

Research Article

Philosophical Research on Genetically Modified Food

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Abstract: This study mainly analyzes the essential features of transgenic technology from the angle of philosophy, explaining the essential characteristics of transgenic technology, so as to promote the better development of genetically modified food. With the technical improvement, genetically modified food is no longer strange, which has been applied in the production of our life. Compared with the traditional biological breeding, transgenic food has changed significantly in nature. Trying to meet the basic needs of human beings to achieve the common development of mankind, so as to achieve consensus between the scientific field and consumer is the purpose of exploring the philosophical problems of genetically modified food.

Keywords: Genetically modified food, philosophy, transgenic food

INTRODUCTION

As a new emerging technology, at the beginning of its birth, the transgenic technology has aroused extensive concern and its income and risk has become the focus of the concern, which is a long-term discussing issue in the academic field (Cui, 2005). In order to understand the transgenic technology better, especially about the essence of transgenic technology, analysis from the view of philosophy has acted as a breakthrough for the new transgenic research. Carrying out the risk assessment for transgenic technology from the view of philosophy, summarizing the public cognition with the features of the developing process of industrialization can further promote the cross scientific research on transgenic technology of our country, which can provide more mature developing theory for transgenic technology and promote the improvement of transgenic technology better. In the twenty-first century, genetically modified food has got faster development, in people's daily life, genetically modified food has been widespread. So far, genetically modified food has become a hot issue to be discussed in the society.

At present, many foreign genetically modified agricultural products have been directly or indirectly manufactured into the human food (Bo, 2008). In the United States and Canada, soft drinks, beer, breakfast cereals have contained genetically modified ingredients. In the United States, even 60% retailing food contained genetically modified ingredients. It involves vegetable, cereal and beverage. The report from UK showed that there are more than 7000 kinds of baby food, bread, artificial cream, sausage, meat products and meat food, etc may contain genetically modified soybean byproducts in the country. Our country began to have

research on the development of genetically modified food at the end of the 1980's, in recent years, it has made breakthrough progress, such as long storage transgenic tomato of China Agricultural University; transgenic rice of China Rice Research Institute.

Analysis and significance of genetically modified food: Genetically modified food is also called gene modified food. In a narrow sense, it used the molecular biology technique, transferring the certain organisms (including animals, plants and microorganisms) of one or several exogenous genes to the other biological species, making the genetic material to release its effective expression and bring about the corresponding products with the characters or products that the original species do not have. The food that produced by the material based on the genetically modified organism is genetically modified food. It is the exogenous gene, which usually refers to the gene that the original organisms do not have, in some cases, it also refers to the genes that existed in the organisms. Therefore, the organisms with the transferred foreign genes will cause new biological properties with the biological polypeptide or protein that the original organisms do not have. In addition to adopting transgenic technology, the new emergence of biological properties can be acquired by modifying the gene of organism itself, whose effect is equivalent to transgenic technology; in general, it is called as genetically modified organism in a broad sense.

As for the breeding technology throughout the development of human beings, it can be divided into several stages, the domesticated livestock and the cultivation of plants in agricultural society, the cross breeding in industrial society, transgenic technology born in modern society. From the view of the essence

and development, the former two stages are defined as biological traditional breeding technique, correspondingly, the organism brought about belongs to a typical traditional breeding biology, while the later belongs to the typical modern biological breeding technology, the organism brought about is known as genetically modified organism. There is obvious difference between them in essence, as for the risk and income, there are different debates from different schools, these problems have existed for a long time, which is not a small obstacle for the development of transgenic technology. In view of this controversy, the present philosophical analysis method has played a significant role in this aspect with the analysis of the genetically modified food from this point of view, which is a new breakthrough in the study of transgenic technology and has realistic significance today.

MATERIALS AND METHODS

Analysis of the characteristics of traditional biological breeding food: First of all, we look at the traditional breeding technology, as an important aspect of the agricultural society of typical family livestock and crop cultivation, its developing process is went through the long-term choice and domestication of farmers, which has a haphazard nature (Wang, 2001). From the view of present ecological environment monitoring situation affected by the transgenic crops and food, its negative influence or harm on ecological environment is much more obvious than its negative influence on human health, which has also been agreed by some transgenic technology scientists. Both British and American *Science* magazine published the relevant scientific research, believing that genetically modified crops reduced biodiversity with more possibility of destroying the ecological environment.

