

Effects on Rice Field, Moat, and Pond by the Activated Goods with the Elementary particle-like Water

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Received: September 19, 2022; **Published:** October 08, 2022

DOI: 10.55162/MCAES.03.066

Abstract

Agriculture is becoming increasingly important worldwide because of food-supply crises, drought, and floods. Meanwhile, some countries lack even drinking water. We must discuss the effects of water as another theme in science and engineering. First, our developed water is the dissociated hydrogen bond water resulting in the water size of a picometer order. And our purposes are cleaning a pond and moat around the living area using the activated goods like a boat, etc., with our developed water. Another point, the purpose is that we report the growth of rice using the activated stainless steel with our water. Furthermore, we introduce reduction of radioactivity in the rice using the activated rope and plastic piles, then discuss radioactivity change depending on the cooking method of the rice. And we report the mechanisms of how materials can be activated using our water.

Keywords: pico-size of water; rice plant roots; hulls; polished rice; water cleaning
And we discuss the method for better harvesting rice plants with our developed water.

Introduction

Water is prevalent to everybody on Earth. There have been many studies and academic discussions of water since the 21st century in terms of the interaction of water with another substance [1], structure with spectra [2], computer simulation with density functional approach, Ab initio [3], and high pressure with high temperature [4] and low temperature [5]. However, they were not necessarily related to water itself. Moreover, there is the human body health [6] since it is difficult to cite all of them since many of them. The most distinctive phenomenon relates to climate change, like the drought in Africa [7].

The research fields of water are many varieties, namely, a plant, an animal, rivers, mountains, seas, the atmosphere even other planets. Almost all studies are H₂O itself of chemical formula. Of course, it also is a precious matter. But we have noticed that water, after the dissociation of hydrogen bonds, shows wonder and interesting characteristics in the order of microscopic besides macroscopic phenomena. Here is the atom-level study associated with calculation based on our experiments and daily life for more than ten years [8, 9].

We studied the mechanisms of their phenomena with the theoretical approach using quantum physics and chemistry [9]. We look back on the accomplishment since 2009; to reduce the exhausting gases like CO₂, NO_x, etc. from a car engine [10], keeping foods and vegetables fresh without any additives [11], deactivation of radiation [12], and faster disintegration of radioactive substances [13]. Following the model for the transmutation of elements [14]. Now we publish "Save of Environment and living organisms" [15]. We based our theory on the presumed particle like an elementary particle of infoton $\langle H^+ \sim e^- \rangle$ generating after dissociation of water hydro-

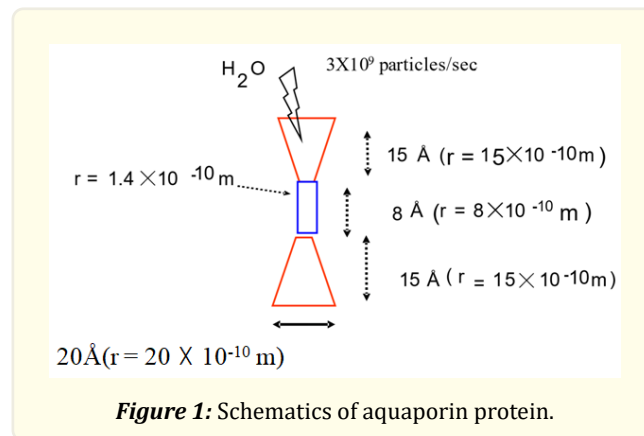
gen bonds. The particle possesses the characteristics which is neither a hydrogen atom nor ions like H^+ and e^- . The particle of infoton vibrates between H^+ and e^- , emitting far-infrared through terahertz electromagnetic waves. We call SIGN water which involves infoton. Our objectives of the report are to clean water in the moat to the real performance in an actual pond, moat to clean water, and in the rice plant's growth using our developed water's activated goods.

Furthermore, our purpose is to reduce radioactivity in the contaminated rice depending on the cooking method.

Materials and Methods

Here is the method to form MICA water (Minimal Catalysis) using tap water without any additive under the pressure of 3MPa. Since 2013, we have used SIGN water at a higher pressure than 100 MPa. Both water's properties are not essentially different. We assume the difference in infoton's quantity. The infoton is designated as $\langle H^+ \sim e^- \rangle$ and transfers to another substance as information associated with the momentum. The essential point of infoton $\langle H^+ \sim e^- \rangle$ is to vibrate between H^+ and e^- , emitting far-infrared through terahertz electromagnetic waves. We measured the waves with H-NMR (Hydrogen-Nuclear Magnetic Resonance) and FT-IR (Fourier Transmittance Infra-Red).

