AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
http://ageconsearch.umn.edu
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

Sustainable Management of Resource Consumption Agriculture——Enlightenment from Organic Agriculture of Japan

LUO Fang*, XU Dan

School of Commerce, Huanggang Normal College, Huanggang 438000, China

Abstract Based on the content of organic agriculture, sustainable management of agriculture in Japan is analyzed from four aspects. Firstly, organization and management institutions and relevant laws and regulations of organic agriculture in Japan are introduced. Secondly, certification procedure of organic agricultural products is briefly described, that is, determining production plan, reorganizing cultivation and management records, making certification application, on-site inspection, offering certification, and professional work after certification. Thirdly, management of organic agriculture in Japan is analyzed; and the six principal forms of organic agriculture in Japan are summarized. The four basic characteristics of agricultural product circulation and consumption are summed up, which are paying attention to food safety, encouraging residence allocation and dispatch, promoting order production and marketing, and strengthening the communication between production and marketing. Fourthly, operation mechanism of organic agriculture in Japan is introduced, especially the Producer - Consumer " Guidance and Help" System. According to the investigation on the national differences between China and Japan, enlightenment of organic agriculture to China is put forward, including the change of ideas and concepts, the establishment of network organic agricultural association, and the improvement of management system for organic agricultural products.

Key words Japan; Organic agriculture; Sustainability; China

1 Research background

No matter how governments encourage farmers to maintain the agricultural products at a relatively high and sustainable development standard from a policy point of view. Agriculture is still the main inducer of water pollution, climate change, and sudden reduction of biodiversity[1]. After the 1970s, developed countries have paid more and more attention to the organic agriculture. Many organizations and research institutions about organic agriculture have been established. IFOAM (International Federation of Organic Agriculture Movement) is founded in the year 1972 in France, which belongs to a non-governmental organization and is sponsored by five organizations in the United States, Britain, France, Sweden and South Africa. After more than 20 years' development, IFOAM already has 750 member organizations from 108 countries, and has become the highest authority of international movement of organic agriculture.

IFOAM points out that organic agriculture is all the agricultural production systems or models that promote the sound development of environment, society and economy. Generally, organic agriculture is a agricultural production mode according to certain standards for organic agricultural production, which obtains organisms and their products using neither genetic engineering during production, nor synthetic pesticides, fertilizers, growth regulators, feed additives and other substances, follows the laws of nature and the principles of ecology, coordinates the balance of planting and breeding industries, and uses a series of sustainable agricultural technologies in order to maintain the steady agricultural production system. The basic principles of organic agriculture are ecology, health care, harmony and humanism. Compared with the modern agriculture, organic agriculture can reduce environmental pollution, protect ecological environment, maintain ecological balance, provide safe, healthy, environmental-friendly and high-quality agricultural products, and promote the improvement of productivity and economic benefits, as well as the virtuous circle and sustainable development of economy[2].

2 Sustainable management of Japanese agriculture: the development of organic agriculture

2.1 Organization and management bodies and relevant laws and regulations Regulations and standards about organic agricultural products are implemented by the Ministry of Agriculture, Forestry and Fisheries of Japan. According to the Japan Production Standard of Organic Food, organic agricultural products imported into Japan must be approved by the certificate authority registered in the Ministry of Agriculture, Forestry and Fisheries of Japan. All the certificate authorities are unofficial, such as Japan Organic and Green Food Association, Japan ICS Co., Ltd., and AFAS Certification Center Co., Ltd.[3].

