

Master Thesis

Organic Agro-food Law

*A comparative analysis between China and the
European Union*



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Along with the high development of economics in China and enhanced concerns towards the environment, most eating behaviours of Chinese citizens have changed in a more environmentally friendly and healthy way. Organic food, as a representative of a sustainable food production method, is becoming more and more common in the Chinese food market. However, the market share of organic food in China is much lower and the reputation of Chinese organic food system from Chinese consumers is not good in comparison to the European Union.

Possible reasons for this slow development in China are becoming clearer through the comprehensive comparative analysis of these two organic food systems in this paper.

On one hand, the historical background of the organic food system has a huge impact on consumers' attitudes towards organic food system. The Chinese government's 'up-down' regime usually influences China's organic industry via policy strategies rather than ideological factors of Chinese citizens. Ignoring the need for education on organic agriculture to both organic consumers and operators leads to China's organic industry to be characterized as fragile, isolated and hard to implement.

On the other hand, the legal standards will largely influence the reputation of organic food system. The different rules and standards during organic certification procedures cause the differences between the two organic food systems. Reducing these obvious differences between the Chinese and European organic food systems could be an opportunity for gaining a better reputation from Chinese consumers in the Chinese Organic food market and help build an improved organic trading relationship between European Union and China.

This paper gives valuable recommendations to Chinese Organic sectors as well as for European organic competent authorities.

Key words: Organic agro-food law, Comparative analysis, Chinese Organic Food System, European Organic Food System

Table of Contents

Acknowledgements.....	3
Abstract.....	4
List of Abbreviation.....	7
Introduction.....	8
Research Questions:.....	9
Motivation:.....	9
Methodology.....	9
Chapter I: Chinese Organic agriculture revolution.....	11
1.1. Organic agriculture growth in China.....	11
1.1.1. The possible reasons lead China to an organic-oriented strategy.....	11
1.1.1.1. Overuse of chemical fertilizer.....	11
1.1.1.2. The food safety issues.....	13
1.1.2. The development of the Chinese Organic agriculture.....	14
1.2. The structure of the Chinese Organic Sectors.....	17
1.2.1. Introduction of relevant organisations.....	18
1.3. Chinese Green Food and <i>Wu-gonghai</i> Food.....	19
1.3.1. <i>Wu-gonghai</i> food.....	19
1.3.2. Green Food.....	20
1.3.3. The relationship between three Chinese eco-foods.....	22
Chapter II: The organic growth in the European Union.....	24
2.1. EU's Policy Regime.....	24
2.2. The formulation of the EU's organic Regulations.....	25
2.2.1. The EU's organic logo.....	25
2.3. The organic agriculture growth and the support initiatives in the EU.....	26
2.3.1. EU's organic growth.....	26
2.3.2. EU's Funding — Common Agriculture Policy.....	27
2.3.3. Evaluation research on governmental support for organic farming.....	28
2.3.4. European Action Plan.....	28
2.3.5. The kid's Corner.....	29
Chapter III: Comparative Analysis of Standards between China and the EU.....	30
3.1. Organic Production and Processing.....	32
3.1.1. Overall principles:.....	32
3.1.2. Plant production.....	32

3.1.3. Organic Processing	33
3.2. Organic logo.....	34
3.2.1. Definitions.....	34
3.2.2. Requirements of the Organic Logo.....	34
3.2.3. Compulsory indications of organic logo.....	36
3.3. Organic certification procedures.....	38
3.4.1. China's Organic certification procedures:	38
3.4.2. EU's Organic Certification Procedures:	41
3.4. Organic Control System / post certification administration	43
3.5.1. Certification renewal.....	43
3.5.2. Control visits.....	43
3.5.3. Records	43
3.5.4. Sales license	44
3.5.5. Online information system.....	44
3.5.6. Measures in case of infringements and irregularities	45
3.3. Import rules and import management	45
3.3.1. China	45
3.3.2. European Union	46
Chapter IV: Discussion and Recommendations	50
4.1. The historical background of organic food system.....	50
4.2. The legal standards of the organic food system.....	51
Reference	57
Appendix:.....	64

List of Abbreviation

AQSIQ (General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China) / www.aqsiq.gov.cn
BDA Certification (Department within the Biodynamic Association)
CAP (Common Agriculture Policy)
CCAA (China Certification and Accreditation Association) / www.ccaa.org.cn
CEA (Chines Ecological Agriculture)
CGFDC (China Green Food Development Centre) / www.greenfood.agri.cn
CIQ (Chinese Inspection and Quarantine)
CNAS (China National Accreditation Service for Conformity Assessment) / www.cnas.org.cn
CNAT (China National Auditor and Training Accreditation Board)
CNCA (Certification and Accreditation Administration of the People's Republic of China)
COFCC (China Organic Food Certification Centre)
CPC (Communist Party of China)
DAFM (Department of Agriculture, Food and the Marine)
DDT (Dichlorodiphenyltrichloroethane)
EU (European Union)
FiBL (Research Institute of Organic Agriculture)
GTZ (German Technical Cooperation Agency)
HCH (Hexachlorocyclohexane)
IOFGA (Irish Organic Farmers and Growers Association)
MOA (Ministry of Agriculture) / www.moa.gov.cn
NGOs (Non-Governmental Organizations)
NIES (Nanjing Institution for Environmental Science)
NPC (National People's Congress)
OFDC (Organic Food Development Centre) / www.ofdc.cn
OPT (Organochlorine Pesticide)
PRC (People's Republic of China)
SAC (Standardization Administration of the People's Republic of China)
SEPA (State Environment Protection Agency)
SKAL (Skal Biocontrole)
TRACES (Trade Control and Expert System)
USDA (the United States Department of Agriculture)

With the increasing concern about food safety and food-related environment damage, the demand for a safe and sustainable food system is getting higher and higher. As defined by the International Federation of Organic Agriculture Movements (IFOAM), organic agriculture can sustain the health on the environment, people and animals. It can conserve resource and maintain natural balance and can promote the long-term productivity of the rural lands¹. Organic food catches a lot of attention at both national and international level.

In China, the Chinese traditional agriculture uses a large amount of chemical fertilizer. It not only causes environmental damage but also causes trade barriers between China and some other countries because of the high residues of chemical fertilizer in foodstuffs. This motivates the Chinese government to adapt to the organic agriculture practices to produce high-quality food and respect environmental sustainability.

According to the data from the Research Institute of Organic Agriculture (FiBL) & IFOAM 2014, the country with the largest single market for organic food was the United States (27.1 billion euros), followed by the European Union (23.9 billion euros) and China (3.7 billion euros)². However, as China is a very important international food trade platform³, it is not a positive sign for China that its organic food market share is much less than the United States and Europe.

One survey from the China Youth Daily shows that 73.8% of Chinese consumers do not believe in organic foods because they have a concern about the normativity of the organic certification procedures in China⁴. However, the EU citizens have a larger potential to buy organic products and more than 61% of them have a high awareness of organic food⁵. Most responses from this EU survey claim that they have confidence that the organic food is monitored correctly by the EU⁶. These results of the survey make me think about why the EU has such a good reputation on its organic food market.

I have a strong interest in investigating the reasons why the Chinese organic food market is behind the EU's. I want to find out whether the organic legal standards in the EU are stricter

¹ Available at: <https://www.ifoam.bio/en/about-us>

² FiBL & IFOAM. (2016). The World Of Organic Agriculture-Statistics & Emerging Trends. Frick and Bonn : Die Deutsche Bibliothek.(p.64)

³ Gills, M., Perkins, D., & Roemer, M. (2003). Economics of Development (7th Edition ed.). New York: W. W. Norton & Company.

⁴ 人民网(People.com) (2011), 调查:有机食品价高质低 73.8%人认为认证不规范(Survey: Organic food is at a high price with low quality, 73.8% of citizens believe the normativity of certification is not good), 中国青年报(China Youth Daily). Available: <http://finance.people.com.cn/money/GB/16166585.html>

⁵ The Statistics Portal (2015) Organic food market in Europe - Statistics and Facts, access date:19-7-2018 Retrieved from: <https://www.statista.com/topics/3446/organic-food-market-in-europe/>

⁶ Fien Minnens (2012-2013). Consumers' attitude on private label organic food products: a study of Flemish consumers. Faculteit Bio-ingenieurswetenschappen of the University Gent. P.77. Available: https://lib.ugent.be/fulltxt/RUG01/002/063/594/RUG01-002063594_2013_0001_AC.pdf

than in China; what are the differences among these two certification procedures and can these differences contribute to the development of Chinese organic food system. Also, it is possible that not only the legal standards of the organic food system will make a difference on consumers' attitudes, but also if the historical background of the organic food system can too.

The main objective of this thesis is to provide some valuable recommendations to Chinese organic sectors by comparing the organic food systems between China and the EU, making the Chinese organic food system more trustable for Chinese consumers. Additionally, if some advantages of Chinese organic food system could be applied in the EU, it will be a good opportunity to reduce the differences between these two systems. Less diversity may build a better international organic trading relationship between China and the EU in the future.

Research Questions:

What recommendations can be given to the Chinese organic sectors to improve the reputation of the Chinese organic food system by comparing it to the European Union?

Sub- Research Questions:

What factors influence the consumers' attitudes towards organic food?

What are the differences between Chinese organic legislations and the EU's organic legislations?

What can Chinese organic sectors learn from the differences between China and the EU to improve the reputation of the Chinese organic system?

How to reduce the differences between these two organic food systems?

Motivation:

The Organic agriculture helps to preserve and protect rural areas by minimizing fertilizers and is a good way to boost people's way of living towards a sustainable lifestyle which can be beneficial for the environment. It is worth encouraging the development of the organic food market to find the potential solutions for improving the reputation of Chinese organic food system, and creating a win-win international organic trade relationship between China and the EU.

Methodology

The methodology contains analytical, historical and law-in-context methods.

Analytical method: As mentioned in the Introduction, there are different attitudes towards the normativity of organic food certification between the Chinese and the European

consumers, the organic certification procedures between these two systems would be compared accordingly. The analytical method is analysing legal standards and rules in different legal systems in a way that common and differences are distinguished. During the comparison of legislation, standards, and regulations within the two organic food systems, the analytical method is used here.

The logic of carrying this comparative study was completed by following the appropriate stages in the organic food supply chain. The comparative analysis is based on the initial Organic Regulations – Regulation 834/2007 (for the EU) and the Organic Regulation GB/T 19630-2011 (for China). Then, related rules and standards would be explained if needed for specific sections along the supply chain. However, this thesis will not present all details of those legislations one by one. The focus points will be the differences between the two systems which can contribute to answering the research questions.

Historical method and **law-in-context method**: the difference between the two legal systems is not the only reason which influences the Chinese consumers' attitudes. The historical background of the organic food system is also a possible factor. The historical and law-in-context methods are used in order to provide a better comparison. Thus, this thesis will contain not only the pure legal rules, but also published articles and news, either in English or Chinese.

The purpose of Chapter I is to give readers some historical background of the Chinese organic food system. Firstly, this Chapter shows readers the possible reasons why China has adapted to organic agricultural practices. Secondly, this Chapter introduces Chinese organic legal framework in order to help readers understand the structure of Chinese organic sectors. Last but not the least, this Chapter also introduces the other two Chinese eco-foods which do not belong to the organic category but have a big market share on Chinese eco-market.

1.1. Organic agriculture growth in China

In 1911, Professor F. H. King visited China as an early agricultural eco-tourist and wrote an ecological travel book. That book showed his surprise that ‘how the old-world farmers had been able to provide materials for food and clothing on such small areas for so many millions, at so low a price, during so many centuries⁷’, described an agriculture without any toxic inputs or outputs, and also emphasized that China was an agricultural exemplary at that time⁸. This book also provided a vague frame of Chinese organic agriculture.

However, in 1995, ‘who will feed China?’ asked Brown⁹. This question reminded China to alert that its huge population may cause food shortage problem in the future. This topic was the primary goal for Chinese agriculture departments at that time. The Chinese government had always put the subject of feeding its 1.3 billion people on the top of its agenda¹⁰. During the past several decades, China had made remarkable achievements in agricultural and rural development, in today’s China, famine is not a major problem anymore. However, China’s traditional agriculture brought the high production with some complications.

1.1.1. The possible reasons lead China to an organic-oriented strategy

1.1.1.1. Overuse of chemical fertilizer

In order to pursue high quantities of grain yield, chemical fertilizer and pesticides were used widely in China since the 1950s. The undue use of DDT (dichlorodiphenyltrichloroethane) and HCH (hexachlorocyclohexane) in agricultural fields led to a high level of chemical residues in the environment¹¹. In fact, the production and use of DDT and HCH were banned in many developed countries in the 1970s, but, the amount of their usage reached a maximum in China during that period. In addition, Yanxin Yu (Peking University, China) did some

⁷ King, F. H. (1911). *Farmers of Forty Centuries- Organic Farming in China, Korea and Japan*. New York: Dover Publications.(p.60)

⁸ King, F. H. (1911). *Farmers of Forty Centuries- Organic Farming in China, Korea and Japan*. New York: Dover Publications.(p.274)

⁹ Brown, L. R. (1995). *Who Will Feed China? Wake-Up Call for a Small Planet*. Washington : Worldwatch Institute .

¹⁰ MOA. (2017). Ministry of Agriculture of the People's Republic of China. Retrieved from Agriculture in China I (Foreword).

¹¹ Suju Sun, Jianhong Zhao.X.M. (2005). Persistent organic pollutants in human milk in women from urban and rural areas in northern China. *Environmental Research* 99, 285-293(p.285-286).

surveys in several Northern provinces of China, the results showed that the concentrations of DDT and HCH in foodstuffs were still relatively high in 1990¹².

However, increasing chemical inputs is not an ideal solution for efficient agriculture. Column 6 of Table 1 shows that the production of grain yields has barely increased, even though continued to increase in chemical fertilizer application (illustrated by Figure1). Meanwhile, the Column 7 of Table 1 presents that the amount of chemical fertilizer which is needed to produce one unit of the grain keeps increasing (illustrated by Figure 2). Moreover, the increase of chemical inputs will bring a rapid decrease of grain harvest in the same arable land in following years.

Year	Grain Acreage (million hectares)	Grain Harvest (million tons)	Grain Yield tons per hectare	Chemical Fertilizer Application (million tons)	Grain Harvest per ton of chemical fertilizer	Chemical Fertilizer Index
1	2	3	4 = 3/2	5	6 = 3/5	7 = 5/3
1978	120.5	304.8	2.52	8.84	33.47	0.0290
1979	119.3	332.1	2.78	10.86	30.57	0.0327
1980	117.2	320.6	2.73	12.69	25.25	0.0396
1981	114.9	325.0	2.82	13.35	24.34	0.0411
1982	113.8	354.5	3.12	15.13	23.42	0.0427
1983	114.0	387.3	3.39	16.60	23.33	0.0429
1984	112.9	407.3	3.61	17.40	23.41	0.0427
1985	108.8	379.1	3.48	17.76	20.34	0.0469
1986	110.9	391.5	3.51	19.32	20.27	0.0493
1987	113.3	403.0	3.62	19.99	20.15	0.0496
1988	110.1	394.0	3.57	21.42	18.39	0.0543
1989	112.2	407.6	3.63	23.57	17.29	0.0578
1990	113.5	446.2	3.93	25.90	17.23	0.0580
1991	112.3	435.3	3.87	28.05	15.51	0.0644
1992	110.6	442.7	4.00	29.30	15.10	0.0662
1993	110.5	456.5	4.13	31.52	14.48	0.0690
1994	108.5	445.1	4.10	33.18	13.42	0.0745
1995	111.0	466.6	4.02	35.94	12.98	0.0770
1996	112.5	504.5	4.48	38.28	13.18	0.0759
1997	112.9	494.2	4.37	39.81	12.41	0.0806
1998	113.8	512.3	4.50	40.84	12.54	0.0797
1999	113.2	508.4	4.49	41.24	12.33	0.0811
2000	108.5	462.2	4.25	41.46	11.15	0.0897
2001	106.1	452.6	4.24	42.54	10.63	0.0940
2002	103.8	457.1	4.40	43.40	10.53	0.0949
2003	99.4	430.7	4.33	44.10	9.77	0.1024

Table 1: Various parameters associated with Chinese grain production since 1978¹³

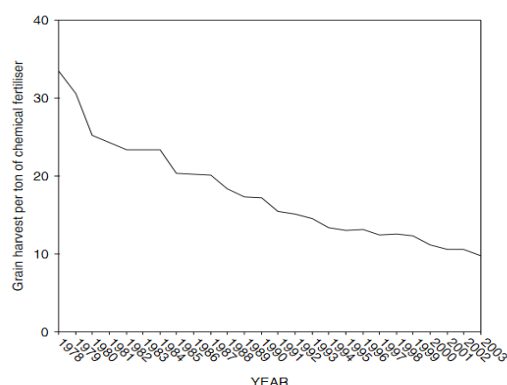


Figure 1: Grain Harvest (tons) per Ton of Chemical Fertilizer¹⁴

¹² Yanxin Yu, B. W. (2013). Temporal trends in daily dietary intakes of DDTs and HCHs in urban populations from Beijing and Shenyang, China. *Chemosphere* , 1395-1400(p.1396).

