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Contrastive Research on Domestic and Foreign Ecological Agriculture Policies

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Abstract In the first place, the definitions of ecological agriculture defined by scholars both at home and abroad are introduced. In the second place, the domestic and foreign ecological agriculture policies are expounded. Through contrastive research on the domestic and foreign ecological agriculture policies, the problems in the development of ecological agriculture in China are found. By mirroring the western experiences in developing ecological agriculture, the countermeasures and relevant suggestions are put forward from the perspective of government. The first one is to increase the subsidies from the government to ecological agriculture. The second one is to clarify the standard of ecological agriculture construction. The third one is to promote the industrialization of ecological agriculture. The fourth one is to strengthen the construction of ecological demonstration region and ecological village.

Key words Ecological agriculture, Policies, Agricultural subsidies, Sustainable development, China

The 21st century is the key historical period for realizing the modern agriculture. The highly efficient ecological agriculture plays an important role in the development of Chinese agricultural economy, rural ecological environment and whole economic construction. In 1930s and 1940s, in order to solve the environmental problems caused by traditional ecological agriculture, the ecological agriculture developed in Switzerland, the United Kingdom, German, Japan and some other countries. In 1970s, China began its theoretical and practical research on ecological agriculture. By tidying up the existing policies and profound thinking of the status quo of ecological agriculture in China, we think that the ecological agriculture has not been widely promoted in the whole country; the developmental pace of ecological agriculture is slow and has not become the fundamental mode of Chinese agriculture and rural economic development. Comparing with western economically advanced countries, policies and regulations in terms of ecological agriculture construction is imperfect. Therefore, based on the relevant policies at home and abroad on ecological agriculture and by comparative analysis, the developmental process of ecological agriculture is researched and the countermeasures and suggestions are put forward, so as to provide theoretical support for improving Chinese ecological agriculture.

1 Concept definition

"Ecological agriculture" was first raised by German agronomist Rudolf Steiner in 1924, followed by William Albrecht, an American Agrologist, who has also proposed the concept. At present, the name (organic agriculture, natural agriculture, bi-

ological agriculture, pollution-free agriculture and sustainable agriculture)^[1]; some scholars such as M. K. Worthington^[2], LUO Shi-ming^[3], MA Shi-jun, XU Geng-sheng and so on all give their own definition to the concept of ecological agriculture. After many years' practice, British M. K. Worthington defines that ecological agriculture is a kind of agricultural production mode, which can maintain the low input by themselves in ecology, is energetic in economy and will not cause long unacceptable changes in terms of environment, moral and aesthetics.

There is no public definition of ecological agriculture in China until now, and the most popular understanding is the Chinese-style of ecological agriculture proposed by LUO Shi-ming. The Chinese-style of ecological agriculture is formed under the specific historic and economic situations, which takes the social demand as the target, corresponds with the ecological discipline and economic discipline. Besides, he defines that ecological agriculture possesses the mighty ability of natural reproduction and social reproduction and it has favorable social, economic and ecologic interests. LUO Shi-ming's definition of ecological agriculture contains all the meaning of modern agriculture, as well as the full respect to ecology^[4]. With the tight coupling between ecological agriculture and relevant scientific theory in the practice, the understanding of Chinese scholars in ecological agriculture is deepening gradually. Just as the definition in the *Technical Specifications of Constructing Ecological Agriculture Demonstration Plot*, the basic connotation of Chinese ecological agriculture is that: combining the modern science and technology with the essence of traditional agriculture according to the local circumstances; fully displaying the regional resource advantages; comprehensively planning and rationally organizing agricultural production according to the economic developmental level and the principles of "integrity, harmony, circulation and regeneration", and then by using the system engineering to realize the sustainable development of high output, high quality and high efficiency; in the end, reali-

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zing the virtuous circle of ecological and economic system and the unity of economy, ecology and society.

Ecological agriculture is a principal mode rather than strict standard, so there is no difference in the essence. Comparing with petrol agriculture, ecological agriculture has absorbed the essence of traditional agriculture. It mirrors the production and operation way of modern agriculture; takes the sustainable development as the guiding ideology; realizes the simultaneous optimization of agricultural economic system, rural social system and natural ecological system; promotes the sustainable use of agricultural resources and it has the features of comprehensiveness, diversity, high efficiency and sustainability.

2 Relevant policies of foreign countries on ecological agriculture

The ecological agriculture was born and developed in Europe. In 1960s, many farms in Europe change to ecological farming. At the end of 1970s, the southeastern Asia began to research ecological agriculture and in 1990s, ecological agriculture has developed greatly in many counties. At present, ecological agriculture becomes the developmental trend of world agriculture. Each country has its own smart way of coordinating the development of economy and environment.