Japan Production Standard of Organic Food includes many laws and regulations. Both the *Agriculture and Forestry Products Standardization and Correct Labeling Law* and the *Enforcement Regulations of Agriculture and Forestry Products Standardization and the Proper Labeling Law* are suitable for the medicinal solutions except those regulated in the Pharmaceutical Law, approval drugs, agriculture and forestry products. The

Received: November 16, 2009 Accepted: November 26, 2009
Supported by the National Social Science Fund Projects (08BJY036) and the PhD Project Fund of Huanggang Normal University (08cd001).
* Corresponding author. E-mail: luofang68@163.com

Agricultural Standards for Organic Agricultural Products in Japan is suitable for the organic agricultural products (food and drinks only). The *Agricultural Standards for Organic Processed Foods in Japan* is applied in organic processed food. The *Agricultural Standard for Organic Seed in Japan* is applied in organic processed seed. The *Agriculture Standards for Organic Livestock Products in Japan* is suitable for the organic livestock products. The *Technical Standards for Domestic or Foreign Production and Processing Managers of Organic Agricultural Products and Organic Seeds* (*after Cleaning*) is suitable for the domestic or foreign production and processing managers of organic agricultural products and organic seeds (after cleaning). The *Technical Standards for Domestic or Foreign Production and Processing Managers of Organic Processed Food and Organic Processed Seeds* (*after Cleaning*) is applied in the domestic or foreign production and processing managers of organic processed food and organic processed seeds. The *Technical Standards for Production and Processing Managers of Domestic or Foreign Organic Livestock Products* is suitable for the production and processing managers of domestic or foreign organic livestock products. The *Technical Standards for Domestic or Foreign Organic Agricultural Products*, *Organic Processed Foods*, *Organic Seeds and Organic Livestock Re-packagers* is suitable for the domestic or foreign organic agricultural products, organic processed foods, organic seeds and organic livestock re-packagers. The *Technical Standards for Importers Notice of Organic Agricultural Products and Organic Processed Food* is suitable for the importers of organic agricultural products and organic processed food. The *Testing Methods for Production and Processing of Organic Agricultural Products*, *Organic Processed Food*, *Organic Seeds and Organic Livestock Products* is applied in the production and processing of organic agricultural products, organic processed food, organic seeds and organic livestock products. The *Organic Agricultural Products and Organic Processed Food Question Answering* (*Q/A*) is suitable for organic agricultural products and organic processed food. The *Organic Livestock Products and Organic Seeds Question Answering* (*Q/A*) is suitable for the organic livestock products and organic seeds.

2.2 Certification Procedure of Organic Agricultural Products Organic agricultural product in Japan has a rigorous certification process[4].

2.2.1 Determining the production plan. An individual producer can apply for certification, who must satisfy the conditions of academy degree and agricultural experiences. Production group composed of a number of farmers is more appropriate, including selecting the production manager and product identifier, making convention of production group and guidance materials for cultivation.

2.2.2 Arranging the cultivation and management records. Two years' cultivation and management records are needed before the production of organic agricultural products (three years for perennial crops including crop rotation in the first year).

2.2.3 Making certificate application to submit to the certificate authority. Farmland map, river map and facility plane graph are needed, as well as the training proofs of production manager and product identifier.

2.2.4 On-the-spot investigation and determination. Document examination and on-the-spot investigation are carried out by the inspector in certificate authority. According to the examination report, certification committee member decides whether to grant certification or not.

2.2.5 Certification. After the certification, certificate authority awards the "certificate". JAS organic logo can be implemented in seeding or planting crops after certification.

2.2.6 Certified business. After certification, cultivation plan before sowing or planting, the cultivation and management records before harvest, the quality authentication record before the harvest, and the quality inspection record in the previous year (July, 1st of the last year-June 30th) must be put forward.

3 Management of organic agriculture and the circulation of agricultural products[5]

At present, management of organic agriculture in Japan is mostly the small-scale peasant households and farms. And organic agriculture is mainly the cultivation of agricultural crops; while development of organic livestock is relatively weak. Among the crops adopted organic cultivation, rice and vegetable account for 50 and 35 percents, respectively; the rest are fruit trees and teas, both of which occupy about 7.5%. Except the agricultural products adopted organic cultivation, operation area of agricultural products under particular cultivation, such as the cultivation with no pesticide and less chemical fertilizer, the cultivation with less pesticide and no chemical fertilizer, and the cultivation with less pesticide and less chemical fertilizer, is two to three times more than the organic cultivation area with neither fertilizers nor pesticides in Japan. Operation of organic agriculture in Japan emphasizes on intensive cultivation, highlights the function of organic agriculture and the improvement of self-sufficiency rate of agricultural products, and advocates the operation with less pesticide and less chemical fertilizer.