¹³ China Statistical Yearbook. (2004). Agriculture. Beijing: State Statistical Bureau of the People's Republic of China.

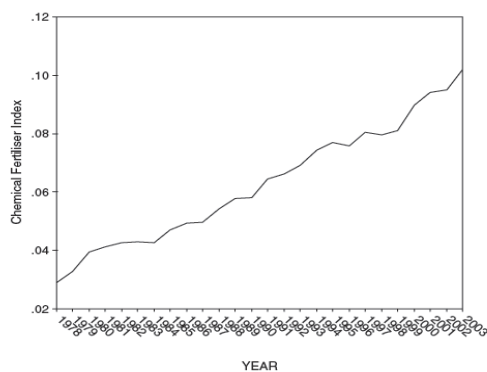


Figure 2: Chemical Fertilizer Index¹⁵

Consequently, the environmental degradation and the potential long-term damage to human health are also two big issues to be focused on the need to develop alternatives to traditional agricultural. Additionally, the 8th Five-Year-Plan of 1989 also emphasizes the idea of developing ‘pollution-free products’.

In addition, China declares that it has more farmers than any other country¹⁶, therefore the Chinese government must consider the high cost of chemical inputs would damage farmers’ profits. In China’s old society, there was a financial difficulty due to the Maoist strategy of self-sufficiency and isolation. Farmers’ income stayed at a low level, and the overproduction of food became a common case during that time. A new leader of China, Deng Xiaoping, announced that the foreign trade and external investments could save China’s economic depression, and launched an economic reform (the Open-door Policy¹⁷) in 1997. This reform changes China’s trade system and saves China’s agricultural economics successfully.

1.1.1.2. The food safety issues

Along with China’s economic development, China’s food trading at the international level has rapidly expanded. However, the food safety issues emerge when the market is getting larger. Like the Sudan IV in egg yolk and the Melamine in milk powder. A series of food scandals weaken the country’s reputation in the international food trade¹⁸. John Paull did an online survey which indicated that participants devalued food from China by 21% compared to food from Australia¹⁹.

¹⁴ China Statistical Yearbook. (2004). Agriculture. Beijing: State Statistical Bureau of the People's Republic of China.

¹⁵ China Statistical Yearbook. (2004). Agriculture. Beijing: State Statistical Bureau of the People's Republic of China.

¹⁶ Ministry of Agriculture . (2004). Report on the State of China's Food Security. Beijing : MOA.

¹⁷ Zulu Hu, M. S. (1997, 6 1). Why Is China Growing So Fast? International Monetary Fund.

¹⁸ ITC. (2011). Organic Food Production in China: Market Overview. GENEVA: International Trade Centre.

¹⁹ Paull, J. (2008). The Greening of China's Food- Green Food, Organic Food, and Eco-labelling. Arlon: unpublished. (p.9)

Besides Australia, there are many countries doubting that whether the Chinese-oriented food is safe²⁰. There were 27 restrictions imposed between 1997 and 2004 on food 'MADE IN CHINA' mostly due to pesticides or antibiotic residues. Such as Japan, it prohibited frozen chicken and shrimp due to the high level of antibiotics residues, and frozen spinach because of the pesticide residues. European Union's prohibition was on peanuts because of aflatoxin levels and on tea because of the pesticides.

This phenomenon forces the Chinese government to take food safety problems seriously. Thus, reducing the chemical residues becomes a crucial measure to enhance China's export potential, in other words, the Chinese government realized that developing organic food could be a response to solve this food challenge.

1.1.2. The development of the Chinese Organic agriculture

Under this one-party communism legal framework, plus, China's individual farmers are widely distributed, in a large number but small size. Xie and Xiao²¹ explain three main Chinese domestic organic production models based on the Chinese Characteristic Agriculture system: company leasehold management, company plus base plus farmers, and organic production association. Accordingly, China's agriculture system is more based on organized associations and enterprises rather than individual farmers.

In the early 1980s, the CEA (Chines Ecological Agriculture) was set up in order to build an environmentally friendly agriculture. In 1990, the MOA (Ministry of Agriculture) created the Green Food Program²². In the same year, with the support of the Dutch certifier SKAL, an organically certified tea, certified by the NIES (Nanjing Institution for Environmental Science), was exported to European countries as the first Chinese organic product²³. After two years, the CGFDC (China Green Food Development Centre) was established by MOA, and its responsibility was controlling the Green Food at the national level. The Green Food was marked as 'high quality and pesticide-controlled food'²⁴. In 1993, the CGFDC joined IFOAM and became the first International certification body in China²⁵.

In 1994, the SEPA (China's State Environment Protection Agency) established the OFDC (Organic Food Development Centre). The main task for OFDC was complying with

²⁰ Paull, J. (2008). *The Greening of China's Food- Green Food, Organic Food, and Eco-labeling*. Arlon: unpublished.(p.9)

²¹ Weihua Xie, X. X. (2007). Country Report on Organic Agriculture in China. Bangkok: International Trade Centre's Regional Conference on Organic Agriculture in Asia .

²² Here Green Food Program is a general concept, which includes all pollution-free food, such as Green Food, hazard-free food, and Organic Food.

²³ Paull, J. (2008). *The Greening of China's Food- Green Food, Organic Food, and Eco-labeling*. Arlon: unpublished. (p.4)

²⁴ UNESCAP. (2002). Report of the regional workshop on exploring the potential of organic agriculture for rural poverty alleviation in Asia and the Pacific, United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP). Chiang Mai.(p.5)

²⁵ Paull, J. (2008). *The Greening of China's Food- Green Food, Organic Food, and Eco-labelling*. Arlon: unpublished. (p.4)

international organic standards. During 1997 to 2003, with the support of the German development agency GTZ, the OFDC finally got full accreditation by IFOAM and the International Organization for Standardization (ISO-65) in 2002²⁶. Thus, Chinese organic products certified by OFDC could be sold on the International market²⁷. In 2001, OFDC published some guidelines for organic certification on the basis of IFOAM guidelines as well as EU, American and Japanese standards.

In order to eliminate the influence of OFDC, the CGFDC set up its own organic food certification body, the COFCC (China Organic Food Certification Centre) in 2002. Meanwhile, the first version of organic food labelling appeared, with both Chinese 'Zhongguo Youji Chanpin' and the English word 'organic' (see Figure 4 below)²⁸. Suddenly, COFCC became the most popular certifiers with about 30% of all organic enterprises and associations certified by it²⁹.

Until 2003, the organic certifiers, either State-owned organizations, such as COFCC and OFDC, or other private certification companies, moved forward to institutionalization, because some institutions were involved and unified Regulations were published.

In 2005, the Regulation of the People's Republic of China (PRC) on Certification and Accreditation, many important Rules, and Standards were issued. For instance, the first version of the organic standards, the National Standards of PRC: Organic Products (GB / T 19630.1 – 19630.4-2005)³⁰, are based on the International Norms with added emphasis on combination with Chinese characteristics socialism and its special organic system.

The series of standards of organic products emphasized the conception of 'conversion'. Thus, new versions of organic product logos were announced with the National Standards, which were a brown logo for labelling conversion to organic (Figure 3) and a green logo for organic food (Figure 4).

²⁶ Sternfeld, E. (2009). Organic Food 'Made in China'. EU-CHINA CIVIL SOCIETY FORUM. (P.9)

²⁷ Sanders, R. (2006). Organic agriculture in China: do property right matter? *Journal of Contemporary China* (46), 113-132. (p.119)

²⁸ Alberto Sorzon, B. v. (2014). Organics in Chinese Food Law. *EFFL*, p.179-186.(p.184)

²⁹ Sternfeld, E. (2009). Organic Food 'Made in China'. EU-CHINA CIVIL SOCIETY FORUM. (p.6)

³⁰ This paper used the latest version, i.e. GB / T 19630-2011, instead of GB / T 19630-2005



Figure 3: Chinese conversion to organic product



Figure 4: Chinese organic product

The timeline of the first stage of organic development in PRC during 1990 to 2005 could be concisely summarized in Table 2.

1990	MOA created the Green Food Program; The first Chinese Organic Tea was exported to European countries.
1992	MOA established CGFDC to better control Green Food.
1993	CGFDC joined IFOAM, became the first international certification body in China.

1994	SEPA established OFDC in order to regulate Organic Food, and OFDC published its organic standards.
2001	CNCA was established under AQSIQ supervising all kinds of certification and accreditation within China.
2002	OFDC joined the IFOAM; CGFDC set up COFCC, the first version of organic labelling emerged.
2003	CNCA officially took over the administration of China's organic certification from SEPA.
2005	Regulations were released ³¹ : National Standards of People's Republic of China: Organic Product (GB/T 19630.1—19630.4-2005) /issued by AQSIQ The Chinese Administrative Measures on Organic Product Certification / issued by AQSIQ Rules for Implementing the Certification of Organic Products / issued by CNCA

Table 2: Development of Chinese organic certification since 1990

1.2. The structure of the Chinese Organic Sectors

The Organic departments are under the control of the State Council of PRC (*Guowuyuan*), so-called the Central Government, is the highest organ of state administration (Article 85 of the Constitution). Along with sectors setting up and Regulations releasing, the legal framework of the organic system becomes clear. And the organic system is overseen by regulatory organizations listed in Figure 5.

³¹ Some of Regulations released in 2005 may not be listed.

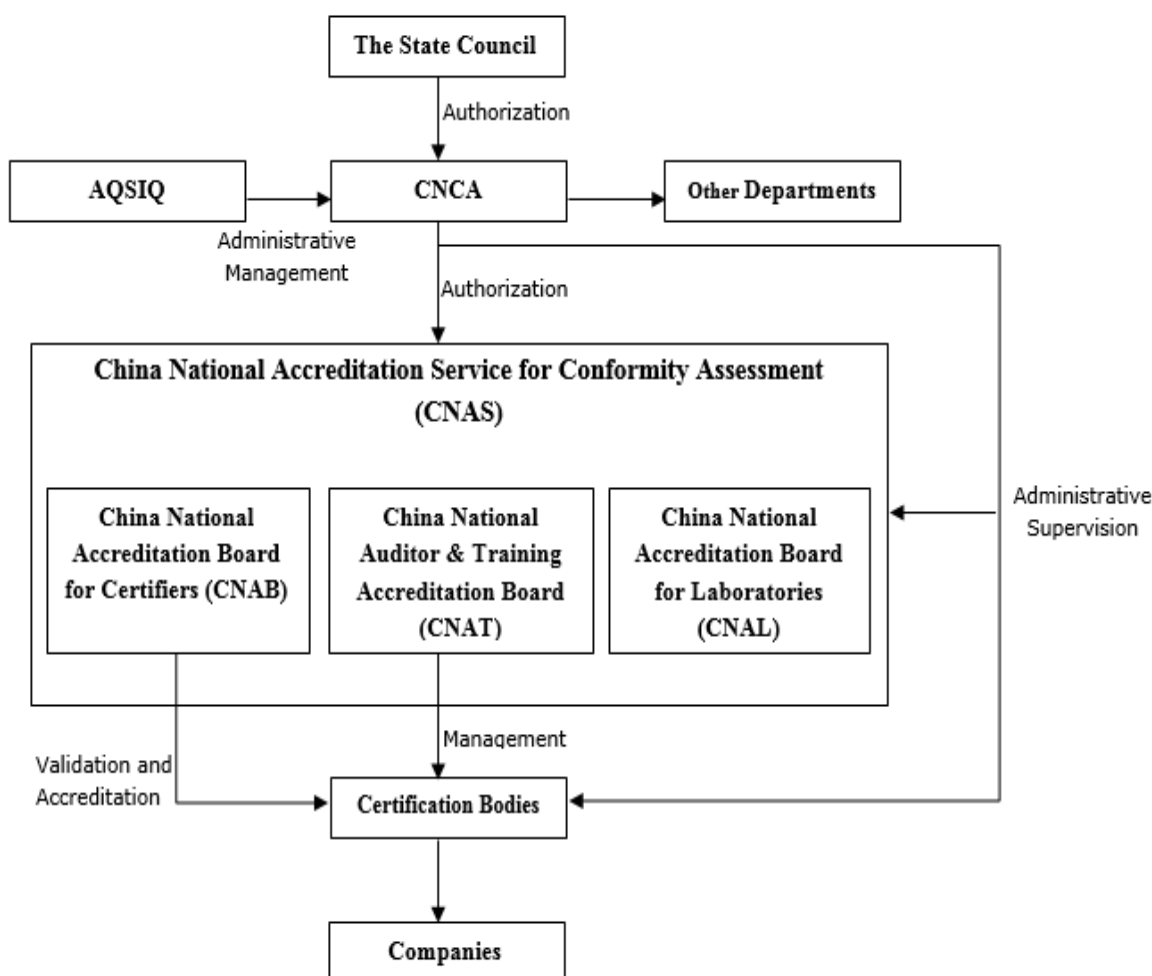


Figure 5: Organization of China Organic Products Certification Administration³²

1.2.1. Introduction of relevant organisations

AQSIQ — Administration of Quality Supervision, Inspection and Quarantine:

It is the agency, under the direct supervision of the State Council, responsible for the work of administrative law enforcement in charge of national quality, metrology, exit and entry quality, exit and entry sanitation and quarantine inspection, entry and exit animal and plant quarantine, import and export food safety and accreditation, standardization and other relevant work.

‘Other Departments’ in Figure 5 represents the Provincial and Municipal Quality and Technical Supervision Bureaus and the Entry-Exit Inspection and Quarantine Bureaus. They

³² Chinese Source: Hang, X. (2014, 4 1). Comparison of Organic Product Standards and Certification Systems between Chinese and U.S. 中美有机产品认证标准及制度比较研究. Nanjing, Jiangsu, China: Nanjing Agricultural University.(p.25). Translator: Writer.

are directly under supervision by AQSIQ when regarded as local certification bodies³³. There are 31 Provincial and Municipal Quality and Technical Supervision Bureaus and 35 Entry-Exit Inspection and Quarantine Bureaus within the national range to unify manage organic production activities with AQSIQ.

CNCA — Certification and Accreditation Administration of the People's Republic of China:

It is a national administrative body, attached to the AQSIQ, supervising all kinds of certification and accreditation within China. Since 2003, CNCA has officially taken over the administration of China's organic certification from SEPA and is responsible for the national unified management, supervision and overall coordination in the field of organic production. Certification bodies only can undertake certification activities after registered under CNCA.

CNAS — China National Accreditation Service for Conformity Assessment:

It is a national accreditation body established and authorized by CNCA. Its function is conducting technical conformity assessment and accreditation for certification bodies, laboratories, inspection agencies and other relevant agencies. Certification bodies only can undertake certification activities after gaining approval from CNAS.

CCAA — China Certification and Accreditation Association:

It is a non-profit and national organization established by CNCA in 2005, and includes the accreditation body, certification body, training body, consultation body, labs, test centres and some certifies enterprises. The certified organic inspectors who work for the certification body should be trained by CNAT (China National Auditor and Training Accreditation Board) and shall obtain the qualification of the registered license issued by CCAA before undertaking organic production activities.

1.3. Chinese Green Food and *Wu-gonghai* Food

1.3.1. *Wu-gonghai* food

Big amount of chemical residues in foods is the first obstacle regarding food safety in China, the conception of *Wu-gonghai* food is put forward because of excessive using the chemical fertilizer³⁴. Following *Wu-gonghai* food rules allows to use the chemical fertilizer and pesticides in a certain level, but not to use high-residue or high-toxic fertilizer. '*Wu-gonghai* food' is rendered variously in English translation with no unified translation. It could translate either to 'hazard-free food' and 'pollution-free food' or 'farm safe food' and 'safe agriculture food'. From the Chinese point of view, the hazard-free food would be the precise

³³ Hang, X. (2014, 4 1). Comparison of Organic Product Standards and Certification Systems between Chinese and U.S. 中美有机产品认证标准及制度比较研究. Nanjing, Jiangsu, China: Nanjing Agricultural University.(p.26)

³⁴ 李显军. (2004-3). 理解绿色食品,有机食品和无公害食品. (许世卫, 编辑) 中国食物与营养 (Food and Nutrition in China), 57-60.(p.57)

translation. Since the word ‘Wu-gonghai’ indicates that the product may still contain ‘pollution’ but it is not obviously harmful to human beings.

