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Better Harvest in the Treated Rice Fields and Rice-Husk Charcoals with the Water

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ABSTRACT

We tried the rice plants to better harvest using the specially-processed water, and charcoal made of rice chaffs in Niigata prefecture for a few years and the results are more than twice harvest. Water must be essential to agriculture including soil and bacteria in it. Therefore, we discuss the pico-size water like an elementary particle fabricated with just higher pressure than 100MPa without any additives, so the plant can easily absorb the water leading to the chlorophyll resulting in more extensive roots. Another point is to emit more far-infrared to help the activated charcoals with the water. The result was more than twice the yield of the control. Furthermore, we report the water reduces radioactive cesium of the rice field in Fukushima, leading to stable elements like barium, lanthanum, and cerium. We discuss the basic idea of nuclear changes regardless of present theory.

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Introduction

Food from agriculture and our health have faced to worse situations since the middle of the 1990s. The reasons are floods and droughts, primarily due to climate change. We need healthy soils, clean water, and sunlight. On the other hand, they fertilize and spray pesticides containing various chemical medicine. As a result, organic farming in Japan has increased since 2000s. The farmer of organic agriculture is one percent of the farmers in the world, and Germany is an advanced country with an organic farm [1].

We need to use pesticides as little as possible so that we reduce the effects on crops and soils. The medical products and the kind must be different from the country in the world. Depending on the country, there are various sorts of approved chemical and weed killers because the weather, harmful insects, and herbicides are different in every country.

On the other hand, there are much research on water. So, we can only refer to some of articles. We cite the different views of water like structure order and the anomalies of liquid water [2]. Vibrational energy in liquid water, from the view point of aquaphotomics; dynamic spectroscopy relating to water [3,4]. Exciting research shows a floating water bridge between two beakers under a high voltage [5]. The quantum mechanics of water molecules is a theoretical approach begin with wave functions [6]. Although, this is terahertz spectroscopy of the water, the water is a trimer (H₂O)₃ and (D₂O)₃ are the most highly studied cluster beyond dimer [7]. One is the described hydrogen bond with potential energy [8].

Most of researches above relate to a macroscopic water molecule itself. Our essential points are water's originality, including chemical reduction and nuclear change characteristics, even when applying water to agriculture and the environment.

Firstly, we introduce the water's which we name SIGN water (Spin Information Gauge Network) [9].

The functions of SIGN water are on the property possessing the pico-sized particle like an elementary particle described in $\langle H^+ \sim e^- \rangle$ assumed after dissociation of hydrogen bonding. We call this particle "infoton" [10].

We discuss countermeasures against agricultural chemicals like cadusafos plant protecting with an insecticidal and nematode effect so that the SIGN water can help theoretical viewpoints [11]. Our discussions are about how to suppress the damages caused by the pesticides to farm products, human body, and plant growth with good harvest.

We checked the growth of the rice field, and the harvest compared with those in the control field was more than twice in October in Minami Uonuma (Niigata Prefecture) [12].

As our achievements, we employed the smoked charcoals activated with the SIGN water described in the Discussion.

We can also discuss a nuclear change and chemical reduction due to the infoton. We introduce the mechanisms to reduce radioactivity in the Fukushima-contaminated soils [13,14].

Many researchers have reported a reduction of radioactive contamination using materials such as zeolites or plants to adsorb radionuclides. In such processes, the absorbents still exist in radioactive materials, require subsequent disposal, usually by long-term burial.

We reported the deactivation of the radionuclides would constitute a far superior solution to the problem of radioactive contamination by bacteria.

Methods

The essential point is the quantum mechanical existence as the basis of SIGN water as materials, higher pressurized water being more than 100MPa. Then, the SIGN water supposedly contains the elementary-like particle (infoton) after hydrogen bond dissociation. It is neither a hydrogen atom nor anion, and two particles oscillate at the far-infrared frequency through terahertz, and infoton continues to exist stably [15].

Regarding farming, we experimented with two-cup test of rice seedlings before the actual field.

We sowed the rice seeds spraying the SIGN water in May (2023), found germination after two weeks; then we put them into the rice field surrounded in 1x2 m in June, shown in the following, put the charcoals formed with rice hulls into the six sections (A to F and control). In July, we measured every section's ORP (oxidation-reduction potential).

Then, we randomly sampled five rice plants before rice harvesting (Table 1).

Results and Discussion

Bonding Strength Between Atoms in Organic Compounds

We discussed the effect reduction on crops and humans about the five kinds of agricultural medicals: cadusafos, captan, procymidone, pendimethalin, and fosthiazate. And we remarked on each element's binding strength and electron configuration in the chemical compounds and reaction with the activated water, SIGN water [11].