Direct marketing is the biggest feature of the circulation of organic agricultural products in Japan, which has been attached great importance to. In the 1970s, circulation of organic agricultural products in Japan mainly adopted the approach of direct contact between producer and consumer, that is, establishing the production and marketing organizations. Its major advantage is the "face-to-face mutual trust" relationship between producers and consumers of organic agricultural products. In the year 1985, with the enlargement of production scale of organic agricultural products, circulation organizations for professional distribution of organic agricultural products have appeared in some areas. And some areas even have implemented professional distribution by relying on the Life Cooperative Association, so that consumers can buy organic products at any time in any place with the enlargement of distribution coverage. Since the year 1996, citizens in Japan have shown a growing demand for organic products; and foreign organic agricultural products has also poured into the Japanese market. Thus, circulation of organic agricultural products in Japan has

entered into a diversified circulation period. There are six types of circulation. The first one is to realize direct marketing through establishing the combination of production and marketing. The second one is to implement delivery by professional circulation and distribution organizations. The third one is to distribute by the Life Cooperative Association. The fourth is to implement order sales of organic agricultural production based on large chain supermarkets and hypermarkets. The fifth is to sell by chain stores. The sixth is to implement order direct sales with foreign-funded processing enterprises and organic agricultural production bases in Japan. In general, circulation and consumption of organic agricultural products in Japan have the following four characteristics:

(1) Focus on safety of food. Market of organic food in Japan grows at the speed of 30 – 40% each year. Affected by the mad cow disease, foot and mouth disease, and the 0157, citizen has put forward a higher requirement for the safety, sanitary and fresh of edible agricultural products. And 80% of the citizens have placed safety in the first place.

(2) Encourage the residence allocation of sales. Government and various associations encourage the residence allocation of the sale of organic agricultural products. Professional distribution organization or Life Cooperative Association determines the price of agricultural products with the organic farming households. Then, according to the orders of consumers, they delivery products every 1 – 2 times per week to the home of consumers, or to the delivery sites. Profit of agricultural products is allocated to producers by 70%, to organizations or Life Cooperative Association by 20%, and to delivery sites by 10%. Delivery organization or Life Cooperative Association usually adopts the method of membership system during marketing, and a small part of profit is allocated to consumers according to their annual consumption. Consumers in Japan can buy organic agricultural products easily due to the convenient delivery service.

(3) Promote the order production and marketing. Chain stores or hypermarkets are combined with the organic agricultural products bases through the order. Organic foods are sold in the counters. For instance, JUSCO Commercial Group has set up more than 200 counters in Japan to sell their organic vegetables. Its sales volume reaches 3 billion Japanese Yen in the year 1996 in all, 6 billion Japanese Yen in the year 1999, and 30 billion Japanese Yen in the year 2000. Itochu has singed organic agriculture order with more than 300 peasant households in Daquan Village, Shanli County. And its sales volume reaches 10 billion Japanese Yen in the year 2000.

(4) Strengthen the production and marketing communication. In order to promote the distribution and marketing of organic agricultural products, Japan has attached great importance to the communication between producer and consumer. Various methods are adopted to promote the mutual understanding between the two. Organic agricultural associations have regularly or irregularly hosted organic agriculture festivals, held experience education on organic agriculture, handed out communication material, hosted lecture or tasting conference about organic foods, developed investigations related to organic agriculture, and enhanced communication between producers and consumers, so as to mobilize the active participation of consumers in the activities of organic agriculture, and to offer advice and suggestions for the development of organic agriculture.