Steven Savage from Forbes news points out that the productivity of organic farming is typically lower than the conventional production. Also indicates that organic agriculture produced less amount of food relied on the same land as conventional agriculture³⁵. Also, back to 1971, similar evidence had been found in a speech made by Earl Butz, at that time the Secretary of the USDA. The speech declared that ‘before we go back to an organic agriculture in this country, somebody must decide which 50 million Americans we are going to let starve or go hungry’³⁶. Apparently, China cannot satisfy with its demand for food if relying on organic agriculture individually. Moreover, China Plant Nutrition and Fertilizer Institute Executive Director, Shaohai Yang, indicated that chemical fertilizers can give the nutrition to promote plant growth and the organic fertilizer can improve the condition of the soil. Thus, he suggests that an agricultural model which combines with organic and traditional agriculture is an ideal choice for China, who needs basic food safety with a high quantity of food³⁷.



Figure 6: Wu-gonghai Food Logo

1.3.2. Green Food

Green Food is a MOA initiative which aims to improve human health and environmental sustainability. In fact, SEPA comes up with the organic food certification just for being at the same pace as the international market. However, in the domestic market, most food companies would choose the Green Food certification products rather than the organic

³⁵ Savage, S. (2015, 10 9). The Lower Productivity Of Organic Farming: A New Analysis And Its Big Implications. Retrieved from Forbes: <https://www.forbes.com/sites/stevensavage/2015/10/09/the-organic-farming-yield-gap/#44f902c5e0e5>

³⁶ W.Lockeretz. (2007). What Explains the Rise of Organic Farming? . In W.Lockeretz, Organic Farming-- An International History (pp. 1-9). London: CAB International 2007.(p.2)

³⁷ CCTV.com. (2012 年 1 月 18 日). 有机食品也可能有毒? 检索来源: CCTV.com 央视网: <http://www.cctv.com/>

certification products³⁸. As to move towards meeting international organic standards, national Green Food certification has divided into two grades since 1995. The one is the Green Food grade A, which requires that the use of pesticides, fertilizers, and other agricultural chemicals could be in a limited amount on the basis of improving soil quality and preventing pests. Though, the limitation is stricter than which the Wu-gonghai food has. The other is the Green Food grade AA, a closer level to organic food, which requires the standards are equal to the organic standards, all chemicals inputs are prohibited in the whole food process chain. But, the process procedures and certification procedures are different from the organic food. According to the Report on Consumers³⁹, it is hard to distinguish between the Green Food AA logo and the Green Food A logo. As shown in Figure 7, the Green Food AA logo is with green characters and white background. However, it is exactly the opposite of the Green Food A logo, which is with white characters and green background.



Figure 7: Green Food logo: Green Food AA (left); Green Food A (right)

The Green Food has been a remarkable innovation of Chinese domestic food market⁴⁰. It provides a transition pathway for farmers to move from the Chinese traditional agriculture to reducing chemical inputs regime, and from Chinese national standards to internationally recognized organic standards⁴¹.

³⁸ 李显军. (2004-3). 理解绿色食品, 有机食品和无公害食品. (许世卫, 编辑) 中国食物与营养 (Food and Nutrition in China), 57-60. (p.59)

³⁹ 消费者报道 (Report on Consumers). (2017, 08 08). 有机食品、绿色食品、无公害食品谁更好怎么分别? (how to distinguish among Organic Food, Green Food and Wu-gonghai Food, and which one is better?). Retrieved from 新浪财经头条 (Sina News):

<http://cj.sina.com.cn/article/detail/2792675770/351224>

⁴⁰ Paull, J. (2008). The Greening of China's Food- Green Food, Organic Food, and Eco-labelling. (p.6)

⁴¹ Paull, J. (2008). The Greening of China's Food- Green Food, Organic Food, and Eco-labelling. (p.6)

1.3.3. The relationship between three Chinese eco-foods

In other words, the Green Food is like a middle transition between *Wu-gonghai* food and organic food. Put simply, there is a description that the structure of these three eco-foods is like a ‘Golden Triangle’ (Figure 8), the upper the stricter.

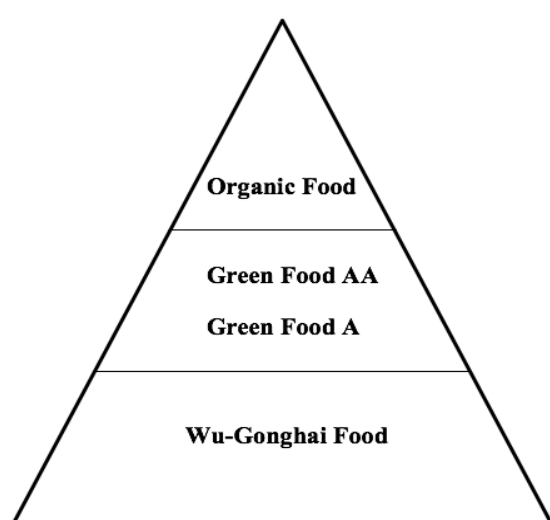


Figure 8: Three Chinese eco-food certifications triangle

According to Xianjun’s research⁴², Wu-gonghai food and Green Food are quite different from organic food on the side of the certification process as well as legal standards. For example, in organic certification standards, no harmful chemicals or pesticides has been applied for at least two years for annual crops and three years for perennials. However, the others can use pesticides with reasonable limitations. Plus, organic processing requires a two to three-year conversion period so as to eliminate the hidden danger of the residual. Nevertheless, there is no need for a conversion period during Green Food or Wu-gonghai food certification. Moreover, the quantity of organic food is strictly controlled. There is a limited quantity within a specific land. However, the limitation of quantity is not mandatory for the others. Lastly, the GMO is prohibited in the organic food production and the Green Food production, but is tolerated in the processing of Wu-gonghai food.

However, a local survey⁴³ in Beijing indicates that Chinese average consumers cannot always make the right choices between these three categories. Most consumers got confused when facing different labels, and thought ‘food products with green labels are organic food’. Thus,

⁴² 李显军. (2004-3). 理解绿色食品,有机食品和无公害食品. (许世卫, 编辑) 中国食物与营养 (Food and Nutrition in China), 57-60.

⁴³ Guofu Zhang, Peng Li, Shuhuan Feng. (2017). 有机食品市场调查及问题分析(Organic Food Market Investigation and Problem Analysis) -- 以北京大型超市为例 (Taking Beijing supermarkets for Examples) . 农产品质量与安全 (Quality and Safety of Agriculture Products), 67-70 (p.69).

cancelling the Green Food labels and Wu-gonghai labels seems like one way to unify the organic food market. However, in 2002, the Agro-Environment and Development department announced that the implementing *Wu-gonghai* food certification actually fits the national condition of the PRC⁴⁴. Comparing to promoting organic food market, Green Food and Wu-gonghai food actually have a higher chance to develop in China. Consequently, the valid solution could be public-oriented education, not only consumers but also food handlers, such as a broader dissemination of the differences between those three eco-food categories. This recommendation will be illustrated and presented in the Chapter IV.

⁴⁴ 高怀友王菲. (2002). 论我国的无公害食品标准体系. 农业环境与发展 (Agro-Environment and Development), 1-3.(p.1)

Chapter II provides a basic introduction of the European Union's policy regime and the history of the EU's organic growth to some Chinese readers who may not have knowledge on these topics. Furthermore, this Chapter introduces some EU initiatives which are for the purpose of developing EU's organic agriculture. The aim of this Chapter is to give readers a better understanding of the influence of the historical background that contributes to the good reputation of the EU's organic food system.

2.1. EU's Policy Regime

In the EU, in order to address a Regulation in a specific area, multiple sectors are involved in decision-making procedures. A proposal of new legislation is made by the Commission itself, the European Parliament, the Council, any EU citizen, or a quarter of the EU Member States (depending on the subject), the Court of Justice of the EU, the European Investment Bank or the European Central Bank. Then the Commission with the help with all kinds of experts draft the proposal, after that, the proposal is reviewed by the European Parliament and the European Council, and is open for objection from the national parliament, if the proposal manages to get through this process, it is passed and come into force immediately

The European Council, the European Commission, and the European Parliament make co-decisions and issue Regulations, Directives, and Decisions. Due to the Regulation is binding legislative act, it must be mandatory to all EU Member States⁴⁵. Thus, the organic food certification procedures should encompass requirements what are literally written in the Regulations.

The Regulation is not an order from the European Commission. Instead, it takes into account voices from all Member States. During the consultation process, the Commission regulations are usually developed in cooperation with the Committee in Organic Production by activities like Expert hearings⁴⁶ as well as Consultation with Stakeholders⁴⁷. The Committee in organic production is comprised by representatives of all EU countries and a Commission representative as the chairperson. The intentions of establishing the Committee are to ensure close cooperation within the organic authorities and to guarantee uniform application of the relevant EU laws for all Member States⁴⁸. Also, the Civil Dialogue Group on Organic Farming is an organisation which assists the Commission in maintaining a regular dialogue on all matters related to organic farming. Although the decisions taken in this group are not

⁴⁵ European Union Institutions. (2017, 11 16). Regulations, Directives and other acts.

⁴⁶ More information about Export Hearings: https://ec.europa.eu/agriculture/organic/eu-policy/policy-development/expert-hearings_en

⁴⁷ More information about Consultation with Stakeholders: https://ec.europa.eu/agriculture/organic/eu-policy/policy-development/consultation-with-stakeholders_en

⁴⁸ European Commission. (2017, 11 20). Committee on Organic Production.

binding, this cooperation allows decision makers to hear the voice of people, so that organic farming policy can be developed further⁴⁹.

2.2. The formulation of the EU's organic Regulations

In 1991, the first Regulation on Organic farming, the Regulation (EEC) No 2092/91, was issued by the European Council of Agricultural Ministers. This Regulation had two crucial meanings at that time. One was that it presented the possibility of importing organic products from non-EU countries with criteria equalled to the EU's. The other was that this Regulation formulated EU-wide minimum standards to ensure consumers could get organic products in any EU country in the certainty that met the qualified minimum requirements⁵⁰.

The Council Regulation (EC) No 834/2007 was issued in 2007 and established the legal framework for all levels of production, processing, certification, labelling, and control of organic products which may be put on the EU's market. The previous Regulation 2092/91 was simultaneously repealed. Apart from that, there were two commission regulations released in 2008 in order to implement details of the Regulation 834/2007, which were the Commission Regulation (EC) No. 889/2008 with detailed rules on production, labelling and control and the Commission Regulation (EC) No. 1235/2008 with detailed rules concerning import of organic products from third countries. In order to improve monitoring the movements of organic products and the consistency of import checks, a new Commission rule, Implementing Regulation (EU) 2016/1842, was published by the European Commission in October 2016.

2.2.1. The EU's organic logo

Organic farming is part of a large supply chain, which covers food supplying, production, processing, distribution, and, ultimately, final consumers. In order to get trust from consumers at every single stage, EU organic operators should always make organic products be distinguished from conventional ones. Thus, the Logo became a significant part of the organic regulation. The use of the logo and correct labelling are addressed in the Regulation (EC) No 834/2007 and the Regulation (EC) No 889/2008. Chapter V of this thesis will give a further explanation.

The new version of the EU organic logo (Figure 9) is updated with the Commission Regulation (EC) No. 271/2010. On one hand, this logo intends to make organic products easier to be identified by consumers. On the other hand, it offers a visual identity to the organic farming sectors and ensures a harmonization and proper functioning of the organic internal market.

⁴⁹ European Commission. (2017, 11 20). Civil Dialogue Group on Organic Farming.

⁵⁰ European Commission. (2017, 11 20). Organic Farming Policy: The History Background.



Figure 9: EU organic farming logo

2.3. The organic agriculture growth and the support initiatives in the EU

2.3.1. EU's organic growth

The organic sector was one of the most dynamic sectors of EU agriculture, with a speed of increase of the average 500 000 ha per year in the organic area for the last decade. According to the latest data from Eurostat, the organic area in the EU increased from 5.0 million ha up to a total area of 11.1 million ha during the period of 2002—2015⁵¹. To correspond with the increasing of land, the value of organic production had also increased steadily by 5% -- 10% every year in the last ten years, amounting to EUR 24 billion in 2014⁵².

Organic can be described as a new lifestyle but it has developed since long time ago. In 1985, certified and policy-supported organic lands accounted for just 0.1 million ha in the EU. However, this had increased to more than 2.8 million ha by the end of 1998 and it had been a nearly 30-fold increase within 13 years (Figure 10).

⁵¹ European Commission. (2016, 12). Facts and figures on organic agriculture in the European Union. (R. Rossi, Ed.) Agriculture and Rural Development, 1-47.(p.9)

⁵² European Commission. (2016, 11 23). Organic production: authorisation 39 substances in line with principles of organic production. Retrieved from Agriculture and rural development: https://ec.europa.eu/agriculture/newsroom/276_en

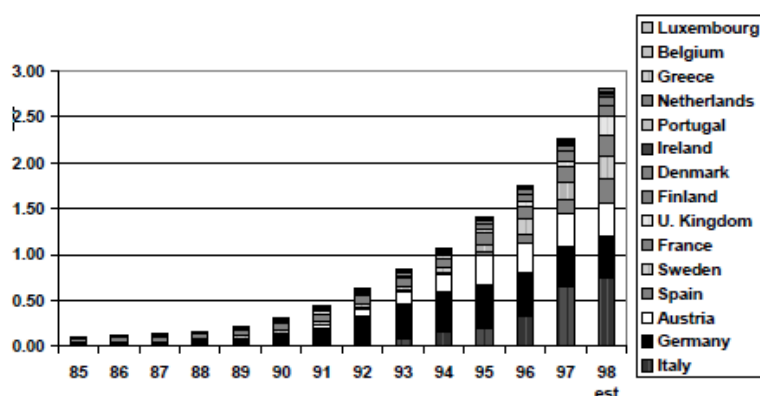


Figure 10: Certified and policy-supported organic and in-conversion land area (Mha) in the EU, 1985-1998⁵³

As might be expected, the organic market has increased along with the growth in the supply base. However, the main expansion of the land has taken place after implementing the Regulation (EC) No.2092/91 since 1993. This Regulation, the first organic certification Regulation, provides a basic security for agro-food sectors to respond to the rapidly increasing demand in the organic market of Europe⁵⁴.

Organic farming has developed stronger during the 1990s. It is to some degree caused by political support for regarding organic farming as a type of environmentally friendly agriculture. In other words, the policy goals and organic farming underlying principles gradual meet each other. Plus, the biggest advantage of organic farming is that it can simultaneously achieve multiple policy goals, environmental protection, animal welfare, resource use sustainability, food quality and safety, reducing problems of over-production, etc.⁵⁵ The Regulation (EC) No. 2078/92, which provides the financial basis of overcoming real barriers during the conversion periods, is one of the examples of political supports.

2.3.2. EU's Funding — Common Agriculture Policy

Moreover, in almost all EU countries, the food markets are strongly supported financially by the Common Agriculture Policy (CAP), which was born in 1962 and experienced three major reforms in 1992, 2003 and 2013. The reform of 1992 changed the financial support methods from through increasing product price to through direct payment to producers. Then, in 2003, the second reform of CAP consolidated the shift the payment schemes into the Single Payment Scheme (SPS) and the Single Area Payment Scheme (SAPS). These schemes paid more respect to food safety, environmental protection and animal health and welfare standards. The scheme transformed into a land-based payment scheme after 2013, which was

⁵³ Source: Lampkin, N. (1999, 5 27-28th). Organic Farming in the European Union – overview, policies and perspectives. EU conference, 1-8.(p.2)

⁵⁴ Lampkin, N. (1999, 5 27-28th). Organic Farming in the European Union – overview, policies and perspectives. EU conference, 1-8.(p.2)

⁵⁵ Lampkin, N. (1999, 5 27-28th). Organic Farming in the European Union – overview, policies and perspectives. EU conference, 1-8.(p.3)

described as a sustainable agriculture with ‘green direct payments’⁵⁶. Between 2014 and 2020, the new CAP estimates that over 100 billion euros will be spent in the European Union’s rural areas to help farming meet the challenges of negative environmental changes. Meanwhile, at least 30 percent of the budget will have to be allotted to the organic farming. Plus, the new CAP with a higher efficiency and transparency is also called the green CAP⁵⁷.

