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The Experimental Exploration and Discovery of DNA Communication between the Plants

Xinzhou Yuan, Jiafeng Yuan, Zhongxian Deng, Shikui Wang, Zhen Yang, Qiao Bi*

Shenzhen Xinzhou Biological Information Technology Co., Ltd., Shenzhen, China
Email: *biqiao@gmail.com

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Abstract

For the first time, through the invention of Compensating Bio-information Energy (CBE) technology and bioinformatics breeding machine, we have completed a number of experiments by using plant signals to transfer plant genetic traits in the same family or across families, and discovered the transfer phenomenon of life genetic information. The test results show that plants can change from random variation to controllable and directional variation, thus opening up plant asexual, no molecular transfer, fast and low-cost breeding. The new approach provides new evidence for the connection of information energy waves between plant DNA, which deserves the attention and in-depth study of the scientific community.

Keywords

Biological Signal, Biological Microwave Radiation, DNA Communication, Bio-Information Breeding Machine

1. Introduction

Last century twenties the former Soviet Union biologist Gulevitch first discovered biological signals and non-contact biological physics effects through the famous onion experiment [1]. For more than 100 years, many experts and scholars have persisted in their explorations and have achieved many research results of historical significance and uncovered the mystery of biological field [2] [3] [4] [5] [6]. Under certain conditions, the communication of information energy between organisms can also be realized, that is, biological microwave communication. Jiang Canzheng, a Chinese scientist in the former Soviet Union, applied the technology of physical shielding to complete many experiments to be verified the phenomenon of biological microwave communication, and many incredible experimental results have been achieved in the transfer of genetic traits in animals and plants and human rehabilitation [7] [8] [9] [10].

On this basis, we conducted in-depth exploration and found that the interaction between plant molecules is indeed not limited to chemical interaction. The phenomenon of non-contact random variation between plants is the transfer of biological information through the energy wave radiated by plants under certain specific conditions, that is, biological microwave communication [11]. Through a number of repeatable biological experiments, we also found that the transduction of biological signals can transfer the genetic traits of plants [12]. Therefore, we believe that the core of biological signals is the existence of DNA signals containing life information. In recent years, scientists have discovered the biological material basis of this life phenomenon. More and more evidence shows that miRNA can serve as a link between animals, plants and microorganisms across species, and is closely related to the substances that form genes [13] [14] [15]. For millions of years, the co-evolution of life has not only formed the close connection of all organisms in terms of genetic material, but also formed the connection of energy (wave) between genes. This energy wave, namely life signal, is a physical way of life information transmission. We call it information energy, which is the basis for the realization of DNA communication [16]. This ultra-weak information energy wave can affect the protein activity of biological receptors [17]-[24], and correspondingly many reproducible biological experiments provide evidence for the transmission of life signals, that is, the transfer of DNA information.

The practice of crop improvement shows that there are two effective ways to improve crop yield potential through plant breeding, namely morphological improvement and utilization of heterosis. However, if only the way of morphological improvement is adopted, the improvement potential is very limited, and heterosis breeding will not produce satisfactory results if it is not combined with morphological improvement [25]. In the past 20 years, we have found a new way to use high and new technology to make the random variation without contact between plants in nature. One of important progress for us is CBE technology and bioinformatics breeding machine are invented [26], as shown in **Figure 1**.

The invention relates to a new technical field of compensating biological information energy to plants and polar molecular liquids, involving quantum physics, bioinformatics, molecular biology and other sciences. These methods may be widely used in scientific research, breeding, drinks, health care and other field. Since 2008, with the strong support of relevant scientific research and institutional experts, we have completed a number of new and exploratory experiments by using proportional sampling method, repeatedly verified the phenomenon of DNA communication, and found the existence of DNA signals. **Figure 2** is part of the experimental photos, hereinafter referred to as information processing.

Figure 1. The bioinformatics breeding machine, which realizes the directional transfer of donor genetic traits to the receptor through energy wave transmission, and opens up a new way of asexual and molecular free bioinformatics breeding.

Figure 2. The changes of genetic characters of the first generation of wheat (HS) in the bioinformatics breeding test field and the detection information receptor.