The size of the infoton is assumed to be the pico-size ($\sim 10^{-12}$ orders). Therefore, MICA and SIGN water can quickly go through the aquaporin protein (Figure 1). Even nano-water cannot easily squeeze the narrowest part of an aquaporin protein [16, 17]. A plant may possess aquaporin protein three times more than an animal. That is why a plant can adsorb water in soil through roots against gravity.



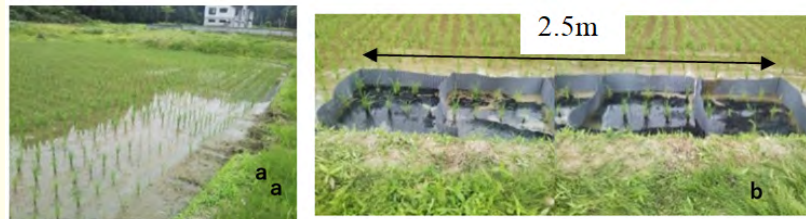


Figure 3: Rice fields in Niigata prefecture. a) before sets, b) after blocks:1, 2, 3 and 4 from right. The blocks describe depending on the number of smoked charcoals.1); 350g, 2); 700g, 3); 1050g and 4); 1400g.

The farm we visited is Minami Uonuma in Niigata Prefecture (Figure 2), famous for rice production, and the brand name is Koshi-Hikari. Some farmers do not employ pesticides, and organic farming the same as our stance [18]. We utilize smoked charcoals, size $5^L \times 2^W \times 1.5^T$ activated with SIGN water.

We separate the four small areas of the rice field with SUS plate depending on the smoked charcoals every block in Figure 3. We elucidate radiation reduction in Fukushima rice fields in the results and discussion with Figure 5 and Figure 6.

Results and Discussion

General aspects

The one point is to look at the growth of rice with the activated goods and the other is to reduce radiation from the rice.

Some farmers do not employ pesticides and organic farming. Our stance is no pesticides and fertilizer [18]. The farm we visited is Minami Uonuma in Niigata Prefecture, famous for rice production, and the brand name is Koshi-Hikari.

As shown in the photos (Figure 4), there were no significant differences between blocks 1) and 4). We assume that the reason is to transfer the infoton's information at closing distance along with the terahertz and infra-red electromagnetic wave [9]. Therefore, we chose the rice plants from the different places of a rice field as a control to avoid the activation's effect. We treated these SUS blocks every 1m (June 19th, 2022) after a month of rice planting.

After harvest (the end of September), we will analyze the elements in chaff and rice.

We employ the smoked charcoals which are activated with SIGN water, size of $5^L \times 2^W \times 1.5^T$. We separate the four small areas of the rice field with SUS plate depending on the smoked charcoals every block shown in Figure 3.

We can use other activated goods of rope and plastic poles in Fukushima Prefecture.

We studied the rice plants in the fields of the Fukushima disaster in 2011. We performed the field studies at different places in Fukushima. We tried to study the two kinds of goods, hemp rope (30m) and plastic poles (15 poles), shown in Figure 4.

Effects on growth of rice plants

As shown in the photos, there were no significant differences between the blocks 1) and 4). We chose the rice plants from the different place of a rice field as a control since there are no significant difference between blocks.

We treated these SUS blocks every 1m (June 19th, 2022) after a month of rice planting.

After harvest (the end of September), we will analyze the elements in chaff and rice.

We can remarkably recognize how roots stretch between control and activated charcoals, like Figure 3.

The rice roots in SIGN water may quickly absorb the water from the field since the water becomes pico-sized water. The farmer testified more difficulty with pull-up comparing the control one.