2.3.3. Evaluation research on governmental support for organic farming

In order to measure the efficiency of different EU funds and governmental supports, the European Commission ordered a study in 2011, which examined different types of financial supports. The output of the study points out that the integrated policy packages are more effective⁵⁸. Since organic farming is a diversified concept, it’s not simply a case of more producers equal to more profits. Thus, single policy measures for organic farming are highly interdependent. Therefore, a basic assumption for future policy development to encourage organic farming has to focus on integrated action plans with multiple stakeholders⁵⁹.

2.3.4. European Action Plan

In 2004, in order to give future impetus to organic sectors in Europe, the European Commission addressed an Action Plan for organic food and farming. This Action Plan follows the rapid growth in the number of organic farmers and durable consumer demand during the past few years. This plan includes 21 initiatives, such as gathering information about organic farming, streamlining governmental financial supports, improving organic production standards, increasing production efficacy, transparency, and consumer confidence.

Hereafter, according to the result of the study and the consultation in 2013, the Commission approves a new Action Plan to help organic farming meet the future challenges. This Action Plan includes 18 actions, such as informing farmers on rural development policy, encouraging farmers’ production organically, connecting EU researches and innovation projects with organic production, as well as encouraging the use and trade of organic products⁶⁰. To sum up, EU’s government supports deeply promote the development of organic farming in Europe. Moreover, the picture below (Figure 11) vividly describes the EU supports for organic producers.

⁵⁶ Glossary of terms related to the CAP: https://ec.europa.eu/agriculture/glossary_en

⁵⁷ The new CAP: https://ec.europa.eu/agriculture/organic/eu-funding/eu-funding-and-the-new-cap_en

⁵⁸ Study of government support for organic farming: https://ec.europa.eu/agriculture/organic/organic-farming/studies_en

⁵⁹ Lampkin, N. (1999, 5 27-28th). Organic Farming in the European Union – overview, policies and perspectives. EU conference, 1-8.(p.5)

⁶⁰ European Commission. (2014, 3 24). Action Plan for the future of Organic Production in the European Union. Brussels, Brussels, Belgium: https://ec.europa.eu/agriculture/organic/sites/orgfarming/files/docs/body/act_en.pdf



Figure 11: EU Support for Organic Producers⁶¹

2.3.5. The kid's Corner

It is a website created by the EU's Organic Farming department⁶². It describes an Organic farm, Oona's farm, where chickens lay organic eggs and cows produce organic milk. The main function of this website is to vividly introduce organic farming to kids with cartoon and easy-understanding storyline. Also, it contains videos and games in order to encourage young kids to get involved and to remember. This initiative of spreading the positive side of organic farming to kids builds a foundation of a benign development of organic farming in the EU.

⁶¹ Source: https://ec.europa.eu/agriculture/organic/sites/orgfarming/files/docs/body/support-opportunities-guide_en.pdf

⁶² Kid's Corner: https://ec.europa.eu/agriculture/organic/kids-corner_en

Chapter III: Comparative Analysis of Standards between China and the EU

This Chapter gives distinctive comparisons of regulations, standards and rules between China and the EU. These comparisons are based on legal laws listed in Table 3 (China) and Table 4 (EU). Meanwhile, functions of these laws are listed in the right columns of these two Tables.

Standards and Regulations	Functions
Organic Regulation GB/T 19630.1-2011 ⁶³	Production
Organic Regulation GB/T 19630.2-2011 ⁶⁴	Processing
Organic Regulation GB/T 19630.3-2011 ⁶⁵	Labelling and Marketing
Organic Regulation GB/T 19630.4-2011 ⁶⁶	Management System
Chinese Administrative Measures on Organic Product Certification (Decree No.155) ⁶⁷	Accreditation, Import.
Implementation Rules for the Certification of Organic Products (CNCA-N-009) ⁶⁸	Accreditation

Table 3: Legal Laws of People's Republic of China

⁶³ AQSIQ. (2011, 12 05). GB / T 19630.1- 2011. Beijing, Beijing, China: 中华人民共和国国家标准.

⁶⁴ AQSIQ. (2011, 12 05). GB / T 19630.2 - 2011. Beijing, Beijing, China: 中华人民共和国国家标准.

⁶⁵ AQSIQ. (2011, 12 05). GB / T 19630.3 - 2011. Beijing, Beijing, China: 中华人民共和国国家标准.

⁶⁶ AQSIQ. (2011, 12 05). GB / T 19630.4 - 2011. Beijing, Beijing, China: 中华人民共和国国家标准.

⁶⁷ AQSIQ. (2014, 4 1). Chinese Administrative Measures on Organic Product Certification (Decree No.155). 国家质量监督检验检疫总局《有机产品认证管理办法》（总局令第155号）. Beijing, Beijing, China.

⁶⁸ CNCA. (2014, 4 23). Implementation Rules for the Certification of Organic Products. 有机产品认证实施规则. Beijing, Beijing, China.

Regulations	Functions
Council Regulation No.834/2007 ⁶⁹ (repealing the Regulation (EEC) No 2092/91)	General Principles on Organic Products (Production, Process, Labelling, Packaging, Marketing, Management System, and Import.)
Commission Regulation (EC) No 889/2008 ⁷⁰	Detailed rules for implementing the Regulation No. 834/2007 with regards to production, labelling and control.
Commission Regulation (EC) No 1235/2008 ⁷¹	Detailed rules for implementing the Regulation No.834/2007 as regards the arrangements for imports of organic products from third countries.
Commission Regulation (EU) No 271/2010 ⁷²	Amending Regulation (EC) No 889/2008, as regards the organic production logo of the European Union.
Commission Implementing Regulation (EU) 2016/1842 ⁷³	Amending both the Regulation No 1235/2008 and the Regulation No 889/2008.

Table 4: Legal Laws of European Union

As mentioned in the Methodology earlier, the logic of carrying this comparative study was completed by following the appropriate stages in the organic food supply chain. The analysis is based on the initial Organic Regulations—Regulation 834/2007 (for the EU) and the Organic Regulation GB/T 19630-2011 (for China). Related rules and standards would be explained if needed for specific sections following the supply chain.

⁶⁹ European Council.(2007).Council Regulation (EC) No 834/2007.Brussels, Brussels, Belgium.

⁷⁰ European Commission.(2008).Commission Regulation (EC) No 889/2008.Brussels , Brussels , Belgium .

⁷¹ European Commission. (2008).Commission Regulation (EC) No 1235/2008.Brussels, Brussels, Belgium.

⁷² European Commission.(2010).Commission Regulation (EU) No 271/2010. Brussels, Brussels, Belgium.

⁷³ European Commission (2016).Commission Implementing Regulation (EU) 2016/1842. Brussels, Brussels, Belgium.

3.1. Organic Production and Processing

3.1.1. Overall principles:

The GB.2 and the Regulation 889/2008 include detailed rules on processing, packaging, storage, and transport of organic products. A remarkable characteristic of the EU's food system, during the food processing chain, is that the precautionary measures always have priorities. For example, the Article 2.2a of the Regulation 2016/1842 asks taking precautionary measures to avoid the risk of contamination by unauthorised substances or products.

Besides, in both Regulations, most of the definitions are similar except for the 'Buffer Zone' in China's GB.1. It means a placed transition zone between conventional and organic areas, for the purpose of blocking off unacceptable materials to the organic region (Article 3.6 of GB.1). Plus, the productions which grow on the **Buffer Zone** cannot be certified as organic products (Article 5.4 of GB.1). There is no such an area defined in the EU Regulation.

3.1.2. Plant production

3.1.2.1. General requirements on plant production

Even though EU Regulation emphasizes that the inputs should be organic or natural resource (Article 4 (a) (b) of Regulation 834/2007), the Regulation also lists the strict limitations of the use of chemically synthesized inputs when some exceptions are met (Article 4(c) of Regulation 834/2007) and mentions that it is crucial to adopt different practices in different conditions (Article 4(d) of Regulation 834/2007).

On the contrary, China's Regulation seems more 'strict', as it addressed in Article 4, there is no chemical synthesized inputs could be used neither in the protection of plant, nor enriching soil (Article 4.5.4 and 4.5.5 of GB.1). And the only alternative which could be taken during plant production is a reasonable irrigation (Article 5.6.3 of GB.1). However, this 'strict' could be regarded as less comprehensive.

3.1.2.2. Requirements of fertilizer and pesticides.

According to the Regulation 889/2008, the fertilizer and pesticides only can be used if it exists on the list of Annex I and Annex II of this Regulation (Article 3.1 and Article 5 of Regulation 889/2008). Meanwhile, this requirement is also similarly addressed in Annex A.1 and A.2 of the GB.1. After comparing these Annexes, the following differences are found.

First of all, fertilizer from animal origin is better managed in the EU. Even though the composted or fermented household waste and animal original products can be used both in China and the EU, the details of usage amount and the minimum levels are set specifically in the EU's Regulation and are not found in the Chinese GB Regulation. For example, in Annex I of the Regulation 889/2008, for products obtained from household waste to composting or

fermentation for biogas production as organic fertilizer, the maximum concentration of dry matter are set. i.e. cadmium 0.7mg/kg, copper 70 mg/kg, nickel 25mg/kg, lead 45 mg/kg, zinc 200 mg/kg, mercury 0.4 mg/kg, chromium 70 mg/kg in total, and the maximum limit of **chromium (VI) is zero**. Moreover, the description of products or by-products from animal origin especially lists that the maximum limit of **chromium (VI) is zero**. In my opinion, it's crucial to set a limitation of Cr (VI) in the composition, because the Cr (III) may convert to the Cr (VI) with the high temperature of the fermentation, in addition, the Cr (VI) compounds are genotoxic carcinogens and long-term harmful for the environment. However, in the GB.1, the only requirement of products from animal origin is 'after fermentation', without any further measures which can test the extent of the fermentation or the maximum level of the concentration of dry matter.

Secondly, vague vocabularies can also be found in the GB's Annex, for the limitation of mineral origin fertilizers, i.e. all categories of the mineral source should come from '**natural source**', without chemical treatment and no chemical added'. Compare to the 'natural source', the requirements for fertilizer of the mineral origin are regulated more reasonably in the EU Regulations. First of all, there are more categories of the mineral source can be used in the EU, such as Aluminium-calcium phosphate, Basic slag, Magnesium sulphate, Calcium sulphate, Elemental sulphate, Industrial lime from sugar production, and etc. Allowing using more categories of mineral source fertilizer does not mean that the EU Regulations are better, but it can be deemed as better regulated if it is with a detail limitation of the usage of the mineral source fertilizer. The Regulation 889/2008 combines requirements with the Regulation 2003/2003 when setting the limitations. For example, according to the Regulation 2003/2003, the minimum content of Calcium sulphate (gypsum) is 25% CaO and 35% SO₃ and the data on the expression of nutrients in gypsum should be express as the total amount of CaO plus SO₃.

Furthermore, the EU Regulation' advantages are also revealed by the limitation of pesticides for plant protection. In the EU's Regulation, maximum levels of metal elements in pesticides are set. For example, it indicates the intake of Copper should be less than 6 kg copper per ha per year. However, the GB.1 only states that 'should take into account that the overuse of Copper would cause the environmental pollution'. Moreover, **the Bordeaux Liquid can be used as Fungicide in China, but cannot be used in the EU**. In my opinion, the EU regulation regulates the limitation of pesticides better than Chinese GBs. It is wise to set the maximum level of metal elements in pesticides because the metal elements may be absorbed by the soil and would cause the permanent damage to the environment. Similarly, the same consequence would happen for the Bordeaux Liquid. It has been found to be harmful to fish, livestock, and earthworms. Also, there was evidence that the workers got sick or died of poisoning due to the toxic chemical in Bordeaux mixture in Latin America around 1922.

3.1.3. Organic Processing

Under both systems, in the organic processing phrase, the crucial of separating the organic and non-organic ingredients are accentuated multiple times. In the EU Regulations, organic

products should be processed, stored and transported separately **by place or time** from non-organic products (Article 26.5 of the Regulation 889/2008 and Article 19 of the Regulation 834/2007). However, there is a slightly different about this requirement under the GB.2. The GB.2 indicates that organic products should be separated from non-organic products, **via dividing areas**, during processing, storing and transporting (Article 4.2.5.1, Article 4.2.5.4 and Article 4.5.6.2 of GB.2)

3.2. Organic logo

3.2.1. Definitions

The definitions of ‘Labelling’ in both Regulations mean all kinds of marks and symbols placed on any packaging or document in order to indicate the specific situation of the product. In the GB.3, the Certification mark is equal to organic labelling. And the ‘Organic production logo of the European Union’ (Article 1 of the Regulation 271/2010) is equalled to Organic labelling in the EU. Hereby, in order to make a harmonisation, the ‘Organic Logo’ below refers to the organic product labelling in both systems.

3.2.2. Requirements of the Organic Logo

In the Chinese requirements, the Article 6 of the GB.3 explains how to calculate the percentage of product’s ingredients—Q. There are three different conditions:

- **For dry products**, the percentage of product’s organic ingredients is calculated following the formula (Article 6.2 of GB.3):

$$Q = \frac{m_1}{m} \times 100\%$$

m_1 – the total mass of organic ingredients, unit is (Kg);

m – the total mass of product, unit is (Kg).

- **For liquid products**, the percentage of product’s organic ingredients is calculated following the formula (Article 6.3 of GB.3):

$$Q = \frac{v_1}{v} \times 100\%$$

v_1 – the total volume of organic ingredients, unit is (L);

v – the total volume of product, unit is (L).

- **For solid-liquid mixture**, the percentage of product’s organic ingredients is calculated following the formula (Article 6.4 of GB.3):

$$Q = \frac{m_1 + m_2}{m} \times 100\%$$

m_1 – the total mass of solid organic ingredients, unit is (Kg);

m_2 – the total mass of liquid organic ingredients, unit is (Kg);

m – the total mass of product, unit is (Kg).

Plus, there are some certain rules of labelling on the basis of different Q:

- When $Q \geq 95\%$ and this product is certified as organic, the certification mark—‘Organic’(Figure 4) can be used as its label (Article 5.1 of GB.3);
- When $Q \geq 95\%$ and this product is certified as Conversion to Organic, the certification mark—‘Conversion to Organic’(Figure 3) can be used as its label (Article 5.2 of GB.3);
- When $70\% \leq Q \leq 95\%$, the product can be labelled as ‘Organic ingredient production’. Besides, the percentage of certified organic ingredients should be marked aside to the logo (Article 5.3 of GB.3);
- When $70\% \leq Q \leq 95\%$ and the ingredients are in the conversion period, the product can be labelled as ‘Conversion to Organic ingredient production’. Besides, the percentage of certified Conversion to Organic ingredients should be marked aside to the logo (Article 5.4 of GB.3);
- When $Q \leq 70\%$, the whole product cannot be labelled as ‘organic’. Only the ingredients that are certified as organic can be labelled as ‘organic’. Besides, the percentage of certified organic ingredients should be marked aside to the logo (Article 5.5 of GB.3);
- When $Q \leq 70\%$ and the ingredients are in the conversion period, the whole product cannot be labelled as ‘Conversion to Organic’. Only the ingredients that are certified as Conversion to Organic can labelled as ‘Conversion to Organic’. Besides, the percentage of certified Conversion to Organic ingredients should be marked aside to the logo (Article 5.6 of GB.3).

Under the EU’s system, the percentage of the product’s ingredients has three different ways to calculate. The organic logo (figure 9) can be used in the labelling of products which satisfy the requirements set out under the Regulation 834/2007 (Article 25 of the Regulation 834/2007):

- **As regards live or unprocessed food**, ‘the terms referring to organic production method may be used only where, in addition, **all the ingredients** of that product have been produced in accordance with the requirements lays down in this Regulation’ (Article 23.1 of the Regulation 834/2007).
- **As regards processed food**, the terms referring to organic production should provide that, in the sales description, ‘**at least 95% by weight, of its ingredients** of agricultural origin are organic, as well as the processed food comply with the General rules on the production of processed food of the Regulation 834/2007’ (Article 23.4a of the Regulation 834/2007).
- **As regards feed products**, the organic logo may be used only **if at least 95% of the product’s dry matter** is organic (Article 59 of the Regulation 889/2008).

The rules of the logo for in-conversion products are different from the Chinese rules. Even though the in-conversion products may bear the indication of ‘product under Conversion to Organic farming’ to emphasize they are different from ordinary food products (Article 62 of the Regulation 889/2008), **the European Organic logo cannot be used in the case of in-conversion products** (Article 25 of the Regulation 834/2007).