2. Experiment and Detection of Plant Radiation Signal

2.1. Donor Information Promotes Reproduction of Cordyceps Mycelium

We directionally transmitted the information of the donor wheat sprouts to the recipient Cordyceps mycelium through the breeding machine, as shown in Figure 3. After receiving the wheat information in the three treatment groups, the

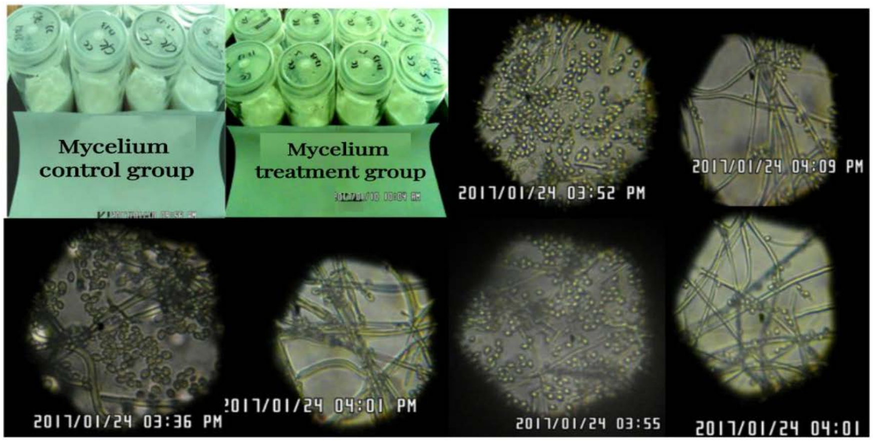


Figure 3. The three groups of comparative photos of transferring wheat information to Cordyceps mycelium. It can be seen that the mycelium reproduction of the three treatment groups is significantly better than that of the control group, indicating that wheat information promotes mycelium reproduction.

mycelial reproduction was significantly better than that of the control group, indicating that wheat information promoted mycelial reproduction.

2.2. Donor Plant Information Changes Color and Taste of Recipient Plant

We used the bioinformation breeding machine to transfer respectively the radiation information of the donor green vegetable bud and the pepper bud to the budding cabbage of the recipient; the budding cabbages were then seeded in the experimental fields. After harvest, the offspring (HS) 1 generation were compared for appearance, color and taste, as shown in Figure 4. And the relevant taste was compared by double-blind method, as shown in Table 1. The color of cabbage in treatment group 1 and 2 was significantly different from that in control group (middle), the color of information processing group 1 was lighter than that of control group, and the color of information processing group 2 was darker than that of the control group, and the change of chlorophyll was obvious. And the taste of treatment group 1 and 2 was also significantly different from that of the control group. This experiment provides evidence that different plants radiate different information, and have different influences and effects on the recipient. At the same time, it indicates that the information transmitted by the bioinformation breeding machine is the real information of the donor.

2.3. Donor Information Promotes the Germination Potential of Recipient Buds

Figure 5-1 and Figure 5-2 show the significant changes in the growth trend of radish seeds after receiving the information of donor wheat sprouts during germination and then planting in the experimental field. The signal processing group is on the left, and the control group is on the right. The germination of the treatment group is faster and stronger than that of the control group. Figure 5-3

Figure 4. The left is cabbage information processing group 1, which is lighter in color than the control group (middle); on the right is pepper information processing group 2, whose color is darker than that of the control group, indicating that the chlorophyll of the treatment group has changed.

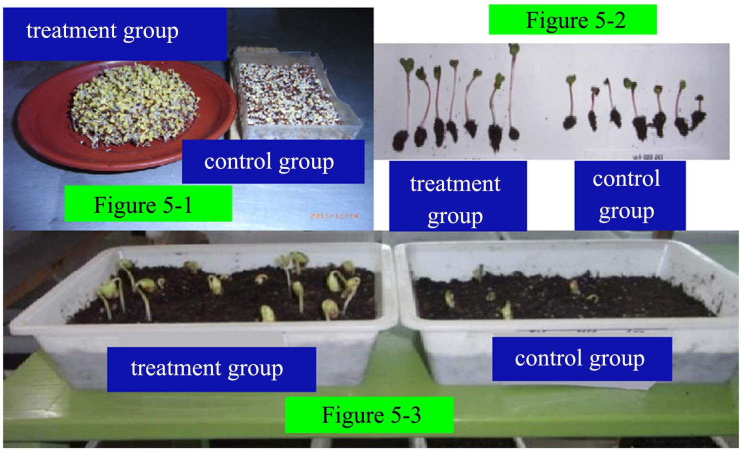


Figure 5. Showing donor information promotes the experimental results of germination potential. **Figure 5-1** and **Figure 5-2** show that wheat information transfer to water radish promotes the germination and growth of water radish seeds, with the treatment group on the left and the control group on the right. **Figure 5-3** shows the transfer of wheat information to soybeans. The growth of the treatment group was significantly better than that of the control group.

Table 1. Statistical table of taste experiment of Chinese cabbage by double-blind method (2017.3.1).

