment and poor diet are the factors causing these diseases.

We now need to realize and be aware that we can cure and prevent diseases when we improve our environment and diet. We must abandon the simple approach of "a certain drug or a certain thing is good for an illness."

Rhinitis and sinusitis are not a simple inflammatory disease occurring in the nose. It is the first disease to occur in our body when our ability to resist diseases becomes weakened.

When our body has inflammation, its natural healing power attempts to excrete the inflammation out of our body through the bronchi of our nose and throat. Therefore when you have rhinitis, sinusitis or early symptom of phlegm, you should understand that your body is sending a signal that its immunity is getting weak and your body is having inflammation.

First of all, you should reduce eating fast foods and processed foods. And you should make efforts to eat fermented foods which improve your immunity and detoxify your body such as soy sauce, bean paste, pepper paste, kimchi and other healthy foods.

If you took antibiotics or drugs without these efforts, it would help you temporarily, but would never treat the underlying cause of the disease. Rather, the drug treatment might impair the immune system, and allow the cause of the disease to hide deeper in our body, perhaps letting it develop into an incurable disease.

Treating diseases without properly treating the diet is like building a house upon sand.

Let's look into specific ways to prevent or cure rhinitis and sinusitis effectively.

First, eat foods seasoned with bamboo salt.

Just using bamboo salt in your foods can treat usual rhinitis and sinusitis. You can take balanced minerals from bamboo salt, and it activates detoxifying enzymes at its normal level so that it can excrete toxins out of your body.

Each cell cures rhinitis and sinusitis with the anti bacteria and inflammation activity of bamboo salt. If we eat refined salt which lacks minerals, we can hardly expect a well-working metabolism.

Second, make saturated bamboo salt solution with 26% salinity, and then dilute it with double the amount of water.

You can spray the diluted solution into your nose to disinfect your nostrils using the sterilizing power of bamboo salt and root out the inflammation using the osmotic phenomena. The concentration of the solution needs to be adjusted according to the age of patients, thin for children and strong for adults. The concentration is most suitable if it stings a little when sprayed into the nose.

Snorting bamboo salt solution into one nostril, and letting it out through the other is one method, but it is painful. Putting bamboo salt solution deep into the nostrils is another way.

Saturated bamboo salt solution

It is a status where enough bamboo salt was dissolved in the water so no more bamboo salt can be dissolved in it, and the solution shows approximately 26% salinity. The small container on the left in the picture is 30ml. Pour 10ml of saturated bamboo salt solution and add 20ml of water. Then its salinity becomes about 10% and you can use it.

Third, eat bamboo salt grains by dissolving them with your saliva.

The roots of rhinitis and sinusitis are located deep inside the nostrils, so when we have a runny nose, the mucus goes into the throat.

If bitten by an insect or a mosquito, applying saliva can sooth the symptoms and that's because of the disinfecting power of saliva. When saliva is combined with bamboo salt, the disinfecting power greatly increases.

If you eat bamboo salt dissolving it with your saliva, it becomes an immune substance, and the curative power reaches the part where our throat and nostrils meet.

Minerals absorbed from the stomach and small intestine spread into the blood, and activates various detoxification enzymes and proper metabolism to excrete wastes.

This is how bamboo salt straightens the health of our entire body and cures rhinitis and sinusitis.

Rhinitis and sinusitis can only be cured when we make efforts to fundamentally change our body.

Treating cataract and eye disease with bamboo salt

When ocular lens, which mainly consists of protein, are degenerated, eyeballs become murky. The light entering the eye goes through the lens and it is refracted and forms a figure on the retina. If you have a cataract, the lens becomes murky and cannot let light pass through clearly. So it causes blurred vision.

Glutathione is the major component of the protein of the lens. Glutathione is a small protein consists of three amino acids, systein, glutamic acid, and glycine, and it is involved in detoxification.

Glutathione plays an important role as an anti-oxidant, and it attaches itself to toxic heavy metals to allow them to be excreted in the form of urine or bile. In addition, glutathione plays the role of protecting our body from free radicals, pesticides, endocrine disruptors, and other various toxic substances.

Our eyes are directly exposed to the external environment, and they are prone to contamination, so glutathione, which is the main component, continuously conducts detoxification and prevents oxidation. However, when glutathione cannot perform its function and it is oxidized, the protein is degenerated and becomes murky, and then the cataract symptoms appear. The method to treat this is eating food with reducing power and preventing degeneration by oxidation.

You need to eat foods with reducing power steadily and restore the reduction function of glutathione. Bamboo salt, which has a strong reducing power, can be directly used as eye drops.

To cure cataracts, you wake up in the morning and dissolve

bamboo salt with your saliva first, and then wipe your eyes with the saliva. By combining the reducing power of bamboo salt and the essence of the saliva, it becomes a very good eye drop.