3.2.3. Compulsory indications of organic logo

3.2.3.1. China

In Chinese GB.3, Article 7.2 gives compulsory indications that should appear in the labelling. They are:

- Chinese organic logo or Chinese Conversion to Organic logo; and
- The unique code number to each certification label; and
- The name or logo of the certifier.

The composition of the unique code number of the organic product is not regulated in the GB regulations, while it is regulated in the Implementation Rules for the Certification of Organic Products (CNCA-N-009). The Article 8 of this Implementation Rules addresses that Chinese organic product logo and its unique code number (An 'organic code' shall be placed before the number for easy identification) shall be indicated on the certified product or the smallest sales package along with the name or logo of the certification institution. **China implements the 'one product one code' regime, which means every Organic product has its Chinese ID number.** In addition, the Appendix 5 of this document lists rules on the code number of Chinese organic products. It consists of 17 digitals, which are:

- Code of the certification institution (3 digitals): it is formed by last three digits of the certification institution approval number. As regards a domestic certification institution, it is the three Arabic numbers of its approval number. As regards a foreign certification institution, it is 9 plus two Arabic numbers of its approval number; and
- Code of issuance year of the certification label (2 digitals): it is formed by last two numbers of the year; and
- Random code of certification label (12digitals): it is a random 12-digital number showing the number of organic certifications that issued by this certification institution. The rules for generating the random code can be formulated by each certification institution.



Figure 12: An example of Chinese organic product label

Furthermore, according to the Implementation Rules, the Conversion to Organic products produced within the first year after receiving the Conversion to Organic certificate for the first time shall only be sold as conventional products and shall not use Conversion to Organic product label or similar descriptive language (Article 8.7 of the Regulation CNCA-N-009).

3.2.3.2. European Union

In the European contents, Regulation 834/2007 and Regulation 889/2008 lay down specific criteria as to appearance, composition, size, and design of the Organic logo of the EU. In order to expound conditions for using Organic logo more clearly, the Regulation 889/2008 is amended by the Regulation 271.

As Schmidt mentioned, there are language barriers between EU Members, such as there is no distinction between ‘bio’, ‘eco’ and ‘organic’ in most languages. In order to protect Organic terminologies comprehensively plus apply the ‘from farm to fork’ scheme, the organic food would conform with Regulations both for farming and food processing, in addition, must be certified by a third control party⁷⁴. Accordingly, the origin of raw material and the third control body who gives the certification should be marked on the labelling to ensure the product’s qualification at every stage.

Under the Article 24 of the Regulation 834/2007, where the terms referring to organic production are used:

- The Code Number (format as: AB-CDE-999) shall also appear in the labelling; and
- The Organic logo of the EU as to pre-packaged food shall also appear in the labelling; and
- An indication of origin where the agricultural raw materials have been farmed, shall also appear in the same visual field as the logo and shall take the appropriate form:
 - i. ‘EU Agriculture’, where the agricultural raw material has been farmed in the EU,
 - ii. ‘non-EU Agriculture’, where the agricultural raw material has been farmed in third countries,
 - iii. ‘EU/ non-EU Agriculture’, where part of the agricultural raw material has been farmed in the EU while the rest has been farmed in a third country.

In addition, according to the Article 58 of the Regulation 889/2008 and the Article 1 of the Regulation 271, the Code number (AB-CDE-999) consists of three parts:

- Starts with two letters country codes of Member States (under ISO 3166); and

⁷⁴ Schmidt, H. (2011). Organic Food - A Private Concept's Take-over by Government and the Continued Leading Role of the Private Sector . In B. v. Meulen, Private Food Law -- Governing Food Chains Through Contract Law, Self-regulation, Private Standards, Audits and Certification Schemes (pp. 289-300). Wageningen : Wageningen Academic Publishers.(p.290)

- Flows with three letters decided by the Commission or each Member State, which links to organic production methods, such as 'bio', 'org', 'öko' or 'eko'; and
- Ends with a reference number which is in maximum three digits, to link with Authority bodies and control bodies of either Member States or third countries.

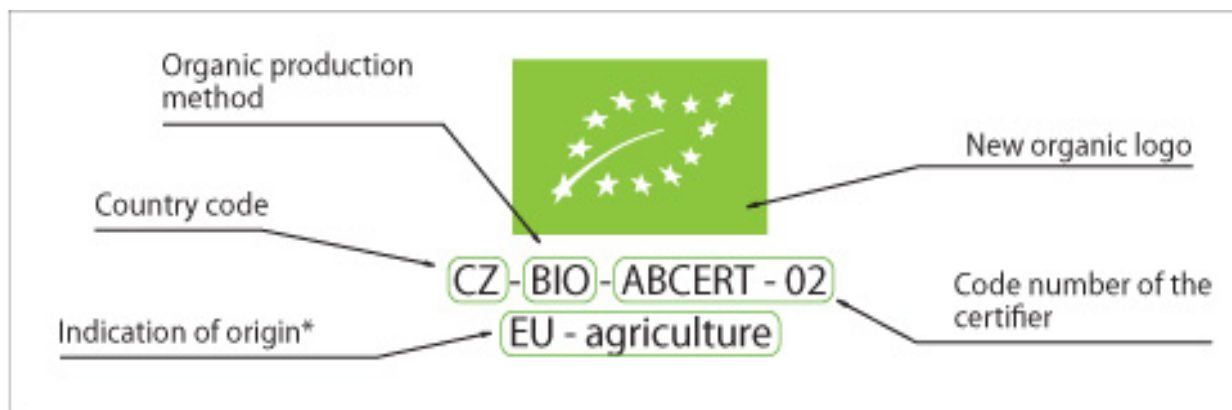


Figure 13: An example of EU organic product label

3.3. Organic certification procedures

3.4.1. China's Organic certification procedures:

3.4.1.1. Application

According to Article 5.1.1 of the CNCA-N-009, the applicant for certification shall meet the following requirements:

- Obtained the registered corporate qualifications at the State Administration of Industry and Commerce or related authorities⁷⁵;
- The products being produced or processed meet the requirements of relevant Chinese laws and regulations, safety and hygiene standards, and relevant norms;
- Established and implemented a documented management system for organic products, which has been operational for at least three months;
- The products applying for certification shall be within the 'Catalogue for Organic Product Certification' issued by CNCA;
- The organic certificate has not been revoked under items 1 to 4 in Article 8.5 by a certification body within five years;
- The organic certificate has not been revoked under items 5 to 11 in Article 8.5 by a certification body within in one year.

The appicate submits relevant documents and materials in the light of the Article 5.1.2 of the CNCA-N-009) to qualified certification bodies. Until December 2011, the number of

⁷⁵ The qualified corporate will obtain a 'business licence' after registration.

qualified certification bodies in China is 23, and all of them are published on the official website of CNCA (<http://food.cnca.cn/>).

Moreover, according to Article 5.2.3 of the CNCA-N-009, the applicants only can ask for certification for those products that are in the 'Organic Product Certification Directory'. This Directory became effective from 1st March 2012⁷⁶.

3.4.1.2. Reception of the certification application and inspection

Based on the Organic production requirements, the qualified certification body shall conduct the review on the application documents and materials within 10 days and keep the view of recording in accordance with the Article 5.2.2 of the CNCA-N-009.

After approving the qualification of the applicant on the basis of submitted documents and materials, the certification body shall plan and implement on-the-spot inspection, includes samples checking. The details for requirements of the inspection are addressed from the Article 5.3.4 to the Article 5.3.10 of the CNCA-N-009. Besides, an inspection report shall be formulated during the inspection period (Article 5.3.10 of the CNCA-N-009). Most of the inspection work is undertaken by inspectors who have corresponding knowledge and skills comply with the Article 3 of the CNCA-N-009, as well as qualification of the registered license issued by CCAA (Article 3.2 of the CNCA-N-009). To standardize inspection work and ensure justice, according to the Article 5.3.1 of the CNCA-N-009, the same inspector cannot be selected to inspect the same production unit of the same applicant for three successive years inclusive.

3.4.1.3. Certification decision

The certification body shall decide whether the applicant qualified based on documents reviewing and inspections in accordance with provisions established in the CNCA-N-009. The certification body shall issue a Certificate, according to the format requirement set out under the CNCA-N-009, if the applicant complies with the certification requirements (Article 5.4.1 of the Regulation CNCA-N-009). **And an example of Certificate could be found in the Appendix of this paper.**

In order to make the procedures clear to readers, pick COFCC as a certification authority for example. Applicants can download documents that they need via COFCC's website – <http://www.ofcc.org.cn/>. The flow of certification procedures (Figure 14) below gives a clear understanding of what COFCC and applicants would do at every step during certification.

⁷⁶ CNCA. (2016, 12 15). 关于发布《有机产品认证目录》的公告 (Announcement of releasing the 'Organic Production Certification Directory'). Retrieved from 国家认证认可监督管理委员会: http://www.cnca.gov.cn/ywzl/rz/spncp/tzgg/201612/t20161215_53288.shtml

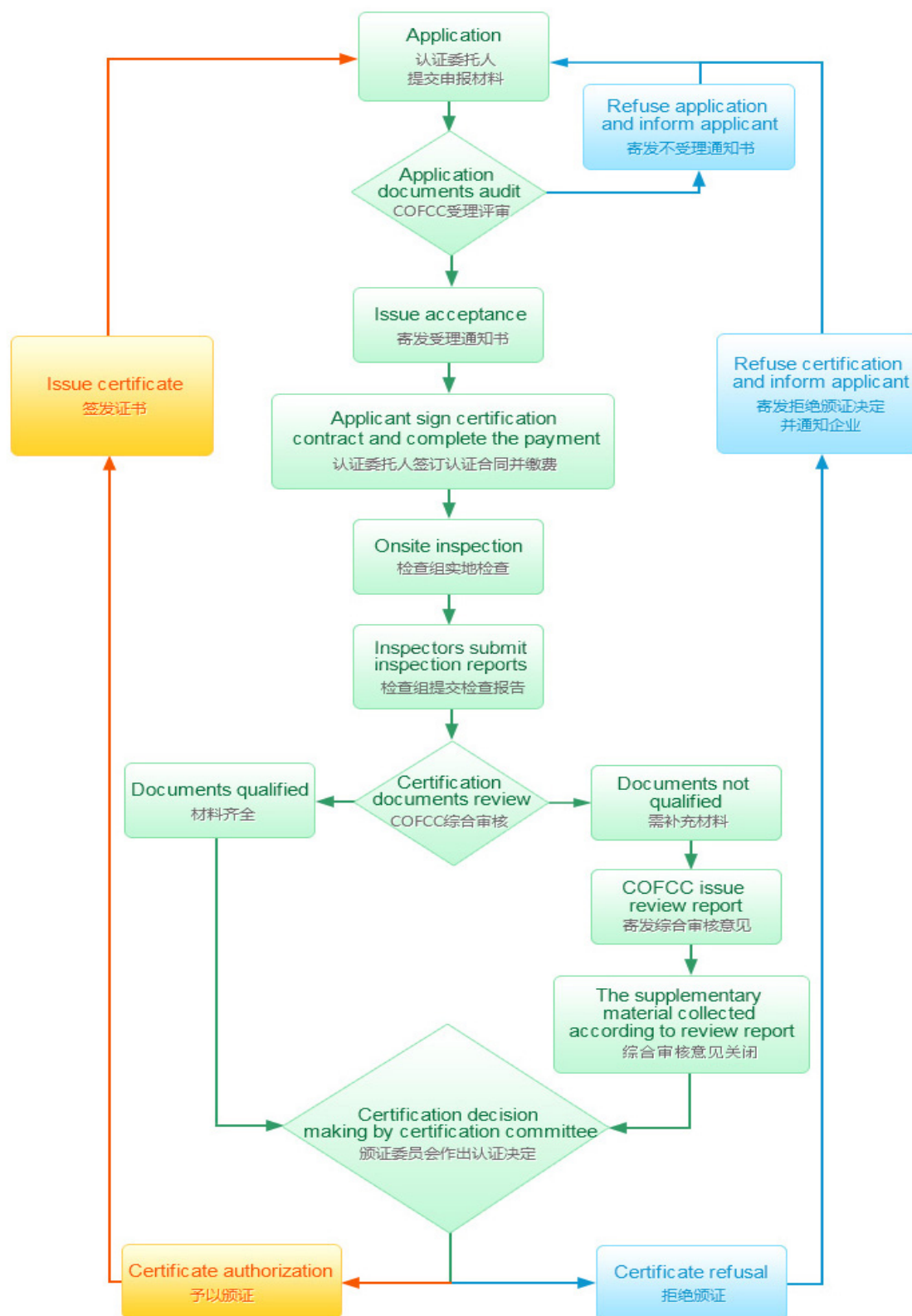


Figure 14: Organic Certificate Procedures in China⁷⁷

⁷⁷ COFCC (2018). 有机产品认证流程, 境内 (Organic Certification Procedures). Retrieved from <http://www.ofcc.org.cn/index.php?optionid=708>

3.4.2. EU's Organic Certification Procedures:

3.4.2.1. Ireland is picked as an example

Since the organic Regulations are the binding legislations in all the EU member states, they should be implemented in the same way. According to the Regulation 834/2007, the control bodies are private inspection bodies in the Member States who can carry out the inspection and certification of Organic operators (Article 2.p of the Regulation 834/2007). The competent agricultural authority– normally the Ministries for Agriculture, in the Member States, could provide information which supports measures are available and give specific advice for each country.

Thus, picking up one country as a representative of the EU would be more comprehensive to explain the detail of organic certification procedures. Moreover, because the official website of Irish Ministry for Agriculture, DAFM (Department of Agriculture, Food, and the Marine), is in English and provides complete Organic farming information, Ireland is picked as an example here to illustrate Organic certification procedure in EU.

3.4.2.2. Competent authorities in Ireland

In Ireland, DAFM is the competent authority for regulating the Organic sectors and ensuring that the obligations and requirements of the Regulation 834/2007. Four certification bodies are approved by DAFM to carry out Organic Certification work in Ireland, i.e. IOFGA (Irish Organic Farmers and Growers Association), Organic Trust Limited, BDA Certification – Organic and Demeter, and Global Trust Certification Limited. In order to be eligible for the Organic Farming Scheme in Ireland, farmers must be licensed by one of the five inspection bodies, must also register with the Organic Unit of the Department and farm organically for a minimum period of 5 years⁷⁸.

3.4.2.3. Irish Organic certification procedures

According to the Regulation 834/2007 and Regulation 889/2008, any operator who produces, prepares or imports from a third country organic produce for the purpose of marketing it, in general, must:

1. Submit the detail of their enterprise to inspection and certification by one of the approved certification bodies.
2. Register with the Department's Organic Unit under the DAFM. A registration form must be completed by both the operator and the relevant inspection bodies above.

⁷⁸ IOFGA: <http://www.agriculture.gov.ie/farmingsectors/organicfarming/>

IOFGA is the most authoritative certification body in Ireland. Accordingly using its official website (<http://iofga.org/>) as a reference can illustrate the steps to Organic Certification clearly.

3.4.2.3.1. Before Application

Before application, for farmers and growers, they can contact IOFGA via email (info@iofga.org) or phone number (090 64 33680) to get the standards/information pack. These packs include all the farmers need to apply for Organic farming. The IOFGA team will also explain how standards fit in with applicant's farming system, as well as give technical and other information on organic certification. This information service can help farmers who have no knowledge about Organic Farming to get high efficient work processes. For processors and retailers, they can also get information service provided by IOFGA before they apply for obtaining Organic certification for one or more food or feed products.

Farmers must complete a course that includes at least 25 hours. The course is part of the government's organic scheme, and it's mandatory for all farmers intending to start or change to Organic Farming⁷⁹.

3.4.2.3.2. Application

Then, the applicant shall fill in and send all application forms which are in the information package, includes appropriate IOFGA organic licence application forms and the DAFM OGR1 form, to IOFGA. Processors may have more forms to submit than farmers.

After IOFGA received applicant's submissions and the appropriate fee, a receipt will be delivered to the applicant.

3.4.3.3.3. Initial inspection

Once IOFGA has received and reviewed the applicant's application, no matter a farmer or a retailer, an inspector will contact the applicant directly to arrange a convenient date to undertake an on-the-spot inspection. The inspector will make an assessment and forward the inspection report from and summary to IOFGA.