NO	List of participants	Control group 1 (stem)	Control group 2 (leaves)	Treatment 1 group (stem)	Treatment 1 group (leanes)	Treatment 2 group (stem)	Treatment 2 groups (stem)
1	Yuan	bland	tasteless	peculiar smell	delicious	not tasty	bitter taste
2	Liu	bland	tasteless	peculiar smell	delicious	not tasty	bitter taste
3	Han	bland	tasteless	peculiar smell	delicious	not tasty	bitter taste
4	Zhu	bland	tasteless	peculiar smell	delicious	not tasty	bitter taste
5	Li	bland	tasteless	peculiar smell	delicious	not tasty	bitter taste
6	Dong	bland	tasteless	peculiar smell	delicious	not tasty	bitter taste
7	Qu	bland	tasteless	peculiar smell	delicious	not tasty	bitter taste

shows that after receiving the information of donor wheat during soybean germination, the treatment group (left) grew stronger than the control group (right). We have done repeated experiments and have seen the same results. These show that the radiation information of donor wheat plants can affect the growth trend of recipient plants.

2.4. Detection of Plant Radiation Signals

In the absence of detection data, many people doubt that living plants radiate biological signals (microwaves) during their life activities. In 2020, we developed a biological radiation signal power detector, as shown in **Figure 6**. After verification, it can detect the noise power of signals below 8G radiated by human body, plants and fungi at room temperature, that is, it can detect some biological radiation signals, and use data to prove the true existence of radiation signals of plants and other living bodies. For example, the average data of the three groups of vegetables detected for six consecutive days after germination are shown in **Table 2**. The test was divided into three experimental groups: A, B and C. The sprouts of green vegetables were tested at 9 am, 12 noon and 5 pm every day, 10 time consecutive tests were performed in each time period and calculate the average value. After each measured data is stable for 3 minutes, observe for one minute, read the value every 5 seconds during this minute, take the average value of three groups as the measured value, and then subtract the natural noise power value of the same plant in the shielding box. The difference obtained is the measured radiant power value of the green vegetable seedling, which is listed in

Figure 6. The staff are using the biological radiation signal power detector to detect the radiation signal power of plants, and use the data to judge the growth state of plants.

Table 2. Summary of average values of radiation signal power detection of green vegetable seedlings. Detection location: Shielding box; temperature 22˚C - 23˚C; Relative humidity 90%; Unit: DBM.

Observe date The subjects	time (day)	1	2	3	4	5	6	Average shielding box
The experimental group A.	Morning	43.06	45.1	44.87	46.06	44.29	44.8	40.06
	Noon	47.85	45.07	44.79	43.81	43.76	43.47	
	Evening	45.04	45.22	44.97	42.6	42.15	42.3	
The experimental group B	Morning	44.06	46.12	44.43	45.79	43.68	45.15	
	Noon	45.63	44.37	44	44.04	43.98	43.59	
	Evening	44.5	44.65	43.84	42.51	40.62	42.89	
The experimental group C	Morning	44.57	45.97	44.29	45.38	44.6	44.93	
	Noon	45.29	43.26	43.47	44.46	45.85	44.17	
	Evening	44.86	45.42	45.28	43.16	42.81	43.63	
The experimental mean	Morning	43.89	45.73	44.53	45.74	47.6	44.96	
	Noon	46.25	44.23	44.08	44.1	44.53	43.74	
	Evening	44.8	45.09	44.69	42.75	41.86	42.94	
Average difference of experimental groups A, B and C	Morning	3.83	5.67	4.47	5.68	7.54	4.9	
	Noon	6.19	4.17	4.02	4.04	4.47	3.68	
	Evening	4.74	5.03	4.63	2.69	1.8	2.88	

the column of the average value in the table, and the unit is the noise power dbm. The measured data were obtained by testing under the same conditions, and finally the average value of the three experimental groups A, B, and C was taken as the testing result. From the above three groups of average data, they basically reflect the real detection results, that is, the power of plant radiation signals in different periods of time is significantly different, fluctuates with time, and has the basic characteristics of nonlinearity. This shows that the energy of the radiation changes with varies from time to time, which provides quantitative data for further exploration of complex metabolic functions of plants. **Figure 7** is the drawing of measured data from the average detection data of groups A, B and C in **Table 1**, after subtracting the shielding box ontological natural noise power value, we can directly observe the life activity rhythm of green vegetable seedlings within 10 days. As can be seen from the broken line in the morning, there are two radiation power peaks at the detection data points on the second and five day; at noon, the broken line can be seen that the radiation power of green vegetable seedlings in the development process presents a general trend of decline; the broken line in the evening also showed an overall downward trend of radiation power of green vegetable seedlings. The results also showed that living plants can radiate energy outward as they grow; moreover, the intensity of the radiation power is nonlinear fluctuations with time, showing the characteristics of biological clock. The results of detection data provide quantitative basis for us to identify plant growth status and select plants with good growth status.