4 Organic Agricultural Association

Japan Organic Agriculture Association (JOAA), founded in October of 1971, is a non-profit volunteer organization, consisting of the producers and consumers who are enthusiastic about the development and promotion of organic agricultural activities. JOAA relies entirely on the membership fees and does not accept the financial aid of government or other funding agencies. There is no commercial advertising in the monthly communication. Thus, JOAA is independent in economy. One of the principles of JOAA is to establish the guidance and help system between producer and consumer, which aims to set up a special distribution system without relying on the traditional market. Direct dialogue and contact between producer and consumer helps to deepen mutual understanding. Both of the two parties offer personnel and funds to support the transport within the system at the same. They use innovative methods to recruit organic farmers to collect and distribute the products. Consumers can obtain organic products in their own market. They can not tolerate the ignorance of product safety in traditional market system. The most important thing is that traditional market system can not support the sustainability of production methods and management methods of organic agriculture.

In the organic agriculture movement in Japan, the most characteristic means established is " guidance and help" , that is the partnership between consumers and producers. Taking products as the medium, consumer can get in touch with the producer. This interaction form has surprisingly changed the lifestyle of consumers and the management model of producers. The principles of guidance and help are as follows. Firstly, it accords with the ecological principles and can realize the self-sufficiency of agriculture. The basic function of food is to raise life. In order to ensure the food and clothing of peasant households, self-sufficiency is needed. Therefore, a certain number of crops belonging to different types are needed to be planted and a number of livestock is also needed to be raised. Home-made compost and livestock manure can be used as fertilizers. In general, urban residents can get the remaining grain and agricultural products from farmers. In this sense, the urban and rural residents belong to a family. Secondly, consumers can help the producers to experience cultivation. Agriculture forms mentioned above all rely on labor force. In the guide and support system, consumers visit their producers, help them with the farm work, and share the labor needed in the system management. Thirdly, simplify the procedures for the selection and packaging. In the guide and support system, when producers distribute the products to their clients, they do not need to spend too much time to pick, no matter what the size and packaging are. Fourthly, carry out distribution. Producers know what kind of people would eat their products and consumers also know who will provide them with foods. Fifthly, change their

diets. Consumers will accept the agricultural products from farms regardless of the size, quantity and appearance, which change their eating habits to a large extent. In other words, eat seasonal agricultural products, but not the crops in greenhouse. Sixthly, achieve the pricing agreement. Supply and demand sides can achieve pricing agreement through direct consultations. On the one hand, the general price is higher than the purchase price of traditional market, which will satisfy the producers. On the other hand, consumers are satisfied with the price, because it is cheaper than the agricultural products in supermarket and the products are safer and have better quality. Some consumer groups even compensate the producers for the income decrease due to the change of management mode. They have prepared a farming fund in case of accidents and natural disasters[6-7].

5 Enlightenment to China

There are great differences between Japan and China though they are neighboring countries. Table 1 reports the restraining factor and operation mode of agricultural development in the two countries.

According to the differences in national conditions, China can learn from the experiences of organic agriculture in Japan from the following aspects.

Table 1 Comparison of agriculture constraints and operation modes between China and Japan[8]

Country	Internal				External		Operation mode
	Farmland per capita	Labor surplus	Poor and rich state of farmers	Land properties	Financial support	Industries absorbing labor forces	
China	Less	Seriously excess	Poor	Public	Relatively weak	Limited	Low cost on the premise of more labor forces
Japan	More	Relatively excess	Rich	Private	Relatively strong	Absorbing all the surplus labor force	Low cost

5.1 Revolution of ideas and transformation of concept Combining the dream of agricultural modernization with the chemical fertilizers, pesticides and farm machinery together in China is the direct impact of western intensive agriculture. After realizing this, we should learn from the concept of organic agriculture in Japan and get rid of the trap of western intensive agriculture as soon as possible. The core of organic agriculture is not the technology, equipment or policy, but it is the transformation of thought revolution and concept. We should abandon the pursuit of profit only in agriculture and pursue for the healthy agriculture with ecological safety[9].