3.4.3.3.4. Certification

The IOFGA Certification team will review the inspection report and other information. If everything is in order, the application will be submitted to the Certification Panel for review. Following the Certification Panel meeting, the first licence or trading schedule will be issued. In addition, for processors and retailers, obtaining the organic certificate (so-called first license or trading schedule in Ireland) will allow them to market and sell related organic

⁷⁹ Agribusiness, livestock, organic Tillage . (2016, 12 11). Organic Farming: How do I change? Retrieved from THAT'S FARMING: <http://www.thatsfarming.com/news/organic-farming-how-do-i-change>

products. However, for farmers who want to get grants from government, they can apply for government schemes or grants with the certified organic certificate.

3.4. Organic Control System / post certification administration

3.5.1. Certification renewal

According to the Article 8.1 of the CNCA-N-009, Chinese Organic Certificate has to be renewed every year. And qualified Organic operators shall submit re-certification requirement at least three months before the original Organic Certificate get expired (Article 7.1 of the CNCA-N-009). The maximum of re-certification period is three months after the original certificate's expiration. If any of the qualified organic units do not get re-certification out of this period, this unit should ask for Organic Certification from the very beginning again (Article 7.2 and 7.3 of the CNCA-N-009).

Even though there is no such requirement of renewing certification writing down in the EU's Regulations, the IOFGA indicates that the European organic certificate will need to be renewed annually⁸⁰. Also, IOFGA also suggests qualified operators to apply for re-certification 8-12 weeks before the date of the certificate's expiration.

3.5.2. Control visits

In both systems, the control institution⁸¹ conducts at least once a year a physical on-the-spot inspection (Article 6.1 of the CNCA-N-009 and the Article 65.1 of the Regulation 889/2008). Moreover, the control institution shall carry out random on-the-spot control inspections, primarily unannounced, and the frequency of inspections should be based on the results of risk assessments of non-compliance with the organic production rules (Article 65.4 of the Regulation 889/2008).

However, the Chinese Regulation adds one requirement that control institution shall conduct **random on-the-spot inspections to at least five percent of the total certified units every year** (Article 6.1 of the CNCA-N-009).

3.5.3. Records

In China, Article 12 of the Measures and the GB.4.2.6 illustrate the general principle of records, which is organic producers, processors, and handlers should make complete records of the certification process so as to ensure the traceability of certification process and results. **The records** should include stuff which can ensure the integrity, objectivity, and

⁸⁰ IOFGA: Step to organic certification (Farming) :<http://iofga.org/steps-to-organic-certification/>

⁸¹ Control institution in this chapter means the institution who takes the responsibility for controlling post organic certification administrative measures. It can either represent the control authority (public administrative organisation of a Member State to which the competent authority has conferred) or control body (an independent private third party carrying out inspection and certification in the field of organic production) in the EU's concept, or represent the certification bodies in China's concept.

transparency of the certification process, **and should be kept at least 5 years** (Article 4.2.6.a – p of the GB.4). Differently, the Regulation 889/2008 lists the specific mandatory information that the records shall provide (Article 72 and 76 of the Regulation 889/2008). However, **there is no requirement on the minimum time period of record-keeping in EU's Regulations.**

3.5.4. Sales license

Sales license is a unique license in China's organic system, issued by control institutions (Article 6.4 of the Measures). It states that the whole batch of products come from a certified unit. The function of sales licenses is controlling the sales scope and quantity of certified organic products. The sales license shall be transferred from the certified unit to the buyer when marketing the qualified products. Also, the certified unit shall keep a copy of the sales license for review by the certification institution.

According to the Article 8.2 of GB.3, organic business should ask documentary evidence from organic suppliers, the Organic Logo on the smallest package, Certificate copy, as well as Sales License. For loose food, non-packaged food, and aqua animal products, the business operator should set a specific area for sale, separating from conventional products (the Article 8.4 of GB.3). Differently, there is no requirement of the organic market in EU's Organic Regulations. Products could be put on the organic market as long as they are certified as Organic.

In other words, the sales license is the approval of qualified organic retailers, as well as a reference for verifying the sales scope and quantity of certified organic products for control institution. The basic format of sales license is referred to Appendix 3 of the Measures. **And an example of sales license could be found in the Appendix of this paper.**

3.5.5. Online information system

The China Food and Agricultural Product Certification Information System (<http://food.cnca.cn/>)(hereafter referred to Information System) is an online platform, and provides the basic information about certified agricultural products, includes organic products and qualified certification bodies.

The Information System is under supervision by CNCA. And CNCA shall update dynamic information of organic products certification regularly through the Information System (Article 40 of the Measures). In addition, the local certification regulatory authorities shall conduct supervision and inspections on organic products certification activities in their jurisdiction through the Information System in accordance with relevant certification information which is submitted and uploaded by certification bodies (Article 40 of the Measures).

The other function of this Information System is for providing a better traceability to consumers. Consumers could search the qualification of the organic products they purchased

through the Information System according to the code number. If consumers cannot find the corresponding product via code number, or if the information of the product is incompatible with what the Information System provides. According to Article 46 of the Measures, any organisation and individual can report violations of organic product certification activities to CNCA or local certification regulatory authorities. Relevant competent authorities shall investigate and deal with it promptly, and keep the reporter secret.

3.5.6. Measures in case of infringements and irregularities

According to the Article 30 of the Regulation 834/2007, where a severe infringement with prolonged effort is found, the control institution shall prohibit the operators concerned from marketing products and inform Member States concerned, when appropriate, inform the Commission. In addition, details of measures and communications are addressed in the Article 91 of the Regulation 889/2008. In addition, about the fee of non-compliance would be decided by the Member States in accordance with the Regulation 882/2004 on official controls.

According to the Chapter SIX of the Measures, where infringements or irregularities are found, the control institution shall not only prohibit the operators concerned from the market but also ask a penalty maximum to 30,000 RMB, as well as confiscate the illegal income.

Since the penalty and non-compliance are always dealt case by case, it is hard to harmonize the two systems together for a general analysing. Thus, this paper will not discuss this part in detail.

3.3. Import rules and import management

3.3.1. China

The provisions of import are listed in the Chapter Three of the Chinese Administrative Measures on Organic Product Certification—Decree No.155 (Hereinafter referred to as the Measures).

CNCA is the competent institution who carries out international cooperation in the field of organic production in the light of the principles of equality and mutual benefit. And the international mutual recognition should be carried out within the external cooperative agreements China has signed (Article 6 of the Measures).

According to the Article 17 of the Measures, Competent agencies of countries or regions, who intend to export organic products to China, can make organic product certification systems equivalence assessments application to CNCA. CNCA accepts the application and organizes an expert group to assess the submitted application. The assessment can be conducted in forms of documentary review, on-the-spot inspection, etc.

There are two categories of Exporters pursuant to their original organic certification systems.

- For those countries and regions whose organic product certification systems are equivalent with China, CNCA can sign relevant Memorandum with their competent authorities. When exporters of these countries or regions intend to export organic products to China, they shall comply with the management provisions set out in the signed Memorandum (Article 18 of the Measures).
- For those countries and regions that do not have the equivalent organic system as China, when exporters of these countries or regions intend to export organic products to China, shall comply with relevant Chinese laws and regulations of organic products and GB19630-2011 (Article 19 of the Measures).

The certification requirements must strictly follow the Chinese legal procedures in the Measures as well as the Chinese organic GB Regulations, and every submitted material should have an extra Chinese version (Article 21 of the Measures).

After CNCA's approval, the next imports step would be applying for declaration in the specified Chinese Inspection and Quarantine (CIQ). When imported organic products declare at the CIQ, relevant documents copies should be submitted, such as Chinese organic products certification copies, organic product sales copies, product identifications, etc. (Article 22 of the Measures). The local CIQ shall conduct entry verification on declared imported organic products and can implement sampling inspection when necessary (Article 23 of the Measures). Once the product has been approved by the CIQ from which it entered in China's territory, this product could be free to trade as Organic within China. Even though when the local organic competent authority intends to check the qualification of the imported products, it is not possible for them to trace back to the organic production manufacturing documents in the original countries. Normally, the most valid documents would be the approval of the specified CIQ. In other words, the specified local CIQ is a critical point for Chinese Organic imports management.

3.3.2. European Union

Article 32 and 33 of the Regulation 834/2007 lay down the general provisions for the import of organic products from third countries. The Regulation 1235/2008 addresses the detail rules to guarantee that these provisions will be performed in a correct and uniform way. Recently, the Regulation 2016/1842 published in order to improve the traceability of organic products and reduce potential fraud by eliminating administrative burden for operators and authorities.

According to Regulation 834/2007, under the Title VI, when trade organic products with countries outside of the EU, either can import of compliant products or import of products providing equivalent guarantees.

3.3.2.1. *Import of compliant products*

When the product imported from a third country, regarded as a compliant product, to be placed on the Community organic market, the product itself should comply with general

principles and production rules set up in the EU Organic Regulation (Article 32.1a of the Regulation 834/2007).

The Commission shall recognise the control authorities or control bodies which are competent to carry out controls and to issue documentary evidence in third countries, and establish a list of recognised control bodies and control authorities according to Article 3 and Article 4 of the Regulation 1235/2008 (Article 32.2 of the Regulation 834/2007).

The control bodies or control authorities shall request for inclusion from the Commission following the Procedures of Article 4 of the Regulation 1235/2008, and undergo regular on-the-spot inspection and other obligations (Article 5 of the Regulation 1235/2008).

Under this condition, operators concerned, including exporters, are subject to control by a control body or control authority recognized by the Commission and shall provide documentary evidence for recognition and traceability at any time (Article 32.1b, 32.1c of the Regulation 834/2007, Article 6 of the Regulation 1235/2008).

3.3.2.2. Import of products providing equivalent guarantees

When considering about equivalent guarantees, the products should be produced in the light of equivalent production rules established under Title III and IV of the Regulation 834/2007 (Article 33.1a of the Regulation 834/2007).

The Commission may either recognise the third country whose control systems are equivalent effectiveness to the system of the European Union (Article 33.2 of the Regulation 834/2007) or recognise control authorities and control bodies who competent to carry out controls and issue certificates in third countries (Article 33.3 of the Regulation 834/2007). These two import schemes are, in principle, mutually exclusive. If a third country is recognised as equivalent according to Article 33.2 of the Regulation 834/2007, there is no need to recognise a control authority or control body for that country in the light of Article 33.3. However, if these products from the recognised third country are not cover those products imported by control authorities or control bodies in that country, it should be possible for the control authorities or control bodies to be recognised (Article 10.3 of the Regulation 1235/2008 and Article 1.5 of the Regulation 2016/1842).

Under this condition, the operators have been permanently and effectively subject to control measures of equivalent effectiveness referring to control measures in the Regulation (Article 33.1b of the Regulation 834/2007). The operators at all stages of production, preparation and distribution in the third country have submitted their activities to a control system in a recognized third country or to a control authority or a control body (Article 33.1c of the Regulation 834/2007).

3.3.2.3. Certificate of inspection

One of the aims of the new Regulation 2016/1842 is completing the traceability of consignments of organic products traded within the EU and imported according to equivalent guarantees principles from third countries. Besides, the certificate of inspection is like an identity card of the consignment. The requirements of the certificate of inspection for free circulation of products were originally regulated in the Regulation 1235/2008 and are replaced by Article 1.6 and 1.7 of the Regulation 2016/1842.

The new rules point out that, for processed products, control authorities or control bodies issuing the certificate of inspection, at the first step, should verify that all organic ingredients of that product have been controlled and certified by a recognised control authority or control body (Article 1.6.4 of the Regulation 2016/1842). And the certificate of inspection should be issued in one single original (Article 1.6.5 of the Regulation 2016/1842). Moreover, it introduced the electronic Trade Control and Export System (TRACES) to ensure the consignment is managed at each stage of issuing (Article 1.6.2 of the Regulation 2016/1842).

3.3.2.4. TRACES – Trade Control and Expert System

It is a web-based e-government system for tracking movements of food products across the EU. When a consignment accompanied by trade documents is exported to the EU or traded within the EU, TRACES manages the online official controls quickly and effectively⁸².

It can interconnect all competent authorities involved, thus when national competent authorities post these documents online through TRACES, either the EU border control authorities or the control authorities at the destination, have the access to check the consignment and its accompanying certificates to allow it to enter and travel through the EU. Also, the control authorities at the destination will be pre-notified of the consignment and therefore can plan the proper control measures and give the feedback in advance.

In order to reduce the risk of errors and relieve administrative burden when issuing international certificates, the TRACES has a multilingual interface which translated in 36 languages. There are more than 35000 users from over 86 countries worldwide involved in TRACES system⁸³. **However, China is not interconnected so far.**

The hierarchy is clearly addressed in the Regulation 2016/1842. The Commission shall verify the identity of the competent authorities and be in charge of granting and updating access rights to TRACES of these competent authorities. The confirmed competent authorities shall be in charge of granting and updating access rights to TRACES of operators, control authorities and control bodies in the Union and take responsibility to identify them before

⁸² European Commission. (2018, 1 23). How does TRACES work . Retrieved from TRACES: Trade Control and Expert System: https://ec.europa.eu/food/animals/traces/how-does-traces-work_en

⁸³ European Commission. (2018, 1 23). Facts & Figures . Retrieved from TRACES: Trade Control and Expert System : https://ec.europa.eu/food/animals/traces/facts-figures_en

granting the access rights. Also, Member States shall designate a single authority responsible to coordinate the cooperation and contacts with the Commission in this area (Article 1.7.13c of the Regulation 2016/1842).

The main objective of this thesis is to give valuable recommendations to Chinese organic sectors for building a good reputation in Chinese organic food system by comparing it to the EU. Reducing differences between the organic systems in China and the EU can build a better trading relationship between them by the possible recommendations given to the EU.

According to the text above, the consumers' attitudes towards organic food systems are influenced by two aspects, i.e. the historical aspect and the certification legislative aspect. Thus, the Discussion is developed from these aspects. Recommendations for China and the EU are given accordingly based on the Discussion.

4.1. The historical background of organic food system

4.1.1. Discussion

The organic agriculture develops rapidly in both China and the EU. However, there are two distinct attitudes of consumers towards organic food between the two systems. The historical background has a large impact on consumers' willingness to buy organic foods.

Referring to Chapter I, China, as a developing country with 1.3 billion people to feed, developed its agriculture with twists and turns. Overuse of chemical fertilizer and many food safety scandals lead China to seek for a model of agriculture that is safe and environmentally friendly. Besides, under the one-party policy, the Chinese government is used to influencing the Chinese society and citizens with top-down strategies. Accordingly, farmers and agricultural enterprises in China started to follow the organic agriculture regime mostly because of the government's policy rather than their willingness. In addition, there is a gap between the amount of financial support that the farmers receive and the amount of support given for the development of the organic agriculture. In my opinion, it is because there is no initiative taken to check the efficacy of the Chinese government's financial support. Also, ignoring the ideology-driven factor of citizens also leads the Chinese organic industry to be characterized as fragile, isolated and hard to implement.

On the contrary, organic agriculture is developed in a bottom-up model in Europe. It is not an isolate proposal made by the European Commission but is a joint decision made by all Member States and experts from different parties. Also, the European citizens believe that organic lifestyle has become a way of living. The EU addresses Action Plans and policies with funding support in order to build an integral organic farming sector. Moreover, the EU conducts some researches to measure how effective the different funding is after implementation. This initiative can guarantee the money is put in the right place. Also, **European producers get financial support and educational training from the EU**. For instance, the Organic Certificate can be the approval for the European farmers to get extra financial support from their governments (the amount may differ between such countries).

Furthermore, the EU devotes to educate organic operators as well as consumers with initiatives, such as Kid's Corner, in order to let children grow up in an 'organic atmosphere'.

After comparing with the EU, the weaker reputation of Chinese organic food system may come from the 'bad organic environment' in China. On one hand, the Chinese government does not provide enough knowledge to consumers as well as organic producers. The Chinese consumers do not realize the advantages of the organic food and have difficulties to recognize all different labels. Accordingly, consumers' willingness to buy organic food is largely reduced. On the other hand, as for Chinese farmers, the financial difficulty is a big concern. According to the EU CAP, the European farmers can get income support and is the responsibility of the EU to take actions to ensure this money is paid directly to the farmers. This support can guarantee farmers to pay the provisions of public profits which have no market value, such as animal welfare, a high quality of food safety and environmental protection. In contrast, the Chinese farmers do not have big intentions to join organic agriculture if there are no reasonable financial subsidies.