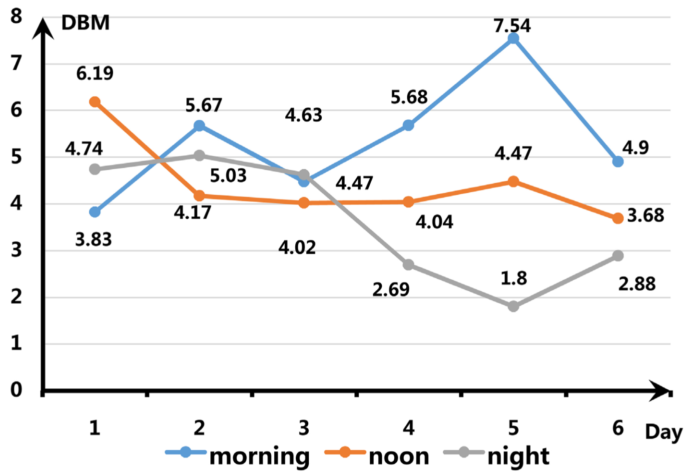


Figure 7. The chart drawn by subtracting the noise value in the environment from the average value of the radiation signals detected by the biological signal detector at different times in the morning, middle and evening of three groups of green vegetable seedlings within 6 days. From the data chart, we can see that the power of the radiation signal fluctuates at different times during the growth process of green vegetable seedlings, which provides a quantitative basis for us to judge the growth state of plants and select plants.

3. Experiments on Directional Transfer of Genetic Traits

3.1. Experimental Materials

The experimental results show that biological information is expressed through the energy of biological signal transmission. The famous onion experiment found that biological signals come from the process of cell division. The experimental results show that in the process of plant growth, that is, the process of DNA replication, the signal power density is large and the amount of information is large, which can accelerate the recovery of human cell function [27]. The biological experiment results of many repeatable and no molecular transfer genetic traits show that DNA signal is the most basic and important signal in biological signals. Also according to the theory of atomic emission spectrum and absorption spectrum [28], we think that changes in the energy of DNA atoms also are the physical processes that govern life, when DNA atoms drop from high energy state to a low energy state, RNA releases energy quanta; conversely, when it rises from a low to a high energy state, it absorbs quantum of energy. This could be one of the ways for DNA to radiate or absorb signals, express or obtain life information.

Based on the above theories or hypotheses, we chose the information donor and receptor during germination because the signal is the strongest in the rapid division process of plant cells, the germination is also the easiest to absorb foreign signals.

In practice, we have invented a biological radiation signal power detection device, for detect the radiation signals of selected plant donors and receptor, as shown in **Figure 6**. After detection, we conducted statistical data analysis and found that the strongest signal was indeed released during the rapid division of plant cells. Therefore, we selected the information donor and recipient of the experiment as the buds in the vigorous growth stage.

According to the purpose of the experiment, we first determine the genetic traits to be transferred, and then select the more prominent plant genetic traits as the biological signal donor, and the recipient should select the buds and seedlings that need to obtain the genetic traits.

3.2. Experimental Equipment

The experimental equipment is a biological information breeding machine, as shown in **Figure 1**. It is developed and manufactured by ourselves, and its interior is equipped with biological signal processing, acceleration and transfer systems.

3.3. Basic Principles and Components of CBE Technology

3.3.1. Basic Principles

When the function or structure of cells, tissues, organs and systems changes, the biological signals radiated by them will first change, such as the detection of cardio brain electrical signals and the application of judging diseases; conversely, when the signals radiated by cells, tissues, organs and systems are modulated by foreign matched biological signals, their functions or structures will also be affected [16].

3.3.2. Three Parts of CBE Technology

1) Design and select the technical scheme of information donor and recipient plants; 2) Cultivate information donors and receptors according to the technical bid; 3) Genetic information transfer is completed by biological information breeding machine.

Through experiments, we have found that different plants will radiate different biological signals and have different effects on different cells of human body, and have different improvement effects on human functions [29], therefore, we believe that DNA signals in different can express different life information and can receive the corresponding life information, so different life signal effects will be produced.

According to the famous physicist David Bohm's theory of quantum potential and the second law of thermodynamics (information is negative entropy), we believe that the high part of biological information energy in the entanglement process determines the direction and biological effect of information transfer. The life information of the trait contained in plant DNA with prominent genetic traits should be in a relatively high information potential, so it is easier to transmit information to the genes of the receptor, therefore, plants with outstanding genetic traits should be selected as donors.