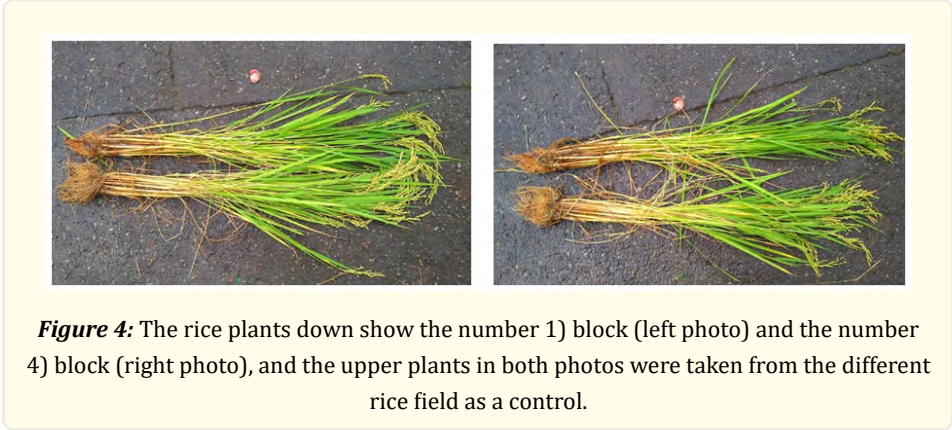


Figure 4: The rice plants down show the number 1) block (left photo) and the number 4) block (right photo), and the upper plants in both photos were taken from the different rice field as a control.

In the following topics, we discuss the effects of radiation on rice plants.

The effects of radiation on the rice plants

We tested radiation reduction using actual rice fields in Figure 5 (2011). The field size is approx. ---30×30 m.

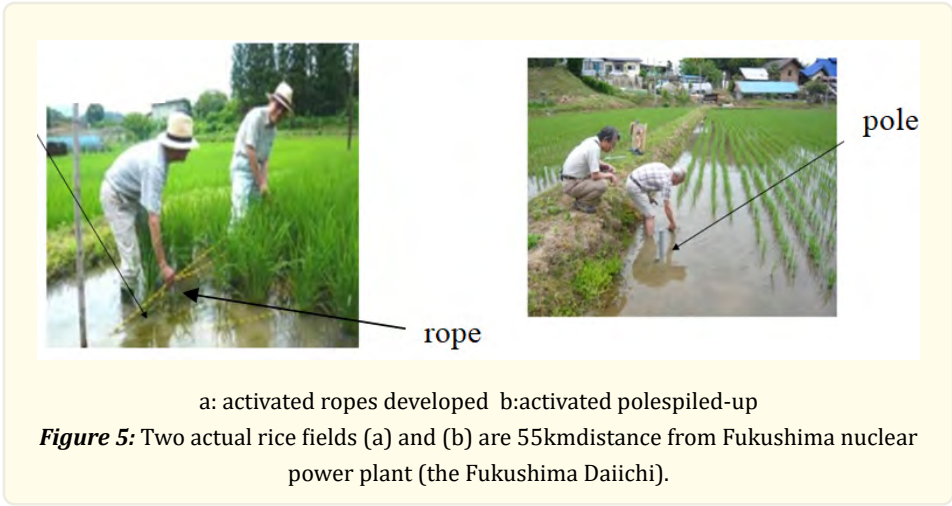


Figure 5: Two actual rice fields (a) and (b) are 55kmdistance from Fukushima nuclear power plant (the Fukushima Daiichi).

We indicated the results in Figure 6; the radioactivity is compared in unpolished and polished rice before and after cooking. Then we show the effects of radioactive reduction with SIGN water.

(a) before and after cooking every rice. (b) difference by water.

In Figure 6(a), hulls in the rice plant possess radioactive substances rather than polished rice. The silicate in silica absorbs cesium ion (3+) quickly like an adsorbent, zeolite. The hull contains many silica compounds corresponding to one or a few Si atoms to form minus ions is shown in Figure 7.

As a result, radioactivity in unpolished rice is more than a polished one. Furthermore, radioactivity decreases after cooking because of vaporization with water cooking.

We confirmed the radioactivity in the vapor described in Figure 6(a).

We discuss Figure 6(b), depicting the most negligible value in the activated water cooking. We reported the effectiveness of the reduction of radioactivity with MICA water [12-14].

Our discussions of the following item are cleaning the moat water in Kochi castle (Figure 8) in 2003 and the pond in Zama city in Kanagawa prefecture (Figure 9), which proceeded in 2004. We activated two kinds of goods with MICA water.

The motor in the moat has worked for a month, and we analyzed the decrease in COD (Chemical Oxygen Demand) and confirmed a weak alkali-water in the moat circulated with a pump. We performed the analysis after a month. Therefore, we may continue the survey to clean water in the whole area.

The pond (40m in diameter) gave out a foul smell, according to the people.

The solar boat with two activated wheels flows for one and a half years. After that, the blue-green algae increase, and photosynthesis starts leading to an increment of the dissolved oxygen. As a result, self-cleaning of the water has raised. Finally, people have no claim.

Radioactivity in unpolished rice is more than polished one. Furthermore, radioactivity decreases after cooking because of vaporization with water cooking.