2.1 The relevant policies of European Union on ecological agriculture In 1960, farms in Germany, France, Switzerland have changed into ecological farming. In 1969, the member counties of the North Atlantic Treaty Organization (NATO) took the actions first and they set up the Committee on the Challenges of Modern Society to handle the multilateral experimental items concerning environmental problems, among the items the ecological agriculture is one of the most important items. In 1988, the European Union defined clearly that 20% of the farmland should be stopped farming and the farmers who have had loses caused by retuning natural woodland should be compensated directly. The government signed contract with peasant households with the minimum period of 5 years and the long-term voluntary period of 20 years. In 1991, the European Union stipulated the first *Rules on Ecological agriculture of European Union*, which not only clearly defines the process of producing the ecological products, but also defines the ways of producing and the materials that are allowed to use in the process of production. In 1992, the Ecological Agriculture and the Corresponding Provisions of Agricultural Products was launched and it demanded that proportion of the accessory materials added in the products should be marked, only the products with more than 95% of ecological accessory materials can be sold as the pure ecological products. After 1993, each member country of the European Union has launched its own policies and regulations on supporting ecological agriculture. Among the member countries, France invested 8 million euro in 1992 to support the ecological agriculture of France, but in 1993, the figure lifted to 0.15 billion euro, 20 times' up in one year. What's more, by 2001, the fund used in supporting ecological agriculture has increased to 0.37 billion euro. All the financing projects stipulates that the peasant can get the financial

support only by five years after farming according to the standard of ecological agriculture, otherwise, they must return all the compensation.

2.2 The relevant American policies on ecological agriculture As the biggest modernized agriculture country, America has established the research institutes of ecological agriculture in 1980s. In 1985, America allowed 24% of the "fragile to land erosion land" to lie fallow about 10 to 13 years. Peasant households concerning in the plan of returning forests and grassland can get compensations from the government and the compensations are more than the profits get from farming. If the compensation is insufficient, the peasant households have the rights to appeal, and then the relevant execution department will be punished. Iowa and some other states set up the "stimulating items for agricultural environment quality", which stipulates that "only the ecological farms are qualified to get the awards". State of Minnesota stipulates that 2/3 of the fees used for presuming the quality of organic farm are provided by the state government. Besides, the government provides services on ameliorating soil and improving environment for free. For example, agricultural biological technologies are widely used in American agriculture. These technologies have the effect of decreasing the frequency of natural disasters and 67% of American crops have the improved genes covering herbicide-resistance, pest-resistance and pesticide-resistance^[5].

2.3 The relevant policies of Germany on ecological agriculture In December 2001, the German *Eco-Labeling Law* was taken effect officially. Through labeling the ecological products, the products are distinguished from the traditional agricultural products, so as to protect the interests of consumers and producers. In order to further improve the conditions of agricultural development, the federal government of Germany also stipulates an ecological agricultural item, the specific measures include: providing information and training for peasant households; spreading the relevant information on the internet, exposition, trade fairs, media and in the lecture class; promoting the relevant laws and regulations to encourage and help the peasant households to product; helping the consumers to get to know the value and features of ecological products and strengthening the education in the big canteens, restaurants, kindergartens and schools^[6].

2.4 The relevant Japanese policies on ecological agriculture In order to encourage the peasant household to invest in ecological agriculture, the Japanese government takes the "Eco-friendly peasant households" as the carrier and provides support for peasant households in terms of loan and revenue. Peasant households, who own more than of farmlands and with the annual income of over 0.5 million Japanese yen, will be regarded as the eco-friendly peasant household after being examined. These peasant households can share the interest-free loan of undetermined sum provided by banks and the maximum period of loan is up to 12 years. When purchasing the basic agricultural facilities, the government and the agricultural associations can provide 50% of the capitals to support.

3 The Chinese relevant policies on ecological agriculture

As for China, ecological and environmental situation is serious; the constraints of natural resources increase continuously; the per capita farmland; water resources are lower than the world average level apparently; and problems such as food safety and ecological security are prominent, which have greatly restricted the sustainable development of agriculture. Therefore, we need to develop the ecological agriculture^[7].

