

Pico-sized Water makes a Positive Influence on Crops and the Human Body

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Abstract

Agriculture has been primarily on viewpoints of biology; plants, soils, fertilizer (involving agricultural medicals), bacteria, and weather sometimes. Meanwhile, medical doctors and biologists have discussed medicines regarding the human body organs and medical treatments. Here we propose handling agriculture and medicine in viewpoints of biological physics through an elementary particle of pico-sized water. As a result, reduction (deoxidation) occurs for both a plant and a human body besides the effects coming from the small size. We propose to improve human health by drinking Agaricus treated with the pico-sized water. Furthermore, people after drinking Agaricus and the water can recover from uterine cancer and brain tumor. Furthermore, we discuss the mechanism remedy of health by the water.

Introduction

We must discuss both energy and agriculture. Agriculture and energy are vital worldwide now a day because of food-supply crises, droughts, and floods. We are worrying about increasing these crises from now on under global warming. However, we will limit agriculture at present—furthermore, the worldwide issues above we should discuss in another chance with energy. Mainly, food-supply crises and drought are associated with water which we must obtain pure water, and how we can supply it through seawater. There have been many studies and academic discussions of water since the 21st century regarding the interaction of water with another substance.

It is reasonable that people report many themes relating to water since the 21st century. On the other hand, they have discussed agriculture associated with water except for drought seasons and less water area.

Here, as an example, we focus on the Agaricus from the mycelia (fungus filament) of mushrooms. Agaricus has a long history since around 1893 [1], and there are many documents, reports, and manuscripts. Furthermore, Agaricus is also famous as a healthy food, and compost cultivation has been widespread for mushrooms. French agriculturists noted that transplanting mushroom mycelia would lead to the propagation of more mushrooms [2]. β -glucan as the compound in mushrooms has been identified for human health [3] and immune [4-6]. On the other hand, many researchers reported the view of fungus, although we cannot cite all of them [7-9]. Furthermore, the researchers discussed glucan relating to fungus [10].

We propose the efficiency of water (SIGN water [11] ---Spin Information Gauge-field Network) to plant growth and their fruits so that a plant can proliferate and a plant absorb more water to store it [12, 13]. Furthermore, we should recognize to analyze the functions of the human body and diseases under micro-processing research as totally systematic medicals from biology [14, 15].

Method

From the standpoint of a plant, the surprise is that water can absorb water against gravity. The key is an aquaporin protein whose number in a plant is three times that of animals involving humans. Aquaporin is a protein in a body that absorbs only water through less than 2 angstroms ($\sim 10^{-9}\text{m}$) so that the pico-sized water ($\sim 10^{-12}\text{m}$) can quickly go through the narrow part. We can provide the pico-sized water with higher pressure (100MPa). This absorbing ability is one of the big points of the water. We can assume the size in the method to compare with the deionized water (or normal such as tap water) to use hydrogen-nuclear magnetic resonance (H-NMR).

Moreover, one more point is to extract essential substances through the mycelia (fungus filament) of mushrooms cultivated using SIGN water.

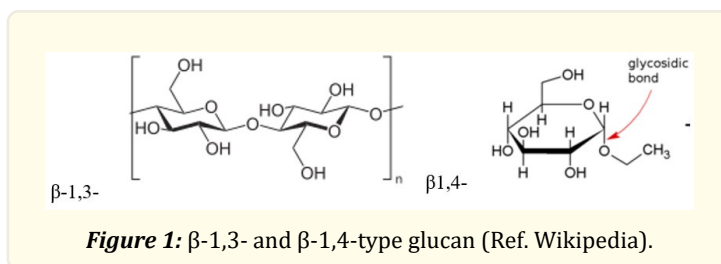
Results and Discussion

Agaricus extraction

First, we can see the effect of the extraction of Agaricus from the mycelia (fungus filament) of mushrooms (Hime matsutake in Japanese). Generally, β -glucan is insoluble in water [16]. We use SIGN water involving a pico-sized particle that we named infoton [17]. We regard the bonding strength of each element's bond in order of stronger one as an example (unit= eV) [18]. We use an eV as a unit because of a famous unit in physics. A glycosidic bond is a covalent bond that joins a carbohydrate to another functional group or molecule according to the bond strength shown in Fig.1.