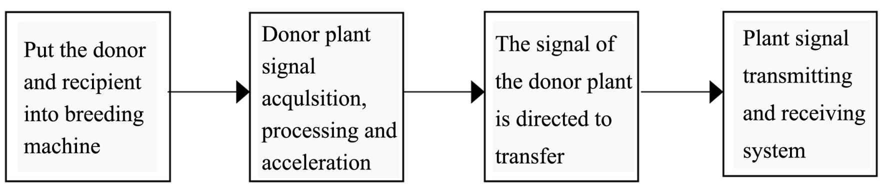
In addition, in the process of information energy wave entanglement, the outstanding genetic trait information of the donor will be transferred to the receptor in the form of biological radiation signal. After the receptor DNA obtains this life information energy that can express outstanding genetic traits, it will be expressed in the process of controlling protein synthesis and affect the activity of the protein, that is, to realize the transfer of genetic information. Therefore, we have formulated strict technical requirements for seed selection, cultivation and management of information donors and recipients.

According to the basic principles of quantum physics and low energy particle accelerator, we have invented the biological signal transfer system in CBE technology by adopting a variety of new technologies [30]. CBE signal transfer system can be installed inside the machine. On this basis, a bioinformation breeding machine has been invented, which realized the directional gather, processing, acceleration, maximum signal-to-noise ratio and directional transfer of the donor plant signals to the recipient in a shielded environment. The new technology developed a new structure and biological signal wave handling process, greatly reduced the manufacturing cost, through the directional acceleration of plant signal, realized the maximum power density of plant signal, increased the information received by recipient cells per unit time, and completed the directional transfer of donor genetic information in a short time.

Experiments show that the signals radiated by plants in the process of vigorous growth contain a large amount of information, and are more vulnerable to the influence of various external signals. Therefore, we should pay attention to preventing the interference of various signals such as electricity, magnetism, light and sound, so we have strict technical control over the cultivation, management, use, information transfer process of plants, and the custody of samples, etc.

3.4. Process of Transferring Genetic Traits of CBE Technology

The CBE technology we used in the experiment transfers genetic traits as follows:



3.5. Experimental Methods

3.5.1. Quantum Resonance Detector

TJQQ-ZDJTEQAM quantum resonance detector was used to detect the efficacy characteristics of plant emission information, and donor and recipient were selected according to the detection results of efficacy characteristics.

3.5.2. Biological Signal Radiation Power Detector

The biological signal radiation power detector developed by us was used to detect the radiation power of the experimental donor and recipient plants, and the donor and recipient were determined according to the monitoring data.

3.5.3. Seedling Requirements

According to the requirements of seed germination, the donor and acceptor should be cultivated separately and they can only be used when they sprout. In terms of the experimental plan, generally, the number of donors is N times more than the number of receptors, to ensure timely replacement of vigorous growth of the donor.

3.5.4. Bioinformation Breeding Machine

In the experiment, the selected donors and receptors are placed in different positions of the bioinformatics breeding machine, and then the cabin door is closed, the ventilation system is opened, and the automatic working system of the bioinformatics breeding machine is started.

3.5.5. Set Test Time

According to the working time and experimental steps of the breeding machine set in the plan, as well as the detection of temperature, humidity and ventilation, we check the growth status of the donor and recipient buds and seedlings, replenish water appropriately, and replace the donor buds and seedlings according to the set test time.

3.5.6. Sample Package

After 50 - 100 h of work, the genetic information transfer will be completed. The receptors will be installed in shielded boxes to avoid electric, magnetic, light and sound waves pollution, and the receptors will be sown to the experimental fields in time according to the design requirements.

3.6. Effect and Analysis

3.6.1. Transfer of Genetic Traits of Black Peanut and Protein to Radish

Figure 8 shows the experimental results of multiple transfer genetic traits completed by us through a bioinformation breeding machine. **Figure 8-1** shows that after soybean sprout signal was transferred to corn bud, the seedlings were planted in the test field. After several days, it was found that the seedling type and root system of the treatment group were significantly changed. **Figure 8-2**, **Figure 8-3** and **Figure 8-4** show that after transferring the information of black peanut to water radish, its fruit appearance (after harvest), leaf shape and root system have changed significantly. In September 2010, the first generation of the radish son (HS) was tested by the Test Center of Institute of Ecology, Chinese Academy of Sciences [31], and various amino acids and proteins showed significant changes. The receptor is compared with the control group, there were 18 items with change rate ≥ 15%; there were 16 items with change rate ≥ 40%; there were 3 items with change rate ≥ 100%, among which ammonia increased by 177.78%, potassium increased by 26.56%, and total protein and amino acid in treatment group increased by 84.3% by compared with control group. **Figure 8-5** shows that after the soybean information was transferred to the wheat receptor, the appearance of the first generation of its offspring (HS) changed