5.2 Establishment of reticular organic agricultural association At present, organic agricultural association in China is relatively few in number. However, as a country having large population, more organic agricultural associations are needed in order to meet the consumers' needs for safe agricultural products. Thus, we can learn from the guide and support system of organic agricultural association in Japan due to its operability and humanization of concept, principle and guideline.

5.3 Improvement of management system of organic agricultural products Production of Organic agriculture and organic agricultural products involves the problems of institutional system construction meeting the international standards and rules of agricultural products production, management and market operation, in which China is still in the blank state. Therefore, we should actively strive to obtain the certification from international authority, to establish the relatively perfect and scientific management system of organic agriculture about the specific management and production procedures, and to obtain a green permit of entering the international market[4].

References

[1] PETER K, SIGRID S, DANIEL WF. Simulating the diffusion of organic farming practices in two new EU member states[J]. Ecological Economics, 2009, 68: 2580-2593.

[2] WANG J. On status and prospects of organic agriculture[J]. Science & Technology Information, 2009(18): 702. (in Chinese).

[3] MENG D. Japan's organic agriculture and organic production management[J]. China WTO Tribune, 2007(9): 76-77. (in Chinese).

[4] LIU XP, HAN TK. Analysis on authentication system of organic agriculture in Japan[J]. World Agriculture, 2004(12): 33-36. (in Chinese).

[5] FANG ZQ, JIAO BF. The development of Japan's organic agriculture and what we can learn from it[J]. Contemporary Economy of Japan, 2002(2): 45-48. (in Chinese).

[6] ANON. Tie-up system: producer-consumer partner and Japan Organic Agriculture Association[J]. Agro-environment and Development, 2005(5): 43-44. (in Chinese).

[7] ANON. Tie-up system: producer-consumer partner and Japan Organic Agriculture Association (Continued)[J]. Agro-environment and Development, 2005(6): 45-46, 50. (in Chinese).

[8] LI XH, YANG RM, SHU ZT. Enlightment and learning of Japan's agriculture development to Chinese agricultural producing methods [J]. Rural Economy, 2008(11): 117-121. (in Chinese).

[9] CUI HY. Several concepts must be abandoned in development of ecological agriculture[J]. Ecological Economy, 2009(6): 164-167. (in Chinese).

[10] LI YC. Stainability of cultivated land in Henan Province based on ecological footprint[J]. Asian Agricultural Research, 2009, 1(5):32-34, 46.

[11] LIU QZ, QIANG BF. Development and enlightenment of organic agriculture of south Korea[J]. Journal of Anhui Agricultural Sciences, 2009, 37(14):511-512, 515. (in Chinese).

(To page 48)

has great impact on the participation behavior of farmers. The more they know about the New Cooperative, the more significant effect of poverty relieve they may receive. And therefore, farmers are more willing to join in the New Cooperative.

5 Conclusion and suggestion

Research result shows that 57.75% households know about the New Cooperative quite well; education degree of farmers affects their cognition about the New Cooperative; participation willingness has negative correlation with the variables such as age and participation expense, and has positive correlation with the education degree, compensation, comprehension degree of the New Cooperative and so on. Whether the households take part in the New Cooperative or not is determined by the age, education degree, family income, participation expense, compensation level, comprehension degree of the New Cooperative, effects of New Cooperative on poverty relieve and so on. Among these factors, family income, participation expense and compensation are relatively significant in the model, which are 0.002, 0.006 and 0.001, respectively.