Regarding the rice plant growth and harvest, we presumed the water absorbing efficiency by a plant improves, which is one reason; the cause is function of chlorophyll, the rice plants can absorb efficiently the SIGN water due to the small size of the water. The size of infoton seems to pass through an aquaporin protein like Angstrom [16,17].

We learn any plant possesses chlorophyll for photosynthesis, whereas oxygenic photosynthetic organisms that use water as an electron donor resulting in reduction of carbon dioxide. SIGN water contains the detailed information, transferring it to another substance and changing its properties with the information. The generation of chlorophyll is based on the nuclear change, starting from water absorbance in roots to leaves where magnesium atoms have crucial point to the change. We pass the change details here, although we describe chlorophyll function in Figure 1.

It is well-known photosynthesis which can produce glucose and oxygen from CO₂ and hydrogen; namely, CO₂ + 4 <H⁺~e-> → CH₂O + 1/2 O₂ + 2H₂

Where is it like isolated Chloroplasts [18]?

We also analyzed the virus protection of COVID-19 using the SIGN water from the stand point of chemical bonding strength on

the amino acids between a spike protein and formation of amino acids by the virus [19].

We can estimate the configurations of atoms in amino acids like N501Y, E484K, and L452R [2] understanding "The Reasons why the Omicron Virus continues to Pandemic" [20].

Emission of Weak Energy Like Far-IR Through Terahertz

We found that the infoton oscillates between H⁺ and e⁻ emitting the electromagnetic wave of far-infrared through terahertz radiation (0.6~12THz) effecting on an agriculture [21]. Another reason is that the far-infrared waves progressively from the charcoals generated with chaffs promoted by the SIGN water.

Furthermore, this time, we use the charcoals generated from chaffs for the larger field.

It means reuse chaff of waste, and make the charcoals help to radiate the far-infrared (IR) because of smaller size of particle, assumed promoting photosynthesis of the rice.

The far-IR possesses the longer wave length (3μm~1000μm) than red-electromagnetic wave (0.7μm); namely its energy is weaker.

Therefore, the far-IR from the SIGN water is more robust than the charcoals.

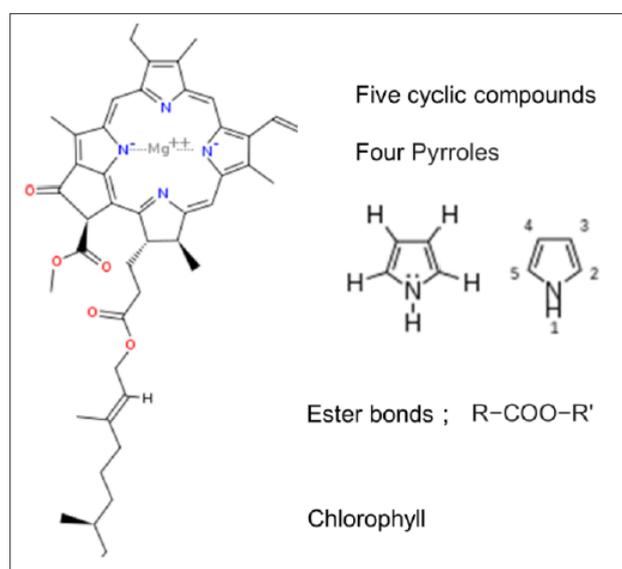
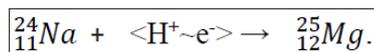


Figure 1: Chlorophyll Arranged from Wikipedia

The reason chlorophyll constitutes magnesium atoms is not apparent, but we estimated the nuclear change from sodium in an earlier era;



Another possibility from ²²₁₁Na which is a radioisotope of

²⁴₁₁Na [16].

By the way, Wakao et al., discovered photosynthesis using Zn-containing bacteriochlorophyll *a* in an acidophilic bacterium, although they don't report the nuclear change mechanism [22]. We discussed the generation of protons and electrons by the disulfide bonding with purple non-sulfur bacteria [23]. We assumed the ability of bacteria to change the element, for example, 236,000 Bq/kg in Oct. 2017 to 73,600 Bq/kg in Dec.2017 by spraying photosynthetic bacteria.

Better Harvest of Rice Crops Using Activated Smoked Charcoals

We are interested in the pico-sized particle, like an elementary particle after treatment of the smoked charcoals. This report describes the following one we discussed the last time regarding August conditions. The growth of the rice plant in Uonuma location is unique, and the rice yield is in an activated field with smoked charcoals. The harvest is about twice that in the control field. We discuss that the cause is function of chlorophyll, namely water absorbing efficiency by a plant improves because of the small size of water. We performed rice seedlings with SIGN water and control in the cup-test as we show the typical examples in Figure 2.