We confirmed the radioactivity in the vapor described in Figure 7(a).

We discuss the effect of activated water. Figure 7(b) depicts the most negligible value in the activated water cooking. We reported effectiveness of reduction of radioactivity with MICA water.

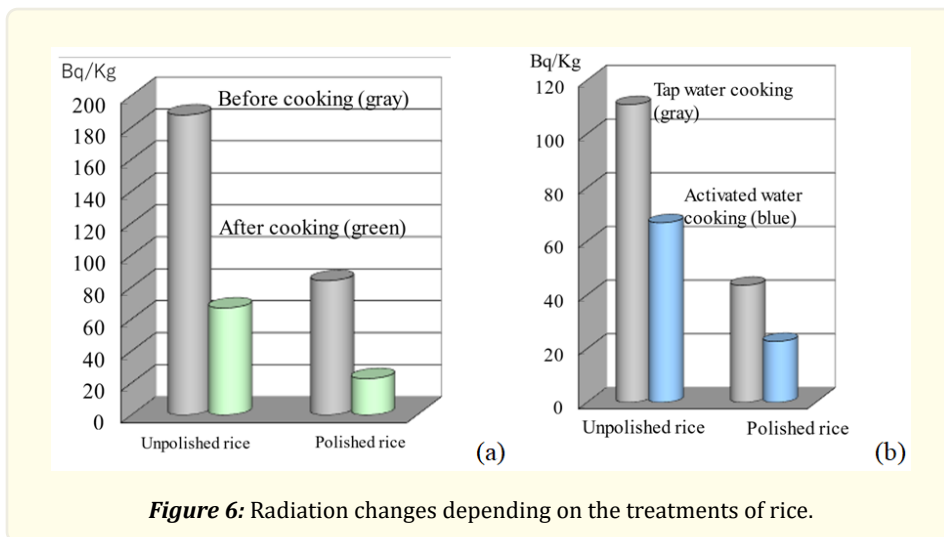
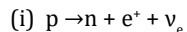


Figure 6: Radiation changes depending on the treatments of rice.

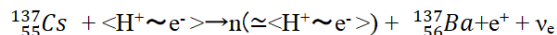
As we elucidated the effects of radiation on the rice plants in Figure 6(a), hulls in the rice plant possess radioactive substances rather than polished rice. The hull contains many silica compounds corresponding to one or a few of Si atoms to form minus ions shown in Figure 7. The silicate in silica absorbs cesium ion (3^+) easily like an adsorbent, zeolite.

We explain the radiation reduction in view of nuclear physics;

In the case of beta disintegration like Cs134 and Cs137, there are two decays as following; (i), proton decay and (ii), neutron decay.

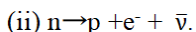


In this reaction, we consider the following formula:

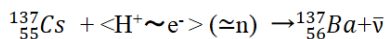


The meaning of $n(\simeq \langle H^+ \sim e^- \rangle)$ on the right side is closed in the mass balance, namely, mass difference is only 0.08 %.

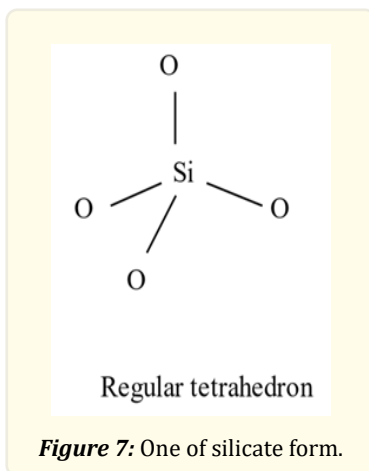
When a neutron decays as follow; namely, proton, electron and anti-neutrino generate:



The particles of $p + e^-$ are exactly the infoton. Then,



Thus, we elucidate the radiation reduction in the rice.



Our discussions of the following item are cleaning the moat water in Kochi castle (Figure 8) in 2003 and of the pond in Zama city in Kanagawa prefecture (Figure 9), which proceeded in 2004. We activated two kinds of goods with MICA water.

The motor in the moat has worked for a month, we analyzed the decrease in COD (Chemical Oxygen Demand) and confirmed a weak alkali---water in the moat circulated with a pump. We performed the analysis after a month. Therefore, we may continue the survey to clean water in whole area.