①C = O; 8.3, ②C = C; 6.3, ③O - H; 4.6, ④C - H; 4.3, ⑤C- OH; 3.7, ⑥C - C; 3.6.

The number shows electron volt (eV), meaning the bond strength.



β -glucan is that glucose binds with β -1,3- and β -1,4-glycosidic bonds in straight chain (Fig. 1).

When we employ the SIGN water to cultivate mushrooms and extract Agaricus, the pico-sized water may bring merit. The extraction is not our theme here. The mushroom spores can quickly absorb water. We assume the following as another point. A glycosidic bond is formed between a group of a saccharide and the hydroxy group. Namely, hydrogen may be separated from the molecule because the bond of C- OH is weak, such as 3.7eV above (5.92×10^{-19} J/mole). Then, hydrogen demonstrates reduction.

Quantum mechanical idea of the pico-sized water

The pico-sized particle water can overcome classical potential energy with information on the infoton under a specific time and energy, namely the quantum tunneling effect [19]. Tunneling indicates most prominently in low-mass particles such as electrons and protons tunneling through microscopically narrow barriers. Tunneling is essential in physical phenomena such as nuclear fusion [20, 21] and alpha-radioactive decay of atomic nuclei [22].

The particle may be described following in Schrodinger wave function. An imaginary number on the left side may not be necessary because spores and a general plant change correspond to the observables of physics in the particle, infoton along the time.

$$i\hbar \frac{\partial}{\partial t} |\psi(t)\rangle = \hat{H} |\psi(t)\rangle \quad (1).$$

H; Hamiltonian for the whole system, and time development operator;

$$\hat{U}(t, t_0) |\psi(t)\rangle = \hat{U}(t, t_0) |\psi(t_0)\rangle \quad (2).$$

This operator with time plays a role in all information of the infoton to transfer to another substance. This phenomenon likes an electromagnetic field. Unfortunately, we have not found infoton yet, although there was a report to detect photons in the far-infrared region [23], and neutrino was found in the super-pure water of 3000 tons [24].

The water generated by Agaricus

Two spectra of H-NMR are shown in Fig.2 (upper; relaxation time, lower; free induction decay). We analyze the spectrum width at the half portion of the height, which is ν . This value, ν , is a denominator, resulting in narrower spectrum means a larger T_2 . Meanwhile, FID is shown in lower spectra indicating with moment, μ (in the formula). And larger water molecule has a larger μ leading to a smaller FID, T_0 .

The result describes in Fig. 3. The blue and brown show T_2 and FID, respectively.

According to H-NMR spectra, the Agaricus water may be as small as SIGN water. Time (FID) in Agaricus is similar SIGN because the water through Agaricus may be the same size as SIGN water.