Because of the SIGN water smallness, we can see a remarkably difference resulting in the progressive function of chlorophyll.



Figure 2: Rice seedlings for the cup-tests

Figure 3: shows the experiment ideas (Figure 3 A) and the amount of rice products (Figure 3 B).

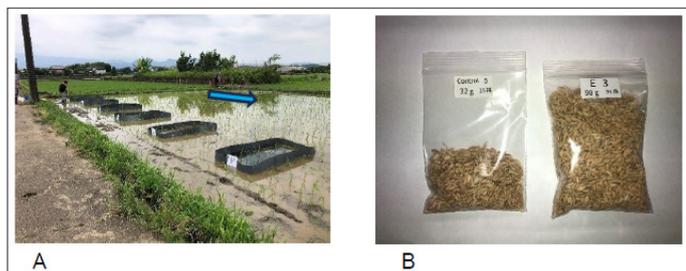


Figure 3: Rice field for experiment (A) and weight of rice products(B)

We can make much difference between control (32g) and the SIGN water rice (98g) in the E section because of better function of chlorophyll.

The table 1 indicates the different weights in every section, comparing the control corresponding to charcoal amount (kg) and five rice stubbles with the average values, and we show to make the table 1 to the graph in right.

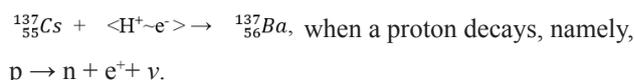
Table 1: The weight (kg) of harvest with the graph after polishing

Charcoal. kg	cont.	A	B	C	D	E	F
1	50	47	80	52	62	62	65
2	48	51	72	48	59	56	99
3	50	48	53	48	54	98	61
4	48	53	52	63	69	67	80
5	32	63	39	60	70	66	64
Total	228	262	271	296	314	349	369
Average	45.6	52.4	54.2	59.2	62.8	69.8	73.8

We can recognize the 1.6 times of rice harvest comparing the control. Therefore, we must consider the cost for the reasonable amount of the charcoals applying to an actual rice field.

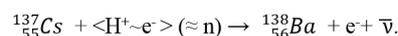
Essential idea for the Nuclear Changes of Cesium in the Radioactive Soils in the Fukushima Rice Field

We checked reduction of radioactive cesium with the SIGN water, resulting in our finding the changes of Cs134 and Cs 137 to the stable barium [14]. We verified the energy and mass conservations for the nuclear transmutation by indicating following equations;



The mass of infoton is only 0.14%, so the mass of neutron in the right-hand closes to the infoton, $\langle \text{H}^+ \sim \text{e}^- \rangle$.

And the neutron-decay may show the following changes, $n \rightarrow p + e^- + \bar{\nu}$, then the next equation may occur,



We show the element changes from radioactive cesium 134 and 137 in Table 2. The total radioactivity was approx. 700,000 Bq./kg (2012/March), then we treated the soils by the SIGN water leading to 64% reduction of the total radioactivity for nine months.

We know the difficulty of nuclear changes at room temperature without higher energy like CERN and a well-known experiment by Fleischmann and Pons who had claims for the nuclear fusion of deuterium in 1989 [24]. Furthermore, there are atomic change researches to associate with concrete substances where Notoya et al. reported low temperature nuclear change of alkali metallic ions caused by electrolysis and D2-Pd system [25,26]. On other hand, there were the precious discussions of β -decay [27,28]. Since Sugihara noticed some experiments in the Fukushima contaminated soils, without a doubt, nuclear changed seems to be possible at room temperature.

One reason theoretically is that every element possesses any radioactive isotope even if its half-life is short, which emits radiation with keV~ MeV energy [29]. Therefore, we can elucidate that this radiation energy in our water system may help to the nuclear changes as the basic discussions with an elementary particle theory [30].

Table 2: The elements from cesium to barium, lanthanum, and cerium were formed by two methods in the Fukushima rice field (2012)

Element	Theoretical (%)	ICP-MS (University)	ICP-AES (ACR Co.Ltd)
Ba	70~74	72	64
La	20~28	21	21
Ce	8	7	15

Univ. ; Kanagawa (Sugihara visiting professor)
ACR Co. Ltd (Semiconductor device maker)

Conclusion

We achieved more than twice the rice plant harvest with activated charcoal and the water with the farmers who work in daily operations except for distribution of the charcoals. We discussed the reason activating the chlorophyll, resulting in more extensive roots. Another point is to emit more far-infrared to help the activated charcoals with the water. Furthermore, we report the water reduces radioactive cesium of the rice field in Fukushima, leading to a change in stable elements like barium, lanthanum, and cerium from radioactive cesium. We discuss the basic idea of nuclear changes regardless of the present theory.

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