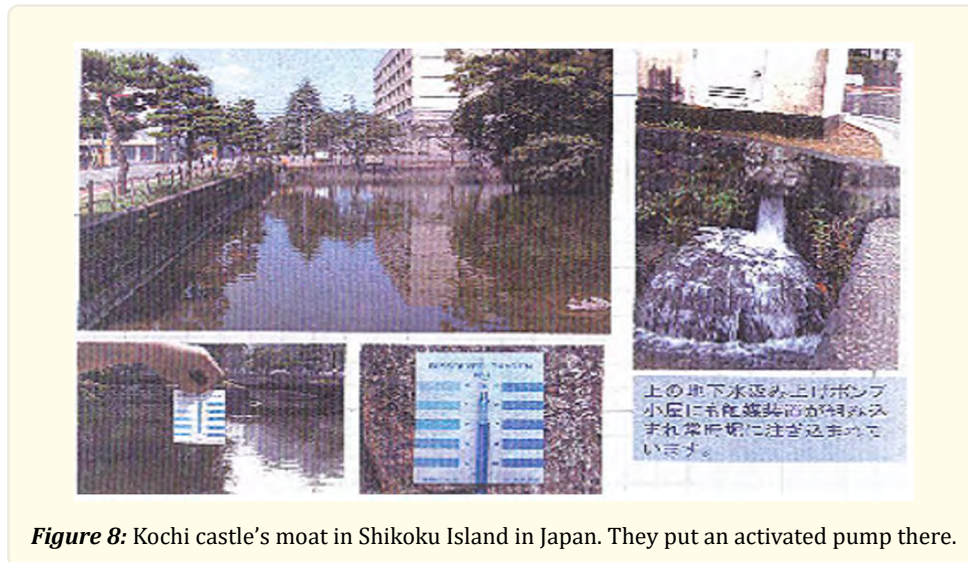


Figure 8: Kochi castle's moat in Shikoku Island in Japan. They put an activated pump there.

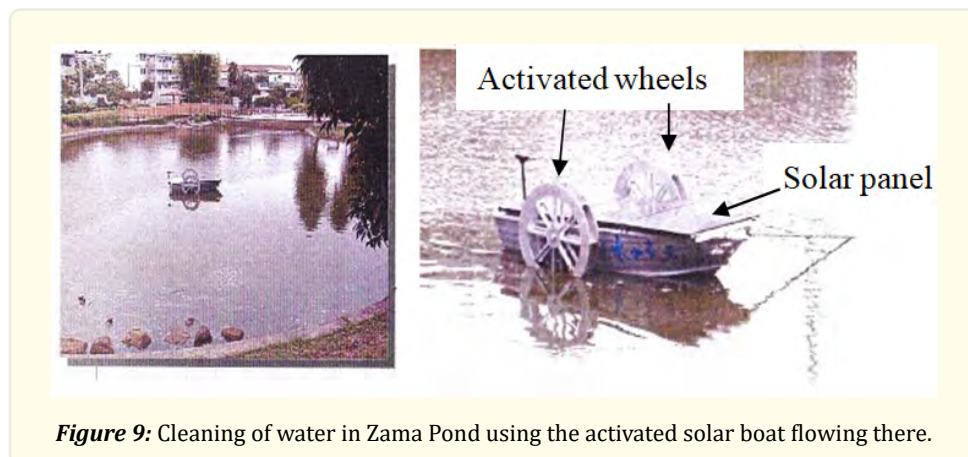


Figure 9: Cleaning of water in Zama Pond using the activated solar boat flowing there.

The pond (40m in diameter) gave out a foul smell, according to the people.

The solar boat with two activated wheels flows for one and a half years. After that, the blue-green algae increases and photosynthesis starts leading to increment of the dissolved oxygen. As a result, self-cleaning of the water has raised. Finally, people have no claim.

Conclusion

First, we elucidated the mechanisms how materials can be activated using our developed water, and its transfer to another substances. Then, we confirmed the remarkable growth of the rice plant in the field due to the way of roots. Furthermore, we obtained radiation reduction of rice in Fukushima with the activated rope and piles and the difference in the cooking conditions. The best way was to cook the polished rice with activated water (30 to 80% reduction). Then, we discussed the theory of radioactivity changes from the viewpoint of nuclear physics. And we proposed the water cleaning in the moat around a castle, and the pond using the activated boat. And, we decreased COD and smell from the pond in the living area.

Acknowledgement

We thank you for being helpful to Messrs. S. Itahana and T. Matsubara in arranging the farm, Mr. I. Hattori sampling the rice plants in the Niigata rice field, and studying Mr. Y. Nagasaka in Fukushima.

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Volume 3 Issue 4 October 2022

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