Comparing with European countries, Chinese research on ecological agriculture is lagged. In 1980, the national ecological agriculture ecological economics seminar was held in Yinchuan, in the seminar, the term "ecological agriculture" was applied for the first time. In 1981, MA Shi-jun, a famous ecologist proposed the four principles of "integrity, harmony, circulation, regeneration" in the seminar of agricultural ecological engineering. In 1982, Chinese Society of Agro-Ecological Environment Protection presented the suggestions on developing ecological agriculture officially the upper department in charge^[8]. From 1982 to 1984, the central government issued three Central Committee's Document No. 1 consecutively and all of which emphasized that Chinese agriculture should take the path that is conducive to protecting the ecological environment. 1993 is an important hallmark in the cause of developing Chinese ecological agriculture. in order to push forward the construction of national ecological agriculture county, the seven commissions and ministries of the State Council established the "leading group in constructing the national ecological agricultural county" and held the "First Conference on Constructing the National Ecological Agricultural County". In 1994, developing ecological agriculture was included in the *China's Agenda of 21st Century*, which marked that the construction of ecological agriculture was included in the agenda and actual practice of Chinese government. In the same year, the Ministry of Agriculture released the *Technical Specifications on Constructing the Demonstration Zones of Ecological Agriculture*, which legalized the ecological agriculture by the form of laws and regulations. *National Environmental Protection Programme* issued in 2000, stipulates that we should further accelerate the construction of demonstration zones at the county of city level and the construction of ecological agriculture counties; comprehensively implement the protection projects of natural forests and actively push forward the construction of ecological demonstration zones at the regional and provincial levels in the areas with good developmental conditions. In the same year, the *Notice on the Management of Constructing Ecological Agricultural Demonstration Counties throughout the Nation* issued by the Ministry of Agriculture, stipulates that the fees use in constructing the ecological agricultural demonstration counties should be collected mainly by the local government and peasant households and sponsored by the central government. The central government provides certain subsidies fee the demonstration zones and the funds from the provincial and county level should abide by the proportion of 1:1:1. All of the funds should be use in the plan of the demonstration county, promotion and training, technology dis-

semination, experience exchange and staring small-size demonstration pilot projects. The offices of each province's leading groups should arrange the necessary sum of fees for technological direction organs and experts to start the technology guiding and consulting. Therefore, the ecological function of agricultural subsidies becomes to appear. From 2006 to 2007, the consecutive two Central Committees' Document No. 1 requires to develop ecological agriculture actively. The *CPC'S Decision on Several Important Issues Concerning Further Development of Rural Reform* passed in October, 2008 requires that the we should abide by the demands of constructing the ecological culture to development the saving-type agriculture, recycling agriculture and ecological agriculture; strengthen the protection of ecological environment and promote the sustainable development of agriculture.

At present, China has issue a series of laws and regulations concerning ecological agriculture, among which the Article 24 of the newly passed *Circular Economy Promotion Law of the People's Republic of China* in 2008, stipulates that the people's government higher than the county level and agricultural department in charge should develop ecological agriculture priorly. The State Council Premier WEN Jia-bao has made many vital comments on developing ecological agriculture and producing pollution-free food, green food and organic food. He pointed out that developing ecological agriculture is the compulsory road to the modernization of Chinese agriculture; the 21st century is the key period of realizing the modernization of Chinese agriculture and the modern agriculture should be the high effective ecological agriculture.

4 The shortages of the development of Chinese ecological agriculture

At present, although we have made great progress in terms of researching ecological agricultural theory, experimental demonstration, promotion, there are still some problems, in particular, the two systematic and legislative weaknesses in relevant policies and laws. All of these problems are becoming the obstacles for restricting the further development of Chinese ecological agriculture.

4.1 Insufficient fiscal investment and imperfect laws and regulations

The investment of our country in the construction of ecological agriculture is far less than that in the western advanced country and the efficiency is low, which lead to the insufficient investment in rural infrastructure and hard to provide continuous security function for agricultural production. Besides, there is no effective stimulus policies and security measures, and the producers and operators can not have high economic interests, so farmers' enthusiasm in promoting and producing is not high. The relevant subsidy policies can not let the peasants enjoy undertaking ecological agriculture is better than undertaking non-ecological agriculture in economy terms. Besides, the laws and regulations and security mechanism are imperfect; the farmers lack the initiative in effectively protecting the land resources, water resources and so on, and the moral risks of farmers in constructing ecological agriculture can not be

avoided so as to ensure the safety of constructing ecological agriculture.

4.2 Weak promotion and unclear rules on behaviors At present, China does not attach enough promotion to the construction of ecological agriculture and there are no definite rules on the behavior of ecological agriculture construction. The disunited rules of the mode and standard of ecological agriculture makes the farmers feel confusing in the processes of specific operation. Many peasant households do not know the concept of ecological agriculture, let alone the practice in the technological level. Peasants at the grass-root level merely have the opportunity to get the high level training and educating. The green products in China vary hugely with the relevant products in oversea countries. The ecological agriculture industry lacks the basic structure and scientific standard, so it not only faces the problems of handling the difficulty in integrating with the international relevant industry, but also the problems on how to transform the traditional agriculture.