According to the analysis result, suggestions are put forward to improve the new rural cooperative medical care in western China, such as further enhancing investment, improving compensation amount of cooperative medical service, consolidating the guidance of propaganda, enhancing the awareness of sickness insurance, carrying out more education and training, improving the level of medical service, improving the construction of information system, advancing the overall planning, resisting the risk of serious illness, promoting new countryside construction, boosting the urban and rural harmonious development, and realizing the comprehensive medical insurance.

References

[1] TANG XH. Research on rural medical security system[M]. Chengdu: Southwestern University of Finance and Economics Press, 2006. (in Chinese).

[2] WANG HM, WANG L. Analysis of the financing and reimbursement model of the new rural cooperative medical schemes——based on the example of Daxing Area[J]. China Soft Science, 2009(7):67 – 74. (in Chinese).

[3] MENG HB, WANG ZB. Game play among the stakeholders of the new rural medicare cooperative for fund raising[J]. Journal of China Agricultural University:Social Sciences Edition, 2007, 24(1):122 – 129. (in Chinese).

[4] YAN YY, ZHANG LX, LUO SG, *et al.* An analysis on the effects of implementing the new type rural cooperative healthcare system——an empirical study based on samples from 101 villages of 5 provinces in China[J]. Chinese Rural Economy, 2006(5):65 – 72. (in Chinese).

[5] WANG Q. Analysis of farmers' willingness of participating in new cooperative medical system and its influential factors in Hubei Province [J]. Agricultural Economy, 2007(6):10 – 11. (in Chinese).

[6] HE ZW, LIU F, XIA L, *et al.* Empirical study in the new rural cooperative medical system in Beijing[J]. Issues in Agricultural Economy, 2008(8):50 – 54. (in Chinese).

西部地区农户对新型农村合作医疗认知与参与意愿研究

——以四川省广安和达州地区为例

郭创乐 (成都信息工程学院管理学院,四川成都 610103)

摘要 依据2008年四川省广安和达州市部分乡镇农民对新农合认知和参与意愿的问卷调查的数据,通过查阅大量文献资料、实地调查、半结构式访谈、小组访谈等方法对两地区部分村镇进行入户访谈和问卷调查,分析了农户对新型农村合作医疗的认知情况(包括农户的年龄和性别特征、农户户主的文化程度、农户的家庭状况、农户的经济收入、农户对新农合的认知和农户对新农合的参与意愿);同时,运用运用SPSS13.0统计软件,利用Logistic模型研究了影响农户参与新型农村合作医疗意愿的因素。结果表明,尽管新型农村合作医疗已经在全国推行了6年之久,然而,在西部不发达地区,仅有57.75%的农户比较了解新型农村合作医疗;家庭收入、费用因素、对新农合运作的了解程度和文化程度都是影响农户新型农村合作医疗生产意愿的主要原因。在此基础上,提出了促进农户参与新型农村合作医疗展的对策建议。

关键词 新型农村合作医疗;意愿;认知; Logistic模型

(From page 43)

资源消耗农业的可持续经营——日本有机农业发展对中国的借鉴

罗芳,徐丹 (黄冈师范学院商学院,湖北黄冈 438000)

摘要 在界定了有机农业内涵的基础上,从4个方面分析了日本农业可持续经营的做法。一是介绍日本有机农业的组织管理机构及相关法律法规;二是简述日本有机农产品的认证程序,即确定生产计划,整理栽培管理记录,制作向登记认证机构提交的认证申请书,实地检查与判定,给予认证,完成认证后的业务;三是分析日本有机农业的经营情况,归纳了日本有机农产品流通的6种主要形式,总结了农产品流通与消费的4个基本特征,即注重食品的安全性、鼓励销售宅配化、推行订单产销、加强产销沟通交流;四是介绍日本有机农业的运行机制,重点介绍了其生产者-消费者"提携"系统。在考察日本与中国国情差异的基础上,从3个方面提出了日本有机农业发展经验对中国的启示,包括转变思想与观念、建立网状的有机农业协会、完善有机农产品管理制度等。

关键词 日本;有机农业;可持续性