It is recommended that you treat the eye in this way several times during the day. The degenerated protein, by the reduction activity of saliva and bamboo salt, plays the role of decomposing and eliminating stale oils in the lens.

All the eye diseases, including pinkeye, can be treated this way. You may prepare a bamboo salt eye drop and use it whenever necessary.

In a container with the size of 30㎖, you pour in about 3 ~ 5 ㎖ of saturated bamboo salt solution and fill in the rest with water, and then it is ready. The solution will have the salinity of approximately 3 ~ 5%.

If you don't have saturated bamboo salt solution, you can make it by putting in 1g of bamboo salt and filling the rest with water in a 30ml container. If you leave it for 30 minutes, charcoal in bamboo salt will subside. The water above the charcoal can be used as an eye drop. It is best if you remove charcoal using filter paper. The salinity is approximately 3%.

It is normal to feel a little stinging feeling when used, but if you feel too uncomfortable when you put in your eyes, you may add more water and dilute it. Everyone reacts differently to different concentration so you may adjust the concentration between 1 ~ 5% as you use it.

If you use bamboo salt eye drops, you may feel a little stinging at the beginning, but it will feel cool over time.

Because the concentration of bamboo salt eye drops is low, it can degenerate, so you may want to keep it in the fridge.

As people use various electronic equipments such as a computer monitors and TVs for an extended period of time, a lot of people are suffering from dry eye syndrome. Making

bamboo salt eye drops and using it whenever necessary can be helpful.

The reducing power of bamboo salt also works on the lens of the eye to excrete waste products, so it may be helpful in preventing and treating cataracts.

Bamboo salt 1g

Treating various allergies and skin diseases

These days, atopic diseases and asthma, which were rare in the past, are all-pervading, a lot of children are going to the hospital every other day due to decreased immunity.

The surge of animal foods from animals raised with genetically modified feeds and antibiotics and agricultural products produced with pesticides, and processed foods with food additives is deeply related with prevailing allergic reactions.

An allergic reaction is a repulsive reaction which occurs when a different composition substance enters our body.

If the reaction is due to pollens and mites, we can make efforts to eliminate the cause. However, the problem is the allergic reactions caused by chemicals. Allergic diseases caused by our diet alienated from nature and contaminated environment are very difficult to cope with.

In addition, fast food generations couldn't even have healthy cell tissues before they were born, so they show sensitive allergic reaction to milk, peanuts, and flour; and some of them

even show allergic reactions to their mother's breast milk.

Mothers' wisdom to find and prepare the right food for their children is necessary. Children with atopic diseases need to eat food with a high reducing power, and if you use bamboo salt in cooking, most foods develop a reducing power.

Children with atopic diseases need to avoid processed food and eat healthy foods such as bean paste, kimchi, and vegetables. Seasoning these healthy foods with bamboo salt will supplement minerals, and help detoxification and reduction activity so that normal cells can be regenerated.

In the process, the healing crisis reaction, which causes more severe weeping sores or itching, might appear, but repeating the process can cure the cause of the diseases perfectly. The way to cure atopic diseases completely is fundamentally regenerating health cells and disposing of the altered cells.

Treating stomach diseases with bamboo salt

Professor Wang-gi reported his clinical research result that bamboo salt showed 91.95% of effective rate on gastrointestinal diseases. Bamboo salt has various therapeutic efficacies and is especially effective on gastrointestinal diseases.

First, Eating bamboo salt by dissoving it with saliva.

The effective way of eating bamboo salt for gastrointestinal diseases is eating it by dissolving it with your saliva.

When bamboo salt and saliva are mixed, it turns into an immune substance, and it becomes effective for bronchial

inflammation, gastric ulcer or gastritis as well.

Indigestion is caused by degradation of gastric motor function and a lack of materials for gastric juice and minerals. And that is why the digestive enzymes are not properly activated.

In the process of baking bamboo salt 9 times at high temperatures with pine tree and resin fire, the cold nature of salt changes into a warm one.

If you eat bamboo salt by dissolving it with your saliva, you will feel that your stomach and belly get warm, and that's because the bamboo salt has a warm energy.

This warm nature of bamboo salt helps the motor function of the stomach, and it is used as a material of gastric juice and various enzymes and helps digestion.

In the case of esophagitis and gastritis, which is caused by excessive secretion of gastric acid (HCl), the alkali nature of bamboo salt neutralizes and reduces it into normal state.

On the other hand, hypochlorhydria patients, suffering from no secretion of, or lack of gastric acid, can have excellent therapeutic effects if they eat bamboo salt. It's because bamboo salt provides chlorine, a material for gastric juice, and rich minerals which activate various digestive enzymes.