Figure 8. Some experimental results of directional transfer of genetic traits using CBE technology. From Figure 8-1, it can be seen that after the soybean information is transferred to the corn bud and planted in the experimental field, a few days later, random sampling shows that the plant type and root of the first generation of Maize (HS) are transferred to the genetic traits of soybean. Figure 8-2, Figure 8-3 and Figure 8-4 show that the fruit shape, leaf shape and root of generation 1 of black peanut information processing group (HS) have changed significantly. Figure 8-5 shows that after transferring the soybean information to wheat, the soybean information processing group was significantly shorter than the control group after the first generation (HS) mature harvest, and the seeds of the treatment group were fuller than the control group, with an estimated yield increase of more than 20%. Figure 8-6, Figure 8-7 and Figure 8-8 are the experimental results of transferring the information of soybeans, garlic and flax to corn respectively. The plant type of corn in the information processing group has changed significantly, and the taste has also changed. Figure 8 shows that after the receptor receive the information wave from the donor, the genetic characters of the receptor change towards the genetic characters of the donor, rather than random distribution, indicating that the genetic information transferred through the biological breeding machine is not distorted, and the real genetic information of the donor has been transferred.

significantly. On the left is the information processing group, and on the right is the control group. The trees in the information processing group were shorter than those in the control group, and the grain weight was increased by about 20%.

In 2012, the experimental seeds were provided by Liaoning Academy of Agricultural Sciences, which repeated the above experiment of black peanut information transfer water supply radish. After the test center of Shenyang Institute of ecology, Chinese Academy of Sciences [32], it was found that the change of the subgeneration (HS) generation 1 treatment group was still very significant. The Center tested 21 items in total. Among them there were 8 items with a change rate ≥ 15%, 4 items with change rate ≥ 40%, and 2 items with change rate ≥ 100%. Where the protein increased by 468.42%, the selenium increased by 42.8%, and the cystine increased by 133%.

The significance of the above experiment is to realize the transfer of genetic traits through plant information transmission: it is the first time to realize the directional transfer of various genetic traits of the donor plant to the recipient by the information wave in the biological information breeding machine through CBE technology, and to realize the selective, cross space, directional transfer to the recipient without molecular transfer, so it is essentially different from transgenic.

3.6.2. Experiments on Directional Transfer of Soluble Sugar and Soluble Protein

With the support of experts from Liaoning Academy of Agricultural Sciences and Shenyang Agricultural University, a number of biological information transfer experiments have also been carried out, and all of them have achieved success. In 2015, we used the same method above to complete the experiment of transferring cantaloupe information to dry cucumber. The treatment group and the control group were planted in the experimental field respectively. After they matured, the first generation of their son (HS) was sent to Shenyang Agricultural University for testing see **Figure 9** and the data in the table. We found that the soluble sugar content of the treatment group increased by 44.9% compared with the control group, and the soluble protein content increased by 45%.

We adopted the same method to directionally transfer the genetic traits of soluble sugar and soluble protein of melon or watermelon to cucumbers, as shown in **Figure 10**. The first generation of the son (HS) was sent to Shenyang Agricultural University for soluble sugar and soluble protein testing [33], and the test results are shown in the chart. After watermelon information processing, the soluble sugar content of water cucumber in treatment group increased by 416% and the soluble protein content increased by 421% compared with control group. The soluble sugar of water cucumber is increased by 350% after cantaloupe information treatment and the soluble protein content is increased by 356%.

The results indicated that the genetic characters of soluble sugar and soluble protein of watermelon and melon have been transferred to the genetic characters of soluble sugar and soluble protein of cucumber.

9-1 The treatment group is on the left and the control group is on the right

9-2 Detection Report of Shenyang Agricultural University

test item	unit	experimental result	
		contents of soluble sugar	soluble protein content
control group	mg/g	2.85	1.42
treatment group	mg/g	4.13	2.06

Figure 9. The experimental results of directional transfer of genetic traits of muskmelon polysaccharide and protein to dry cucumber; from the test data of Postharvest progeny (HS) 1 generation, it can be seen that soluble sugar and protein in the treatment group increased significantly compared with the control group.