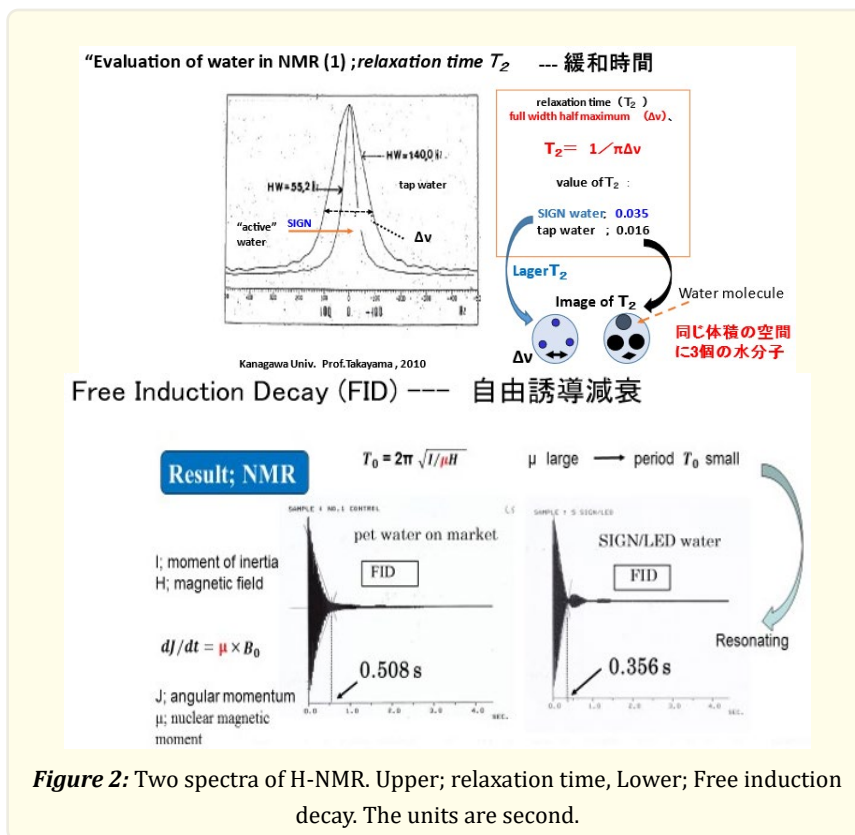
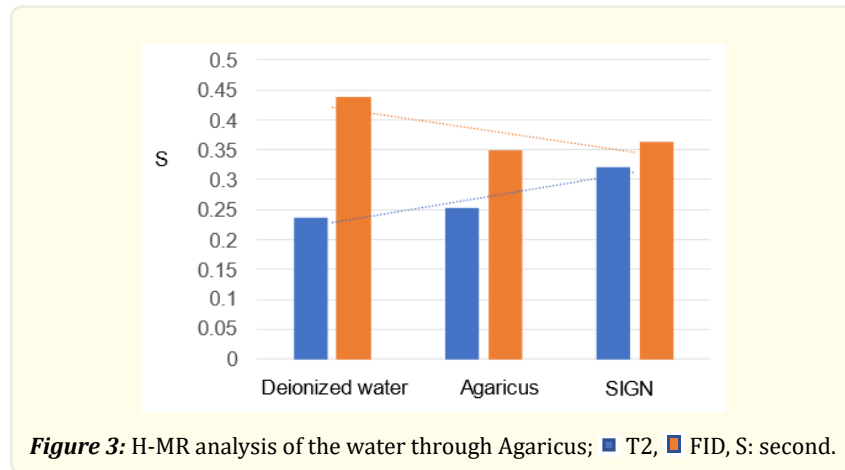


Figure 2: Two spectra of H-NMR. Upper; relaxation time, Lower; Free induction decay. The units are second.



A few pieces of evidence for remedy and cure of brain tumor and uterine cancer

We have some evidence to cure brain cancer by drinking Agaricus. Another piece of evidence is that she drinks Agaricus and SIGN water, which prevents uterine and skin cancer at the same time. A primary brain tumor generates in the brain tissue and metastasizes from other organs such as lung cancer and uterine, although we have not recognize the mechanism. The functions of glioma (glial cell) in the brain and spinal cord supply nutrition and transfer the neurotransmitters and amino acids such as arginine, dopamine, serotonin, and Gaba.

These cells in the brain might be oxidized with a certain cause. The neurotransmitter should usually be apart from the receptor as soon as the information is transferred.

When the transmitters are not apart from the receptor, we estimate this is oxidized, which means brain trouble such as tumors and Alzheimer's [6]. Therefore, we may achieve the receptor's reduced state (not oxidized) with the pair of proton and electron in SIGN water. However, we have not examined with a systematic medical treatment. Our basic stance is only to advice drinking SIGN water for the patients.

Because we have more than ten years of results without any trouble for human body and SIGN water is just water from the pressurized tap water, nothing any additives.

We can cure brain tumors by drinking SIGN water with Agaricus because of the reduction of the pico-sized particle [25]. Only SIGN water is enough, although it depends on the cancer stage.