80 ~ 90% of hypochlorhydria patients develop gastric cancers, so it has been known to be more dangerous than gastric hyperplasia, but it can be cured with bamboo salt.

Second, ingest roasted garlic with bamboo salt very often.

Garlic plays an excellent role of removing inflammation and regenerating normal healthy cells, so it can cure and prevent various gastrointestinal disorders. Because of its ability like these, it is even called as anti-cancer food.

You need to eat more than 30 pieces of baked garlic a day, though the amount could be different depending on what kinds of disease you have.

When garlic and bamboo salt is combined, the mixture of the two has abundant substances which removes pollutants, drug toxins and waste products as well as regenerates normal cells.

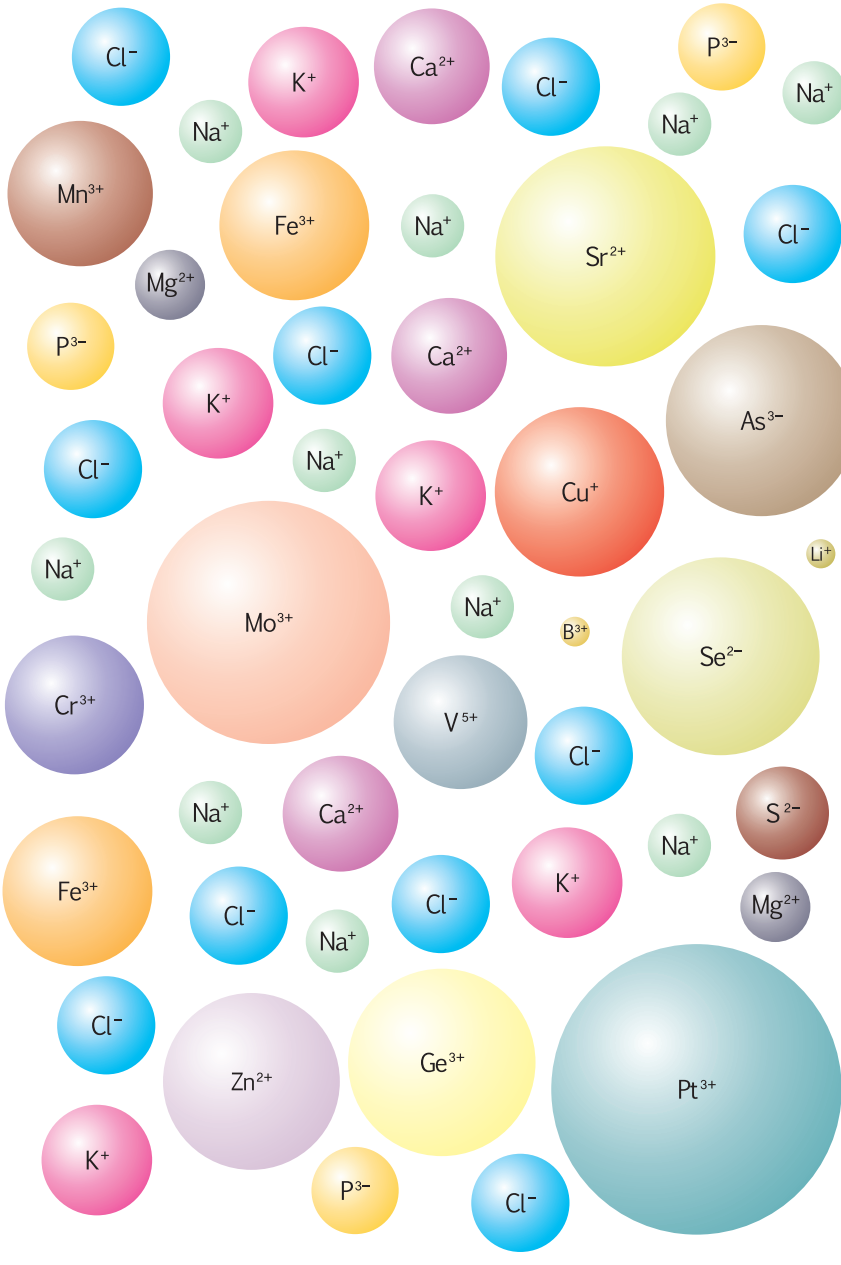
If you eat grilled garlic dipping it in bamboo salt continuously for a month, you will notice that your skin becoming better.

Grilled garlic and bamboo salt is very effective for various atopic diseases and atopic dermatitis as well as for other diseases such as gastric ulcers, duodenal ulcer, gastritis, constipation, diarrhea, irritable bowel syndrome, etc.

90% of diabetes is caused by insulin resistance, a phenomenon that occurs due to cells not recognizing insulin, and this kind of diabetes is closely related to minerals.