10-1 Cucumber information processing group on the left and control group on the right	10-2 Melon information processing group on the left and control group ontheright

Detection report of soluble sugar and protein

test item	unit	experimental result	
		contents of soluble sugar	soluble protein content
The control group	mg/g	0.75	0.37
Treatment group 1	mg/g	3.87	1.93
Treatment group 2	mg/g	3.38	1.69

Figure 10. The experimental results of directional transfer of genetic traits of watermelon/cantaloupe polysaccharide and protein to water cucumber. It can be seen from the test data of the first generation of offspring (HS) after harvest that the indexes of soluble sugar and protein in the treatment group have doubled compared with the control group.

In 2016, we also cooperated with experts from Shenyang Agricultural University to transfer the genetic traits of polysaccharide in northeast Round jujube (wild kiwi fruit) to the original potato species through a bioinformatics breeding machine, as shown in Figure 11. Figure 11-1 is the information donor, namely the north square round jujube seedling; Figure 11-2 is the information receptor, that is, the original seed of potato; Figure 11-3 is potato control group; Figure 11-4 is potato treatment group; Figure 11-5 is the test result of soluble sugar [34]. The soluble sugar content of the treatment group increased significantly compared with the control group, at least by more than 2 times, and at most by more than 6 times. After that, we tested the molecular weight of nucleic acid and found that the molecular weight of nucleic acid in the treatment group increased significantly compared with that in the control group, as shown in Table 3.

3.7. Directional Transfer Experiment of Soybean Isoflavones

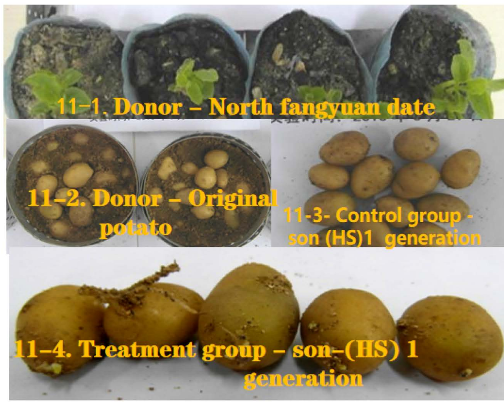
In 2017, we cooperated with experts from the College of Life Sciences of Beijing University of Chinese Medicine. We provided experimental equipment for biological information transfer, and students independently completed the experiment of transferring information from soybean sprouts to corn sprouts, through genetic testing, it was found that soybean isoflavone genes were obviously expressed in multiple treatment groups, as shown in Figure 12.

3.8. Discussion on Experiments of Transfer Genetic Traits

Kulian. P. pointed out that the DNA double helix breaking process is also

Table 3. Nucleic acid test report of genetic information transferred from Northeast Jujube to potato.

Signal processing time	Exp. Num.	Exp.1	Exp.2	Average value	Group D	Control group	Multiple 1	Multiple 2
70 h	1-1	0.587444	0.626555	0.607	0.485888	0.450333	1.249256	1.347890
90 h	1-2	0.566555	0.657444	0.612	0.427666		1.431021	1.358993
110 h	1-3	0.506555	0.493111	0.499	0.5200555		0.961115	1.109918



Tes content			
test item	unit	experimental result	
		contents of soluble sugar	soluble protein content
Potato (control group)	mg/g	0.08	4.13
Treatment group 1	mg/g	0.33	4.07
Treatment group 2	mg/g	0.28	3.71
Treatment group 3	mg/g	0.59	3.86
Treatment group 4	mg/g	0.45	5.07

Figure 11. The results of four groups of parallel experiments that transferred the genetic traits of northern jujube polysaccharide to potatoes. From the test data of the first generation of offspring (HS), it can be seen that the soluble sugar in the treatment group increased significantly compared with the control group, at least by more than 3 times, and at most by more than 6 times.