Secondly, it pays attention to the cross breeding of the industrial society, which is an improvement for the plant cultivation technology in agricultural society, under the guidance of breeding technology based on the classical heritage of Mendel's theory. The theory believed that the artificial participation did not interfere with the biological breeding, the genetic rules can be understood by observing individual biological level and morphological feature, the "gene" of the technology is "genetic material", adhering to the "genetic reduction theory" by transferring and breeding the genetic factors, presenting the genetic traits, explaining the explanation and the demand on biological breeding. But it also has some shortcomings, which can go further into the genetic factors; it can only be used to explain the same or close hereditary performance that has close relationship with the individual hybridization. This genetic theory has macro and imprecise characteristics, which has made it have close relation with the cross breeding theory. Generally speaking, cross breeding technology in industrial era used the biological genetic

theory of Mendel, the biological species made individual choice, mainly choosing the male and female parent of the biological species, then cross breeding can go on with genetic material into the existing plant, realizing the natural combination, gene transferring, recombining the excellent gene to meet the needs of the people about the hybridization. Hybrid technology did not get rid of the limitation of doing, which was assisted only by artificial help to create suitable conditions and environment for the recombination of excellent genes in a random and natural way, so as to get the accumulation of good genes and get the required species for people.

RESULTS AND DISCUSSION

Developing strategy for the genetically modified food: To Ensure the Food Safety for Consumers, Enhance the Consumer's Rights to Know and Choose.

At present, most of people have a little idea about genetically modified food, who are lack of safety awareness about genetically modified foods, therefore, people are doubting about its security. Increasing the labels for the genetically modified food including: transgenic products or products contained by genetically modified ingredients that should be marked in the product's packaging or the specification of the products. The producers and sellers or one party of the contract should fulfill the statutory obligation to inform, the selling managed that sell the genetically modified ingredients must be marked on the goods, which can make the consumers clearly distinguish the marked products between the transgenic and non transgenic food. It can be functioned as public propaganda and public opinion guide, so that consumers can have clear consumption. Consumers will slowly understand it, then the knowledge can be popularized, the understanding of genetically modified foods will be naturally high. But, without the label, it will become a kind of deceiving and misleading behavior, which violated the principle of fair trade. This would enable consumers to make their own choices and purchase goods.

Improving the policy and regulation of GM food: Although China has The Implementation of Safety Management of Genetic Engineering in Agriculture, it does not involve the imported agricultural products, the customs dose not take GM as a quarantine standard (Wang, 2004). The food safety risk has transcended the border; the safety problem of the genetically modified food may be spread rapidly and become a global crisis through international trade. Thus, our country should build up the legislation as soon as possible, so as to have a set of complete laws and regulations, or upgrade the regulations issued by the department to the national laws and regulations and put them into implementation, which is conducive to the relevant departments to

Table 1: Public opinion on GM and green food (people, %)

Item	Junior high school and below		High school or technical secondary school		Junior college	
	The number of people	Proportion	The number of people	Proportion	The number of people	Proportion
Totally agree	15	27.2	18	18.2	9	19.1
Do not entirely agree	32	58.1	59	59.6	28	59.6
Disagree	8	9.10	22	22.2	10	21.3
Total	55	19.8	99	35.6	47	16.9

Item	Bachelor degree and above		Total	
	The number of people	Proportion	The number of people	Proportion
Totally agree	12	15.6	54	19.40
Do not entirely agree	51	66.2	170	61.20
Disagree	14	18.2	54	19.40
Total	77	27.7	278	100.0

conduct rigorous testing to the genetically modified food, so as to ensure the interests of consumers.

Public attitudes towards the application of GM food:

In today's society, green consumption has become one of the mainstream consumption patterns; the related green food has become the public favored food consumption. Green food is a kind of pollution-free, safe, high quality and nutritious food, in the process of producing green food, the use of food additives has strict rules (Yue, 2010). Part of the green food such as A grade green food is allowed to use natural food additives, but it can not use the food additives in synthetic chemistry; while the production of A grade green food can use the food additives in synthetic chemistry, but only use the limited variety regulated by the country. In order to study the public opinion on food additives and green food, we design one question "green food is the food without food additives, what's your opinion?" The relevant statistical data is shown in Table 1.

CONCLUSION

This study analyzed the characteristic of genetically modified food in nature, skillfully explored

it from the philosophy point of view, with the way of contrast during the process of study, through the comparison of premodern biotechnology breeding technique and modern transgenic technique and distinguished the two differences in nature. It revealed the nature of genetically modified food in a philosophy way from the two directions so that the essence of genetically modified food can be clearly appeared in front of people.

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