Medical effects of Agaricus

Professional medical treatments of Agaricus have been treated for a long time. There are reports relating to Randomized Controlled Trials (RCT) and Evidence-Based Medicine (EBM) in chemotherapy for cervical cancer patients to recognize the frequency of side effects and immune function.

Generally, medical attitudes of Agaricus, like conscientious, explicit, and judicious use of current best evidence have been suggested in the world.

Furthermore, we propose the treatment of the disease from chemical bonding strength of the substances, and we will research more basic items of Agaricus in bio physics.

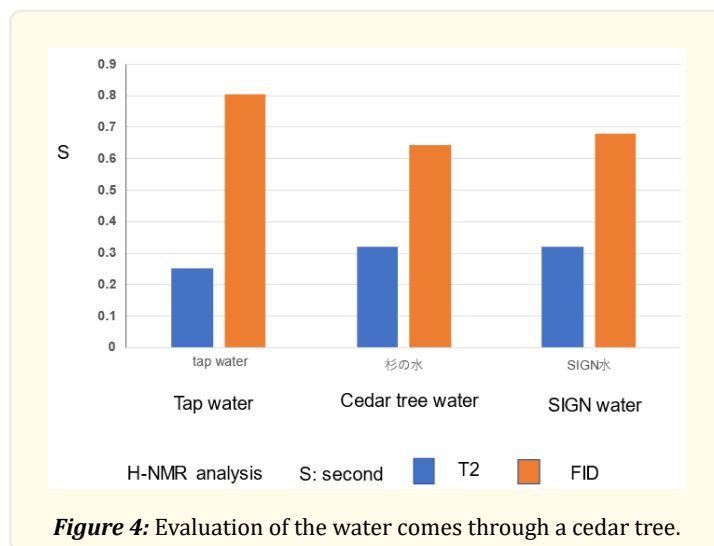
Water from cedar tree

The roots of the cedar tree form mycorrhiza [26] to symbiosis with fungi where they supply water and inorganic nutrition (nitrogen, phosphor, et.) to the cedar tree, and the plant gives them glucose and lipid generated by photosynthesis, namely, mutualism. The mycorrhiza which may generate on a cedar tree is called arbuscular mycorrhiza. The main constituent of the cell wall in hyphae (mycelia) is a polysaccharide, mostly chitin, and chitosan (poly- β 1 \rightarrow 4-Glucosamine) and β -glucan are contained at the same time. They are usually fibrous and layer. The functions of arbuscular mycorrhiza are fast absorption of phosphor, improvement of disease resistance and water absorption resulting in resilience against dry weather, and effective absorption of nutrition, even if in a lack of fertilizer.

The works of mycorrhiza are like purple non-sulfur bacteria, which we reported previously [27]. We discussed that purple non-sulfur bacteria could change the contaminated soils by reduction of radioactive cesium to stable elements in the Fukushima disaster. The mechanisms were estimated by the water in which bacteria formed the stable barium elements, and we proposed the bacteria formed the water like our SIGN water.

Considering back to cedar tree itself, water becomes more diminutive after passing the aquaporin in the cedar tree. We discuss another reason why the water from a cedar tree is supposed to be smaller. The critical factor is presumed to be arbuscular mycorrhiza indicated above. The mycorrhiza is much on the roots of the cedar tree, which do not have a wall in mycelial so that the higher transformation ability of substance. Moreover, spores form around the root, and their durability is high, so we employ greening and agricultural materials. Therefore, people use cedar trees and Japanese cypress for pillars or wooden architecture (houses).

We show the change of the characteristic of the water through cedar tree describing in Fig. 4.



Conclusion

We reported the idea of handling agriculture and medicine in viewpoints of biological physics through an elementary particle of pico-sized water (infoton) described in quantum physics. Both plant and human body should be in a total system of science. As a result, reduction (deoxidation) occurs for both a plant and a human body besides the effects coming from the small size. And human health may improve by way drinking Agaricus that absorb pico-sized water, and we drink SIGN water. We also discussed and reported recovering uterine cancer and brain tumor.

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