When our body lacks manganese and zinc, the resistance of insulin increases, and that makes the absorption of glucose in the cells difficult. Therefore, eating bamboo salt properly helps improve diabetes because it contains minerals such as chromium and vanadium.

Regaining health begins from maintaining the functions of various organs normal. Grilled garlic and bamboo salt has an excellent effect in making organs healthy.



When bamboo salt is melted at 1,300℃, the minerals in it turn into ions.

We need to be excellent doctors who prevent disease, not good doctors who treat disease.

For hundreds of thousands of years, human beings have evolved in a very sophisticated way by utilizing elements, which are present in and a part of nature. Our body has the capacity to produce antibodies to fight various viruses and to excrete foreign substances. If there is no natural healing power in the human body, humans will not be able to live for a single second.

Because natural healing power always works in the human body, cancer does not occur just in 1 ~ 2 years. Bad eating habits and poor lifestyle choices for more than 10 years cause cells to mutate. The result of this is the incurable disease called 'cancer.'

Most other disease as well as cancers are influenced by our everyday diet. To stay healthy, you need to maintain your natural healing power, and to treat a disease, you need to eliminate the cause of the disease.

Bamboo salt neutralizes acidic food and turns it into alkaline foods with reducing power, and supplements various minerals and improves natural healing power. In addition, it blocks cancers and other various diseases by facilitating the absorption of nutrients in our body and stimulating our metabolism to excrete the waste from our body. Taking in health supplement food once or twice a day isn't enough to prevent incurable diseases. You need to eat a healthy diet seasoned with bamboo salt every day. That is the method of the 'excellent doctor,' mentioned by the eminent Chinese doctor Sohn, Sah-mak, who prevents diseases before they occur.

Bamboo salt might open an opportunity for alternative medicines to develop

The United States' annual medical costs were approximately five times the cost of defense and 14.5% of gross domestic product in 2002. It is estimated to increase up to 18.5% of GDP in 2013. The health expenditure of the United States is more than any other developed countries, but the health status and satisfaction of the people is the lowest among OECD countries.

In 1970, President Nixon declared war on cancer. Since then, 27 years have passed, but despite the investment of 220 trillion dollars, the result has been far from success. The U.S government had to reevaluate modern medicine due to the waste of the huge amount of budget, and came to admit that the modern medicine and dietetics were not perfect.

In 1985 and 1998, the United States National Cancer Institute reported that "anticancer drug is helpless, and doesn't help the treatment," "anticancer drug rather aggravates the cancer," "anticancer drug itself is a strong carcinogen."

On the basis of the recognition of these mistakes, the U.S. Senate Judiciary passed the "alternative medicine research support" bill in 1991, and according to this law, the National Institutes of Health established a laboratory of alternative medicine. In 1998, the laboratory of alternative medicine was expanded to the Bureau of Alternative Medicine, and the NIH supported with 2 million dollars in the first year, but recently the support was increased to more than 100 million dollars.

Many universities in the United States have established alternative medicine departments and have been devoted to alternative medicine research. This is the global trend.

Mr. Kim Il-hoon, who invented bamboo salt, advocated a variety of new cancer treatments, which couldn't be found even

in various oriental medical books.

Many cancer patients have been applying the cancer treatment methods of Mr. Kim, Il-hoon, and even today, many doctors have begun learning and discussing Mr.Kim's treatment and theories. If modern medicine can be represented by surgery to remove the unnecessary parts and chemotherapy to kill viruses and bacteria, Mr.Kim's medicine is focusing on eliminating the cause of disease, which will cure the disease with natural healing power, and that will make our body fully recovered without recurrence. Therefore Mr. Kim's cancer treatment method has no side effects and can maintain the quality of the patient's life, compared to anticancer drugs and surgeries.

Western and alternative medicines have the common purpose of treating human diseases. However, it doesn't seem to be easy to find a common denominator between the two.

Bamboo salt made by natural element fusion technology will open an opportunity for natural sciences and alternative medicine to further develop, and serve as a bridge connecting western and alternative medicine.

Bamboo salt will establish itself as a life substance, which is essential to protecting our lives and preventing various 21 century diseases.

Bamboo Salt Products

KOREASALT

http://www.koreasalt.com

The mineral deficiency of modern people should be resolved with bamboo salt, which has abundant active minerals.

This book examined bamboo salt and salt through scientific experiments and component analysis. It is a must-read book for anyone who eats salt.

Salt has a bigger influence on our health than any other food. Without understanding about salt, maintaining health is unachievable.

This book overthrows the so-called 'harmful-salt theory', which says 'salty food is harmful and sodium is not good for health.' If you want to know about salt, this book is the answer.

The process of making bamboo salt, in which minerals in salt turn into bioactive minerals, is the best alchemy of the 21st century.

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