4.1.2. Possible recommendations

Regarding the discussion above, in order to create a good reputation of Chinese organic food system, the first step is making consumers and producers understand the organic food. Thus, **one possible recommendation to the Chinese organic sectors is that they shall pay more attention to the ideology factors for the organic consumers and producers.** For instance, certification bodies should organise regular activities to disseminate the concepts of the Green Food, Wu-gonghai food, and organic food. On one hand, ensure consumers to understand clearly the differences between these three eco-foods and make rational choices. On the other hand, ensure consumers and food handlers understand the real benefits of organic food. Education initiatives may be less effective than top-down policy strategies. Nevertheless, it can cause a long-term influence and create a virtuous cycle for the Chinese organic food system.

Secondly, **the Chinese government should encourage farmers to undertake organic farming by giving them reasonable subsidies and put some money in the research related to organic farming,** such as investigating new organic fertilizer. **More importantly, the government should evaluate the result every three years to ensure the efficacy of these supporting strategies.**

4.2. The legal standards of the organic food system

Besides historical influences, as mentioned earlier, 73.8% of Chinese consumers do not believe in organic foods because they have a concern about the normativity of the Chinese organic certification procedures, thus, the legal requirements at different stages of organic food supply chain largely influence consumers' attitudes towards the organic food industry.

4.2.1. At the production stage

4.2.1.1.Discussion

During the comparison, I translate the Chinese regulation carefully corresponding with Articles in the EU's Regulations. When they are adjusted to the same language and similar structure, I found out the words of Chinese Regulations are vaguer than the words of the EU Regulations.

Firstly, the requirements in the EU's Regulations related to the quantity of fertilizer and pesticides are set. On the contrary, the GB Regulations uses many words like 'after fermentation', 'come from the natural source', as well as 'do not overuse'. These words cause uncertainty and confuse the organic operators when the GB Regulations are implemented.

Secondly, EU's Regulations are strict on the use of prohibited chemicals and harmful compositions, such as zero tolerance of chromium (VI) in fermented animal original fertilizers and not allowing the use of the Bordeaux Liquid for plants protection pesticides. These two requirements cannot be found in Chinese GB Regulations. In my opinion, it is crucial to be strict on those harmful inputs in order to protect the environment, because the damage to the environment is irreversible.

Lastly, there is a requirement of the Buffer Zone in Chinese Regulation but not in the EU's. The Buffer Zone means a placed transition zone between conventional and organic areas for the purpose of blocking off unacceptable materials to the organic region. In the view of this requirement, I think the buffer zone shall also be mandatory for the bigger sized farms in Europe. It would be handy for some bigger farms whose agricultural model is a mix of both organic and traditional. For some small-scale organic farms, it's not necessary to set the buffer zone since the whole land is cultivated as organic.

4.2.1.2.Possible Recommendations

According to the discussion above, the words in the GB regulations sometimes are vague and lead food producers to a misunderstanding.

AQSIQ shall consider setting maximum concentration levels of fertilizers and pesticides by conducting scientific assessments or field trips. Also, it is necessary to set the strict limitations on potentially harmful inputs.

As for the EU competent authorities, they shall consider setting Buffer Zones for the bigger scaled farms in order to ensure the plants are in Conversion to Organic period. It will be easier to be recognized by the Chinese organic certification bodies when the owners consider exporting products to China. Also, it is good for farmers to ensure the high quality of its organic production.

4.2.2. At the processing stage – organic logo

4.2.2.1. Discussion

There is no scientific examination method to determine whether food is organic, the only way is by checking for the organic logo on food packaging (except for loose foods). Thus, it is crucial to make sure that the organic logos are reliable and easy to distinguish.

First of all, according to the Chapter 3.2.2 of this paper, the calculation for the percentage of product's ingredients (Q) in the Chinese Regulation is more comprehensive than the one in the EU. However, I think that setting rules for $Q \geq 95\%$ are Organic (or Conversion to Organic) is fair to regulate the Organic (or Conversion to Organic) products. For the other rules on the rest of Q (mentioned in the Chapter 3.2.2) are not necessary to be indicated on the package, such as the 'organic ingredients production' logo. According to the Chapter 3.2.2, instead of the different Q, the EU regulation categorizes products into 'live or unprocessed food', 'processed food' and 'feed products'. As there is one standard for each category, the way of setting basic requirements for the organic label is much more reasonable because it clearly separates the categories by different producers.

Secondly, regarding the categories of eco-labels, as mentioned in the chapter 1.3.3, there is a survey showing that many consumers have difficulties to recognize the Organic logo from other similar logos, i.e. Conversion to Organic logo, Green Food (Green A and Green AA) logo, and the Wu-gonghai Food logo. Therefore, cutting down on similar logos would be easier for consumers to make a reasonable choice. However, as for the Green Food (including Green A and Green AA) and Wu-gonghai Food, they are not belonging to the organic processing chain and are suitable to Chinese eco market. Thus, it is unreasonable to cancel the Green Food logos and Wu-gonghai Food logos. Instead, **removing the Conversion to Organic logo seems more rational for the current Chinese eco market.** It can be of benefit to both supervision sectors and organic operators. For example, the certification agencies do not need to implement two standards when labelling a product and the organic operators do not need to pay for the registration fee of the Conversion to Organic logos.

Last but not least, the **Chinese regime, 'one product one code', of Organic Food Logo is a good initiative to regulate organic food in a better way.** Chinese consumers can trace back to each product by checking the code on the logo. However, currently in the EU there is no valid code for each specific product, the EU consumers can only trace back to the certifier. It is hard to accomplish the traceability, especially for huge branches. Thus, 'one product one code' may be a good initiative to control the quantity and quality of organic production and to build a better traceability in the EU.

4.2.2.2. Possible recommendations

According to the discussion above, the organic logo is the first identity of organic food to consumers. Thus, it is crucial to build a clear and complete organic logo system in terms of

creating a good reputation of the whole Chinese organic food system. First, **the Chinese government shall consider removing the Conversion to Organic logos.** The Chinese organic sectors should learn from the EU strategy when dealing with the Conversion to Organic products. It is still mandatory to have the two to three years conversion periods before organic production, but the products during the conversion period can only be sold as conventional products. Secondly, **there should be distinctive requirements for processed and unprocessed food.** This can make less chaos for certification bodies when certifying different types of producers. Plus, **for processed food, only when the Q \geq 95% are organic, can be labelled as organic products.** The ‘organic ingredient production’ logos should be removed.

As for the EU, the EU competent authorities shall consider implementing the Chinese ‘one product one code’ regime.

4.2.3. At the Organic Certification and control management stage

4.2.3.1. Discussion

According to Organic Process Regulations, as well as related certification standards, the procedures of successfully applying for an Organic certificate are similar in both systems:

- Applicants must submit applications and payment approvals;
- Certification bodies review and accept the applications;
- Certification bodies undertake on-the-spot inspections;
- Certification bodies receive and review the inspection reports;
- Certification bodies issue certificates.

However, differences exist when implementing those steps and accomplishing the requirements of each stage.

Firstly, **in China, only the products that are in the ‘Organic Product Certification Directory’ can be applied for Organic Certification.** There is no such Directory in EU’s system. In my opinion, as there are many certification procedures failing because of inappropriate detection methods, setting a Directory is good for China to complete its Organic detection system by narrowing down the variety of products. Accordingly, certification bodies can prepare a Detection Methods Directory in accordance with the Product Directory and are capable of carrying out correct detection methods during the inspections. Furthermore, during the on-the-spot inspection step, **the Chinese Regulation points out that the same inspector cannot inspect the same production unit of the same applicant for three successive years.** Changing inspectors regularly rather than using a ‘permanent’ one for the same production unit can be an effective way to ensure the inspection is fair.

Regarding the post-certification control management, firstly, it is mandatory for both systems to annually renew the organic certificates and to conduct the on-the-spot inspection at least once per year. However, according to the chapter 3.5.2, the Chinese control institutions should conduct random on-the-spot inspections to at least five percent of the total certified units every year. Under the EU Regulation, there is no requirement on the minimum number of units needed to be inspected every year.

Secondly, according to the Chapter 3.5.3, record-keeping is a mandatory step for certification bodies in both systems. The Chinese Regulation indicates that records should be kept for at least five years. However, the EU regulation does not emphasize the minimum period of back up records.

Thirdly, according to the Chapter 3.5.4, in China's system, the Sales Licence should be issued at the same time of releasing the Organic Certificate in the Chinese certification process and the organic food can only be sold when the retailers obtain the Sales License. **However, there is no Sales License for EU retailers.** In my opinion, the Sales License has some advantages for Organic control management. On one hand, it is a reference for verifying the sales scope and quantity of certified organic products for control institution. On the other hand, it is crucially important for loose food. Without the Sales License, it is hard to guarantee the qualification for some organic loose food retailers. Thus, in my perspective, both systems should be recommended to require mandatory Sales License for loose foods.

Lastly, according to Chapter 3.5.5, the Chinese Online Information System is a good platform for both regulatory bodies and consumers. It directly provides valid information to consumers. It also creates a complete and enhanced supervision system. Since anyone can check for information online, they can report the incompliance to the control institutions. It seems like everyone has the ability to supervise the Chinese Organic Certification.

4.2.3.2. Possible recommendations

According to the discussion above, it seems to me that China has a more comprehensive organic certification and control system than the EU. **It is worth noting that the CNCA shall update the Directory regularly and publish the latest version** on its website, so that the certification bodies and organic applicants can be well informed.

Thus, some possible recommendations could be given to the EU: firstly, the EU certification bodies can learn some strategies from the Chinese system, for instance, changing on-the-spot inspectors regularly rather than assign a permanent one for the same production unit, records should be kept for as long as the certification is still valid and implementing the mandatory Sales License for the loose foods in the EU. Moreover, in order to enhance the supervision of the organic food in the EU, the organic certification bodies can consider building an information platform for checking detail information of certified organic products, however, this recommendation can only be implemented if the EU takes the 'one product one code' regime for the organic logo.

4.2.4. At the import stage

4.2.4.1. Discussion

Refer to the chapter 3.3, according to Chinese import rules, before products are physically imported to China, a foreign business who intends to export its organic products to China could either sign a relevant Memorandum with CNCA if they have the same Organic certification systems or comply with the relevant Chinese Organic laws and regulations. Similarly, any country in the EU can either import compliant products (following EU's regulations) or import products providing equivalent guarantees (EU recognises the third country's whole organic system or recognises competent authorities in the third country).

However, differences are revealed after the products physically entered in the destination country.

In China, the products should be declared at the specified local CIQ. As soon as the CIQ approved, the products could be traded as local organic products. The CIQ's checking seems like the last line of defence because the products would be distributed to different places for sales after CIQ's approvals. Besides, no valid system could check the qualifications of those products one by one systematically. From my perspective, the CIQ could be a breakthrough point for some illegal importers to violate the Chinese organic import regulation. No valid checking method after organic products entering CIQ can be regarded as a flaw in the Chinese import chain. Instead, the EU has an online monitoring system, i.e. TRACES to overcome this flaw. TRACES accomplishes the whole trading chain traceability as long as the product is within the EU's territory, and any sectors involved could check the qualification of the product anytime through the system. However, TRACES does not interconnect China so far. It leads a bad consequence for trading on both sides.

4.2.4.2. Possible recommendations

Since the Online Information System provides a direct supervision to consumers of Chinese organic food products, completing the online platform can increase the credibility of the Chinese organic certification. The online system should cover all certified organic products' information. **Thus, the Chinese Organic certification bodies shall put the information of imported products into the Online Information System, in order to make the import procedures as a whole traceable chain.** When the imported products acquired the approvals of the local CIQs, the information should be uploaded to the Online Information System at the same time.

As for the EU, in order to build a better trade relationship with China, the EU shall involve them as a member of the TRACES system.

Reference

- Agribusiness, livestock, organic Tillage . (2016). Organic Farming: How do I change? Retrieved from THAT'S FARMING: <http://www.thatsfarming.com/news/organic-farming-how-do-i-change>
- Agronomy Monograph 54. (2009). Organic Farming: The Ecological System. (Charles A Francis, Ed.) New York: American Society of Agronomy. Retrieved from <https://books.google.nl/books?id=8HMfbQpNq60C&printsec=frontcover#v=onepage&q&f=false>
- Alberto Sorzon, B. v. (2014). Organics in Chinese Food Law. EFFL, p.179-186 .
- Andrew, K. (2002). Industrial Agriculture's Toxic Trail . In K. Andrew, The Fatal Harvest Reader: The Tragedy of Industry Agriculture (pp. 121-208). Galifornia : the Foundation for Deep Ecology .
- AQSIQ . (2011). GB / T 19630-2011. 中华人民共和国国家标准. Beijing, Beijing, China: SAC. Retrieved 03 01, 2012
- AQSIQ. (2011). GB / T 19630.1 - 2011. Beijing, Beijing, China: 中华人民共和国国家标准. Retrieved 03 01, 2012, from <http://codeofchina.com/standard/GBT19630.1-2011.html>
- AQSIQ. (2011). GB / T 19630.2 - 2011. Beijing, Beijing, China: 中华人民共和国国家标准. Retrieved 03 01, 2012, from <http://codeofchina.com/standard/GBT19630.2-2011.html>
- AQSIQ. (2011). GB / T 19630.3 - 2011. Beijing, Beijing, China: 中华人民共和国国家标准. Retrieved 03 01, 2012, from <http://codeofchina.com/standard/GBT19630.3-2011.html>
- AQSIQ. (2011). GB / T 19630.4 - 2011. Beijing, Beijing, China: 中华人民共和国国家标准. Retrieved 03 01, 2012, from <http://codeofchina.com/standard/GBT19630.4-2011.html>
- AQSIQ. (2014). Chinese Administrative Measures on Organic Product Certification (Decree No.155). 国家质量监督检验检疫总局《有机产品认证管理办法》（总局令第155号）. Beijing, Beijing, China. Retrieved from https://gain.fas.usda.gov/Recent%20GAIN%20Publications/Revised%20Administrative%20Measures%20for%20Organic%20Product%20Certification%20 Beijing China%20-%20Peoples%20Republic%20of_1-7-2014.pdf
- Bakker, J. (2009). Organic International Trade. Den Haag : Landbouw-Economisch Institut (LEI).
- Bhaskaran, S., & Mohanty, S. (2008). CHAPTER 17: Marketing of Organic Revolution Products: Global Experiences . In J. Paull, China's Organic Revolution (pp. 260-275). India: The Icfai University Press.