4.3 Low industrial level of ecological agriculture and the insignificant functions of pillar industries Limited by capitals, technologies and some other conditions, the further processing of products is inadequate and the famous brand is absent, thus affected the development of enterprise scope. The simplified situation appears in the research of ecological agriculture, and the ecological agriculture has not been organically integrated with the township enterprises. A majority of enterprises which undertake the processing of ecological agricultural products belong to small and medium-sized enterprises. Although there are pillar industries, the scale of them is small, the economic power is weak, the driving force is limited and the abilities to resist the market risks and natural risks are weak, which lead to the low industrial level of ecological agriculture, imperfect structure of agriculture market structure and imperfect interests connection system and low organizational degree of peasants. At present, the ecological agriculture in China is still in the experimental stage, it has not been widely spread in China.

5 Countermeasures and suggestions

Further developing high effective ecological agriculture is a systematic engineering with wide coverage and huge investment. However, at present, the ecological agriculture in China stays at the early stage, so the follows works should be done well.

5.1 Increasing the policy subsidies on ecological agriculture The real popularity and development of ecological agriculture can not go without the support from the government. The public financial support on ecological agriculture is reflected on reasonably allocating environmental resources; taking the efficiency as guide; displaying the functions of finance and guiding the capitals to flow to ecological agriculture. The government should reform the fiscal management system, improve the using efficiency of capital and ensure the scientific and standard investment decisions. The government should innovate the investment way of fiscal agriculture and earnestly strengthen the management on items to attract more invest-

ment in ecological agriculture and lay a solid foundation for restructuring agricultural structure and industrialized operation on ecological agriculture. In addition, the government should increase the subsidies for peasants involving in ecological agricultural construction; sign long term contract with peasant household and formulate preferential policies and strict punishment mechanism, which can use the fiscal expenditure and avoid moral risks effectively.

5.2 The standard for constructing ecological agriculture should be clarified We should insist scientific strategy, and produce the main agricultural products such as vegetables, fruits, ice and oil-bearing crops according to the pollution-free requirement, and part of the products should attain the standard of green food. Besides, the guidance and supervision on the construction of ecological agriculture should be further strengthened. China has not formed the agricultural management system, which is in accordance with the patterns of market-oriented economy and has reasonable structure, scientific allocation, compact program and effective restraint system. The government should clearly specify what can be done and what should not be done in the construction of ecological agriculture, so as to deepen the concept of ecological agriculture in the mind of peasants, thus make the peasant known and undertaken ecological agriculture construction better. In addition, the government should perfect the technology promotion, information service system and information exchange networks; lay stress on training talents, and further standardize the behaviors of peasant household by the way of holding training lectures, inviting experts to direct on the spot and broadcasting the video lectures of experts.

5.3 Promoting the industrialization of ecological agriculture In order to comprehensively develop the agriculture, forestry, animal husbandry, accessory industry and fishery and the primary industry, the secondary industry and tertiary industry; fully display the regional advantages; realize the value added of economy, elongate the industrial chain and increase the growth of agriculture through the multiple layer comprehensive use and serialized processing, the operation must take the market as the guide, transform the closed situation of self-sufficient of small peasant so as to organize the scattered and small peasant households. And then, the government should conduct regional layout and specialized production on the organized peasant households to improve the scale effect and carry out commercialized operation. Furthermore, the government should increase the policy subsidy to the processing enterprises concerning ecological agriculture; increase the relevant capital items; establish the production base of ecological agricultural products; support the pillar industries and foster one's own brand so as to push forward the industrialization of ecological agriculture.

5.4 Increasing the construction strength on the construction of ecological demonstration zone and ecological village Through establishing the "ecological households", the ecological agriculture construction is not only the responsibility

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network type", strengthen the organic links among regional airports and seaports, and promote the agricultural division and cooperation in Beijing, Tianjin and Hebei^[3].

3.4 Strengthening the agricultural science and technology support and improving the grade of agricultural products Hebei Province should cooperate with the agricultural universities and research institutions in Beijing and Tianjin, attract the conversion of agricultural research results of Beijing and Tianjin, transfer the agricultural products sold in Beijing and Tianjin from primary products into deep processed products, and from low value-added goods to high value-added goods, fully play the resources advantages of agriculture-related departments and scientific research units, and regularly organize agricultural science and technology personnel to help the farmers. Meanwhile, Hebei Province should also select, integrate, nurture and protect brands with high quality, actively implement

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of the village (evaluation of the ecological villages), but also the responsibility of even more micro main body-peasant households. Peasant households who are approved as the "ecological households" can get more preferential policies and support and the recognition of enterprises and consumers. For example, banks may provide a certain amount of interest-free or low interest loans to help the "ecological households" sign purchasing and selling contract with enterprises and supermarkets. Therefore, peasant households' enthusiasm for involving into the construction of ecological agriculture will be improved and then the ecological agriculture construction will be pushed forward.

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the brand strategy with registered trademark as the key, find out the geography signs products, and foster a number of well-known agricultural products brands with high quality, high market share, and good economic efficiency.

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