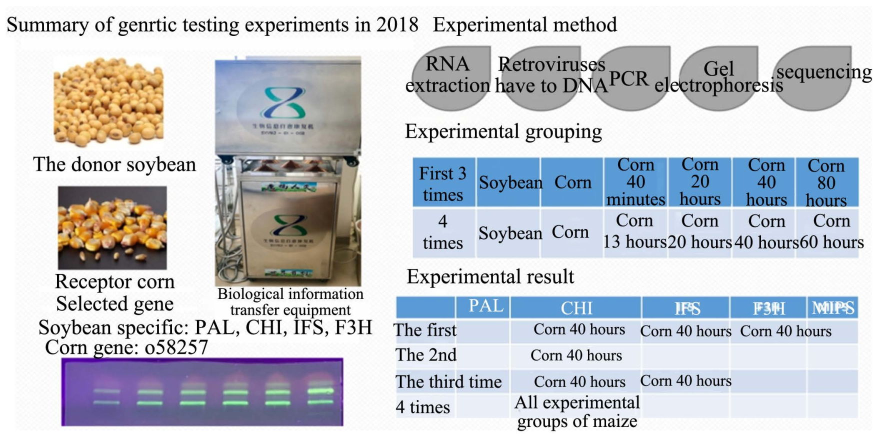


Figure 12. The experimental results of transferring soybean isoflavones to maize completed by students of the Academy of life sciences of Beijing University of traditional Chinese medicine using the experimental machine of bioinformatics breeder. They conducted gene detection and found that in the 40 hour information transfer experimental results, there were multiple groups of soybean isoflavones genes in the treatment group were expressed in maize genes.

accompanied by the internal quantum entanglement effect of DNA, indicating that there is a quantum entanglement phenomenon in DNA [35] [36], that may be a biological information transfer mechanism. Biological signal transduction is essentially a physical process of life quantum information transfer. The results of the above repeatable experiments showed that different recipient plants would have different biological effects by receiving the signals of radiation from different donor plant seedlings in the bioinformation breeding machine processing. Whether the same family or cross family of plants, after receiving the signal from the budding donor for 50 - 100 h by bioinformation breeding machine, the germination potential, leaf shape, vein, plant type, root and fruit shape of the parent or son (HS) 1 generation can be significantly changed. Not only that, it was also found that the genetic traits of the receptor (HS) generation 1 were transferred to the prominent genetic traits from the donor. After receiving the radiation signal from the donor plant in the bioinformatics breeding machine the genetic traits are directed to transfer, the changes of genetic traits were not random orientation and distribution. This indicates that the transferred information expresses the selected and prominent genetic traits of the donor plant, which is a directional transfer. And the genetic information transferred by the biological breeding machine is not distorted, which is indeed a transfer of the real genetic information of the donor.

The German scholar Konstantin Meyl believes that the metabolism controlled by genes can only occur when energy and information are introduced [37]. The above-mentioned various biological experiments show that there is such a unified signal of energy and information in the biological signal, that is, the signal of DNA radiation, and the information is expressed by the change of the donor's radiation energy. The above test results provide new evidence: in the biological signals radiated by the donor plant, there are signals that can affect the DNA replication and protein activity of the recipient plant. It is the most important and basic biological signal, which is of great significance for exploring the biological field and exploring life. By using the bioinformatics breeding machine, the life information of the donor plant can be transferred directly to the receptor in a short time, and the appearance or genetic traits of the receptor can be changed directionally; the genetic information transfer of the same family and cross family plants can also been realized, which will open up a new way of molecular free transfer for the cultivation of new varieties.

4. Conclusion and Discussion

1) A number of test results once again show that different structures of different plants will radiate different biological signals and express different information in the metabolic process, which can affect the life activities of different levels of allogeneic species. DNA signal is the most basic and important signal, and its information and energy cannot be separated. In many cases, information is expressed through the nonlinear and complex changes of energy, which can directly affect the replication and expression of cell DNA. It is a signal with important vital characteristics that is unique to life.

2) Asexual and molecular free DNA communication can be realized between

plants. It is not interfered by the complex electromagnetic environment in plants, indicating that DNA signals are different from other electromagnetic signals. Therefore, it can transmit life information while transmitting energy, especially the information that can truly transmit and express genes, and affect the activities of allogeneic proteins. Therefore, it is of great significance and deserves attention and in-depth research.

3) The experimental results of this paper provide new evidence for not only the connection of genetic material, but also the close connection of genetic information energy between plants, that is, DNA communication.

4) The invention of CBE technology and bioinformatics breeding machine has realized the transmission of biophysical signals and the directional transfer of plant specific information. Moreover, this kind of plant information will not directly produce the chemical reaction in the recipient body, will not destroy the molecular structure, and has no ethical problems. It has opened up a new way of non-sexual, non-molecular transfer, selective, directional, low-cost, new variety cultivation, so it has broadly application prospects.

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Availability of Data and Materials

The datasets obtained and analyzed for this study will be made available from the corresponding author in a reasonable request.

Contributions

Xinzhou Yuan, Jiafeng Yuan, Zhongxian Deng, Shikui Wang, Zhen Yang, and Qiao Bi wrote the main manuscript text, and Xinzhou Yuan and Jafeng Yuan prepared the experimental data, forms and related figures. All authors have reviewed the manuscript.

Consent for Publication

All authors contributed to the article and approved the submitted version for publication.

Conflicts of Interest

The authors are employed by Shenzhen Xinzhou Biological Information Technology Co., Ltd. All authors declare no other competing interests.

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