- Brown, L. R. (1995). Who Will Feed China? Wake-Up Call for a Small Planet. Washington : Worldwatch Institute.
- CCTV.com. (2012). 有机食品也可能有毒? . Retrieved from CCTV.com 央视网: <http://www.cctv.com/>
- China Statistical Yearbook. (2004). Agriculture. Beijing: State Statistical Bureau of the People's Republic of China.
- COFCC. (2018).有机产品认证流程,境内(Organic Certification Procedures). Retrieved from <http://www.ofcc.org.cn/index.php?optionid=708>
- CNCA. (2014). Implementation Rules for the Certification of Organic Products. 有机产品认证实施规则. Beijing, Beijing, China.
- CNCA. (2016). 关于发布《有机产品认证目录》的公告 (Announcement of releasing the 'Organic Production Certification Directory'). Retrieved from 国家认证认可监督管理委员会 : http://www.cnca.gov.cn/ywzl/rz/spncp/tzgg/201612/t20161215_53288.shtml
- European Commission. (2008). Commission Regulation (EC) No 1235/2008. Brussels, Brussels, Belgium. Retrieved from <http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1510743046659&uri=CELEX:32008R1235>
- European Commission. (2008). Commission Regulation (EC) No 889/2008. Brussels, Brussels, Belgium. Retrieved from <http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1509027146121&uri=CELEX:32008R0889>
- European Commission. (2010). Commission Regulation (EU) No 271/2010. Brussels, Brussels, Belgium. Retrieved from <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:084:0019:0022:EN:PDF>
- European Commission. (2014). Action Plan for the future of Organic Production in the European Union. Brussels, Brussels, Belgium. Retrieved from https://ec.europa.eu/agriculture/organic/sites/orgfarming/files/docs/body/act_en.pdf
- European Commission. (2016). Commission Implementing Regulation (EU) 2016/1842. Brussels, Brussels, Belgium. Retrieved from <http://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX:32016R1842>
- European Commission. (2016). Facts and figures on organic agriculture in the European Union. (R. Rossi, Ed.) Agriculture and Rural Development, 1-47. Retrieved from https://ec.europa.eu/agriculture/organic/sites/orgfarming/files/docs/pages/014_en.pdf
- European Commission. (2016). Organic production: authorisation 39 substances in line with principles of organic production. Retrieved from Agriculture and rural development: https://ec.europa.eu/agriculture/newsroom/276_en

- European Commission. (2017). Civil Dialogue Group on Organic Farming . Retrieved from Agriculture and Rural Development : https://ec.europa.eu/agriculture/organic/eu-policy/eu-legislation/civil-dialogue-group_en
- European Commission. (2017). Committee on Organic Production. Retrieved from Agriculture and Rural Development: https://ec.europa.eu/agriculture/organic/eu-policy/eu-legislation/regulatory-committee_en
- European Commission. (2017). Glossary of terms related to the Common Agricultural Policy . Retrieved from Agriculture And Rural Development: https://ec.europa.eu/agriculture/glossary_en
- European Commission. (2017). How to become an organic producer in the EU? Retrieved from AGRICULTURE AND RURAL DEVELOPMENT-ORGANIC FARMING: https://ec.europa.eu/agriculture/organic/eu-funding/how-to-become-an-organic-producer_en
- European Commission. (2017). Organic Farming Policy: The History Background. Retrieved from Agriculture And Rural Development-- Organic Farming: https://ec.europa.eu/agriculture/organic/eu-policy/eu-legislation/historical-background_en
- European Commission. (2017). Rural Development 2014-2020. Retrieved from Agriculture And Rural Development : https://ec.europa.eu/agriculture/rural-development-2014-2020_en
- European Commission. (2017). What Is Organic Farming? Retrieved from Agriculture And Rural Development: https://ec.europa.eu/agriculture/organic/organic-farming/what-is-organic-farming_en
- European Commission. (2018). Facts & Figures . Retrieved from TRACES: Trade Control and Expert System : https://ec.europa.eu/food/animals/traces/facts-figures_en
- European Commission. (2018). How does TRACES work . Retrieved from TRACES: Trade Control and Expert System: https://ec.europa.eu/food/animals/traces/how-does-traces-work_en
- European Council. (2007). Council Regulation (EC) No 834/2007. Brussels, Belgium. Retrieved from <http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1509027043016&uri=CELEX:32007R0834>
- European Economic Community . (1986). The Single European Act. Retrieved from EEC Treaty : <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=LEGISSUM%3Axy0027>
- European Economic Community. (1958). Treaty of Rome (EEC). Retrieved from EEC Treaty: <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=LEGISSUM:xy0023>
- European Union Institutions. (2017). Regulations, Directives and other acts. Retrieved from europa.eu: https://europa.eu/european-union/eu-law/legal-acts_en

- FiBL & IFOAM. (2016). The World Of Organic Agriculture- Statistics & Emerging Trends. Frick and Bonn : Die Deutsche Bibliothek. Retrieved from <http://www.organic-world.net/yearbook/yearbook-2016.html>
- Fien Minnens (2012-2013). Consumers' attitude on private label organic food products: a study of Flemish consumers. Faculteit Bio-ingenieurswetenschappen of the University Gent. P.77. Available: https://lib.ugent.be/fulltxt/RUG01/002/063/594/RUG01-002063594_2013_0001_AC.pdf
- Gills, M., Perkins, D., & Roemer, M. (2003). Economics of Development (7th Edition ed.). NewYork: W. W. Norton & Company.
- Guofu Zhang, Peng Li, Shuhuan Feng. (2017). 有机食品市场调查及问题分析(Organic Food Market Investigation and Problem Analysis) -- 以北京大型超市为例(Taking Beijing Supermarkets for Examples). 农产品质量与安全(Quality and Safety of Agriculture Products), 67-70.
- Hang, X. (2014). Comparison of Organic Product Standards and Certification Systems between Chinese and U.S. 中美有机产品认证标准及制度比较研究. Nanjing, Jiangsu, China: Nanjing Agricultural University .
- Heinze, K. (2016). China- one of the top 4 organic markets worldwide. Retrieved from Organic-market.onfo: <http://organic-market.info/news-in-brief-and-reports-article/china-one-of-the-top-4-organic-markets-worldwide.html>
- IFOAM. (2017). ABOUT US. Retrieved from a website of IFOAM- Organic International and its action group: <https://www.ifoam.bio/en/about-us>
- IFOAM NORMS . (2014). The IFOAM Norms for Organic Production and Processing Version 2014. Germany : IFOAM-Organics International.
- ITC. (2011). Organic Food Production in China: Market Overview. GENEVA: International Trade Centre.
- Jiping Sheng, L. S. (2009). Market trends and accreditation systems for organic food in China . Trends in Food Science and Technology 20 , 396-401.
- Khush, G. S. (1999). Green revolution: preparing for the 21st century . Genome 42, 646-655.
- King, F. H. (1911). Farmers of Forty Centuries- Organic Farming in China, Korea and Japan. New York: Dover Publications.
- Lampkin, N. (1999). Organic Farming in the European Union – overview, policies and perspectives. EU conference, 1-8.

- Luanne Lohr. (2001). Factors Affecting International Demand and Trade in Organic Food Products . In A. Regmi, Changing Structure of Global Food Consumption and Trade (pp. 67-79). Washington, DC: Economic Research Service / USDA.
- Ma, S., & Sauerborn, J. (2006). Review of history and the recent development of organic farming in the world. *Agricultural Sciences in China* , 196-178.
- Michael Sligh, C. C. (2003). Who Owns Organic? The Global Status, Prospects, and Challenges of a Changing Organic Market. Pittsboro: Rural Advancement Foundation International- USA. Retrieved from <http://rafiusa.org/blog/who-owns-organic-the-global-status-prospects-and-challenges-of-a-changing-organic-market/>
- Ministry of Agriculture . (2004). Report on the State of China's Food Security. Beijing : MOA.
- MOA. (2017). Ministry of Agriculture of the People's Republic of China. Retrieved from Agriculture in China I: http://english.agri.gov.cn/overview/201703/t20170301_247341.htm
- Moya Kneafsey, L. V.-W. (2013). Short Food Supply Chains and Local Food Systems in the EU. A State of Play of their Socio-Economic Characteristics. Joint Research Centre. Luxembourg: Publications Office of the European Union. Retrieved from <http://ftp.jrc.es/EURdoc/JRC80420.pdf>
- National People's Congress. (2004). Land Administration Law of the People's Republic of China . Beijing, Beijing, China.
- Paul Kristiansen, A. T. (2006). Understanding the market for organic food. *Organic Agriculture: A Global Perspective*, 16.
- Paull, J. (2008). The Greening of China's Food- Green Food, Organic Food, and Eco-labelling. Arlon: unpublished. Retrieved from <http://orgprints.org/13563/>
- Rongduo, L., Pieniak, Z., & Verbeke, W. (2013). Consumers' attitudes and behavior towards safe food in China: A review. (G.Gampbell-Platt, Ed.) *Food Control* 33, 93-104.
- Sanders, R. (2006). Organic agriculture in China: do property right matter? *Journal of Contemporary China* (46), 113-132.
- Savage, S. (2015). The Lower Productivity Of Organic Farming: A New Analysis And Its Big Implications. Retrieved from Forbes: <https://www.forbes.com/sites/stevensavage/2015/10/09/the-organic-farming-yield-gap/#44f902c5e0e5>
- Schmidt, H. (2011). Organic Food - A Private Concept's Take-over by Government and the Continued Leading Role of the Private Sector. In B. v. Meulen, *Private Food Law -- Governing Food Chains Through Contract Law, Self-regulation, Private Standards, Audits and Certification Schemes* (pp. 289-300). Wageningen: Wageningen Academic Publishers.

- SKAL. (2017). Skäl Bio Control . Retrieved from Home : <https://www.skäl.nl/home-en-gb/about-skäl/>
- SOEL (Stiftung Ökologie & Landbau). (2003). Organic Agriculture Worldwide 2000-2002. Retrieved from Organic Agriculture Worldwide 2000-2002: www.ifoam.org
- Sternfeld, E. (2009). Organic Food 'Made in China'. Retrieved from EU-CHINA CIVIL SOCIETY FORUM. Available at: https://www.asienhaus.de/fileadmin/uploads/china/publikationen/27_Organic_Food_Made_in_China_.pdf
- Stewart Lockie, K. L. (2002). Eating 'Green': Motivations Behind Organic Food Consumption in Australia. *European Society for Rural Sociology*, 23-40. Retrieved from <http://onlinelibrary.wiley.com/doi/10.1111/1467-9523.00200/pdf>
- Suju Sun, J. Z. (2005). Persistent organic pollutants in human milk in women from urban and rural areas in northern China. *Environmental Research* 99, 285-293.
- The Statistics Portal (2015) Organic food market in Europe - Statistics and Facts, access date:19-7-2018 Retrieved from: <https://www.statista.com/topics/3446/organic-food-market-in-europe/>
- UNESCAP. (2002). Report of the regional workshop on exploring the potential of organic agriculture for rural poverty alleviation in Asia and the Pacific, United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP). Chiang Mai.
- USDA Foreign Agricultural Service. (2010, 10 26). Organic Reports of China. Retrieved from Global Agriculture Information Network: https://gain.fas.usda.gov/Recent%20GAIN%20Publications/Organics%20Annual_Beijing_China%20-%20Peoples%20Republic%20of_10-14-2010.pdf
- W.Lockeretz. (2007). What Explains the Rise of Organic Farming? In W.Lockeretz, *Organic Farming-- An International History* (pp. 1-9). London: CAB International 2007.
- Weihua Xie, X. X. (2007). Country Report on Organic Agriculture in China. Bangkok: International Trade Center's Regional Conference on Organic Agriculture in Asia.
- Willer, H., Lernoud, J., & Home, R. (2013). the world of organic agriculture 2013: summary. In IFOAM&FiBL, *The World of Organic Agriculture Statistic and Emerging Trends 2013* (p. 340). Berlin: Die Deutsche Bibliothek.
- Yanxin Yu, B. W. (2013). Temporal trends in daily dietary intakes of DDTs and HCHs in urban populations from Beijing and Shenyang, China. *Chemosphere* , 1395-1400.
- Yona Siderer, A. M. (2005). Need for research to support consumer confidence in the growing organic food market. *Trends in Food Science & Technology* 16, 332-343.

- Yu, X., & Abler, D. (2009). The Demand for Food Quality in Rural China. *American Journal of Agricultural Economics*, 57-69.
- Yu, X., Gao, Z., & Zeng, Y. (2014). Willing to pay for the 'Green Food' in China. *Food Policy* 45, 80-87.
- Zuliu Hu, M. S. (1997). Why Is China Growing So Fast? Retrieved from International Monetary Fund :
<https://www.imf.org/EXTERNAL/PUBS/FT/ISSUES8/INDEX.HTM>
- 东莞长河农业 . (2010). 中国有机食品市场销售渠道特征分析. Retrieved from 百度文库:
<https://wenku.baidu.com/view/0afbb71fb7360b4c2e3f640b.html>
- 李显军. (2004). 理解绿色食品,有机食品和无公害食品. (许世卫, Ed.) 中国食物与营养 (Food and Nutrition in China), 57-60.
- 人民网(People.com) (2011) 调查:有机食品价高质低 73.8%人认为认证不规范(Survey: Organic food is at a high price with low quality, 78.3% of citizens believe the normativity of certification is not good). 中国青年报(China Youth Daily) Retrieved from: <http://finance.people.com.cn/money/GB/16166585.html>
- 消费者报道 (Report on Consumers). (2017). 有机食品、绿色食品、无公害食品谁更好怎么分别? (how to distinguish among Organic Food, Green Food and Wu-gonghai Food, and which one is better?). 检索来源: 新浪财经头条 (Sina News):
<http://cj.sina.com.cn/article/detail/2792675770/351224>
- 消费者报道 (Report on Consumers). (2017). 有机食品、绿色食品、无公害食品谁更好怎么分别? (how to distinguish among Organic Food, Green Food and Wu-gonghai Food, and which one is better?). Retrieved from 新浪财经头条 (Sina News):
<http://cj.sina.com.cn/article/detail/2792675770/351224>
- 高怀友. (2002). 论我国的无公害食品标准体系. 农业环境与发展 (Agro-Environment and Development), 1-3.

			
证书编号: 45OGA1200079		Registration No.: 45OGA1200079	
<h3>有机产品认证证书</h3>		<h3>ORGANIC PRODUCT CERTIFICATE</h3>	
认证委托人(证书持有人)名称	中农祥泰农业发展有限公司	Name of the applicant	SEESANG(BJ) Agricultural Development Co., Ltd.
地址	北京市朝阳区东三环南路 58 号富顿中心 A 座 1909	Address	Room 1909, A Building Free Town, No. 58 Dongsanhuan South Road, Chaoyang District, Beijing, China
加工企业名称	祥泰盛世工贸(北京)有限公司	Name of processing site	SEESANG(BJ) Industry and Trade Co., Ltd.
地址	北京市密云县河南寨镇政府路北 500 米	Address	Northbound 500 meters of zhengfu road, Henaizhai Town, Miyun District, Beijing, China
有机产品认证的类别:	加工	Category of Certification:	processing
产品标准	GB/T 19630.2-2011 有机产品: 加工 GB/T 19630.3-2011 有机产品: 标识与销售 GB/T 19630.4-2011 有机产品: 管理体系	The standards for the products:	GB/T 19630.2-2011 Organic Products: Processing GB/T 19630.3-2011 Organic Products: Labeling and Marketing GB/T 19630.4-2011 Organic Products: Management System
认证的产品种类见附件列表“附件 45OGA1200079”		Certified Products please see attachment of 45OGA1200079	
附件中的产品及其加工过程符合有机产品认证实施规则的要求, 特发此证。		This is to certify that the products in the attachment and their production methods have been inspected and found to be in conformity with the requirements set out in Rules for Implementing the Certification of Organic Products.	
初次发证日期:	2012 年 6 月 26 日	Initial issue date:	26/06/2012
本次发证日期:	2012 年 6 月 26 日	Issue date:	26/06/2012
证书有效期至:	2013 年 6 月 25 日	Expiry date:	25/06/2013
负责人签字:		Director signatures:	
			
认证机构名称:	北京爱科赛尔认证中心有限公司	Name of the certification body:	Beijing ECOCERT Certification Centre Co., Ltd.
认证机构地址:	北京市海淀区天秀路 10 号中国农业大学(西校区)国际创业园	Address:	Room 4015, International Business Park, China Agricultural University (West Campus), No.10, Tianxiu Road, Haidian District, Beijing 100091, China
4015 室, 100091			
联系电话:	010-62827070	Tel:	010-62827070
  有机产品认证 CNAS C134-O		  ORGANIC CNAS C134-O	

Figure 15: An example of the Certificate.



编号(TC13058)

萬泰認證

有机产品销售证

ORGANIC PRODUCT TRANSACTION CERTIFICATE

■有机产品 □有机转换产品

产品名称 (Product): Gittis 牌婴幼儿配方奶粉 (1,2,3 阶段)
(Gittis Organic Infant milk formula 1; Gittis Organic Follow on milk formula 2; Gittis Organic Follow on milk formula 3)

认证类别 (Certification Category): 加工

数 量 (Quantity): _____ 8*600g); _____ *8*600g);
_____ *8*600g)

产品批号 (Lot No.): qb,rb,sb,tb,ac,bc,cc,dc,ec,fc; delivery note No.:L09147

交易日期 (Trade Date): 2013 年 03 月 12 日

合 同 号 (Invoice/Contract No.): 121538

售出单位 (Seller): TO SIH HAY GmbH (出口商)

购买单位 (Buyer): 河南省奥旭贸易有限公司 (Henan AoXu Trade Co.,Ltd.)

获证组织名称 (Certificate Holder):
Gittis Naturprodukte Pöhl Beteiligungs GmbH & Co KG

认证证书号 (Certificate No.): 015OGA1300090

此证书仅对购买单位和获万泰认证的销售单位就上述符合 GB/T19630《有机产品》的产品交易有效。 This certificate is valid only for the specified transaction between the specified buyer and the WIT certified seller for listed WIT certified products in compliance with standard GB/T19630 Organic Products.

万泰负责人签字:
(Authorized by)

杭州万泰认证有限公司
浙江省杭州市滨江区江虹路 1750 号信雅达国际商务中心 13-14 层
电话: +86-0571-87711562
HANGZHOU WIT ASSESSMENT CO., LTD.
13-14 Floor, Sunyard Mansion, 1750 Jianghong Road, Binjiang District, Hangzhou
Tel: +86-0571-87711562
注: 此证书仅原件有效。
Note: It is valid only the original copy.

签发日期:
(Date of Issue) 2013.3.12.



Figure 16: An example of Sales License

